Minnesota Department of Transportation
1500 West County Road B2
Roseville, MN 55113

December 3, 2014

To Whom It May Concern:

Enclosed is a copy or copies of the Tier I Final Environmental Impact Statement/ Preliminary Final Section 4(f)/6(f) Evaluation (Tier I FEIS/4(f)) documenting the positive and negative impacts of the proposal to construct a Trunk Highway (TH) 41 Minnesota River Crossing connecting TH 169 in Scott County and TH 212 in Carver County. The project is being developed in a tiered process. Tier I identifies a corridor for preservation.

Copies of this letter and FEIS/4(f) are being distributed to those agencies on the current MEQB document review list and others. The required State review period will begin upon publication of the Final EIS availability notice in the December 8, 2014 EQB Monitor. Comments will be accepted through January 7, 2015.

Comments may be sent to:

Diane Langenbach
Project Manager
MnDOT Metro District
1500 W Co Rd B2
Roseville, MN 55113
(651) 234-7721
diane.langenbach@state.mn.us

The TH 41 Minnesota River Crossing Tier I FEIS/4(f) is also available to download at the project website: http://www.dot.state.mn.us/metro/projects/hwy41bridge/. If you would like to receive a hard copy of the report, please contact the MnDOT Project Manager.

The above referenced document is available in alternative formats to individuals with disabilities by calling the Project Manager at the phone number listed above or to individuals who are hearing or speech impaired by calling the Minnesota Relay Service at 1-800-627-3529. Individuals with a disability who need a reasonable accommodation to participate in this event please contact the Project Manager at the phone number listed above or through the Minnesota Relay Service at 1-800-627-3529 by January 7, 2015.

Sincerely,

Diane Langenbach

Diane Langenbach
MnDOT Project Manager

Enclosure(s)

Minnesota Department of Transportation
1500 West County Road B-2
Roseville, MN 55113

December 3, 2014

To Whom It May Concern:

The comment period for the TH 41 Tier I FEIS has been extended to Monday, January 12, 2015. Comments will also be taken throughout the period established per the Federal Register process for a Final Environmental Impact Statement.

Sincerely,

Diane Langenbach

Diane Langenbach
MnDOT Project Manager

FINAL

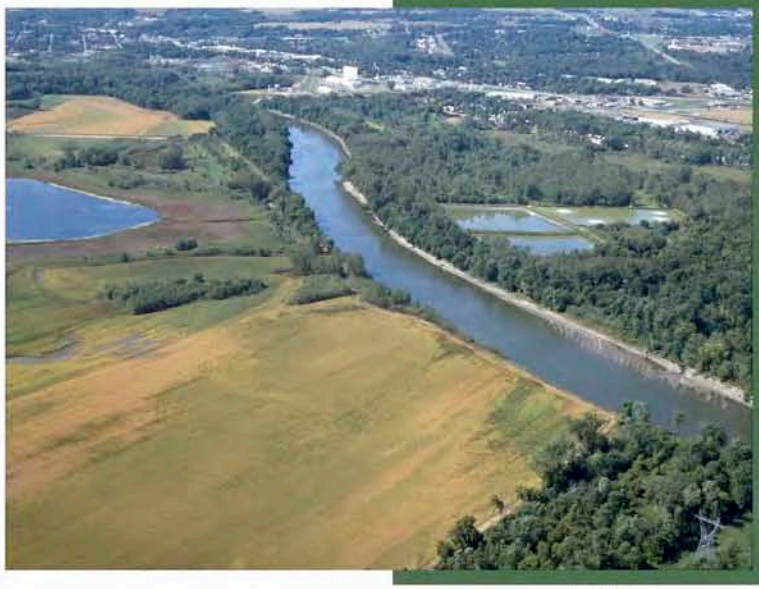
Tier I Final

Environmental Impact Statement

MINNESOTA 41

Minnesota River Crossing

From US Highway 169 to
New US Highway 212
Scott County & Carver County



Minnesota Department of Transportation

TH 41 MINNESOTA RIVER CROSSING:

A Future US 169/US 212 Regional Freeway Connection

MINNESOTA DEPARTMENT OF TRANSPORTATION

State Project Number: S.P. 1008-60
Trunk Highway Number: TH 41

TIER I FINAL
ENVIRONMENTAL IMPACT STATEMENT
AND
PRELIMINARY FINAL SECTION 4(F)/6(F) EVALUATION

(Page 1 of 2)

Submitted Pursuant to 42 U.S.C. 4332(2)(c), 49 U.S.C. 303, 23 U.S.C. 138,
And Minn. Stat., Chapt. 116D
By
U.S. Department of Transportation,
Federal Highway Administration
And
Minnesota Department of Transportation

Cooperating Agencies

U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service
U.S. Environmental Protection Agency

September 2014

The following persons may be contacted for additional information concerning this document:

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Roseville, MN 55113
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ABSTRACT: The project proposes future construction of a new Minnesota River crossing connecting TH 169 and US 212 in the vicinity of the existing TH 41. The project is located within Scott County and Carver County, Minnesota. The project is being developed in a tiered process. Tier I identifies a corridor for preservation. Tier II will evaluate and select a design for construction.

TH 41 MINNESOTA RIVER CROSSING:

A Future US 169/US 212 Regional Freeway Connection

TIER I FINAL
ENVIRONMENTAL IMPACT STATEMENT
AND
PRELIMINARY FINAL SECTION 4(F)/6(F) EVALUATION

September 2014

Signatures of Approval
(Page 2 of 2)

10/22/14
Date of Approval

For Mn/DOT Scott McBride, Metropolitan District Engineer

10/27/14
Date of Approval

For Mn/DOT Lynn P. Clarkowski, P.E., Chief Environmental Officer

11/12/14
Date of Approval

For FHWA David Scott, ~~Acting~~ Assist Division Administrator

TIER I FINAL ENVIRONMENTAL IMPACT STATEMENT
AND PRELIMINARY FINAL SECTION 4(F)/6(F) EVALUATION
September 2014

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1.0 EXECUTIVE SUMMARY

This Chapter of the *Tier I Final Environmental Impact Statement* (FEIS) describes the purpose of the document and summarizes project impacts and mitigation measures. The *2007 Tier I Draft Environmental Impact Statement* (DEIS) is incorporated by reference and is considered to be a part of this FEIS. (See Appendix A.)

1.1 PROJECT DESCRIPTION

The proposed action is the future construction of a new Minnesota River crossing connecting United States Highway (US) 169 in Scott County and US 212[1], north of the County State Aid Highway (CSAH) 61 corridor in Carver County in the vicinity of existing TH 41. Project planning and environmental review are being conducted in conformance with state and federal environmental review requirements. (Note: The proposed project is referred to in earlier documents [prior to the DEIS] as *TH 41 Over the Minnesota River*). The project area location is shown in Figure 1-1. The Preferred Alternative is depicted in Figure 1-2, including the area of impact assessed in this FEIS (corridor footprint) and the alignment and interchange concept assumed as the basis for the corridor footprint. The Preferred Alternative is a modification of DEIS Alternative C-2.[2] A comparison of the assumed alignments for the Preferred Alternative and DEIS Alternative C-2 is shown in Figure 1-2A.

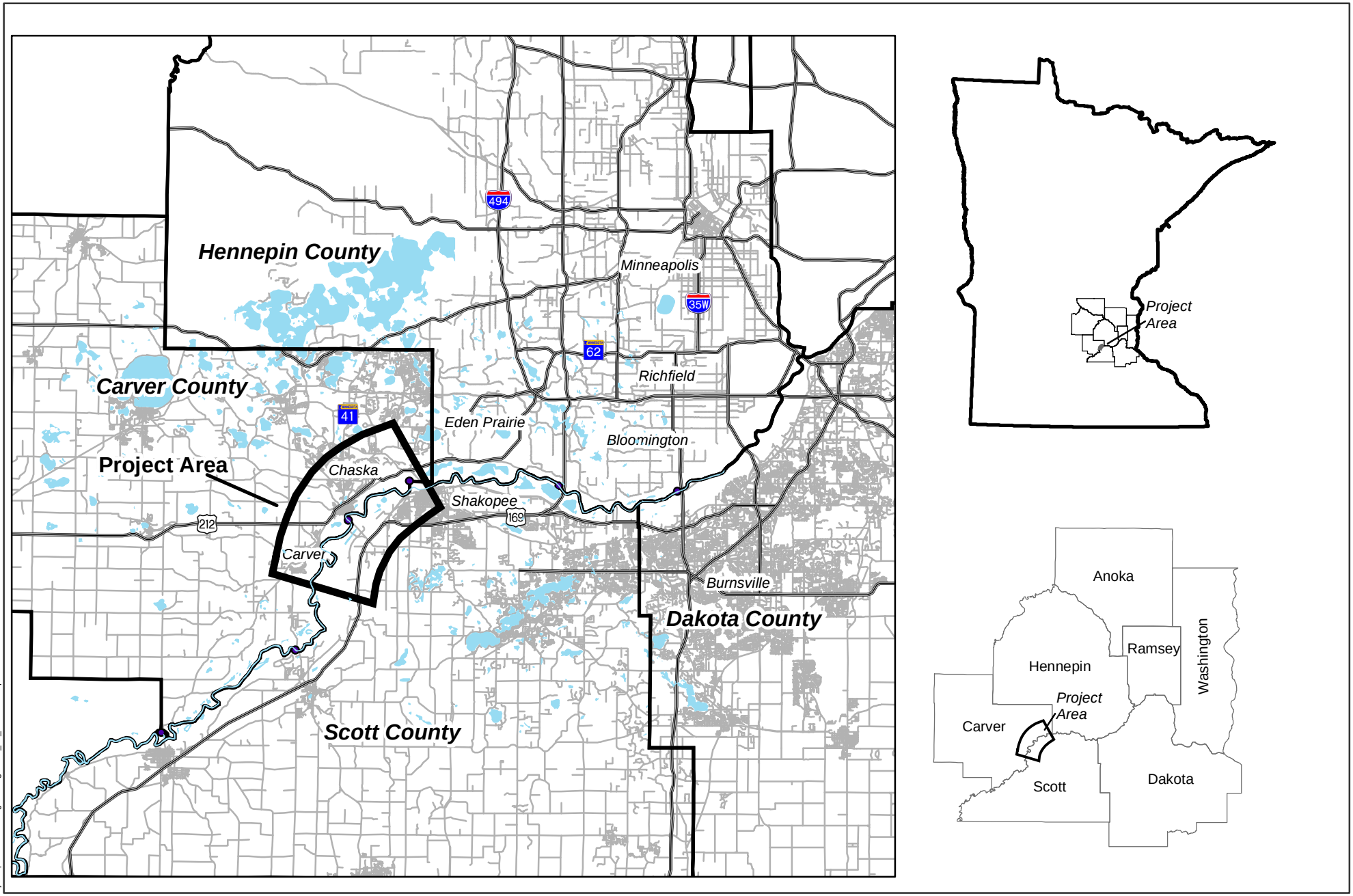
1.2 PURPOSE OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT

The National Environmental Policy Act (NEPA) of 1969 (42 USC 4321 et seq.) requires that social, economic, and environmental considerations be included in the planning of projects that receive federal funding. Similarly, the Minnesota Environmental Policy Act (MEPA) (Minnesota Rules Chapter 4410) requires review of potential environmental impacts for proposed projects that exceed state regulatory thresholds. The extent of the proposed improvements requires preparation of an Environmental Impact Statement (EIS). The Final Environmental Impact Statement (FEIS) was prepared to evaluate and document social, economic, and environmental impacts of the Preferred Alternative now being considered for the new TH 41 river crossing. This document also describes efforts that will be taken to avoid and minimize impacts associated with the Preferred Alternative, and the measures that will be used to mitigate those impacts that are unavoidable.

---

[1] The DEIS made reference to New US 212, which was under construction at the time the DEIS was issued, and Existing US 212. When construction of New US 212 was complete in 2008, existing US 212 was turned over to Carver County. New US 212 is referred to as US 212 throughout the remainder of this FEIS and Existing US 212 is referred to as County State Aid Highway (CSAH) 61.

[2] As described in this FEIS, following the DEIS comment period, FHWA and MnDOT identified DEIS Alternative C-2 as an initial "recommended Preferred Alternative", the alignment of which was then modified to that of the alignment presented in this FEIS as the "Preferred Alternative". There are several references to "C-2" throughout this FEIS. "DEIS Alternative C-2" refers to the specific C-2 alignment depicted and analyzed in the DEIS. "C-2", "C-2 corridor", and "Alternative C-2 corridor" refer to the more general location of the DEIS Alternative C-2, i.e. the termini and the general route between the termini. "Modified Alternative C-2" and "Preferred Alternative" are synonymous and refer to the Preferred Alternative alignment presented in this FEIS; "modified Alternative C-2" is used in those cases where the reference is useful to distinguish it from the DEIS Alternative C-2.



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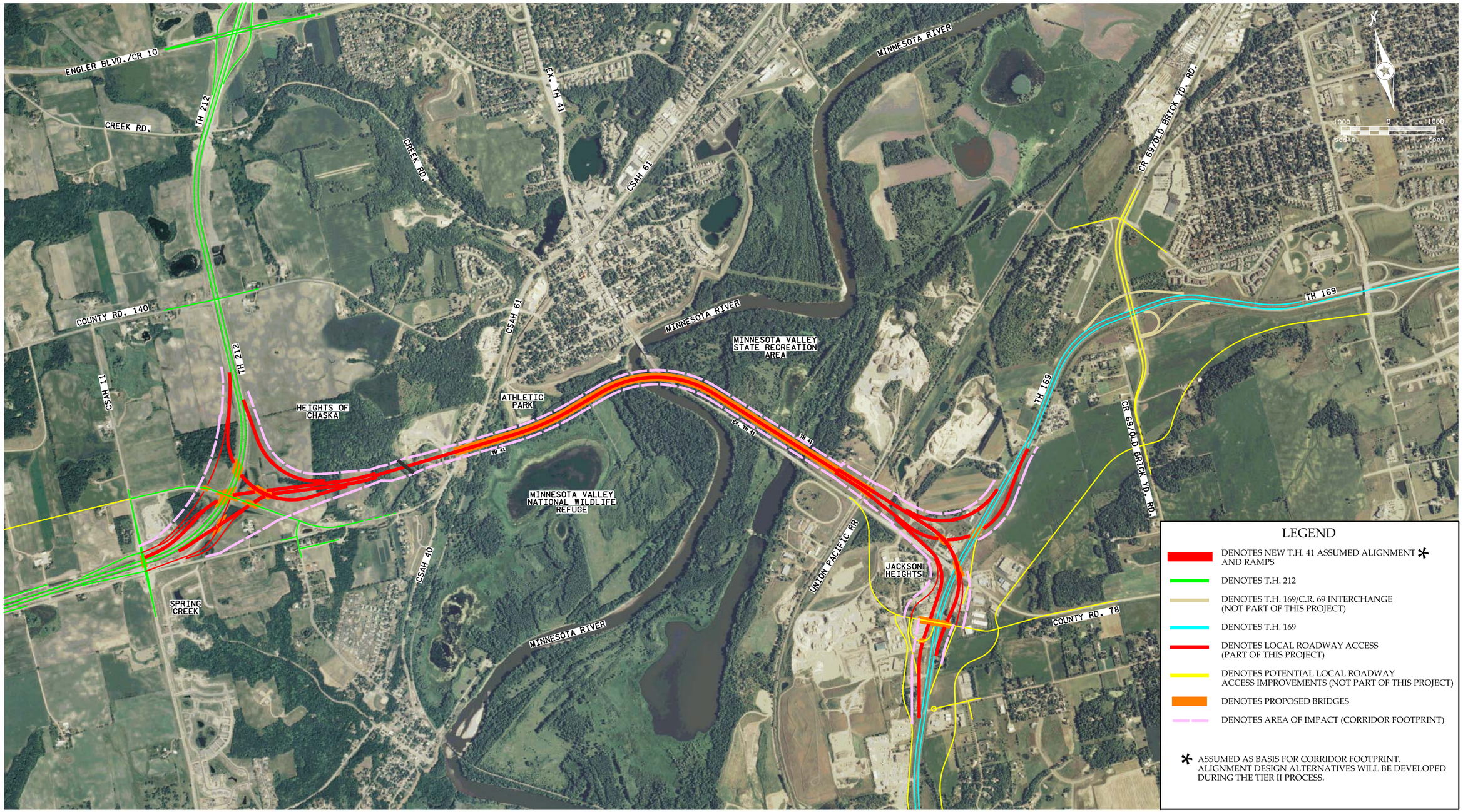
STATE / COUNTY LOCATION MAP

Figure 1-1

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Final Environmental Impact Statement
S.P. #1008-60
Minnesota Department of Transportation



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PREFERRED ALTERNATIVE

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Final Environmental Impact Statement
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Figure 1-2

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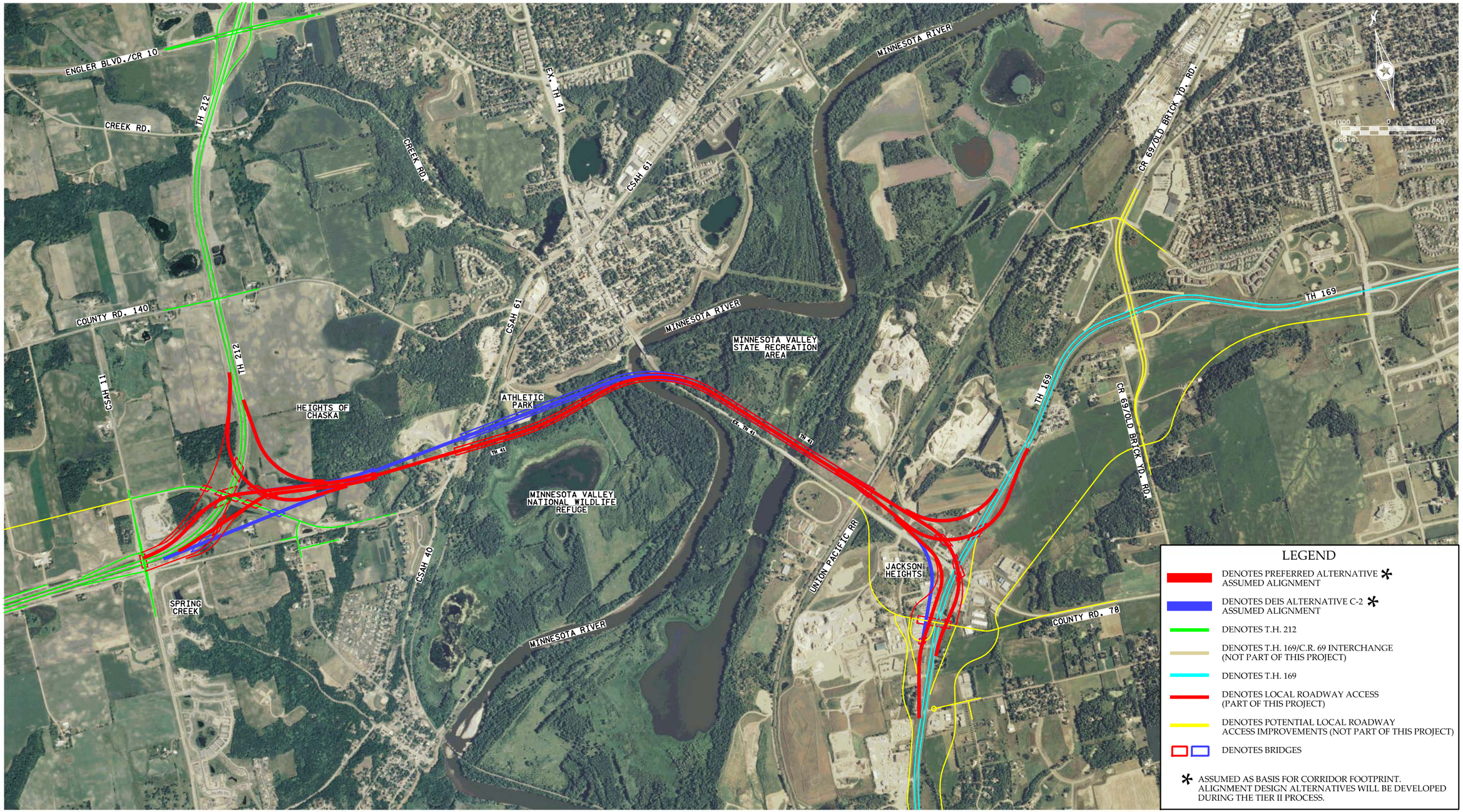

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ASSUMED ALIGNMENTS: PREFERRED ALTERNATIVE COMPARED TO DEIS ALTERNATIVE C-2

Figure 1-2A

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Final Environmental Impact Statement
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Per Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 CFR 1508.28), environmental documentation may occur through a "tiered" two-step review process. The tiered EIS process has been determined to be appropriate for the proposed action because, while the construction of the project may not occur for 20 or more years, the project area is rapidly developing and future development will likely encroach on potential corridor locations, resulting in greater potential for social and economic impacts at the time the project is funded if an alignment location is not protected in the near future. The notice of intent to prepare a Tier I EIS was published in the Federal Register January 10, 2003.

The Tier I Draft EIS (DEIS) identified and evaluated the social, economic, and environmental issues associated with alternative corridor locations, as a basis for identifying a preferred alignment corridor that can be preserved as right of way for future use. The Tier I DEIS and FEIS are corridor-level documents, with analysis based on an assumed standard corridor width of 300 feet. A Tier II EIS process will be initiated in the future, as the project moves forward for implementation. At the time of the Tier II process, changes in setting, regulations, and other relevant information would be considered to re-evaluate/reaffirm the corridor and identify if any changed conditions would influence the preferred corridor. The Tier II process will focus on preferred alignment design alternatives within the corridor, updated assessment of environmental impacts to address a higher level of design, and identification of mitigation.

This Tier I FEIS is presented in the Condensed format per FHWA Technical Advisory 6640.8a. This format incorporates, by reference, the Tier I DEIS, focuses on changes in the project, its setting, impacts, technical analysis, and mitigation that have occurred since the DEIS was circulated. It identifies the preferred alternative, explains the basis for its selection, describes coordination efforts, and includes agency and public comments, responses to these comments, and any required findings or determinations.

The format of the FEIS parallels the DEIS. Each major section of the FEIS briefly summarizes the important information contained in the corresponding section of the DEIS, references the section of the DEIS that provides more detailed information, and discusses any noteworthy changes that have occurred since the DEIS was circulated. Also note that minor corrections and technical additions to the DEIS are provided in Chapter 17 of this FEIS.

As noted above, the focus of this Tier I FEIS is to identify the Preferred Alternative, describe its impacts, and discuss potential mitigation (refined impacts and mitigation commitments to be addressed in Tier II EIS. In addition, since more than three years have passed since the June 2007 publication of the Tier I DEIS, a re-evaluation of the DEIS is required consistent with 23 CRF 771.129. The FEIS discusses changes in the project setting, the project design, anticipated impacts and mitigation, regulatory requirements, and the continuous process of active stakeholder engagement that has occurred since publication of the DEIS, thereby serving as the re-evaluation. Based upon the DEIS project record and the re-evaluation of issues presented in this FEIS, Mn/DOT and FHWA found that, with the exception of changes related to the realignment of DEIS Alternative C-2 that are documented in this FEIS, the findings of the TH 41 Minnesota River Crossing Tier I DEIS remain valid. The substantial changes between DEIS Alternative C-2 and the Preferred Alternative include the following:

- Avoidance of direct impacts to Athletic Park (Chaska Cubs Ball Field) in the City of Chaska, a Section 4(f) resource and property that is eligible for the National Register of Historic Places (NRHP).

- Avoidance of direct impacts to the Jackson Heights manufactured home community in Scott County, a low income/minority population subject to federal environmental justice considerations.

- Reduction in direct impacts to the Spring Creek residential neighborhood, and shift in location of and reduction in direct impacts to residences along CSAH 61 in the City of Carver.

- Increased impacts to the Minnesota Valley National Wildlife Refuge from 8.5 to 22.0 acres, likewise increasing impacts to sensitive vegetation and habitat, due to the avoidance of Athletic Park (Chaska Cubs Ball Field).

- Increased impact to wetlands from 10.9 to 13.2 acres, due to avoidance of Athletic Park (Chaska Cubs Ball Field).

1.3 PROJECT SETTING

The description of the project setting remains largely unchanged from the DEIS. Since publication of the DEIS, construction of New US 212 was completed, and what was existing US 212 at the time of the DEIS, was designated CSAH 61. Subsequent to the completion of US 212, County Road (CR) 147 in Carver County was designated CSAH 11.

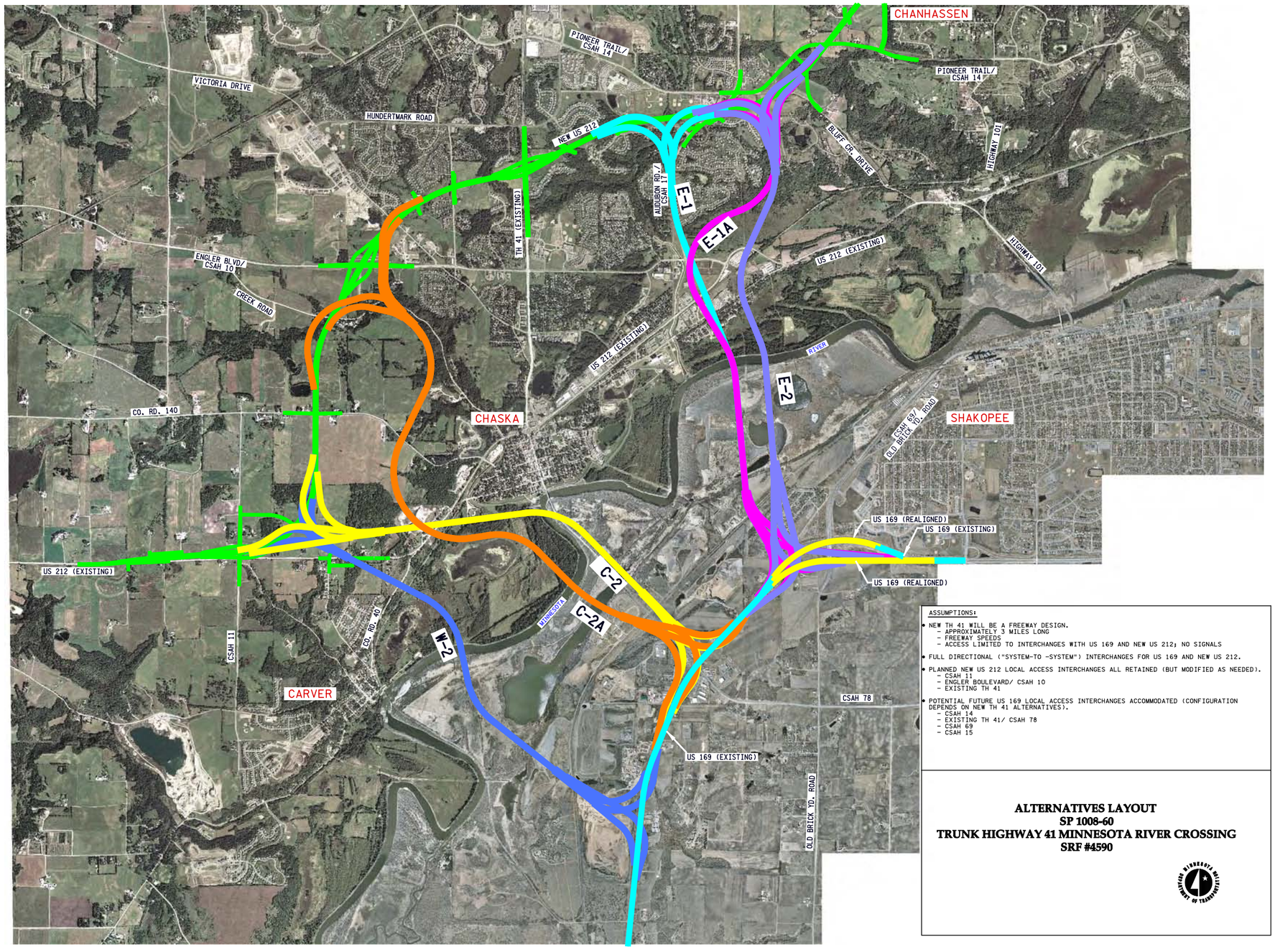
1.4 ALTERNATIVES NOT IDENTIFIED AS THE PREFERRED ALTERNATIVE

The No-Build alternative would not adequately address the need for the project (detailed in Chapter 2 of this FEIS), but was analyzed as the basis for comparison of the other DEIS Build alternatives.

The Build alternatives that were studied in the DEIS are depicted in Figure 1-3. Alternatives for study in the DEIS resulted from a scoping process, described in the Scoping Document (SD), with the final decision documented in the Scoping Decision Document (SDD) (approved February 18, 2005, amended March 17, 2006). The following Build alternatives were not identified as the Preferred Alternative for reasons described under Section 1.5.

- **Alternative W-2** is located in the western portion of the study area. This alternative intersects with US 169 one mile west of existing TH 41/CSAH 78 and connects with US 212 at the US 212/CSAH 11(formerly CR 147) interchange.

- **Alternative C-2A** is located in the central portion of the study area. This alternative connects to US 169 at the planned US 169/existing TH 41 interchange (the design assumes a realigned existing TH 41/CSAH 78) and connects to US 212 at CSAH 10/Engler Boulevard.



ASSUMPTIONS:

- NEW TH 41 WILL BE A FREEWAY DESIGN.
  - APPROXIMATELY 3 MILES LONG
  - FREEWAY SPEEDS
  - ACCESS LIMITED TO INTERCHANGES WITH US 169 AND NEW US 212; NO SIGNALS
- FULL DIRECTIONAL ("SYSTEM-TO -SYSTEM") INTERCHANGES FOR US 169 AND NEW US 212.
- PLANNED NEW US 212 LOCAL ACCESS INTERCHANGES ALL RETAINED (BUT MODIFIED AS NEEDED).
  - CSAH 11
  - ENGLER BOULEVARD/ CSAH 10
  - EXISTING TH 41
- POTENTIAL FUTURE US 169 LOCAL ACCESS INTERCHANGES ACCOMMODATED (CONFIGURATION DEPENDS ON NEW TH 41 ALTERNATIVES).
  - CSAH 14
  - EXISTING TH 41/ CSAH 78
  - CSAH 69
  - CSAH 15

ALTERNATIVES LAYOUT
SP 1008-60
TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
SRF #4590

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BUILD ALTERNATIVES

Figure 1-3

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Final Environmental Impact Statement
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- **Alternative E-1** is in the eastern portion of the study area. This alternative connects to US 169 at the planned US 169/CSAH 69 interchange, and connects with US 212 at CSAH 17/Audubon Road. This alternative assumes that US 169 is realigned south of its existing alignment in the vicinity of CSAH 69.

- **Alternative E-1A** is located in the eastern portion of the study area. This alternative is identical to Alternative E-1 south of the Minnesota River, therefore also assumes that US 169 is realigned south of its existing alignment in the vicinity of CSAH 69. North of the river, this alternative follows the bluff line and connects to US 212 near Bluff Creek Road.

- **Alternative E-2** is located in the eastern portion of the study area. It is the easternmost alignment of all the DEIS Build alternatives. This alternative connects to US 169 at the planned US 169/CSAH 69 interchange and connects to US 212 near Bluff Creek Road. This alternative assumes that US 169 is realigned south of its existing alignment in the vicinity of CSAH 69.

1.5 IDENTIFICATION OF THE PREFERRED ALTERNATIVE

1.5.1 Process

1.5.1.1 Stage 1: Recommended Preferred Alternative Process (April 2007 – December 2008)

During the initial stage of the preferred alternative identification process (Stage 1), FHWA and Mn/DOT first considered the DEIS technical analysis and comments submitted during the DEIS comment period to inform a potential recommendation for a Preferred Alternative, and then discussed this potential recommendation with agencies and local government representatives individually and with the project management team (PMT) and study advisory committee (SAC).

In December 2008, FHWA and Mn/DOT announced the following:

DEIS Build Alternative C-2, with refinements described in Section 1.5.1.2 below, is identified as the Preferred Alternative for the following reasons:

- Comments on the DEIS and follow-up consultation found no first choice alternative among stakeholders.

- Compared to the other alternatives, **C-2 offered the best potential to avoid or minimize impacts** to the most state and federally protected resources, while minimizing impacts on people, wildlife, and habitat and meeting transportation needs.

- **W-2 posed the greatest harm to state and federally protected lands,** specifically the Minnesota Valley National Wildlife Refuge and Minnesota State Recreation land.

- **C-2A had the highest impacts on sensitive vegetation.** C-2A also had more impacts to state and federally protected lands, and would require acquisition of more homes than C-2.

- **E-1 had large impacts to low income/minority neighborhoods (environmental justice),** and would require acquisition of the largest number of homes.

- **E-1A and E-2 also had large environmental justice impacts and would threaten the state and federally protected Seminary Fen,** which is home to state-listed rare plants and a globally rare ecosystem.

1.5.1.2 Stage 2: Refinement of DEIS Alternative C-2 into Preferred Alternative (January 2009 - December 2011)

Because FHWA and Mn/DOT recognized that DEIS Alternative C-2 posed numerous impact challenges, they announced their intention to continue working with local, state, and federal agencies to refine the C-2 corridor to further minimize negative impacts to residents, historic properties, and natural resources. The second stage of the Preferred Alternative identification process (Stage 2) then focused on refinement of the design of C-2 to avoid or minimize negative permanent and temporary (construction) impacts on all stakeholders, and develop support for mitigation as part of a comprehensive solution.

Stage 2 involved an intensive stakeholder engagement process that came to be formalized as the River Crossing Implementation Collaborative (RCIC). The RCIC process is documented in detail in the report *TH 41 EIS: River Crossing Implementation Collaborative Process and Outcomes Report* (RCIC Report*)* (April 2013). An excerpt of this report is available in Appendix A-1. The complete RCIC Report is provided in Appendix A-2.

The membership of the RCIC includes:

- Carver County
- City of Carver
- City of Chanhassen
- City of Chaska
- City of Shakopee
- Federal Highway Administration (FHWA)
- Scott County
- Metropolitan Council
- Minnesota Department of Natural Resources (MnDNR)
- Minnesota Department of Transportation (Mn/DOT)
- State Historic Preservation Office (SHPO)

- U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge (USFWS-MVNWR)

Work of the RCIC most relevant to the selection of the Tier I FEIS Preferred Alternative includes:

- Changes to the horizontal alignment of the DEIS Alternative C-2 corridor to avoid direct impacts to Athletic Park (Chaska Cub Ball Field) and to the Jackson Heights manufactured home community. Through the RCIC's collaborative planning and negotiation with the USFWS on behalf of the Minnesota Valley National Wildlife Refuge (MVNWR), which is adjacent to Athletic Park (Chaska Cub Ball Field), a balance was struck that yielded a revised corridor. The revised corridor was shifted outside the ballpark boundaries while minimizing additional harm to the MVNWR. (Note that the ramps at US 212 were also modified to minimize impacts to the Spring Creek neighborhood.) The resulting Preferred Alternative is presented in Figure 1-2.

- Extensive effort to (1) collaboratively document the key issues associated with the Preferred Alternative, (2) identify strategies to avoid, minimize and mitigate impacts, (3) provide recommendations for consideration during the Tier II EIS process, and (4) identify intermediate activities that should occur between the conclusion of the Tier I EIS process and the initiation of the Tier II process to best serve the success of the project for all stakeholders. These findings are in the RCIC Framework/Recommendations around Common Goals and Strategies, summarized in Section 3.4 and included in Appendix A-1.

- Outreach to the low income/minority community residing at Jackson Heights, through which residents expressed their perspectives, priorities, and concerns, alternatives to the original DEIS Alternative C-2 roadway alignment were presented, mitigation options were discussed, and concurrence around project expectations was established between Mn/DOT and the community.

1.5.2 Description of the Preferred Alternative

The Preferred Alternative is the DEIS C-2 Alternative with the horizontal alignment modified to avoid direct impacts to Athletic Park (Chaska Cubs Ball Field) in the City of Chaska and to Jackson Heights in Jackson Township and to minimize impacts to the Spring Creek neighborhood in the City of Carver.

The Preferred Alternative involves the construction of a new east-west freeway connection between US 169 and US 212. It is located in the central portion of the study area, along the western edge of downtown Chaska.

The Preferred Alternative abuts Jackson Heights, the manufactured home community located just west of existing TH 41 near the intersection of US 169 and TH 41. South of the Minnesota River, the Preferred Alternative crosses over areas identified as floodplain and floodplain forest, through wetlands identified as part of the National Wetland Inventory (NWI), and through the Gifford Lake portion of the Minnesota Valley State Recreation Area (MVSRA). North of the

Minnesota River, the Preferred Alternative crosses through NWI wetlands, floodplain forest, and floodplain areas. It also crosses the northeastern portion of the MVNWR Chaska Unit south of the levee immediately south of the Athletic Park (Chaska Cubs Ball Field) site and approximately 1,550 feet south of the Chaska downtown historic district. North of CSAH 61, the Preferred Alternative crosses through the southern portion of the planned Heights of Chaska development site.

The Preferred Alternative includes:

- Two new directional interchange connections, one at US 169 and one at US 212;
- Ramps for local access at the planned US 169/TH 41 interchange;
- Ramps for local access at the US 212/CSAH 11 interchange (separate from the system ramps connecting US 212 to New TH 41);
- A four-lane freeway approximately 3.0 miles in length;
- A new bridge from just south of the Union Pacific Railroad in Scott County to just north of CSAH 61 in Carver County (Tier I-level estimate of 9,350 feet in length);
- Partial reconstruction of ramps that have been constructed as part of the US 212 project to connect US 212 to CSAH 11 (impacted by the project);
- Several bridges at both the New TH 41/US 169 interchange and the New TH 41/US 212 interchange;
- Auxiliary lanes on US 169, New TH 41, and US 212 where needed to provide acceptable freeway operations; and
- Assuming for corridor analysis purposes, a 300-ft wide corridor except where wider to respond to topographic considerations, and at interchanges.
- The interchange of the Preferred Alternative with US 169 is located near the existing at-grade intersection between US 169 and existing TH 41/CSAH 78, which is planned to be converted to an interchange, assumed to occur prior to construction of the proposed project. The Preferred Alternative assumes a configuration for the planned US 169/existing TH 41 interchange that can accommodate the proposed New TH 41/US 169 interchange including local access ramps; this configuration realigns existing TH 41 and CSAH 78 slightly to the southwest of their current alignments. The US 169/existing TH 41 interchange and the complementary series of frontage roads are separate projects and are not included as part of this alternative. They are shown in Figure 1-2 as a representation that improvements to US 169 and local connections are feasible if the Preferred Alternative is constructed. It is likely that the actual design of a future local interchange and frontage road system will differ from this configuration. The footprint shown is also conservatively large to identify worst-case impacts. The Preferred Alternative also assumes that the alignment of the US 169 mainline would not change.

In the DEIS, Build alternative figures also depicted a possible configuration for an interchange at TH 169/CSAH 69. Since the DEIS was published, an interchange project has been developed for this location. The preliminary design is shown in Figure 1-2. This is a separate project. It does not conflict with the concept design of the Preferred Alternative.

The interchange of the Preferred Alternative with the US 212 interchange is located near the diamond interchange constructed as part of the US 212 project at US 212 and CSAH 11. Access to and from CSAH 11 and the Preferred Alternative can be accommodated at this interchange via additional ramps.

The RCIC Report includes considerations for addressing local access as part of the project, among other considerations for future refinement of the Preferred Alternative during the Tier II EIS process. At this time, additional local access is an unresolved issue as noted in Section 1.13.

1.6 RCIC FRAMEWORK AND PROJECT GUIDANCE

As implementation of the proposed project is not in the current 20-year planning horizon, the initiation of the Tier II EIS process is expected to occur several years after the conclusion of the Tier I EIS process. Section 1.5.1.2 describes the RCIC stakeholder engagement process initiated in 2009. The RCIC Framework and Guidance summarized below and included in Appendix A-1 is directed at the issues to be planned for both as part of the Tier II EIS and during the interim between the Tier I and Tier II processes. Mn/DOT intends to continue working with the stakeholders represented on the RCIC on the interim opportunities identified in the RCIC report.

RCIC Framework

- *In addition to supporting the TH 41 C-2 route, actively support improvements that meet current and future transportation needs across the Minnesota River between I-35 and CR 9.*
- *Avoid or minimize negative permanent and temporary/construction impacts on all stakeholders, and support mitigation as part of a comprehensive solution.*

<u>Goal 1, Noise and visual impacts on neighborhoods</u>: Address noise and visual impacts on adjacent neighborhoods

<u>Goal 2, Noise and visual impacts on historic properties</u>: Avoid negative visual, atmospheric, auditory, and use effects on historic properties/districts in all communities

<u>Goal 3, Impacts on Historic Ballpark</u>: Ensure ability of Chaska ballpark to operate; preserve the overall ballpark experience and its character as a small-town ballpark eligible for listing on the National Register of Historic Places

<u>Goal 4, Safety Issues in Downtown Chaska</u>: Resolve safety issues along existing Highway 41 in downtown Chaska

Goal 5, Environmental Justice: Proactively work with stakeholders to understand and responsibly address environmental justice impacts

Goal 6, Local Access: Provide appropriate access to local and county roadways that will facilitate land use developments guided by counties and cities

Goal 7, Ecosystem Impacts: Minimize impacts on aquatic and terrestrial ecosystems including animals and plants

Goal 8, Public Access: Ensure reasonable and usable public access to the outdoor recreational opportunities in the river valley (Refuge, state trail, and other public lands)

Goal 9, User Impacts: Minimize impacts, including noise and visual, to people using the Refuge, state trail, and other public lands

The RCIC Report details these goals with:

- Issue Description
- Agreed-upon Strategies to Avoid, Minimize, Mitigate Impacts
- Guidance for Tier II
- Intermediate Activities (between now and Tier II)

These elements of the RCIC Report are presented in Appendix A-1. A complete version of the RCIC Report is provided in Appendix A-2.

1.7 PREFERRED ALTERNATIVE IMPACTS

The Preferred Alternative is a revised version of DEIS Alternative C-2. The impacts of the Preferred Alternative are not substantially different from the impacts identified for DEIS Alternative C-2, except as noted in this FEIS. A comparison of the impacts of the Preferred Alternative and the DEIS alternatives (including C-2) is included in Appendix C. The impacts of the Preferred Alternative will be updated during the Tier II EIS process, based on conditions in the project area at that time and on more detailed project design development.

Table 1-1 summarizes the transportation, social, economic, and environmental impacts of the Preferred Alternative. Assessment of these impacts is based upon an assumed 300-foot wide corridor, with wider impacts at interchange areas, and to provide for ponding and topographic considerations. The impacts included in the summary table may be able to be further minimized through avoidance and minimization efforts during the preliminary design activities that will occur during the Tier II EIS process and during final project design.

TABLE 1-1
IMPACT SUMMARY FOR THE PREFERRED ALTERNATIVE

DESCRIPTION	**Roadway length:** 3.0 miles **Estimated Bridge length:** 9,350 feet **Estimated Number of piers:** 80
TRANSPORTATION AND FISCAL IMPACTS	
Capacity Improvement and Relief to Other River Crossings	
New TH 41 Average Daily Traffic (ADT) (2040)	48,000
Other River Crossings ADT (2040)	
• CSAH 9/45	21,600
• TH 41	22,000
• Highway 101	30,000
• US 169	135,000
• I-35W	133,000
Hours of Congestion (2040)	
• Existing TH 41 north of CSAH 61	0
• Existing TH 41 river crossing	2
• Existing Highway 101 river crossing	7
Regional Efficiency (2040)	
• VMT (difference from No-Build)	314,000
• VHT (difference from No-Build)	-3,500
Safety	
Crashes (2040)	
• Freeway	1,052
• Non-Freeway	9,460
• Downtown Chaska	22
Other	• Grade-separated rail crossings increase safety and decrease number of stops for transports carrying hazardous/flammable materials. • Substantial improvements in emergency response times, especially during flood conditions. • Reduced potential for vehicle-bicycle or vehicle-pedestrian conflicts.
Trucks per day (% of ADT) (2040)	
• New TH 41	2,350 (5)
• Existing TH 41	700 (3)
• Highway 101	1,500 (5)
• US 169	8,700 (6)

TABLE 1-1 continued
IMPACT SUMMARY FOR THE PREFERRED ALTERNATIVE

DESCRIPTION	**Roadway length:** 3.0 miles **Estimated Bridge length:** 9,350 feet **Estimated Number of piers:** 80
TRANSPORTATION AND FISCAL IMPACTS continued	
Fiscal	
Cost (in 2013 dollars)[3] (rounded to $10M)	
• Construction (higher figure risk assessed for factors including mitigation)	$370-$430M
• Right of way	$ 90-$130M
• Total	$460-$560M
Benefit/Cost Ratio	3.39
SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACTS	
Right of way	320 acres
	57 affected parcels:
	• 11 residential • 16 agricultural • 15 commercial • 12 public • 3 other
Residential Units Needed to be Acquired[4]	10
Business/employees	11 businesses
	114 employees
Fiscal	
Annual tax loss (Scott County)	• $188,360 (2013 dollars)
Annual tax loss (Carver County)	• $ 20,260 (2013 dollars)
Environmental Justice	Noise and visual impacts to Jackson Heights
Neighborhoods	• Separates corner of Heights of Chaska from remainder • Separates Carver and Chaska
Community Facilities	• No impact
Access	• Affects design of US 169/ existing TH 41 interchange • Assumes existing TH 41/ CSAH 78 realigned to the west • Local ramps at US 212/CSAH 11 interchange partially reconstructed

[3] Project costs have been updated from 2005 dollars to 2013 dollars using the Consumer Price Index (CPI). ftp://ftp.bls.gov/pub/special.requests/cpi/cpiai.txt. Accessed May 10, 2013.

[4] Includes single family homes, townhomes, and manufactured home units. Does not include farm houses. Note: Agricultural parcels include properties that are planned for development before the anticipated build-year.

TABLE 1-1 continued
IMPACT SUMMARY FOR THE PREFERRED ALTERNATIVE

DESCRIPTION	**Roadway length:** 3.0 miles **Estimated Bridge length:** 9,350 feet **Estimated Number of piers:** 80
SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACTS continued	
Cultural Resources	• Effect on cultural resources cannot be determined at this time
Parks, Trails, Recreational Areas (Section 4[f])	• Temporary construction impacts to Canoe and Boating route • Temporary construction impacts to planned trail • 22.0 acres MVNWR • 22.3 acres MVSRA/MV Trails
Threatened and Endangered Species	• No Threatened and Endangered species listed within ½ mile • Tier II mussel study anticipated
Vegetation/Habitat	• Shading effects • Salt spray, trash, debris, and opportunistic invasive species • Bridge piers may create obstacles for wildlife; bridge could create flight barrier for birds • Affects 58.3 acres of natural vegetation, including 24.3 acres of forest interior • Creates additional forest edge and shrub/herbaceous edge (habitat fragmentation)
Seminary Fen/Assumption Creek (3 calcareous fen component (CFC] areas)	No impact
Surface Water Quality/Storm Water Runoff	
Impervious surface	47.7 acres
Permanent ponding storage requirement (% in floodplain)	13.9 acre-ft. (31.9% in floodplain)
Wetland Impacts	13.2 acres
Wild and Scenic River	
Floodplain/Waterbodies	
• Floodplain encroachment	7,250 feet (Minnesota River)
• Increase in flood elevation	0.02 foot (Minnesota River)
Groundwater	Potential dewatering or direct impacts to groundwater, not excessive

TABLE 1-1 continued
IMPACT SUMMARY FOR THE PREFERRED ALTERNATIVE

DESCRIPTION	**Roadway length:** 3.0 miles **Estimated Bridge length:** 9,350 feet **Estimated Number of piers:** 80
SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACTS continued	
Physical	
Noise (daytime) (2040)	State standards exceeded at several receptors
Air Quality	
Soil, Water Contamination	• 2 Medium risk sites • 7 High risk sites
Visual Quality	
Steep Slopes, Erodible Soils – Length of erodible soil crossing (acres)	1,950 feet (13.4 acres)
Farmland	• 16 agricultural parcels • 148 acres (NRCS)
Excess/Borrow	Preliminary estimates indicate that up to 3.3 million cubic yards of borrow may be required.
OTHER	
Construction Impacts	
Indirect Impacts	Assumed US 169/existing TH 41 interchange impacts 3 homes
Cumulative Impacts (greater potential)	• Land development-conversion of agricultural land to more intensive uses • Vegetation/Wildlife/Threatened and Endangered Species • Wetlands • MVNWR – visual, noise, habitat fragmentation, storm water

1.8 PREFERRED ALTERNATIVE MITIGATION MEASURES

Mitigation strategies for impacts of the Preferred Alternative are summarized below and are also discussed in the appropriate chapters of this FEIS. As noted, since this is a Tier I FEIS, detailed designs of the TH 41 roadway and bridge do not yet exist. Therefore, specific mitigation commitments often cannot be made at this level of project development. During the Tier II EIS specific project information will allow detailed mitigation to be developed for project impacts.

1.8.1 Right of Way

The Preferred Alternative would have right of way impacts. All acquisition of property due to the proposed project will be conducted in accordance with the Uniform Relocation and Real Property Acquisition Act of 1970, as amended by the Surface Transportation and Uniform Relocation Assistance Act of 1987 and 49 Code of Federal Regulations Part 24, and effective April 1989 (revised January 2005).

1.8.2 Business/Employees

The Preferred Alternative would result in impacts to project area businesses and employees. Acquisition of commercial properties will be conducted as described above under Right of Way. In addition, it should be noted that as employment in the study area communities is anticipated to grow substantially over the coming decades, it is expected that there will be sufficient accessible job opportunity to replace jobs lost through acquisition of commercial/industrial properties.

1.8.3 Fiscal

The Preferred Alternative would result in fiscal impacts (annual tax losses for both Scott and Carver Counties) due to property acquisitions. This decrease in property tax base resulting from conversion of private property to public right of way is anticipated to be offset by new development occurring in communities in the study area.

1.8.4 Environmental Justice

The Preferred Alternative would result in impacts to low income and minority populations (i.e., environmental justice impacts), specifically noise and visual impacts, however these are not disproportionate. Mitigation for these impacts would be the same as for impacts to the general population (see 1.8.15 and 1.8.18 below). Other issues that were raised by the Jackson Heights community and related mitigation strategies recommended by the RCIC for consideration are documented in the RCIC Report and provided in Chapter 3 of this FEIS. Note also that impacts to low income and minority populations are offset by overall improved regional accessibility and alleviation of traffic congestion.

1.8.5 Community Cohesion, Traffic Patterns, and Access

The Preferred Alternative would have impacts to community cohesion, traffic patterns, and access. Impacts are offset by overall improved regional accessibility and alleviation of traffic congestion, particularly in downtown Chaska. Community impact concerns and mitigation strategies recommended by the RCIC for consideration in the Tier II EIS are identified in the RCIC Report and provided in Appendix A-1 of this FEIS.

1.8.6 Cultural Resources

It was determined in the DEIS that DEIS Alternative C-2 would have an adverse effect on Chaska Cubs Ball Field (Athletic Park), a property found to be eligible for the National Register of Historic Places (NRHP). The C-2 alignment was revised to avoid direct impacts to this site; however the project is still determined to have an adverse effect on the site. It is premature to fully assess the effect of the Preferred Alternative on this and other identified NRHP eligible cultural resources. Specific mitigation for adverse effects on NRHP-eligible properties will be addressed in the Tier II process. Correspondence between Mn/DOT Cultural Resources Unit (CRU) and the Minnesota State Historic Preservation Office (SHPO) documenting the completed Tier I work and describing future Tier II work is found in Appendix B.

1.8.7 Parks, Trails, Recreational Areas (Section 4[f]/Section 6[f])

The Preferred Alternative would impact the Minnesota Valley National Wildlife Refuge (MVNWR), the Minnesota Valley State Recreation Area (MVSRA), and the Minnesota Valley State Trail (MV Trail). Impacts to Section 4(f) properties will be minimized through roadway or bridge design. Efforts will be made to maintain access to and use of the facilities during construction.

The Preferred Alternative would cross over the planned Minnesota River Bluffs Regional Trail Extension, as well as trails within the MVNWR, posing visual impacts and potential construction impacts. The Preferred Alternative would require the realignment of the trail that is alongside Spring Creek Drive. Trail access points and other trail connections impacted by construction activity will be reestablished after project completion.

Specific mitigation for impacts of the Preferred Alternative on parks and trails will be determined through the Tier II EIS process and Final Section 4(f) Evaluation prepared at the time of the Tier II EIS. The MVNWR and MVSRA/MV Trail are Section 6(f) resources requiring that land acquired for the project will be mitigated via replacement land that is of reasonably equivalent usefulness and location and of at least comparable value. The RCIC Report identifies issues related to ecosystem impacts, public access, user impact and land management within these public resources, and recommends mitigation strategies listed in Appendix A-1 for consideration in the Tier II EIS.

1.8.8 Threatened and Endangered Species

A mussel study will be completed during the Tier II process. Mitigation measures to avoid, minimize, or alleviate impacts to threatened/endangered or other protected species will be defined during the Tier II process once impacts are identified. Continuing involvement with the MnDNR and USFWS will take place through the Tier II EIS process.

1.8.9 Vegetation/Wildlife/Habitat Communities

The Preferred Alternative would impact vegetation and native habitats and could result in shading effects, salt spray, debris, and spread of opportunistic invasive species. Additionally, bridge piers as well as the at-grade roadway could act as a barrier to wildlife movement. Design refinements will be made during the Tier II EIS to minimize impacts. Where impacts to wildlife are unavoidable, the effect of the impacts may be minimized through design features such as wildlife crossings where the roadway is at-grade. Mitigation opportunities may include timing of construction to avoid nesting and fish spawning seasons or during winter months when soils are frozen; re-vegetation of disturbed areas with native plants; restoration of un-fragmented and close-canopied forest on the Minnesota River bottoms and native grassland; and erosion, sedimentation, and water quality Best Management Practices (BMPs). Mitigation will be developed during the Tier II EIS process based on project impacts and best management practices at the time of project construction. The RCIC Report (Appendix A-1) identifies impacts to aquatic and terrestrial ecosystems as a concern and recommends mitigation strategies and guidance for consideration in the Tier II EIS.

1.8.10 Surface Water Quality/Storm Water Runoff

The Preferred Alternative would result in the creation of impervious surface and increased volume and rate of stormwater runoff that contains contaminants common to roadways. BMPs, such as storm ponds, wet detention basins, filter strips and infiltration areas would be incorporated as required to meet state and federal water quality regulatory requirements. To the extent possible, stormwater runoff would also be routed through a wet detention basin prior to discharge into the Minnesota River. Mitigation strategies to reduce potential impacts from winter de-icing materials include carefully monitoring timing, method and application rates of de-icing materials.

1.8.11 Wild and Scenic River

This section of the Minnesota River is not currently designated as a Wild and Scenic River, but it is on the Nationwide Rivers Inventory (NRI). The Preferred Alternative has the potential to negatively impact the scenic nature of the Minnesota River. The impact to the scenic value of the river will be assessed in the Tier II EIS. In addition, the Tier II EIS will reassess potential impacts to other NRI values (not currently anticipated to be impacted) to determine potential for other impacts.

1.8.12 Floodplains

The Preferred Alternative would have minimal effect on the floodplain. Potential adverse impacts can be successfully minimized through careful design and construction considerations.

1.8.13 Groundwater

The Preferred Alternative is located in the vicinity of wellhead protection areas. If necessary, roads that encroach on wellhead protection areas can be constructed with additional containment features such as clay-lined ditches that would contain spills and prevent contamination to water supply aquifers. Measures such as vegetated filter strips along road embankments, grassed swales/ditches, and detention basins can be implemented to promote infiltration/groundwater recharge of highway runoff. The Tier II EIS will address special design issues related to wellhead protection.

1.8.14 Wetlands

The Preferred Alternative would result in direct impacts to wetlands. The sequencing and mitigation procedures required by state and federal wetland regulations will be followed when assessing bridge type alternatives and roadway and interchange design options.

1.8.15 Noise

Both state and federal noise criteria are exceeded at a number of existing receptors for the Preferred Alternative, as well as under existing and No-Build conditions. Mitigation measures could include noise barriers or other sound attenuation methods, and/or incorporation of local land use controls to limit the number of noise-sensitive receptors located adjacent to or in the vicinity of the project corridor. Evaluation of noise barriers as mitigation to avoid and/or minimize impacts as well as guidance for local governments regarding potential noise mitigation measures (such as recommended set-back distances for proposed developments) will be included in the Tier II EIS. The RCIC Report identifies noise as an important issue, and includes RCIC recommendations for mitigation to be considered in the Tier II EIS as listed in Appendix A-1.

1.8.16 Air Quality

It is expected that there would be reduced mobile source air toxics (MSATs) emissions when compared to No-Build conditions in the immediate area of the project due to the reduced vehicle hours traveled and due to U.S. Environmental Protection Agency (EPA) MSAT reduction programs. Detailed air quality analyses will be conducted during the Tier II EIS process.

1.8.17 Contaminated Sites

Contaminated properties are located in or near the Preferred Alternative corridor. Further evaluation of potentially contaminated properties identified in the Phase I Environmental Site Assessment (ESA) will be completed for the Preferred Alternative during the Tier II process. The results would be used to determine whether the contaminated materials can be avoided or

whether the project's impacts to these properties can be minimized. If necessary, a plan would be developed for properly handling and for treating contaminated soil and/or groundwater during construction. Any soil and groundwater remediation activities would be coordinated with appropriate regulatory agencies.

The RCIC Report (Appendix A-1) includes discussion of concerns with the impact of contamination from vehicles, hauled equipment, boat trailers on the roadway, and roadway maintenance activities on the ecosystem.

1.8.18 Visual Quality

The Preferred Alternative would substantially change the visual quality of the study area with the addition of a long, high bridge across the river valley, grade-separations over existing roadways, and the introduction of new highway into developed and undeveloped areas. Design will be addressed in the Tier II process. Consideration can be given to aesthetic treatment of design elements on the bridge and at the interchanges. In addition, efforts to minimize visual impacts by "prescreening" the bridge site with plantings well before construction of the bridge begins would allow landscaping to mature and function as a screen for the bridge site even before the bridge is constructed.

The RCIC Report identifies visual impacts as an important issue and includes RCIC mitigation recommendations for consideration in the Tier II EIS as listed in Appendix A-1. The RCIC Report includes information about work done by the Task Force on Chaska Landscaping Pre-mitigation. Mn/DOT is committed to working with the City of Chaska to study and discuss landscaping options that would be implemented according to the City of Chaska's schedule. Mn/DOT would pay the planting installation costs and work with the City to discuss how to best maintain plantings.

Other measures that could mitigate negative visual impacts include minimizing the clearing of natural vegetation and replacement of lost or removed vegetation with native species and retention of slope and bottom land vegetation. Mitigation measures would be evaluated further and refined in the Tier II EIS.

1.8.19 Steep Slopes, Erodible Soils

The Preferred Alternative would cross areas of steep slopes and/or potentially erodible soils. BMPs such as erosion control blankets, fast growing cover crops, and silt fencing would be implemented in accordance with the National Pollutant Discharge Elimination System (NPDES) Construction Stormwater permit that would be required for the project. After the construction is complete, disturbed areas would be re-vegetated to control erosion on a permanent basis.

1.8.20 Farmland

The Preferred Alternative would affect soils characterized as prime farmland and farmland of statewide importance. The Preferred Alternative would require acquisition of land currently in agricultural use. Such acquisition would be in conformance with the Uniform Relocation and

Real Property Acquisition Act of 1970 as amended by the surface Transportation and Uniform Relocation Assistance Act of 1989 and 49 Code of the Federal Regulations, Part 24. It should be noted that farmland impacts that are actually likely to occur are reduced by the orderly development of land (i.e., conversion of farmland to urban uses) provided for in local comprehensive plans and processes. It is expected that farmland within the Preferred Alternative corridor will likely not be acquired for right of way purposes until conversion to non-agricultural uses (through development) is imminent. Either way, the farmland would be converted. Efforts to further minimize impact to remaining farmland will be part of the Tier II process.

1.8.21 Construction Impacts

The Preferred Alternative would pose impacts during construction. Details of the construction activities, including mitigation measures such as a detailed erosion control plan, a plan for management and disposal of any excess material, a construction staging plan, special construction techniques for river bridge construction, traffic flow management techniques, and access maintenance and/or detour plan would be developed during the Tier II EIS process.

1.8.22 Indirect Impacts

The Preferred Alternative has the potential for indirect impacts due to land development, the effect on the design of planned US 169 corridor improvements, and the broader effects to the natural environment due to ecological relationships.

Land development impacts are subject to local land use plans and land use controls, agency permits, and approvals. Because of the timeframe for construction, communities will have time to plan for future land use and transportation systems to fit physically with the project. Mn/DOT will be planning and implementing the US 169 improvements and, therefore, will be responsible for mitigating impacts, if any, of those projects. The RCIC Report discusses ecological relationships and includes RCIC recommendations for mitigation to be considered. Any project mitigation for impacts to the natural environment, (e.g., wetland replacement, habitat restoration, etc.) would have a corresponding indirect benefit to the broader ecosystem.

1.9 RESPONSIBLE GOVERNMENTAL UNITS

The Minnesota Department of Transportation (Mn/DOT) is the Responsible Governmental Unit (RGU) for the development of the proposed project with respect to state environmental review requirements and the Federal Highway Administration (FHWA) is the lead federal agency.

1.10 COSTS/FUNDING

The estimated construction and right of way costs, in 2013[5] dollars, for the Preferred Alternative are $370 to $430 million and $90 to $130 million, respectively, for a total project cost of $460 to $560 million. This estimate is based on the cost of DEIS Alternative C-2 as calculated for the DEIS. The difference in corridor alignment between DEIS Alternative C-2 and the Preferred

[5] Project costs have been updated from 2005 dollars to 2013 dollars using the Consumer Price Index (CPI). ftp://ftp.bls.gov/pub/special.requests/cpi/cpiai.txt. Accessed May 10, 2013.

Alternative is for a short distance and does not substantially change the structure length, right of way needs or other major cost features of the project. The cost estimate will be refined during the Tier II process when detailed design information and mitigation strategies are developed.

The range is provided with the high number representing construction cost with a roadway risk-assessment percentage added following Mn/DOT peer review of cost factors. The right of way estimate includes right of way acquisition and relocation costs. Note that mitigation costs are not estimated, but that the higher number in the cost range represents an added risk assessment percentage to account for several currently unknown factors, including mitigation.

Funds from a variety of regional, state, and federal sources are anticipated for this project. This project is not in Mn/DOT's twenty year plan and is not currently programmed in any following year. Because this programmed date is unknown at this time, project costs are provided in 2013 dollars. The Regional 2030 Transportation Policy Plan, dated November 2010, states that Mn/DOT should assess the TH 41 river crossing to identify short-term, lower-cost/high-benefit solutions and longer-term future right of way needs.

Mn/DOT will reevaluate needs and timing of right of way and construction funding during future plan updates, which occur approximately every three years.

1.11 SCHEDULE

Table 1-2 shows is the anticipated project schedule for completion of the TH 41 Minnesota River Crossing Tier I EIS and Tier II EIS.

TABLE 1-2
SCHEDULE

Task/Activity	Date	Status
Transportation Studies/Alternatives Development	Fall 2002 through Summer 2003	Completed
Scoping Document/Draft Scoping Decision Document Distribution	Spring 2004	Completed
Scoping Hearing	Spring 2004	Completed
Tier I Draft EIS Distribution	June 2007	Completed
Public Hearing on Tier I Draft EIS	July 2007	Completed
Identification of Preferred Alternative	December 2008	Completed
Tier I Final FEIS	Fall 2014	In progress
Mn/DOT Adequacy Determination	Winter 2014	To be completed
FHWA Record of Decision	Winter 2014	To be completed
Implementation of corridor preservation measures can begin (after ROD)	2015	To be completed
Initiation of Tier II EIS process	When Programmed*	When Programmed*

*Construction is not currently in Mn/DOT 20-year plan.

1.12 OTHER MAJOR GOVERNMENTAL ACTIONS IN THE STUDY AREA

The US 169 Corridor Management Plan proposes future conversion of US 169 to a freeway facility within the project study area. A project to construct an interchange at US 169/CSAH 69 is now underway. For purposes of this FEIS, it is assumed that, under a separate project or projects, interchanges will also be built at US 169/CSAH 14 and US 169/existing TH 41/CSAH 78. These assumed US 169 corridor improvements have not been programmed. The need for these improvements is independent from the need for the proposed New TH 41 River Crossing project – that is, the projects have independent utility. However, the alignment of the Preferred Alternative for the new river crossing would influence the design of future US 169 corridor improvements. The relationship between the proposed project and planned US 169 corridor improvements is discussed in Chapter 3 of the DEIS, and noted in appropriate impact analyses.

In addition, construction of US 212 was completed in 2008. The design of the Preferred Alternative and relevant impact analyses account for its effect on US 212. Conversion of US 212 west of CSAH 11 from a two-lane roadway to a four-lane facility with access management improvements is the long-term plan but not programmed. Current efforts are focusing on low-cost/high-benefit access management projects that can be implemented in the short-term. Planning is underway for an interchange project at US 212 and CR 140. Planning for US 212 improvements was considered in the identification of the Preferred Alternative.

1.13 POTENTIAL AREAS OF CONTROVERSY AND UNRESOLVED ISSUES

Throughout the EIS scoping and DEIS process, Mn/DOT has made extensive efforts at agency, local government, and public involvement to identify potentially controversial issues and resolve them. This effort has generally been successful in addressing concerns of stakeholders in the project area, however different agencies and different municipalities affected by the Preferred Alternative have varying priorities and interests they would like to see protected. The chief area of controversy has been related to the trade-offs in terms of impacts among all alternatives, in particular trade-offs between impacts to the natural environment (i.e., habitat, vegetation, wetlands, calcareous fen) and impacts to the social/cultural environment (i.e., developed and developing areas, historic properties).

As described in Chapter 3, stakeholder involvement activities that occurred between the announcement of a recommended Preferred Alternative and the completion of the FEIS centered on the work of the River Crossing Implementation Coalition (RCIC). Major issues relevant to the Tier I decision have been resolved through the work of the RCIC.

The FEIS document attempts to document the positions presented by these various interested parties, to inform the process of assessing benefits and impacts, and the decision-making process used to arrive at a Preferred Alternative.

The key remaining unresolved issue relates to the potential for including local access from US 169 and new TH 41 to CSAH 61. This issue will be further studied during the Tier II EIS process.

1.14 PERMITS AND APPROVALS

Permits, approvals, or completion of other documentation prior to start of construction of the proposed project are required by the agencies listed in Table 1-3.

TABLE 1-3
AGENCY PERMITS, APPROVALS, AND OTHER REQUIRED DOCUMENTS

FEDERAL	
Advisory Council on Historic Preservation	• Section 106 of the National Historic Preservation Act (potential, during Tier II) • Section 106 Memorandum of Agreement or Programmatic Agreement (potential, during Tier II)
Federal Highway Administration (FHWA)	• Tier I EIS (Draft and Final) and Section 4(f) of the Department of Transportation Act of 1966 Evaluations (Preliminary Draft and Final) • Tier I EIS Record of Decision • Tier II EIS (Draft and Final) and Section 4(f) of the Department of Transportation Act of 1966 Evaluations (Draft and Final) • Tier II Section 106 of the National Historic Preservation Act • Tier II EIS Record of Decision • Air Quality Conformity Determination
U.S. Army Corps of Engineers (COE)	• Section 404 of the Clean Water Act – Permit (fill in U.S. waters) • Section 10 of the Rivers and Harbors Act
U.S. Fish and Wildlife Service (USFWS)	• Acquisition or Easement Agreement (if needed)
National Park Service (NPS)	• Coordination regarding potential Wild and Scenic River • Section 6(f) Conversion approval (if needed)
Federal Emergency Management Agency (FEMA)	• Conditional Letter of Map Revision (if needed)
STATE	
MN Department of Transportation (Mn/DOT)	• Scoping Decision Document • Amended Scoping Decision Document • Tier I EIS (Draft and Final) • Tier I EIS Adequacy Determination • Tier II EIS (Draft and Final) • Tier II EIS Adequacy Determination • Wetlands Conservation Act (WCA)
MN Department of Natural Resources (MnDNR)	• Floodplain Permit (if needed) • Public Waters Permit (if needed) • Endangered Species Taking Permit (if needed) • Mussel Relocation Permit (if needed) • Water Appropriation Permit (if needed) • Acquisition or Easement Agreement (if needed)
MN Pollution Control Agency (MPCA)	• Section 401 of the Clean Water Act – Water Quality Certification • National Pollutant Discharge Elimination System Construction Stormwater Permit (NPDES)
MN State Historic Preservation Office (SHPO)	• Section 106 of the National Historic Preservation Act consultation (during Tier I) • Section 106 of the National Historic Preservation Act Memorandum of Agreement or Programmatic Agreement (if needed) (during Tier II)
REGIONAL	
Metropolitan Council	• Controlled Access Approval • Air Quality Conformity Determination

TABLE 1-3 continued
AGENCY PERMITS, APPROVALS AND OTHER REQUIRED DOCUMENTS

LOCAL	
City of Shakopee*	• Municipal Consent (if needed)
City of Chaska*	• Municipal Consent (if needed)
City of Carver	• Municipal Consent (if needed)
City of Chanhassen	• Municipal Consent (if needed)
Lower Minnesota River Watershed District	• Watershed District Permits (as needed)
Carver Watershed Management Organization	• Coordination of grading and drainage plans
Scott Watershed Management Organization	• Coordination of grading and drainage plans
Chaska Creek Watershed Management Organization	• Coordination of grading and drainage plans

*Assume affected land will be within city limits by time of construction

2.0 PURPOSE AND NEED FOR ACTION

The *2007 Tier I Draft Environmental Impact Statement* (DEIS) is incorporated by reference and is considered to be part of the *Tier I Final Environmental Impact Statement* (FEIS). See Appendix A.

The project purpose and need as discussed in Chapter 2 of the DEIS continues to be valid and is summarized below. The technical analysis supporting the purpose and need was conducted between 2005 and 2007 with the most current data available at the time. Since the DEIS was published, there have been changes in traffic volumes related to population changes, land use development, employment patterns, and changes in area roadway networks. There have been additional flood-related closures of existing TH 41 and Highway 101 river crossings. Mn/DOT and the cities and counties in the project area have continued to plan for and implement improvements to the area transportation system.

However, none of the changes that have occurred since the publication of the DEIS have altered the basic purpose and need for the project, summarized below. Additional technical analysis of capacity, system connectivity, flood-related congestion and safety, and additional transportation needs will occur as part of the Tier II EIS process.

2.1 PROJECT PURPOSE

The purpose of the proposed project is to provide an improved TH 41 principal arterial river crossing connection to meet state, regional, and local area transportation needs as well as to resolve other current and future problems in the existing TH 41 corridor. Transportation needs for this project include transportation mobility on a safe and efficient facility.

2.2 NEED FOR THE PROPOSED TH 41 MINNESOTA RIVER CROSSING

The primary findings regarding the need for an improved TH 41 connection include:

1. <u>Inadequate Capacity</u>

   Trunk Highway 41 serves as an important river crossing in the southwest metropolitan area that includes two of the three fastest growing counties in the state. Currently, TH 41 functions below the acceptable level of service (LOS) threshold with lengthy queues and delays occurring at the TH 41/US 212 intersection during peak travel periods.

   The DEIS forecast a 97 percent increase in traffic volumes within the existing TH 41 corridor by 2040 (18,500 ADT in year 2000 and 36,500 ADT in 2040) resulting in increasing levels of congestion. Overall, traffic volumes on the five Minnesota River crossing corridors in the vicinity of TH 41 are forecast to increase by over 83 percent between 2000 and 2040. No-Build LOS on TH 41 is expected to be “F” for a majority of intersections by 2030. The DEIS reports that, by 2040, there will be 10 directional hours of congestion on TH 41 and Highway 101 if a new alignment is not built.

As noted above, additional technical analysis of capacity will be done using updated traffic forecasts as part of the Tier II EIS process.

Regional forecasts have been updated since the DEIS was prepared and generally show that traffic volumes have been stable over the past several years. While the short-term economic conditions have resulted in a stability of current traffic volumes, there is no basis to assume that long-range development trends and resulting travel demand forecasts would change sufficiently to alter the conclusions of the *2007 Tier I Draft Environmental Impact Statement* with regard to the capacity deficiency on existing TH 41. The analysis conducted for the DEIS indicated poor LOS (E-F) at all existing TH 41 intersections in downtown Chaska under existing conditions with ADT of 18,500. Therefore any differences in 2040 No Build volumes indicated by the updated regional forecasts would not change the basic capacity need, only the degree of the capacity deficiency (i.e. would not change whether existing TH 41 would operate at poor LOS under No Build conditions but could change how many hours of the day it would operate at poor LOS).

2. Regional Congestion and Public Safety Concerns During Flooding

Regular flooding on the existing TH 41, Highway 101, and CSAH 9/45 river crossings in the vicinity of the study area results in emergency response service concerns plus increased costs to the traveling public due to substantial user delays and diversions. The closest river crossing above the 100-year floodplain (US 169) is 10 miles to the east of TH 41. Existing and projected future traffic demand on the US 169 crossing limits its ability to accommodate additional traffic during flood events.

Since the DEIS was published, Mn/DOT and its partners have complete a study of options to raise the existing TH 41 and Highway 101 crossings to reduce the susceptibility to flood closures. With the recommended improvements, Highway 101 would exceed the 100-year flood elevation; however, existing TH 41 would only approach the 50-year flood elevation.

3. Improved Regional Connection for Traffic and Freight Movement between US 169 and US 212

A new principal arterial connection between US 169 and US 212 is needed to provide an important river crossing in the overall transportation system in the southwest metropolitan area. This new connection is consistent with principal arterial functions and IRC objectives that cannot be addressed by the existing TH 41 corridor. It is also consistent with local, regional, and state transportation plans.

4. Additional Needs

Additional transportation needs that a new TH 41 freeway facility would address include:

a. Vehicle, pedestrian, and bicycle safety needs along existing TH 41.

b. Need to facilitate goods movement by providing an improved capacity principal arterial connection across the Minnesota River.

c. Improving the quality of life in downtown Chaska by reducing the percent of truck traffic through downtown.

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3.0 IDENTIFICATION OF THE PREFERRED ALTERNATIVE

The *2007 Tier I Draft Environmental Impact Statement* (DEIS) is incorporated by reference and is considered to be a part of this *Tier I Final Environmental Impact Statement* (FEIS). See Appendix A.

This chapter describes the Preferred Alternative identified for the TH 41 Minnesota River Crossing Project. It first summarizes alternatives dismissed prior to the DEIS and the various alternatives analyzed in the DEIS that have been dismissed from further consideration. A table that summarizes the impacts of the DEIS Alternatives and the Preferred Alternative in Appendix C.

3.1 ALTERNATIVES DISMISSED PRIOR TO THE DRAFT EIS

Of the scoping alternatives considered and illustrated in Figure 3-1, the following were dismissed from further consideration as part of the Scoping Decision Document (SDD) approved February 18, 2005 and Amended SDD approved March 16, 2006.

3.1.1 Minimum Build Alternative – TSM/TDM Alternative

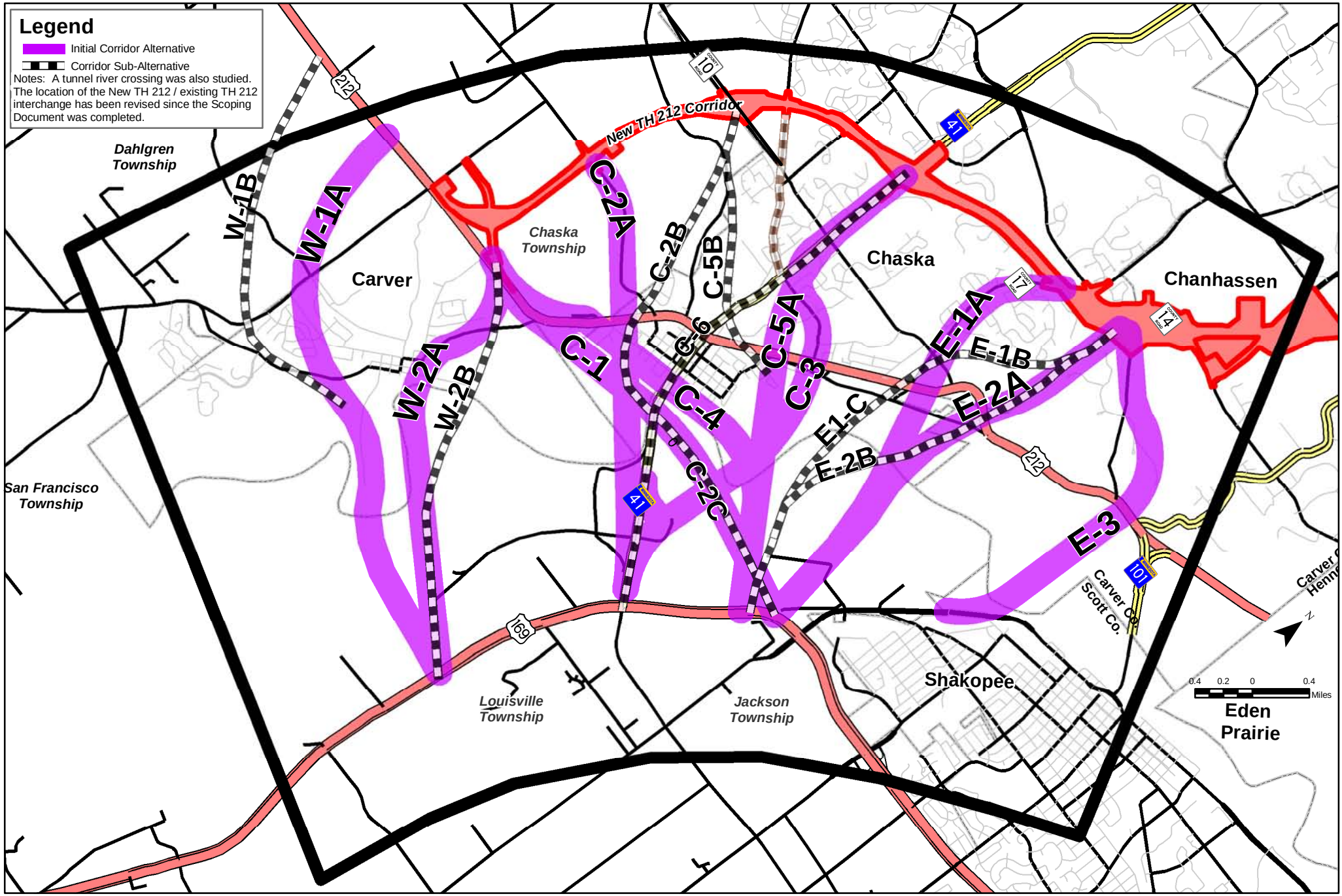
The Minimum Build Transportation System Management/Travel Demand Management (TSM/TDM) Alternative was evaluated to determine if minimum improvements to existing roadways such as turn lanes, auxiliary lanes, improved geometrics, or improved intersection controls (TSM) plus decreased travel demand due to transit carpooling or other actions (TDM) could accommodate future travel demands. The Minimum Build Alternative was eliminated from further consideration because it did not meet Level I criteria (i.e., it would provide only limited capacity improvement, would perpetuate bridge closures due to flooding, and would provide no supplementary connection between US 169 and US 212, therefore would not meet the project purpose and need).

3.1.2 Alternative W-1

Alternative W-1 included sub-alternatives W-1A and W-1B. It was eliminated from further consideration because both W-1A and W-1B bisect the planned expansion area for the Minnesota Valley National Wildlife Refuge and have other archaeological and development impacts.

3.1.3 Alternative C-1

Alternative C-1, located in the central portion of the study area, was eliminated from further consideration because it segments Refuge land and performs poorly regarding Level II transportation/design criteria.



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SCOPING BUILD ALTERNATIVES - Scoping Document

Figure 3-1

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Final Environmental Impact Statement
S.P. #1008-60
Minnesota Department of Transportation

3.1.4 Alternative C-3

Alternative C-3, located in the central portion of the study area, was eliminated from further consideration because it did not meet Level I capacity criteria. The expressway design would not have sufficient capacity to serve travel demand without congestion.

3.1.5 Alternative C-4

Alternative C-4, located in the central portion of the study area was eliminated from further consideration because it had substantial land use/right of way impacts and performed comparatively poorly on Level II transportation/design criteria.

3.1.6 Alternative C-5

Alternative C-5 includes sub-alternatives C-5A and C-5B. It was eliminated from further consideration because C-5A does not meet the Level I capacity criterion and C-5B involves substantial land use impacts, design issues, and potential archaeological resources, while Alternative C-2 comparably serves travel demand while posing fewer impacts/issues.

3.1.7 Alternative C-6

Alternative C-6 is located in the central portion of the study area. It was eliminated from further consideration because it would have severe impacts on downtown Chaska, including a historic district, and other land uses. It also posed significant transportation system (local access) issues.

3.1.8 Alternative E-3

Alternative E-3 is located in the eastern portion of the study area. It was eliminated from further consideration because of its impacts to sensitive ecological areas, Seminary Fen, Assumption Creek (trout stream) and the wildlife management area.

3.1.9 Tunnel Alternative

The Tunnel Alternative was eliminated from further consideration because of the magnitude of cost (initial construction and lifetime total costs were substantially higher than bridge costs) and environmental impacts including potential impacts to groundwater flow that may affect the fen, impacts to ventilation structures on vegetation, visual quality, noise and air quality, and construction impacts on water quality.

3.2 ALTERNATIVES STUDIED IN THE DRAFT EIS AND DISMISSED

The Tier I DEIS included six Build alternatives for evaluation and comparison to the No-Build alternative. The DEIS Build alternatives are shown in Figure 1-3 and described in detail in the DEIS. The alternatives dismissed in favor of the Preferred Alternative are listed below. The rational is provided in Section 3.3.

3.2.1 No-Build Alternative

The No-Build alternative assessed in the DEIS did not include construction of a new TH 41 river crossing. This alternative assumed safety improvements and reconstruction of existing TH 41 (as required by routine maintenance) between US 169 and US 212 within the study area and would include consolidation of direct access points along TH 41 warranted by safety conditions. A list of assumed improvements within the study area and broader travelshed under the No Build condition is provided in the *Technical Memorandum on Travel Forecasting* dated May 1, 2006 and contained in *Volume II: Technical Memoranda*.

3.2.2 Alternative W-2

Alternative W-2 is located in the western portion of the study area. This alternative intersects with US 169 one mile west of existing TH 41/CSAH 78 and connects with US 212 at the US 212/CSAH 11(formerly CR 147) interchange.

3.2.3 Alternative C-2A

Alternative C-2A is located in the central portion of the study area. This alternative connects to US 169 at the planned US 169/existing TH 41 interchange (the design assumes a realigned existing TH 41/CSAH 78) and connects to US 212 at CSAH 10/Engler Boulevard.

3.2.4 Alternative E-1

Alternative E-1 is in the eastern portion of the study area. This alternative connects to US 169 at the planned US 169/CSAH 69 interchange, and connects with US 212 at CSAH 17/Audubon Road. This alternative assumes that US 169 is realigned south of its existing alignment in the vicinity of CSAH 69.

3.2.5 Alternative E-1A

Alternative E-1A is located in the eastern portion of the study area. This alternative is identical to Alternative E-1 south of the Minnesota River, therefore also assumes that US 169 is realigned south of its existing alignment in the vicinity of CSAH 69. North of the river, this alternative follows the bluff line and connects to US 212 near Bluff Creek Road.

3.2.6 Alternative E-2

Alternative E-2 is located in the eastern portion of the study area. It is the easternmost alignment of all the DEIS Build alternatives. This alternative connects to US 169 at the planned US 169/CSAH 69 interchange and connects to US 212 near Bluff Creek Road. This alternative assumes that US 169 is realigned south of its existing alignment in the vicinity of CSAH 69.

3.3 IDENTIFICATION OF THE PREFERRED ALTERNATIVE

3.3.1 Process

The process for identifying a Preferred Alternative corridor for the future construction of TH 41 Minnesota River Crossing included two stages discussed below.

3.3.1.1 Stage 1: Recommended Preferred Alternative Process (April 2007 – December 2008)

During the initial stage (Stage 1), which occurred between August 2007 and December 2008, FHWA and Mn/DOT first considered the DEIS technical analysis and comments submitted during the DEIS comment period to inform a potential recommendation for a Preferred Alternative, and then discussed this potential recommendation with agencies and local government representatives individually and with the project management team (PMT) and study advisory committee (SAC). A recommended Preferred Alternative was announced in December 2008, specifically that the Alternative C-2 corridor was determined to be the best opportunity to balance impacts among resources and secure future permitting for construction.[6]

The identification of a recommended Preferred Alternative considered the following findings with regard to the DEIS Build Alternatives. Note that this comparison is among the alternatives as they were defined in the DEIS, (i.e. does not reflect a comparison of other alternatives with the modified Alternative C-2 described under Stage 2 as the Preferred Alternative).

1. **No DEIS Build alternative is clearly superior based on benefit, therefore benefit was not a decisive factor in the identification of a Preferred Alternative.**

   Each alternative addresses the need for the project. All provide a regional connection between US 169 and US 212, are out of the floodplain, and relieve traffic on existing TH 41. The differences among alternatives' performance in meeting the traffic capacity need, measured in traffic volumes on New TH 41 and relief to existing TH 41 and other river crossings, are not great. If more development occurs west of the project area than assumed in the traffic forecasts (as had been suggested in some comments on the DEIS), the differences in traffic volumes on New TH 41 between eastern and western/central alternatives will be even less than forecast in the DEIS.

   Each of the DEIS Build alternatives had a positive benefit/cost ratio.

[6] As described in this FEIS, following the DEIS comment period, FHWA and MnDOT identified DEIS Alternative C-2 as an initial "recommended Preferred Alternative", the alignment of which was then modified to that of the alignment presented in this FEIS as the "Preferred Alternative". There are several references to "C-2" throughout this FEIS. "DEIS Alternative C-2" refers to the specific C-2 alignment depicted and analyzed in the DEIS. "C-2", "C-2 corridor", and "Alternative C-2 corridor" refer to the more general location of the DEIS Alternative C-2, i.e. the termini and the general route between the termini. "Modified Alternative C-2" and "Preferred Alternative" are synonymous and refer to the Preferred Alternative alignment presented in this FEIS; "modified Alternative C-2" is used in those cases where the reference is useful to distinguish it from the DEIS Alternative C-2.

2. **Each of the DEIS Build alternatives affects one or more of six resource types that have special federal or state protections that require a sequence of reasonable and prudent avoidance, minimization, and mitigation. These resources are Section 4(f) parkland and historic sites (federal), Section 106 cultural resources (federal), Section 404 wetlands (federal), Executive Order 12898 Environmental Justice low-income and/or minority populations (federal), Minnesota threatened/endangered species (state), and Minnesota calcareous fen (state). The ability to further refine alternatives to avoid or reduce impacts to protected resources was considered. In many cases, the alternative with no or less impact to one or more protected resource had greater impact to one or more other protected resource.**

   Section 4(f) Park, Refuge and Historic Sites. Impacts to Section 4(f) properties cannot be completely avoided; all DEIS Build alternatives have impacts. For park/refuge properties, the impacts identified in the DEIS range from 5.6 acres (E-2) to 41.5 acres (C-2A). One alternative also has impacts on a Section 4(f) historic site, the Chaska Cubs Ball Field (referred to in the DEIS and elsewhere in this FEIS as Athletic Park) (C-2). The alternative (E-2) with the least Section 4(f) impact has high impacts on a calcareous fen. There is no apparent opportunity to substantially reduce the impact of any particular alternative compared to the other alternatives. Mitigation identified in the DEIS would include land replacement and/or improvements to existing resources.

   Section 106 Cultural Resources. National Register of Historic Place (NRHP)-listed or eligible resources are avoided by three alternatives (E-1, E-1A, E-2); all three alternatives have high impacts on environmental justice populations and two of these three alternatives (E-1A, E-2) have high impacts to state threatened/endangered species, and a calcareous fen. DEIS Alternative C-2 was determined to have an adverse effect on the Athletic Park (Chaska Cubs Ball Field) due to direct impacts. (This is also a Section 4(f) impact.) The opportunity to avoid this direct Section 106 effect (and Section 4(f) impact) through minor realignment was identified. (This alignment became part of the Preferred Alternative). There is an undetermined potential for indirect adverse effects on historic districts and properties posed by three alternatives (W-2, C-2, C-2A); there may be opportunities during design to somewhat reduce (but not avoid) these potential indirect effects. The DEIS did not identify mitigation for Section 106 adverse effects as this would be further worked out through the Section 106 process.

   Section 404 Wetlands. Section 404 impacts cannot be completely avoided; all DEIS Build alternatives have impacts to wetlands. These impacts range from 9 to 16 acres. There is no apparent opportunity to substantially reduce the impact of any particular alternative compared to the other alternatives. The DEIS noted that mitigation would be in accordance with Wetland Conservation Act (WCA) and U.S. Army Corps of Engineers (COE) replacement requirements.

   Environmental Justice. Impacts to known minority populations are avoided by one alternative (W-2); this alternative has the highest Section 4(f) impact, and a potential indirect Section 106 cultural resources impact. Impacts of the remaining alternatives range from 18 to 182 units (only units within corridor) to 64 to 506 units (if entire manufactured

home park[s] would need to be acquired rather than just the units within the corridor). The opportunity to avoid or reduce the moderate Environmental Justice impacts of two alternatives (C-2, C-2A) through minor realignment was identified (This realignment became part of the Preferred Alternative). There may be opportunity to reduce (but not avoid) the very high Environmental Justice impacts of three alternatives (E-1, E-1A, E-2). The DEIS identified planning for alternative affordable housing opportunities in the community as a potential mitigation opportunity, in addition to specific mitigation related to relocation benefits and noise mitigation.

State Threatened/Endangered Species. Identified state threatened/endangered species may be able to be avoided by four alternatives (W-2, C-2, C-2A, and E-1). Each of these has impacts on other protected resources. There appears to be little opportunity to substantially reduce the high impacts of two alternatives (E-1A, E-2) to threatened/endangered native plants located in the Seminary Fen. Mitigation opportunities identified in the DEIS include off-site restoration measures, including elsewhere within the Seminary Fen complex.

Calcareous Fen (Seminary Fen). Impacts to Seminary Fen are avoided by three alternatives (W-2, C-2, and C-2A). Each of these has impacts on other protected resources. There appears to be little opportunity to reduce the limited indirect impact of one alternative (E-1) on Seminary Fen. There appears to be little opportunity to further reduce the high direct and indirect impacts of two alternatives E-1A and E-2 on Seminary Fen. Mitigation opportunities identified in the DEIS include off-site restoration measures, including elsewhere within the Seminary Fen complex.

3. **Of the resources addressed in the DEIS that are not subject to special protections, there are five key resources for which the impacts of the DEIS Build alternatives differed appreciably and therefore were pertinent to the identification of a Preferred Alternative. These additional key resources are: sensitive vegetation, habitat (fragmentation), right of way, homes, and businesses/employment. As was done for protected resources, the identification process considered the ability to avoid, further reduce impact to, and mitigate for unavoidable impacts to these key resources.**

Sensitive vegetation. Impacts to native vegetation, native vegetation of high quality or state rarity ranking, forested areas, or forest interiors cannot be completely avoided; all DEIS Build alternatives have impacts to these types of sensitive vegetation resources. The impacts on sensitive resources (taken cumulatively) range from 104 to 306 acres. The alternative with the least impact on sensitive vegetation (E-1) impacts the most homes. There is no apparent opportunity to substantially reduce the impact of any particular alternative compared to the others. Mitigation opportunities include restoration of native vegetation elsewhere in the project area.

Habitat fragmentation. Fragmentation of habitat cannot be completely avoided; all DEIS Build alternatives result in some fragmentation. One alternative (C-2) substantially minimizes habitat fragmentation compared to the other five alternatives; this alternative has a direct adverse effect on Athletic Park (Chaska Cubs Ball Field), a Section 106 and Section 4(f) property. As noted above, the opportunity to avoid this direct Section 106

effect (and Section 4(f) impact) through minor realignment was identified. There is no apparent opportunity to substantially further reduce the habitat fragmentation impact of any particular alternative compared to the others. Mitigation opportunities include restoration of unfragmented habitat elsewhere in the project area.

Right of way (acres). Right of way impacts cannot be completely avoided; all DEIS Build alternatives would require acquisition of land for right of way. DEIS Build alternatives impact 194 to 360 (low); 264 to 420 (high) acres of land. Mitigation would occur in compliance with federal and state requirements.

Homes (number). Acquisition of homes cannot be completely avoided; all DEIS Build alternatives would require relocation of households. Alternatives impact 11 to 135 homes other than those in the manufactured home communities; 13 to 261 if the manufactured homes within the corridor only are added; and 13 to 641 if all the units within the affected manufactured home park(s) are added. (Note that manufactured home impacts are also considered in the Environmental Justice section, above.) There may be opportunity to substantially reduce the impacts of Alternatives C-2, C-2A, E-1, E-1A, and E-2 on manufactured homes. There is no apparent opportunity to substantially reduce the impacts of alternatives on homes other than those in the manufactured home parks. The DEIS notes that mitigation would occur in compliance with federal and state requirements.

Businesses and employment. Acquisition of business cannot be completely avoided; all DEIS Build alternatives would require acquisition and relocation of businesses. Alternatives impact 104 to 271 businesses plus employees. There is no apparent opportunity to substantially reduce the impact of any particular alternative on business/employment compared to the others. Mitigation would occur in compliance with federal and state requirements for right of way/relocation.

4. **Each alternative requires several permits from regulatory agencies; therefore the likelihood of agencies granting those permits was relevant in the Stage 1 recommended Preferred Alternative identification process. During the DEIS comment period, some permitting agencies expressed a position (favoring or opposing) certain DEIS alternatives.**

   The relevant permitting agencies include the US Army Corps of Engineers (COE), the US Fish and Wildlife Service (USFWS), the Minnesota Department of Natural Resources (MnDNR), and the watershed district. The comments submitted by these agencies on the DEIS are noted below.

   - The COE, which would need to issue permits for any of the alternatives, submitted a comment letter favoring C-2 and opposing E-1A and E-2.

   - The USFWS, which would need to approve acquisition/easement for three alternatives, submitted a comment letter favoring C-2 and opposing W-2 and C-2A.

- The MnDNR, which would need to issue permits for any of the alternatives, submitted a comment letter favoring C-2 and opposing E-1, E-1A, and E-2.

- The Metropolitan Council, which would need to approve any of the alternatives, submitted a comment letter opposing C-2A**.**

- The Lower Minnesota River Watershed District, which would need to issue a WCA permit for all alternatives, submitted a comment letter opposing E-1, E-1A, and E-2.

Note that the USFWS, the MnDNR and the Metropolitan Council are members of the River Crossing Implementation Coalition (RCIC) and party to the RCIC Framework, including its position on the Preferred Alternative and Tier II guidance for consideration discussed under Section 3.3.1.2, Stage 2, below.

Note also, that since the DEIS was published, FHWA, the COE, USFWS, EPA, and Mn/DOT have engaged in a Section 404/NEPA concurrence process. This process included three interagency meetings and resulted in concurrence among the agencies regarding the Preferred Alternative, including the COE finding that as modified, Alternative C-2 represents the Least Environmentally Damaging Practicable Alternative (LEDPA) under Section 404. Meeting minutes and correspondence related to Concurrence Point 1 (Purpose and Need), Concurrence Point 2 (Alternatives to Be Carried Forward for Further Study), and Concurrence Point 3 (Preferred Alternative) are found in Appendix B-1.

5. **Each alternative requires municipal consent from two or more municipalities; therefore the likelihood of municipalities granting consent was relevant in the Stage 1 Preferred Alternative identification process. During the DEIS comment period, some municipalities expressed a position favoring or opposing certain DEIS alternatives.**

   In the initial comment letters on the DEIS, each alternative was noted as being opposed by at least one of its consent municipalities. While there is a mechanism in state law for resolving municipal consent issues, if municipal consent is not granted, preservation of the Preferred Alternative corridor, which is the objective of the Tier I EIS process, would likely not be implemented without the cooperation of the affected municipality; funding for a construction project would also be unlikely without local support. Note that each of the cities in the study area (Carver, Chanhassen, Chaska, Shakopee, as well as Carver and Scott counties) is represented on the RCIC, where their interests and positions pertinent to future required municipal consent, corridor preservation, mitigation, recommendations for consideration for Tier II, and related issues, were further considered in the development of the Preferred Alternative, as discussed in Section 3.3.1.2, Stage 2, below.

Based on the considerations above, in December 2008, Mn/DOT and FHWA announced that, using DEIS impacts results and stakeholder input, the C-2 corridor was the best opportunity to balance impacts among resources and secure future permitting for construction.

Mn/DOT prepared a public information brochure which expressed the decision as follows:

DEIS Build Alternative C-2, with refinements described in Section 3.3.1.2 below, is identified as the Preferred Alternative for the following reasons:

- Comments on the Draft EIS and follow-up consultation found no first choice alternative among stakeholders.
- Compared to the other alternatives, **C-2 offered the best potential to avoid or minimize impacts** to the most state and federally protected resources, while minimizing impacts on people, wildlife, and habitat and meeting transportation needs.
- **W-2 posed the greatest harm to state and federally protected lands,** specifically the Minnesota Valley National Wildlife Refuge and Minnesota State Recreation land.
- **C-2A had the highest impacts on sensitive vegetation.** C-2A also had more impacts to state and federally protected lands, and would require acquisition of more homes than C-2.
- **E-1 had large impacts to low income/minority neighborhoods (environmental justice),** and would require acquisition of the largest number of homes.
- **E-1A and E-2 also had large environmental justice impacts and would threaten the state and federally protected Seminary Fen,** which is home to state-listed rare plants and a globally rare ecosystem.

3.3.1.2 Stage 2: Refinement of DEIS Alternative C-2 into Preferred Alternative

As noted above, Mn/DOT and FHWA announced their recommendation of C-2 as the Preferred Alternative in December 2008. FHWA and Mn/DOT also announced that because C-2 poses numerous impact challenges, they intended to continue working with local, state, and federal agencies to refine the C-2 corridor to further minimize negative impacts to residents, historic properties, and natural resources.

The second stage of the Preferred Alternative identification process then focused on refinement of the design of the C-2 corridor in order to avoid or minimize negative permanent and temporary (construction) impacts on all stakeholders, and develop support for mitigation as part of a comprehensive solution.

The second stage (Stage 2) began in January 2009 and involved an intensive stakeholder engagement process that came to be formalized as the River Crossing Implementation Collaborative (RCIC). The RCIC process is documented in detail in the report *TH 41 EIS: River Crossing Implementation Collaborative Process and Outcomes Report* (RCIC Report) (April 2013). The RCIC process focused on the development of a Preferred Alternative, in particular on reduction of impacts of DEIS Alternative C-2 and potential mitigation approaches. The RCIC process does not end with the identification of a Preferred Alternative or with the conclusion of the Tier I environmental process, but is an on-going effort.

Numerous issues about the recommended Preferred Alternative had been raised during the first stage of the Preferred Alternative identification process. These issues included the impact of

DEIS Alternative C-2 on communities, affordable housing, Section 4(f) and Section 106 properties, regional transportation needs (in particular the travelshed that would have been better served by identification of an eastern alternative), and the ability for impacts to be adequately mitigated.

In 2009, two specific stakeholder engagement efforts, described below, were initiated which guided the modifications to the horizontal alignment of DEIS Alternative C-2, resulting in the alignment for the Preferred Alternative corridor.

River Crossing Implementation Coalition

Representatives of key stakeholders agencies (each of whom had been represented on the DEIS Study Advisory Committee) began meeting in January 2009 to work on recommendations for refinement of the Preferred Alternative, but also to address the numerous outstanding issues and concerns with the project. This group evolved into the River Crossing Implementation Collaborative (RCIC). The membership of the RCIC includes:

- Carver County
- City of Carver
- City of Chanhassen
- City of Chaska
- City of Shakopee
- Federal Highway Administration
- Scott County
- Metropolitan Council
- Minnesota Department of Natural Resources
- Minnesota Department of Transportation
- State Historic Preservation Office
- U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge

The RCIC was not a formal decision-making entity, but the individuals participating in the RCIC represented their respective agencies, collaborating and negotiating in good faith on behalf of those agencies. The agencies retain their decision-making authorities specific to their individual jurisdictions.

As noted, the work of the RCIC is detailed in the RCIC Report. Most relevant to the selection of the Tier I FEIS Preferred Alternative are the following:

- Changes to the horizontal alignment of the DEIS Alternative C-2 corridor in order to avoid direct impacts to Athletic Park (Chaska Cubs Ball Field) and to the Jackson Heights manufactured home community. Through the RCIC's collaborative planning and negotiation with the USFWS on behalf of the Minnesota Valley National Wildlife Refuge (MVNWR), which is adjacent to Athletic Park (Chaska Cubs Ball Field), a balance was struck that yielded a revised corridor shifted outside the ballpark boundaries while minimizing additional harm to the MVNWR. The result is presented in Figure 1-2.

- Extensive effort to (1) collaboratively document the key issues associated with the Preferred Alternative, (2) recommend strategies to avoid, minimize and mitigate impacts, (3) provide recommendations for addressing issues of concern to the RCIC for consideration in the Tier II EIS process, and (4) identify intermediate activities that should occur between the conclusion of the Tier I EIS process and the initiation of the Tier II process to best serve the success of the project for all stakeholders. These recommendations are in the RCIC Framework/Recommendations around Common Goals and Strategies, summarized in Section 3.4 and included in Appendix A-1.

Jackson Heights

Impact to low income/minority communities was a key consideration in the recommendation of a Preferred Alternative, in accordance with federal Environmental Justice considerations. The recommended Preferred Alternative alignment (DEIS Alternative C-2) had fewer impacts to these communities than three of the four other DEIS alternatives, however, DEIS Alternative C-2 had direct impacts to the Jackson Heights manufactured home community, a population meeting Environmental Justice definitions.

Mn/DOT had engaged in specific outreach with Jackson Heights, as well as the other manufactured home communities in the study area, both as part of the public involvement activities that occurred during the DEIS process and prior to identifying the Alternative C-2 corridor as the initial recommended Preferred Alternative. With regard to Jackson Heights, this early outreach had engaged the Jackson Heights Residents Association and staff from the All Parks Alliance for Change (APAC), which was a supporting ally of the Jackson Heights Residents Association.

When the RCIC was formed in early 2009, the group explicitly committed to addressing the needs of this stakeholder group. Project staff met with the Jackson Heights Residents Association and their allies in June 2009 and October 2009. During these meetings, which are detailed in the RCIC Report, residents expressed their perspectives, priorities, and concerns, alternatives to the original DEIS Alternative C-2 roadway alignment were presented, mitigation options were discussed, and concurrence around project expectations was established between Mn/DOT and the community.

This input informed the horizontal realignment included in the modified Alternative C-2 and shaped the Environmental Justice goal and associated topics in the RCIC Report, summarized in Section 3.4 and included in Appendix A-1.

3.3.1.3 Cooperating Agency Concurrence with Preferred Alternative

The EPA, USFWS, and COE are cooperating agencies for the Tier I EIS process and are also participants in the Section 404/NEPA concurrence process that has been conducted since publication of the DEIS. Each of these cooperating agencies has concurred with modified Alternative C-2 as the Preferred Alternative. Relevant correspondence is found in Appendices B and B-1.

3.3.2 Description of the Preferred Alternative

The Preferred Alternative is the DEIS Alternative C-2 with the horizontal alignment refined to avoid impacts to Athletic Park (Chaska Cubs Ball Field) in the City of Chaska and Jackson Heights in Jackson Township and to minimize impacts to the Spring Creek neighborhood in the City of Carver. A comparison of the Preferred Alternative and DEIS Alternative C-2 is shown in Figure 1-2A.

The Preferred Alternative involves the construction of a new east-west freeway connection between US 169 and US 212. It is located in the central portion of the study area, along the western edge of downtown Chaska.

The Preferred Alternative abuts Jackson Heights, the manufactured home community located just west of existing TH 41 near the intersection of US 169 and TH 41. South of the Minnesota River, the Preferred Alternative crosses over areas identified as floodplain and floodplain forest, through wetlands identified as part of the National Wetland Inventory, and through the Gifford Lake portion of the Minnesota Valley State Recreation Area (MVSRA). North of the Minnesota River, the Preferred Alternative crosses through wetlands, floodplain forest, and floodplain areas. It also crosses the northeastern portion of the MVNWR Chaska Unit south of the levee immediately south of Athletic Park (Chaska Cubs Ball Field) site and approximately 1,550 feet south of the Chaska downtown historic district. North of CSAH 61, the Preferred Alternative crosses through the southern portion of the planned Heights of Chaska development site.

The Preferred Alternative includes:

- Two new directional interchange connections, one at US 169 and one at US 212;
- Ramps for local access at the planned US 169/TH 41 interchange;
- Ramps for local access at the US 212/CSAH 11 interchange (separate from the system ramps connecting US 212 to New TH 41);
- A four-lane freeway approximately 3.0 miles in length;

- A new bridge from just south of the Union Pacific Railroad in Scott County to just north of CSAH 61 in Carver County (Tier I-level estimate of 9,350 feet in length);

- Partial reconstruction of ramps that have been constructed as part of the US 212 project to connect US 212 to CSAH 11 (impacted by the project);

- Several bridges at both the New TH 41/US 169 interchange and the New TH 41/US 212 interchange;

- Auxiliary lanes on US 169, New TH 41, and US 212 where needed to provide acceptable freeway operations; and

- Assume for corridor analysis purposes, a 300-ft wide corridor except where wider to respond to topographic considerations, and at interchanges.

The interchange of the Preferred Alternative with US 169 interchange is located near the existing at-grade intersection between US 169 and existing TH 41/CSAH 78, which is planned to be converted to an interchange, assumed to occur prior to construction of the proposed project. The Preferred Alternative assumes a configuration for the planned US 169/existing TH 41 interchange that can accommodate the proposed US 169/New TH 41 interchange including local access ramps; this configuration realigns existing TH 41 and CSAH 78 slightly to the southwest of their current alignments. The US 169/existing TH 41 interchange and the complementary series of frontage roads are separate projects and are not included as part of this alternative. They are shown in Figure 1-2 as a representation that improvements to US 169 and local connections are feasible if the Preferred Alternative is constructed. It is likely that the actual design of a future local interchange and frontage road system will differ from this configuration. The Preferred Alternative also assumes that the alignment of the US 169 mainline would not change.

In the DEIS, Build alternative figures also depicted a possible configuration for an interchange at TH 169/CSAH 69. Since the DEIS was published, an interchange project has been developed for this location. The preliminary design is shown in Figure 1-2. This is a separate project. It does not conflict with the concept design of the Preferred Alternative.

The interchange of the Preferred Alternative with the US 212 interchange is located near the diamond interchange at US 212 and CSAH 11. Access to and from CSAH 11 and the Preferred Alternative can be accommodated at this interchange via additional ramps.

The RCIC Report includes discussion of considerations related to including additional local access as part of the project, which will be reviewed/considered again during the Tier II EIS process.

3.4 RCIC FRAMEWORK AND PROJECT GUIDANCE

As noted, implementation of the proposed project is not in the current 20-year planning horizon; therefore, the initiation of the Tier II EIS process is expected to occur several years after the conclusion of the Tier I EIS process. The RCIC Framework and Guidance recommendations summarized below and included in Appendix A-1 is directed at the issues to be planned for both as part of the Tier II EIS and during the interim between the Tier I and Tier II processes. Mn/DOT intends to continue working with the stakeholders represented on the RCIC on the interim opportunities identified in the RCIC report.

RCIC Framework

- *In addition to supporting the TH 41 C-2 route, actively support improvements that meet current and future transportation needs across the Minnesota River between I-35 and CR 9.*
- *Avoid or minimize negative permanent and temporary/construction impacts on all stakeholders, and support mitigation as part of a comprehensive solution.*

Goal 1, Noise and visual impacts on neighborhoods: Address noise and visual impacts on adjacent neighborhoods

Goal 2, Noise and visual impacts on historic properties: Avoid negative visual, atmospheric, auditory, and use effects on historic properties/districts in all communities

Goal 3, Impacts on Historic Ballpark: Ensure ability of Chaska ballpark to operate; preserve the overall ballpark experience and its character as a small-town ballpark eligible for listing on the National Register of Historic Places

Goal 4, Safety Issues in Downtown Chaska: Resolve safety issues along existing Highway 41 in downtown Chaska

Goal 5, Environmental Justice: Proactively work with stakeholders to understand and responsibly address environmental justice impacts

Goal 6, Local Access: Provide appropriate access to local and county roadways that will facilitate land use developments guided by counties and cities

Goal 7, Ecosystem Impacts: Minimize impacts on aquatic and terrestrial ecosystems including animals and plants

Goal 8, Public Access: Ensure reasonable and usable public access to the outdoor recreational opportunities in the river valley (Refuge, state trail, and other public lands)

Goal 9, User Impacts: Minimize impacts, including noise and visual, to people using the Refuge, state trail, and other public lands

Goal 10, Land Management Capabilities: Maintain natural resource management capability on public lands

The RCIC Report details these goals with:

- Issue Description
- Agreed-upon Strategies to Avoid, Minimize, Mitigate Impacts
- Guidance for Tier II
- Intermediate Activities (between now and Tier II)

These elements of the RCIC Report are presented in Appendix A-1. A complete version of the RCIC Report is provided in Appendix A-2.

4.0 TRANSPORTATION SYSTEMS AND IMPACTS

The *2007 Tier I Draft Environmental Impact Statement* (DEIS) is incorporated by reference and is considered to be a part of this *Tier I Final Environmental Impact Statement* (FEIS). See Appendix A.

Chapter 4 of the DEIS discusses the transportation impacts of the No-Build alternative, including increased congestion, safety issues related to increased risk of crash incidents, increasing vehicle conflicts with rail traffic, and increased bicycle/pedestrian conflicts as traffic volumes increase. Chapter 4 of the DEIS also discusses how well each of the six DEIS Build alternatives address transportation issues identified in Chapter 2 of the DEIS.

Since the DEIS was published, there have been changes in traffic volumes related to population changes, land use development, employment patterns, and changes in area roadway networks. However, although the numbers may have changed, the relative benefits of the preferred alternative (described in the sections below) would not change. Mn/DOT and the cities and counties in the project area have continued to plan for and implement improvements to the area transportation system, including roadway, transit, and trail improvements.

4.1 IMPACTS ASSOCIATED WITH THE PREFERRED ALTERNATIVE

The project will not be constructed for many years and a Tier II EIS will evaluate the transportation conditions and project impacts at the time. None of the changes in the project setting or the configuration of the Preferred Alternative (horizontal realignment resulting in modified Alternative C-2) since the DEIS was published is expected to change the order of magnitude of the transportation impacts identified in the DEIS. These findings, based on analysis conducted for the DEIS, are summarized below.

4.1.1 Travel Demand Forecast Analysis

Forecast traffic (year 2040) for the Preferred Alternative river crossing is expected to be 48,000 vehicles per day. The Preferred Alternative attracts a substantial amount of traffic from the existing TH 41 river crossing, reducing its forecast future volume by 14,500 vehicles per day (40 percent). The Preferred Alternative also attracts vehicles from other river crossings including 3,500 (14 percent) vehicles from CSAH 9/45, 4,000 (12 percent) vehicles from Highway 101, and 6,000 (4 percent) from US 169. In addition, under Build conditions, 18,000 to 20,000 trips per day would choose to travel to a destination across the river, as compared to staying on one side of the river under No-Build conditions. The additional trips reflect improved travel conditions (reduced congestion and delay) and perceived increased access to employment, shopping, and service industry options under Build conditions.

4.1.2 Daily Duration of Congestion

Forecast model-based analysis shows that the number of hours of congestion on existing TH 41 and Highway 101 would be substantially reduced with the Preferred Alternative. The high percentage of heavy commercial trucks in traffic using the existing TH 41 exacerbates

congestion because trucks at a stop take longer than other vehicles to start up and go through a traffic signal. Therefore, it is important to note that under Build conditions, truck traffic volumes on existing TH 41 through the downtown Chaska area would be reduced by approximately 65 percent as compared to No-Build conditions.

4.1.3 Average Daily Travel

The Preferred Alternative creates a 2 percent increase of daily VMT and a 1 percent decrease in daily VHT as compared to No-Build conditions, indicating the new river crossing reduces congestion and improves efficiency within the system as compared to No-Build. This is consistent with a project that creates a fundamental new link in the freeway system, decreasing congestion and travel time, and resulting in wider access to employment, shopping, and service options (the wider access results in VMT increases due to more and longer trips across the Minnesota River).

4.1.4 Travel During Flood Events

Travelers are forced to drive farther and longer during a flood under No-Build conditions. Under Build conditions, VMT increases 2 percent and VHT increases 2 to 3 percent during a flood event as compared to a normal weekday. Floods would continue to affect travel on the highway network under Build conditions, but the effect would be substantially less than under No-Build conditions, since a new TH 41 river crossing – above the 100-year flood stage – would facilitate overall traffic flow across the river during floods.

4.1.5 Regional Highway Network Safety

Compared to the No-Build alternative and due to the increase in VMT under Build conditions, the number of crashes is predicted to increase 1 percent (87 additional crashes for the Preferred Alternative) under 2040 Build conditions.

4.1.6 Existing TH 41 Safety

The new river crossing would attract 40 percent of traffic from existing TH 41. Because a substantial amount of traffic is predicted to shift from existing TH 41 under Build conditions, the number of crashes predicted in downtown Chaska would be reduced by more than 30 percent. (13 fewer crashes than the No-Build are predicted in the year forecast, 2040).

4.1.7 Railroad Crossing Safety

Existing TH 41 intersects railroad tracks in two at-grade crossing locations. The Preferred Alternative would provide a grade-separated crossing that is predicted to reduce the amount of traffic traveling through the existing TH 41 at-grade railroad crossings, reducing the risk of a crash in these locations. The study did not quantify the number of crashes that would likely be avoided with the Preferred Alternative. However, the Preferred Alternative will reduce the frequency of stops at railroad crossings for trucks carrying hazardous/flammable materials (e.g., fuel). These stops can cause operational and safety issues.

4.1.8 Emergency Response

Improvements in emergency response times and route reliability are substantial benefits of the Preferred Alternative as compared to the No-Build alternative. Section 4.2.1 of the DEIS discusses substantial reductions in VHT for Build alternatives under normal weekday conditions, indicating lower levels of congestion on the highway network. This will also benefit emergency response times. Section 4.2.2 of the DEIS discusses substantial reductions in VMT and VHT for Build alternatives under flood conditions, indicating shorter trips and less delay. This is a key benefit of the Preferred Alternative as compared to No-Build. The Preferred Alternative provides a reliable route for emergency response over the Minnesota River that is not affected by flood conditions.

4.1.9 Benefit/Cost Analysis

The purpose of a benefit-cost analysis is to bring all of the direct effects of a transportation investment into a common measure (dollars), and to allow for the fact that transportation benefits accrue over a long period of time while construction costs are incurred primarily in the initial years. The primary elements that can be monetized are travel time (hours traveled), changes in vehicle operating costs (miles traveled), vehicle crashes, annual and major maintenance costs, initial capital costs, and remaining capital value. Travel time, miles traveled, and crashes were discussed above. Initial capital costs include construction and right of way, which are further broken down for remaining capital value analysis in accordance with service life. Maintenance costs are approximated based on Mn/DOT annual cost per lane-mile estimates.

The benefit-cost analysis can provide an indication of the economic desirability of an alternative, but it is only a broad indicator for decision-making which must be weighed against other considerations, effects, and impacts of the project. A benefit/cost ratio of 1.0 is considered the minimum for justifying an improvement. The larger the ratio number, the greater the benefits per unit cost.

The benefit-cost analysis conducted for the proposed project resulted in benefit/cost ratio of 3.39 for DEIS Alternative C-2, the alternative upon which the Preferred Alternative is based.

While mitigation costs were not included in the benefit-cost analysis, a sensitivity analysis indicates that mitigation cost would have to nearly double the total project cost for the benefit-cost ratio to drop below 1.0.

4.1.10 Vehicular Energy Use

The Preferred Alternative would involve roadway construction and thus would result in construction-related energy use. Operational energy consumed may increase with the Preferred Alternative because the VMT is greater. This increase may be offset to some degree because all TH 41 traffic would no longer be forced to travel through traffic signals in downtown Chaska. Vehicle speed cycling (slowing at a traffic signal and then accelerating after the light turns green) consumes substantial amounts of fuel, particularly for trucks, which make up a substantial amount of the traffic stream in the existing TH 41 corridor.

4.1.11 Freight (Rail)

The Preferred Alternative provides grade-separated crossings over the two sets of railroad tracks that presently intersect existing TH 41. The Preferred Alternative also attracts substantial amounts of traffic off existing TH 41, reducing the number of opportunities for train-vehicle conflict, as noted in Section 4.1.7.

4.1.12 Freight (Highway Truck Traffic)

The Preferred Alternative is forecast to attract 74 percent of truck traffic (2,000 vehicles per day) off of existing TH 41 compared to No-Build.

Truck traffic will benefit substantially by shifting from existing to New TH 41. Although the route may be longer in some cases, the New TH 41 river crossing would provide the following benefits:

- Improved safety – the new river crossing would have a lower crash rate than existing TH 41.
- Reduced energy consumption – the new river crossing would reduce the number of speed cycles (the process of slowing for a traffic signal and then accelerating back to cruising speed) that freight-hauling trucks would encounter.
- Improved travel time – trucks traveling on the new river crossing would travel on an uncongested facility, as compared to traveling through downtown Chaska with its more than 10 hours of congestion per day under No-Build conditions.

4.1.13 Rail Transit

The Preferred Alternative would have no direct impacts on future rail transit corridors.

4.1.14 Bicycle and Pedestrian Traffic

The Preferred Alternative will provide a grade-separated crossing of the Minnesota Valley State Trail and will also attract substantial amounts of traffic off existing TH 41, providing the following benefits to bicycle and pedestrian travel:

- Improved safety – reduce the potential for vehicle-bicycle or vehicle-pedestrian conflicts.
- Improved enjoyment of bicycle/pedestrian experience – reduced congestion and reduced truck volumes will create a more enjoyable bicycle/pedestrian travel experience.

A trail is located on the existing TH 41 river crossing bridge. Mn/DOT is committed to providing more substantial bicycle/pedestrian facilities on the new river crossing with the Preferred Alternative. Specific details have not been discussed; this issue would be addressed in the Tier II EIS.

4.1.15 Public Transit

Regularly-scheduled transit service crossing the Minnesota River is not currently in the study area, and no plans have been identified to provide such service in the foreseeable future. For this reason, there are no direct impacts from the Preferred Alternative on the transit routes. Indirectly, a new TH 41 river crossing would increase overall river crossing capacity, decreasing congestion and facilitating any bus or vanpool service on the area's highway network.

4.2 PREFERRED ALTERNATIVE MITIGATION MEASURES

The transportation impacts discussed above are beneficial; therefore no mitigation measures are identified. The RCIC Report includes discussion of some local interest in including additional local access as part of the project, among other considerations for future refinements of the Preferred Alternative during the Tier II process. The effect of any changes in the access elements of the project will be identified during the Tier II process as part of future traffic impact analysis and relevant mitigation strategies identified as appropriate.

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5.0 SOCIAL, RELOCATION, AND ECONOMIC IMPACTS

The *2007 Tier I Draft Environmental Impact Statement* (DEIS) is incorporated by reference and is considered to be a part of this *Tier I Final Environmental Impact Statement* (FEIS). See Appendix A.

Chapter 5 of the DEIS discusses the social and economic environment of the project area and identifies the impacts of the DEIS Build alternatives to community cohesion, community facilities and services, travel patterns and access, environmental justice, land use and economic and fiscal conditions.

Since the DEIS was published, the following changes have occurred in the social and economic setting.

- Some land use development in the area has occurred, most notably in the vicinity of the US 212/CSAH 11 interchange.
- The City of Carver has entered into an Orderly Annexation Agreement for over 4,000 acres in Dahlgren Township, and is commencing with annexation and developing land within that area.
- The inventory of trails was updated to account for:
    - the City of Chaska trail that originates at Athletic Park (Chaska Cubs Ball Field), travels east and then south into the MVNWR,
    - the trail that is alongside Spring Creek Drive in the City of Carver, and
    - the planned Minnesota River Bluffs Regional Trail Extension.
- A new Mn/DOT maintenance facility was built at the US 212/CSAH 11 interchange.
- State and local planning and implementation of roadway improvements in/near the project area has continued.
- The USFWS purchased land to expand the MVNWR (Figure 8-1 in Chapter 8 represents existing MVNWR boundaries).
- Right of way impacts of the DEIS alternatives (W-2 and C-2) were recalculated to account for additional parcels affected in the Spring Creek residential development in the City of Carver which had been inadvertently omitted from the DEIS; these changes were considered in the Preferred Alternative selection process.
- Right of way impacts of the DEIS alternatives (C-2, C-2A, E-1, E-1A and E-2) were recalculated to address the potential that impacts to any residences within an affected manufactured home community could result in the need to acquire the entire community;

these potential ranges of impacts were considered in the Preferred Alternative selection process.

The effects of these changes, as well as the horizontal realignment of DEIS Alternative C-2, are generally reflected in the description of Preferred Alternative impacts below. Social and economic conditions will continue to change in the project area and the Tier II EIS will evaluate these conditions and project impacts at the time.

5.1 COMMUNITY COHESION

5.1.1 Impacts Associated with the Preferred Alternative

The Preferred Alternative requires acquisition of business and residential properties. These impacts are detailed in Section 5.5 of this FEIS. This section of the FEIS describes acquisitions that particularly affect community cohesion.

Existing or planned local roadway connections that are affected by the Preferred Alternative will be functionally restored via grade-separation and/or local roadway realignment. These are discussed in Section 5.1.2.3 of the DEIS. Note that it is assumed that within the study area US 169 will be converted to a freeway facility, including interchanges at CSAH 14 and existing TH 41 (as well as at CSAH 69 where an interchange project is currently underway), closure of direct access to properties from US 169 and provision of property access and local circulation through a system of frontage/backage roads. Any such improvements are not part of the proposed TH 41 River Crossing project.

The Preferred Alternative would impact the planned "Heights of Chaska" development. This proposed mixed-use, primarily single-family residential development includes up to 3,550 new housing units and 70,000 square feet of commercial space. The Preferred Alternative passes through the southern portion of the planned development and would require its redesign to accommodate the necessary right of way and local access to the development.

A new trail is planned along the route of the former Union Pacific railroad property parallel to CSAH 61 and 40 (Minnesota River Bluffs Regional Trail Extension). The Preferred Alternative would travel over this trail. Other foot and bicycle traffic in the area occur on local, county, and state roadways where permitted and would be retained.

The Preferred Alternative would separate the small area of Chaska that would remain between CSAH 61 and New TH 41 from the remainder of the City, as well as make a more prominent division between the cities of Chaska and Carver than currently exists. These areas will still be connected via grade-separated crossing at CSAH 61. The Preferred Alternative would also permanently change the visual relationship between the City of Chaska—particularly the original townsite—and the Minnesota River.

5.1.2 Preferred Alternative Mitigation Measures

Impacts to community cohesion are mitigated by overall improved regional accessibility and alleviation of congestion affecting quality of life, particularly in downtown Chaska. The RCIC Report addresses a number of issues related to community cohesion and recommends mitigation strategies and guidance for consideration in the Tier II EIS.

5.2 COMMUNITY FACILITIES AND SERVICES

5.2.1 Impacts Associated with the Preferred Alternative

The Preferred Alternative has no direct negative impact on existing community facilities or services, except for a minor acquisition of land from a Mn/DOT maintenance facility site in Chaska. Noise and visual impacts are discussed in Chapter 6.

The Preferred Alternative will result in fewer hours of congestion on existing TH 41 as compared to No-Build conditions, thus improving the overall general circulation, and access to community facilities and services. In addition, since the new bridge connection will not be subject to periodic closure due to flooding, it will enable emergency responders in Carver and Scott counties to assist each other more effectively and efficiently.

5.2.2 Preferred Alternative Mitigation Measures

Impacts to community facilities and services are mitigated by overall improved regional accessibility and alleviation of congestion affecting quality of life, particularly in downtown Chaska.

5.3 TRAVEL PATTERNS AND ACCESS

5.3.1 Impacts Associated with the Preferred Alternative

The proposed project is a limited access freeway connection between US 169 and US 212 with grade-separated interchanges at each end and no other proposed points of access. The Preferred Alternative would impact the continuity of the local road network resulting in minor impacts on ease of access to community facilities for residents. Overall regional connectivity would be enhanced by the Preferred Alternative and Existing TH 41 would remain to carry local traffic.

In Scott County, the Preferred Alternative affects the future design of the US 169/existing TH 41 interchange. The Preferred Alternative would require the realignment of existing TH 41/CSAH 78 to the west.

In Carver County, the Preferred Alternative requires the reconstruction of local ramps at the US 212/CSAH 11 interchange. It also requires the realignment of Spring Creek Drive to reconnect to CSAH 61. This realignment would include the trail that is alongside Spring Creek Drive.

As described in Chapter 3, a concern has been raised that the new river crossing could result in drivers bypassing downtown Chaska.

5.3.2 Preferred Alternative Mitigation Measures

Impacts to traffic patterns and access are mitigated by overall improved regional accessibility and alleviation of congestion affecting quality of life, particularly in downtown Chaska. Consideration of potential refinements to the Preferred Alternative to make local access improvements will occur as part of the Tier II EIS.

5.4 ENVIRONMENTAL JUSTICE

5.4.1 Impacts Associated with the Preferred Alternative

The Preferred Alternative is not anticipated to have a direct impact on minority and low-income populations. The alignment of DEIS Alternative C-2 was revised to avoid impacts to the Jackson Heights manufactured home park. Indirect impacts to the manufactured home park may result due to the close proximity of the roadway to the manufactured home park.

Based on the noise analysis done for the DEIS, the 2040 Build daytime noise levels (L_{10}—see definitions in Section 6.2.1.1 and additional detail in Section 6.2.2.1 of the DEIS) at Jackson Heights would not exceed state standards or federal noise abatement criteria. Nighttime noise levels would exceed state standards and federal noise abatement criteria. While the modification of DEIS Alternative C-2 moved the ramps further away from Jackson Heights, it is still anticipated that nighttime noise levels would exceed state standards. In addition, the community would be subject to construction noise. The Preferred Alternative would be visible from Jackson Heights and Mobile Manor (a manufactured home community with a low income/minority population located on the south side of TH 169.) However, since similar impacts result to all (non-environmental justice population) residents along the project corridor, these impacts are not disproportionately borne by this (environmental justice) population.

<u>Environmental Justice Finding</u>

Low-income and minority populations are located adjacent to the proposed project corridor. Noise impacts may be high but not disproportionate and may be able to be mitigated. There may be visual impacts to the low-income and minority population but this would not be disproportionate and may be able to be mitigated. Therefore, the proposed action will not have disproportionately high and adverse human health or environmental effects to any minority population or low income population.

5.4.2 Preferred Alternative Mitigation Measures

Mitigation of impacts to low income/minority populations present in the project area at the time of project implementation will be addressed in the Tier II EIS process. Mitigation for noise impacts could include consideration of use of noise barriers or other sound attenuation methods. Construction noise would be mitigated by adherence as is practicable to local noise ordinances.

Mitigation for visual impacts would consider aesthetic design treatments, design elements, and vegetation measures. The RCIC Report documents the involvement of the Jackson Heights community in identifying issues and recommended strategies. Mn/DOT will continue to engage any affected populations present in the project area in defining impacts and mitigation during the Tier II process.

The improved regional accessibility and alleviation of congestion will also be a benefit to low-income and minority populations in the area in terms of access to job opportunities, goods and services, and therefore, provides mitigation for the environmental justice impacts of the proposed project.

5.5 LAND USE, RIGHT OF WAY AND RELOCATIONS

5.5.1 Impacts Associated with the Preferred Alternative

The Preferred Alternative will convert approximately 320 acres of land from its existing/planned use to highway right of way. Land conversion by type includes residential (approx. 26 acres); commercial (approx. 53 acres); public, including recreational, civic, and utility uses (approx. 49 acres); agriculture land (approx. 191 acres); and other (railroad, etc.) miscellaneous uses (approximately two acres). Right of way acquisitions are as follows:

- Total affected parcels – 57
- Affected Parcels by type
    - Residential - 11
    - Commercial - 15
    - Agricultural - 16
    - Public - 12
    - Other – 3 (includes railroad, and exempt miscellaneous)
- Parcels with structures
    - Residential - 10
    - Manufactured home - 0
    - Commercial - 9
    - Agricultural – 10
- Total Structures - 29

The Preferred Alternative would serve planned development in Carver and Scott counties by providing improved access to these areas. This development is already planned for and is not occurring as a result of the Preferred Alternative. Impacts to farmland are addressed in Chapter 6

of this FEIS. Impacts to parks and recreational land are addressed in Chapter 8 of this FEIS. Indirect impacts to land use are addressed in Chapter 12 of this FEIS.

5.5.2 Preferred Alternative Mitigation Measures

Mitigation of impacts on farmland and on parks and recreation areas is addressed in Chapters 6 and 8 of this FEIS, respectively. Mitigation of indirect impacts on land use is addressed in Chapter 12 of this FEIS.

Regarding mitigation for right of way impacts of the Preferred Alternative, all right of way acquisition and relocation would be in conformance with the Uniform Relocation and Real Property Acquisition Act of 1970, as amended by the Surface Transportation and Uniform Relocation Assistance Act of 1989 and 49 Code of Federal Regulations, Part 24. Two booklets entitled *Relocation: Your Rights and Benefits* and the *Guidebook for Property Owners* have been produced by Mn/DOT to provide information to property owners and persons to be displaced on their rights and benefits under the Uniform Act, including the Relocation Assistance Program. These documents are available from the Mn/DOT Office of Land Management.

5.6 ECONOMIC AND FISCAL IMPACTS

5.6.1 Impacts Associated with the Preferred Alternative

As discussed in Section 5.3 of the DEIS, while the alignment of the Preferred Alternative may influence the location of future jobs, it is not expected to result in different total job levels within the study area as compared to the No Build condition.

Based on DEIS information, approximately 11 commercial businesses employing 114 people are expected to be impacted by the Preferred Alternative. In addition, certain businesses in downtown Chaska that depend on exposure to regional customers may be adversely affected by reduction in regional traffic on existing TH 41. Acquisition of existing commercial land and its conversion to highway and highway right of way may have short-term impacts to employment in the study area.

5.6.2 Preferred Alternative Mitigation Measures

Section 5.2.3 of the DEIS discusses mitigation for right of way impacts. Alleviation of traffic congestion on existing TH 41 will generally improve business conditions in downtown Chaska; however, concern has been raised that too many drivers might completely bypass the downtown to the point of being detrimental to economic conditions. While not mitigation, it should be noted that as employment in the study area communities is anticipated to grow substantially within the project timeframe for the Tier II EIS, it is expected that there will be sufficient accessible job opportunity to replace jobs lost through acquisition of commercial/industrial properties. As noted, consideration of potential refinements to the Preferred Alternative to include local access improvements will occur as part of the Tier II EIS.

In addition, the decrease in property tax base resulting from conversion of private property to public right of way will be offset by new development occurring in communities in the study area over the time.

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6.0 IMPACTS TO THE PHYSICAL ENVIRONMENT

The *2007 Tier I Draft Environmental Impact Statement* (DEIS) is incorporated by reference and is considered to be a part of this *Tier I Final Environmental Impact Statement* (FEIS). See Appendix A.

Chapter 6 of the DEIS discusses air quality, traffic noise, farmland, contaminated sites, and the visual setting of the study area and the potential impacts on these from the DEIS Build alternatives.

Since the DEIS was published, the following changes have occurred in the setting for impacts to the physical environment:

- FHWA has revised air quality information for environmental documents relative to particulate matter, mobile source air toxics, and unavailable or incomplete information.
- Additional noise analysis was done to inform the realignment DEIS Alternative C-2 to that of the modified Alternative C-2 (Preferred Alternative) (discussed under Section 6.2 below)
- Additional analysis was done regarding the potential visual effects and mitigation for the Preferred Alternative (discussed under Section 6.5 below).

This information is reflected in the description of the Preferred Alternative impacts below. The Tier II EIS process will evaluate physical environment impacts based on the regulatory and setting considerations at the time.

6.1 AIR QUALITY

6.1.1 Impacts Associated with the Preferred Alternative

Motorized vehicles affect air quality by emitting airborne pollutants. Changes in traffic volumes, traffic patterns, and roadway locations affect air quality by changing the number of vehicles in an area, changing traffic congestion conditions, and changing where vehicles travel. The U.S. Environmental Protection Agency (EPA) uses six "criteria pollutants" as indicators of air quality and has established National Ambient Air Quality Standards (NAAQS) for each of them. The NAAQS represent maximum concentrations above which adverse effects on human health may occur. The criteria pollutants are ozone, particulate matter, nitrogen dioxide, sulfur dioxide, lead, and carbon monoxide. In addition to the criteria air pollutants, the EPA also regulates air toxics.

The study area is located within the Twin Cities Metropolitan Area, which currently has no areas that are not in attainment of air quality standards. The metropolitan area is classified as a limited “maintenance area,” for carbon monoxide. The area is subject to the State Implementation Plan (SIP) which contains procedures to monitor, control, maintain, and enforce compliance with the NAAQS.

Ozone

Ground-level ozone is a primary constituent of smog and is a pollution problem throughout many areas of the United States. Exposures to ozone can make people more susceptible to respiratory infection, result in lung inflammation, and aggravate preexisting respiratory diseases such as asthma. Ozone is not emitted directly from vehicles but is formed through the reaction of volatile organic compounds (VOC) and nitrogen oxides (NO_x) in the presence of sunlight. Transportation sources emit NO_x and VOCs and can therefore affect ozone concentrations. However, due to the phenomenon of atmospheric formation of ozone from chemical precursors, concentrations are not expected to be elevated near a particular roadway.

The overall trend shows that ozone concentrations are on the rise due to increasing population and congestion. As a result of this trend, the Minnesota Pollution Control Agency, in cooperation with various other agencies, industries, and groups, has encouraged voluntary control measures to control ozone and has begun developing a regional ozone modeling effort. Ozone concentrations in the lower atmosphere are influenced by a complex relationship of precursor concentrations, meteorological conditions, and regional influences on background concentrations. The MPCA staff has begun development of ozone modeling for the Twin Cities metropolitan area. Recent conversations with MPCA staff indicate that the ozone models currently use federal default traffic data and a relatively coarse modeling grid. As such, ozone modeling in Minnesota is in its developmental stage, and therefore, there is no available method of determining the contribution of a single roadway to regional ozone concentrations. Ozone levels in the Twin Cities metropolitan area currently meet state and federal standards. Additionally, the State of Minnesota is classified by the EPA as an "ozone attainment area," which means that Minnesota has been identified as a geographic area that meets or exceeds the national standards for the reduction of ozone levels. Because of these factors, a quantitative ozone analysis was not conducted for this project.

Particulate Matter

Particulate matter (PM) is the term for particles and liquid droplets suspended in the air. Particles come in a wide variety of sizes and have been historically assessed based on size, typically measured by the diameter of the particle in micrometers. $PM_{2.5}$, or fine particulate matter, refers to particles that are 2.5 micrometers or less in diameter. PM_{10} refers to particulate matter that is 10 micrometers or less in diameter.

Motor vehicles (i.e., cars, trucks, and buses) emit direct PM from their tailpipes, as well as from normal brake and tire wear. Vehicle dust from paved and unpaved roads may be re-entrained, or re-suspended, in the atmosphere. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur dioxide, nitrogen oxides, and volatile organic compounds. $PM_{2.5}$ can penetrate the human respiratory system's natural defenses and damage the respiratory tract when inhaled. Numerous scientific studies have linked particle pollution exposure to a variety of problems, including:

- Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing for example;
- Decreased lung function;
- Aggravated asthma;
- Development of chronic bronchitis;
- Irregular heartbeat;
- Nonfatal heart attacks; and
- Premature death in people with heart or lung disease.

(Source: http://www.epa.gov/air/particlepollution/health.html)

The EPA issued a final rule on October 17, 2006 that tightened the NAAQSs for $PM_{2.5}$ to include a 24-hour standard of 35 micrograms per cubic meter ($\mu g/m^3$) and retained the 1997 annual $PM_{2.5}$ standard of 15.0 $\mu g/m^3$. The annual standard is based on a three-year average of annual mean $PM_{2.5}$ concentrations; the 24-hour standard is based on a three-year average of the 98th percentile of 24-hour concentrations. The NAAQS 24-hour standard for PM_{10} is 150 $\mu g/m^3$, not to be exceeded more than once per year on average, over three years. The following statement, published by the Minnesota Pollution Control Agency in the Air Quality in Minnesota: 2011 Report to the Legislature,

> *EPA is reevaluating the particulate standards in response to scientists' better understanding of the serious risks associated with breathing even low levels of fine particles. In light of these potential health effects, EPA's new standards, expected in 2011, will likely be more stringent.*

The Clean Air Act conformity requirements include the assessment of localized air quality impacts of federally-funded or federally-approved transportation projects that are deemed to be projects of air quality concern located within $PM_{2.5}$ nonattainment and maintenance areas. This project is not considered one of air quality concern. This is supported, in part, by the designation of the State of Minnesota as an unclassifiable/attainment area for PM. This means that Minnesota has been identified as a geographic area that meets or exceeds the national standards for the reduction of PM levels, and therefore is exempt from performing PM qualitative hot-spot analyses.

Nitrogen Dioxide (Nitrogen oxides)

Nitrogen oxides, or NO_x, are the generic term for a group of highly reactive gases, all of which contain nitrogen and oxygen in varying amounts. Nitrogen oxides form when fuel is burned at high temperatures. The primary sources of NO_x are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuels. The MPCA's Annual Pollution

Report to the Legislature: A Summary of Minnesota's Air Emissions and Water Discharges, April 2011, indicate that:

> *On-road gasoline vehicles and diesel vehicles account for 40% of NOx emissions in Minnesota. In addition to being a precursor to ozone, NOx can cause respiratory irritation in sensitive individuals and can contribute to acid rain.*

Nitrogen dioxide (NO_2), which is a form of nitrogen oxide (NOx), is regularly monitored in the Twin Cities metropolitan area. Currently, NO_2 levels meet state and federal standards. Data presented in the MPCA's 2010 Annual Air Monitoring Network Plan for the State of Minnesota, indicates that:

> *The lowest annual average level of NO_2 in the State of Minnesota for the study year (2007) was 0.0054 ppm and the highest was 0.0093 ppm. These two concentrations are approximately 10-20% of the National Ambient Air Quality Standards' annual average standard for NO_2 of 0.053 ppm. Therefore, Minnesota currently meets applicable NAAQS for NO_2; however, continued reductions are sought, in light of the role of NO_2 in forming other pollutants of concern.*

The EPA's regulatory announcement, EPA420-F-99-051 (December 1999), describes the Tier 2 standards for tailpipe emissions, and states:

> *The new tailpipe standards are set at an average standard of 0.07 grams per mile for nitrogen oxides for all classes of passenger vehicles beginning in 2004. This includes all light-duty trucks, as well as the largest SUVs. Vehicles weighing less than 6000 pounds will be phased-in to this standard between 2004 and 2007.*

As newer, cleaner cars enter the national fleet, the new tailpipe standards will significantly reduce emissions of nitrogen oxides from vehicles by about 74 percent by 2030. The standards also will reduce emissions by more than 2 million tons per year by 2020 and nearly 3 million tons annually by 2030.

Within the project area, it is unlikely that NOx standards will be approached or exceeded based on the relatively low ambient concentrations of NOx in Minnesota and on the long-term trend toward reduction of NOx emissions. Because of these factors, a specific analysis of NO_2 was not conducted for this project.

<u>Sulfur Dioxide</u>

Sulfur dioxide (SO_2) and other sulfur oxide gases (SO_x) are formed when fuel containing sulfur, such as coal, oil, and diesel fuel is burned. Sulfur dioxide is a heavy, pungent, colorless gas. Elevated levels can impair breathing, lead to other respiratory symptoms, and at very high levels, can aggravate heart disease. People with asthma are most at risk when SO_2 levels increase. Once emitted into the atmosphere, SO_2 can be further oxidized into sulfuric acid, a component of acid rain.

The MPCA's Annual Pollution Report to the Legislature: A Summary of Minnesota's Air Emissions and Water Discharges, April, 2011, indicates that on-road mobile sources account for just 14 percent of SO_x emissions in Minnesota. Over 53 percent of SO_2 released into the air comes from electric utilities, especially those that burn coal. MPCA monitoring shows that ambient SO_2 concentrations are consistently below standards. The MPCA has concluded that long-term trends in both ambient air concentrations and total SO_2 emissions in Minnesota indicate steady improvement.

Emissions of sulfur oxides from transportation sources are a small component of overall emissions and continue to decline due to the desulphurization of fuels. Additionally, the State of Minnesota is classified by the EPA as a "sulfur dioxide attainment area," which means that Minnesota has been identified as a geographic area that meets or exceeds the national standards for the reduction of sulfur dioxide levels. Because of these factors, a quantitative analysis for sulfur dioxide was not conducted for this project.

Lead

Due to the phase out of leaded gasoline, lead is no longer a pollutant associated with vehicular emissions.

Carbon Monoxide

Carbon monoxide (CO) is the traffic-related pollutant that is most likely to be a concern on a project level scale. The MPCA has established state standards (or maximum permissible concentrations) for CO of 30 parts per million (ppm) for a 1-hour period (average concentration), and 9 ppm for an 8-hour period (average concentration). The MPCA 1-hour standard is more stringent than the federal standard of 35 ppm; the MPCA 8-hour standard is the same as the federal standard.

The project area is currently designated as a maintenance area for CO. The maintenance status in the Twin Cities metropolitan area is contingent upon the implementation of measures to assure that CO concentrations remain below standards. The contingency stipulates that future CO concentrations be modeled for proposed transportation projects. In compliance with this stipulation, detailed intersection-level CO dispersion analysis will be performed in conjunction with a Tier II EIS.

Concentrations of CO are generally highest at at-grade intersections with poor levels of service and, consequently, with more idling vehicles. Because under all Build alternatives, New TH 41 will operate under free-flow conditions, and will be above grade, increasing dispersion distance to locations of human activity, New TH 41 is not expected to generate CO levels approaching state standards. Congestion (measured in hours of congestion) under all Build alternatives is projected to decline on existing TH 41 and on existing Hwy 101 relative to the No-Build alternative; there is not a substantial difference in hours of congestion among Build alternatives. Therefore, it is unlikely that CO levels approaching state standards will occur at at-grade intersections along existing TH 41 or Highway 101 under any Build alternative.

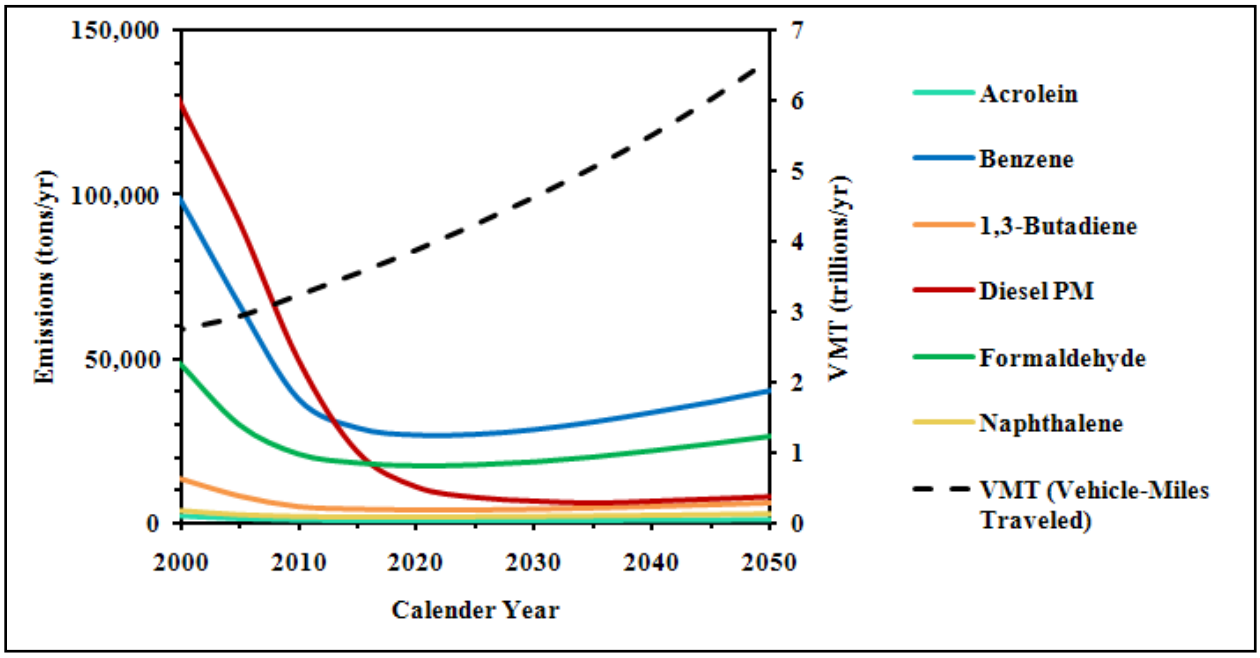
Improvements in vehicle technology and in motor fuel regulations continue to cause reductions in vehicle emission rates. The EPA Mobile 6.2 emissions model estimates that emission rates will fall by at least 35 to 40 percent from 2006 to 2040. Consequently, 2040 vehicle-related CO concentrations in the study area are likely to be lower than existing concentrations even considering the increase in project-related and background traffic.

Mobile Source Air Toxics

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the EPA regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (http://www.epa.gov/ncea/iris/index.html). In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (http://www.epa.gov/ttn/atw/nata1999/). These are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

The 2007 EPA rule mentioned above requires controls that will dramatically decrease Mobile Source Air Toxics (MSAT) emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's MOBILE6.2 model, even if vehicle activity (vehicle-miles travelled, VMT) increases by 145 percent as assumed, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050, as shown in Figure 6-1.

FIGURE 6-1: NATIONAL MSAT EMISSION TRENDS 1999 – 2050 FOR VEHCILES OPERATING ON ROADWAYS USING EPA'S MOBILE 6.2 MODEL



Note:
(1) Annual emissions of polycyclic organic matter are projected to be 561 tons/yr for 1999, decreasing to 373 tons/yr for 2050.
(2) Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors
Source: U.S. Environmental Protection Agency. MOBILE6.2 Model run 20 August 2009.

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how the potential health risks posed by MSAT exposure should be factored into project-level decision-making within the context of the National Environmental Policy Act (NEPA).

Nonetheless, air toxics concerns continue to be raised on highway projects during the NEPA process. Even as the science emerges, we are duly expected by the public and other agencies to address MSAT impacts in our environmental documents. The FHWA, EPA, the Health Effects Institute, and others have funded and conducted research studies to try to more clearly define potential risks from MSAT emissions associated with highway projects. The FHWA will continue to monitor the developing research in this emerging field.

Unavailable Information for Project Specific MSAT Impact Analysis

This FEIS includes a basic analysis of the likely MSAT emission impacts of this project. However, available technical tools do not enable us to predict the project-specific health impacts of the emission changes associated with the Preferred Alternative. Due to these

limitations, the following discussion is included in accordance with CEQ regulations (40 CFR 1502.22(b)) regarding incomplete or unavailable information.

Information that is Unavailable or Incomplete

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the IRIS, which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, http://www.epa.gov/ncea/iris/index.html). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA's Interim Guidance Update on Mobile Source Air Toxic analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI, http://pubs.healtheffects.org/view.php?id=282) or in the future as vehicle emissions substantially decrease (HEI, http://pubs.healtheffects.org/view.php?id=306).

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts - each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable. The results produced by the EPA's MOBILE6.2 model, the California EPA's Emfac2007 model, and the EPA's DraftMOVES2009 model in forecasting MSAT emissions are highly inconsistent. Indications from the development of the MOVES model are that MOBILE6.2 significantly underestimates diesel particulate matter (PM) emissions and significantly overestimates benzene emissions.

Regarding air dispersion modeling, an extensive evaluation of EPA's guideline CAL3QHC model was conducted in a National Cooperative Highway Research Program (NCHRP) study (http://www.epa.gov/scram001/dispersion_alt.htm#hyroad), which documents poor model performance at 10 sites across the country - three where intensive monitoring was conducted plus an additional seven with less intensive monitoring. The study indicates a bias of the CAL3QHC model to overestimate concentrations near highly congested intersections and underestimate concentrations near uncongested intersections. The consequence of this is a tendency to overstate the air quality benefits of mitigating congestion at intersections. Such poor model performance is less difficult to manage for demonstrating compliance with NAAQS for relatively short time frames than it is for forecasting individual exposure over an entire lifetime, especially given that some information needed for estimating 70-year lifetime exposure is unavailable. It is particularly difficult to reliably forecast MSAT exposure near roadways, and to determine the portion of time that people are actually exposed at a specific location.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (http://pubs.healtheffects.org/view.php?id=282). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA (http://www.epa.gov/risk/basicinformation.htm#g) and the HEI (http://pubs.healtheffects.org/getfile.php?u=395) have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine a "safe" or "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than safe or acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

6.1.2 Qualitative Assessment

As discussed above, technical shortcomings of emissions and dispersion models and uncertain science with respect to health effects prevent meaningful or reliable quantitated, absolute estimates of MSAT emissions and effects of this project. However, even though reliable methods do not exist to accurately estimate the health impacts of MSATs at the project level, it is possible to qualitatively assess the comparative levels of future MSAT emissions under the project. Although a qualitative analysis cannot identify and measure health impacts from MSATs, it can give a basis for identifying and comparing the potential differences among MSAT emissions—if any—from the various alternatives. Application of this qualitative methodology is consistent with FHWA policy. The qualitative assessment presented below is derived in part from a study conducted by the FHWA entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives*, January 2005.

For the Preferred Alternative, the amount of MSATs emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. VMT was calculated for an area including all of Carver County, all of Scott County, and portions of Hennepin County. For the Preferred Alternative, VMT is two percent higher in this study area compared to the No-Build alternative. This suggests that MSAT emissions in the study area will increase slightly under Build conditions compared to No-Build conditions. Vehicle hours traveled (VHT) decreases by one percent, representing a higher average speed of traffic. Mobile 6.2 suggests that emissions rates for all MSATs other than DPM decrease as speeds increase. This suggests that the increase in MSATs resulting from higher VMT may be moderated by higher average speeds. Also, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by 72 percent from 1999 to 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the EPA-projected reductions are so significant (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future as well.

There will be localized areas where VMT and VHT will increase, and other areas where they will decrease. Therefore, it is possible that localized increases or decreases in MSAT emissions may occur. However, even if those increases do occur, they too will be substantially reduced in the future due to implementation of EPA’s vehicle and fuel regulations.

In conclusion, in the design year it is expected that there would be reduced MSAT emissions in the immediate area of the project, relative to the No-Build alternative, due to the reduced vehicle hours traveled (VHT) associated with more direct routing, and due to EPA’s MSAT reduction programs. MSAT levels could be higher in some locations than others, but current tools and science are not adequate to quantify them. However, on a regional basis, EPA’s vehicle and fuel regulations, coupled with fleet turnover, will over time cause reductions that, in almost all cases, will cause region-wide MSAT levels to be substantially lower than today.

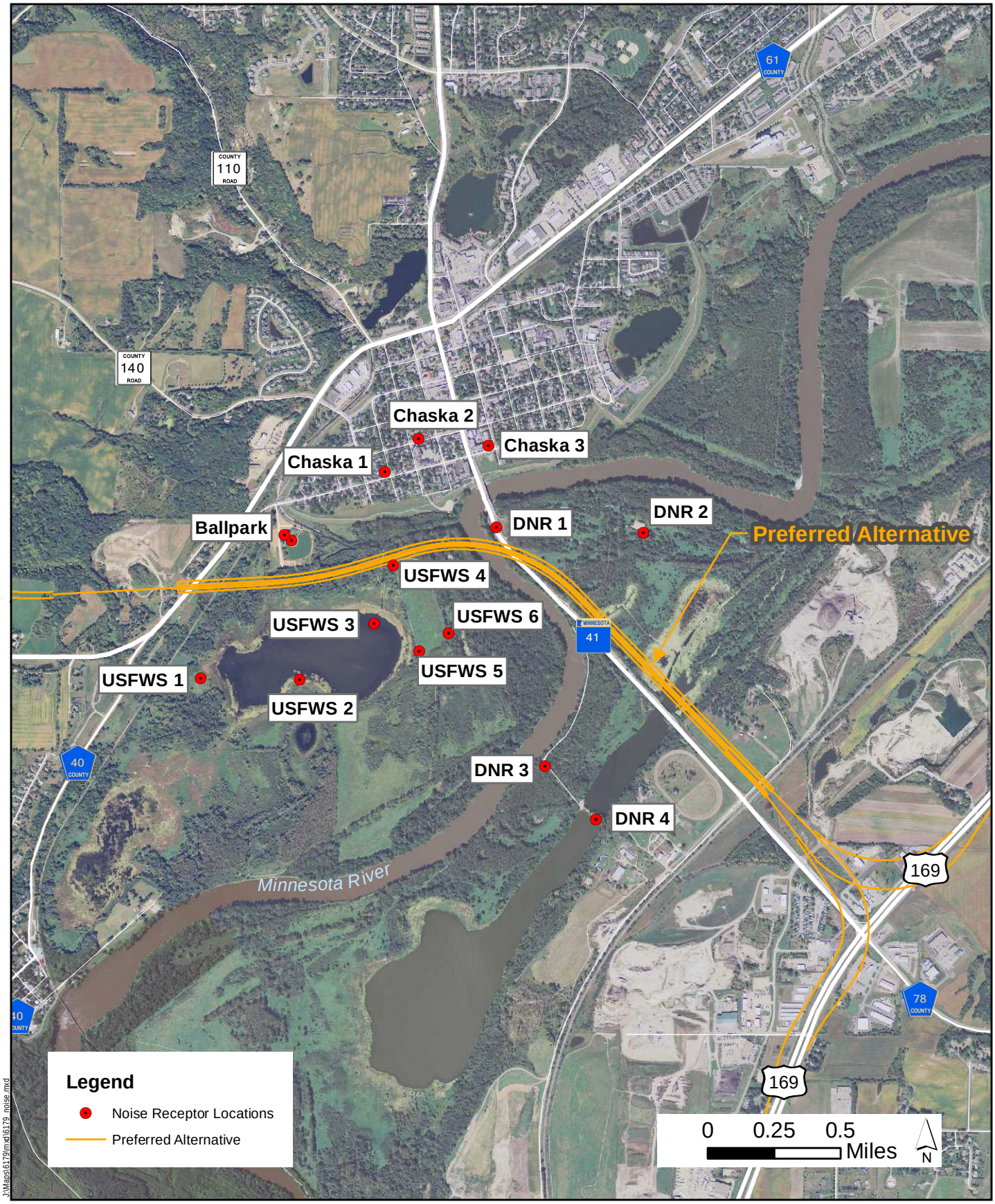
6.1.3 Mitigation

Detailed air quality analyses will be conducted during the Tier II EIS process. NAAQS for the six criteria pollutants will be reevaluated in order to meet standards in place at the time of the Tier II EIS. Any necessary mitigation measures will also be addressed as part of that process.

6.2 TRAFFIC NOISE

The Preferred Alternative alignment, a revised version of DEIS Alternative C-2, was analyzed at selected locations. Noise monitoring was conducted at Athletic Park (Chaska Cubs Ball Field), during event and non-event times, and at multiple historic sites in Chaska to obtain existing baseline noise levels. See Table 6-1 for noise monitoring locations. Supplemental noise modeling was conducted for the Preferred Alternative alignment to assess its effect on future noise levels at the noise monitoring locations described above as well as at multiple locations within the Minnesota Valley National Wildlife Refuge (MVNWR), the Minnesota Valley State Recreation Area (MVSRA), and the Minnesota Valley State Trail (MV Trail). See Table 6-1 and Figure 6-2 for the supplemental noise modeling locations. Two bridge heights, low and high, were modeled to investigate how bridge height affects noise levels. Note that the Preferred Alternative does not assume a change in vertical alignment as compared to the assumed height of DEIS Alternative C-2; bridge height will be determined during the Tier II process.

Note that, given the level of detail available at the current stage in the planning process, the usefulness of the noise modeling results is somewhat limited. Noise modeling of the specific design of Preferred Alternative will be conducted, consistent with the FHWA and Mn/DOT rules and guidance, during preparation of the Tier II EIS.



SUPPLEMENTAL NOISE RECEPTOR LOCATIONS

Figure 6-2

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING

Final Environmental Impact Statement
S.P. #1008-60
Minnesota Department of Transportation

6.2.1 Impacts Associated with the Preferred Alternative

Noise modeling results for the Preferred Alternative are shown in Table 6-1 (daytime and nighttime). Based on the modeling results, the Preferred Alternative would result in year 2040 noise levels exceeding federal noise abatement criteria and Minnesota daytime and nighttime state noise standards.

TABLE 6-1
SUPPLEMENTAL NOISE MODELING RESULTS FOR THE PREFFERED ALTERNATIVE – DAYTIME AND NIGHTTIME

		DAYTIME[2] [4]		NIGHTTIME[3] [4]	
Receptor ID	**Monitoring[1] Results L_{10}**	**2040 No-Build L_{10}**	**2040 Build L_{10}**	**2040 No-Build L_{10}**	**2040 Build L_{10}**
Ball Park	71 (game) 51 (no game)	56	**69**	**55**	**67**
Chaska 1	54	57	60	**56**	**59**
Chaska 2	54	60	60	**57**	**58**
Chaska 3		62	62	**59**	**60**
MnDNR 1		77	**74**	**75**	**73**
MnDNR 2		54	63	52	**60**
MnDNR 3		53	60	51	**58**
MnDNR 4		54	60	52	**57**
USFWS 1		54	63	54	**60**
USFWS 2		49	63	48	**60**
USFWS 3		51	66	49	**60**
USFWS 4		53	**79**	51	**78**
USFWS 5		52	63	50	**58**
USFWS 6		54	64	52	**59**
NRHP 1 (3)	**73**	**70**	**69**	**69**	**68**
NRHP 2	54	57	60	**56**	**59**
NRHP 3	54	60	60	**57**	**58**
NRHP 4	**65**	**67**	64	**65**	**62**
NRHP 5	52	56	56	54	**55**

(1) Monitoring Results – August 2009
(2) State standard = 65
(3) State standard = 55
(4) Federal NAC = 70

6.2.2 Preferred Alternative Mitigation Measures

Both state standards and federal noise abatement criteria are exceeded at a number of existing receptors for the Preferred Alternative. Mitigation measures to avoid and/or minimize noise impacts could include consideration of use of noise barriers or other sound attenuation methods and/or local government incorporation of land use controls to limit the number of noise-sensitive receptors located adjacent to or in the vicinity of the Preferred Alternative highway corridor.

Evaluation of noise barriers as mitigation to avoid and/or minimize noise impacts will be included in the Tier II EIS.

The RCIC Report identifies noise as an important impact of the project, notes the relationship between noise and visual effects, discusses concerns about the impact of noise on wildlife, and recommends mitigation strategies and guidance for consideration in the Tier II EIS.

6.3 PRIME AND STATEWIDE IMPORTANT FARMLAND

6.3.1 Impacts Associated with the Preferred Alternative

As identified in Section 6.3.1 of the DEIS, the Scott County and Carver County NRCS offices were asked to provide assistance with the completion of the AD 1006 form (the Federal Farmland Conversion Impact Rating form used for proposed conversions of farmland to non-agricultural uses). Information received from the NRCS indicates that 148 acres are to be converted directly (38 in Scott County and 110 in Carver County). The average AD 1006 score[7] is 145. The number of acres to be converted as a percent of farmland in the County with equal or higher relative value is 0.08 in Scott County and 0.06 in Carver County[8].[9] The acreages are rounded. The realignment of DEIS Alternative C-2 to that of the modified Alternative C-2 (Preferred Alternative) resulted in very minor changes to the impacts to prime farmland and farmland of statewide importance.

As discussed in Chapter 5, there are 16 affected agricultural parcels (note that several parcels classified as agricultural are owned by development companies).

Much of the affected farmland is planned for development. The farmland impacts posed by the Preferred Alternative do not represent a substantial portion of farmland in either of the study area counties. Depending on timing of right of way acquisition, actual farmland impacts will likely be lower than those identified due to planned transition in land use.

6.3.2 Preferred Alternative Mitigation Measures

While the Preferred Alternative would require use of prime and unique statewide and local farmland, the farmland impacts posed do not represent a substantial portion of farmland in either of the study area counties. Much of the affected farmland in the Preferred Alternative corridor is planned for development. Depending on timing of right of way acquisition, actual farmland impacts will likely be lower than those identified in the DEIS due to planned transition in land use.

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[7] Data were provided by the NRCS offices of the relevant county as part of the USDA Farmland Conversion Impact Rating process.

[8] Percent of farmland in county with equal or higher relative value was calculated by dividing the total acres to be converted by total acres prime and unique farmland in the county.

[9] There are differences between the number of acres in agricultural use and the number of acres of farmland to be converted to highway right of way in the DEIS and the FEIS because "agricultural use" reflects land classification as assigned for County property assessment and "farmland" reflects most recent available Minnesota Land Cover Classification System (MLCCS) cropland cover data (mid-1990s).

Acquisition of any farmland would be in conformance with the Uniform Relocation and Real Property Acquisition Act of 1970, as amended by the surface Transportation and Uniform Relocation Assistance Act of 1989 and 49 Code of Federal Regulations, Part 24. It is important to note that the impacts to farmland that are actually likely to occur are reduced by the orderly development of land (i.e., conversion of farmland to urban uses) provided for in local comprehensive plans and processes and by the opportunity for New TH 41 corridor preservation to take place in cooperation with local planning. Through this approach, much of the current farmland affected by the Preferred Alternative will likely not be acquired until conversion to non-agricultural use (through development) is imminent. Efforts to avoid and minimize impacts to any remaining farmland will be part of the Tier II EIS process.

6.4 CONTAMINATED PROPERTIES

6.4.1 Impacts Associated with the Preferred Alternative

A total of nine sites of high or medium environmental risk have been identified in the Preferred Alternative corridor; these sites are described in Table 6-2 and identified in Figure 6-3.

The Phase I Environmental Site Assessment (Phase I ESA) conducted for the project and discussed in detail in Section 6.4.1 of the DEIS identified known or potentially contaminated properties of medium and high risk in the Preferred Alternative corridor.

No sites in the study area appeared on the U.S. Environmental Protection Agency's (EPA) National Priorities List (NPL) of uncontrolled or abandoned hazardous waste facilities identified for priority remedial actions under the Superfund Program or the EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) listing of actual and potential hazardous waste facilities. Nor did any sites in the study area appear on the MPCA's Superfund Permanent List of Priorities (SPL).

TABLE 6-2
SITES NEAR PREFERRED ALTERNATIVE WITH MEDIUM OR HIGH POTENTIAL FOR CONTAMINATION

Potential for Contamination	# of properties	Location	Description (Figure 6-3 Reference Number)
Medium	2	New TH 41/US 169 interchange area	Properties with underground storage tanks (USTs), but no documented releases (5,6)
High	7	New TH 41/US 169 interchange area	Vehicle-oriented businesses (e.g. sales, gas stations, truck station), all with documented releases from leaking underground storage tanks (LUSTs) (7,8,10,11,12)
		West of New TH 41 corridor, south of River, between Union Pacific Railroad and Gifford Lake	Farm with LUST (9)
		New TH 41 and CSAH 61	Active gravel pit; potential for imported material from unknown sources and for hazardous solid waste materials (13)

6.4.2 Preferred Alternative Mitigation Measures

Further evaluation of potentially contaminated properties identified in the Phase I ESA will be completed for the Preferred Alternative during the Tier II EIS process. Any properties within the vicinity of the Preferred Alternative that have the potential to be affected by construction and/or would be acquired as right of way would be investigated, if necessary, to determine the extent and magnitude of contaminated soil and/or groundwater in the areas of concern. The results of this investigation would be used to determine whether the contaminated materials can be avoided or whether the project's impacts to these properties can be minimized. If necessary, a plan would be developed for properly handling and for treating contaminated soil and/or groundwater during construction. Any soil and groundwater remediation activities would be coordinated with appropriate regulatory agencies.

The RCIC Report includes discussion of concerns with the impact of contamination from vehicles, hauled equipment, boats on the roadway, and roadway maintenance activities on the ecosystem. Further consideration of these issues and relevant mitigation will be addressed in the Tier II EIS.

6.5 VISUAL IMPACTS

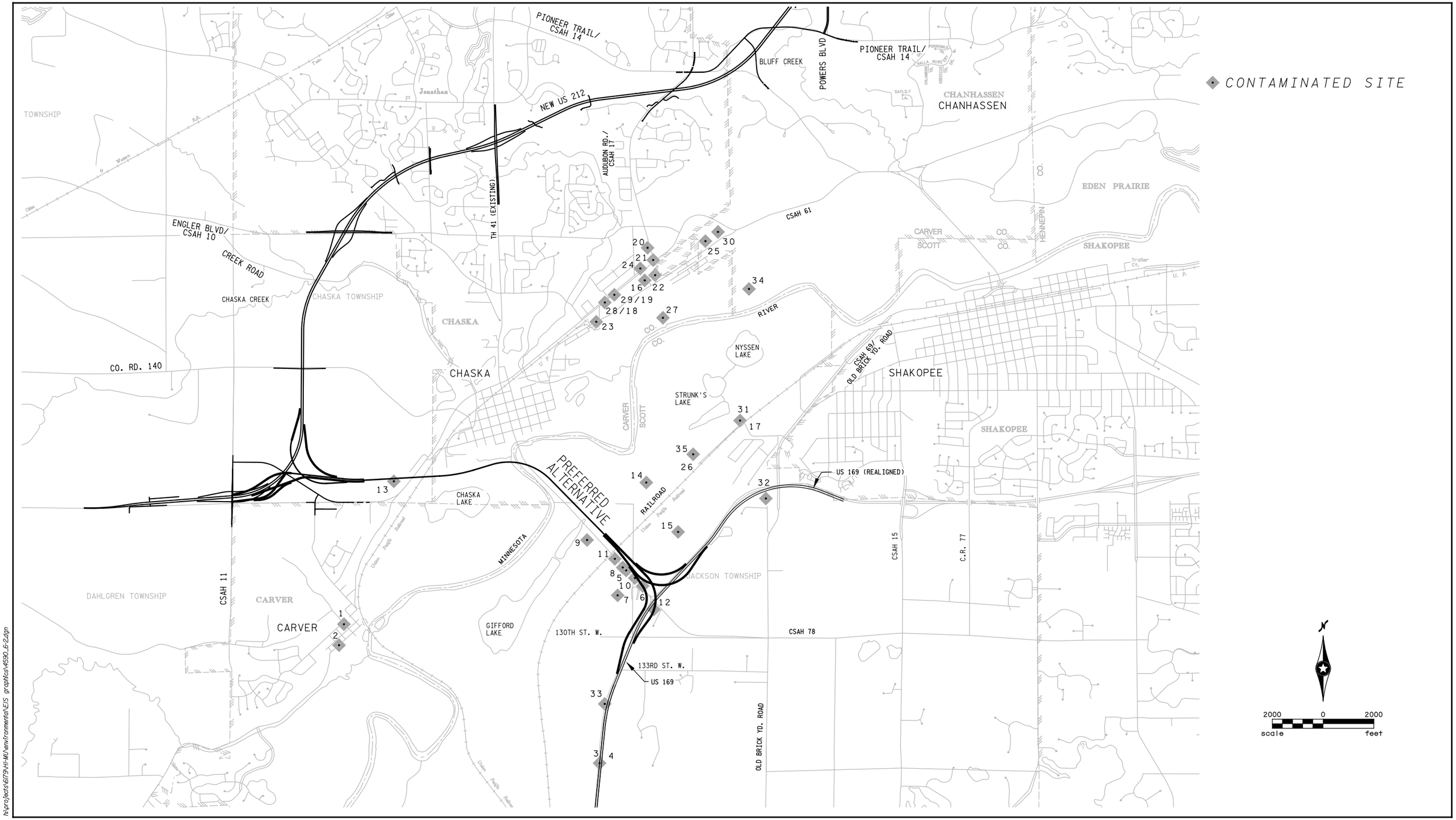
6.5.1 Impacts Associated with the Preferred Alternative

The Preferred Alternative would affect the visual quality for neighbors, travelers, and Minnesota riverway users by adding highway, bridge, and interchange structures to predominantly rural-agricultural areas (which are presently being converted to suburban areas), small town landscapes, suburban landscapes, and the natural riverway landscape. The Preferred Alternative will create dominant visual landscape features visible throughout the area and be partially or fully visible from roadways and developed areas that presently enjoy scenic vistas of the Minnesota River valley.

Neighbors in the river corridor landscape would experience the greatest change in visual quality as implementation of the proposed project would convert the existing landscape to a highway landscape. The Preferred Alternative will cross the river valley and affect views of and from the Minnesota River valley and its upland areas, including the Minnesota Valley National Wildlife Refuge (MVNWR) and the Minnesota Valley State Recreation Area (MVSRA).

Neighbors in the small city landscapes and suburban landscapes would experience substantial changes in their visual landscape with implementation of the Preferred Alternative. The original townsites of Chaska and Carver would be most impacted as would suburban landscapes throughout the study area.

In addition to the adverse impacts that may result for neighbors along the river corridor, users of the riverway and bottomlands may also experience adverse impacts to their river experience with the addition of river crossings, bridge piers, and bluff cuts.



CONTAMINATED SITES

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Figure 6-3

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No adverse impacts to visual quality are anticipated to result for travelers in the study area. Travelers would either continue to experience additional structural elements consistent with the existing highway landscape or experience the benefit of rural and river corridor views not previously available. The highway facilities in the area would also be less congested, offering a better and more efficient driving experience.

In Scott County, cultural features that would be visually impacted by the Preferred Alternative include the Jackson Heights manufactured home park, commercial properties along the existing US 169 corridor in proximity to the intersection with existing TH 41, and commercial and agriculture properties in the river valley. The Preferred Alternative would be visible from existing TH 41 (which is to remain in operation during and after the completion of the proposed project). Bridge height will be identified as part of the Tier II EIS. At the height of 59 feet at the Minnesota River crossing assumed in the DEIS, the Preferred Alternative would be highly visible throughout the study area.

In Carver County, the Preferred Alternative would be visible from the old townsite of Chaska looking to the south and southwest. The Preferred Alternative would be visible from numerous upland residential neighborhoods which presently have unobstructed views of the Minnesota River valley. The Preferred Alternative would also be visible from the Guardian Angels Cemetery in Chaska and its surrounding hillsides and residential neighborhoods. The Preferred Alternative would be highly visible to the Heights of Chaska development.

Natural features that would be visually impacted by the Preferred Alternative include the extreme northeastern tip of Gifford Lake, the Minnesota River channel and associated slopes, wetland and marshland areas that fall within the Preferred Alternative corridor, and several forested parcels in the cities of Carver and Chaska.

6.5.2 Preferred Alternative Mitigation Measures

This FEIS does not address bridge type or design decisions, other than to assume a 250-foot pier spacing as a basis for estimating impacts at the Tier I EIS level. The bridge type evaluation during the Tier II process will consider visual impact. For the bridge (including the underside) and for the interchanges associated with the Preferred Alternative, consideration can be given to the aesthetic treatments and design elements such as structure materials, color, and landscaping to minimize negative visual impacts. These design elements can also be used to minimize impacts to the rural-agricultural and small town landscapes present in the study area, as well as to riverway users.

The RCIC Report identifies visual effects to the community, historic resources, the wildlife refuge, state trail, and other public lands as an important issue, and recommends mitigation strategies and guidance for consideration in the Tier II EIS.

Minimizing the clearing of natural vegetation and replacement of lost or removed vegetation with native species is another mitigation technique to retain visual quality. The vegetation present on the slopes of the Minnesota River valley provides a substantial measure of visual screening of the potential roadway alternatives. From most vantage points along the slopes of the

valley, residences situated between the river level (at 700 feet above sea level) up to the 800-foot contour would have a substantial amount of vegetative screening—with or without foliage—of the Preferred Alternative. Sites above the 800-foot contour, however, have the potential of having the Preferred Alternative present in their viewshed. In the winter and spring months, when the deciduous trees are without foliage, the density of the vegetation still provides a high level of visual screening.

The three predominant tree species found in the river valley and on the adjoining slopes that form the natural screening include Silver Maple (*Acer saccharinum*), Box Elder (*Acer negundo*), and Eastern Cottonwood (*Populus deltoides*). Mature heights of these trees range between 50 to 80 feet. Retention of slope and bottomland vegetation will ensure a level of natural screening is maintained.

The landscape of the river bottom can be differentiated from the surrounding visual environment by its dense trees and a minimal cultural impact, due to its lack of suitable development sites and legal protection from alteration. The bridge at the height assumed in the DEIS has the potential to be screened from view at sites at or below the 750-foot contour throughout the study area. The actual height of the bridge will be determined in the Tier II process.

The RCIC Report identifies visual impacts as an important issue and includes RCIC mitigation recommendations for consideration in the Tier II EIS as listed in Appendix A-1. The RCIC Report includes information about work done by the Task Force on Chaska Landscaping Pre-mitigation. Mn/DOT is committed to working with the City of Chaska to study and discuss landscaping options that would be implemented according to the City of Chaska's schedule. Mn/DOT would pay the planting installation costs and work with the City to discuss how to best maintain plantings.

Other mitigation measures for the Preferred Alternative would be evaluated further and refined in the Tier II EIS process.

7.0 NATURAL ENVIRONMENT IMPACTS

The *2007 Tier I Draft Environmental Impact Statement* (DEIS) is incorporated by reference and is considered to be a part of this *Tier I Final Environmental Impact Statement* (FEIS). See Appendix A.

Chapter 7 of the DEIS discusses the natural resources of the study area and the potential impacts of the DEIS Build alternatives on those resources.

The natural environment is essentially unchanged since the DEIS was published with the exception of the USFWS purchase of additional land for the MVNWR. The horizontal realignment of DEIS Alternative C-2 to that of modified Alternative C-2 (Preferred Alternative) has changed some impacts on the natural environment; these are described below. The Tier I impact assessment assumed a 300-ft. wide corridor, which will be further refined into a specific alignment with construction limits in the Tier II process, at which time impacts will be quantified in detail and with up-to-date regulatory information.

7.1 VEGETATION/INVASIVE VEGETATION, WILDLIFE, AND FISHERIES

7.1.1 Impacts Associated with the Preferred Alternative

The Preferred Alternative assumed 250 foot pier spacing as the basis for assessing impacts for this Tier I FEIS, resulting in an estimated total of 80 bridge piers, 40 in each direction of travel.

In Scott County, the Preferred Alternative would minimize the impacts to natural resources in the area by closely paralleling the alignment of existing TH 41 from US 169 nearly to the existing crossing.

In Carver County, the Preferred Alternative crosses a narrow band of old growth floodplain forest at the northernmost edge of the Chaska Unit of the Minnesota Valley National Wildlife Refuge (MVNWR). The adjustments made to the alignment of the Preferred Alternative to avoid impacts to Athletic Field (Chaska Cubs Ball Field) results in increased impacts to this vegetation and increased habitat fragmentation compared to the impacts from DEIS Alternative C-2. The impacts are discussed below.

Total floodplain forest impacts from the Preferred Alternative amount to 19.4 acres. The Preferred Alternative would also impact 5.6 acres of lowland hardwood forest as it approaches the interchange with US 212. Once the alignment reaches the top of the bluff in Carver County, it would impact 11.2 acres of maple-basswood forest and 3.9 acres of oak forest surrounded by agricultural fields. Total new forest edge resulting from this alternative would be approximately 22.3 acres.

The Preferred Alternative would have a potentially minimal impact upon fish habitat within the river valley. Any bridge piers placed within the river channel may create an obstacle within the fish habitat, though the fish could adjust to the placement by swimming around any pier and

amphibians and reptiles, likewise, could maneuver around piers. However, current design efforts include spanning the entire river channel, with no placement of piers within the channel itself.

The DEIS analyzed potential effects on existing vegetation from bridge construction based on visits to existing bridges over the Minnesota River. Qualitative assessments of possible ecological impacts of existing large-bridge crossings of the Minnesota River were conducted during visits in June through August, 2006. Anecdotal observations were made of the general environmental setting of each bridge and used to infer possible impacts from the proposed TH 41 river crossing. Bridges were selected that are similar to the proposed project, in that they cross a large portion of the Minnesota River floodplain and are relatively high bridges. The bridges that were visited for this purpose include TH 169 (Bloomington Ferry Bridge), I-35W, TH 77 (Cedar Avenue), I-494, TH 55 (Mendota Bridge), and I-35E. Because nearly the entire length of the Minnesota River valley crossing will be made on bridges, rather than on filled embankments or at grades, the assessment focused on impacts under and surrounding existing elevated bridges. The following observations and conclusions are pertinent to the Preferred Alternative:

- Higher bridges have more vegetation, more native vegetation, and less bare area beneath them. Lower bridges have more bare soil and more invasive species, especially reed canary grass, beneath them.

- Wider bridge decks have lower vegetation cover, lower-quality vegetation and more bare soil. These effects may be attenuated by spacing of bridge decks. For example, the total width of two bridge decks of the TH 77 (Cedar Avenue) bridge is 120 feet, which is similar to approximately 110 feet deck widths of I-35W and I-35E. However, the decks of TH 77 are set 45 feet apart, allowing for greater penetration of sunlight beneath the decks, and higher vegetation coverage and quality beneath.

- Forest communities are absent underneath bridges, with the exception of an early successional community of box elder trees under the Mendota Bridge, which is a relatively high bridge. There is no direct evidence of floodplain forests recovering or reestablishing under bridges.

- Herbaceous wetlands beneath the higher bridges, and in more open sites (i.e., not forested), tend to have more native vegetation, in terms of abundance and species richness than those beneath lower bridges.

- Permanently or semi-permanently flooded wetlands beneath the bridges tend to have more native vegetation, in terms of abundances and species richness than seasonally or temporarily flooded wetlands.

- White crystalline deposits were observed beneath lower bridges and in upland and seasonally-flooded wetlands. These deposits may be accumulated road salts, and while no laboratory analyses were conducted to confirm, circumstantial evidence seems to support this finding.

- Floodplain forests can grow very close to the edges of the bridges. Where mature forest vegetation is close to the bridges, the forest edge is not thickly populated by shrubs, saplings,

or invasive species. It appears that the shade of the bridges ameliorates the microclimate impacts of forest fragmentation to some extent.

Impacts of the Preferred Alternative on vegetation are summarized below. Listed are the impacts calculated for DEIS Alternative C-2 with notations for the estimated increase in impact due to the realignment of the corridor into the floodplain forest area of the MVNWR. Note that these impacts are based on a 300-foot wide corridor. Actual construction limits would be narrower. Note also that wetland impacts are addressed in Section 9.5, but that the impacts attributed to piers are more narrowly defined; i.e. not based on a 300-foot corridor.

Impacts to vegetation communities by [rarity ranking][10] in acres:

- Aspen Woodland [5] – 0.9
- Floodplain forest [3] – 15.9 – Estimated to be 19.4 acres for the Preferred Alternative
- Lowland hardwood forest [4] – 5.6
- Maple-basswood forest [2] – 11.2
- Mixed emergent marsh [2] – 3.6
- Native dominated temporarily flooded shrubland [4] – 7.8
- Oak Forest [2] – 3.9
- Wet meadow [3] – 3.5
- Willow swamp [4] – 2.6
- Total natural area – 54.8– Estimated to be 58.3 acres for the Preferred Alternative

Impacts by state rarity ranking (see above) in acres:

- 1 – 0.0
- 2 – 18.7
- 3 – 19.4 Estimated to be 22.9 acres for the Preferred Alternative
- 4 – 15.9
- 5 – 0.9

[10] Ranks of natural communities are defined in Minnesota Natural Heritage Program (1993). The numerical ranks range from 1 to 5 and *"…are intended to reflect the extent and condition of the natural communities in Minnesota… those ranked '1' are considered critically endangered in Minnesota, while communities ranked '5' are considered secure under present conditions."* Where subtypes were possible, the ranking for the "Big Woods Section" subtype was used.

The analysis of the DEIS Alternative C-2 identified 36.3 acres of the affected vegetation to be "good quality natural communities" and 18.5 acres to be "moderate condition natural community", and also identified 36.4 acres of biodiversity area (at below minimum threshold) As noted, additional floodplain forest land located within the MVNWR will be impacted by the Preferred Alternative as compared to DEIS Alternative C-2. The USFWS has indicated the much of the land in the river valley is in various stages of succession and has been degraded in the past but that the management plans are based on the future vegetative community.

The project would also create additional forest edge and shrub/herbaceous edge (habitat fragmentation).

Habitat fragmentation impacts by type in acres:

- Forest edge – DEIS Alternative C-2 = 18.8 acres. Estimated to be 22.3 acres for the Preferred Alternative.
- Forest interior – DEIS Alternative C-2 = 20.8 acres (percent of forest impact that is interior habitat – 52.5%). Estimated to be up to 24.3 acres for the Preferred Alternative.
- Impact to shrub/herbaceous edge – 5.1 acres.
- Impact to shrub/herbaceous interior – 12.2 acres (percent of shrub/herbaceous impact that is interior habitat – 70.3%).

The ground disturbance, creation of new edge, and shading, debris and salt spray from the bridge pose the potential for invasion by exotic species.

The potential for impacts of artificial lighting from the project on wildlife was identified by USFWS in their comments on the DEIS. Alternatives development in Tier I does not includes this level of detail – but the Tier II EIS will include discussion of this issue.

7.1.2 Preferred Alternative Mitigation Measures

Refinement of the Preferred Alternative incorporated efforts to avoid impacts to crucial wildlife habitat where possible.

Where impacts to wildlife are unavoidable, the effect of the impacts may be minimized through design features such as provision of wildlife crossing areas where the roadway is at-grade. The Preferred Alternative corridor appears to have opportunity for such crossing areas. Timing construction to avoid nesting seasons, or to work during winter months when soils are frozen, are other practices to consider in minimizing impacts to wildlife. Disturbed areas would be re-vegetated with native plants and land in the right of way would be managed to have diverse grassy vegetation with trees and shrubs outside the required roadway clear zone. Restoration of unfragmented and closed-canopied forest on the Minnesota River bottoms is a mitigation opportunity that greatly increases the potential for the valley to sustain breeding populations of bald eagles, red-shouldered hawks, cerulean warblers, and other forest bird species that were once much more abundant in the valley. In addition, the formerly-cultivated bottomlands within

the river valley could be restored by planting cottonwoods and silver maple trees. This would help to accelerate the process of succession to forest communities. Cultivated or formerly-cultivated lands within the floodplain can be restored to floodplain forest where feasible.

Native grassland restoration can also occur as a part of the overall mitigation scheme. Former croplands can be planted with native grass mixtures consisting of big bluestem, little bluestem, switch grass, sideoats grama, and Canada wild rye. A mixture of forbs could also be planted to enhance the biological diversity of many of these sites.

The Tier II EIS will assess the potential of invasive species and identify mitigation measures.

During construction, best management practices (BMPs) will be implemented to control erosion and sediment discharge to water bodies. Impacts to fisheries may also be minimized by constraining the timing of construction activities to minimize impacts to spawning fish. Bridge piers would be designed to avoid changes to river flow patterns. Permanent storm water treatment for the Preferred Alternative would be included to avoid long-term impacts to water quality. Impacts to wetlands would be mitigated through the creation of new wetlands.

The RCIC Report identifies impacts to aquatic and terrestrial ecosystems as a project concern. Goal 7 focuses on mitigation of ecosystem impacts and related guidance for consideration in the Tier II EIS.

During the Tier II process, potential artificial lighting impacts and mitigation measures will be discussed with USFWS staff.

7.2 STATE/FEDERAL THREATENED AND ENDANGERED SPECIES

7.2.1 Impacts Associated with the Preferred Alternative

No federal or state listed species have been identified within a half mile of the Preferred Alternative corridor. However, a mussel study should be conducted for the Tier II FEIS to establish the existence of any mussel concentrations in the area. Any bridge piers placed directly within the river channel would have an impact upon a mussel concentration. In addition, a new review of the project for potential to impact federally or state-listed threatened and endangered species will occur during the Tier II EIS.

7.2.2 Preferred Alternative Mitigation Measures

Due to the sensitive nature of the area and the need to update review for threatened and endangered species, continuing involvement with the Minnesota Department of Natural Resources (MnDNR) and U.S. Fish and Wildlife Service (USFWS) will take place during the Tier II process. Mitigation measures to avoid, minimize, or alleviate impacts to any threatened/endangered or other protected species and sites of biodiversity significance will be defined during the Tier II process for the Preferred Alternative. Additional field surveys may be needed to confirm the presence of rare and protected species, such as mussels and kitten tails, in the Preferred Alternative corridor or at the time that project final design is implemented.

Avoidance measures such as minor alignment shifts will be considered during final design to minimize impacts on identified species. Other mitigation measures may need to include timing of construction activities to avoid disturbance during bird nesting periods, or endangered mussel relocation if live specimens are identified in the Preferred Alternative corridor.

7.3 SEMINARY FEN/ASSUMPTION CREEK

7.3.1 Impacts Associated with the Preferred Alternative

Construction of the Preferred Alternative would result in no direct or indirect impacts to Seminary Fen Wetland Complex (SFWC)/Assumption Creek because the Preferred Alternative is located well to the west and out of the SFWC sphere of influence. Additionally, no impacts would be expected to the groundwater recharge areas to the Seminary Fen with construction of the Preferred Alternative.

7.3.2 Preferred Alternative Mitigation Measures

As no impacts to Seminary Fen/Assumption Creek are anticipated, no mitigation is required.

7.4 GEOLOGY/SOILS

7.4.1 Impacts Associated with the Preferred Alternative

The Preferred Alternative would require excavation in the vicinity of and/or disturbance to steep river bluffs. Disturbances to the vegetative cover that occur during construction could result in erosion of temporarily bare soils. Erosion of the river bluffs is of special concern because eroded sediment could be washed into the Minnesota River, or other surrounding water bodies.

The Preferred Alternative intersects the Hubbard-Estherville-Dakota-Waukegan-Zimmerman association and the Dorchester-Oshawa-Mixed alluvium association. The Preferred Alternative crosses the alluvial land-Chaska-Oshawa association found along the Minnesota River, the Salida-Haden association, which is known for very steep soils on hills and bluffs, and the Lester-Hayden-Peat and Hayden-Lester-Peat soil associations.

The main concern with erodible soils and steep slopes in the study area are areas where highly erodible soils and steep slopes join to create conditions that can cause erosion issues if vegetation is removed. The impacts on erodible soils presented in length for a 300-foot corridor width are:

- Scott County – 250 feet (1.7 acres) – steep highly erodible land
- Carver County – 1,700 feet (11.7 acres) – steep highly erodible land
- Total length of crossing – 1,950 feet (13.4 acres)

Figure 7-1 identifies the location of erodible soils and steep slopes in relation to the Preferred Alternative.

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STEEP SLOPES WITH HIGHLY ERODIBLE SOILS

Figure 7-1

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In Scott County, as the river valley starts to rise, the Preferred Alternative passes over a narrow stretch of the steepest slopes, classified in the 12-18 percent range, and the most highly erodible soil. At this location, however, the bridge would still be elevated, and only one bridge pier may be placed in this location. Where the river valley rises once again up to the location with the

US 169 interchange, the bridge, and ramps would intersect a length of 250 feet of steep (up to 18%) slopes and highly erodible soils. Construction in this location poses a severe risk of soil erosion.

In Carver County, as the bluffs rise out of the river valley, the Preferred Alternative cuts into the bluff across a length of 1,700 feet of highly erodible soil and steep slopes (up to 18%). Construction of the bridge in this location, making landfall in the highly erodible soils, poses a severe risk of soil erosion.

In Carver County, the Preferred Alternative has the potential to impact an active sand and gravel operation. Construction of the proposed project is not currently in the Mn/DOT 20-year plan. During preparation of the Tier II EIS for the Preferred Alternative, closer to the time of construction, an updated assessment of impacts to this resource will be made. If this sand and gravel operation is in operation at that time, appropriate measures will be taken to minimize impacts to the aggregate resources in the Twin Cities metropolitan area.

7.4.2 Preferred Alternative Mitigation Measures

The proposed road profiles have been designed to minimize disturbances to steep bluffs. As the design of the Preferred Alternative proceeds, it will be further refined to avoid and minimize impacts to steep slopes and organic soils.

BMPs such as erosion control blankets, fast growing cover crops, and silt fencing (similar to those outlined in the Minnesota Pollution Control Agency's (MPCA) manual "Protecting Water Quality in Urban Areas") would be implemented in accordance with the National Pollutant Discharge Elimination System (NPDES) permit which is required for this project. After construction is complete, disturbed areas would be re-vegetated to control erosion on a permanent basis.

The need to correct organic soils, which are commonly unstable, is minimized by avoiding wetland areas. If organic soil correction is needed, methods such as excavating and filling (surcharging) with stable, lightweight fill would be evaluated to minimize disturbance to the soil and surrounding wetlands. Timing of construction during winter, when soils are frozen, may also help to minimize impacts to the wetlands.

7.5 WILD AND SCENIC RIVERS

7.5.1 Impacts Associated with the Preferred Alternative

Tier I-level assessment of bridge types determined that the river crossing bridge should be able to span the river with no bridge piers within the river channel. Therefore, the project would not change the free-flowing condition of the river. However, the construction of a bridge would have an impact upon the scenic value of this section of the river. Impacts upon the recreational value of this stretch of the river are varied depending upon the recreational use in consideration. Canoeing and fishing activities would not be directly impacted, as the free-flowing condition of the river would not be changed. However, wildlife viewing and similar nature-based activities may be impacted with the introduction of a bridge span across the river.

The Minnesota River is a candidate for potential Wild and Scenic River designation and is listed on the Nationwide River Inventory (NRI). The Preferred Alternative would have a very minimal impact upon the scenic, recreational, wildlife and historic values of this stretch of the river, because it is very close to the existing TH 41 bridge span and the development of nearby downtown Chaska.

7.5.2 Preferred Alternative Mitigation Measures

Mitigation of impacts to a river listed on the NRI includes incorporating consideration of measures to minimize preferred alternative visual impacts to riverway users. Some of these design features could include minimizing the scale of the bridge, minimizing vegetation disruption, minimizing bluff cuts, and/or incorporation of aesthetic features in bridge design to make it more visually pleasing. The impact to the scenic value of the river will be assessed in the Tier II EIS. In addition, the Tier II EIS will reassess potential impacts to other NRI values (not currently anticipated to be impacted) to determine potential for other impacts.

8.0 PARKS, TRAILS, RECREATIONAL AREAS, AND NATURAL AREAS; SECTION 4(F)/SECTION 6(F)

The *2007 Tier I Draft Environmental Impact Statement* (DEIS) is incorporated by reference and is considered to be a part of this *Tier I Final Environmental Impact Statement* (FEIS).

Chapter 8 of the DEIS provides information about public recreational and natural resource areas, trails, and parks within the study area. Potential impacts of the DEIS Build alternatives are also discussed. This chapter of the FEIS identifies changes since the DEIS along with potential mitigation measures to minimize impacts of the Preferred Alternative. A Preliminary Final Section 4(f)/6(f) Evaluation for specific resources impacted by the Preferred Alternative is provided in Appendix D of this FEIS.

Since the DEIS was published, the following changes have occurred with regard to parks, trails, recreational areas, and natural areas. Parks and trails are shown in Figure 8-1.

- The USFWS acquired additional land in the project area for the Minnesota Valley National Wildlife Refuge (MVNWR).
- The DEIS Alternative C-2 was realigned to avoid impact to Athletic Park (Chaska Cubs Ball Field). This realignment increased impacts to the MVNWR.
- The inventory of trails was updated to account for:
    - the City of Chaska trail that originates at Athletic Park (Chaska Cubs Ball Field), travels east and then south into the MVNWR,
    - the trail that is alongside Spring Creek Drive in the City of Carver, and
    - the planned Minnesota River Bluffs Regional Trail Extension that is proposed to be located in the study area.

8.1 IMPACTS ASSOCIATED WITH THE PREFERRED ALTERNATIVE

The Preferred Alternative would impact the Minnesota River, which is a Canoe and Boating route, the MVNWR, the Minnesota Valley State Recreation Area (MVSRA), and the Minnesota Valley (MV) Trail as land would need to be acquired or easements granted to cross the river, recreation area, and trails. The MVSRA and MV Trail have received Land and Water Conservation (LAWCON) funding and are subject to provisions of Section 6(f) of the Land and Water Conservation Fund Act of 1965 (16 USC 2509) (LAWCON). New TH 41, as it crosses the river, MVNWR, MVSRA, and MV Trail, would be a bridge and its supporting piers.

The alignment of the Preferred Alternative is a revised version of DEIS Alternative C-2 that avoids direct impacts to Athletic Park (Chaska) and increases impacts to MVNWR.

PUBLIC RECREATIONAL FACILITIES

Figure 8-1

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Impacts on Section 4(f) resources in the Preferred Alternative corridor, through direct acquisition or easements would total 44.3 acres, as follows:

- MVNWR – 22.0 acres
- MVSRA/MV Trail – 22.3 acres (Section 6(f))

These impacts include land within the assumed 300–foot wide corridor and do not assume acquisition of severed land. Actual impacts will be determined in the Tier II process.

The Preferred Alternative would cross over the planned Minnesota River Bluffs Regional Trail Extension, as wells as trails within the MVNWR and the MV Trail (noted below), posing visual impacts and potential construction impacts. The Preferred Alternative would require the realignment of the trail that is alongside Spring Creek Drive. Trail access points and other trail connections impacted by construction activity will be reestablished after project completion. The Tier II EIS and Section 4(f) Evaluation will assess the actual impacts to trails in place at that time.

The height of the bridge will be determined during the Tier II process but would likely be at least partially visible from the river, MVSRA, MV Trail, and MVNWR as well as from Athletic, Winkel, and Hickory parks in the City of Chaska. Access to MVSRA from existing TH 41 may experience temporary impacts during construction, but access would be maintained.

Based on the Tier I DEIS noise analysis, noise levels would be discernibly higher under 2040 Build conditions than 2040 No-Build conditions (daytime L_{10}) at the receptor in the MVSRA (R14). Supplemental noise analysis conducted after the publication of the DEIS showed modeled noise levels exceeding state standards and federal criteria at a number of selected locations within park resources.

These resources would also be affected by impacts to vegetation discussed in Chapter 7 of this FEIS, and water resource impacts discussed in Chapter 9 of this FEIS.

8.2 PREFERRED ALTERNATIVE MITIGATION MEASURES

Due to the extensive amount of public land within the study area, impacts to public recreational and wildlife management properties are unavoidable. The Preferred Alternative would affect the MVNWR, the MVSRA, and the MV Trail. In addition, the Preferred Alternative would use land that has received LAWCON funding. Therefore, development and evaluation of the Preferred Alternative will be performed consistent with the requirements of federal Section 4(f) and Section 6(f) regarding conversion of these types of properties to transportation use (see Appendix D). Trail access points and other trail connections impacted by construction activity will be reestablished after project completion. The RCIC Report identifies impacts on existing recreational uses and activities on the MVNWR and MVSRA/MV Trail as concerns and recommends mitigation strategies and guidance relevant to these resources for consideration in the Tier II EIS. Noise mitigation is discussed in Section 6.2.2 of this FEIS.

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9.0 WATER RESOURCES

The *2007 Tier I Draft Environmental Impact Statement* (DEIS) is incorporated by reference and is considered to be a part of this *Tier I Final Environmental Impact Statement* (FEIS). See Appendix A.

Chapter 9 of the DEIS discusses surface and groundwater resources of the project area and the potential impacts on these resources from the DEIS Build alternatives. Resources included surface water quality, surface water quantity, floodplains, water body modification, groundwater/hydrogeology, and wetlands. Measures to mitigate impacts were also discussed.

The water resource environment is essentially unchanged since the DEIS was published. There have been updates to the regulatory environment, particularly related to water quality including updated Impaired Waters and Total Maximum Daily Load (TMDL) listings. The horizontal realignment of DEIS Alternative C-2 to that of modified Alternative C-2 (Preferred Alternative) has changed some impacts; these are qualitatively described below. The Tier I process is focused on a 300-ft. corridor which will be further refined to a specific alignment with construction limits and drainage plans in the Tier II process, at which time impact will be quantified in detail and with up-to-date regulatory information.

9.1 SURFACE WATER QUALITY

9.1.1 Impacts Associated with the Preferred Alternative

The Preferred Alternative lies within the Minnesota River watershed in Scott County and within a small portion of the West Chaska Creek sub-watershed of the Minnesota River, southwest of downtown Chaska in Carver County. The Minnesota River is impaired for PCB in fish tissue[11] and turbidity[12]. Chaska Creek is impaired for fecal coliform[13].

Twelve potential pond treatment locations were identified for the Preferred Alternative. One of these ponds was under the bridge where it crossed the site of Athletic Park (Chaska Cubs Ball Field) The alignment of the Preferred Alternative moved 300 feet south of DEIS Alternative C-2 in this location; it is assumed the associated pond would move accordingly.

Three of the storm water ponds would be located within the floodplain below the low point of the bridge in order to minimize the amount of runoff collecting over the river. The approximate total treatment volume in the floodplain would be 4.4 ac-ft.

The Preferred Alternative involves a relatively long bridge (1.8 miles) across the river. Conveyance systems would likely be required to take bridge runoff to water quality ponds located at the low points. The conveyance system design would likely need some type of energy dissipation as well as wet detention basins to prevent erosion, remove roadway pollutants, and contain contaminated spills. Potential ponding locations were analyzed for water quality treatment. Since wet detention basins near the proposed bridge may be located partially or

[11] 1998 TMDL target start/2025 TMDL target completion
[12] 2009 TMDL target start/2013 TMDL target completion
[13] 2013 TMDL target start/2016 TMDL target completion

completely within the 100–year floodplain, design and construction of these features may require special considerations to prevent 100–year flood events from impacting the effectiveness of these ponds.

Figure 9-1 depicts flow direction and potential storm water treatment pond locations for the Preferred Alternative. Permanent treatment storage volume data for the Preferred Alternative is as follows:

- In floodplain: 4.4 ac-ft (31.9%)
- Out of floodplain: 9.4 ac-ft (68.1%)
- Total: 13.9 ac-ft
- Total treated area: 107.0 acres

As noted, more specific pond design will occur during the Tier II EIS process.

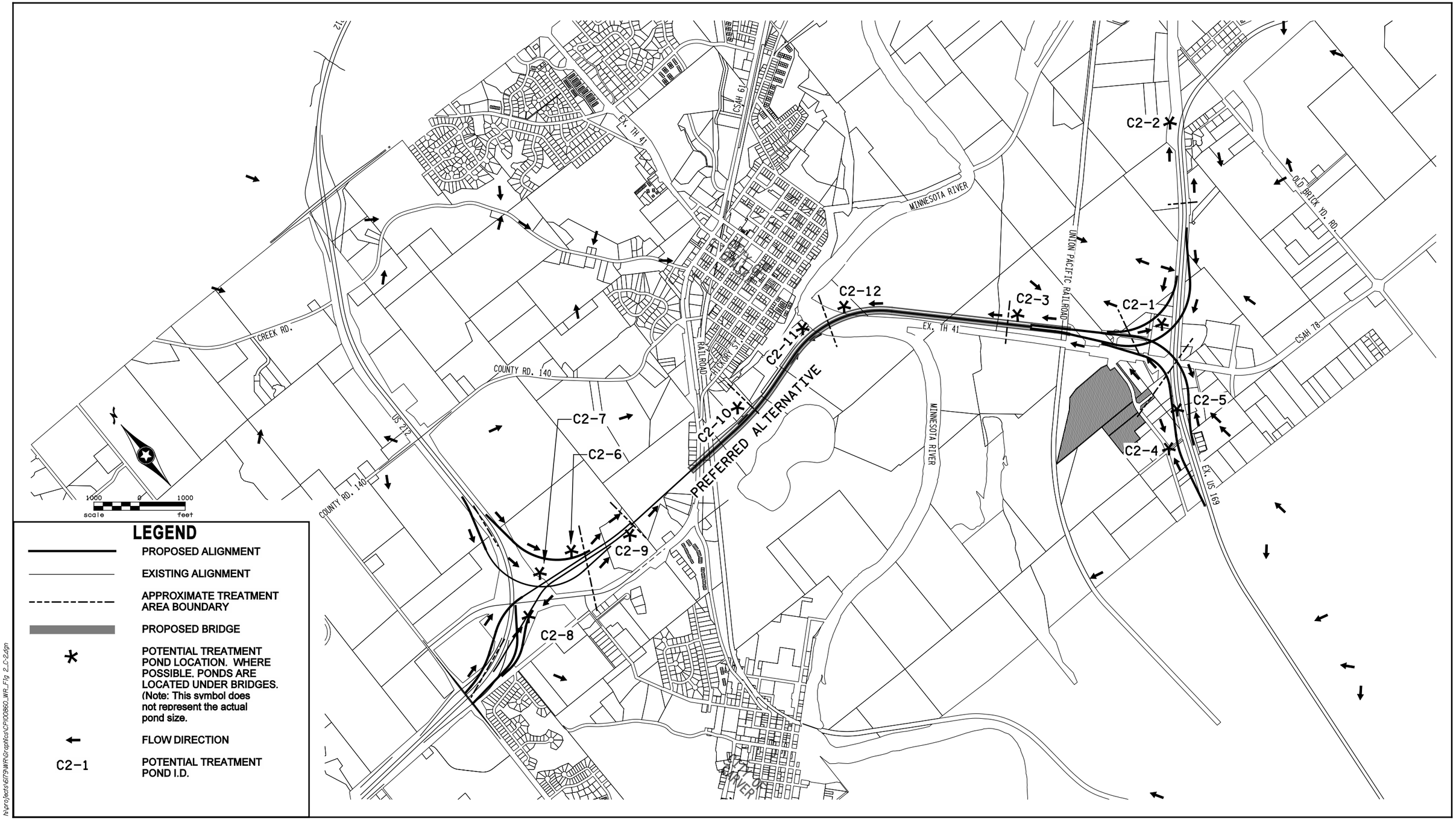
9.1.2 Preferred Alternative Mitigation Measures

The Preferred Alternative would increase the volume and rate of runoff compared to No–Build conditions and this runoff would contain contaminants common to roadways. Best management practices (BMPs) would be incorporated as required to meet state and federal water quality regulatory requirements including consideration of TMDLs if applicable at the time. These may include wet detention basins, filter strips, and infiltration areas. These features would be designed to meet the regulatory requirements in effect at the time of final design.

To the extent practicable, storm water runoff from the Preferred Alternative would also be routed through a wet detention basin prior to discharging into the river. This would provide both water quality treatment as well as contaminated spill containment. Storm water and surface water deck drainage will be directed to an off-end drainage and containment system to assure that any possible toxic or hazardous material spills that might occur on the bridge will not drain directly to waters of the state.

Surface water quality impacts from winter de-icing materials present special problems. Mitigation strategies for these roadway pollutants include minimization and removal/treatment strategies such as carefully monitoring timing, method, and application rates of de-icing materials. Plow operators should be trained to lower application rates to the recommended amount and, when possible, be provided with new equipment (e.g., infrared sensors that measure pavement temperature) that increases efficiency of application. Plow operators should also be monitored for the amount of material they are applying, to identify operators who tend to over-apply. Pre-wetting can also be used to increase effectiveness of materials and help increase adhesion to the pavement surface, resulting in lower application rate requirements. These techniques currently offer the most promising mitigation to reduce de-icing impacts. They are currently a major emphasis of Mn/DOT maintenance staff.

Additional strategies and de-icing chemicals will likely be developed in future years, as this is a dynamic and growing field of study. The state of the art in de-icing procedures will be discussed in the Tier II EIS.



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PROPOSED STORM TREATMENT PONDS

Figure 9-1

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The RCIC Report includes discussion of concerns with the impact of contamination from vehicles, hauled equipment, boats on the roadway, and roadway maintenance activities on the ecosystem. Further consideration of these issues and relevant mitigation will be addressed in the Tier II EIS.

9.2 SURFACE WATER QUANTITY

9.2.1 Impacts Associated with the Preferred Alternative

The DEIS identified a site at Athletic Park (Chaska Cubs Ball Field) as a potential treatment pond location (under the bridge) for DEIS Alternative C-2. With the realignment of the Preferred Alternative to avoid direct impacts to the Athletic Park (Chaska Cubs Ball Field), it is assumed that the pond would be located under the bridge in its modified alignment within the MVNWR. Actual pond location will be determined during the Tier II EIS process.

The Preferred Alternative would increase the amount of impervious area in the project corridor by 47.7 acres and decrease infiltration. Storm water ponds would be sized for the active storage volumes necessary to provide runoff rate control, in addition to the dead storage volume calculated for the storm water quality treatment requirements.

Where ponds are located with the floodplain of the Minnesota River, they are placed high enough to be protected to the 50-year flood event, but not the 100-year flood event. Therefore the effectiveness of treatment would be reduced during those 100-year flood events.

9.2.2 Preferred Alternative Mitigation Measures

The Preferred Alternative would increase the volume and rate of runoff compared to No-Build conditions. Mitigation for the Preferred Alternative would involve utilizing storm ponds to encourage infiltration and evapotranspiration by plants. Other BMPs would be incorporated as required to meet state and federal water quantity regulatory requirements. These may include wet detention basins, filter strips, and infiltration areas. These features would be designed to meet the regulatory requirements in effect at the time of final design.

To the extent practicable, storm water runoff would also be routed through a wet retention basin prior to discharging into the river. Design of the various conveyance systems to mitigate runoff increases will also need to consider potential impacts to groundwater.

9.3 FLOODPLAINS/WATER BODY MODIFICATION

9.3.1 Impacts Associated with the Preferred Alternative

In accordance with Executive Order 11988 and Minnesota Statute 103F.101 – 103F.155, an analysis of floodplain impacts that would result from the Preferred Alternative was completed. The floodplain assessment consists of an analysis of the flooding risks, excavation/fill impacts, and activities that would occur in the floodway and floodplain as a result of the Preferred Alternative. The floodplain will be affected in some way by the Preferred Alternative through the

possible introduction of project design elements such as bridge piers, retaining walls, and fill for the construction of berms around storm water treatment pond(s). As noted above, in the study area the floodplain and floodway are virtually identical. While the Preferred Alternatives is realigned compared to DEIS Alternative C-2, the area within the floodplain has not changed. The Preferred Alternative would result in an approximate 7,250-foot transverse encroachment of the 100-year floodplain.

- **No significant potential for interruption of a transportation facility which is needed for emergency vehicles or provides a community's only evacuation route will occur.**

  The Preferred Alternative would not affect roadways needed for evacuation during periods of high floodwaters. The Preferred Alternative bridge and connecting roadways would be constructed above the 100-year floodplain.

- **No significant impact on natural and beneficial floodplain values will occur.**

  Construction of the Preferred Alternative has the potential to impact natural and beneficial floodplain values of seasonally flooded and floodplain forest ecosystems, the extent to which is discussed below. As discussed in Section 7.1.2 of the DEIS, permanent impacts within the floodplain from the Preferred Alternative would be shading effects upon the vegetative communities below the bridge, trash and debris from the bridge structure, as well as the impacts from salt spray for winter de-icing. Impacts identified from other nearby river crossings (i.e., similar elevated bridges) indicate that the vegetative communities below may be impacted, because opportunistic, invasive species could begin to crowd out the less-adaptable native species. Shading impacts are minimized by bridges of high elevation, as well as those with a distance separating each direction of travel, that allow penetration of adequate light. In addition, elevated bridges crossing through floodplain forest help to minimize the creation of new edge effect by simulating the canopy created by the larger stature trees of the native forest. Impacts to wetlands in the floodplain that are discussed below are also covered in more detail in Section 9.5.3.2 of the DEIS.

  The discussion that follows is meant to address only the impacts to "natural and beneficial floodplain values." Impacts to floodplain forest include the loss of the canopy and shade from the trees as well as the surface roughness that increases the detention of high water flows, therefore reducing peak flows downstream.

  Not all floodplain forests are wetlands. Impacts to floodplain wetlands reported below, including those located within the floodplain forest, are based on the actual footprint of fill that would result in the loss of wetland acreage.

  In Scott County, the Preferred Alternative would minimize the impacts to natural resources in the area by closely paralleling the alignment of existing TH 41 from US 169 nearly to the existing crossing. On the west bank of the Minnesota River, in Carver County, the Preferred Alternative crosses a narrow band of old growth floodplain forest at the northernmost edge of the Chaska Unit of the Minnesota Valley National Wildlife Refuge (MVNWR). The DEIS

Alternative C-2 impacted 15.9 acres of floodplain forest; it is estimated that the Preferred Alternative increases this impact to 19.4 acres.

A total of 40 bridge piers, 20 in each direction of travel, are assumed within floodplain wetlands for the Preferred Alternative, resulting in 12.8 acres of floodplain wetland impact.

- **No significant increased risk of flooding will result.**

  Impacts on floodplain storage from potential storm water treatment pond berms in the floodplain and impacts on floodplain conveyance due to piers and storm water treatment ponds were analyzed for the Preferred Alternative; results are presented in Table 9-1.

TABLE 9-1
FLOODPLAIN IMPACTS TO MINNESOTA RIVER – PREFERRED ALTERNATIVES

Impact Volume[1] CY	Floodplain Volume[2] CY	Floodplain Storage Reduction %	Water-Surface Elevation (WSEL)[3] Impact (ft)
12,106	15,155,556	0.08%	+0.02

Notes:
(1) Impacts due to storm water treatment pond berms in floodplain.
(2) Volume in the 300-foot wide highway right of way below the 100-year flood elevation.
(3) Flood Insurance Rate Map (FIRM), Federal Emergency Management Agency (FEMA)

Hydraulically, the impact in the base flood (100-year) water surface elevation caused by the Preferred Alternative is an increase of 0.02 feet. Refinement of pier shape, pier alignment, and pier spacing may be able to minimize the 0.02 feet increase. The lack of impact is primarily due to the expansive floodplain width, the high flow capacity, and the extremely low flow velocities. Note that, while no increase to 100-year flood elevation is desirable, the maximum flood stage increase (i.e. within the floodway) allowed by state rules in 0.5 feet.

- **The project will not support and/or result in incompatible floodplain development.**

  No incompatible floodplain development will result from construction of the Preferred Alternative since the proposed project does not provide local access in the vicinity of floodplain areas. Also, county and city ordinances govern development within the floodplain.

Based upon the above assessment, no significant floodplain impacts are expected from the Preferred Alternative.

Regarding other water body modification, wetland impacts are presented in Section 9.5 of this FEIS.

9.3.2 Preferred Alternative Mitigation Measures

The Preferred Alternative has been designed to limit floodplain impacts wherever feasible. Impacts due directly to roadway construction are relatively small and have been minimized as much as possible. The preliminary designs for wet detention ponds included minimization of floodplain encroachment by locating the ponds above the 100-year floodplain where possible. In addition, waterway crossings (including the proposed bridge and any localized flood area crossings that may be identified during final design) would comply with state and federal regulations, and would minimize the headwater and tailwater impacts of structures.

The Preferred Alternative would not substantially increase flooding risks, impact floodplain's natural and beneficial values, or support incompatible floodplain development. The Preferred Alternative would eliminate any potential for disruption of a transportation facility and would include measures to minimize floodplain impacts and preserve the natural and beneficial floodplain values, including the use of a bridge of high elevation to allow the penetration of light below. Any adverse impacts can be successfully minimized through careful design and construction considerations. Temporary and permanent erosion control measures would be used where appropriate and would be designed to meet regulatory guidelines. Therefore, no substantial impacts on the floodplain would result from the Preferred Alternative.

It is not anticipated that the Preferred Alternative would directly impact the Chaska Flood Control project; however, the potential for impact will be evaluated during the Tier II EIS process and a mitigation plan for identified impacts will be devised in consultation with the U.S. Army Corps of Engineers (COE).

9.3.3 Only Practicable Alternative Finding

As the project involves crossing a floodplain, avoidance is nearly impossible. All six DEIS Build alternatives encroach on the Minnesota River floodplain. Encroachment among the six alternatives ranges from 5,716 feet to 7,920 feet; the Preferred Alternative[14] encroachment is 7,250 feet. All six DEIS Build alternatives increase flood elevation of the Minnesota River, three alternatives (including DEIS Alternative C-2) by 0.02 ft. and three alternatives by 0.01 ft.

The Preferred Alternative avoids encroachment on the Bluff Creek floodplain, which is affected by three of the six DEIS Build alternatives.

The rationale for selection of the Preferred Alternative is described in Chapter 3. Alternatives with less floodplain encroachment or flood elevation increases had greater impacts to the social or natural environment. The Preferred Alternative was selected because it offer the best potential to avoid or minimize impacts to the most state and federally protected resources, while minimizing social and natural impacts while meeting the transportation need.

[14] Floodplain encroachment is the same for DEIS Alternative C-2 and modified Alternative C-2 (Preferred Alternative).

9.4 GROUNDWATER/HYDROGEOLOGY

9.4.1 Impacts Associated with the Preferred Alternative

Any dewatering performed during construction of the Preferred Alternative is not predicted to cause measureable drawdown in the Seminary Fen area or measurable reduction in groundwater discharge to the fen. The Preferred Alternative will not generate excessive drawdown on local water resources if the depth of dewatering is limited to within five feet of ground surface.

Construction of additional impervious surfaces can impede recharge of groundwater. However, construction of the Preferred Alternative would not likely have any regional effect on groundwater recharge because road runoff collected into storm water ponds would infiltrate into the permeable soils.

Grading for project construction may be expected to intersect the water table, especially where the bridge structures make landfall along the bluffs on both sides of the river valley. Potential project related sources of ground and surface water contaminants include spills during construction and traffic related spills and runoff after the project is built. During construction, spills could occur from on-site transport, storage, and transfer of fuels for construction equipment. After construction, spills of fuel and various hazardous materials can occur along roads primarily as a result of vehicle crashes.

Runoff from road surfaces can contain various organic and mineral pollutants. Road runoff is considered a non-point source of pollution with relatively low concentrations of pollutants, generally measured in parts per million. These pollutants generally include heavy metals, hydrocarbons, sediment, de-icing chemicals, and debris that can threaten the quality of surface waters if not properly controlled. Road runoff is not considered a major source of groundwater contamination due to the relatively low concentrations of pollutants in road runoff and the ability of soil to filter these pollutants as water infiltrates through soil.

Under the Preferred Alternative, the New TH 41/US 212 interchange would lay close to the wellhead protection areas as shown in Figure 9-2. Design of the various conveyance systems for mitigation of water quality impacts will also need to consider potential impacts to groundwater.

9.4.2 Preferred Alternative Mitigation Measures

Measures such as vegetated filter strips along road embankments, grassed swales/ditches, and detention basins can be implemented to promote infiltration/groundwater recharge of highway runoff. BMPs will be implemented as part of the proposed project to treat road runoff and to minimize water quality and drainage impacts.

If necessary, roads that encroach on wellhead protection areas can be constructed with additional containment features such as clay-lined ditches that would contain spills and prevent contamination to water supply aquifers. Special design issues related to wellhead protection will be addressed in the Tier II EIS.

WELLHEAD PROTECTION AREAS

Figure 9-2

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING

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9.5 WETLANDS

9.5.1 Impacts Associated with the Preferred Alternative

Permanent impacts from bridge piers is based on the footprint per pier and also accounts for impacts from construction access, including temporary roads and swamp mats that may result in compaction of the soil surrounding the permanent pier footprint. Temporary impacts for construction access will be removed and restored upon completion. Outside of the impacts to wetlands from bridge pier construction, no direct fill impacts are expected with the Preferred Alternative.

The realignment of DEIS Alternative C-2 resulted in the need for additional bridge piers (estimated at 40 compared to 36) within wetlands in the river valley, increasing impacts from 10.5 acres to approximately 12.8 acres of direct impact to wetlands in the river valley. In Carver County, a total of 0.4 acres of wetlands W-D (0.3) and W-E (0.1) would be impacted for the interchange with US 212 (this is unchanged from the DEIS. Total wetland impacts for the Preferred Alternative are 13.2 acres. See Figure 9-3.

9.5.2 Preferred Alternative Mitigation Measures

Evaluation for this Tier I FEIS was completed with the understanding of wetland regulations in place at the time of publication. Closer to the time of construction, the Tier II EIS process will review the status of federal and state regulations.

Federal and state wetland regulations require the use of a sequenced approach when projects have the potential to impact wetlands. Sequencing requires first avoiding wetland impacts if possible, and, if impacts are not avoidable, they must be minimized to the greatest extent practicable. Sequencing also includes repair of temporary impacts and reduction or elimination of impacts over time. After all options for avoidance, minimization, rectification, and long-term reduction of impacts have been considered and implemented, compensation that will replace lost wetland functions is required for those impacts that are not avoidable.

Complete avoidance of wetland impacts was not deemed prudent and feasible due to the need to balance impacts to other natural communities and the social environment. None of the DEIS Build alternatives avoided wetlands as the project crosses a wide river valley.

Two other DEIS Build alternatives had lesser impacts to wetlands but greater environmental impacts to other resources, i.e., to the MVNWR (W-2) or to a low income/minority community (E-1). Early in the DEIS process, the original alignment of DEIS Alternative C-2 was realigned to reduce the natural resource impacts posed by its initial alignment. The alignment of DEIS Alternative C-2 had lesser wetland impacts but a direct impact to Athletic Park (Chaska Cubs Ball Field), a Section 4(f) resource/site eligible for the National Register of Historic Places (NRHP).

Further minimization, rectification, long-term reduction, and compensation of wetland impacts will be addressed in detail during the Tier II EIS. Additional design modifications will also be considered during the design of the final project to further minimize wetland impacts. Temporary construction access within the river valley that impacts wetlands will be restored upon completion. In addition, these temporary impacts may be further minimized through timing of construction during winter months when soils are frozen.

Long-term reduction of impacts could be accomplished by maintaining the existing hydrologic characteristics of basins experiencing partial impacts as a result of the project. Specifically, this would be accomplished through measures that ensure that drainage patterns between and through wetlands are maintained and prevent wide fluctuations from existing water levels.

A wetland compensation plan for replacement of the affected wetland areas within the Preferred Alternative corridor will be developed during the Tier II EIS. The plan would reassess the areas of wetland impacts (and mitigation needed) based on refined design plans, formal wetland delineations, and the current and applicable wetland mitigation guidelines and regulations in effect at that time. Current wetland mitigation practices focus on replacing lost wetland functions in the project area, where possible, by creating new wetlands or restoring degraded wetlands. Where suitable on-site locations are not available for some impacts, off-site wetland mitigation, preferably within the same watershed, may be considered to accomplish some of the required mitigation. The mitigation strategies and implementation will be developed, permitted, and carried out in coordination with the appropriate state and federal wetland regulatory agencies.

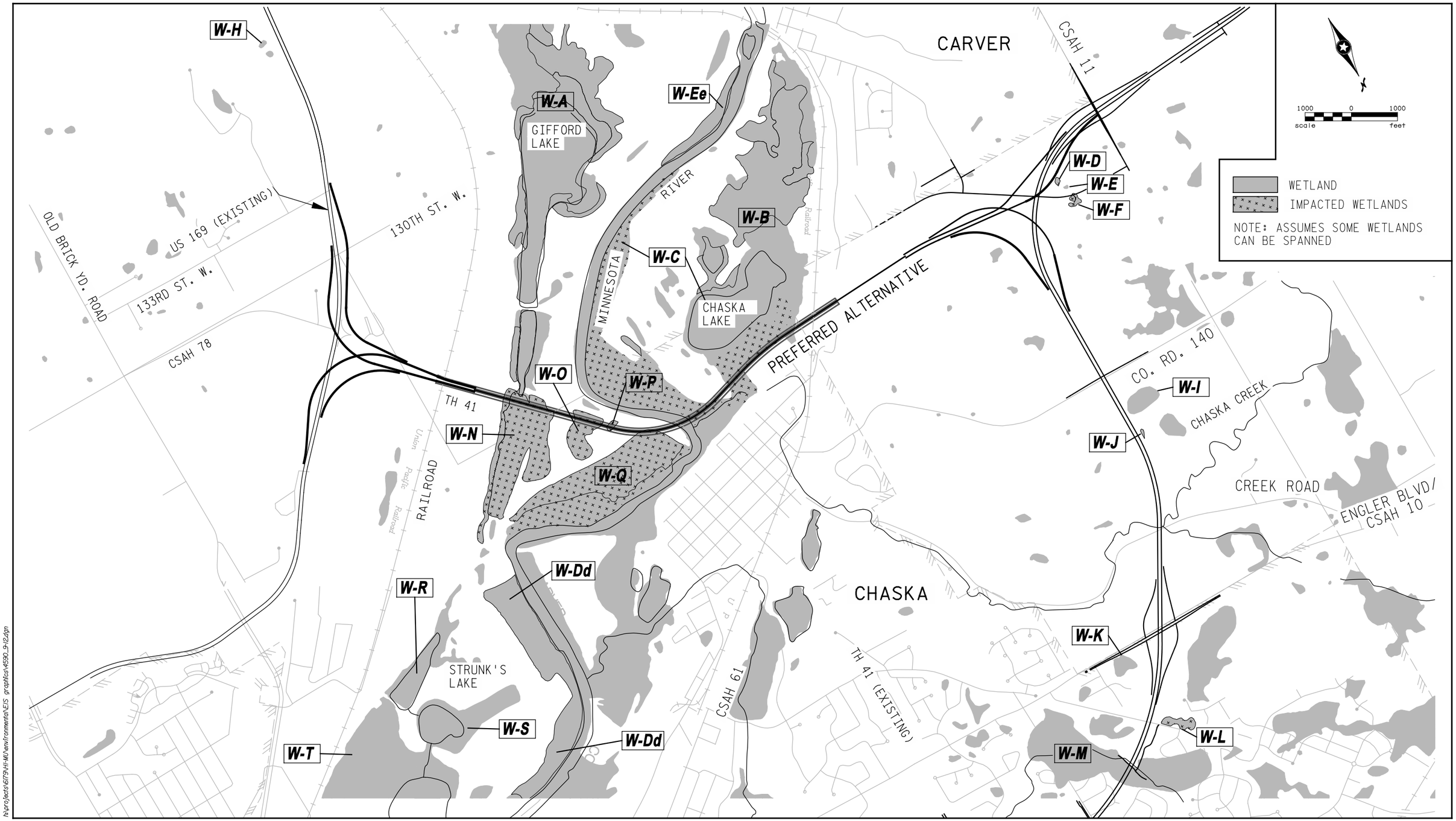
9.5.3 Only Practicable Alternative Finding

The abundance of wetlands in the Minnesota River Valley makes avoidance nearly impossible. All six DEIS Build alternatives have wetland impacts. Impacts range from 9.0 acres to 16.1 acres; DEIS Alternative C-2 impacts are 10.9 acres; this has increased to 13.2 acres with the refinements to avoid direct impacts to Athletic Park (Chaska Cubs Ball Field) that resulted in modified Alternative C-2 (Preferred Alternative). The Preferred Alternative avoids impacts to Seminary Fen, which is directly affected by two of the six DEIS Build alternatives.

The rationale for selection of the Preferred Alternative is described in Chapter 3. Alternatives with fewer wetland impacts had greater impacts to the social or natural environment. The Preferred Alternative was selected because it offer the best potential to avoid or minimize impacts to the most state and federally protected resources, while minimizing social and natural impacts while meeting the transportation need.

Coordination with wetland regulatory staff from local, state, and federal resource agencies has occurred and will continue to occur for this project. These efforts will continue throughout the Tier II EIS, the final design and permitting process.

The COE, EPA, MnDNR, and Lower Minnesota River Watershed District (LMRWD) have been members of the project Study Advisory Committee since project inception.



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POTENTIALLY IMPACTED WETLANDS

Figure 9-3

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In accordance with Section 404 of the Clean Water Act, the COE issued a Special Public Notice (July 13, 2007) to invite public comment on the Tier I DEIS (see Appendix B-1); this comment period ran generally concurrent with the DEIS comment period. No comments were received. The COE is also issuing a Special Public Notice to invite public comment with the publication of the Tier I FEIS.

Additionally, since the DEIS was published, FHWA, COE, USFWS, EPA, and Mn/DOT have engaged in a Section 404/NEPA concurrence process The process included three interagency meetings and resulted in the COE finding that as modified, Alternative C-2 represents the Least Environmentally Damaging Practicable Alternative (LEDPA) under Section 404. Correspondence related to Concurrence Point 1 (Purpose and Need), Concurrence Point 2 (Alternatives to Be Carried Forward for Further Study), and Concurrence Point 3 (Preferred Alternative), as well as relevant special public notices and meeting minutes, are found in Appendix B-1. Concurrence was reached among the agencies for each of the three points.

The COE correspondence for Concurrence Point 3 (Preferred Alternative) notes that their preliminary LEDPA is based on the corridor-scale analysis. It is anticipated that a similar NEPA/Section 404 concurrence process will be conducted during the Tier II EIS process. As noted previously, at the time of the Tier II process, changes in setting, regulations, and other relevant information would be considered to re-evaluated/reaffirm the corridor and identify if any changed conditions would influence the preferred corridor. These findings will be considered in the future NEPA/Section 404 concurrence process.

The wetland analysis and documentation has been prepared (following the FHWA Technical Advisory TR6640.8A [October1987] and in compliance with Executive Order 11990). A full range of alternatives has been considered, and the least environmentally damaging alternative that meets the project purpose and need objectives has been selected. Based upon the above considerations, it is determined there is no practicable alternative to the proposed construction in wetlands, and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

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10.0 HISTORIC AND ARCHAEOLOGICAL RESOURCES

The *2007 Tier I Draft Environmental Impact Statement* (DEIS) is incorporated by reference and is considered to be a part of this *Tier I Final Environmental Impact Statement* (FEIS). See Appendix A. The TH 41 Minnesota River Crossing project covered by this Section 106 review is described in Chapter 3 of this FEIS.

Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended) requires federal agencies, in consultation with others, to assess the effects of their actions by identifying properties listed in, or eligible for the National Register of Historic Places (NRHP); determining effects of the project on those properties; and consulting with interested parties to determine ways to avoid, minimize, or mitigate adverse effects caused by an undertaking.

FHWA is the lead federal agency for addressing Section 106 requirements and has conducted consultation on archaeological and historic resources within the study area. FHWA has ensured that public meetings have included information regarding historic and archaeological resources and considered any comments received.

Chapter 10 of the DEIS describes historic resources found in the TH 41 Minnesota River Crossing area of potential effect (APE). The cultural resource environment is essentially unchanged since the DEIS was published.

10.1 DETERMINATION OF EFFECT

During the DEIS process, Mn/DOT Cultural Resources Unit (CRU), acting under its FHWA-delegated responsibility for Section 106, made a determination of effect for each of the DEIS alternatives; the determinations are presented in Chapter 10 of the DEIS. Among the DEIS findings is Mn/DOT CRU's determination that DEIS Alternative C-2 would have no adverse effects on the Walnut Street Historic District in Chaska, an adverse effect on the Chaska Cubs Ball Field (Athletic Park), and an unknown effect on a number of other historic properties in Chaska.

As described in Chapter 3 of this FEIS, there was extensive effort expended since the publication of the DEIS to modify DEIS Alternative C-2 to reduce impacts to historic properties. The horizontal realignment of DEIS Alternative C-2 to that of the modified Alternative C-2 (Preferred Alternative) has resulted in the avoidance of direct impacts to the Chaska Cubs Ball Field (Athletic Park) and the further minimization of the potential for indirect impacts (noise and visual) to other historic properties in Chaska.

The Tier I process is focused on a 300-ft. corridor which will be further refined to a specific alignment with construction limits, and updated analysis of noise, visual and other impacts in the Tier II process, at which time a determination of effect under Section 106 will be made, and relevant mitigation determined under the regulations in place at the time.

Mn/DOT CRU and the Minnesota State Historic Preservation Office (SHPO) have concluded that it is not timely to prepare a project-specific Section 106 Programmatic Agreement during the

Tier I process. Mn/DOT CRU has submitted correspondence to SHPO that documents the completed Tier I work and describing future Tier II work and SHPO has responded with a concurrence letter. Correspondence between Mn/DOT CRU and SHPO is provided in Appendix B.

10.2 PREFERRED ALTERNATIVE MITIGATION MEASURES

If the project begins again and a Tier II EIS is started, Mn/DOT CRU, on behalf of FHWA, will reinitiate the Section 106 review, which will follow all applicable requirements under 36 CFR 800 or any Section 106 Programmatic Agreement in effect between Mn/DOT CRU and FHWA offices at that time. This work will include, but not necessarily be limited to, reassessing and potentially adjusting the area of potential effect (APE), conducting additional survey work to identify any additional historic properties (archaeological and standing structures) or to update the status of the previously identified properties (e.g., to assess if they still retain sufficient integrity), consulting with the public and other interested parties, and findings of effects.

In addition, the RCIC Report identifies impacts to historic properties, including noise and visual impacts, as a critical issue and includes mitigation discussion and guidance for consideration in the Tier II EIS process for these topics.

11.0 CONSTRUCTION IMPACTS

The *2007 Tier I Draft Environmental Impact Statement* (DEIS) is incorporated by reference and is considered to be a part of this *Tier I Final Environmental Impact Statement* (FEIS). See Appendix A.

Chapter 11 of the DEIS describes potential construction-related impacts that could result from implementation of the DEIS Build alternatives. The changes since the DEIS are discussed in previous chapters. No changes since the DEIS result in substantial changes in the potential for construction impacts, which are discussed below for the Preferred Alternative.

11.1 IMPACTS ASSOCIATED WITH THE PREFERRED ALTERNATIVE

11.1.1 Traffic Congestion, Detour, and Neighborhood and Business Access Issues

Construction of the Preferred Alternative is expected to take approximately four years to complete. Construction is likely to cause temporary traffic delays making it more difficult to access adjacent development during construction. Assuming that development planning for currently undeveloped land provides for corridor right of way, traffic disruption should be minimized in developing areas. Anticipated impacts to traffic resulting in congestion would continue until construction is complete. A construction staging plan would be developed during final design. The staging plan would further assess potential construction-related traffic congestion problems, property access needs, and total length of construction time. Traffic control measures would be in accordance with the Minnesota Manual on Uniform Traffic Control Devices (MMUTCD). During the construction phase, detours may be needed, but will be minimized to the greatest extent possible. Specific detour routes will be determined in consultation with affected communities prior to construction.

Existing businesses within the study area would experience access impacts during construction and access for businesses in the vicinity of the each proposed interchange would be impacted. The construction staging plan would include efforts to ensure that traffic movements and access to businesses would be maintained. Access and congestion problems may occur at the intersection of US 169 and existing TH 41 in Scott County. Temporary traffic congestion may also occur at CSAH 61 and US 212.

11.1.2 Noise

Noise would be generated by construction equipment (including pile driving) used in the construction of highway improvements. Noise levels due to construction activities in the project area would vary depending on the types of equipment used, the location of the equipment, and the operating mode. During a typical work cycle, construction equipment may be idling, preparing to perform tasks, or operating under a full load. Equipment may be congregated in a specific location or spread out over a larger area. Adverse impacts resulting from construction noise are expected to be temporary and limited to properties adjacent to the project corridor. Project construction would be expected to take approximately four years. Noise impacts during

construction would not be continuous along the entire corridor. Construction would take place in phases (e.g., south of the river, the bridge, and north of the river). The construction noise impacts would be localized near the area where construction was taking place.

Section 6.2 of the DEIS identifies the potential traffic noise impacts for the Preferred Alternative. Noise impacts from construction equipment and related activities may be experienced at the identified receptors. Among receptors that may be particularly sensitive to daytime construction noise are the Minnesota Valley National Wildlife Refuge (MVNWR) and the Minnesota Valley State Recreation Area (MVSRA).

The construction activities associated with implementation of the proposed project may result in increased noise levels relative to existing conditions. These impacts will primarily be associated with construction equipment.

Table 11-1 shows peak noise levels monitored at 50 feet from various types of construction equipment. This equipment is primarily associated with site grading/site preparation, generally the roadway construction phase associated with the greatest noise levels.

TABLE 11-1
TYPICAL CONSTRUCTION EQUIPMENT NOISE LEVELS AT 50 FEET

Equipment Type	Manufacturers Sampled	Total Number of Models in Sample	Peak Noise Level (dBA)	
			Range	Average
Backhoes	5	6	74-92	83
Front Loaders	5	30	75-96	85
Dozers	8	41	65-95	85
Graders	3	15	72-92	84
Scrapers	2	27	76-98	87
Pile Drivers	N/A	N/A	95-105	101

Source: United States Environmental Protection Agency and Federal Highway Administration

Noise Impacts/Mitigation to the Local Communities During Construction

Elevated noise levels are, to a degree, unavoidable for this type of project. Mn/DOT will require that construction equipment be properly muffled and in proper working order. While Mn/DOT and its contractor(s) are exempt from local noise ordinances, it is the practice to require that the contractor(s) comply with applicable local noise restrictions and ordinances to the extent that it is reasonable. Advance notice will be provided to affected neighborhoods for any abnormally loud construction activities, such as pile driving, pavement sawing, or jack hammering, or operations of heavy construction vehicles. Notice should be provided at least seven days before the commencement of noisy construction operations. It is anticipated that nighttime[15] construction may sometimes be required to minimize traffic impacts and improve safety. However, construction will be limited to daytime hours as much as possible. The project is anticipated to

[15] The Minnesota Pollution Control Agency (MPCA) defines daytime hours as from 7:00 a.m. to 10:00 p.m. and nighttime hours as from 10:00 p.m. to 7:00 a.m. (Minnesota Rules 7030.0020 Subp. 10).

be under construction for four construction seasons. The staging of construction activities will be determined during final design and communicated to the public in a timely fashion. Proposed noise barriers would be constructed as early as construction staging allows.

Any associated high-impact equipment noise such as pavement sawing or jack hammering will be unavoidable with construction of the proposed project. It is anticipated that the proposed project will require pile driving. Pile driving noise is associated with bridge construction and sheet piling necessary for retaining wall construction. While pile driving equipment results in the highest peak noise level as shown in Table 11-1, it is limited in duration to those activities (e.g., bridge construction and retaining wall construction) noted above. The need for the use of pile drivers with bridge construction will be determined during final design activities. The use of pavement saws and jack-hammers, and if necessary, pile drivers, will be prohibited during nighttime hours.

11.1.3 Air Quality

Air quality impacts from construction include increased dust and airborne particulates caused by grading, filling, removals, and other construction activities. Dust impacts would be minimized through standard dust control measures such as watering. After construction is complete, dust levels are expected to return to near existing conditions. Air quality impacts may also result from emissions from construction equipment and possibly from traffic stopped at intersecting roadways or on potential detour routes. These impacts are expected to be minimal and of short duration.

11.1.4 Visual

Visual impacts would occur with the Preferred Alternative. Temporary visual impacts include the presence of construction equipment and workers, temporary changes in the views experienced by travelers when re-routing is necessary, a decrease in vegetation in some areas and the addition of increased time in which traffic remains in a certain area due to the increased congestion associated with construction.

11.1.5 Water Quality and Soil Erosion

The potential for soil erosion and impacts on water quality are greatest during construction when removal of vegetation for initial clearing, grubbing, and grading activities exposes soil and makes it more susceptible to erosion. Areas adjacent to the Minnesota River, lakes, streams, and wetlands have the highest potential for adverse impacts. A National Pollutant Discharge Elimination System (NPDES) permit would be required for this project. Erosion prevention and sediment control requirements would be followed in accordance with the NPDES permit, which includes an erosion control plan, as well as best management practices (BMPs) contained in Mn/DOT's standard specifications, details, and special provisions. These BMPs may include, but are not limited to, the following: minimizing vegetation clearing, construction of sedimentation basins, silt control devices (silt fences, hay bales), slope drains, and prompt revegetation of exposed construction areas. An erosion control plan would be developed as part of the design for the Preferred Alternative.

Also, construction in or near waterways and wetlands would be undertaken in accordance with Mn/DOT's Standard Specifications for Road and Bridge Construction or special provisions to minimize erosion and sedimentation. Temporary and permanent erosion control methods may include silt fences, flotation silt curtains, retention basins, detention ponds, interceptor ditches, seeding and sodding, riprap of exposed embankments, erosion mats, and mulching. Drainage systems, including ditches on private lands, would be maintained, restored, or re-established in a manner that would not impound water. Where appropriate, permanent storm water detention facilities would be located in areas adjacent to the river, streams and wetlands such that roadway runoff would be intercepted before entering the waterway.

11.1.6 River Substrate/Habitat Impacts

Construction of the bridge piers would result in some disturbance of the river substrate and therefore may impact aquatic species habitat (including potential mussel habitat). Direct impacts to river substrate/habitat would be minimized by planning construction activities to minimize disturbance of the river bottom.

11.1.7 Canoe/Boat Use

The Preferred Alternative includes the construction of bridge piers in the river. The Preferred Alternative would result in temporary impacts to river users near work areas resulting from construction activities that may include launching materials via barges and setting bridge pier and support materials in place with cranes. Barge and crane operations would cause temporary channel obstructions that could affect river use for recreational boaters and canoeists. The segment of the Minnesota River in the study area is designated by the Minnesota Department of Natural Resources (MnDNR) as a "Canoe and Boating Route."

Temporary impacts include the City of Chaska's boat launch in Winkel Park. These temporary impacts could cause closure for several months while the adjacent span is being constructed.

MnDNR staff would review construction plans to ensure that there is an adequate channel for boat passage during construction. If such a passage cannot be preserved, provisions for a portage would likely be created.

11.1.8 Potential Contaminated Substance Spills/Leaks

The Preferred Alternative has potential for spills or leaks of hazardous or toxic substances. If such an incident should occur during construction of the proposed project, it would be responded to according to Minnesota Pollution Control Agency (MPCA) containment and remedial action procedures. Of specific concern would be the release of hazardous or toxic substance (e.g., during refueling) into the river – a source water protection area. A spill containment plan would be required to be in place prior to construction to minimize these potential impacts.

11.1.9 Borrow or Excess Material

Preliminary estimates indicate that up to 3.3 million cubic yards of borrow may be required for this project. This figure is an estimate based on Tier I level design.

Selection of borrow material that may be required for the construction of the proposed improvements would be the responsibility of the construction contractor. Any new borrow sites would be subject to environmental reviews under Minnesota Rule Chapter 4410.4300, Subp. 12 and may require an archaeological survey of the site. Archaeological reviews of these areas are conducted by the Mn/DOT Cultural Resources Unit. It is not possible to identify potential areas from which borrow might be obtained, and therefore what specific environmental impacts might potentially occur, as the project is many years in the future.

The disposal of excess material would be conducted in accordance with Mn/DOT specifications and according to a project disposal plan that would conform to state regulatory requirements. There would be no disposal of excess materials into wetlands, floodplains or other sensitive areas.

11.1.10 Utility Disruption

Throughout the Preferred Alternative corridor both above- and underground utilities, such as electric, telephone, cable, public water supply, and sanitary sewer, are distributed to users within and near the study area. The sanitary sewer system that exists in the study area was recently expanded with a sanitary sewer line connecting the cities of Carver and Chaska. Known utilities in the study area include power transmission lines, gas lines, and an electric substation. Additionally, the Metropolitan Council Environmental Services (MCES) Chaska Sanitary Forcemain crosses under the Minnesota River northeast of the existing TH 41 river crossing. Identification of other above- and underground utilities and exact locations would be defined during the Tier II EIS process. Impacts to utilities are anticipated during construction of the Preferred Alternative. Impacts could include utility relocation and/or temporary interruptions in service. A design plan would be developed to minimize potential impacts to utilities, including coordination with utility providers.

11.1.11 Earthborn Vibrations

This project is not anticipated to require blasting; however, it could involve pile driving, compacting and/or pavement breaking or the operation of other construction equipment that may result in temporary earthborn vibrations that have the potential to affect homes. The location and magnitude of construction vibrations cannot be assessed until the final design phase of the project. However, the typical practice is to use vibration monitoring, and if the vibrations reach a certain level, require that the contractor shut down and revise operations to reduce earthborn vibrations.

11.2 PREFERRED ALTERNATIVE CONSTRUCTION RELATED MITIGATION

The discussions in Section 11.2 of the DEIS included identification of mitigation measures that could be used to avoid/minimize construction impacts. As part of the Tier II EIS process, details of the construction activities including mitigation measures such as a detailed erosion control plan, a plan for management and disposal of any excess material, a construction staging plan, special construction techniques for river bridge construction, traffic flow management techniques, and access maintenance and/or detour plan would be developed. In addition, safety measures would be used (fencing, signage) that would prevent the public from entering areas of construction or from passing beneath bridge construction (when overhead activities are a concern).

12.0 POTENTIAL INDIRECT EFFECTS ANALYSIS

The *2007 Tier I Draft Environmental Impact Statement* (DEIS) is incorporated by reference and is considered to be a part of this *Tier I Final Environmental Impact Statement* (FEIS). See Appendix A.

Chapter 12 of the DEIS summarizes the anticipated potential indirect effects (also referred to as "secondary" effects) of induced land development and subsequent effects resulting from the DEIS Build alternatives. The Council on Environmental Quality (CEQ) has defined direct and indirect effects as follows (40 CFR 1508.7):

"**Direct effects** are caused by the action and occur at the same time and place."

"**Indirect effects** are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population, density or growth rate, and related effects on air and water and other natural systems, including ecosystems."

Chapter 12 of the DEIS discusses the potential indirect effects of the TH 41 Minnesota River Crossing project with regard to land use patterns, related transportation improvements, area economic conditions (including business area traffic, affordable housing and impacts on neighborhoods), and ecological relationships.

Since the DEIS was published, the following changes have occurred that relate to the potential for indirect impacts for this project:

- Land use planning has continued in the affected area.
- The state and local agencies have continued to plan for and implement transportation improvements in the area
- Housing market and other economic conditions have changed per national trends
- DEIS Alternative C-2 has been realigned to avoid direct impacts to Jackson Heights.

This information is reflected in the description of the Preferred Alternative impacts below. The Tier II EIS process will evaluate the potential for indirect impacts based on the specifics of the Preferred Alternative and the setting at the time.

12.1 IMPACTS ASSOCIATED WITH THE PREFERRED ALTERNATIVE

12.1.1 Land Use Patterns

The construction of the Preferred Alternative could result in the planned growth that is already identified by the communities, to occur in a somewhat different configuration than currently planned. It has been suggested that commercial development could occur the vicinity of the

combined regional/local interchange at US 212/New TH 41 rather than at some other location in the surrounding communities. The expected increase in visibility and accessibility from development areas near the proposed project may result in more intense development than otherwise would occur. The more intensive use of land could pose localized traffic congestion, greater impacts to vegetation, more impervious surface/storm water runoff, and more dramatic visual change. Because of the time frame for the proposed project, it is likely that many of the developable sites in the study area will be developed before the project is constructed.

The type and intensity of development that occurs will be in anticipation of the project, rather than in reaction to it, and will be subject to local land use controls. The purpose of planning for the proposed project in a tiered process is not only to preserve the corridor well in advance of design and construction, but also to ensure that cities and counties can properly plan and regulate for development in the area adjacent to the river crossing corridor and throughout the community. While there is a potential for environmental consequences from any potential change in planned land use, local land use controls are adequate to manage any potential development in the areas of Scott and Carver counties within the study area. The counties have fairly stringent controls for infiltration, water quality treatment, volume, and rate control and it is expected that permitting requirements will continue to be strengthened in response to TMDL requirements.

The improved accessibility between the two sides of the river may provide additional impetus for development beyond the study area. In particular, residential development of land in western Carver County may be encouraged by the combination of relatively affordable land values and the improved ease of access to the commercial/industrial development planned along US 169. Development in rural areas beyond the project study area will be subject to local land use controls and implementation capability, orderly annexation agreements, and sewer capacity.

As the question of induced growth and accompanying environmental impacts is considered for any transportation project, it is important to consider that transportation improvements only affect the *location* of households and jobs within the region, not the *total number* of households and jobs within the region, which is a function of overall economic conditions. If there is faster development in one part of the region due to improvement in accessibility, there will be slower development elsewhere in the region. It is not possible to predict accurately where development elsewhere in the region would occur under No-Build conditions or what the resulting impacts would be to sensitive resources.

12.1.2 Related Transportation Improvements

The Preferred Alternative assumes a folded diamond design of the planned US 169/existing TH 41/CSAH 78 interchange (which would be combined with the system interchange when it is built) in order to maintain adequate spacing from the planned US 169/CSAH 69 interchange to the east. It also assumes location of the interchange west of existing TH 41 in order to accommodate the New TH 41/US 169 system interchange. For each, this design and location would increase impacts to the area west of existing TH 41 (including three single family homes) and decrease impacts at and east of existing TH 41. Compared to a standard diamond design, the total area of impact due to ramps would be slightly greater, but other than the homes, there

appear to be no other sensitive resources in the area that would be additionally impacted. The Preferred Alternative also assumes realignment of existing TH 41/CSAH 78 as part of the planned US 169/existing TH 41 interchange design. This realigned roadway would be approximately 3,000 feet longer than the existing alignment, resulting in additional cost and right of way impacts compared to maintaining existing TH 41/CSAH 78 in place.

The Preferred Alternative will result in increased volumes on US 212 at the western end of the project area. Mn/DOT has assessed the environmental impacts associated with future planned improvements to US 212 west of CSAH 11, which assumes preservation of sufficient right of way for future expansion to accommodate traffic volume growth beyond the 2030 design year.

12.1.3 Area Economic Conditions

Business Area Traffic

The Preferred Alternative does not reduce traffic level on CSAH 69 and therefore does not pose an indirect effect to the viability of the Shakopee business community. Projected reduction in traffic on existing TH 41 will benefit businesses in downtown Chaska. The shift from regional trips to local trips on existing TH 41 may have an indirect impact on Chaska hospitality businesses that have a regional market; however any such impact should be minimized by the ease of access between US 169 and downtown Chaska that will be provided by the planned US 169/existing TH 41 interchange.

Impacts on Neighborhoods

There is little potential that the direct impacts of the Preferred Alternative on neighborhoods addressed in Chapters 5 and 6 (social, noise and visual) will result in indirect impacts on neighborhood quality to the degree that there would be large-scale disinvestment in property. Well-established, economically stable neighborhoods, as well as new residential developments exist near freeway-type facilities throughout the metropolitan area, the closest examples being along US 169 in Shakopee, Eden Prairie, and Bloomington. Direct impacts will be mitigated as appropriate (e.g., noise walls, landscaping) to minimize the potential for adverse indirect effects on overall neighborhood stability. Increased regional accessibility and alleviation of local traffic congestion also provide positive offsets to the negative impacts of roadway projects on neighborhoods.

This Tier I FEIS assumes a broad corridor for impact analysis purposes. The actual right of way requirements for the proposed project will not be determined until detailed design is completed during the Tier II EIS process, likely several years in the future. As noted above, Mn/DOT cannot acquire land for right of way through eminent domain until conclusion of the Tier II EIS process. In the meantime, the uncertainty about the details and timing of right of way acquisition has the potential to indirectly affect investment in properties that are located within the Build alternative corridor that is identified during the Tier I process. Communication between Mn/DOT and affected property owners about timing and the right of way acquisition process will be important to alleviating uncertainty and minimizing the potential for such indirect effect.

12.1.4 Ecological Relationships

It is beyond the scope of this FEIS to quantify any specific indirect effect occurring farther in distance or later in time due to direct impacts of the project on any natural area. Because ecological relationships are by their nature complex and would extend beyond the study area, the indirect impacts that would result from the removal of habitat by the Preferred Alternative are discussed here only in general terms. Each of the affected resources represents an ecosystem involving a web of physical and biological links among air, water, soil, plants, and animals. Therefore the project will indirectly impact these resources as well.

The potential for indirect impacts due to ecosystem effects also extends to humans because they view and/or recreate in natural areas, encounter wildlife, experience microclimate effects, breathe air, use surface and groundwater, and enjoy other connections, many intangible, with the natural environment.

Impacts of the project on natural areas can result in impacts on biodiversity, the value of which is well documented and encompasses global life support (energy transfer, storage and release of carbon, nutrient, oxygen, and water cycling); economic benefit; aesthetics and stewardship value.

While broader ecosystem changes may be legitimately considered as secondary effects of the proposed project, they occur within a much more involved and far-reaching context.

12.2 PREFERRED ALTERNATIVE CONSTRUCTION RELATED MITIGATION

12.2.1 Land Use Patterns

Local governments have the authority to avoid, minimize, and mitigate indirect impacts to land through their local land use plans and land use controls. With these means, local governments can guide where development will be allowed and where land should be preserved. Local governments retain control over the intensity and type of development through their zoning ordinance and subdivision regulatory authority. Additionally, local governments have the authority and responsibility for making land use decisions in and beyond the study area and have several tools in place that if implemented would minimize indirect impacts to land use. Planning tools may need to be strengthened in communities beyond the study area that may experience accelerated growth pressures as a result of improved river crossing accessibility.

Numerous regulatory, permitting and approval processes are required for the approval and construction of a project of this scale and magnitude. These are in place to ensure additional agency review and to minimize development impacts. These include:

- Minnesota Environmental Quality Board regulations, which require environmental analysis and documentation for larger projects (e.g., residential and commercial developments)
- State and federal wetland permits and approvals, including:
    - Minnesota DNR Public Waters Permit

- MPCA NPDES Construction Permit
- MPCA Clean Water Act 401 Certification
- U.S. Army Corps of Engineers Section 404 Permits
- Wetlands Conservation Act (WCA) Permits

12.2.2 Related Transportation Improvements

Because of the time frame involved (i.e., the proposed project is not scheduled to be implemented for several years), the potential indirect impacts of the proposed project that are related to other transportation projects (planned US 169 corridor improvements; future US 212 improvements) can be managed through coordination with those projects as they proceed. Each of the potentially-affected transportation projects would be subject to its own environmental review and resulting mitigation plans and commitments. Mn/DOT will be the planning and implementing agency for future US 169 and US 212 improvements, and therefore will be responsible for mitigation of any impacts of these projects, whether or not they are considered secondary impacts of the proposed river crossing project.

12.2.3 Area Economic Conditions

Because of the timeframe for actual construction of the proposed project, the potential for indirect impacts on area economic conditions can only be speculative at this time. However, an advantage of identifying a corridor to be preserved well in advance of project implementation is that it allows each community to not only plan for its future land use and transportation system to fit physically with the project, but also to plan for potential indirect effects of the project. Businesses will have time to plan for expected change in market accessibility, and potentially-affected property owners will have time to plan for eventual acquisition.

The Tier II EIS will evaluate the potential for more specific indirect effects of the project on area economic conditions and develop mitigation strategies as appropriate.

12.2.4 Ecological Relationships

Provisions to restore or preserve habitat elsewhere are among the potential mitigation measures for the direct impacts of the proposed project on natural areas. Wetland mitigation is required by law. Impacts on natural areas in public recreation lands (i.e., MVNWR and MVSRA) would be subject to Section 4(f) and Section 6(f) mitigation requirements. Restoration or protection of habitat that would be done to mitigate direct impacts would have a corresponding beneficial indirect impact on the broader ecosystem. The RCIC Report addresses the issue of project impacts to the ecosystem and includes mitigation recommendations and guidance for consideration in the Tier II process.

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13.0 CUMULATIVE IMPACTS

The *2007 Tier I Draft Environmental Impact Statement* (DEIS) is incorporated by reference and is considered to be a part of this *Tier I Final Environmental Impact Statement* (FEIS). See Appendix A.

Cumulative impacts analysis takes into account an array of potential actions and their impacts that are unrelated to the proposed action (Build alternatives), except to the extent that their impacts may, in combination with the impacts from the proposed action, result in adverse impacts. Cumulative impacts are defined, as follows, in the Council on Environmental Quality's (CEQ) regulations (40 CFR 1500-1508) when implementing the procedural provisions of the National Environmental Policy Act (NEPA) of 1969, as amended:

> The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. (40 CFR 1508.7)

Direct and indirect impacts of the Build alternatives have been discussed in the previous chapters of this FEIS. Cumulative impacts are not causally linked to the Build alternatives, but are the total effect of actions with similar impacts in a broader geographic area. The purpose of a cumulative impacts analysis is to identify impacts that may be minimal and therefore neither significant nor adverse when examined within the context of the proposed action, but that may accumulate and become both significant and adverse over a large number of actions.

Chapter 13 of the DEIS describes the potential for cumulative impacts that could result from the DEIS Build alternatives. Since the DEIS was published, land development has occurred in numerous locations within the study area and the new planned development and transportation improvements have been identified as future actions. DEIS Alternative C-2 was realigned to become the Preferred Alternative, altering some impacts as described in previous chapters.

By the time that the Tier II EIS process is initiated, today's "future actions" will already be in place or no longer planned as currently envisioned.

A detailed cumulative impacts analysis for the Preferred Alternative will be conducted during preparation of the Tier II EIS. The scope of the cumulative impacts study will be determined during the scoping phase of the Tier II EIS.

13.1 CUMULATIVE IMPACTS ASSOCIATED WITH THE PREFERRED ALTERNATIVE

The following discussion of potential for cumulative effects includes minor updates from the DEIS.

13.1.1 Land Development/Conversion of Agriculture and Open Space Land to More Intensive Uses

The proposed project will result in cumulative impacts to land use as the impacts from the proposed project, together with those from other past and future actions, represent a substantial change in land use. While this is a cumulative impact, it is not an adverse one because the project and other future actions are assumed and anticipated in the comprehensive plans of the communities within the study area. The western and central portions of study area encompass a substantial amount of undeveloped land, some of which is platted or being planned for development. If it were built today, the proposed project would require conversion of farmland and open space for right of way, the amount varying depending upon which alternative is selected as the preferred. The Preferred Alternative, in combination with other land development and roadway projects, could result in intensification of land use in already developed areas, and could encourage development of areas previously used for agriculture and open space. Planned roadway improvements will improve the perceived accessibility of these areas if existing transportation routes are substantially improved relative to total travel time and convenient use or access to the regional system. However, the goal of comprehensive planning is to reduce the negative cumulative effects of land development through orderly growth.

Land development is guided by city and county comprehensive plans and zoning regulations. These plans document consideration of the benefits and negative impacts of land development and prescribe patterns of development that are conducive to the goals of the community. Through zoning regulations, these same entities can control the intensification of development and protection of agricultural land and open space from further development. Development of local transportation facilities are also guided by these comprehensive plans and are evaluated based on consistency with comprehensive plans. Careful planning coordination and consistency among local, county, and regional agencies should continue in order to avoid non-compact and disorderly development known as “sprawl.”

All future right of way acquisition would be completed in accordance with the Uniform Relocation and Real Property Acquisition Act of 1970, as amended by the Surface Transportation and Uniform Relocation Assistance Act of 1987 and 49 Code of Federal Regulations, Part 24, and effective April 1989. The Federal Farmland Protection and Policy Act (FPPA) of 1981 and the Minnesota Agricultural Land Preservation and Conservation Policy Act (M.S. 17.80-17.84) have been enacted to ensure that impacts on agricultural lands and operations are integrated into the decision-making process, and that impacts upon agricultural land are minimized to a reasonable extent. It is anticipated that future actions in the study area will be evaluated to identify any soils classified by the Natural Resources Conservation Service (NRCS) as being prime and unique farmland or statewide and local important farmland. In addition, areas proposed for future actions would be reviewed to identify land held under state and/or federal easement or protection programs.

13.1.2 Traffic Noise

Traffic volumes from future development have been assumed in the model for the project, therefore cumulative impacts were accounted for in the analysis. The number of sensitive receptors in developed areas experiencing noise levels exceeding state standards is expected to increase in the study area as development and traffic levels increase. As development in the study area occurs in the future there will be opportunities to create buffers to decrease noise impacts. Where feasible and reasonable, noise mitigation (noise walls or barriers) along high-volume roadways must be considered to satisfy state and federal requirements. This evaluation will be included in the Tier II EIS, closer to the time of construction.

The physical characteristics of noise lessen the potential for substantial cumulative noise impacts. For example, noise does not grow proportionally with the amount of traffic growth. A doubling of traffic along an existing roadway results in only an additional 3 dBA in sound level, a difference that is barely audible to the human ear.

In addition, local governmental units have the authority to decrease noise impacts on sensitive receptors by designating exclusive land uses in areas of highest noise impact, requiring appropriate subdivision design that would create a buffer to reduce the impacts of traffic noise on sensitive receptors, requiring noise insulation, or restricting time periods when noise can be generated.

13.1.3 Visual Quality

Anticipated future development and the proposed action are anticipated in the comprehensive plans for the cities and counties in the study area therefore are not expected to have a cumulative impact. Individuals who value natural environments may view further development in the study area as a degradation of visual quality. Orderly and well-designed built environments may be equally valued by others. These differences in values cannot be clearly interpreted as adverse impacts. Comprehensive plans for area communities identify a community vision that includes the proposed project (though not the location). As discussed in previous chapters, visual impact has been identified as an important issue to be further addressed in the Tier II process.

13.1.4 Vegetation and Wildlife

The proposed action, in combination with other foreseeable actions in the area, could result in cumulative impacts on vegetative and wildlife habitat resources including loss of vegetation, habitat fragmentation, barrier to wildlife movement, and spread of invasive species. Development controls of the governmental units within the study area include one or more of the following: natural resource corridor plan, conservation easements, woodland management ordinance, shore land protection ordinance, tree preservation and reforestation ordinance, bluff protection ordinance, wetland protection ordinance, wooded steep slopes ordinance. These controls can help to protect natural areas, if they are in place before development occurs. Local governmental units should continue to take appropriate steps to protect these resources from other future actions. In addition, large amounts of habitat would continue to exist in a natural state through the protection of the MVNWR and the MVSRA.

13.1.5 Wetlands

The Preferred Alternative is estimated to impact 13.2 acres of wetlands. However, the impact to wetlands from past and future development in this area, which has been and will continue to experience rapid urbanization, is anticipated to result in cumulative impacts to the area's wetland resources. There are extensive regulations in place to protect wetlands in Minnesota. Despite this, there are some limitations of the wetland protection system that allow for exemptions to the regulations that result in wetland loss.

13.1.6 Water Quality and Quantity

Given the design standards and management controls available for protecting the quality of surface waters and groundwater, it is likely that potential impacts of the project, along with other foreseeable actions, would be minimized or mitigated to a substantial degree, and cumulative impacts on water quality and quantity are not anticipated.

Stringent standards and regulations at the state and federal level are in place to protect water quality. Regulatory authorities, such as Watershed Districts, have considerable authority to regulate activities that affect water quality. Storm water management is required for all new roadway projects, which often incorporate drainage from adjacent land, thereby increasing the area receiving runoff treatment. Over time, the increasing amount of runoff treatment is likely to reduce the concentration of pollutants reaching surface waters.

Water quality can be impaired from development related activities, raising the concern for potential cumulative impacts. However, the regulatory structures currently in place reduce the potential for adverse impacts to water quality resulting from the proposed action in combination with other public and private actions. To prevent cumulative impacts on water quality and quantity, local and regional government agencies should continue their efforts to develop and administer comprehensive storm water management and erosion control plans.

13.1.7 Minnesota Valley National Wildlife Refuge

The proposed project contributes to potential cumulative impacts on the MVNWR. The MVNWR has experienced direct and indirect impacts from other river crossings and the Minneapolis-St. Paul airport expansion. In addition, continued development of the communities along the Minnesota River valley will impact the MVNWR through storm water runoff and long term well withdrawals.

The proposed project would contribute to cumulative noise, wildlife habitat and other environmental impacts that could affect the MVNWR. However, as noted in Sections 6.0, 7.0 and 8.0 of the Tier I FEIS, mitigation for project impacts would be provided, and will be defined in greater detail in the Tier II EIS. In addition, the MVNWR is given a high degree of protection by federal laws, reducing the potential for substantial impacts resulting from the proposed action in combination with other actions.

13.1.8 Minnesota Valley State Recreation Area and Minnesota Valley State Trail

Past actions have impacted the MVSRA and MV Trail, and the Preferred Alternative would impact the MVSRA and MV Trail as well. The magnitude of these impacts, in relation the overall size of the resource, however, is relatively small. Therefore, substantial cumulative impacts are not anticipated. Parklands are given a high degree of protection by local, county, state, and federal laws, reducing the potential for substantial impacts resulting from the proposed action in combination with other actions.

13.1.9 Historic and Archeological Resources

The proposed action, in combination with past and future actions, is not expected to result in substantial cumulative impacts to historic properties or archeological sites. Cumulative impacts to historic properties are identified in conjunction with the criteria of adverse effect in 36 CFR 800.5 (a) (1), noting that adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

The proposed Build alternatives would redirect traffic, including truck traffic, from traveling through downtown Chaska resulting in a positive impact and improved environment for the Walnut Street Historic Districts and nearby properties. Changes in land-use patterns associated with development could alter the setting of some historic properties. Further development of previously undeveloped lands may also disturb existing archaeological sites, both in rural areas and the historic archaeology in urbanized areas.

13.2 CONCLUSIONS

13.2.1 Summary of Potential Cumulative Impacts

The greatest potential for substantial cumulative impacts exists in issue areas related to land development, vegetation and wildlife, wetlands, and the MVNWR. Table 13-1 summarizes potential cumulative impacts. Potential impacts to these resources resulting from development projects are typically considered through local and county comprehensive planning efforts, permitting regulations and environmental review processes of NEPA and MEPA. Many of these impacts can be avoided or minimized through the continued application and enforcement of land use controls, development controls and roadway access restrictions.

TABLE 13-1
SUMMARY OF POTENTIAL CUMULATIVE IMPACTS FINDINGS FOR PREFERRED ALTERNATIVE

Resource/Ecosystem/Human Community	Potential for Substantial Cumulative Impact	
	✓greater potential	×less potential
Land Development-Conversion of Agricultural Land to more Intensive Uses	✓	
Traffic Noise		×
Visual Quality		×
Vegetation/Wildlife/Threatened and Endangered	✓	
Wetlands	✓	
Water Quality and Quantity		×
Minnesota Valley National Wildlife Refuge	✓	
Minnesota Valley State Recreation Area and MV Trail		×
Cultural Resources		×

14.0 UNAVOIDABLE ADVERSE IMPACTS

The *2007 Tier I Draft Environmental Impact Statement* (DEIS) is incorporated by reference and is considered to be a part of this *Tier I Final Environmental Impact Statement* (FEIS). See Appendix A.

Chapter 14 of the DEIS describes the adverse environmental impacts of the DEIS alternatives that cannot be avoided; the relationship between short-term use of the environment and the maintenance and enhancement of long-term productivity; and irreversible and irretrievable commitment of resources. This chapter of the FEIS is not intended to repeat the environmental impacts discussed in the previous chapters of the FEIS, but rather to summarize the impacts of the Preferred Alternative that cannot be avoided as required under 40 CFR Part 1502.16.

14.1 IMPACTS ASSOCIATED WITH THE PREFERRED ALTERNATIVE

Note that for the purpose of the Tier I FEIS, impacts are based on an assumed 300-foot corridor, adjusted for topography, potential stormwater ponds, and at interchanges. Mitigation opportunities for the impacts summarized below are discussed in previous chapters of this FEIS. Detailed mitigation for the Preferred Alternative will be finalized during the Tier II EIS process.

14.1.1 Right of Way

Households and businesses would be relocated due to right of way acquisition needed for the Preferred Alternative. The displacement of businesses and residences could have a negative impact on the tax bases of the affected areas if the businesses are not reestablished or residents not relocated within their original communities. Each property owner would be compensated for acquisition and/or relocation costs according to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) (49 CFR Part 24). However, property owners and occupants would experience unavoidable inconvenience as a result of relocation.

Estimated right of way requirements are 320 acres. Estimated residential and business relocations are 10 and nine respectively. More detailed information on right of way acquisition can be found in Chapter 5 of the DEIS and Chapter 5 of this FEIS.

14.1.2 Noise

The Preferred Alternative would result in year 2040 noise levels exceeding the Minnesota daytime and nighttime state noise standards at several locations in the study area. See Chapter 6 of the DEIS for a discussion of potential noise mitigation. Noise mitigation for the Preferred Alternative will be analyzed in the Tier II EIS.

14.1.3 Visual

Construction of a bridge over the Minnesota River would have an impact on the existing visual setting for residents and visitors in the area. Visual impacts of the Preferred Alternative cannot

be avoided since the bridge is a key component of the project. Mitigation, including pre-mitigation landscaping, is discussed in previous chapters of this FEIS.

14.1.4 Farmland

As determined by the Farmland Conversion Impact rating process, if built today, the Preferred Alternative would result in the conversion of farmland to roadway use. The total acreage of farmland to be converted directly is up to 148 acres (per NRCS). Farm owners would be compensated in accordance with 49 CFR Part 24, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended).

14.1.5 Vegetation

The Preferred Alternative would require removal of trees and vegetation for bridge, roadway, and interchange construction. In addition, there will be impacts to floodplain forest, (19.4 acres), oak forest (3.9 acres), maple-basswood forest (11.2 acres), and lowland hardwood forest (5.6 acres), among other vegetation communities discussed in Chapter 7. The Preferred Alternative would create additional forest edge and shrub/herbaceous edge (habitat fragmentation) and increase the potential for the spread of invasive species.

14.1.6 Floodplain

River bridge construction would result in fill in the floodplain. The Preferred Alternative would result in a transverse floodplain disturbance of 7,250 feet. Some of the storm water ponds for the Preferred Alternative would be located within the floodplain. No substantial impact on 100-year flood elevations is expected.

14.1.7 Wetlands

The amount of wetland impact from the Preferred Alternative is 13.2 acres. Complete avoidance of wetland impacts is not possible. Minimization efforts were made during the development of the DEIS alternatives. Impacts on wetlands would be mitigated in accordance with U.S. Army Corps of Engineers (COE) and Wetland Conservation Act (WCA) requirements.

14.1.8 Minnesota Valley National Wildlife Refuge (MVNWR)

The Preferred Alternative would result in 22.0 acres of direct impact to the MVNWR.

14.1.9 Minnesota Valley State Recreation Area and the Minnesota Valley State Trail (MVSRA/MV Trail)

The Preferred Alternative would result in 22.3 acres of impacts to the MVSRA/MV Trail. Mn/DOT would allow recreational facilities to occur within the right of way beneath the bridge (e.g., trails, canoe, and boating).

14.1.10 Soils

The Preferred Alternative crosses steep slopes on hills and bluffs which are characterized by highly erodible soils. The length of this approximately 300-foot wide crossing is 1,950 feet. Erosion resulting from disturbances of vegetative cover during construction could occur.

14.1.11 Water Quality and Quantity

The Preferred Alternative lies within sub-watersheds of the Minnesota River watershed, which drains to the Minnesota River and would increase the amount of impervious surface and decrease infiltration resulting in an increase in the quantity of storm water runoff. The Preferred Alternative would require storm water ponds, including some ponds within the 100-year floodplain.

14.1.12 Construction

The Preferred Alternative would result in unavoidable temporary impacts on the environment due to the necessary construction activities. Construction related impacts include disruption of the flow of traffic, noise and air quality impacts, possible utility outages and relocations, and earthborn vibrations.

14.2 SHORT-TERM USE OF RESOURCES VERSUS LONG-TERM PRODUCTIVITY

The findings regarding short-term use of resources versus long-term productivity remain unchanged since the DEIS. Although the Preferred Alternative would result in the short-term use of resources, the short-term use of these resources is consistent with long-term productivity of the area, including present and future transportation needs of the state and region. The transportation improvements are based on local, regional, and state planning documents which have considered the need for existing and future transportation needs within the context of present and future land use development.

14.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The findings regarding irreversible and irretrievable commitment of resources remain unchanged since the DEIS. These include a substantial one-time expenditure of both state and federal funds that are not retrievable, 320 acres of land, considerable amounts of fossil fuels, labor and highway construction materials, and large amounts of labor and natural resources are used in the fabrication and preparation of construction materials.

The commitment of these resources is based on the concept that residents in the immediate area, state and region would benefit by the improved quality of the transportation system. These benefits would consist of improved accessibility, safety, savings in time, and greater availability of quality services that are anticipated to outweigh the commitment of these resources.

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15.0 COORDINATION

The *2007 Tier I Draft Environmental Impact Statement* (DEIS) is incorporated by reference and is considered to be a part of this *Tier I Final Environmental Impact Statement* (FEIS). See Appendix A.

Chapter 15 of the DEIS discusses the process used to involve stakeholders (public and government agencies) in the preparation of the DEIS, and scoping process, for the TH 41 Minnesota River Crossing project. This included a project management team, study advisory committee, policy advisory committee, fen study group, special natural resource and cultural resource coordination meetings, involvement of several federal agencies as cooperating agencies, and extensive public involvement. Federal, state, tribal, regional and local agencies received copies of the DEIS.

Chapter 3 of this FEIS provides information on the process to involve stakeholders (public and government) in the development of the Preferred Alternative and in the preparation of the FEIS, in particular the involvement of the River Crossing Implementation Coalition (RCIC), which is documented in the RCIC Report (Appendix A-1). Chapter 3 also notes the concurrence of cooperating agencies and the results of the NEPA/Section 404 concurrence process (Appendices B and B-1).

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16.0 LIST OF PREPARERS

The *2007 Tier I Draft Environmental Impact Statement* (DEIS) is incorporated by reference and is considered to be a part of this *Tier I Final Environmental Impact Statement* (FEIS). See Appendix A.

AGENCY/STAFF NAME	FEIS RESPONSIBILITY
Federal Highway Administration	
Phil Forst	Review of FEIS; coordination of FEIS Input
Minnesota Department of Transportation	
Diane Langenbach	Project Manager, review of FEIS
Lynn Clarkowski	Chief Environmental Officer, review/approval of FEIS
Jennie Ross	Review of FEIS
Nancy Radle	Review of contaminated properties information
Peter Wasko	Review of noise analysis and information
Nick Tiedeken	Review of wetlands/fen study
Sarma Straumanis	Review of wetlands/fen study
Kristen Zschomler	Preparation of cultural resource studies
SRF Consulting Group, Inc.	
Nancy Frick	Project Manager, review of FEIS
Don Demers	FEIS preparation-engineering oversight and coordination
Michelle Gerrity	FEIS preparation-engineering oversight and coordination
Dave Montebello	Transportation Planning
Matt Meyer	FEIS preparation (wetlands)
Kady Dadlez	FEIS preparation
Brett Danner	Noise analysis
Todd Polum	Traffic operations analysis
David Filipiak	FEIS preparation (water resources)
Eric Roerish	FEIS preparation (water resources)
Sub-Consultants	
Anne Carroll	Public Involvement
Braun Intertec Corporation	Phase I Environmental Site Assessment
Barr Engineering	Seminary Fen Phase 1 Hydrology, Seminary Fen Phase 2 Study
Peterson Environmental Consulting, Inc.	Seminary Fen Phase 1 Study
Louis Berger	Cultural Resources Investigations

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17.0 TECHNICAL REVISIONS TO DEIS

The *2007 Tier I Draft Environmental Impact Statement* (DEIS) is incorporated by reference and is considered to be a part of this *Tier I Final Environmental Impact Statement* (FEIS). See Appendix A.

The purpose of this chapter is to provide corrections, omissions, and revisions to the information in the DEIS. The revisions included in this chapter of the FEIS reflect agency and public comments received on the DEIS. These technical corrections and revisions are not critical to previous findings/impacts analysis in the DEIS for identification of the Preferred Alternative.

Revisions are presented below by DEIS Chapter.

17.1 REVISIONS TO DEIS CHAPTER 1

- Page 1-12 of the DEIS. Table 1-3, Agency Permits, Approvals, and Other Required Documents. Minnesota Department of Natural Resources row, add "Floodplain Permit (if needed)". In addition, in Table 1-3 Local Watershed Districts and Local Watershed Management Organizations rows, replace rows with the following:

Lower Minnesota River Watershed District	▪ Floodplain Development Permit, Water Quality/Water Rate Permit
Carver Watershed Management Organization	▪ Floodplain Development Permit, Water Quality/Water Rate Permit
Scott Watershed Management Organization	▪ Floodplain Development Permit, Water Quality/Water Rate Permit
Chaska Creek Watershed Management Organization	▪ Floodplain Development Permit, Water Quality/Water Rate Permit

  This information can be found in Table 1-3 of this FEIS.

- Page 1-19 of DEIS. Table 1-4, Impact Summary. For the Description row, Alternative C-2 column and Alternative C-2A column, switch Roadway length, Bridge length, and No. of piers information for these two columns. This corrected information can be found in Table C-1 in Appendix C of this FEIS. Note this was a clerical error; impacts reported in the DEIS are based on the correct information.

- Page 1-19 of DEIS. Table 1-4, Impact Summary. For Right of Way row, Alternative W-2 column, replace "258 acres" with "262 acres", replace "44 affected parcels" with "56 affected parcels", and replace "7 residential" with "19 residential". For Residential Units Needed to be Acquired row replace "13" with "16".

- Page 1-19 of DEIS. Table 1-4, Impact Summary. For Right of Way row, Alternative C-2 column, replace "320 acres" with "323 acres", replace "59 affected parcels" with "71 affected parcels", and replace "15 residential" with "27 residential". For Residential Units Needed to be Acquired row replace "29" with "37".

- Page 1-19 of the DEIS. Table 1-4, Impact Summary. For the Right of Way row, Alternative E-2 column, replace "34 affected parcels" with "132 affected parcels."

- Page 1-23 of the DEIS. Table 1-4, Impact Summary. For the Soil, Water Contamination row, Alternative C-2[16] column, replace "2 high risk sites" with "2 medium risk sites." This corrected information can be found in Table 1-1 of this FEIS.

17.2 REVISIONS TO DEIS CHAPTER 2

- Page 2-6 of the DEIS. First paragraph, replace the I-35W river crossing 2004 ADT of "141,000" with "108,000".

17.3 REVISIONS TO DEIS CHAPTER 3

- Page 3-29 of the DEIS. Second bullet, replace the roadway length of "3.9 miles" with "3.0 miles". Note this was a clerical error; impacts reported in the DEIS are based on the correct information.

- Page 3-29 of the DEIS. Third bullet, replace the bridge length of "9,550 feet" with "9,350 feet". Note this was a clerical error; impacts reported in the DEIS are based on the correct information.

- Page 3-30 of the DEIS. Third bullet, replace the roadway length of "3.0 miles" with "3.9 miles". Note this was a clerical error; impacts reported in the DEIS are based on the correct information.

- Page 3-29 of the DEIS. Fourth bullet, replace the bridge length of "9,350 feet" with "9,550 feet". Note this was a clerical error; impacts reported in the DEIS are based on the correct information.

17.4 REVISIONS TO DEIS CHAPTER 4

No revisions.

17.5 REVISIONS TO DEIS CHAPTER 5

- Page 5-8 of the DEIS. Fifth full paragraph. Replace the paragraph with the following:

  The following information about trails in the City of Carver was provided by the City: 1) a trail is being constructed adjacent to Spring Creek Drive in Centex Homes Spring Creek

[16] Each reference to "Alternative C-2" in Chapter 17 refers to DEIS Alternative C-2.

development; 2) a trail is located west and uphill from the private drive within the Riverbluff Estates and near the Alternative W-2 landfall area that is planned for future connection to other trails with the City and is currently under construction; 3) a trail owned by the USFWS that is located in the Chaska Unit of the MVNWR connecting a trailhead in Carver's Riverside Park to the City of Chaska; 4) a planned trail along the soon-to-be abandoned Union Pacific rail spur right of way; and 5) a planned trail connecting Spring Creek trail along/near the City's northern boundary to Riverbluff Estates trail that is intersected by Alternative W-2 near existing Bade Lane.

- Page 5-28 of the DEIS. Table 5-9. Revise acres of land to be converted to highway right of way to be: 14 residential acres and 262 total acres for Alternative W-2 and 32 residential acres and 323 total acres for Alternative C-2.

- Page 5-29 of the DEIS. Table 5-10. Revise right of way impacts to be: 56 total affected parcels, 26 parcels requiring total acquisition and 30 parcels requiring partial acquisition for Alternative W-2; 71 total affected parcels, 39 parcels requiring total acquisition and 32 parcels requiring partial acquisition for Alternative C-2; 19 affected residential parcels for Alternative W-2; and 24 affected residential parcels for Alternative C-2.

17.6 REVISIONS TO DEIS CHAPTER 6

- Page 6-47 of the DEIS. Seventh paragraph, add the following at the end of the paragraph:

  Landmarks in the City of Carver, including the Steeple of St. Nicholas Church, are visible from various locations in the river valley.

- Page 6-51 of the DEIS. Last paragraph. Add the following sentence at the end of the paragraph:

  While the original townsite of Carver is partially found between the 700-foot to 750-foot contours, portions of the original townsite are above the 750-foot contour, including St. Nicholas Church at approximately the 840-foot contour, according to the City of Carver.

- Page 6-53 of the DEIS. First full paragraph under Alternative W-2 heading, replace the last two sentences with the following:

  Townhomes are being developed along CR 40 in Riverbluff Estates and a development known as Christy's Bluff is pending on land immediately south of Forner Lane.

- Page 6-58 of the DEIS. First paragraph. First sentence of the paragraph add the following to the list of sites in Carver from which Alternative W-2 would be visible:

  Historic gateway to the City of Carver on CR 40 and portions of the Carver Historic District.

- Figures 6-5 through 6-10 of the DEIS. There were slight offsets in the location of the alternatives with respect to the aerial image due to a technical error. Refer to Figures 3-6 through 3-11 of the DEIS for the correct relationship.

17.7 REVISIONS TO DEIS CHAPTER 7

- Page 7-3 of the DEIS. Add the following sentence prior to the last sentence of the paragraph: "The native plant communities associated with the Seminary Fen Wetland Complex are discussed in Section 7-3."

- Page 7-49 of the DEIS. Table 7-11, Potential Erosion Impacts. Alternative W-2 row, Carver County column, replace "120 ft." with "250 feet" and Total Length column replace "550 feet" with "680 feet." Also, the reference to "120 feet" in the second full paragraph should be replaced with "250 feet."

17.8 REVISIONS TO DEIS CHAPTER 8

- Page 8-5 of the DEIS. Last paragraph. Replace paragraph with the following paragraph which provides greater detail about Riverside Park:

  Riverside Park, 300 Main Street in Carver, is located on the northern shore of the Minnesota River, east of the Historic Water Tower (discussed in Chapter 10). Riverside Park has been a City park since the 1860s when its use as the county fair site commenced. This 18-acre park is owned by the City of Carver and managed by the USFWS. The park provides opportunities for passive outdoor recreation and community/family gathering space. Its primary use is for boat launching; it provides a trailhead for the MVNWR trail system. The City is considering offering primitive camping. No potable water, picnic, or restroom facilities are present. According to Carver staff, the park hosts a horseshoe tournament once a year. Riverside Park has received LAWCON funding and is therefore subject to Section 6(f) requirements.

- Figure 8-1 of the DEIS omitted the City of Chaska trail that originates at Athletic Park (Chaska Cubs Ball Field), travels east and then south into the MVNWR, and the proposed Southwest Regional Trail Connector that follows Creek Road in the City of Chaska.

17.9 REVISIONS TO DEIS CHAPTER 9

- Page 9-1 of the DEIS. Replace the fifth paragraph with the following paragraphs that provide greater detail about the watershed district and water management organizations in the study area than was provided in the DEIS:

  At the local level, the Lower Minnesota River Watershed District (LMRWD), as well as the Carver County Watershed Management Organization (WMO) and Scott WMO, have adopted comprehensive water resource management plans and/or rules. Policies establish that each development or land-disturbing activity shall be responsible for managing its stormwater effectively, either on- or off-site. The preference in Carver County and LMRWD is for on-site management with post-construction runoff rates equal to or less than, and water quality

equal to or better than, pre-construction rates. Scott County's stormwater management standard for rate control is that discharge rates shall not exceed pre-settlement rates. Regional off-site management for linear improvements, such as the proposed project, may also be considered. For alternatives comparison, a standardized water quality treatment pond sizing method was developed in order to estimate ponding requirements for each of the Build alternatives, see Section 9.1.3.2 of the DEIS.

A more detailed review will be conducted closer to the time of construction during preparation of the Tier II EIS for the Preferred Alternative, at which time the appropriateness of filtration and/or infiltration will be addressed. Infiltration, as a volume control and water quality method, is unlikely in Scott County due to the high groundwater tables. Pond liners and three feet of separation from bedrock or groundwater are also required in Scott County. The preliminary pond sizes were liberally estimated to ensure than right of way needs were appropriately considered for each of the Build alternatives.

- Page 9-16 of the DEIS. Paragraph under Alternative C-2, replace reference to "Chaska Creek" with "West Chaska Creek".

- Page 9-16 of the DEIS. Paragraph under Alternative C-2A, replace reference to "Chaska Creek" with "West Chaska Creek".

- Page 9-16 of the DEIS. Paragraph under Alternative E-1, replace reference to "Hazeltine-Bavaria" with "East Chaska Creek".

- Page 9-17 of the DEIS. Paragraph under Alternative E-1A, replace reference to "Hazeltine-Bavaria" with "East Chaska Creek".

- Page 9-17 of the DEIS. Paragraph under Alternative E-2, replace reference to "Hazeltine-Bavaria" with "East Chaska Creek".

- Page 9-18 of the DEIS. Third paragraph after second sentence, add the following sentence:

  Under Alternatives W-2 and C-2 the New TH 41/US 212 interchange would lie close to the wellhead protection area of the Carver Drinking Water Supply Management Area.

- Page 9-18 of the DEIS. Third paragraph second sentence, replace "Alternative C-2" with "Alternative C-2A."

- Page 9-19 of the DEIS. Paragraph under Alternative W-2, second sentence, replace "Carver Creek Watershed" with "Minnesota River Watershed".

- Pages 9-19 and 9-20 of the DEIS. Paragraph under Alternatives C-2 and C-2A, replace references to "Chaska Creek" with "West Chaska Creek".

- Page 9-20 of the DEIS. Paragraph under Alternatives CE-1, E-1A and E-2, replace references to "Hazeltine-Bavaria" with "East Chaska Creek".

- Page 9-29 of the DEIS. Second full paragraph, next to last sentence add the following sentences regarding the wellhead protection areas in the City of Carver:

  There are two wellhead protection areas (WPA) in the City of Carver. The northern WPA is largely south of existing US 212 and northwest of the Eagle Ridge development; the WPA includes the area surrounding the City's water treatment plant. The southern WPA is south of Eagle Ridge Development and includes the area surrounding Lions Park.

- Figure 9-1 of the DEIS include mislabeled watershed districts. The "Carver Creek" label with the "(33133)" notation should have read "West Chaska Creek" and the "Hazeltine Bavaria" label should have read "East Chaska Creek".

- Figure 9-3 of the DEIS. The figure was revised for the FEIS (Figure 9-1 in the FEIS) to include additional arrows indicating more clearly how water will leave the study area.

- Figure 9-11 of the DEIS. The figure was revised to include the wellhead protection areas in the City of Carver. See Figure 9-2 in Chapter 9 of this FEIS.

17.10 REVISIONS TO DEIS CHAPTER 10

No revisions.

17.11 REVISIONS TO DEIS CHAPTER 11

No revisions.

17.12 REVISIONS TO DEIS CHAPTER 12

No revisions.

17.13 REVISIONS TO DEIS CHAPTER 13

- Page 13-8 of the DEIS. Third full paragraph, add, at the end of the paragraph the following:

  The Carver County zoning code only regulates unincorporated areas of the County; the zoning code does not allow manufactured home parks within unincorporated areas. Scott County's zoning ordinance allows only new manufactured home parks if they are hooked-up to, and served by, a public sewer and water system.

- Page 13-11 of the DEIS. Third full paragraph, replace last sentence of the paragraph with the following:

  While Carver County completed a natural resources inventory in 2000, the cities of Carver and Chaska have not undertaken studies to inventory natural resources. The City of Carver has a bluff ordinance and a tree preservation and reforestation ordinance.

- Page 13-12 of the DEIS. Insert "emergent marsh communities" after the headings for Alternative W-2, Alternative C-2, and Alternative E-2.

17.14 REVISIONS TO DEIS CHAPTER 14

No revisions.

17.15 REVISIONS TO DEIS CHAPTER 15

- Page 15-2 of the DEIS. Table 15-1 Study Advisory Committee (SAC) section. Insert the word "County" after the word Carver in the "Carver Watershed Management Organization" bullet in the table.

- Page 15-8 of the DEIS. Add the heading, "Section 15.2.8 U.S. Army Corps of Engineers (COE) Notice", with the following text:

  In compliance with Section 404 of the Clean Water Act, the US Army Corps of Engineers (COE) is issuing a Special Public Notice to invite public comment on the Tier I DEIS and the proposed Clean Water Act (CWA) Section 404 Review Process in the same general timeframe as the NEPA public comment period.

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18.0 RESPONSES TO COMMENTS ON THE 2007 TIER I DRAFT EIS

In June 2007, the Tier I Draft EIS (DEIS) was distributed to agencies and organizations on the project distribution list as well as to members of the Study Advisory Committee (SAC). The DEIS was available for public review at local libraries and local government offices, and available in electronic format on the project website. Refer to Table 15-2 in Chapter 15 of the DEIS for a list of recipients of the DEIS. This Chapter of the FEIS, Appendix E and Appendix F together provide the responses to comments received on the DEIS.

The public comment period for TH 41 Minnesota River Crossing project began on June 18, 2007. On July 11, 2007 and July 18, 2007 public hearings were held in Shakopee, Minnesota and Chaska, Minnesota, respectively. On July 17, 2007, a public information meeting was held at the Riverview Terrace Mobile Home Park in Chaska, Minnesota. Attendees at the hearings were invited to provide comments on the proposed project through one of three forms: comment forms; oral statements to a court reporter; and written statements. A summary of responses to public comments received as part of the hearing and throughout the comment period is provided in Section 18.2.

The comment period for agencies and organizations that received copies of the DEIS as well as individuals responding as part of the public comment process officially closed on August 10, 2007. Thirty-four written comments were received by government agencies and non-governmental organizations; a total of approximately 637 additional comment cards, letters, postcards, and e-mails were submitted by the public.

The methodology for responding to comments received on the DEIS is based upon the general guidelines developed as part of the National Environmental Policy Act (NEPA). Written responses are provided for comments pertaining to analysis conducted for and documented in the DEIS. Specifically, responses have been prepared for substantive statements noting: incorrect or unclear information; permit requirements; or content requirements. Comments agreeing with DEIS information or statements, general opinions, statements of fact, or statements of alternative preference were not formally responded to, but are summarized in this section.

While written comments were not provided specifically for each comment received, all comments received on the DEIS were considered in identifying the Preferred Alternative and in development of this FEIS. Where appropriate, text has been incorporated into this FEIS in response to comments on the DEIS. As such, responses to comments on the DEIS will refer the reader to relevant sections of this FEIS.

18.1 RESPONSES TO GOVERNMENT AGENCY AND NON-GOVERNMENTAL ORGANIZATION COMMENTS ON THE DEIS

Table 18-1 lists the individual government agencies and non-government organizations that commented on the DEIS. Responses to government agency comments are found in Appendix E. Responses to non-governmental organization comments are found in Appendix F.

TABLE 18-1
AGENCIES AND ORGANIZATIONS COMMENTING ON DEIS

Federal Agencies
United States Army Corps of Engineers (COE)
United States Coast Guard (USCG)
United States Department of Interior (DOI). Includes comments from the National Park Service (NPS) and the U.S. Fish and Wildlife Service (USFWS).
United States Environmental Protection Agency (EPA)
United States Federal Emergency Management Agency (FEMA)
United States National Oceanic and Atmospheric Administration (NOAA)
State Agencies
Minnesota Department of Agriculture (MDA)
Minnesota Department of Health (MDH)
Minnesota Department of Natural Resources (MnDNR)
Minnesota Pollution Control Agency (MPCA)
Regional and Local Governments
Metropolitan Council
Carver County
Scott County
City of Carver
City of Chanhassen
City of Chaska
City of Shakopee
Lower Minnesota River Watershed District
Non-Governmental Organizations
All Parks Alliance for Change
Chaska Area Chamber of Commerce
Chaska Cubs Baseball
Chaska Historical Society
Chaska Moravian Church
Discovery United Methodist Church
Downtown Chaska Business Council
Friends of the Minnesota Valley
Church of the Guardian Angels
Housing Preservation Project
Minnesota Native Plant Society
Minnesota River Valley Audubon Chapter
Centex Homes
Sierra Club
Minnesota Valley Trust
Minnesota Center for Environmental Advocacy

18.2 RESPONSES TO PUBLIC COMMENTS ON THE DEIS

The section relates to comments received from the public during the public comment period for the TH 41 Minnesota River Crossing DEIS from June 18, 2007 to August 10, 2007. The public hearings for the project were held on July 11, 2007 in Shakopee, Minnesota and July 18, 2007 in Chaska, Minnesota. A public information meeting was also held at Riverview Terrace in Chaska, Minnesota on July 17, 2007. Comments were received in three formats during the comment period:

- **Comment forms:** Interested individuals were invited to submit written comments on comment forms provided at the public hearings and public meeting. These comment forms needed to be received by the end of the comment period on August 10, 2007. Comment forms received are on file with Mn/DOT.

- **Oral statements:** Statements were recorded by a court reporter during the public hearings. These statements are documented in the Statements Record, which is on file with Mn/DOT.

- **Written statements:** Interested individuals were invited to submit written comments. Written statements could be submitted in letter format or submitted electronically to the project e-mail address or project manager. These statements needed to be received by the end of the comment period on August 10, 2007. Written statements are on file with Mn/DOT.

A total of approximately 637 comments (comment forms, oral statements, and written statements) were received during the public comment period. Of this, 102 written comments were received at the public hearings and public meeting; 26 individuals provided oral comments at the public hearings. The balance of the comments was received by mail or e-mail prior to the end of the comment period on August 10, 2007.

A vast majority of public comments received on the TH 41 Minnesota River Crossing DEIS were comments agreeing with DEIS information or statements, general opinions, statements of fact, or statements of preference. The public also commented on specific impact concerns.

All comments were taken into consideration in the identification and refinement of the Preferred Alternative and informed the subsequent work to develop recommended mitigation approaches and guidance for consideration in the Tier II process as documented in the RCIC Report, summarized in Section 3.4 of this FEIS.

The public comments pertaining to alternative preference or impacts are grouped by topic below and responses provided.

18.2.1 Alternative Preferences

The following table summarizes the statements of preference for Build alternatives contained in the comments received. [17]

[17] Each reference to "Alternative C-2" in Chapter 18 refers to DEIS Alternative C-2.

TABLE 18-2
PUBLIC COMMENTS – ALTERNATIVE PREFERENCE

DEIS Alternative	Support	Oppose
No-Build Alternative	9	1
Alternative W-2	154	11
Alternative C-2	36	5
Alternative C-2A	6	6
All "C" Alternatives	12	11
Alternative E-1	1	20
Alternative E-1A	2	0
Alternative E-2	5	29
All "E" Alternatives	N/A	331

Alternative W-2

Support: In addition to the general comments stating support for Alternative W-2, comments providing specific reasons for support of Alternative W-2 included: lowest cost; least impact on existing development; benefits the surrounding communities economically; can be built on "open land"; least adverse environmental impact; least impact on parks; relieves stress on TH 169; and will not impact manufactured home communities.

Opposition: In addition to the general comments stating opposition to Alternative W-2, comments providing specific reasons for opposition of Alternative W-2 included: negative impacts on historic character of the City of Carver; impacts to the MVNWR, MVSRA, and vegetation degradation; discourages economic growth in the City of Carver; negative impacts to neighborhoods and property values; divides the Skyview Lane neighborhood; visual impact to the Minnesota Renaissance Festival grounds; least travel demand; and disrupts Riverside Park. Finally, several comments stated that since the City of Chaska has received the economic benefit of growth, it should bear the burden by having the river crossing be built closer to it than to the City of Carver.

Alternative C-2

Support: In addition to the general comments stating support for Alternative C-2, comments providing specific reasons for support of Alternative C-2 included: closely follows the existing TH 41 alignment and the area is already accustomed to the traffic; lower cost; least adverse environmental impact; avoids downtown Chaska; disturbs the least amount of wildlife habitat and natural resources; causes the least amount of damage to MVNWR; removes traffic from downtown Chaska.

Opposition: In addition to the general comments stating opposition for Alternative C-2, comments providing specific reasons for opposition to Alternative C-2 included: impacts to Chaska ball field; and impacts to historic downtown Chaska.

Alternative C-2A

Support: General comments stating support for Alternative C-2A were received.

Opposition: Comments stating opposition to Alternative C-2A noted that the alternative would impact the Chaska ball field, area parks and trails, and natural and wildlife resources.

All Central Alternatives

***Support*:** In addition to the comments stating support or opposition for Alternatives C-2 and C-2A, comments were also received about the "central" alternatives. Several comments stated support for a modified central alternative that would save the ball field and impact fewer homes. Several comments favored combining the northern portion of C-2 with the southern portion of Alternative C-2A.

***Opposition*:** Reasons stated for opposition to all central alternatives included: air pollution; noise pollution; and negative impacts on downtown Chaska and the ball field. Several comments recommended that the ball field be preserved while others supported moving the ball field.

Alternative E-1

Support: One comment supported Alternative E-1 generally.

Opposition: Specific comments opposing Alternative E-1 stated that it would be the most harmful option and that it would encroach on school properties.

Alternative E-1A

Support: One comment supported Alternative E-1A generally and one comment supported it because it is consistent with the City of Chaska's comprehensive plan.

Alternative E-2

Support: Several comments supported Alternative E-2 generally.

Opposition: Many comments stated opposition to Alternative E-2 because it would lower home values and have a negative impact on the City of Chaska's economy.

All Eastern Alternatives

Opposition: Comments opposing all three eastern alternatives included the following reasons: displaces families and homes; not cost-effective; impacts established neighborhoods; divides the community; impacts the Seminary Fen and Assumption Creek; impacts affordable housing with the loss of manufactured home parks; impacts threatened and rare species; impacts wildlife and natural resources; negatively impacts historic downtown Chaska; and divides Chanhassen and Chaska.

18.2.2 Topics of Public Concern

Responses to the comments stating concerns with particular Build alternatives are listed below, alphabetically, according to topic, under a summary of the public comments received on each topic.

Air Quality: Several respondents commented in general that the new roadway would create air pollution.

> ***Response***: *Refer to Chapter 6 of the DEIS and the FEIS for a discussion of air quality, which concludes that it is unlikely that carbon monoxide (CO) levels approaching state standards will occur as a result of the project, and that, on a regional basis, mobile source air toxic (MSAT) levels will be substantially lower in the design year than they are today.*

Alternatives**:** Several respondents commented on elements of the Build alternatives or alternatives not addressed in the DEIS. The following is a summarized list of these comments:

- Consider a tunnel under the river; consider mass transit; consider personal rapid transit.

  > ***Response****: A tunnel option was considered during the EIS scoping process. See Chapter 3 of the DEIS for a summary of the alternative development process. Mass transit and personal rapid transit options do not meet the purpose and need for the project as identified in Chapter 2 of the DEIS.*

- Consider modifying Alternative C-2 to turn west sooner and further south like Alternative C-2A.

  > ***Response****: The Preferred Alternative is DEIS Alternative C-2 realigned 300 feet south in the area of Athletic Park (Chaska Cubs Ball Field).*

- The river crossing should be in Shakopee through Flying Cloud. The river crossing should be in Jordan at Highway 9. The new roadway should be built to the west where future growth in residential and business development is anticipated to occur.

  > ***Response****: These suggested locations are beyond the study limits that were defined during the EIS scoping process. These limits were established based on physical limitations and the proximity of US 169 and New US 212 to each other. The scoping process limited exploration of potential alternatives to locations within these boundaries.*

- A new river crossing is not needed; more/other alternatives should be considered.

  > ***Response****: Chapter 2 of the DEIS identified the purpose and need for the project. This is summarized in Chapter 2 of the FEIS. Chapter 3 of the FEIS provides a summary of the alternative development process.*

- The bridge should include pedestrian and bicycle facilities.

  Response*: Bicycle and pedestrian facilities are discussed in Section 4.7.4 of the DEIS. Mn/DOT is committed to providing bicycle and pedestrian facilities on the new river crossing. Specific details will be addressed during preparation of the Tier II EIS for the Preferred Alternative, closer to the time of construction.*

Historic Resources: Several respondents commented on the impact the Build alternatives would have on the historic districts in Carver and Chaska and on Native American and archeological sites. The following is a summarized list of these comments:

- Alternative W-2 will negatively impact historic downtown Carver.

  Response*: Alternative W-2 was not selected as the Preferred Alternative.*

- Alternative W-2 will impact archeological areas.

  Response*: Archaeological studies were conducted as part of the DEIS. No archaeological sites were identified in the Alternative W-2 corridor.*

- Alternative C-2 will negatively impact historic downtown Chaska and surrounding neighborhoods.

  Response*: The Preferred Alternative is the DEIS C-2 Alternative with the horizontal alignment modified to avoid direct impacts to Athletic Park (Chaska Cubs Ball Field). Indirect impacts on historic properties and other neighbor properties, such as noise and visual, will be examined during preparation of the Tier II EIS, closer to the time of construction, when more work on the design of the project will occur. A Programmatic Agreement among FHWA, Mn/DOT, MnSHPO and other potential parties will be developed at that time to address adverse effects to NRHP-eligible properties. The RCIC Report identifies impacts to historic resources among the important project concerns and includes recommended mitigation strategies for consideration in the Tier II process.*

- Alternative C-2 will negatively impact the Chaska ball field.

  Response*: The Preferred Alternative is the DEIS C-2 Alternative with the horizontal alignment modified to avoid direct impacts to Athletic Park (Chaska Cubs Ball Field). Indirect impacts, such as noise and visual, will be examined during preparation of the Tier II EIS, closer to the time of construction, when more work on the design of the project will occur. A Programmatic Agreement among FHWA, Mn/DOT, MnSHPO and other potential parties is anticipated to be developed at that time to address adverse effects to NRHP-eligible properties. The RCIC Report identifies impacts to historic resources among the important project concerns and includes recommended mitigation strategies for consideration in the Tier II process.*

- Alternatives E-1, E-1A, and E-2 will impact Native American sites and archeological sites.

  Response*: The findings in Section 10.4 of the DEIS state that each of the eastern alternatives (E-1, E-1A, and E-2) will have no adverse effects on historic properties, based on the condition that archeological site 21CR141 be avoided through adjustments to the proposed E-1A and E-2 alignments if either is selected (Alternative E-1 would completely avoid this site area).*

Natural Resources: Many comments stated concern about the impact of the Build alternatives on wetlands, waterways, wildlife, and wildlife habitat, including threatened and endangered species, and the need to protect and preserve these resources. The following is a summarized list of these comments:

- Alternatives W-2, C-2, and C-2A will impact natural resources in the MVNWR.

  Response*: All of the Build alternatives impact natural resources in the Minnesota River valley. Refer to Chapter 7 of the DEIS for a discussion of natural resource impacts related to the western and central alternatives and Chapter 7 of this FEIS for discussion of impacts of the Preferred Alternative on natural resources. The RCIC Report identifies impacts to ecological systems as a key concern and includes recommended mitigation strategies for consideration in the Tier II EIS process. USFWS staff from the MVNWR are active participants in the RCIC.*

- Alternatives E-1, E-1A, and E-2 will impact wetlands, including the Seminary Fen, Assumption Creek, and plant species listed on the State's list of threatened and concerned species.

  Response*: Refer to Chapters 7 and 9 of the DEIS for a discussion of natural and physical resource impacts related to the eastern alternatives. None of the eastern alternatives was selected as the Preferred Alternative.*

Noise and Vibration: Many comments stated general concern for the increased noise and vibrations resulting from the project. Other comments expressed concern that there was no guarantee for noise walls to be constructed with Build Alternative C-2.

Response*: Noise impact analysis was prepared for all Build alternatives and was included in Chapter 6 of the DEIS. Additional noise analysis was conducted to inform the identification of the Preferred Alternative as described in Chapter 6 of this FEIS. Additional noise analysis will be conducted for the Preferred Alternative during preparation of the Tier II EIS and mitigation will be proposed as needed.*

Parkland: Many respondents commented on the impact that the Build alternatives would have on parkland resources. The following is a summarized list of these comments:

- Alternative W-2 will impact the MVNWR and Riverside Park in the City of Carver. Alternatives C-2 and C-2A will impact the MVNWR and MVSRA.

***Response**: Parkland impacts are discussed in Chapter 8 of the DEIS, the Draft Section 4(f)/6(f) Evaluation, Chapter 8 of the FEIS, and the Preliminary Final Section 4(f) Evaluation (Appendix D).*

- Alternative C-2 will impact the Chaska ball field.

  ***Response**: The Preferred Alternative is the DEIS C-2 Alternative with the horizontal alignment modified to avoid direct impacts to Athletic Park (Chaska Cubs Ball Field). Indirect impacts, such as noise and visual, will be examined during preparation of the Tier II EIS, closer to the time of construction, when more work on the design of the project will occur. The RCIC Report identifies impacts to the ball field as an important project concern and includes recommended mitigation strategies for consideration in the Tier II process.*

Project Cost: Many comments were received regarding the cost of the Build alternatives and expressed a desire to select the least expensive one. One comment stated support for the lowest cost regardless of route. Other comments stated concern about impacts to the tax base resulting from the project through the acquisition of private property for right of way.

***Response**: Costs for all Build alternatives were presented in Section 1.6 of the DEIS. The Preferred Alternative identification process considered cost along with other impacts; however, cost was not a key determinant of the selection. The rationale for the identification of the Preferred Alternative is presented in Chapter 3 of this FEIS. Cost information for the Preferred Alternative is presented in Section 1.9 of the FEIS.*

Safety: Several comments were received concerning the safety of children in school zones near Alternatives E-1, E-1A, and E-2.

***Response**: Mn/DOT places high priority on safety, including for school children and other pedestrians, bicyclists, and drivers, in design and operation of all of its facilities. None of the eastern alternatives was selected as the Preferred Alternative.*

Social and Economic Impacts and Relocation: Many comments were received regarding the impact of the Build alternatives (five of the six) on manufactured home park communities and displacing their residents, the loss of affordable housing for low-income residents and the environmental justice effects of this loss. Other comments expressed concern about the impact some Build alternatives would have on new and established neighborhoods in terms of dividing neighborhoods and the impact to property values and tax base. Yet other comments stated concern about the loss of a small town character and feel that would result from the Build alternatives and impacts to schools and school zones and loss of businesses. Some comments asked for information about the property acquisition process. Finally, several comments stated the desire to have a Preferred Alternative selected soon to end the uncertainty that many people have been experiencing; one comment stated that the bridge should be a higher priority than the current 20-year time frame.

***Response**:* Manufactured *home park acquisitions were revised to inform the identification of the Preferred Alternative. Because the elimination of a number of* manufactured *home units*

may threaten the economic feasibility of an entire manufactured *home park business, the methodology used to estimate the environmental justice acquisitions was revised to include a range of potential* manufactured *home acquisitions. The low end of the range assumes those acquisitions required based on design and the high end of the range includes all units within each park, to account for potential closure of the entire community*

The Preferred Alternative is the DEIS Alternative C-2 with the horizontal alignment refined to avoid impacts to Athletic Park (Chaska Cubs Ball Field) in the City of Chaska and Jackson Heights in Jackson Township and to minimize impacts to the Spring Creek neighborhood in the City of Carver. Refer to Chapter 5 of the DEIS and Chapter 5 of the FEIS for a discussion of community cohesion, impacts to businesses and schools, right of way acquisition and relocation, property values and tax base. There is no accepted methodology to determine the effects to residential property values or rents resulting from a roadway project.

In order to make best use of limited public funds, Mn/DOT investment strategy is currently focused on smaller scale improvement projects in the key areas of traveler safety, infrastructure preservation, and regional and community improvement priorities. Resources are not available at this time for large scale projects such as the TH 41 River Crossing. The purpose of the tiered process is to preserve a corridor so that land use and infrastructure planning can occur in a manner that facilitates implementation when resources are available for detailed design and construction.

Traffic and Congestion: Several comments stated that the project is needed to address congestion on existing TH 41 in downtown Chaska. Other respondents commented in general that the project would increase traffic in the area.

Response: *Under No Build conditions, traffic levels on existing TH 41 are projected to result in up to 10 hours of congestion per day. Refer to Chapter 4 of the DEIS and FEIS for a discussion of transportation benefits and impacts.*

Visual Impacts/Bridge Design: Several comments were received stating general concern about the height, scale, and design of the bridge and its impact on developed areas. Other, more specific comments addressed the impact of the bridge on the historic districts in downtown Carver and Chaska and suggested the need for a weight restriction on the bridge.

Response: *Details about the height, scale, and design of the bridge will not be known until preparation of the Tier II EIS for the Preferred Alternative, closer to the time of construction.*

The visual impacts of the Preferred Alternative on the Carver Historic District will be examined during preparation of the Tier II EIS, closer to the time of construction, when more work on the design of the project will occur. The RCIC Report identified visual impacts as an important issue and included recommended mitigation strategies for consideration in the Tier II EIS.

APPENDIX A

2007 TIER I DRAFT ENVIRONMENTAL IMPACT STATEMENT

- FEIS Hard Copy includes DEIS on CD
- FEIS on CD is accompanied by DEIS on CD
- FEIS electronic posting includes DEIS

TH 41 MINNESOTA RIVER CROSSING:

A Future US 169/US 212 Regional Freeway Connection

MINNESOTA DEPARTMENT OF TRANSPORTATION

State Project Number: S.P. 1008-60
Trunk Highway Number: TH 41

TIER I
DRAFT
ENVIRONMENTAL IMPACT STATEMENT
AND
DRAFT SECTION 4(F)/6(F) EVALUATION
(Page 1 of 2)

Submitted Pursuant to 42 U.S.C. 4332(2)(c), 49 U.S.C. 303, 23 U.S.C. 138,
And Minn. Stat., Chapt. 116D
By
U.S. Department of Transportation,
Federal Highway Administration
And
Minnesota Department of Transportation

Cooperating Agencies

U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service
U.S. Environmental Protection Agency

June 2007

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ABSTRACT: The project proposes future construction of a new Minnesota River crossing connecting TH 169 and New TH 212 in the vicinity of the existing TH 41. The project is located within Scott County and Carver County, Minnesota. The project is being developed in a tiered process. Tier I will identify a corridor for preservation. Tier II will evaluate and select a design for construction.

TH 41 MINNESOTA RIVER CROSSING:

A Future US 169/US 212 Regional Freeway Connection

TIER I
DRAFT
ENVIRONMENTAL IMPACT STATEMENT
AND
DRAFT SECTION 4(F)/6(F) EVALUATION

June 2007

Signatures of Approval

(Page 2 of 2)

5/16/07
Date of Approval

For Mn/DOT Khani Sahebjam, Metropolitan District Engineer

5/16/07
Date of Approval

For Mn/DOT Frank W. Pafko, Chief Environmental Officer

6/4/07
Date of Approval

For FHWA Tom Sorel, Division Administrator

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1.0 EXECUTIVE SUMMARY

1.1 PROJECT DESCRIPTION

The proposed action is the future construction of a new Minnesota River crossing connecting US 169 in Scott County and New US 212 (under construction at the time of this DEIS), north of the existing US 212 corridor in Carver County in the vicinity of existing TH 41. Project planning and environmental review are being conducted in conformance with state and federal environmental review requirements. (Note: The proposed project is referred to in earlier documents as *TH 41 Over the Minnesota River*.)

1.2 PURPOSE OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

The National Environmental Policy Act (NEPA) of 1969 (Statute 42 USC 4321 et seq.) requires that social, economic and environmental considerations be included in the planning of projects that receive federal funding. Similarly, the Minnesota Environmental Policy Act (MEPA) (Minnesota Rules Chapter 4410) requires review of potential environmental impacts for proposed projects that exceed state regulatory thresholds. The extent of the proposed improvements requires preparation of an Environmental Impact Statement (EIS). The Draft Environmental Impact Statement (DEIS) was prepared to: discuss the purpose of and need for the proposed project; consider alternatives; evaluate environmental effects of alternatives; explore methods for avoiding and minimizing adverse impacts; and obtain public and agency input, to aid in the identification of a preferred alternative for further study in the Final EIS (FEIS). The FEIS will summarize public involvement during the DEIS process; respond to substantive comments received on the DEIS; identify the preferred alternative; and, if necessary, provide more detail on the environmental impacts of the preferred alternative and describe potential mitigation measures to the extent that is appropriate for a "tiered" process as discussed below.

Per Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 CFR 1508.28), environmental documentation may occur through a "tiered" two-step review process. The tiered EIS process has been determined to be appropriate for the proposed action because, while the construction of the project may not occur for 20 or more years, the project area is rapidly developing and future development will likely encroach on potential corridor locations, resulting in greater potential for social and economic impacts at the time the project is funded if an alignment location is not protected in the near future. The notice of intent to prepare a Tier I EIS was published in the Federal Register January 10, 2003.

The Tier I EIS identifies and evaluates the social, economic and environmental issues associated with alternative corridor locations, as a basis for identifying a preferred alignment corridor that can be preserved for future use. The Tier I EIS is a corridor-level document, with analysis based on an assumed standard corridor width of 300 feet. A Tier II EIS process will be initiated in the future, as the project moves forward for implementation. The Tier II process will focus on preferred alignment design alternatives, updated assessment of environmental impacts to address a higher level of design, and identification of mitigation.

1.3 PROJECT SETTING

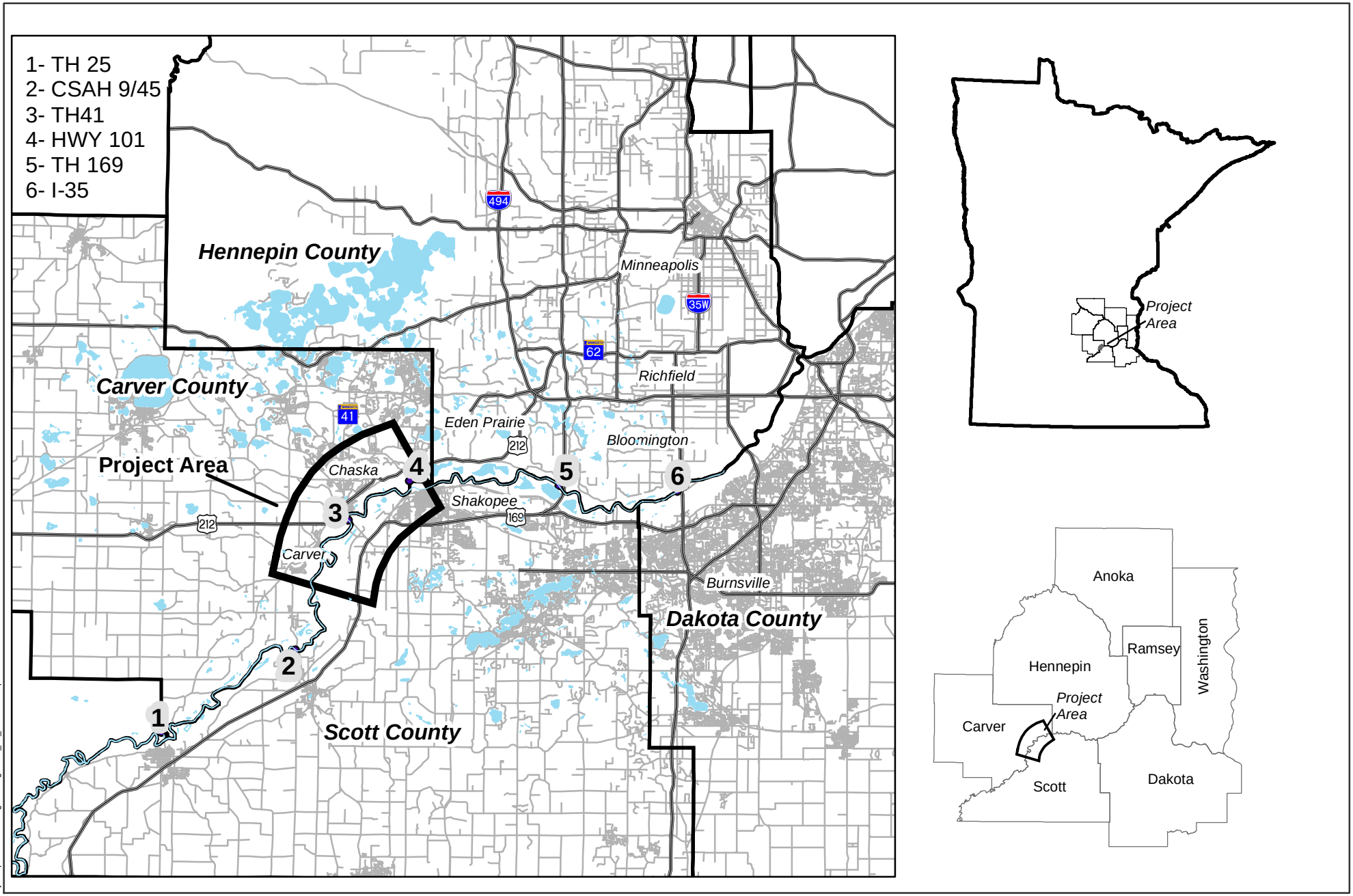
The study area is in the southwest portion of the Twin Cities metropolitan area. The study area is bordered on the south by United States Highway (US) 169; on the north by New US 212; on the west by County State Aid Highway 14 in Scott County and west of the City of Carver, in Carver County; and on the east by Highway 101 (Note that Highway 101 is a state trunk highway in Carver County and a county state aid highway in Scott County.). See Figures 1–1 and 1-2.

United States Highway 169, within the Trunk Highway (TH) 41 study area, is a state principal arterial route running parallel to the south side of the Minnesota River. United States Highway 169 is on the National Highway System (NHS), and is designated as a High Priority Interregional Corridor. Mn/DOT's Interregional Corridor system was developed to connect regional trade centers in Greater Minnesota with the Twin Cities metropolitan area. These connections are considered essential to long-term economic growth and activity within the state, as well as important transportation corridors that promote mobility and safety. The US 169 corridor management plan (CMP) proposes future conversion of US 169 to a freeway facility within the project study area.

United States Highway 212 is a state principal arterial route running parallel to the north side of the Minnesota River. It also is on the National Highway System (NHS) and designated as a High Priority Interregional Corridor. These designations will be assigned to the New US 212 corridor (north of existing US 212) when it is complete (fall 2008). New US 212 will be a freeway facility and will connect to existing US 212 at the west end of the study area.

United States Highway 169 and US 212 are currently connected by two river crossings within the study area, at existing TH 41 and Highway 101. Both of these crossings are located within the 100-year floodplain. Existing TH 41 is a two-lane facility that widens to four lanes through downtown Chaska. Trunk Highway 41 currently connects to US 169 and US 212 at at-grade signalized intersections, however, future construction of an interchange at US 169 is part of the US 169 CMP, and is assumed for purposes of this study. Details of US 169 improvements will be developed under a separate project. Trunk Highway 41 will connect to New US 212 north of Chaska with an interchange. The TH 41 corridor through downtown Chaska bisects a nationally designated historic district.

Highway 101 is a two-lane facility (county highway south of the river; state highway north of the river) that connects downtown Shakopee and US 212. In Shakopee, Highway 101 tees into CSAH 69 at a signalized intersection; CSAH 69 connects to US 169 at an at-grade signalized intersection at the western edge of Shakopee. From its intersection with US 212, Highway 101 continues north on a winding alignment up the river bluff, crossing the New US 212 alignment in the vicinity of CSAH 18 and eventually connects to TH 5 in Chanhassen. Highway 101 will be connected to New US 212 by an interchange. For purposes of this study, it is assumed that the future connection between US 169 and CSAH 69 will be an interchange.



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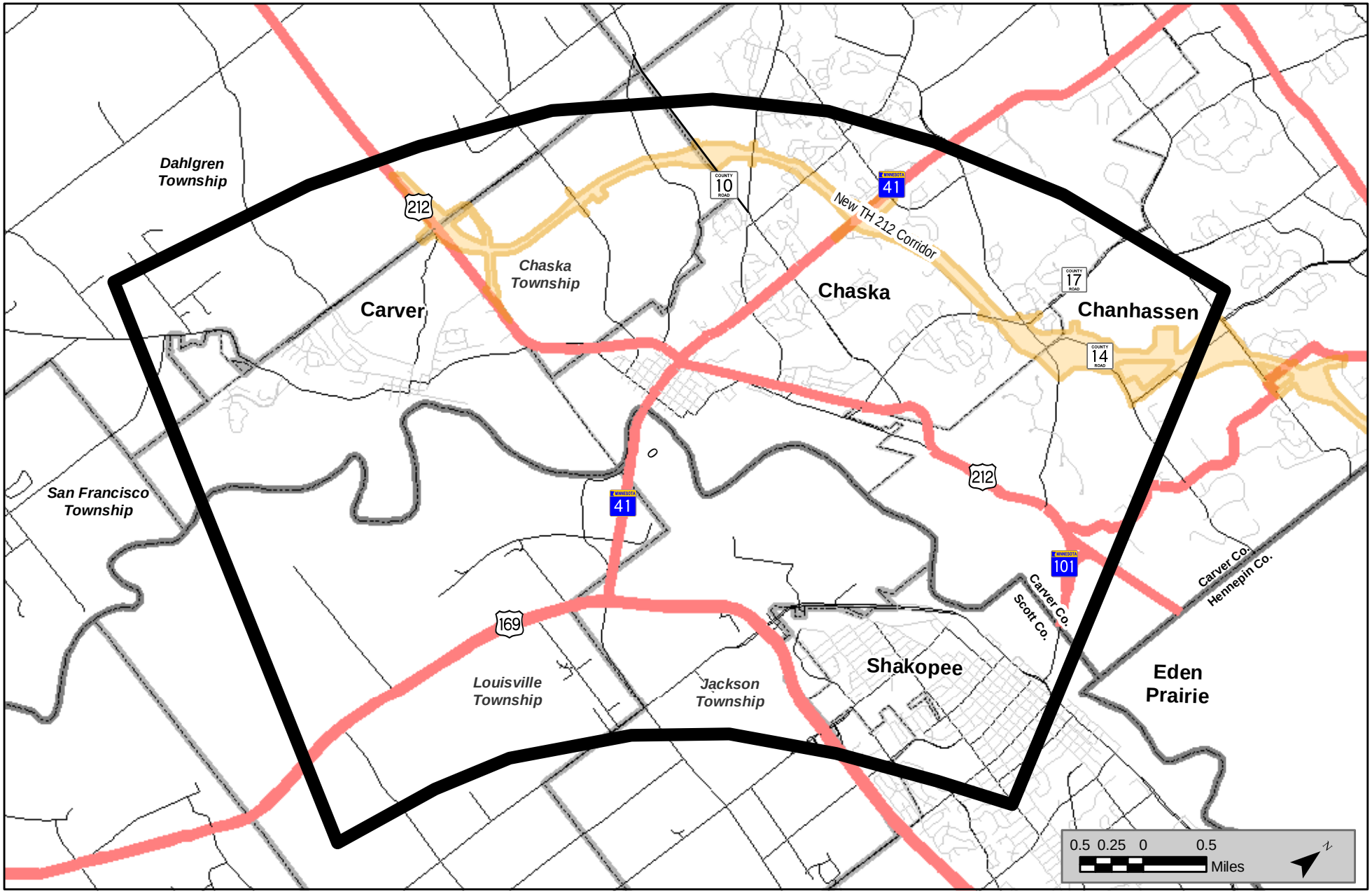
STATE / COUNTY LOCATION MAP

Figure 1-1

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Draft Environmental Impact Statement
S.P. #1008-60
Minnesota Department of Transportation



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STUDY AREA MAP

Figure 1-2

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Draft Environmental Impact Statement
S.P. #1008-60
Minnesota Department of Transportation

Beyond the boundaries of the study area, crossings of the Minnesota River include: TH 25, 14 miles west of TH 41; CSAH 9/45 6 miles west of TH 41; Highway 101, 3.5 miles east of TH 41; US 169 (Bloomington Ferry Bridge), 10 miles east of TH 41; and I-35W, 5 miles east of US 169.

The study area is currently characterized by urban- and suburban-density development, agricultural activities, and natural resource areas most notable being public lands within the Minnesota Valley National Wildlife Refuge (MVNWR) and the Minnesota Valley State Recreation area, the Seminary Fen/Assumption Creek wetland complex, and remaining other tracts of native vegetation within the study area. Figure 1-3 depicts key features in the project area. As discussed in Section 2.2, the population of Scott County grew by 54 percent and the population of Carver County grew by 46 percent during the 1990s. Rapid growth in the southwestern metropolitan area, including the study area, is projected to continue.

1.4 ALTERNATIVES STUDIED IN THE DEIS

The Build alternatives that were studied in the DEIS are depicted in Figure 1-3 and briefly described below. Alternatives for study in the DEIS resulted from a scoping process, described in the Scoping Document (SD), with the final decision documented in the Scoping Decision Document (SDD) (approved February 18, 2005, amended March 17, 2006).

1.4.1 No-Build Alternative

The No-Build alternative is defined as future conditions that include programmed improvements to the regional transportation system. This alternative does not include construction of a new TH 41 river crossing. The regional highway network improvements assumed under No-Build conditions are described in Chapter 4. While the No-Build alternative would not adequately address the need for the project (detailed in Chapter 2), it is analyzed as the basis for comparison of the other DEIS alternatives.

1.4.2 Build Alternatives

Each of the six Build alternatives is a freeway design with an interchange at US 169 and at New US 212.

1.4.2.1 Alternative W-2

Alternative W-2 is located in the western portion of the study area. This alternative intersects with US 169 one mile west of existing TH 41/CSAH 78 and connects with New US 212 at the New US 212/CSAH 11(CR 147)[1] interchange.

[1] When construction of New US 212 is complete (scheduled fall 2008), CR 147 will be redesignated CSAH 11. It is referenced to as CSAH 11 throughout the remainder of the DEIS, including on figures.

1.4.2.2 Alternative C-2

Alternative C-2 is in the central/western portion of the study area. This alternative connects to US 169 at the planned US 169/existing TH 41 interchange (the design assumes a realigned existing TH 41/CSAH 78) and connects to New US 212 at the New US 212/CSAH 11 interchange.

1.4.2.3 Alternative C-2A

Alternative C-2A is located in the central portion of the study area. This alternative connects to US 169 at the planned US 169/existing TH 41 interchange (the design assumes a realigned existing TH 41/CSAH 78) and connects to New US 212 at CSAH 10/Engler Boulevard.

1.4.2.4 Alternative E-1

Alternative E-1 is in the eastern portion of the study area. This alternative connects to US 169 at the planned US 169/CSAH 69 interchange, and connects with New US 212 at CSAH 17/Audubon Road. This alternative assumes that US 169 is realigned south of its existing alignment in the vicinity of CSAH 69.

1.4.2.5 Alternative E-1A

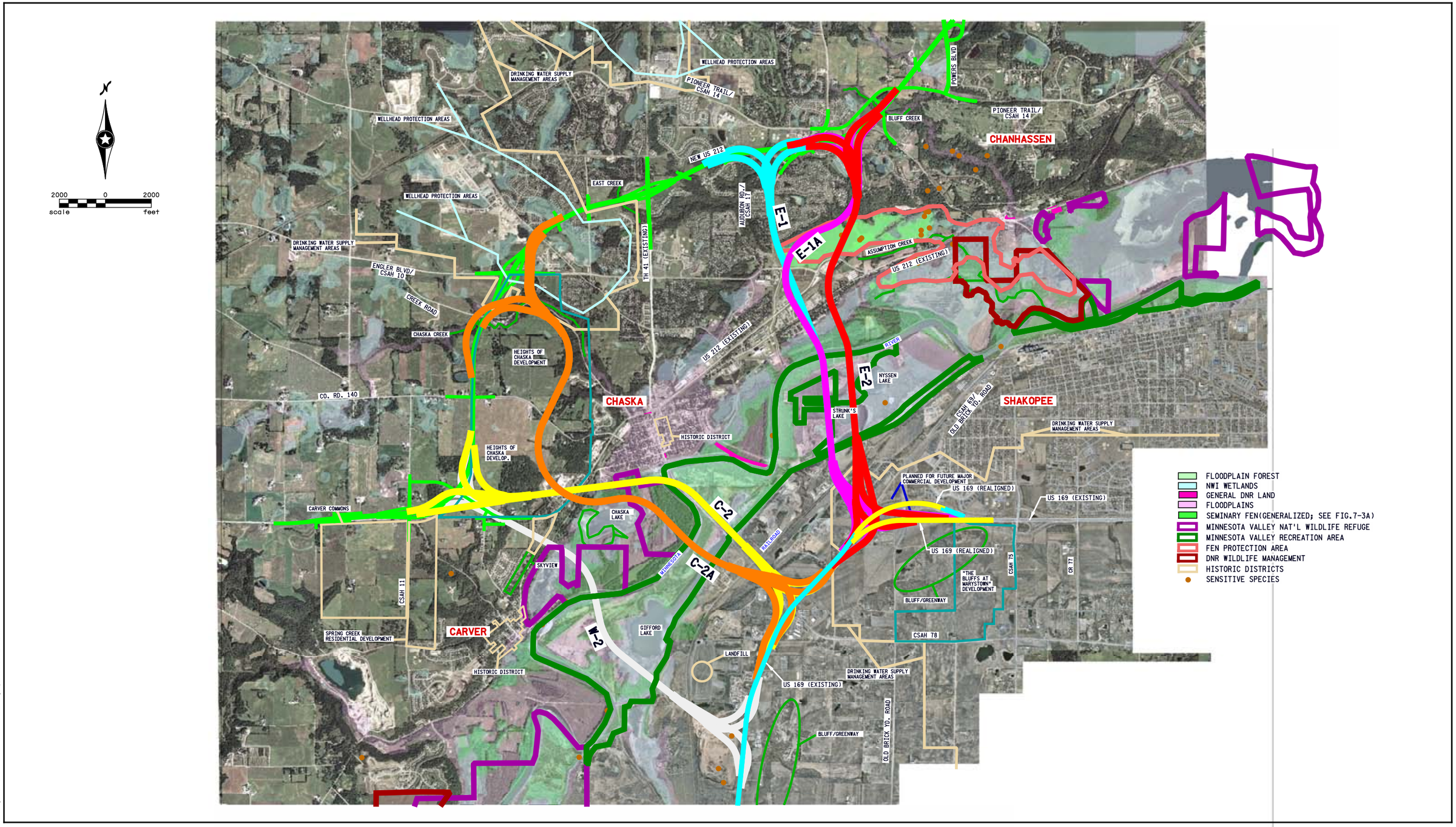
Alternative E-1A is located in the eastern portion of the study area. This alternative is identical to Alternative E-1 south of the Minnesota River, therefore also assumes that US 169 is realigned south of its existing alignment in the vicinity of CSAH 69. North of the river, this alternative follows the bluff line and connects to New US 212 near Bluff Creek Road.

1.4.2.6 Alternative E-2

Alternative E-2 is located in the eastern portion of the study area. It is the easternmost alignment of all the Build alternatives. This alternative connects to US 169 at the planned US 169/CSAH 69 interchange and connects to New US 212 near Bluff Creek Road. This alternative assumes that US 169 is realigned south of its existing alignment in the vicinity of CSAH 69.

1.5 RESPONSIBLE GOVERNMENTAL UNITS

The Minnesota Department of Transportation (Mn/DOT) is the Responsible Governmental Unit (RGU) for the development of the proposed project with respect to state environmental review requirements and the Federal Highway Administration (FHWA) is the lead federal agency.



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BUILD ALTERNATIVES, WITH KEY FEATURES

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Draft Environmental Impact Statement
S.P. #1008-60
Minnesota Department of Transportation

Figure 1-3

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1.6 COSTS/FUNDING

Table 1-1 presents estimated construction and right of way costs (in 2005 dollars) for each of the proposed Build alternatives. Note that mitigation costs are not estimated, but that the higher number in the cost range represents an added risk assessment percentage to account for several currently unknown factors, including mitigation.

TABLE 1-1
COST ESTIMATES (2005 DOLLARS)[1]

	Alternative						
Cost	**W-2**	**C-2**	**C-2A**	**E-1**		**E-1A**	**E-2**	
Construction[2]	335-390M	305-355M	345-405M	Low Profile High Profile	375-460M 395-485M	410-490M	Low Profile High Profile	370-440M 375-450M
Right of Way[3]	55-80M	75-105M	65-90M	Low Profile High Profile	100-135M 100-135M	55-75M	Low Profile High Profile	60-80M 60-80M
Total	**390-470M**	**380-460M**	**410-495M**	**Low Profile High Profile**	**475-595M 495-620M**	465-565M	**Low Profile High Profile**	**430-520M 435-530M**

(1) Rounded to nearest $5 million

(2) Range provided with high number representing construction cost with a roadway risk-assessment percentage added following Mn/DOT peer review of cost factors.

(3) Includes right of way acquisition and relocation costs. No right of way differences between low and high profile options. Section 5.2.2.2.2 provides detailed cost estimates.

Funds from a variety of regional, state and federal sources are anticipated for this project. The project is included in the Mn/DOT Metro District's fiscally constrained Transportation System Plan (TSP) for preservation of right of way. The Metropolitan Council's Transportation Policy Plan (TPP) for the Twin Cities Metropolitan Area also includes right of way preservation for this project. It is shown on the 2030 constrained Metropolitan System Plan of Investment Priorities.

Upon determination of a preferred alternative, Mn/DOT will reevaluate needs and timing of right of way and construction funding during future TSP updates, which occur approximately every three years.

1.7 SCHEDULE

The following is the anticipated project schedule for completion of the TH 41 Minnesota River Crossing Tier I EIS and Tier II EIS.

TABLE 1-2
SCHEDULE

Task/Activity	Completion Date
Distribute Tier I DEIS for agency/public comment; start of DEIS comment period	June 2007
Public Hearing on Tier I DEIS	July 2007
Identification of Preferred Alternative by Mn/DOT and Federal Highway Administration (FHWA)	Fall 2007
Distribution of FEIS	Summer 2008
Mn/DOT Adequacy Determination	Summer 2008
FHWA Record of Decision	Summer 2008
Begin implementation of corridor preservation measures	2008
Initiation of Tier II EIS process	Three Years Prior to Construction*

*Construction is not currently in Mn/DOT 20-year plan.

The outcome of the Tier I EIS process will be a selected corridor for right of way preservation. Upon completion of the EIS process Mn/DOT will work with local communities and the affected landowners to identify the best approach to preserve the needed right of way. It will most likely involve official mapping of the selected corridor. "Official Mapping" is a local zoning tool that enables Mn/DOT to work with the local communities to acquire undeveloped properties within the selected corridor where development is imminent as well as open market sales or hardship acquisitions of existing homes or businesses (i.e. the river crossing alignment makes selling the property difficult). Note that early acquisition efforts are limited by law to willing sellers. When the bridge construction is programmed then it will be necessary to complete acquisitions of all the properties and eminent domain actions may be required if negotiated settlements cannot be reached.

In terms of new development, Mn/DOT is encouraging cities to take the river crossing alignments into consideration during the local approval process. When a preferred alternative is selected, Mn/DOT can work with local communities to secure right of way dedication as part of new development.

1.8 MAJOR ENVIRONMENTAL IMPACT SUMMARY

Table 1-4 summarizes the transportation, environmentally social and economic impacts of the Tier I DEIS alternative. Assessment of these impacts is based upon an assumed 300-foot wide corridor, with wider impacts at interchange areas, and to provide for ponding and topographic considerations. The impacts included in the summary table may be able to be further minimized through avoidance and minimization efforts during design that will occur during the Tier II EIS process and during final project design, but represent a reasonable basis for comparison among alternatives for the purpose of identifying a preferred alternative for corridor preservation.

1.9 OTHER MAJOR GOVERNMENTAL ACTIONS IN THE STUDY AREA

As discussed in Section 1.3, the US 169 CMP proposes future conversion of US 169 to a freeway facility within the project study area. For purposes of this DEIS, it is assumed that, under a separate project or projects, interchanges will be built at US 169/CSAH 14, US 169/existing TH 41/CSAH 14, and US 169/CSAH 69. The design of the eastern Build alternatives assumes that, as part of the future US 169 corridor improvements, US 169 will be realigned south of its existing alignment in the vicinity of CSAH 69. These assumed US 169 corridor improvements have not been programmed. The need for these improvements is independent from the need for the proposed New TH 41 project – that is, the projects have independent utility. However, depending upon Build alternative, the proposed new river crossing would influence the design of future US 169 corridor improvements. In addition, the alignment of US 169 in the vicinity of CSAH 69 will influence the design of the eastern Build alternatives. The relationship between the proposed project and planned US 169 corridor improvements is discussed in Chapter 3, and noted in appropriate impact analyses.

In addition, New US 212 is currently under construction, to be completed fall 2008. The design of the proposed project and relevant impact analyses account for its effect on New US 212.

1.10 POTENTIAL AREAS OF CONTROVERSY AND UNRESOLVED ISSUES

Throughout the EIS scoping and DEIS process, Mn/DOT has made extensive efforts at agency, local government and public involvement, in order to identify potentially controversial issues and resolve them during development of the DEIS alternatives. This effort has generally been successful in addressing concerns of stakeholders in the project area, however different agencies and different municipalities affected by the proposed DEIS alternatives have varying priorities and interests they would like to see protected. The chief area of controversy relates to the trade-offs in terms of impacts among all alternatives, in particular trade-offs between impacts to the natural environment (i.e., habitat, vegetation, wetlands, calcareous fen) and impacts to the social/cultural environment (i.e., developed and developing areas, historic properties). However, there are currently no unresolved issues.

The DEIS document attempts to document the positions presented by these various interested parties, to inform the process of assessing benefits and impacts and, ultimately the preferred alternative decision-making process.

1.11 PERMITS AND APPROVALS

Permits, approvals, or completion of other documentation prior to the start of construction of the proposed project are required by the agencies listed in Table 1-3.

TABLE 1-3
AGENCY PERMITS, APPROVALS, AND OTHER REQUIRED DOCUMENTS

FEDERAL	
Advisory Council on Historic Preservation	▪ Section 106 of the National Historic Preservation Act (potential) ▪ Programmatic Agreement
Federal Highway Administration	▪ Tier I EIS (Draft and Final) and Section 4(f) of the Department of Transportation Act of 1966 Evaluations (Draft and Final) ▪ Tier I Section 106 of the National Historic Preservation Act ▪ Tier I EIS Record of Decisions ▪ Tier II EIS (Draft and Final) and Section 4(f) of the Department of Transportation Act of 1966 Evaluations (Draft and Final) ▪ Tier II Section 106 of the National Historic Preservation Act ▪ Tier II EIS Record of Decision ▪ Air Conformity Determination
U.S. Army Corps of Engineers	▪ Section 404 of the Clean Water Act – Permit (fill in U.S. waters) ▪ Section 10 of the Rivers and Harbors Act
U.S. Fish and Wildlife Service	▪ Acquisition or Easement Agreement (if needed)
National Park Service	▪ Coordination regarding potential Wild and Scenic River ▪ Section 6(f) Conversion approval (if needed)
Federal Emergency Management Agency (FEMA)	▪ Conditional Letter of Map Revision (if needed)

TABLE 1-3 continued
AGENCY PERMITS, APPROVALS, AND OTHER REQUIRED DOCUMENTS

STATE	
MN Department of Transportation	▪ Scoping Decision Document ▪ Amended Scoping Decision Document ▪ Tier I EIS (Draft and Final) and Section 4(f) of the Department of Transportation Act of 1966 Evaluations (Draft and Final) ▪ Tier I EIS Adequacy Determination ▪ Tier II EIS (Draft and Final) and Section 4(f) of the Department of Transportation Act of 1966 Evaluations (Draft and Final) ▪ Tier II EIS Adequacy Determination ▪ Noise Standards Exemption ▪ Wetlands Conservation Act (WCA)
MN Department of Natural Resources	▪ ▪ Public Waters Permit (if needed) ▪ Calcareous Fen Management Plan (if needed) ▪ Endangered Species Taking Permit (if needed) ▪ Mussel Relocation Permit (if needed) ▪ Water Appropriation Permit (if needed) ▪ Threatened and Endangered Species Taking Permit ▪ Acquisition or Easement Agreement (if needed)
MN Pollution Control Agency	▪ Noise Standards Exemption ▪ Section 401 of the Clean Water Act – Water Quality Certification ▪ National Pollutant Discharge Elimination System Permit (NPDES) ▪ Tier I Programmatic Agreement (to be determined)
MN State Historic Preservation Office	▪ Tier I Section 106 of the National Historic Preservation Act – Programmatic Tier II Memorandum of Agreement
REGIONAL	
Twin Cities Metropolitan Council	▪ Controlled Access Approval
LOCAL	
City of Shakopee [(1)]	▪ Municipal Consent (if needed)
City of Chaska[(1)]	▪ Municipal Consent (if needed)
City of Carver	▪ Municipal Consent (if needed)
City of Chanhassen	▪ Municipal Consent (if needed)
Local Watershed Districts	▪ Permits/Coordination of Grading and Drainage Plans/Dewatering/ Floodplain Management
Local Watershed Management Organizations	▪ Coordination of Grading and Drainage Plans/Dewatering/ Floodplain Management

[(1)] Assume affected land will be within city limits by time of construction

1.12 IMPACTS

Table 1-4 located at the end of this chapter provides an abbreviated summary of the identified impacts of the No-Build and six Build alternatives.

1.13 MITIGATION SUMMARY

The purpose of the Tier I EIS process is to identify and evaluate the social, economic and environmental issues associated with alternative corridor locations, as a basis for identifying a preferred corridor that can be preserved as right of way for future use. Design details will be developed in the Tier II EIS process which will occur closer to the time of construction. As

corridor-level documents, the Tier I DEIS and FEIS address the potential for mitigation; however mitigation plans will be developed in the Tier II EIS process. This summary presents information regarding current regulatory requirements, project benefits or expected changes in the project area that can be expected to offset project impacts, and general approaches to mitigation that are able to be identified at the Tier I level of environmental documentation.

Right of Way

All Build alternatives would have right of way impacts. All acquisition of property due to the proposed project will be conducted in accordance with the Uniform Relocation and Real Property Acquisition Act of 1970, as amended by the Surface Transportation and Uniform Relocation Assistance Act of 1987 and 49 Code of Federal Regulations Part 24, and effective April 1989 (revised January 2005)

Business/employees

All Build alternatives would result in impacts to project area businesses and employees. Acquisition of commercial properties will be conducted as described above under Right of Way. In addition, it should be noted that as employment in the study area communities is anticipated to grow substantially over the next decade, it is expected that there will be sufficient accessible job opportunity to replace jobs lost through acquisition of commercial/industrial properties.

Fiscal

All Build alternatives would result in fiscal impacts (annual tax losses for both Scott and Carver Counties) due to property acquisitions. This decrease in property tax base resulting from conversion of private property to public right of way is anticipated to be offset by new development occurring in communities in the study area.

Environmental Justice

Alternatives C-2, C-2A, E-1, E-1A and E-2 each would result in impacts to low income and minority populations (i.e. environmental justice impacts), specifically direct right of way, noise, and visual impacts and potential indirect impacts due to loss of affordable housing stock. Mitigation for the direct impacts would be the same as for impacts to the general populations. With regard to potential indirect impacts on the stock of affordable housing, the advantage of the Tier I process is that it provides communities information about expected future impacts to affordable housing which the communities can take into account as they plan for their future housing needs in their housing plans. Note also that impacts to low income and minority populations are offset by overall improved regional accessibility and alleviation of congestion affecting quality of life.

Neighborhoods, Community Facilities, Access

All Build alternatives would have impacts to community cohesion, traffic patterns and access, community facilities, and services. These impacts are offset by overall improved regional accessibility and alleviation of congestion affecting quality of life, particularly in downtown Chaska.

Cultural Resources

Alternative C-2 has been determined to have an adverse effect on Athletic Field (Chaska Cubs Ballfield), a property found to be eligible for the National Register of Historic Places (NRHP). It is premature to assess the effect of Alternatives W-2, C-2 and C-2A on other identified NRHP eligible cultural resources. Alternatives E-1, E-1A and E-2 have been determined to have no adverse effect on identified NRHP-eligible properties. Specific mitigation for adverse effects on NRHP-eligible properties will be addressed in the Tier II process. During the Tier I FEIS, a Programmatic Agreement will be executed among FHWA, Mn/DOT, the State Historic Preservation Office (SHPO) and other appropriate parties to outline the completion of the federal cultural resources (Section 106) process as planning for this project proceeds.

Parks, Trails, Recreational Areas (Section 4(f)/Section 6(f))

All Build alternatives would have impacts to the MVNWR and MVSRA/MV Trails. Alternative C-2 would have a direct impact to Athletic Park. Alternatives E-1, E-1A, and E-2 would have impacts to Pioneer Park/ Chaska High School/ Pioneer Ridge Freshman Center Complex, Audubon Trails, and City of Chaska Trails. Impacts to Section 4(f) properties will be minimized through roadway or bridge design. Efforts will be made to maintain access to and use of the facilities during construction. Specific mitigation for impacts of the Preferred Alternative will be determined through the Tier II EIS process and Section 4(f) Evaluation prepared at the time of the Tier II EIS.

Threatened and Endangered Species

Alternatives W-2, E-1 and E-2 are located where threatened and endangered species have been reported. Additional field surveys may be needed during the Tier II process to confirm/detail the presence of these species. A mussel study will be completed during the Tier II process. Mitigation measures to avoid, minimize, or alleviate impacts to threatened/endangered or other protected species will be defined during the Tier II process. Mitigation measures may include timing of construction activities to avoid disturbance during bird nesting periods, or endangered mussel relocation when live specimens are identified in the preferred alternative corridor. Continuing involvement with the MnDNR and USFWS will take place through the Tier I FEIS and Tier II processes.

Vegetation/Wildlife/Habitat Communities

All Build alternatives would impact vegetation and native habitats and could result in shading effects, salt spray, debris, and spread of opportunistic invasive species. Additionally, bridge piers as well as the at-grade roadway could act as a barrier to wildlife movement. Design refinements will be made during the Tier II EIS to minimize impacts. Where impacts to wildlife are unavoidable, the effect of the impacts would be minimized through design features such as wildlife crossings where the roadway is at-grade. Mitigation opportunities include timing of construction to avoid nesting and fish spawning seasons or during winter months when soils are frozen; re-vegetation of disturbed areas with native plants; restoration of un-fragmented and close-canopied forest on the Minnesota River bottoms and native grassland; erosion and sedimentation and water quality Best Management Practices (BMPs).

Seminary Fen/Assumption Creek

Alternatives E-1, E-1A, and E-2 would impact the Seminary Fen Wetland Complex (SFWC). In accordance with Wetland Conservation Act (WCA) requirements, the MnDNR would provide technical assistance in development of a management plan for the SFWC. Mitigation techniques to minimize impacts to the entire wetland complex may include the use of coffer dams, swamp mats, dormant season construction, surface water protection, erosion and sedimentation control, relocation of fen vegetation, vegetation management, management of use of road salts, and restoration and management for compensatory mitigation.

Surface Water Quality/Storm Water Runoff

All Build alternatives would result in the creation of impervious surface and increased volume and rate of stormwater runoff that contains contaminants common to roadways. BMPs, such as storm ponds, wet detention basins, filter strips and infiltration areas, would be incorporated as required to meet state and federal water quality regulatory requirements. To the extent possible, stormwater runoff would also be routed through a wet detention basin prior to discharge into the Minnesota River. Mitigation strategies to reduce impacts from winter de-icing materials include carefully monitoring timing, method, and application rates of de-icing materials.

Wild and Scenic River

This section of the Minnesota River is not currently designated as a Wild and Scenic River, but it is on the National River Inventory. All Build alternatives would have the potential to negatively impact the scenic nature of the River. Bridge design will be addressed in the Tier II EIS process. The impact to scenic value of the river will be an important design consideration and will be assessed in the Tier II EIS.

Floodplains

All Build alternatives would have similar minimal effect on the floodplain.

Any adverse impacts can be successfully minimized through careful design and construction considerations. Temporary and permanent erosion control measures would be used where appropriate and would be designed to meet regulatory guidelines.

Groundwater

Alternatives E-1, E-1A and E-2 pose concerns about effects on groundwater due to the sensitivity of the Seminary Fen calcareous plant species on upwelling groundwater conditions. Groundwater monitoring indicates the benefits of using sheet piling and installing a grout seal in the base of the excavations for the bridge piers to reduce drawdown beyond the limits of the excavation and reduce impact to the rate of seepage of groundwater into the fen. Methodologies to minimize the potential for long term disturbances of groundwater flow due to soil compaction during construction could be evaluated. Measures such as vegetated filter strips along road embankments, grassed swales/ditches and detention basins can be implemented to promote infiltration/groundwater recharge of highway runoff.

All Build alternatives are located in the vicinity of wellhead protection areas. If necessary, roads that encroach on wellhead protection areas can be constructed with additional containment features such as clay-lined ditches that would contain spills and prevent contamination to water supply aquifers. The Tier II EIS will need to address special design issues related to wellhead protection.

Wetlands

All Build alternatives would result in direct impacts to wetlands. The sequencing and mitigation procedures required by the Wetland Conservation Act (WCA) will be followed when assessing alternatives and design options.

Noise

Both State and Federal criteria are exceeded at a number of existing receptors for all Build alternatives (as well as under existing and No-Build conditions). Mitigation measures could include noise barriers or other sound attenuation methods, or incorporation of land use controls to limit the number of noise-sensitive receptors located adjacent to or in the vicinity of the project corridor. Evaluation of noise barriers as mitigation to avoid and/or minimize impacts as well as guidance for local governments regarding potential noise mitigation measures (such as recommended set-back distances for proposed developments) will be included in the Tier II EIS.

Air Quality

It is expected that there would be reduced MSAT emissions when compared to No-Build in the immediate area of the project due to the reduced vehicle hours traveled and due to Environmental Protection Agency (EPA) MSAT reduction programs. Detailed air quality analyses will be conducted during the Tier II EIS process.

Contaminated Sites

Contaminated properties are located in or near all Build alternative corridors. Further evaluation of potentially contaminated properties identified in the Phase I ESAs will be completed for the preferred alternative during the Tier II process. The results would be used to determine whether the contaminated materials can be avoided or whether the project's impacts to these properties can be minimized. If necessary, a plan would be developed for properly handling and for treating contaminated soil and/or groundwater during construction. Any soil and groundwater remediation activates would be coordinated with appropriate regulatory agencies.

Visual Quality

All Build alternatives would substantially change the visual quality of the study area with the addition of a long, high bridge across the river valley, grade-separations over existing roadways and the introduction of new highway into developed and undeveloped areas. Design will be addressed in the Tier II process. Consideration can be given to aesthetic treatment of design elements on the bridge and at the interchanges. Other measures that can mitigate negative visual impacts include minimizing the clearing of natural vegetation and replacement of lost or removed vegetation with native species and retention of slope and bottom land vegetation. Mitigation measures would be evaluated further and refined in the Tier II EIS.

Steep Slopes, Erodible Soils

All Build alternatives would cross areas of steep slopes and/or potentially erodible soils. BMPs such as erosion control blankets, fast growing cover crops and silt fencing would be implemented in accordance with the National Pollutant Discharge Elimination System (NPDES) permit that is required for the project. After the construction is complete, disturbed areas would be re-vegetated to control erosion on a permanent basis.

Farmland

All Build alternatives would require acquisition of farmland. Such acquisition would be in conformance with the Uniform Relocation and Real Property Acquisition Act of 1970 as amended by the surface Transportation and Uniform Relocation Assistance Act of 1989 and 49 Code of the Federal Regulations, Part 24. It should be noted that farmland impacts that are actually likely to occur are reduced by the orderly development of land (i.e. conversion of farmland to urban uses) provide for in local comprehensive plans and processes. It is expected that farmland within the selected TH 41 corridor will likely not be acquired until conversion to non-agricultural uses (through development) is imminent. Efforts to minimize impact to remaining farmland will be part of the Tier II process.

Construction Impacts

All Build alternatives would pose impacts during construction. Details of the construction activities, including mitigation measures such as a detailed erosion control plan, a plan for management and disposal of any excess material, a construction staging plan, special construction techniques for river bridge construction, traffic flow management techniques and access maintenance and/or detour plan would be developed during the Tier II EIS process.

Indirect Impacts

All Build alternatives have the potential for indirect impacts due to land development, the effect on the design of planned US 169 corridor improvements, and the broader effects to the natural environment due to ecological relationships.

Land development impacts are subject to land, local land use plans and land use controls, agency permits and approvals. Alternatives C-2, C-2A, E-1, E-1A and E-2 would have the potential for indirect social impacts due to the reduction in affordable housing supply. However, because of the timeframe for construction, communities will have time to plan for future land use and transportation systems to fit physically with the project and for adequate supply of affordable housing. The Tier II EIS will evaluate the potential for more specific indirect effects of the project on area economic conditions and develop mitigation strategies as appropriate. Mn/DOT will be planning and implementing the US 169 improvements and, therefore, will be responsible for mitigation for impacts of any of that project. Any project mitigation that improves the natural environment, (e.g. wetland replacement, habitat restoration, etc.) would have a corresponding beneficial indirect impact on the broader ecosystem.

Mitigation of specifically-identified indirect effects of the proposed project will be addressed in the Tier II EIS process.

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TABLE 1-4
IMPACT SUMMARY

	Alternatives						
	No-Build	**W-2**	**C-2**	**C-2A**	**E-1**	**E-1A**	**E-2**
DESCRIPTION	N/A	Roadway length: 3.1 miles Bridge length: 10,550 feet No. of piers: 86	Roadway length: 3.9 miles Bridge length: 9,550 feet No. of piers: 80	Roadway length: 3.0 miles Bridge length: 9,350 feet No. of piers: 76	Roadway length: 3.1 miles Bridge length: 10,800 feet [low profile] 11,300 feet [high profile] No. of piers: 94	Roadway length: 3.6 miles Bridge length: 13,500 feet No. of piers: 112	Roadway length: 3.2 miles Bridge length: 12,000 feet No. of piers: 98
TRANSPORTATION AND FISCAL IMPACTS							
Capacity Improvement and Relief to Other River Crossings							
New TH 41 Average Daily Traffic (ADT) (2040)	N/A	45,000	48,000	43,000	56,000	56,000	59,000
Other River Crossings ADT (2040)							
▪ CSAH 9/45	▪ 25,100	▪ 19,200	▪ 21,600	▪ 21,300	▪ 20,800	▪ 21,300	▪ 21,300
▪ TH 41	▪ 36,500	▪ 24,700	▪ 22,000	▪ 24,800	▪ 23,800	▪ 25,100	▪ 24,200
▪ Highway 101	▪ 34,000	▪ 30,400	▪ 30,000	▪ 29,900	▪ 24,800	▪ 24,300	▪ 23,300
▪ US 169	▪ 141,000	▪ 135,000	▪ 135,000	▪ 135,000	▪ 131,000	▪ 129,000	▪ 129,000
▪ I-35W	▪ 133,000	▪ 133,000	▪ 133,000	▪ 133,000	▪ 132,000	▪ 132,000	▪ 132,000
Hours of Congestion (2040)							
▪ Existing TH 41 north of existing US 212	▪ 0	▪ 0	▪ 0	▪ 0	▪ 0	▪ 0	▪ 0
▪ Existing TH 41 river crossing	▪ 10	▪ 3	▪ 2	▪ 3	▪ 2	▪ 3	▪ 2
▪ Existing Highway 101 river crossing	▪ 10	▪ 7	▪ 7	▪ 7	▪ 6	▪ 6	▪ 5
Regional Efficiency (2040)							
▪ VMT (difference from No-Build)	▪ N/A	▪ 310,000	▪ 314,000	▪ 354,000	▪ 309,000	▪ 285,000	▪ 292,000
▪ VHT (difference from No-Build)	▪ N/A	▪ -3,900	▪ -3,500	▪ -3,100	▪ -3,600	▪ -4,000	▪ -4,000
Safety							
Crashes (2040)							
▪ Freeway	▪ 996	▪ 1,058	▪ 1,052	▪ 1,058	▪ 1,052	▪ 1,055	▪ 1,053
▪ Non-Freeway	▪ 9,430	▪ 9,433	▪ 9,460	▪ 9,468	▪ 9,435	▪ 9,444	▪ 9,438
▪ Downtown Chaska	▪ 35	▪ 24	▪ 22	▪ 24	▪ 23	▪ 24	▪ 23
Other		▪ Grade-separated rail crossings increase safety and decrease number of stops for transports carrying hazardous/flammable materials. ▪ Substantial improvements in emergency response times, especially during flood conditions. ▪ Reduced potential for vehicle-bicycle or vehicle-pedestrian conflicts.					
Trucks per day (% of ADT) (2040)							
▪ New TH 41	▪ N/A	▪ 2,360 (5)	▪ 2,350 (5)	▪ 2,210 (5)	▪ 3,650 (7)	▪ 4,130 (7)	▪ 4,040 (7)
▪ Existing TH 41	▪ 2,700 (7)	▪ 900 (4)	▪ 700 (3)	▪ 800 (3)	▪ 700 (3)	▪ 700 (3)	▪ 700 (3)
▪ Highway 101	▪ 1,400 (4)	▪ 1,500 (5)	▪ 1,500 (5)	▪ 1,300 (4)	▪ 1,300 (5)	▪ 1,300 (5)	▪ 1,000 (4)
▪ US 169	▪ 8,900 (6)	▪ 8,700 (6)	▪ 8,700 (6)	▪ 9,100 (7)	▪ 8,300 (6)	▪ 8,200 (6)	▪ 8,100 (6)
Fiscal							
Cost (in 2005 dollars) (rounded to $10M)							
▪ Construction (higher figure risk assessed for factors including mitigation)		▪ $335-$390M	▪ $305-$355M	▪ $345-$405M	▪ $375-$460M (Low Profile) ▪ $395-$485M (High Profile)	▪ $410-$490M	▪ $370-$440M (Low Profile) ▪ $375-$450M (High Profile)
▪ Right of way	N/A	▪ $ 55- $80M	▪ $ 75-$105M	▪ $ 65- $90M	▪ $100-$135M	▪ $ 55- $75M	▪ $ 60- $80M
▪ Total		▪ $390-$470M	▪ $380-$460M	▪ $410-$495M	▪ $475-$495M (Low Profile) ▪ $495-$620M (High Profile)	▪ $465-$565M	▪ $430-$520M (Low Profile) ▪ $435-$530M (High Profile)
Benefit/Cost Ratio	N/A	3.43	3.39	3.29	2.33	2.72	2.84
SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACTS							
Right of way	N/A	▪ 258 acres ▪ 44 affected parcels: – 7 residential – 17 agricultural – 7 industrial/commercial – 9 public – 4 other	▪ 320 acres ▪ 59 affected parcels: – 15 residential – 15 agricultural – 15 industrial/commercial – 11 public – 3 other	▪ 301 acres ▪ 133 affected parcels: – 69 residential – 17 agricultural – 16 industrial/commercial – 16 public – 15 other	▪ 360 acres ▪ 204 affected parcels: – 144 residential – 11 agricultural – 6 industrial/commercial – 39 public – 4 other	▪ 214 acres ▪ 84 affected parcels: – 35 residential – 10 agricultural – 13 industrial/commercial – 25 public – 1 other	▪ 194 acres ▪ 34 affected parcels: – 42 residential – 9 agricultural – 56 industrial/commercial – 24 public – 1 other
Residential Units Needed to be Acquired[1]		▪ 13	▪ 29	▪ 78	▪ 261	▪ 136	▪ 210
Business/employees	N/A	6 businesses 125 employees	11 businesses 114 employees	12 businesses 134 employees	3 businesses 115 employees	7 businesses 264 employees	5 businesses 99 employees
Fiscal							
▪ Annual tax loss (Scott County)		▪ $25,150	▪ $162,200	▪ $166,750	▪ $25,000	▪ $33,700	▪ $44,200
▪ Annual tax loss (Carver County)		▪ $15,350	▪ $ 17,450	▪ $ 45,900	▪ $45,900	▪ $84,350	▪ $32,150

[1] Includes single family homes, townhomes and mobile home units. Does not include farm houses. Note: Agricultural parcels include seven properties that will be classified as residential before the anticipated build-year.

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TABLE 1-4 continued
IMPACT SUMMARY

	Alternatives						
	No-Build	**W-2**	**C-2**	**C-2A**	**E-1**	**E-1A**	**E-2**
SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACTS							
Environmental Justice	N/A	No disproportionate impacts	18 households – Jackson Heights	38 households – Jackson Heights	▪ Up to 126 households – Mobile Manor, Bonnevista and Riverview Terrace	▪ Up to 113 households – Mobile Manor, Bonnevista and Riverview Terrace	▪ Up to 182 households – Mobile Manor, Bonnevista and Riverview Terrace
Neighborhoods	N/A	▪ River Bluff Estates (Carver) ▪ Separates northeast portion of Carver from remainder of City	▪ Jackson Heights ▪ Separates corner of Heights of Chaska from remainder ▪ Separates Carver and Chaska	▪ Jackson Heights ▪ Divides Heights of Chaska ▪ Separates Carver and Chaska	▪ Mobile Manor, Bonnevista and Riverview Terrace ▪ Separates established Chaska neighborhoods east and west of Audubon Road	▪ Mobile Manor, Bonnevista and Riverview Terrace ▪ Separates Chaska and Chanhassen	▪ Mobile Manor, Bonnevista, and Riverview Terrace ▪ Separates Chaska and Chanhassen
Community Facilities	N/A	▪ Renaissance Festival (private)	▪ No impact	▪ Chaska maintenance facility (minor land acquisition)	▪ Church, church residence ▪ School property	▪ School property	▪ St. John's Cemetery expansion area ▪ School property
Access	N/A	▪ Existing US 212 realigned ▪ Mt. Hope Road extended to realigned existing US 212	▪ Affects design of US 169/ existing TH 41 interchange and US 169/CSAH 69 interchange ▪ Assumes existing TH 41/ CSAH 78 realigned to the west ▪ Local ramps at New US 212/CSAH 11 interchange reconstructed	▪ Affects design of US 169/ existing TH 41 interchange and US 169/CSAH 69 interchange ▪ Assumes existing TH 41/ CSAH 78 realigned to the west ▪ Local ramps at New US 212/CSAH 11 interchange reconstructed	▪ Affects design of US 169/ existing TH 41 interchange and US 169/CSAH 69 interchange ▪ Numerous local roadway alterations needed to restore access to affected parcels	▪ Affects design of US 169/ existing TH 41 interchange and US 169/CSAH 69 interchange	▪ Affects design of US 169/ existing TH 41 interchange and US 169/CSAH 69 interchange
Cultural Resources	Walnut Street Historic District (downtown Chaska)	Effect cannot be determined at this time	▪ Athletic Field (a.k.a. Chaska Cubs Ball Field) ▪ Effect on other resources cannot be determined at this time	Effect cannot be determined at this time	No adverse effect	No adverse effect; assumes alignment will avoid archeological site	No adverse effect; assumes alignment will avoid archeological site
Parks, Trails, Recreational Areas (Section 4[f])	N/A	▪ Temporary construction impacts to Canoe and Boating route ▪ 20.4 acres Minnesota Valley National Wildlife Refuge (MVNWR) ▪ 30.6 acres Minnesota Valley State Recreation Area/ Minnesota Valley (MVSRA/MV) Trails	▪ Temporary construction impacts to Canoe and Boating route ▪ 8.5 acres MVNWR ▪ 22.3 acres MVSRA/MV Trails ▪ 3.5 acres - Athletic Park, Chaska (possibly all 8 acres)	▪ Temporary construction impacts to Canoe and Boating route ▪ 36.1 acres MVNWR ▪ 5.4 acres MVSRA/MV Trails	▪ Temporary construction impacts to Canoe and Boating route ▪ 12.0 acres MVSRA/MV Trails ▪ 10.4 acres Pioneer Park/ Chaska High School/ Pioneer Ridge Freshman Center Complex ▪ 1.4 miles (1.3 acres) Audubon Trail ▪ 4,200 feet (0.8 acres) Chaska Trail Segments	▪ Temporary construction impacts to Canoe and Boating route ▪ 12.0 acres MVSRA/MV Trails ▪ 2.7 acres Pioneer Park/ Chaska High School/ Pioneer Ridge Freshman Center Complex ▪ 1,000 feet (0.2 acres) Audubon Trail ▪ 800 feet (0.2 acres) City of Chaska Trail Segments	▪ Temporary construction impacts to Canoe and Boating route ▪ 4.2 acres MVSRA/MV Trails ▪ 1.1 acres Pioneer Park/ Chaska High School/ Pioneer Ridge Freshman Center Complex ▪ 1,000 feet (0.2 acres) Audubon Trail ▪ 800 feet (0.2 acres) City of Chaska Trail Segments
Threatened and Endangered Species	No adverse impacts to rare species have been observed	▪ (Potential) freshwater mussel concentrations ▪ Kitten Tails (state threatened) ▪ Hills Thistle (state special concern) ▪ Regal Fritillary butterfly (state special concern) ▪ Tier II mussel study recommended	▪ No Threatened and Endangered species listed within ½ mile ▪ Shovelnose sturgeon (state special concern) ▪ Tier II mussel study anticipated	▪ No Threatened and Endangered species listed within ½ mile ▪ Shovelnose sturgeon (state special concern) ▪ Tier II mussel study anticipated	▪ No Threatened and Endangered species listed within ½ mile ▪ Shovelnose sturgeon (state special concern) ▪ Tier II mussel study anticipated	▪ Several species that are part of the Seminary Fen native plant community, including (but not limited to): – sterile sedge (state threatened) – low nutrush (state threatened) – beaked spikerush (state threatened) – white lady's slipper (state special concern) – twig rush (state special concern) ▪ Shovelnose sturgeon (state special concern) ▪ Tier II mussel study anticipated	▪ Several species that are part of the Seminary Fen native plant community, including (but not limited to): – sterile sedge (state threatened) – low nutrush (state threatened) – beaked spikerush (state threatened) – white lady's slipper (state special concern) – twig rush (state special concern) ▪ Shovelnose sturgeon (state special concern) ▪ Tier II mussel study anticipated

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TABLE 1-4 continued
IMPACT SUMMARY

	Alternatives						
	No-Build	**W-2**	**C-2**	**C-2A**	**E-1**	**E-1A**	**E-2**
SOCIAL, ECONOMIC, AND ENVIRONMENTAL IMPACTS							
Vegetation/Habitat	N/A	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds
▪ Native vegetation ▪ High quality native vegetation (BC rank or better) ▪ State rarity ranking of native vegetation ▪ Outstanding biodiversity area ▪ Forested areas ▪ Impacts to forest interior ▪ Creation of new forest edge		51.7 acres (3)* 33.3 acres (4) 48.8 acres (4) 0.0 acres (0) 33.9 acres (3) 24.9 acres (4) 15.9 acres (4)	54.8 acres (3) 36.3 acres (4) 38.1 acres (2) 0.0 acres (0) 38.6 acres (3) 20.8 acres (1) 13.6 acres (4)	81.6 acres (4) 44.9 acres (4) 61.4 acres (4) 0.0 acres (0) 61.3 acres (4) 33.6 acres (4) 23.3 acres (4)	29.9 acres (2) 2.8 acres (1) 28.9 acres (2) 0.5 acres (1) 22.3 acres (2) 12.2 acres (1) 7.0 acres (2)	48.9 acres (3) 28.1 acres (2) 35.9 acres (2) 30.6 acres (4) 33.0 acres (3) 20.1 acres (2) 11.6 acres (3)	59.3 acres (4) 34.2 acres (4) 48.9 acres (4) 26.0 acres (4) 26.3 acres (2) 21.8 acres (2) 10.2 acres (3)
Seminary Fen/Assumption Creek (3 calcareous fen component (CFC] areas)	N/A	No impact	No impact	No impact	No impact to CFC Areas 1 or 3. Water table drawdown 0.1 ft. to small portion of CFC Area 2	No impacts to CFC Area 1. Potential contamination transport to CFC Area 3. Major impact to CFC Area 2.	No impacts to CFC Area 1. Potential contamination transport to CFC Area 3. Major impact to CFC Area 2.
Surface Water Quality/Storm Water Runoff ▪ Impervious surface ▪ Permanent ponding storage requirement (% in floodplain)	N/A	▪ 44.1 acres ▪ 10.4 acre-ft. (33.6)	▪ 47.7 acres ▪ 13.9 acre-ft. (31.9)	▪ 60.3 acres ▪ 17.2 acre-ft. (24.0)	▪ 48.3 acres ▪ 15.0 acre-ft. (33.2) (High Profile) ▪ 14.7 acre ft. (38) (Low Profile)	▪ 52.9 acres ▪ 14.9 acre-ft. (26) (both profile options)	▪ 47.7 acres ▪ 14.8 acre-ft. (29.6) (both profile options)
Wetland Impacts	N/A	11.7 acres	10.9 acres	16.1 acres	9.0 acres (both profile options)	14.9 acres (High Profile) 14.6 acres (Low Profile)	15.7 acres (both profile options)
Wild and Scenic River	N/A	Impact on scenic value *(Note: this section of the Minnesota River is not currently designated as a Wild and Scenic River, but it is on the National River Inventory and is a candidate for potential National Wild and Scenic River)*					
Floodplain/Waterbodies ▪ Floodplain encroachment ▪ Increase in flood elevation	N/A	▪ 7,920 feet (Minnesota River) ▪ 0.01 foot (Minnesota River)	▪ 7,250 feet (Minnesota River) ▪ 0.02 foot (Minnesota River)	▪ 6,500 feet (Minnesota River) ▪ 1,464 feet (Bluff Creek) ▪ 0.01 foot (Minnesota River)	▪ 5,730 feet (Minnesota River) ▪ 0.02 foot (Minnesota River)	▪ 5,716 feet (Minnesota River) ▪ 163 feet (Bluff Creek) ▪ 0.02 foot (Minnesota River)	▪ 5,934 feet (Minnesota River) ▪ 166 feet (Bluff Creek) ▪ 0.01 foot (Minnesota River)
Groundwater	N/A	Potential dewatering or direct impacts to groundwater, not excessive	Potential dewatering or direct impacts to groundwater, not excessive	Potential dewatering or direct impacts to groundwater, not excessive	▪ Potential construction dewatering or permanent direct impacts to groundwater, limited with assumed pier construction ▪ High profile less potential for impact than Low profile	▪ Potential construction dewatering or permanent direct impacts to groundwater, limited with assumed pier construction ▪ High profile less potential for impact than Low profile	▪ Potential construction dewatering or permanent direct impacts to groundwater, limited with assumed pier construction ▪ High profile less potential for impact than Low profile
Physical							
Noise (daytime) (2040)	▪ 1 dBA over existing conditions ▪ would exceed Federal standards	▪ State standards exceeded by 4 to 16 dBA at 5 receptors ▪ Noise levels near downtown Chaska are 4 dBA lower than No-Build	▪ State standards exceeded by 1 to 6 dBA at 5 receptors ▪ 5 of 13 receptors lower than No-Build ▪ Downtown Chaska 4 dBA lower than No-Build	▪ State standards exceeded by 1 to 8 dBA at 12 receptors ▪ 7 of 15 receptors lower than No-Build ▪ Downtown Chaska 3 dBA lower than No-Build	▪ State standards exceeded by 4 to 12 dBA at five receptors ▪ 5 of 13 receptors lower than No-Build ▪ Downtown Chaska 4 dBA lower than No-Build	▪ State standards exceeded by 1 to 9 dBA at 6 receptors ▪ 4 of 13 receptors lower than No-Build ▪ Downtown Chaska 4 dBA lower than No-Build	▪ State standards exceeded by 4 to 7 dBA at 6 receptors ▪ 4 of 9 receptors lower than No-Build ▪ Downtown Chaska 4 dBA lower than No-Build
Air Quality		Reduced MSAT emissions in the immediate area of the project expected relative to No-Build, due to reduced VHT and EPA's MSAT reduction programs.					
Soil, Water Contamination		3 High risk sites	2 High risk sites 7 High risk sites	2 Medium risk sites 7 High risk sites	5 Medium risk sites 1 High risk sites	5 Medium risk sites 1 High risk sites	2 Medium risk sites 1 High risk sites
Visual Quality	N/A	Substantial permanent impacts, highly visible to neighbors, travelers, and riverway users					
Steep Slopes, Erodible Soils – Length of erodible soil crossing (acres)		550 feet (3.8 acres)	1,950 feet 13.4 acres)	4,980 feet (34.3 acres)	3,000 feet (20.6 acres)	4,700 feet (32.3 acres)	2,610 feet (18.0 acres)
Farmland	N/A	▪ 9 land owners ▪ 17 agricultural parcels ▪ 91 acres	▪ 14 land owners ▪ 15 agricultural parcels ▪ 148 acres	▪ 14 land owners ▪ 17 agricultural parcels ▪ 101 acres	6 land owners 11 agricultural parcels 50 acres	6 land owners 10 agricultural parcels 92 acres	7 land owners 10 agricultural parcels 80 acres
Excess/Borrow	N/A	Preliminary estimates indicate that up to 3.3 million cubic yards of borrow may be required for this project.					

*Number in ( ) indicates ranking of potential for impacts. (0) represents least potential for impacts/no impacts; (4) represents greatest potential for impacts.

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TABLE 1-4 continued
IMPACT SUMMARY

	Alternatives						
	No-Build	**W-2**	**C-2**	**C-2A**	**E-1**	**E-1A**	**E-2**
SOCIAL, ECONOMIC, AND ENVIRONMENTAL IMPACTS							
OTHER							
Construction Impacts	N/A	Local traffic congestion and access impacts; noise near sensitive receptors; temporary channel obstructions; impacts to aquatic species habitat					
Indirect Impacts	N/A	▪ Assumed US 169 south frontage road removes commercial building	▪ Assumed US 169/existing TH 41 interchange removes 3 homes ▪ Reduction in affordable housing may affect businesses, broader low-moderate income families	▪ Assumed US 169/existing TH 41 interchange removes 3 homes ▪ Reduction in affordable housing may affect businesses, broader low-moderate income families	Reduction in affordable housing may affect businesses, broader low-moderate income families	Reduction in affordable housing may affect businesses, broader low-moderate income families	Reduction in affordable housing may affect businesses, broader low-moderate income families
		▪ Increased development intensity near corridor; potential induced development beyond study area ▪ Vegetation/habitat effects					
Cumulative Impacts (greater potential)	N/A	▪ MVNWR – visual, noise, habitat fragmentation, storm water	▪ MVNWR – visual, noise, habitat fragmentation, storm water ▪ Mobile home parks ▪ Athletic Park	▪ MVNWR – visual, noise, habitat fragmentation, storm water ▪ Mobile home parks	▪ Mobile home parks ▪ Seminary Fen health	▪ Mobile home parks ▪ Seminary Fen health	▪ Mobile home parks ▪ Seminary Fen health
		Potential impacts to cultural resources, land development, vegetation, wildlife, threatened and endangered species and wetlands.					

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2.0 PURPOSE OF AND NEED FOR ACTION

2.1 PROJECT HISTORY

In 1970 Mn/DOT commissioned the *Corridor Location Study for Trunk Highways 169, 212 and 41* (the 1970 Study), which examined the long-term need to improve and realign US 169, US 212 and TH 41 in the Chanhassen/Chaska/Shakopee area. (Note: US 169 is also referred to as TH 169 in reports and studies; similarly, US 212 is also referred to as TH 212.) The regional transportation system needs identified during this planning process are discussed in Section 2.2. The 1970 Study identified four corridor system options. Proposed System "D", which connected the realigned US 169 and US 212 highway corridors with a new TH 41 river crossing alignment (with a southern terminus near CSAH 69), was selected as the preferred long-term corridor system. Following completion of the 1970 Study, Mn/DOT conducted individual corridor studies and environmental review/design work for each of the three major roadways addressed in the study. Realignment of US 169 has already been completed and implementation of the realignment of US 212 (hereafter referred to in this document as "New US 212") is under construction. New US 212 is expected to be completed by Fall 2008.

A draft Environmental Impact Statement (DEIS) was completed for TH 41 in 1974 (1974 DEIS). The 1974 DEIS evaluated a No-Build and a Build alternative (construction along a new route, 41-D) (see Figure 3-1 in Chapter 3) after dismissal of alternatives involving upgrades to the existing TH 41 alignment and dependence on other modes of transportation. A Final EIS (FEIS) was not completed.

Since the 1974 DEIS, conditions in the study area, the types and number of relevant issues and concerns, and regulations have changed. As such, Mn/DOT initiated a scoping process in 2002 to identify and evaluate a range of location alternatives for the project based on current considerations and regulations. The scoping effort was intended to be the first step in the NEPA and state environmental review process to fulfill requirements of both 42 USC 4321 et seq. and Minnesota Rule Chapter 4410 for TH 41. In April of 2004, Mn/DOT published a Scoping Document and Draft Scoping Decision Document for TH 41 (2004 SD/DSDD). (Note: During scoping, this project was referred to as *TH 41 Over the Minnesota River*.)

As part of the scoping process, it was determined that a "tiered" environmental process would be used. Per Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 CFR 1508.28), environmental documentation may occur through a "tiered" two-step review process. The tiered EIS process has been determined to be appropriate for the proposed TH 41 project because, while the construction of the project may not occur for 20 or more years, the study area is rapidly developing. The Tier I EIS is a corridor-level document intended to inform the selection of a corridor to preserve for a future project. For purposes of Tier I analysis, the area of impact of each of the alternatives is assumed to be a standard corridor width of 300 feet, except in the few locations where larger limits were assumed due to topographic considerations. Specific design details will be included in a Tier II EIS, to be prepared closer to the time of construction. Future development will likely encroach on potential corridor locations if an alignment location is not protected in the near future, resulting in greater potential for social and economic impacts at the time the project is funded.

In addition to discussing the "tiered" environmental process, the 2004 SD/DSDD provided a discussion of:

- The purpose of and need for the proposed project;
- Alternatives considered;
- Potential social, economic and environmental impacts and discussion regarding to what extent each issue will need to be addressed in the Tier I EIS and how the issue will likely be addressed in the Tier II process;
- Permits likely to be needed prior to construction of the proposed project; and
- Agencies and other stakeholders consulted during project development and environmental review.

Following completion of the 2004 SD/DSDD, a Scoping Decision Document (2005 SDD) was prepared to present the decisions reached regarding the scope of future environmental studies for TH 41. The 2005 SDD indicated the issues and alternatives that were to be examined in depth in the Tier I DEIS and documented initial expectations for issues that will eventually be examined in the Tier II EIS process. In addition, the 2005 SDD responded to comments received regarding the 2004 SD/DSDD. The SDD was amended in 2006 to expand the limits of one of the corridor alternatives. Notice of the amended SDD was published March 27, 2006.

2.2 NEED FOR THE PROPOSED TH 41 MINNESOTA RIVER CROSSING

As described previously, the need for an improved connection between US 169 and New US 212 for TH 41 was initially established in a comprehensive transportation study completed by Mn/DOT in 1970 and in a Draft EIS in 1974. Since completion of the earlier studies described above, the southwestern portion of the Twin Cities metropolitan area has undergone rapid growth and development. Scott County was the fastest growing county in the state between 1990 and 2000; its population increased by over 54 percent. During that same time period, Carver County's population increased by over 46 percent (third fastest growing county in the state). This growth has put additional stress on a transportation system that was experiencing congestion during peak travel periods by the mid-1990s, and it has magnified the traffic problems and delays resulting from bridge closures due to seasonal flooding.

Construction of the US 169 Bypass and construction of New US 212 (to be completed in Fall 2008) address east-west roadway capacity issues in the study area, but they do not address the issues of:

- Congestion on existing TH 41 and other river crossings for typical weekday conditions due to inadequate capacity;
- Severe area-wide congestion, as well as public safety problems during flood events which frequently close three area river crossings for extended periods; and
- The lack of adequate north-south principal arterial and interregional corridor connections between US 169 and New US 212 to facilitate regional traffic flow, and particularly freight (heavy commercial truck) movement.

Thus, these three basic issues that result in the need for the project identified in earlier studies still exist, and are supported by more recent transportation studies and travel forecasts. Additional transportation objectives related to other transportation and land use issues have also been identified. The sections below compile the findings of previous studies to the present that establish the need for the proposed project.

2.2.1 Inadequate Capacity

One of the three basic deficiencies supporting the need for a new TH 41 crossing over the Minnesota River is lack of capacity to meet projected travel demand for typical weekday conditions (i.e. non-flood conditions). The sections below discuss capacity constraints on existing crossings.

2.2.1.1 Existing and Future River Crossings Travel Demand

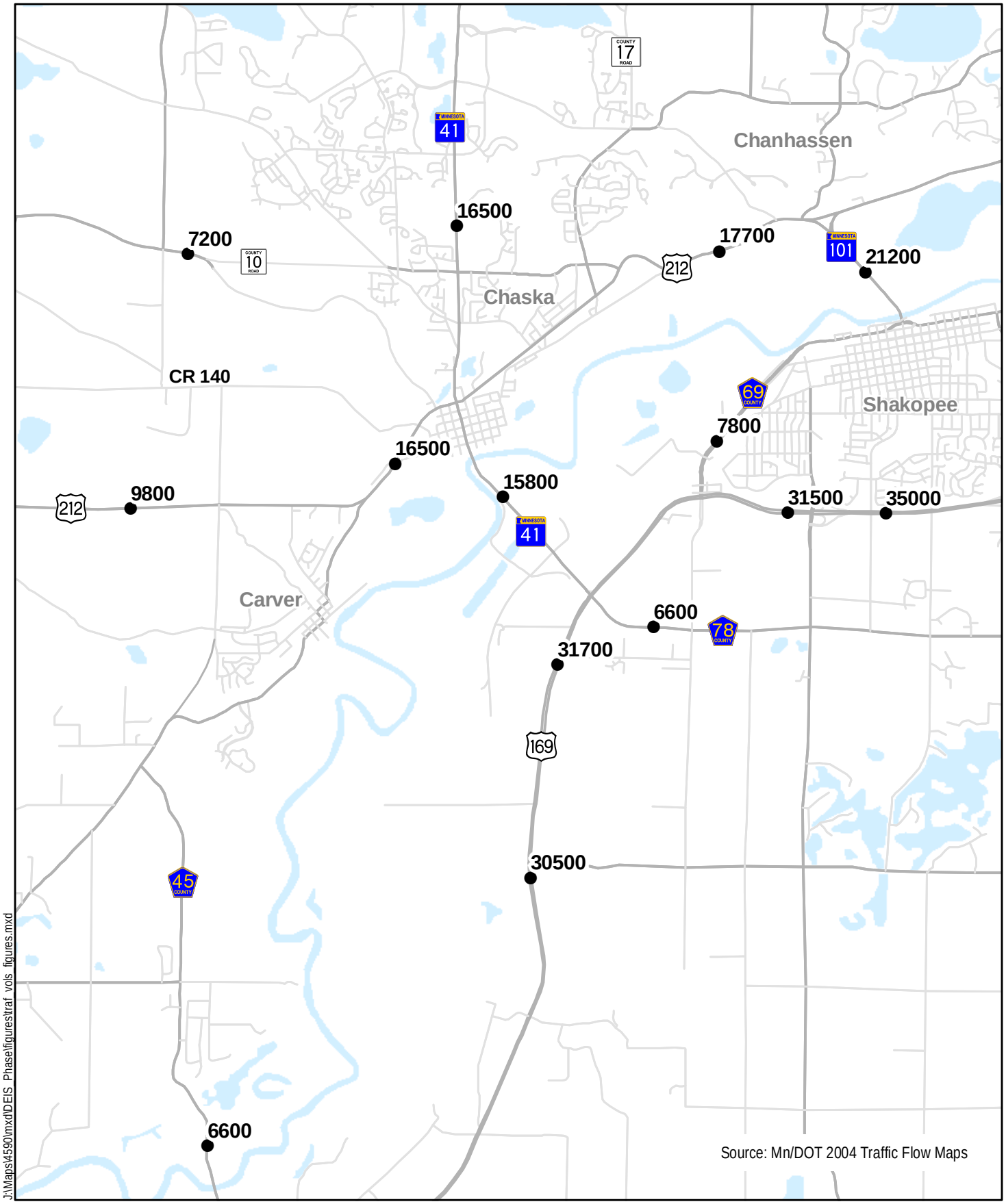
Studies dating back to 1970 have indicated that growth in population and employment will result in capacity deficiencies on major highways within the study area, including TH 41. Traffic on existing roadways parallel to and crossing the Minnesota River has increased substantially as a result of the growth over the past 20 years and is expected to continue to grow over the next 30 years as the area continues to develop. Over 200,000 vehicles per day use five Minnesota River crossings within and near the study area. The most heavily used corridors are I-35W and US 169. The crossings at TH 41, Highway 101, US 169 and I-35W are congested during peak travel periods. See Figure 1-1 in Chapter 1 for location of these crossings. See Figure 2-1 for existing (2004) traffic volumes within the study area.

The Metropolitan Council and local agencies project continued rapid population growth in the TH 41 travelshed (See Table 2-1). The estimated 2040 population of the four cities (Carver, Chanhassen, Chaska and Shakopee) within the study area is expected to triple. This continued growth is expected to exacerbate river crossing capacity deficiencies.

TABLE 2-1
POPULATION, 2000 AND 2040
CITIES AND COUNTIES WITHIN THE TH 41 TRAVELSHED

	Location[3]	2000 Population[1]	2040 Population Estimates[2]	Percent Growth
	Carver County	70,205	184,910	163
	Scott County	89,498	247,378	176
Cities	Eden Prairie	54,901	71,706	31
	Carver	1,266	20,000	1,480
	Chanhassen	20,321	45,900	126
	Chaska	17,449	42,036	139
	Victoria	4,025	9,800	143
	Belle Plaine	3,789	13,500	256
	Jordan	3,833	13,300	247
	Savage	21,115	49,600	135
	Shakopee	20,568	71,185	246

(1) Metropolitan Council
(2) 2040 population estimates were developed with input from local agencies and Metropolitan Council staff.
(3) A number of the cities listed will have annexed portions of surrounding townships by 2040. Anticipated incorporation of township land is accounted for in the 2040 population estimates. Except where orderly annexation agreements are in place, it is not possible to project which portion of townships will be within City limits in 2040. Note that regardless of area, 2000 population within townships is at very low density.



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2004 DAILY TRAFFIC VOLUMES

Figure 2-1

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING

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In addition to population growth, the study area is expected to see large increases in employment (See Table 2-2). Within the past twenty years, the area has attracted a number of industrial and commercial uses. Today, a large portion of Chanhassen's and Chaska's industrial development, and some commercial developments, is located along TH 41 just north of the study area. The City of Chaska, along with private investors, has spent a substantial amount of time and money rehabilitating its historic downtown with intensified commercial and residential uses. The City of Carver anticipates several large industrial and commercial developments within the next 15 to 30 years. South of the Minnesota River in Shakopee, which is home to the state's largest land area of industrial park uses, expansion of "big-box" and other commercial development is expected to continue.

TABLE 2-2
EMPLOYMENT, 2000 AND 2040
CITIES AND COUNTIES WITHIN THE TH 41 TRAVELSHED

	Location[1]	2000 Employment[2]	2040 Employment Estimates[3]	Percent Growth
	Carver County	26,657	63,650	139
	Scott County	32,009	75,006	134
Cities	Eden Prairie	49,392	86,463	75
Cities	Carver	156	2,325	1,390
Cities	Chanhassen	7,571	17,860	136
Cities	Chaska	10,185	20,400	100
Cities	Victoria	836	1,595	91
Cities	Belle Plaine	1,469	3,660	149
Cities	Jordan	1,264	2,565	103
Cities	Savage	4,680	11,170	139
Cities	Shakopee	12,476	30,149	142

(1) A number of the cities listed will have annexed portions of surrounding townships by 2040. Incorporation of township land is accounted for in the 2040 employment estimates.
(2) Metropolitan Council
(3) 2040 employment estimates were developed with input from local agencies and Metropolitan Council staff and from data supplied by the Minnesota Department of Employment and Economic Development.

The anticipated growth in population and employment within the study area was used to help prepare future travel forecasts. Travel forecasts for the five existing river crossing corridors in the vicinity of TH 41 were prepared using the regional travel demand models developed and approved by the Metropolitan Council and Mn/DOT. (Travel forecast methodology and results are documented in the *TH 41 River Crossing EIS: Technical Memorandum on Travel Demand Forecasting* dated May 1, 2006 and contained in: *TH 41 Minnesota River Crossing Draft Environmental Impact Statement Volume II: Technical Memoranda* dated, June 2007 [*Volume II: Technical Memoranda*]). (Note that *Volume II: Technical Memoranda* will be available for review at Mn/DOT Metro Division, on the project website and as announced in public notices.) The location of these crossings is shown in Figure 1-1. Existing and future daily volumes for the five Minnesota River crossings are shown in Table 2-3. As shown, under 2040 No-Build conditions, the total daily volume on the five river crossings is expected to increase by 83 percent. Travel demand on existing TH 41 under No-Build conditions is projected to increase by over 97 percent to 36,500. (For comparison, the TH 61 river crossing in Hastings carries 32,500 Average Daily Traffic [ADT].) Travel demand of this magnitude indicates that the facility will be congested for a significant portion of the day. (See Section 2.2.1.3.)

TABLE 2-3
MINNESOTA RIVER CROSSING: EXISTING AND FUTURE DAILY VOLUMES

Bridge Crossing	2000 ADT[1]	2040 No-Build ADT	Percent Change
CSAH 9/45	6,400	25,100	292
TH 41	18,500	36,500	97
Highway 101	21,400	34,000	59
US 169 (Bloomington Ferry)	54,000	141,000	161
I-35W	102,000	133,000	30
Total	**202,300**	**369,600**	**83**

(1) Average daily traffic (ADT) for the year 2000

The river crossings at existing TH 41, Highway 101, US 169 (Bloomington Ferry) and I-35W are already congested during the peak travel periods. This congestion is expected to worsen in intensity and duration as traffic volumes increase. For example, the 141,000 vehicles that have demand on US 169 in 2040 would result in peak hour traffic demand that exceed the capacity of a six-lane freeway. (The I-35W river crossing carried 141,000 ADT in 2004.) United States Highway 169 is currently a four-lane roadway. The increased travel demand for the other river crossings means that there is no excess capacity available that could be used to relieve congestion on TH 41.

See Figure 4-1 in Chapter 4 for 2040 No-Build volumes on major roads in the study area.

2.2.1.2 Existing TH 41 Level of Service

The previous section described existing and future travel demands for all Minnesota River crossings within the study area. "Existing" for that discussion referred to 2000 since that is the most recent socioeconomic data (i.e. Census) and the travel forecast model is calibrated to 2000 data. This section reviews existing and future No-Build operations on existing TH 41. A level of service (LOS) analysis was performed for key intersections along the corridor to provide insight on the corridor's ability to adequately meet existing traffic demand. "Existing" for this discussion refers to the years of relevant operations analysis (2003 and 2005), as well as current (2006) physical conditions. Figure 2-1 shows 2004 (most recent data) volumes in the study area. (Note that volumes on existing TH 41 were lower in 2004 (15,800) than in 2000 (18,500); this is likely attributable to construction on TH 41.

2.2.1.2.1 Existing (2003-2006)

Within the study area, TH 41 is primarily a two-lane roadway. Between US 169 and the southern end of the existing Minnesota River Bridge in downtown Chaska it is primarily a two-lane rural roadway, with limited access (two traffic signals, no private driveways and a limited number of cross streets). Typical ADT for a two-lane roadway ranges between 8,000 and 12,000; the 2000 ADT on this segment was 18,500. Between the southern end of the existing river crossing bridge in downtown Chaska and existing US 212, TH 41 is an undivided four-lane facility. This four-lane, urban downtown segment has local street access as well as on-street parking. These two factors, along with a high volume of truck traffic and capacity limitations at the existing US 212 intersection cause substantial operational issues (i.e. lengthy queues and delays) and substantially reduce the capacity of TH 41.

In addition to the sheer volume on this primarily two-lane facility, the types of vehicles using existing TH 41 play an important role in its operations. Almost 20 percent of the vehicles using existing TH 41 (at US 169) are classified as heavy commercial vehicles (semi trucks, garbage trucks, aggregate trucks, etc.) (based on truck counts taken in October 2002). Typical truck traffic on similar facilities is 5 to 10 percent. This high percentage of trucks negatively impacts corridor operations, especially at the signalized intersections because trucks at a stop take longer to start up and go through the traffic signal.

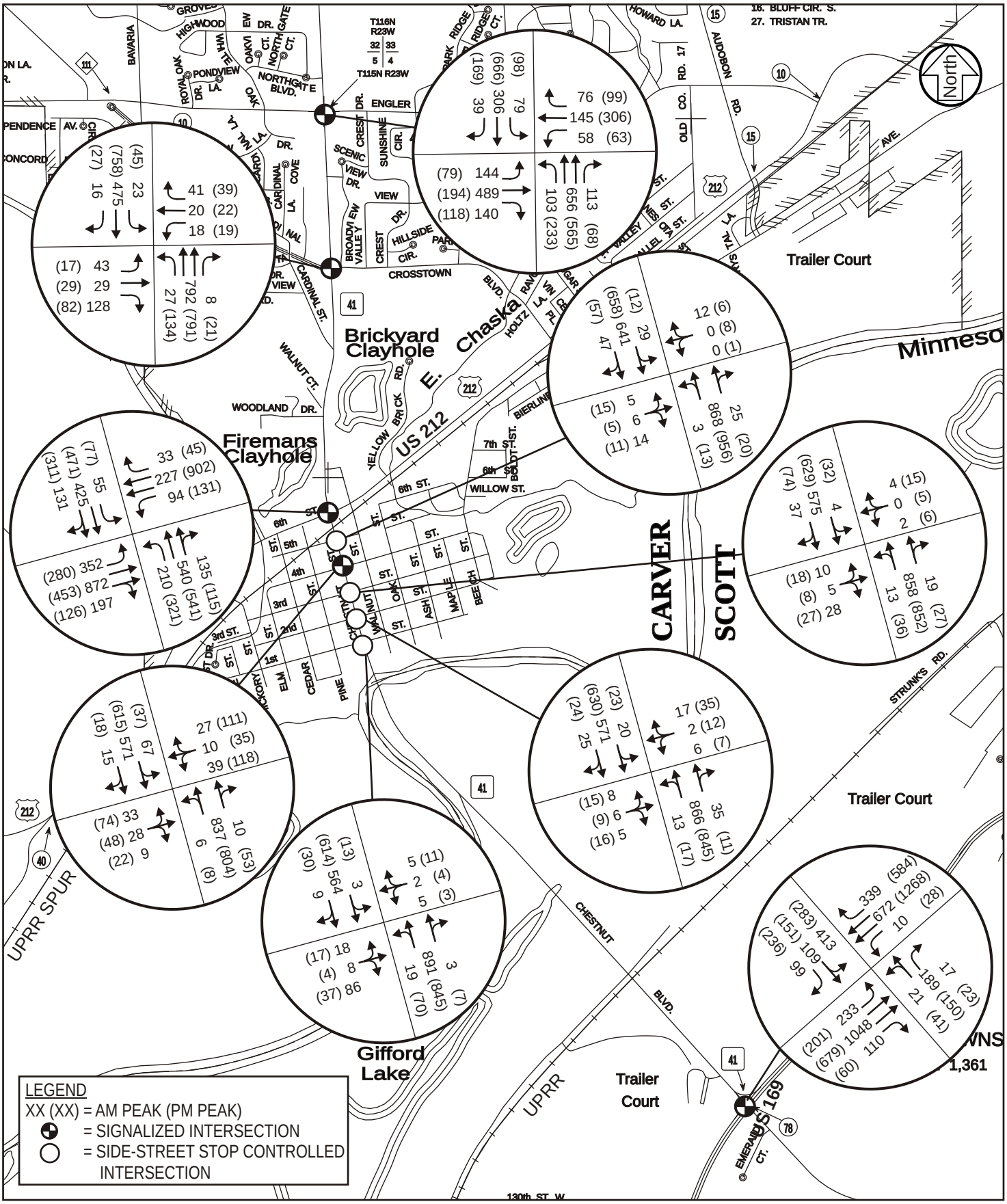
An existing intersection level of service (LOS) analysis was completed for key intersections between US 169 and New US 212. Figure 2-2 shows existing intersection control, lane configurations and turning movement counts for this segment. The analysis identifies how well intersections can accommodate existing and future traffic volumes. Intersections are ranked in terms of delay from LOS "A" to LOS "F" (severely congested with substantial delays). LOS A through D is generally considered acceptable. LOS E indicates that the roadway or intersection is operating at or very near its capacity – drivers can experience substantial delays. Table 2-4 below presents delay threshold values.

TABLE 2-4
LEVEL OF SERVICE CRITERIA FOR SIGNALIZED AND UNSIGNALIZED INTERSECTIONS

LOS Designation	Signalized Intersection Average Delay/Vehicle (seconds)	Unsignalized Intersection Average Delay/Vehicle (seconds)
A	<10	<10
B	10-20	10-15
C	20-35	15-25
D	35-55	25-35
E	55-80	35-50
F	80<	50<

Results of the analysis indicate that most of the intersections are operating at unacceptable levels of service during the p.m. peak period, with the worst congestion occurring between 2nd Street and existing US 212 (See Table 2-5). At the existing TH 41/existing US 212 intersection, there is an 85 second delay in the p.m. peak hour. It should be noted that the LOS at the existing TH 41/US 169 intersection has improved to a LOS D (50-second delay in the p.m. peak hour) with the intersection improvements completed in 2005.

Two Union Pacific freight rail lines, mainline and spur, also affect traffic operations along the existing TH 41 corridor. The mainline, which runs parallel to and north of US 169, crosses existing TH 41 south of the Minnesota River. Five trains a day run on the mainline. Often, long queues on existing TH 41 extend from the crossing at TH 41 to US 169. The spur, which runs parallel to existing US 212, crosses TH 41 just south of US 212 in downtown Chaska. Approximately three trains a day run on the spur line. (Note: Train frequencies noted represent Union Pacific's current records, but are subject to change.) These rail lines contribute to operational problems at US 169 and existing US 212 when trains are present.



EXISTING 2005 PEAK HOUR TRAFFIC VOLUMES

Figure 2-2

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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TABLE 2-5
EXISTING INTERSECTION LEVEL OF SERVICE (LOS)

Intersection with TH 41 and	Existing p.m. Peak Hour LOS
US 169	D
1st Street*	C/F[(1)]
2nd Street*	E/F[(1)]
3rd Street*	F/F[(1)]
4th Street	E[(1)]
5th Street*	F/F[(1)]
Existing US 212	F
Victoria Drive	C
Engler Boulevard	E

* Indicates an unsignalized intersection. Overall LOS is shown followed by the worst approach LOS.

(1) Poor level of service due to queuing from the TH 41/US 212 intersection which extends through downtown Chaska and reduces gaps for vehicles on the side streets.

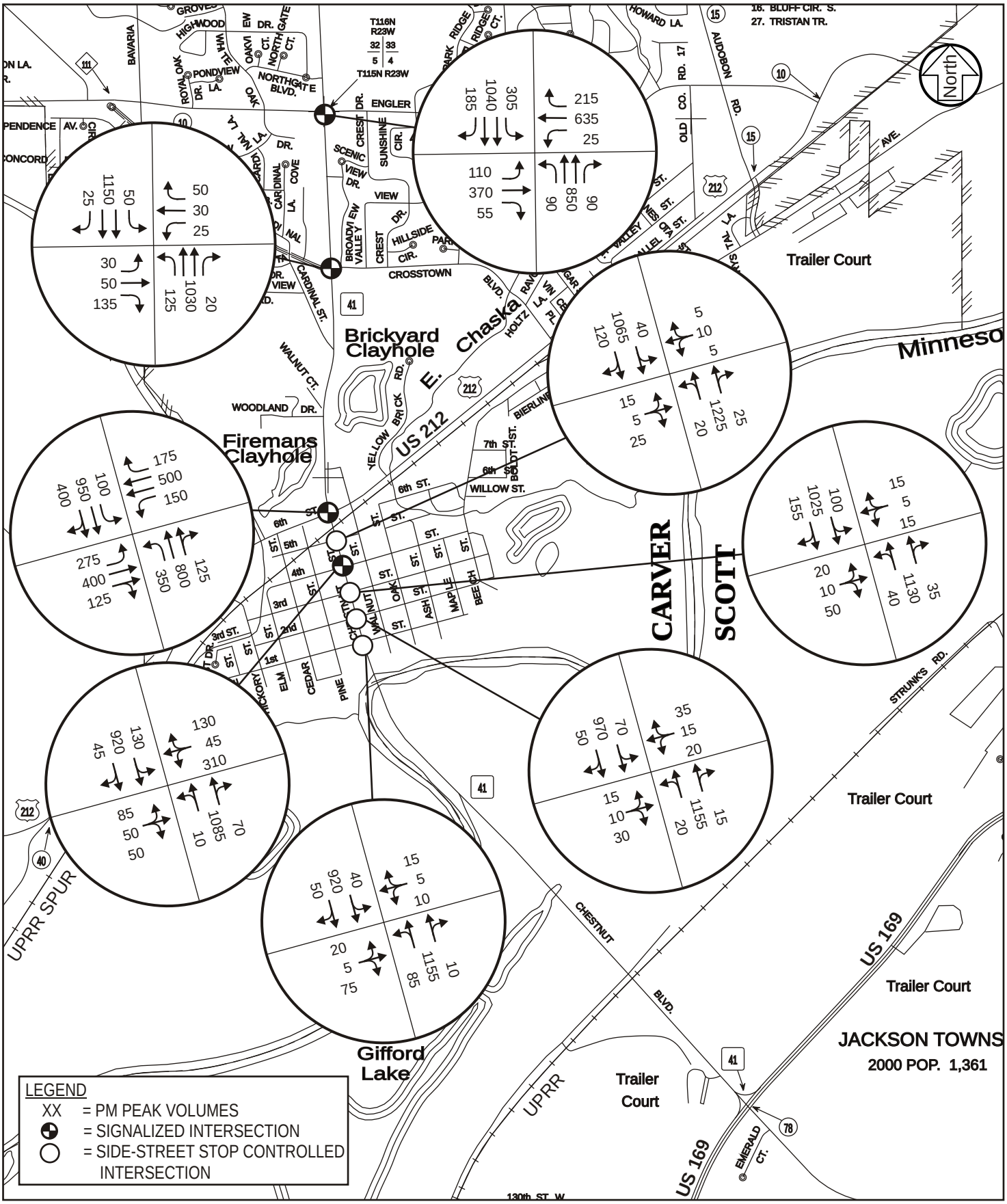
2.2.1.3 Future

A previous *TH 41 Traffic Study*, dated March 12, 2003 and updated April 5, 2006 (and included in *Volume II: Technical Memoranda*), analyzed 2030 No-Build p.m. peak hour intersection volumes (Table 2-6; Figure 2-3) and found that most of the intersections along existing TH 41 would operate at LOS F (the worst LOS). 2040 No-Build traffic volumes will be higher than 2030 No-Build volumes; therefore, under 2040 No-Build conditions, these intersections will also operate at LOS F. Delay at existing TH 41/existing US 212 is predicted to be an average of 140 seconds per vehicle. It should be noted that the delay at the intersection of TH 41 and existing US 212 is worse in the future even though both current and future results are LOS F. In the existing condition, only the northbound approach fails; in 2030 No-Build conditions, all approaches fail. The overall delay affecting all approaches in 2030 is greater than the delay that affects the northbound approach in its existing condition.

Three of the studied intersections (1st, 2nd and 3rd Streets) operate better under 2030 No-Build than under existing conditions. The improved operations at these locations are due to the construction of New US 212 which reduces east- and westbound traffic on existing US 212. This allows for more "green time" (i.e., when the traffic signal shows green permitting traffic flow) for TH 41. This improvement in traffic flow reduces the extent of the northbound queuing on TH 41 and improves operations at the southern-most intersections. However, by 2040 queues from the existing TH 41 existing US 212 intersection are likely to extend south to 1st Street causing these intersections to fail.

A limitation of peak hour operations analysis is that it focuses only on the peak hour of the day. Increasingly, congestion management within the metropolitan area more appropriately considers operations over the duration of the day.

Existing TH 41 is currently congested two hours per day. Additional analysis determined that under 2040 No-Build conditions, both existing TH 41 (south of existing US 212) and Highway 101 river crossings can be expected to be congested 10 hours per day (Note: hours of congestion are based on 48 hours, 24 hours for each direction).



2030 NO-BUILD PM PEAK HOUR TRAFFIC VOLUMES

Figure 2-3

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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TABLE 2-6
EXISTING AND NO-BUILD FUTURE LEVEL OF SERVICE (LOS)

Intersection with TH 41 and:	Existing P.M. Peak Hour LOS	2030 (Modeled) and 2040 (Projected) P.M. Peak Hour LOS
US 169	D	NA[2]
1st Street*	C/F[1]	A/D (2030) – F/F (2040)[3]
2nd Street*	E/F[1]	C/F[1]
3rd Street*	F/F[1]	C/F[1]
4th Street	E[1]	F[1]
5th Street*	F/F[1]	F/F[1]
US 212	F	F
Victoria Drive	C	C[4]
Engler Boulevard	E	F

*Indicates an unsignalized intersection. The overall LOS is shown followed by the worst approach LOS.

(1) Poor level of service is due to queuing from the intersection of TH 41/US 212 which extends through downtown Chaska and reduces gaps for vehicles on the side streets.

(2) 2030 analysis does not include the intersection of TH 41/US 169 because it is assumed that this intersection will be improved to an interchange.

(3) It is expected that, by 2040, the queue extending from existing US 212 will extend to 1st Street, causing this intersection to fail.

(4) It is expected that, because traffic is "bottle-necked" at existing TH 41/existing US 212 and at existing TH 41/Engler Boulevard, no additional traffic can get through to Victoria Drive, therefore, operations will not become worse by 2040.

2.2.2 Regional Congestion and Public Safety Concerns During Flooding

The second basic issue supporting the need for the proposed project is the inadequate capacity to handle regional traffic and public safety concerns during flood events that are associated with the existing river crossings within the study area.

2.2.2.1 Inadequate Capacity

The study area is located in the Minnesota River Valley. Currently, there are only two crossings within 14 miles of the study area where both the bridge and the approach roadways to the bridge are above the 100-year flood level. The Bloomington-Ferry Bridge (US 169), between Shakopee and Bloomington/Eden Prairie, is approximately 10 miles to the north and east of existing TH 41. The bridge and its approaches are above the 100-year flood level, as is TH 25 in Belle Plaine, approximately 14 miles to the south and west of existing TH 41. The remaining bridges and approach roadways (TH 41, Highway 101 and CSAH 9/45) have been closed on a regular basis due to flooding of either the bridge or the approach roadway.

Historically, flooding has been a frequent problem during the spring thaw period and occasionally during wet periods with heavy storm events. Existing TH 41, Highway 101 and CSAH 9/45 river crossings can experience closures during flood events. The most recent flood event occurred in 2001. Table 2-7 shows the number of days that the three river crossings have been closed due to flooding since 1993.

TABLE 2-7
MINNESOTA RIVER CROSSINGS
NUMBER OF DAYS OF ROAD CLOSURE DUE TO FLOODING
1993 – 2001

Crossing	1993	1995	1996	1997	1998	1999	2001	Total (1993 – 2001) [1]
TH 41	11	--	--	10	--	--	25	46
Highway 101	27	--	--	18	--	--	29	74
CSAH 9/45 [2]	114	14	6	36	9	4	47	230

[1] No river crossing closures in 1994 and 2000. No flood events since 2001.
[2] CSAH 9/45 was reconstructed in 2002. The improvements made to the bridge and its approaches have reduced its susceptibility to flooding to a 10-year flood frequency, similar to those of TH 41 and Highway 101.

Closure of existing TH 41, Highway 101 and CSAH 9/45 due to flooding creates serious traffic congestion in the southwest metropolitan area. Travel patterns are altered dramatically as transportation users search for the fastest route or route with reduced delays. The data in Table 2-7 indicate that the existing TH 41 crossing has been closed approximately every four years for a minimum of 10 days. The increase in costs to the traveling public that results from flooding (in terms of additional operating expenses for motor vehicles based on extra vehicle miles traveled and lost productivity due to extra travel time for motorists) was calculated as part of the benefit-cost analysis discussed in Chapter 4. Under 2030 No-Build conditions, closure of existing TH 41 due to flooding adds 765,000 vehicle miles traveled (VMT) per day and 30,600 vehicle hours traveled (VHT) per day, or $645,400 in costs to the traveling public for every day the roadway is closed. The diversion cost of a 10-day closure would be $6,454,000 (2006 dollars).

During flood-related closures, the two regional river crossings that do not flood (Bloomington Ferry and TH 25) are forced to carry the traffic that would normally use the other bridges. This leads to some congestion on TH 25 and substantially increases delays on the already congested Bloomington Ferry Bridge (US 169).

2.2.2.2 Public Safety

Disruption of travel patterns due to flooded river crossings affects not only commuters and the flow of freight, but also impacts emergency response vehicles that need to cross the Minnesota River. St. Francis Hospital, the hospital closest to the City of Chaska, is located on the south side of the Minnesota River in the City of Shakopee. According to Chaska staff, when Highway 101 floods, the roads that Emergency Medical Service (EMS) staff must travel to get to the existing TH 41 bridge become congested. (Highway 101 floods before existing TH 41 because it has a lower flood level.) When existing TH 41 also floods, EMS staff needs to use either the TH 25 bridge in Belle Plaine or the Bloomington Ferry Bridge to get to St. Francis Hospital in Shakopee. This diversion can add one and a half to two hours to EMS travel time, especially during peak hours. Because this is unacceptable in life-threatening situations, if TH 41 is closed, a medical emergency victim on the north side of the river will usually need to be transported to the City of Waconia, approximately 14 miles to the northwest. If it is not a life-threatening situation, the victim may be transported the 30+ miles out of the way to get to Shakopee via another river crossing. These delays seriously impact the ability of first responders to get patients to critical care facilities.

2.2.3 Improved Transportation System Connection for Traffic and Freight Movement

Planners and engineers also identify transportation need and purpose based on overall system planning elements such as functionality, system connectivity, and spacing. The sections below discuss existing TH 41 as it relates to these elements, which together make up the third basic element of the need for the project, that of an improved system connection.

2.2.3.1 System Functionality

Existing TH 41 is supposed to serve the role of a regional north-south principal arterial connection between the two east-west principal arterials (US 169 and New US 212); however, the functionality of this route is limited by the frequent stops, turns and interruptions of flow that occur as the corridor runs through downtown Chaska. The need for TH 41 to perform as a principal arterial is defined by its spacing to other north-south principal arterials, the limited number of north-south arterials in the southwestern metropolitan area, its existing and planned role in providing system connectivity and continuity between US 169 and New US 212, and its function as a regional river crossing.

2.2.3.1.1 System Spacing

Roadways are categorized by their function in the overall transportation network. Principal arterial roadways provide high mobility (usually high-speed roadways or freeways) and have limited access. These roadways are intended to serve longer regional and/or statewide trips rather than short trips. Principal arterials should be spaced two to three miles apart in fully developed areas (Minneapolis/St. Paul and first ring suburbs) and three to six miles in developing areas (second ring suburbs and beyond).[1]

Existing spacing of principal arterials within and near the study area suggests that another high-level connection is needed. The closest north-south principal arterials to existing TH 41 are well beyond the three to six miles suggested for this developing area. Trunk Highway 15, the closest north-south principal arterial to the west is approximately 40 miles away. United States Highway 169, which parallels the Minnesota River and crosses the river, is approximately 10 miles to the east of TH 41. See Figure 1-1 in Chapter 1. As the metropolitan area continues to expand to the west, towards the City of Carver and beyond, there will be greater demand for north-south travel, and existing TH 41, with all of its access and its poor spacing with other principal arterials, will not be able to fulfill that role. Without a new connection, adequate capacity will not be provided and service and safety issues and substantial delays will continue to occur at existing river crossings. Additionally, some traffic demand will be diverted to the existing minor arterial roadways, which are also at capacity and not intended to carry additional traffic loads.

2.2.3.1.2 System Connectivity

Principal arterials are intended to provide high mobility and limited access for longer trips. Existing TH 41 serves a larger travelshed, connecting US 169 in Scott County with TH 7, which is the border between Carver and Hennepin Counties. However, there is a substantial amount of

[1] Based on the Metropolitan Council Functional Classification Criteria for the Twin Cities metropolitan area.

access and travel speeds are low on existing TH 41, especially in downtown Chaska. A new high-capacity TH 41, with limited access within the study area would better connect Scott, Carver and Hennepin Counties, as well as provide better connectivity to the two east-west principal arterials (US 169 and New US 212). As the area continues to expand, there will be a greater emphasis on the north-south connections between Scott, Carver and Hennepin Counties within the study area.

This connectivity is important for regional travel efficiency and safety generally, but particularly for freight movements, which is discussed as it relates to the designation of US 169 and US 212 as interregional corridors (IRCs) as noted in Section 2.2.3.2 and detailed in Section 2.2.4.2.2.

2.2.3.2 Interregional Corridor (IRC) Connection

In addition to connecting Scott, Carver and Hennepin Counties, TH 41 plays an important role in connecting US 169 and US 212. Both US 169 and US 212 have been designated as High-Priority Interregional Corridors (IRCs) by Mn/DOT. The IRC system supports statewide economic activity by providing safe, reliable and efficient movement of people and goods between regional trade centers. Because of the important role that these corridors play, Mn/DOT developed Corridor Management Plans (CMPs) to preserve their functionality. Both of the CMPs for these roadways identify the important role TH 41 plays in connecting these two IRC routes. Both plans also acknowledge that a new regional river crossing is needed to improve the connectivity between the two routes in order to serve regional automobile and truck traffic.

One of the important functions that this connection provides is for agricultural traffic between Greater Minnesota (including large areas north of the Minnesota River) and the Ports of Savage (located in Scott County, south of the Minnesota River). Annually, thousands of shipments of grain from Greater Minnesota are sent to the Ports of Savage as well as fertilizer shipped from Savage to farms throughout Minnesota and the Dakotas. Many of the shipments use TH 41 to travel from east-west roadways (US 212, TH 7 and TH 5) to US 169 and then eastward to TH 13 where the Ports of Savage are located. Although there are a number of east-west routes that bring agricultural traffic into the Twin Cities metropolitan area, there are few north-south roadways that connect the east-west roadways to US 169. As a result, the truck trips on TH 41 tend to be more regional or interregional in nature.

2.2.4 Additional Transportation Needs

The three transportation objectives described in the previous sections establish the primary purpose of and need for the proposed project. The proposed project would also meet other transportation needs including improvement of safety, accommodation of a range of travel modes, consistency with adopted transportation plans and enhancement of quality of life. These needs are discussed in the following sections.

2.2.4.1 Traffic Safety Issues on Existing TH 41

Transportation safety issues in the TH 41 corridor, including vehicle crash rates/severity rates and pedestrian and bicycle safety issues are discussed below.

2.2.4.1.1 Crash and Severity Rates

Segment and intersection crash analyses for the years 2001, 2002, and 2004 were conducted for TH 41 from US 169 to existing US 212. Table 2-8 shows a comparison of the calculated crash and severity rates to Mn/DOT's average segment and intersection rates for the state. All calculated crash and severity rates in the TH 41 corridor are higher than statewide average rates. The intersection of TH 41 and US 169 is on the state's list of the Top 200 Crash Intersections (crashes prior to recent geometric improvements). It should be noted that during the study period two fatal crashes occurred within the segment between the Minnesota River Bridge and US 169.

As travel demand along the corridor continues to increase and the corridor becomes even more congested, it is likely that crash rates will increase. At signalized intersections, rear-end crashes become more prevalent. At unsignalized intersections right-angle crashes increase as side-street traffic takes more risks and accepts smaller gaps. The proposed new river crossing would serve a substantial volume on a freeway type facility that typically has a crash rate and severity rate that is much less (two-to four times) than that of at-grade facilities.

TABLE 2-8
TRUNK HIGHWAY 41 CRASH RATE AND CRASH SEVERITY RATE
2001, 2002, 2004[(1)]

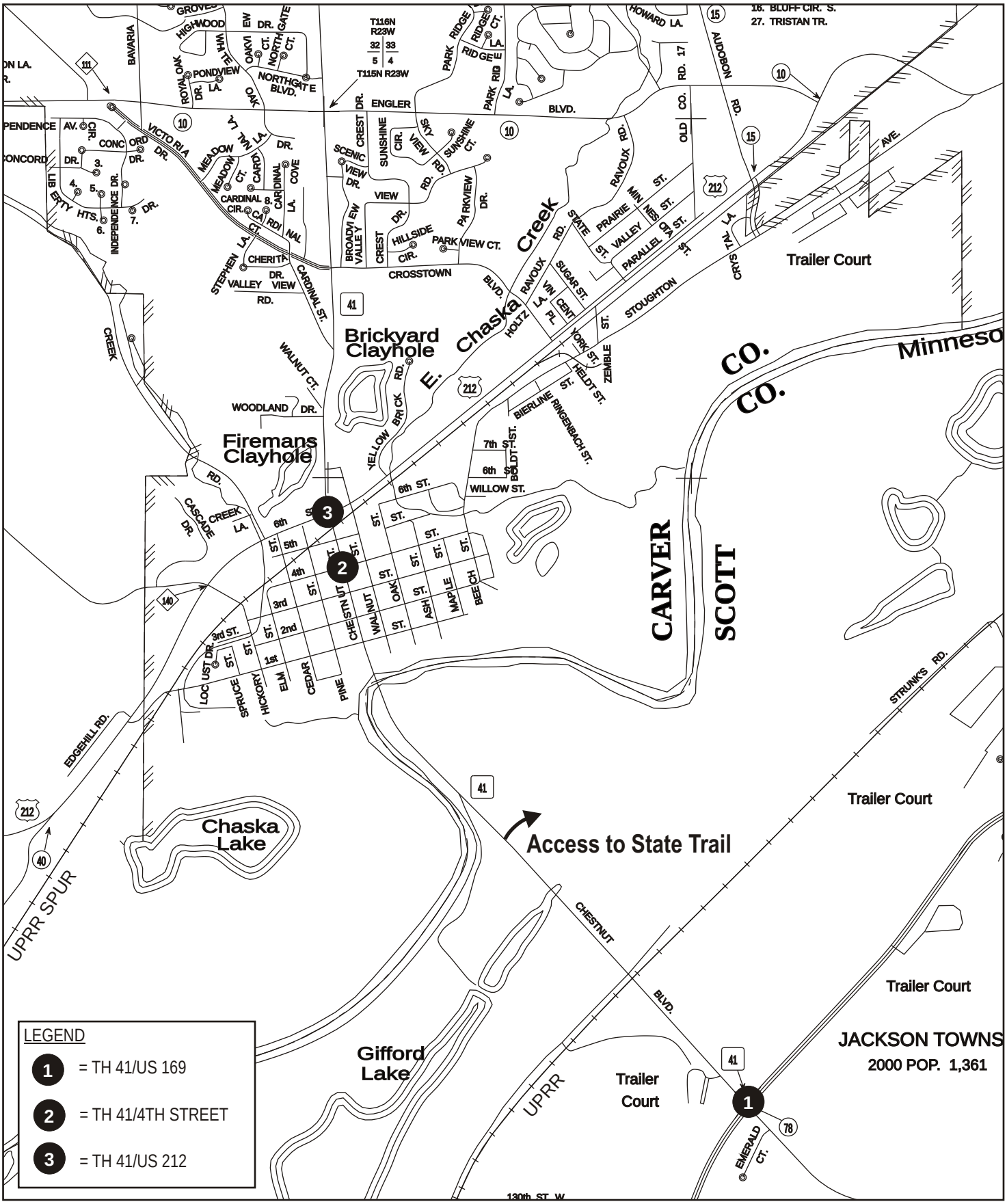
Trunk Highway 41	Crash Rate [(2)]	Severity Rate
Segment Crashes		
TH 41 between the Minnesota River Bridge and US 169 (2-lane)	3.0/**0.9**	4.3/**1.4**
TH 41 between US 212 and the Minnesota River Bridge (4-lane)	5.8/**4.9**	7.7/**6.9**
Intersection Crashes		
TH 41 and US 169	2.0/**0.8**	2.7/**1.2**
TH 41 and US 212	1.1/**0.8**	1.4/**1.1**

[(1)] Crash data from 2003 are not included due to data quality issues.
[(2)] Crash rates are reported per Million Vehicle Miles (MVM) for segments and as per Million Vehicles (MV) for the intersections. Mn/DOT numbers for comparative values for similar roadways statewide are shown in **bold type**.

2.2.4.1.2 Pedestrian-Bicyclist Safety

The Jackson Heights mobile home park is located near the existing TH 41/US 169 intersection; convenience stores are located across both TH 41 and US 169 from this residential community. Existing TH 41 provides bicycle/pedestrian access to the state trail system (Minnesota Valley State Trail). Walking and bicycling are part of the Chaska community quality. Within this environment, pedestrian and bicycle safety along existing TH 41, as well as near the TH 41/ US 169 intersection, is of special concern since the high traffic volumes and conflicting vehicle movements increase the potential for crashes involving pedestrians and bicyclists trying to cross or travel along the corridor. This issue is compounded by the high percent of heavy commercial vehicles (semi trucks, garbage, gravel and other large trucks) on TH 41. Crash data from 2001 to 2004 indicate that there were four crashes involving either pedestrians or bicyclists at the intersection of TH 41 and US 169, 4th Street and other downtown Chaska intersections, and existing US 212 (Figure 2-4).[2]

[2] Crash data from 2003 is not included due to data quality issues.



PEDESTRIAN OR BICYCLE CRASH LOCATIONS

Figure 2-4

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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As traffic volumes increase, it is likely that the conflict between pedestrians/bicyclists and motorists will worsen. Decreasing the overall through traffic (including trucks) in the corridor will help support pedestrian/bicycle movements.

2.2.4.1.3 At-Grade Railroad Crossing Hazard

Two Union Pacific freight rail lines (a mainline and a spur) run through the study area and cross TH 41 at at-grade locations (See Figure 2-2). The mainline, which runs parallel to and north of US 169, has a frequency of five trains per day. The spur, which runs south of existing US 212, has a frequency of three trains per day. (Note: Train frequencies noted represent Union Pacific's current records, but are subject to change.) The mainline crosses TH 41 north of US 169 and south of the Minnesota River; the spur line crosses TH 41 just south of the existing US 212 intersection in downtown Chaska. Long queues on TH 41 extend back from the US 169 intersection through the mainline crossing.

Crash data provided by Mn/DOT indicate that five crashes occurred at the intersection of TH 41 and the railroad's mainline (data is for the years 2001, 2002 and 2004). None of the crashes have actually been with a train, but they have occurred on the railroad crossing. This is a serious concern. A disabled vehicle on the railroad tracks could be struck by a train and result in serious injury. In addition, Mn/DOT has given the mainline crossing at TH 41 a hazard rating. A hazard rating is issued for at-grade rail crossings where there are high-traffic volumes, multiple trains per day and/or there have been crashes involving a train and a motor vehicle within the past five years. In addition, the rating takes into account the type of crossing protection in use. Currently, the mainline has gates, bells and flashing lights to warn motorists of approaching trains. The spur line was not identified as a hazard location; however, its proximity to highly congested intersections causes substantial operational issues when trains cross.

2.2.4.2 Accommodation Needs of a Range of Travel Modes

The transportation network needs to adequately serve the needs of a range of modes in addition to the private automobile. Issues related to truck travel, transit, and pedestrian/bicycle travel are discussed in the following sections.

2.2.4.2.1 Heavy Commercial Vehicle Traffic (Trucks)

As indicated in Section 2.2.1.2, study done in 2002 found that heavy commercial vehicle traffic on TH 41 constitutes almost 20 percent of the current total daily traffic volume. Typical roadways within the Twin Cities carry between five to 10 percent truck traffic; the Highway 101 river crossing carries approximately eight percent truck traffic. An assessment of truck traffic turning movements and origins and destinations on existing TH 41 was conducted in October 2002. The assessment is detailed in the Shipper and Carrier Survey Results report dated July 2003, contained in *Volume II: Technical Memoranda*. Key points include the following:

- Fifteen to 33 percent of truck traffic on TH 41 is related to agriculture and destined to the Ports of Savage. (15% based on single terminal survey; 33% based on modeling)
- The most frequently observed trucks include sand and aggregate haulers, fuel haulers, garbage trucks and general freight.
- The heaviest truck traffic period on TH 41 is between 10:00 a.m. and 11:00 a.m. During this hour, 37 percent of the traffic on TH 41 is composed of trucks.

- During the peak commuting hour (4:00-5:00 p.m.), trucks made up 13 percent of the traffic on TH 41. On Highway 101, trucks made up 7 percent of the peak period traffic.
- Truck volumes on TH 41 turning to and from US 169 are fairly evenly split between US 169 north (18 percent) and US 169 south (22 percent).
- Morning truck turning movements on TH 41 favor trips to and from US 169 north, while afternoon movements favor trips to and from US 169 south.
- Truck movements to and from existing US 212 west to TH 41 south are larger than volumes to and from existing US 212 east to TH 41 south.
- The highest truck movement at the US 212 and TH 41 intersection is the north/south through-movement on TH 41 (36 to 46 percent, depending on time of day).

These turning patterns indicate that industrial and commercial development north of existing US 212 on TH 41 plays a prominent role (i.e., the number and percent of trucks) in generating truck traffic on TH 41. While the Ports of Savage (north and east on US 169 and TH 13) are not the primary destination for truck traffic, this generator is a substantial contributor to truck travel demand on TH 41.

2.2.4.2.2 Transit

Transit services within the study area are currently limited and future increases in local and regional transit services are not part of local and regional transit plans. There are two primary transit operators in the area, with additional services provided for disabled individuals and senior citizens. In Scott County, Scott County Transit provides community bus and dial-a-ride services. In Carver County, SouthWest Metro provides both local community bus services and express bus services to downtown Minneapolis. The New TH 41 river crossing would increase overall river crossing capacity, thereby decreasing overall congestion. This would help facilitate any bus or vanpool service that is provided at this time. SouthWest Metro is in the process of updating its long-term transit plan for the area. The plan includes construction of a transit center development in Chanhassen at the New US 212/Highway 101 intersection which began in fall 2006. Also, plans include the design process for a park-and-ride at the intersection of the New US 212/TH 41 intersection in Chaska. Park-and-ride lots are also being developed in Scott County east of the project area.

Although a rapid transit corridor has been preserved from the City of Hopkins to the eastern edge of Chaska, it is currently being utilized as a pedestrian/bicycle trail corridor. Plans from the Metropolitan Council indicate that portions of this corridor could have light-rail transit type service sometime after 2020. No final alternative or plan for transit operation has been agreed to at this time.

2.2.4.2.3 Bicycle/Pedestrian Facilities

Section 2.2.4.1.2 identifies safety concerns due to conflicts between bicyclists/pedestrians and motor vehicles, primarily in downtown Chaska, and also near the TH 41/US 169 intersection (Jackson Heights mobile home park). In addition to safety concerns, the high volumes of vehicular traffic and high percentage of large trucks in the TH 41 corridor make it uninviting for pedestrians and bicyclists. While there are no designated bicycle lanes or facilities along existing TH 41, there is a state trail system (Minnesota Valley State Trail) that crosses TH 41 just

south of the main Minnesota River channel bridge (south of downtown Chaska). Sidewalks connect downtown Chaska to the bridge; however, bicyclists who do not choose to ride on the sidewalks have to ride with traffic. In downtown Chaska this can be challenging given the fact that there is on-street parking and a large percent (almost 20 percent) of the vehicles in downtown Chaska are large trucks. The already limited ability of the existing TH 41 corridor to provide a safe, inviting route for bicyclists and pedestrians will become more limited as traffic volumes continue to increase.

2.2.4.3 Consistency with Adopted Transportation Plans

State, regional and local plans have recognized the importance of TH 41 in serving the transportation needs of the area and region. These plans have also identified capacity, flooding and development concerns that limit the existing roadway's ability to fulfill its role as a regional principal arterial river crossing for the long-term.

2.2.4.3.1 State Plans

As explained in Section 2.2.3.2, Mn/DOT developed the Interregional Corridor (IRC) system to support statewide economic activity by maintaining safe, reliable and efficient movement of people and goods between Greater Minnesota and the Twin Cities. Two of the roadways identified as part of that system are US 212 and US 169. Because of their role in the IRC System, both of the roadways have had Corridor Management Plans (CMPs) completed to identify improvements needed in order to maintain their mobility and enhance their safety for the long-term. The CMPs for these roadways identified the importance of a new regional river crossing in the vicinity of existing TH 41 to improve mobility on the principal arterial connection between the two corridors. The US 169 CMP confirmed the long identified need for a new river crossing as well as the need to upgrade the existing US 169/TH 41 intersection to an interchange. The US 212 CMP identified the need to improve the connection to US 169 through a new river crossing.

2.2.4.3.2 Regional Plans

Metropolitan Council

In 1989, the Metropolitan Council completed its *Major River Crossings Study Report*. This study evaluated major river crossing needs in the Twin Cities. At the time of the study, TH 41 was identified as the sixth priority out of 20 major crossings that were ranked. Since 1989, four of the five major crossings ranked ahead of TH 41 have been constructed or are under construction. The only crossing ranked ahead of TH 41 that has yet to be constructed is the St. Croix River Crossing at Stillwater.

In addition to the *Major River Crossings Study Report*, the Metropolitan Council's 2001 *Transportation Policy Plan* prioritized major river crossing needs in the Twin Cities. This plan identified the need for a high capacity principal arterial connecting US 169 and New US 212 in the vicinity of TH 41. Capacity was noted as an issue during both the morning and afternoon peak periods. The *Transportation Policy Plan* also identified right of way preservation needs for this new river crossing as a priority for system expansion projects for the years 2001 to 2025.

The 2004 *Transportation Policy Plan* acknowledges the on-going need for a new principal arterial river crossing within the study area. The 2004 *Transportation Policy Plan* noted that a new river crossing was needed for mobility reasons, but that funding was not available at this time. The plan included a recommendation that right of way be preserved for a future corridor. Funding for right of way preservation was included under the constrained funding scenario.

Mn/DOT's Metropolitan District

Mn/DOT's Metropolitan Division identified a new TH 41 regional river crossing as an unmet need in its 1997, 2001 and 2005 *Transportation System Plans* (TSPs). The plans specifically acknowledge congestion and safety issues with the existing river crossing; because the plans were fiscally constrained, at present, only right of way preservation funding is designated for this project within the next 20 years.

2.2.4.3.3 Local Plans

Information contained in this section is from local comprehensive and transportation plans for communities within the study area. These plans were developed between 1998 and 2001. In 2005, the Metropolitan Council developed new policies and planning requirements relating to development within the Twin Cities metropolitan area. Communities within the metropolitan area will be required to update their existing transportation plans before December 2008. New information regarding local plans will become available as agencies update their transportation plans.

Carver County

When Carver County updated its transportation plan in 1999, it conducted a special area study to identify the long-term function of TH 41. As part of the analysis, future traffic volumes were projected to 2020 to determine whether or not the existing corridor could operate at a reasonable level of service. Results from the study indicated that there would be enough traffic demand to warrant a new regional river crossing in addition to the existing TH 41 corridor serving as a local crossing. The study also indicated that even if a new TH 41 corridor crossing was constructed, the existing alignment's connection to US 169 should be upgraded to an interchange in order to improve mobility on both existing TH 41 and US 169. Note, the need for an interchange at this location was confirmed by the US 169 CMP (see Section 2.2.4.3.1).

Scott County

The 2001 Scott County Transportation Plan recognizes the importance of TH 41 in its function as a regional principal arterial river crossing between US 212 and US 169 and expresses support for a new river crossing connecting US 169 and US 212.

City of Chanhassen

The City of Chanhassen has expressed support for a new regional river crossing in transportation planning studies and environmental documentation studies since the 1970s. The city's 1998 comprehensive plan expresses the need for a new regional river crossing as well as the need to improve the existing TH 41 facility.

City of Chaska

The City of Chaska has expressed support for a new connection/regional river crossing in transportation planning studies and environmental documentation studies since the 1970s. Based on these early environmental studies, Chaska has identified the location of a proposed new TH 41 corridor in its comprehensive plan and has preserved right of way for this general corridor based on the 1974 DEIS Build alignment. The City of Chaska's rationale for supporting a new regional river crossing is threefold. First, the volume of vehicles as well as the type of vehicles (heavy commercial vehicles) passing through the downtown is disruptive to local businesses, has a negative impact on historic buildings, hinders pedestrian and bicycle movement, and decreases the overall quality of life in the downtown. Second, the existing roadway has capacity constraints and does not function as a high-level principal arterial. Third, when TH 41 is closed due to flooding, City residents are forced to use alternate roadways to travel to their destinations.

2.2.4.4 Quality of Life

As discussed in previous sections, the high percent of truck traffic on existing TH 41 poses concerns with regard to traffic operations and safety. In addition to these concerns, the traffic mix has a negative impact on the quality of life in downtown Chaska. Portions of downtown Chaska are designated as an historic district. The constant exposure to exhaust and vibrations from heavy commercial vehicles and other traffic has the potential to threaten some of the buildings' structure and facing. During the summer months, the City of Chaska has plastic flowers and nylon banners along the sidewalks in the downtown area. According to staff, these items are washed on a weekly basis to remove the soot and grime from the truck traffic. In addition, the sheer volume of trucks in the TH 41 corridor makes the area uninviting for pedestrians (i.e., shoppers). A new TH 41 river crossing corridor would meet the dual objectives of facilitating truck transport and alleviating negative effects of heavy truck volumes on downtown Chaska. Chapter 4 reports truck volumes under 2040 Build conditions of 700-900 trucks per day compared to 2,700 trucks per day under 2040 No-Build conditions.

2.3 SUMMARY OF PROJECT NEED/PURPOSE

The purpose of the Tier I EIS is to identify and evaluate the social, economic and environmental issues associated with the alternative corridor locations, as a basis for identifying a preferred alignment corridor that can be preserved for future use.

The previous sections describe in more detail the purpose for proposing an improved TH 41 principal arterial river crossing connection to meet state, regional and local area transportation needs as well as to resolve other current and future problems in the existing TH 41 corridor. The primary findings regarding the need for an improved TH 41 connection include:

1. Inadequate Capacity

   Trunk Highway 41 serves as an important river crossing in the southwest metropolitan area that includes two of the three fastest growing counties in the state. Currently, TH 41 functions below the acceptable level of service (LOS) threshold with lengthy queues and delays occurring at the TH 41/US 212 intersection during peak travel periods.

Future traffic volumes within the existing TH 41 corridor are forecast to increase by 97 percent by 2040 (18,500 ADT in year 2000 and 36,500 ADT in 2040) resulting in increasing levels of congestion. Overall, traffic volumes on the five Minnesota River crossing corridors in the vicinity of TH 41 are forecast to increase by over 83 percent by 2040. No-Build LOS on TH 41 is expected to be "F" for a majority of intersections by 2030. By 2040, there will be 10 directional hours of congestion on TH 41 and Highway 101 if a new alignment is not built.

2. Regional Congestion and Public Safety Concerns During Flooding

Regular flooding on the existing TH 41, Highway 101 and CSAH 9/45 river crossings in the vicinity of the study area results in emergency response service concerns plus increased costs to the traveling public due to substantial user delays and diversions. The closest river crossing above the 100-year floodplain (US 169) is 10 miles to the east of TH 41. Existing and projected future traffic demand on the US 169 crossing limits its ability to accommodate additional traffic during flood events.

3. Improved Regional Connection for Traffic and Freight Movement between US 169 and New US 212

A new principal arterial connection between US 169 and New US 212 is needed to provide an important river crossing in the overall transportation system in the southwest metropolitan area. This new connection is consistent with principal arterial functions and IRC objectives that cannot be addressed by the existing TH 41 corridor. It is also consistent with local, regional and state transportation plans.

4. Additional Needs

Additional transportation needs that a new TH 41 freeway facility would address include:

a. Vehicle, pedestrian and bicycle safety needs along existing TH 41.

b. Need to facilitating goods movement by providing an improved capacity principal arterial connection across the Minnesota River.

c. Improving the quality of life in downtown Chaska by reducing the percent of truck traffic through downtown.

3.0 ALTERNATIVES

This chapter of the DEIS presents a summary of the alternative development process, including early alternative locations studied and documented in the 1974 DEIS; this chapter also discusses the refinements of alternative alignments during the present study process, including the consideration of several sub-alternatives; and descriptions of the alternatives that were analyzed in detail for the DEIS. Because the environmental review for the proposed project is being done in a tiered process, as described in Section 2.1, the alternatives were developed at the level for corridor-analysis, rather than for detailed design. A sufficient level of design was done to ensure the physical and operational feasibility of alternatives, and to inform a corridor-level analysis of the alternatives.

3.1 SUMMARY OF ALTERNATIVE DEVELOPMENT PROCESS

Section 2.1 details the history of the project. As noted in these sections, an improved river crossing in the vicinity of Chaska and Shakopee has been discussed since the population in this portion of the Twin Cities began growing in the late 1960s. The 1970 Study discussed in Section 2.1 identified four system alternatives. Proposed System "D" was selected as the preferred long-term system concept for the three roadway corridors (US 169, US 212 and TH 41). The 1974 DEIS for TH 41 considered alternatives that included No-Build; a mass transit option; two alternatives involving the upgrading of the existing route; one alternative upgrading partially along the existing route; and construction along a new corridor alignment (Alternative 41-D) identified in the 1970 Study. Only Alternative 41-D (Figure 3-1), which included two alignment options between US 169 and US 212, and the No-Build alternative were analyzed in detail in the 1974 DEIS. The other 1974 DEIS alternatives were rejected because they were found to be not feasible or to have unacceptable impacts. Due to lack of funding for the project, a final EIS (FEIS) was not completed.

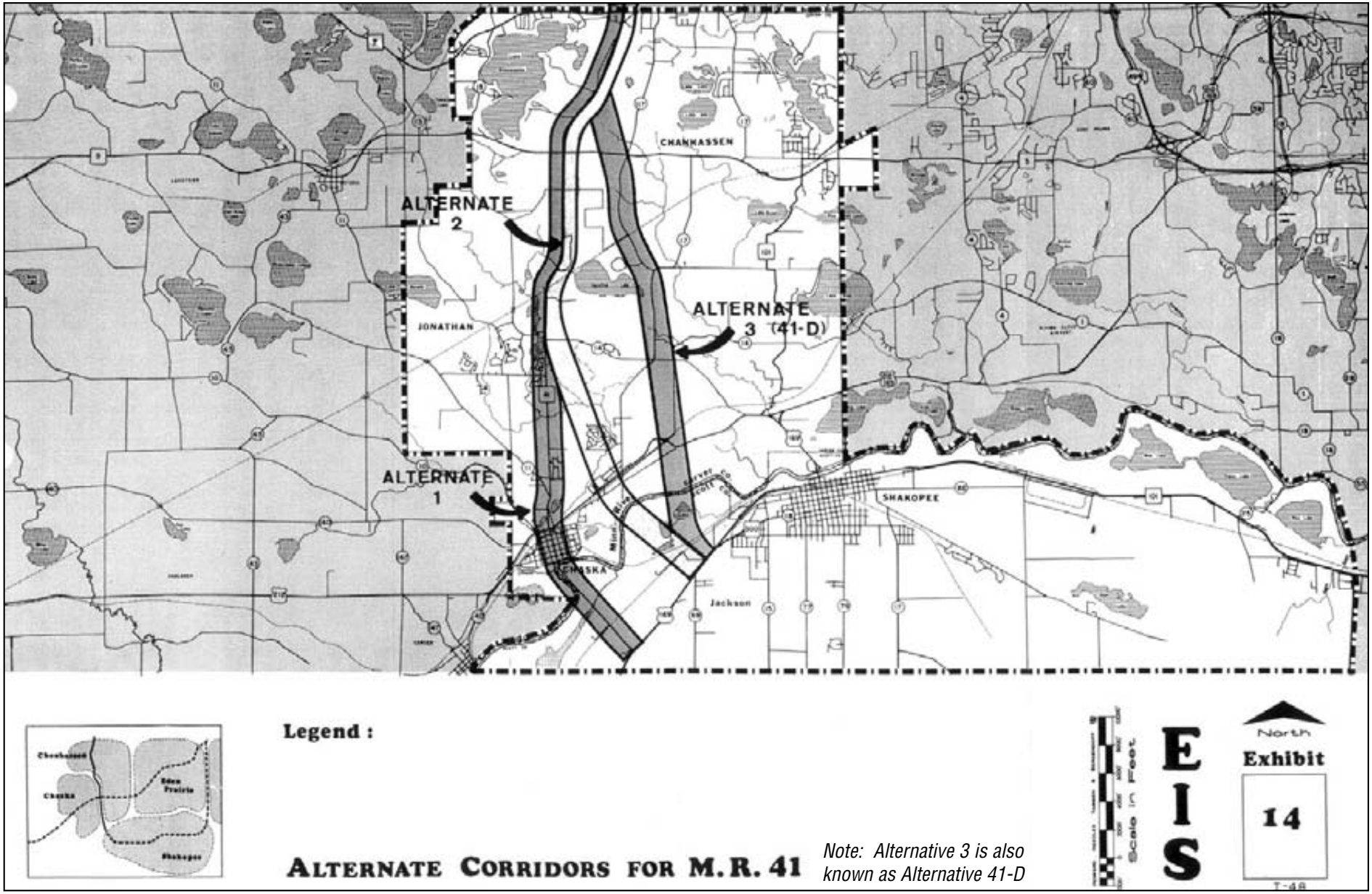
Since a FEIS and federal Record of Decision were not completed for the 1974 EIS process, and since conditions have changed substantially in the study area since the 1970s, a new environmental review (EIS scoping) process for the project was initiated in 2002. Development and evaluation of alternatives in the current scoping process were informed, but not limited, by the studies performed in the 1970s. For example, development of retained study alternatives included alignments representative of the Alternative 41-D corridor from the 1974 DEIS. However, the current scoping process considered a larger study area and broader range of alternatives compared to the 1970s studies.

On January 10, 2003, FHWA issued a notice of intent to prepare a Tier I EIS to improve capacity on TH 41 between TH 169 and proposed TH 212, including a crossing of the Minnesota River. The Notice of Intent was published in the Federal register, Volume 68, Number 7.

3.1.1 Scoping Process and Decision

The process used to develop alternatives for the current Draft EIS is described in detail in the *TH 41 Over the Minnesota River: Scoping Document/Draft Scoping Decision Document* (SD/DSDD), April 2004, and included the following steps:

- Identification of study area limits
- Identification of evaluation criteria



Graphics/Support/4590/DEIS Graphics

ALTERNATIVE "41-D" from 1974 DEIS

Figure 3-1

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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- Initial definition/screening of alternatives
- Development and evaluation of potential Build alignment alternatives
- Public/agency input in the process

3.1.1.1 Study Area Limits

As discussed in Section 1.2 and in the SD/DSDD, the present study area is bordered on the south by US 169; on the north by New US 212; on the west by CSAH 14 in Scott County and just west of the City of Carver in Carver County; and on the east by Highway 101. (See Figure 1-1.)

These limits were established based on physical limitations and the proximity of US 169 and New US 212 to each other (beyond the defined east-west boundaries, the two roadways diverge dramatically). The scoping process limited exploration of potential alternatives to locations within these boundaries. (The study area was expanded beyond the original 1970 Study area because, compared to the 1970s, development is moving west.)

3.1.1.2 Evaluation Criteria

During the scoping study, two levels of criteria were developed to facilitate the identification and screening of alternatives. These criteria are presented in Table 3-1. Level I criteria define the essential transportation objectives (i.e., purpose and need) for the project (see Chapter 2), i.e., (a) increase river crossing capacity and meet 2040 forecast capacity needs, (b) can be constructed above the 100-year floodplain, and (c) provide a principal arterial roadway connection between US 169 and New US 212. Scoping alternatives that did not meet the Level I criteria, that is, that would not fulfill the basic need for the project, were eliminated from further study during the screening evaluation process.

Level II criteria address social, economic and environmental (SEE) impacts and transportation/design impacts. The Level II SEE and transportation/design issues are those that were identified through scoping as key issues, not only because of the level of concern associated with potential impacts, but also because impacts are measurably different for different Build alternative alignments. Level II criteria were used to provide guidance for comparing alternatives that meet Level I transportation need criteria, but involve trade-offs among impacts on key resources and transportation benefits/design considerations. While the Level I evaluation was absolute in nature (i.e., alternatives either did or did not meet the need criteria), the Level II criteria were developed to provide a comparative framework for discerning which alternatives should be further studied in the DEIS.

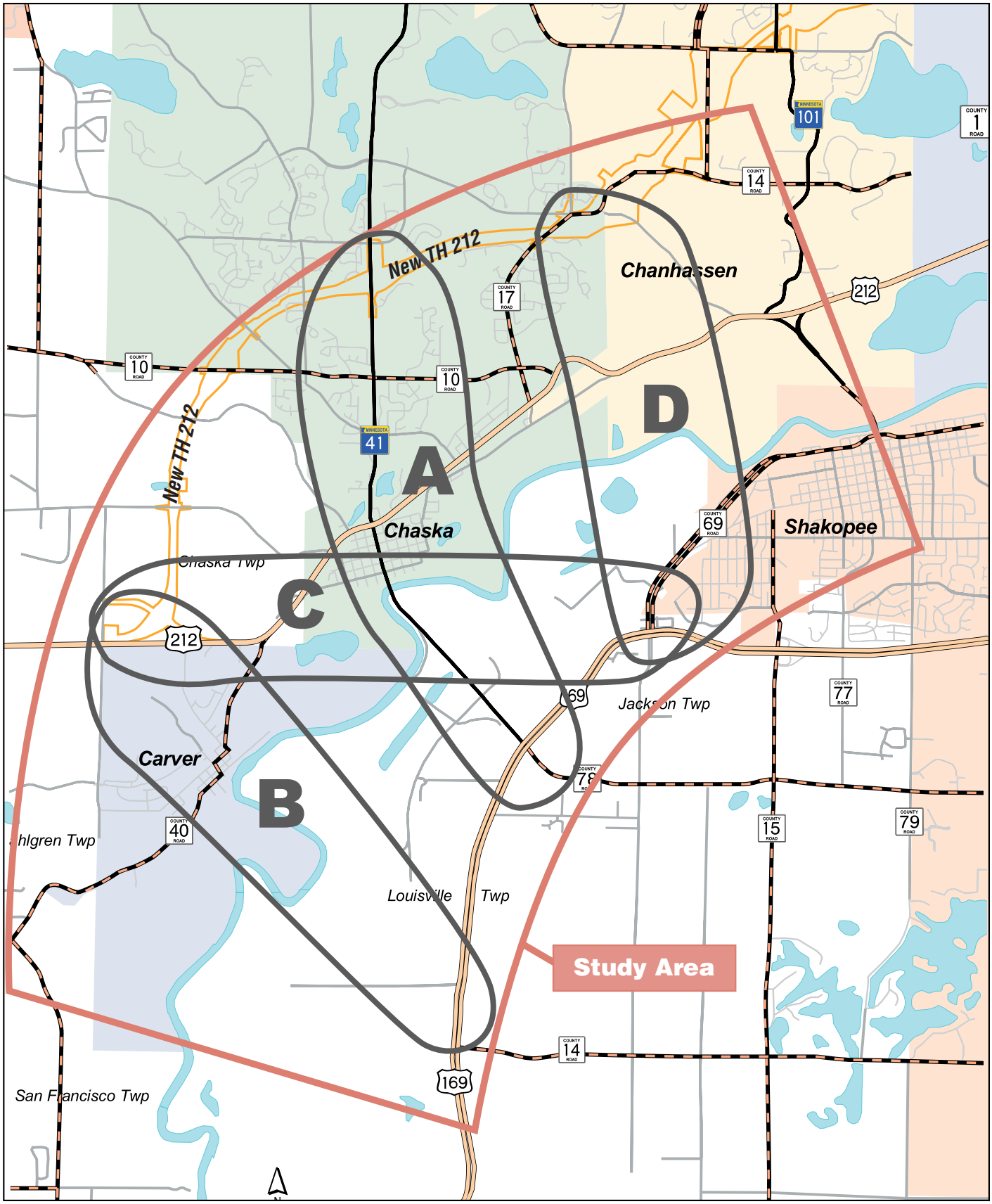
3.1.1.3 Initial Definition and Screening of Alternatives

Initial definition of scoping alternatives included establishing the assumptions for No-Build and Minimum Build alternatives. An initial screening process was also performed for orientations/connections of Build alternative “test links” to provide an assessment of whether any test link alignments should be eliminated from further consideration because they would not serve a beneficial transportation function. (Note that travel forecasts prepared for the Scoping Analysis utilized socioeconomic inputs and the forecast model that were available at the time; DEIS travel forecasts utilized updated inputs and the new forecast model, as described in Chapter 4.)

TABLE 3-1
SCOPING ALTERNATIVES EVALUATION CRITERIA

Evaluation Criteria		
	Level II	
Level I **Transportation Need**	**SEE Impacts: Nature of and potential extent of impact on**	**Transportation and Design Issues**
▪ The alternative increases river crossing capacity and can be designed to meet forecast capacity needs (year 2040) ▪ The alternative can be constructed above the 100-year floodplain. ▪ The alternative connects US 169 to New US 212	▪ Right of way and land use ▪ Environmental justice (low income and/or minority populations) ▪ Cultural resources ▪ Cemetery ▪ Minnesota Valley National Wildlife Refuge ▪ Sensitive biological areas ▪ State Wildlife Management Area	▪ The extent to which the alternative relieves existing congested crossings ▪ The travelshed (market area) served by the alternative ▪ Other design issues identified in concept development, such as topography, access considerations, optimizing interchange spacings, transportation system connection/design standards, etc. ▪ Fiscal issues: relative implementation cost vs. transportation and environmental benefits

Initial scoping alternatives included No-Build, Minimum Build (Transportation System Management/Travel Demand Management (TSM/TDM) alternative, and the four general Build locations shown in Figure 3-2. The Minimum Build alternative was evaluated to determine if minimum improvements to existing roadways such as turn lanes, auxiliary lanes, improved geometrics or improved intersection controls (TSM) plus decreased travel demand due to transit, carpooling or other actions (TDM) could accommodate future travel demands. Evaluation/screening of the Minimum Build alternative was based on the results of a forecast model run where it was assumed that a 10 to 15 percent capacity increase could be achieved on existing TH 41 and Highway 101 through implementation of a broad range of minor improvements to the existing corridors, and a five to 15 percent reduction in work-related trips on the regional system could be achieved through transit and other TDM measures. The percentage assumed at a given location was dependent upon employment density. The result of the forecast model run for this scenario indicated that this alternative would not meet future river crossing travel demand. It was eliminated from further consideration based on Level I evaluation criteria (i.e., it would provide only limited capacity improvement, would perpetuate bridge closures due to flooding, and would provide no supplementary connection between US 169 and new US 212, therefore would not meet the project purpose and need).



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TEST LINKS

Figure 3-2

TRUNK HIGHWAY 41 - MINNESOTA RIVER CROSSING
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The four general Build locations shown in Figure 3-2 were used as “test links" within the study area to test the effect of general locations and orientations for an improved capacity river crossing connection between US 169 and New US 212. The test link analysis assessed the following factors:

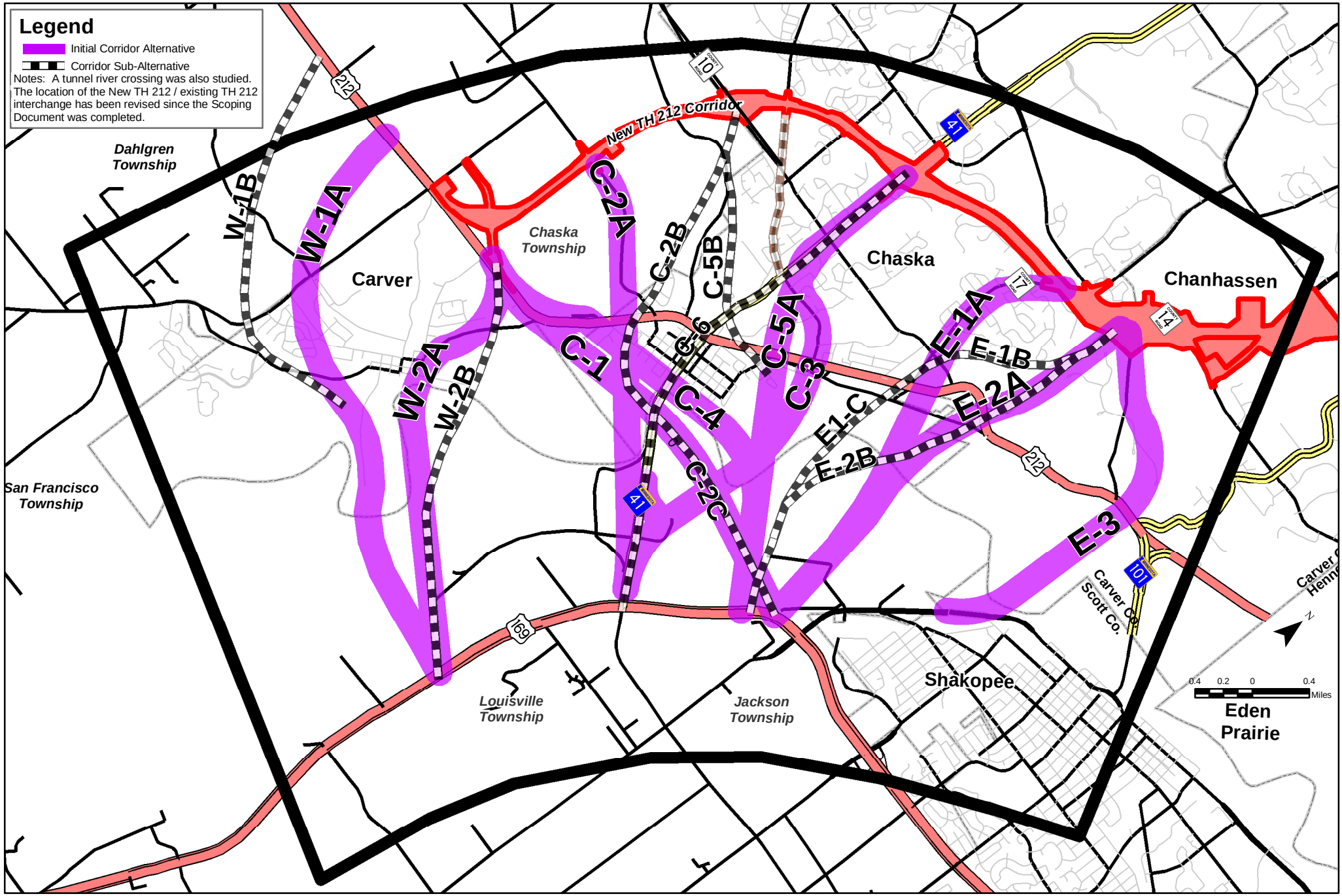
- Forecast volumes (i.e., travel demand) on each test link crossing and for No-Build conditions.
- Number of trips attracted from other crossings under each test link, i.e., trips that would otherwise have crossed the river elsewhere to arrive at the same destination. Other crossings evaluated in the forecasting include TH 25, CSAH 9/CSAH 45, TH 41, Highway 101, US 169 and I-35W.
- The amount of “previously unserved demand” for each test link, i.e., trips that would otherwise have chosen a different destination but that now choose a destination across the river due to the improved accessibility.
- “Demand market area” for each test link (i.e., selected link analysis showing where trips on each link come to/from).

Results of the test link analysis did not support elimination of any of the test link corridor locations/orientations on the basis of serving substantially fewer trips. The test link analysis indicated that a four-lane facility was needed to accommodate the study year (2040) travel demand.

3.1.1.4 Development of Scoping Build Alternative Alignments

Informed by the findings of the test link analysis, the Project Management Team (PMT), with the input of the Study Advisory Committee (SAC) and other stakeholders (described in Chapter 15), developed a wide range of potential Build alternatives within the parameters of the three primary transportation objectives for the project (increases river crossing capacity, alternative would be located above the 100-year floodplain, and connects US 169 and new US 212) and responding to the environmental and design constraints that exist within the study area. The identification and evaluation of this wide range of alternatives was an iterative rather than a purely sequential process, as preliminary evaluation of alternatives often generated ideas for new alternatives or sub-alternatives. Generally, the Build alternatives were grouped into three main categories, based on location within the study area: West (W), Central (C) and East (E). Sub-alternative designations within these general groupings were assigned as the iterative process of revising alternatives proceeded.

The initial set of 11 alternatives comprised variations on the test link corridors as well as a tunnel option that was proposed at the January 2003 SAC meeting. These 11 alternatives were presented to the SAC at its February 2003 meeting and evaluated in additional detail at its March 2003 meeting. Based on continued assessment of constraints and opportunities and consultation with stakeholders, the PMT subsequently identified one additional alternative and eight sub-alternatives, bringing the total number of potential Build alternatives and sub-alternatives for scoping level evaluation to 20. These are depicted in Figure 3-3.



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SCOPING BUILD ALTERNATIVES - Scoping Document

Figure 3-3

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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The scoping process included an evaluation of each of the 11 alternatives (including sub-alternatives) based on the Level I (purpose and need) and II (SEE impacts and transportation and design issues) evaluation criteria. Based on results from the Level I and II evaluation, the SD/DSDD recommended the further analysis of the No-Build alternative and four Build alternatives. The SD/DSDD was released for public review April 26, 2004. A public scoping meeting was held May 20, 2004; the formal comment period concluded May 26, 2004. Mn/DOT received the comments submitted on the SD/DSDD and conferred with the PMT and SAC prior to issuing a scoping decision.

3.1.1.5 Scoping Decision

Mn/DOT approved a Scoping Decision Document (SDD) for the proposed project February 18, 2005. The SDD included a No-Build alternative and four Build alternatives (W-2, C-2, E-1 and E-2) to be studied in the EIS (See Figure 3-4). Mn/DOT approved an Amended SDD on March 16, 2006, discussed in Section 3.2.1.1.

3.1.2 Alternatives Retained for Detailed Analysis in the Tier I DEIS

3.1.2.1 Alternative Refinement

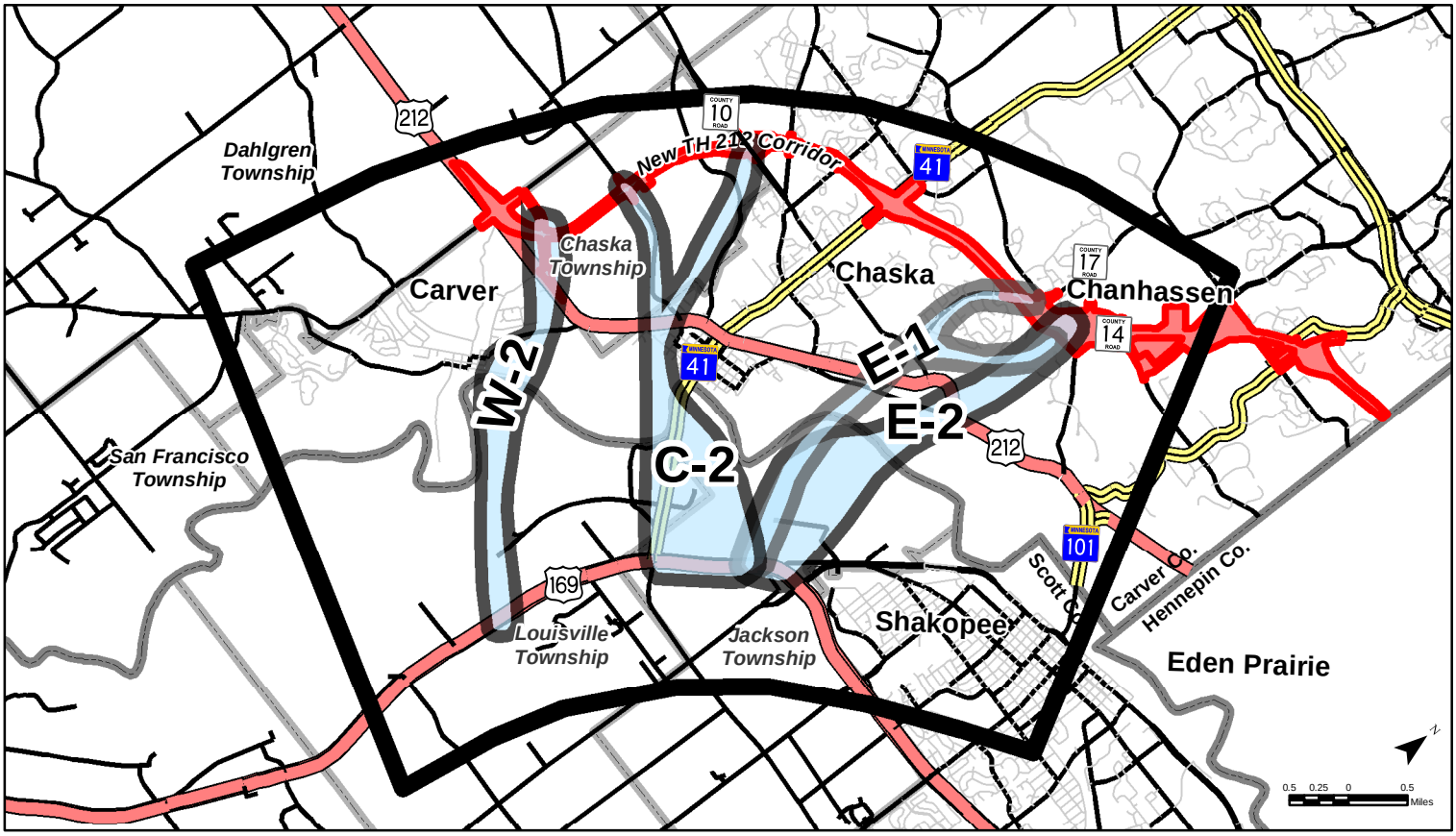
An initial task in the DEIS process was to refine the broad Build corridors identified during the scoping process into feasible alignments that meet engineering design standards, provide for acceptable freeway traffic operations (i.e., within capacity thresholds in 2040, with adequate merge/diverge weave distances), allow for development/maintenance of local transportation networks to meet access and system needs, and minimize socioeconomic and environmental impacts. The four broad scoping Build corridors were refined into six DEIS Build alternatives as follows and as shown on Figure 3-5:

1. Scoping Alternative W-2

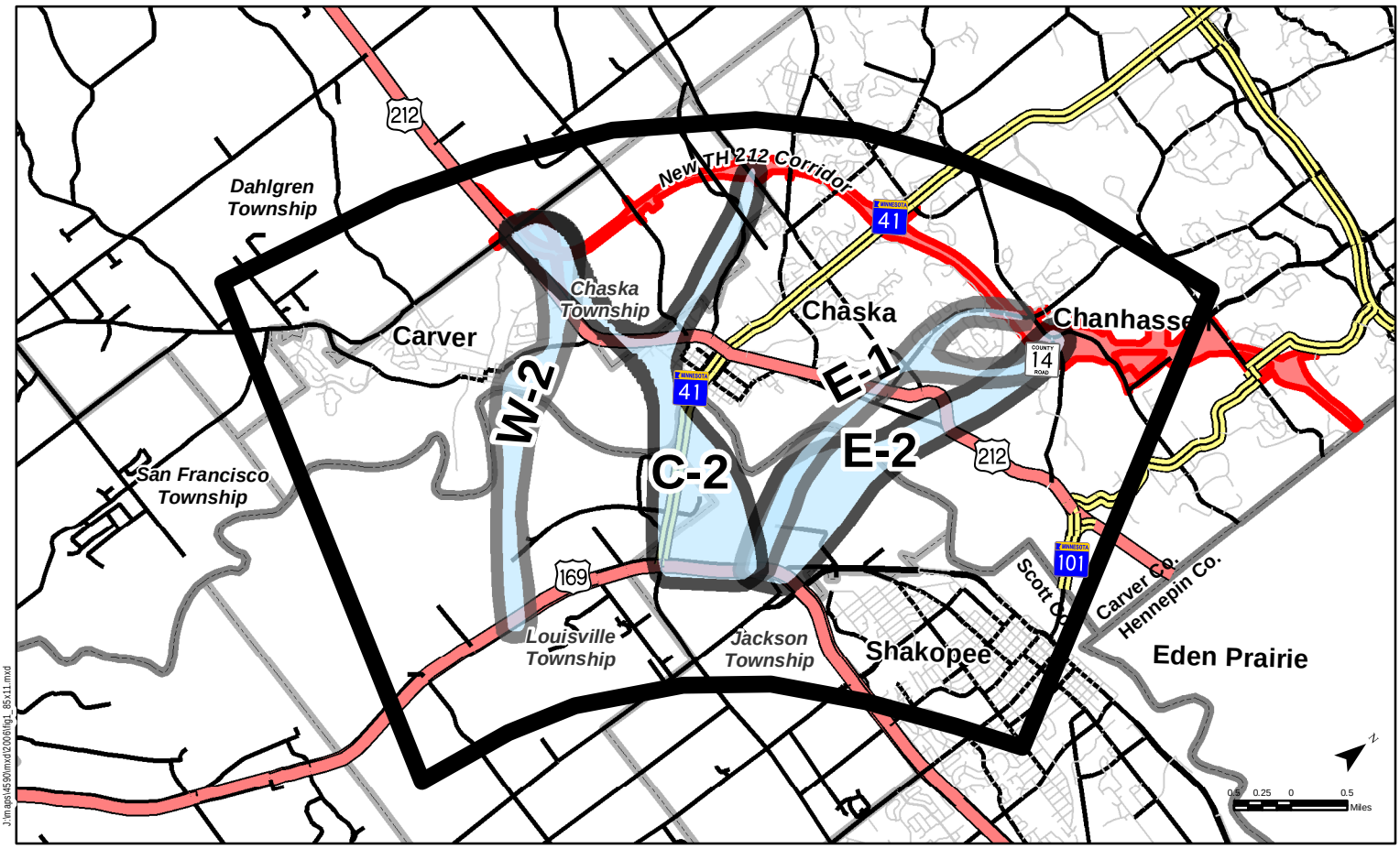
   The scoping corridor for this alternative is broad as it crosses the river. In the DEIS alternative refinement process, an alignment was developed within this corridor.

2. Scoping Alternative C-2

   The scoping corridor for this alternative: (a) is broad at the south end to provide for alternative locations for its intersection with US 169 and to provide for a potentially realigned existing TH 41, and (b) provides for two alternative connections to New US 212: at CR 140 and at Engler Boulevard/CSAH 10 (hereafter referred to as Engler Boulevard). In the DEIS alternative refinement process, this scoping alternative was developed into two separate DEIS alternatives: C-2 and C-2A. The DEIS Alternative C-2 was further refined with a new northern terminus near CSAH 11/ CR 147 (hereafter referred to as CSAH 11); as noted, the SDD was amended in March 2006 to provide for this revision (see Section 3.1.2.2).



Scoping Decision Document - February 2005



Amended Scoping Decision Document - March 2006

BUILD ALTERNATIVES TO BE ANALYZED IN DEIS

Figure 3-4

TRUNK HIGHWAY 41 OVER THE MINNESOTA RIVER
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3. Scoping Alternative E-1

The scoping corridor for this alternative provides for two alternative connections to New US 212: at CSAH 17/Audubon Road (hereafter referred to as Audubon Road) and at Bluff Creek Drive. In the DEIS alternative refinement process, this scoping alternative was developed into two separate DEIS alternatives: E-1 and E-1A.

4. Scoping Alternative E-2

The scoping corridor for this alternative is broad to cover the area identified in the 1974 DEIS Alternative 41-D corridor and allow for further refinement.

The alignment development process occurred in consultation with project stakeholders. Iterative versions of the Build alternatives were reviewed at PMT, SAC, agency, and public meetings. The agency coordination and public review process is detailed in Chapter 15.

During the DEIS process, preferred concepts were identified for each of the six Build alternatives to be retained for detailed study/comparison in the DEIS. Along with the identification of a preferred concept for each Build alternative, other local and regional access considerations were reviewed and concepts addressing these needs were developed.

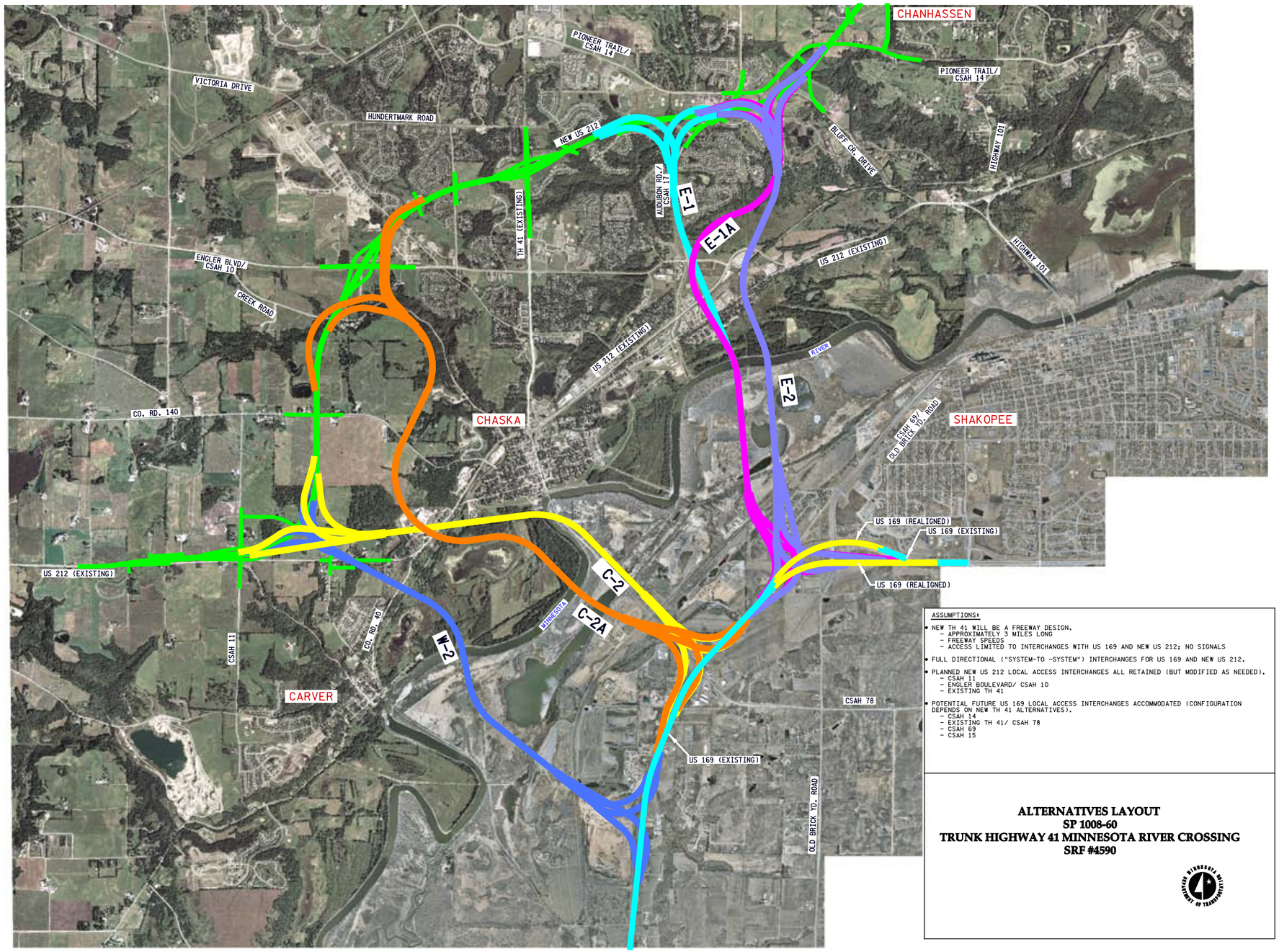
3.1.2.2 Amended Scoping Decision

As described in Section 3.2.2, the development of specific alignments within the identified alternative corridors during the DEIS process which followed the publication of the 2005 SDD, sought to minimize socioeconomic and environmental impacts and included consultation with agency and public stakeholders in that regard. One outcome of this process is that revisions to Alternative C-2 resulted in an alternative that was no longer within the limits of the broad corridor shown in the SDD. The SDD was amended to expand the limits of the corridor to include the revised alternative and provide the rationale for its inclusion in the DEIS. Notice of the Amended SDD was published March 27, 2006. The revised map of SDD Build alternatives is included in Figure 3-4. A public meeting to present the revised Alternative C-2 was held March 16, 2006. Alternative C-2 is described in Section 3.2.4.2.

3.2 DESCRIPTION OF DEIS ALTERNATIVES

3.2.1 No-Build Alternative

The No-Build alternative does not include construction of a new TH 41 river crossing. This alternative would continue to utilize the existing TH 41 corridor as the connection between US 169 and New US 212, including existing at-grade access points, intersection configurations, alignments and geometrics. The No-Build alternative would include needed safety improvements and reconstruction of existing TH 41 (as required by routine maintenance) between US 169 and New US 212 within the study area. The No-Build alternative could also include consolidation of direct access points along TH 41 warranted by safety conditions. Social, economic and environmental impacts of the No-Build alternative are analyzed where relevant and compared to impacts of the Build alternatives in subsequent chapters.



ASSUMPTIONS:

- NEW TH 41 WILL BE A FREEWAY DESIGN.
  - APPROXIMATELY 3 MILES LONG
  - FREEWAY SPEEDS
  - ACCESS LIMITED TO INTERCHANGES WITH US 169 AND NEW US 212; NO SIGNALS
- FULL DIRECTIONAL ("SYSTEM-TO -SYSTEM") INTERCHANGES FOR US 169 AND NEW US 212.
- PLANNED NEW US 212 LOCAL ACCESS INTERCHANGES ALL RETAINED (BUT MODIFIED AS NEEDED).
  - CSAH 11
  - ENGLER BOULEVARD/ CSAH 10
  - EXISTING TH 41
- POTENTIAL FUTURE US 169 LOCAL ACCESS INTERCHANGES ACCOMMODATED (CONFIGURATION DEPENDS ON NEW TH 41 ALTERNATIVES).
  - CSAH 14
  - EXISTING TH 41/ CSAH 78
  - CSAH 69
  - CSAH 15

ALTERNATIVES LAYOUT
SP 1008-60
TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
SRF #4590

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BUILD ALTERNATIVES

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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Figure 3-5

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As indicated, the No-Build alternative would include programmed (i.e., included in state or county transportation improvement plans) improvements to the regional transportation system. The No-Build alternative also includes improvements to US 169 that are included in concept in the CMP, but not yet programmed in the fiscally-constrained Mn/DOT Metro District 20-year plan. The programmed improvements are functionally the same under No-Build or Build conditions; the configuration of US 169, certain interchanges of New US 212, and local roadways may vary under Build conditions. Within the study area, the programmed improvements are substantial and include the following:

- United States Highway 169 improvements – Improvements included in the CMP for US 169 and assumed for the No-Build (as well as Build) conditions include completing US 169 as a four-lane freeway facility between CSAH 69 and I-494. For purposes of this study, an interchange at US 169/CSAH 69 is assumed (though as noted above not programmed in the fiscally-contained 20-year Metro District plan). In addition, a frontage road paralleling US 169 on the north and south sides of the roadway will be constructed as development occurs between CSAH 69 and CSAH 14. The intent of this frontage road is to remove local trips from US 169 and to connect to long-term planned interchanges at US 169/CSAH 14 and US 169/existing TH 41. Portions of this frontage road have been constructed near the intersection of US 169 and TH 41.
- Construction of New US 212 – As discussed in Section 1.2, a new alignment for US 212 (New US 212) is under construction north of the existing alignment within the study area. New US 212 is a freeway facility with limited access points. One of the access points is an interchange with existing TH 41. Other interchanges within the study area are programmed for CSAH 11, Engler Boulevard, Powers Boulevard and Highway 101. New US 212 is scheduled for completion fall 2008.
- Construction of local roadways – A number of local roadway improvements to arterial and collector roadways are programmed within the study area. These improvements, which include new routes, major realignments and widening of existing routes, are programmed for both Scott and Carver Counties.

A list of the assumed improvements within the study area and broader travelshed is provided in the *Technical Memorandum on Travel Forecasting* dated May 1, 2006 and contained in *Volume II: Technical Memoranda*.

3.2.2 Build Alternatives

The Tier I DEIS includes six Build alternatives for evaluation and comparison to the No-Build alternative. The objective of the Tier I EIS process is to identify a corridor for right of way preservation. For analysis purposes, a standard 300-foot corridor width, with minor variations for topographic considerations and at interchanges, is assumed. Detailed design will occur during the Tier II EIS process closer to the time of construction.

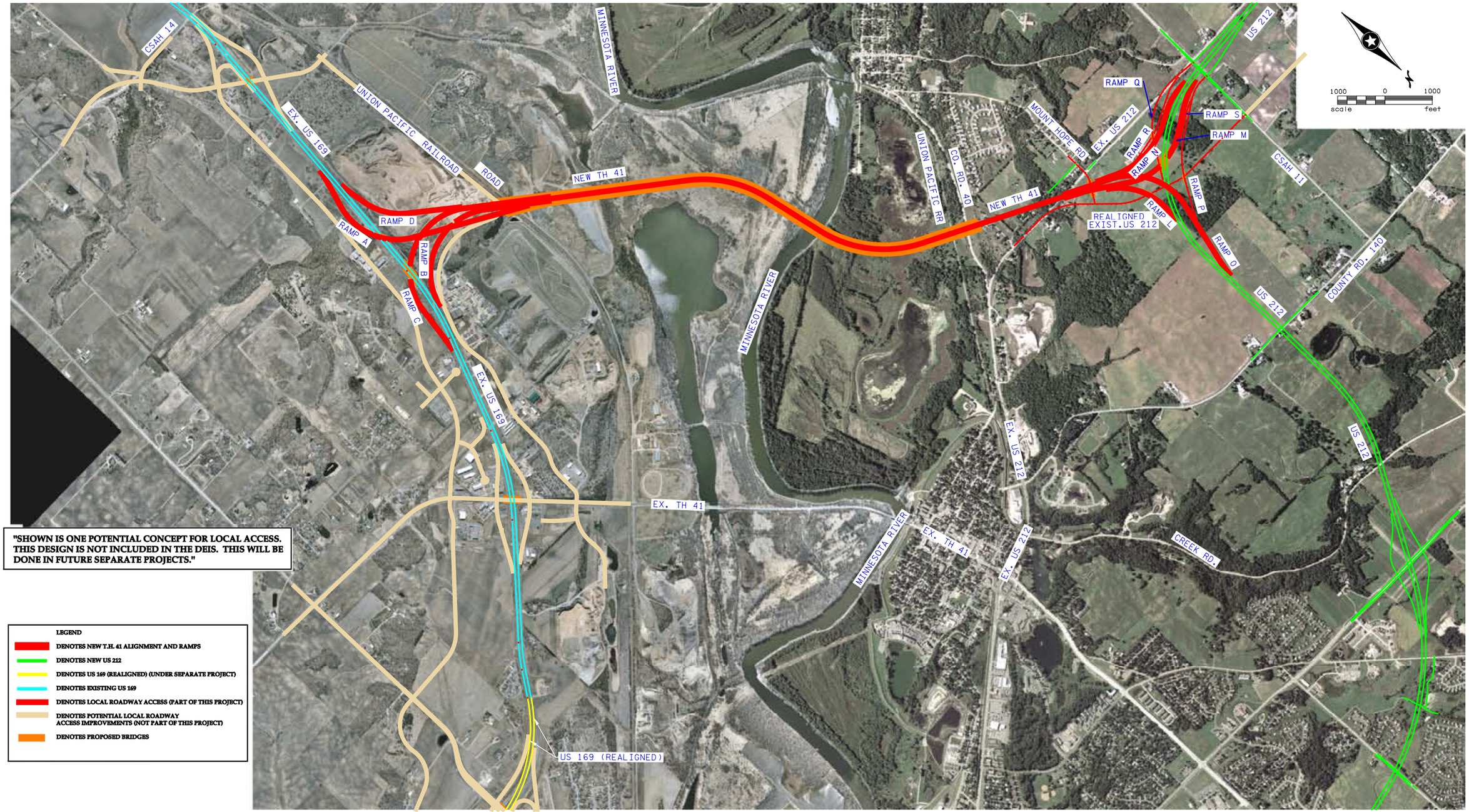
For purposes of the Tier I EIS, the various Build alternatives were designed to a level of detail that demonstrated engineering feasibility, provided for acceptable freeway operations, and allowed reasonable quantification of impacts for comparison purposes.

Figures 3-6 through 3-11 depict the proposed improvements for each Build alternative.

The figures also illustrate potential concepts for other access improvements on US 169 that may have a relationship to the proposed project. Access concepts were developed for all Build alternatives for interchanges at the junction of US 169 and existing TH 41, and also for the existing junction of US 169 and CSAH 69. The access concepts were developed only to show interchanges are feasible at these locations if any of the alternatives for New TH 41 is constructed. They are not intended to be the final concepts, nor are they included as elements of the Build alternatives except where ramps would connect the system and local interchanges. Improvements to US 169 and to local systems that are not part of the proposed TH 41 river crossing project will be developed and assessed for environmental impacts as a separate project(s). For that reason, the interchanges and corresponding local road connections are not detailed in the alternative discussions below and costs or impacts of the TH 41/US 169 and US 169/ CSAH 69 interchanges and local road connections were not evaluated as part of this study except as appropriate for assessing indirect or cumulative impacts.

All of the Build alternatives have the following in common:

- Include construction of a freeway facility, with the planning assumption of four lanes. (As noted in Section 3.1.1.3, travel forecasts conducted during scoping supported the need for a four-lane facility. Updated travel forecasting conducted during preparation of the DEIS and detailed in Chapter 4 confirmed this finding.)
- Connect US 169 to New US 212.
- Construct full-access directional interchanges between the Build alternative and US 169 and New US 212 (to provide for regional system interchange standards for ramps [60 mph design speed]).
- Include auxiliary lanes on US 169, New TH 41 and New US 212 where needed to provide acceptable freeway operations.
- Assume, for corridor analysis purposes, a 300-foot wide corridor, except where wider to respond to topographic considerations, and at interchanges.
- Maintain planned access on New US 212.
- Can accommodate local access for US 169 at CSAH 14, near existing TH 41/CSAH 78, and CSAH 69. The configuration of local access for US 169/existing TH 41 and US 169/ CSAH 69 will vary depending on the Build alternative.
- Include programmed improvements to the regional transportation system within the study area (including improvements on US 169, the construction of New US 212, and the construction of local roadways). As described in Section 3.2.1, these improvements will be made under Build and No-Build conditions. Configurations of the improvements may vary under Build conditions, including the location of US 169 near CSAH 69 (two US 169 alignments near CSAH 69 are under consideration; details will be finalized in the FEIS).



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ALTERNATIVE W-2

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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Figure 3-6

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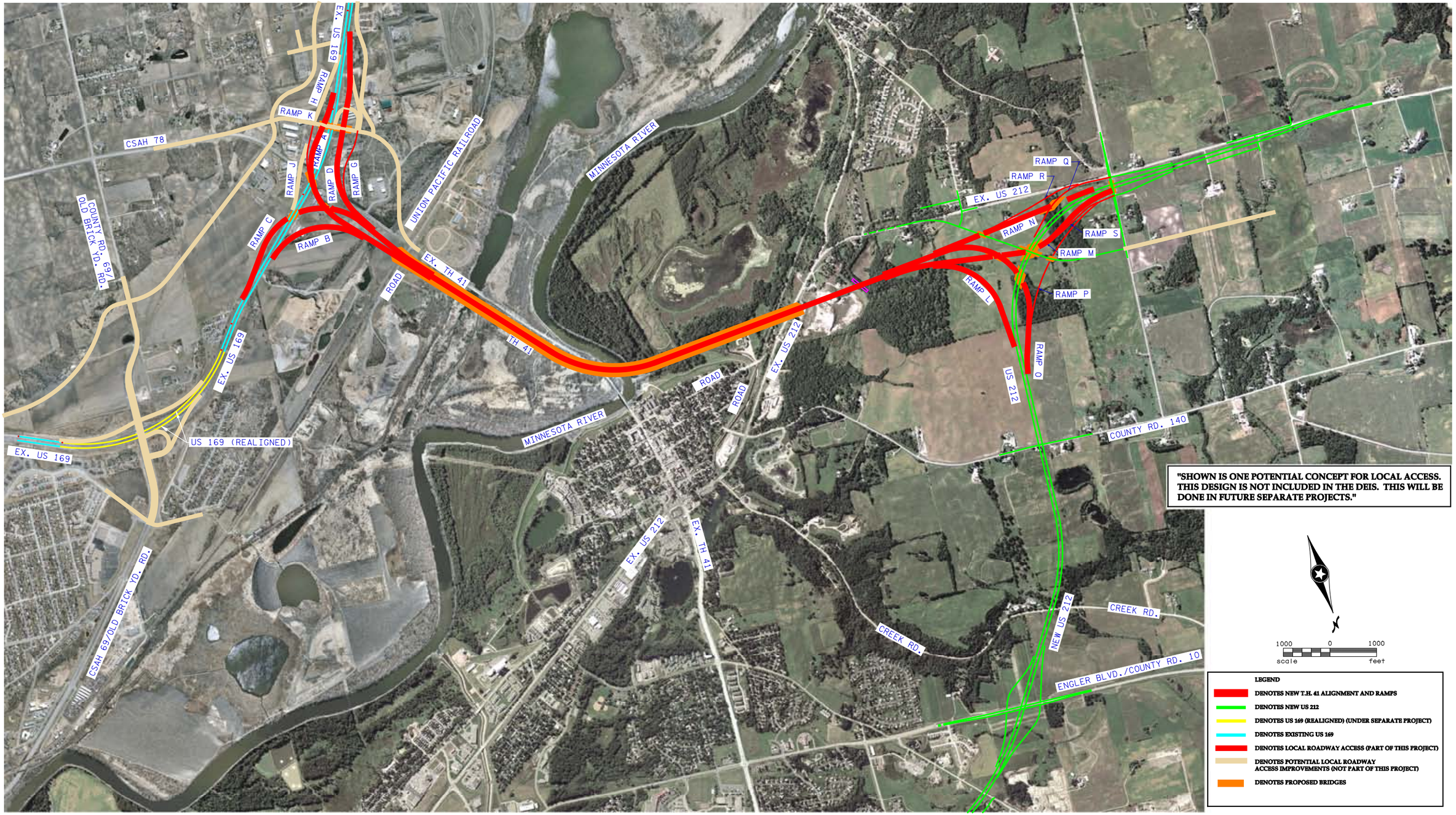

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ALTERNATIVE C-2

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Figure 3-7

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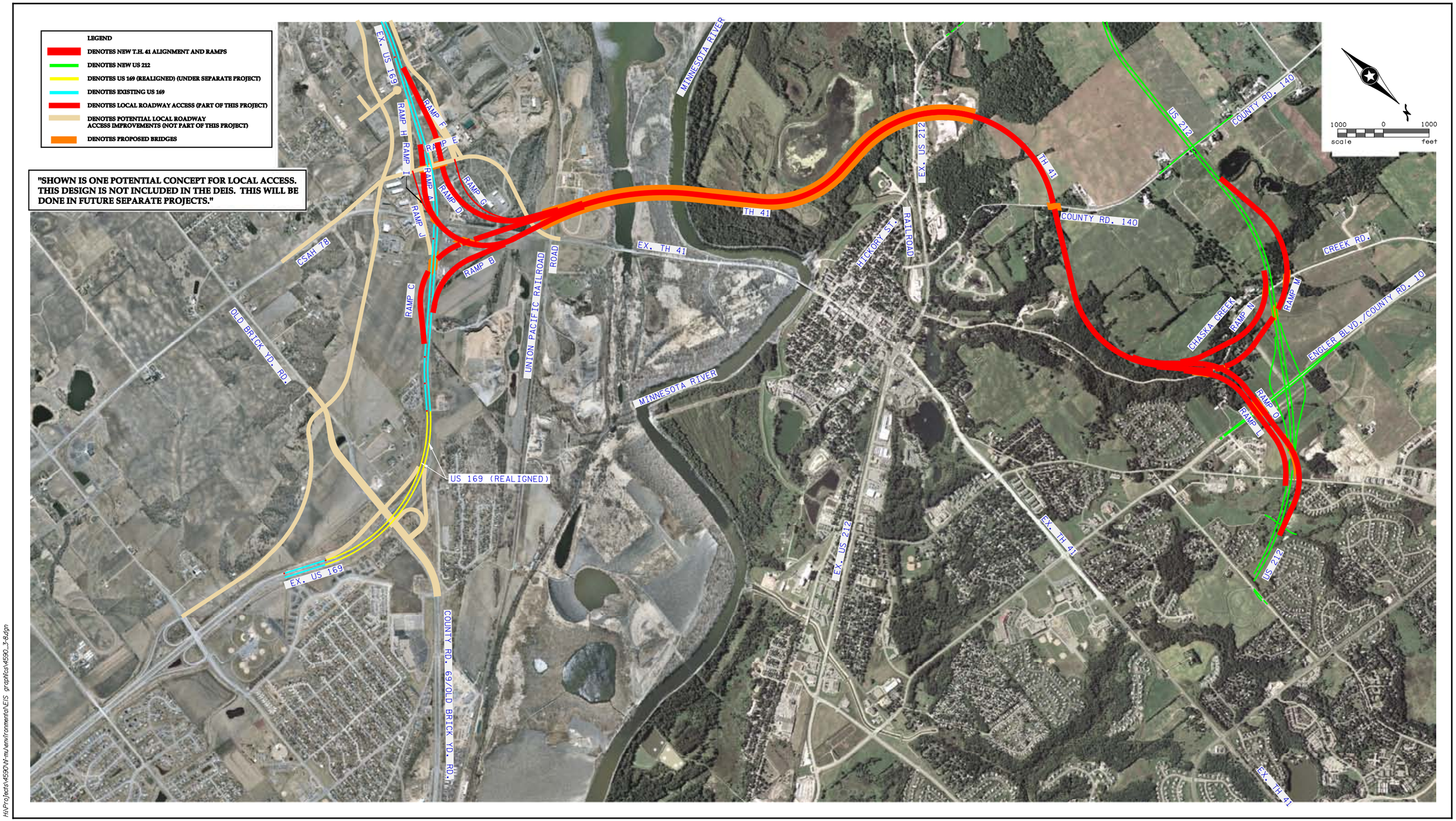

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ALTERNATIVE C-2A

Figure 3-8

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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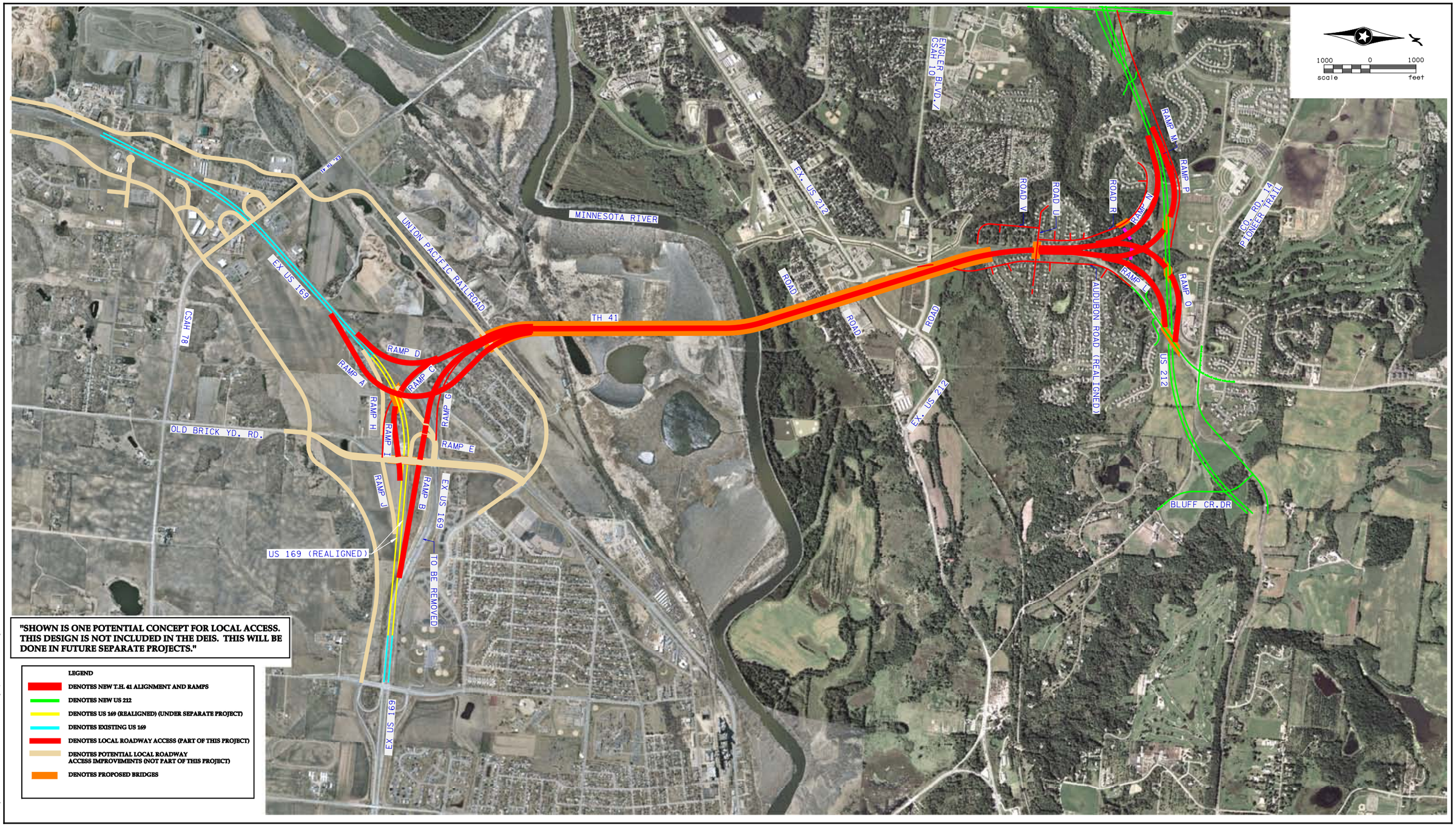

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ALTERNATIVE E-1

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Figure 3-9

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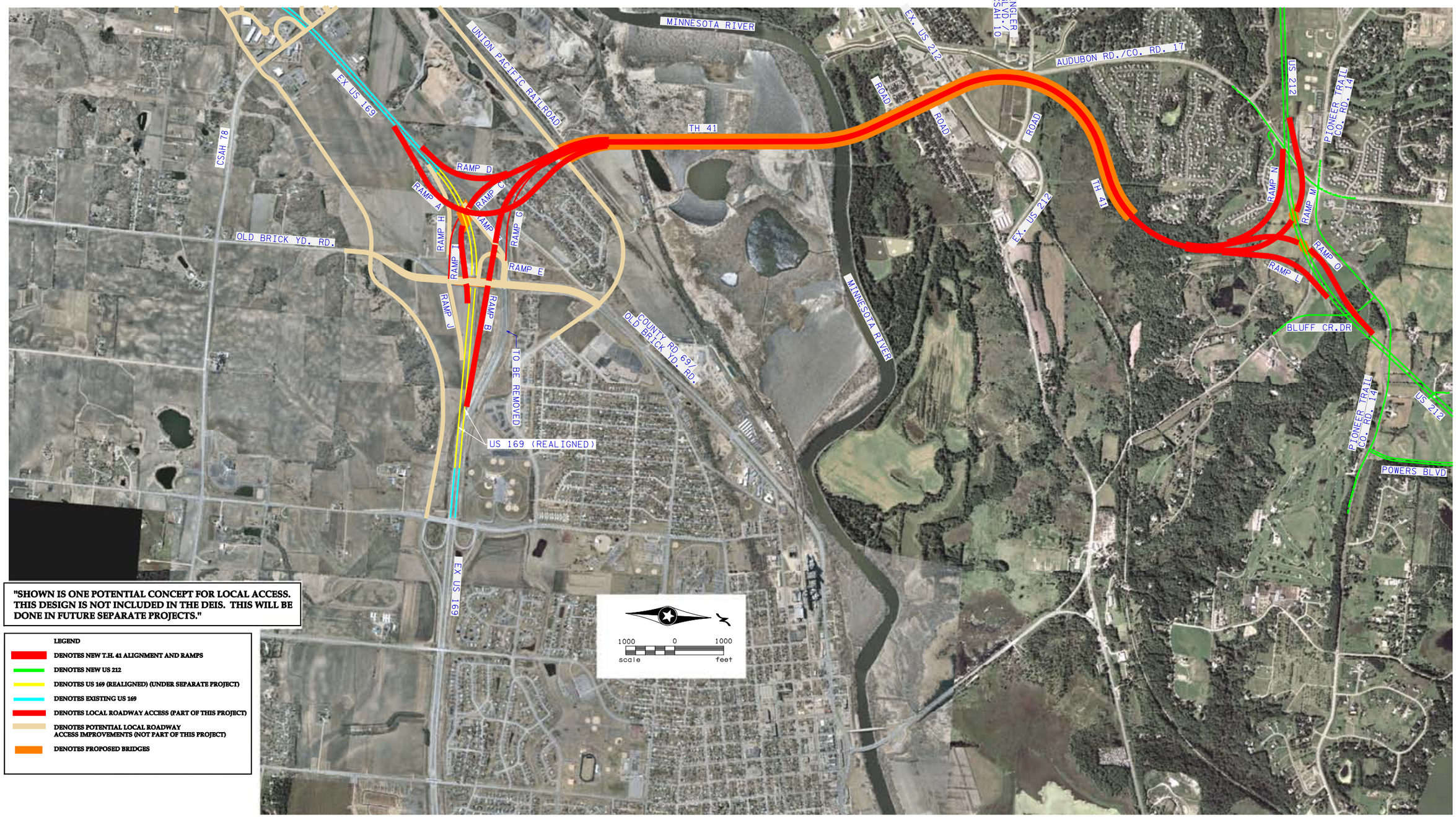

"SHOWN IS ONE POTENTIAL CONCEPT FOR LOCAL ACCESS. THIS DESIGN IS NOT INCLUDED IN THE DEIS. THIS WILL BE DONE IN FUTURE SEPARATE PROJECTS."

LEGEND

- DENOTES NEW T.H. 41 ALIGNMENT AND RAMPS
- DENOTES NEW US 212
- DENOTES US 169 (REALIGNED) (UNDER SEPARATE PROJECT)
- DENOTES EXISTING US 169
- DENOTES LOCAL ROADWAY ACCESS (PART OF THIS PROJECT)
- DENOTES POTENTIAL LOCAL ROADWAY ACCESS IMPROVEMENTS (NOT PART OF THIS PROJECT)
- DENOTES PROPOSED BRIDGES

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ALTERNATIVE E-1A

Figure 3-10

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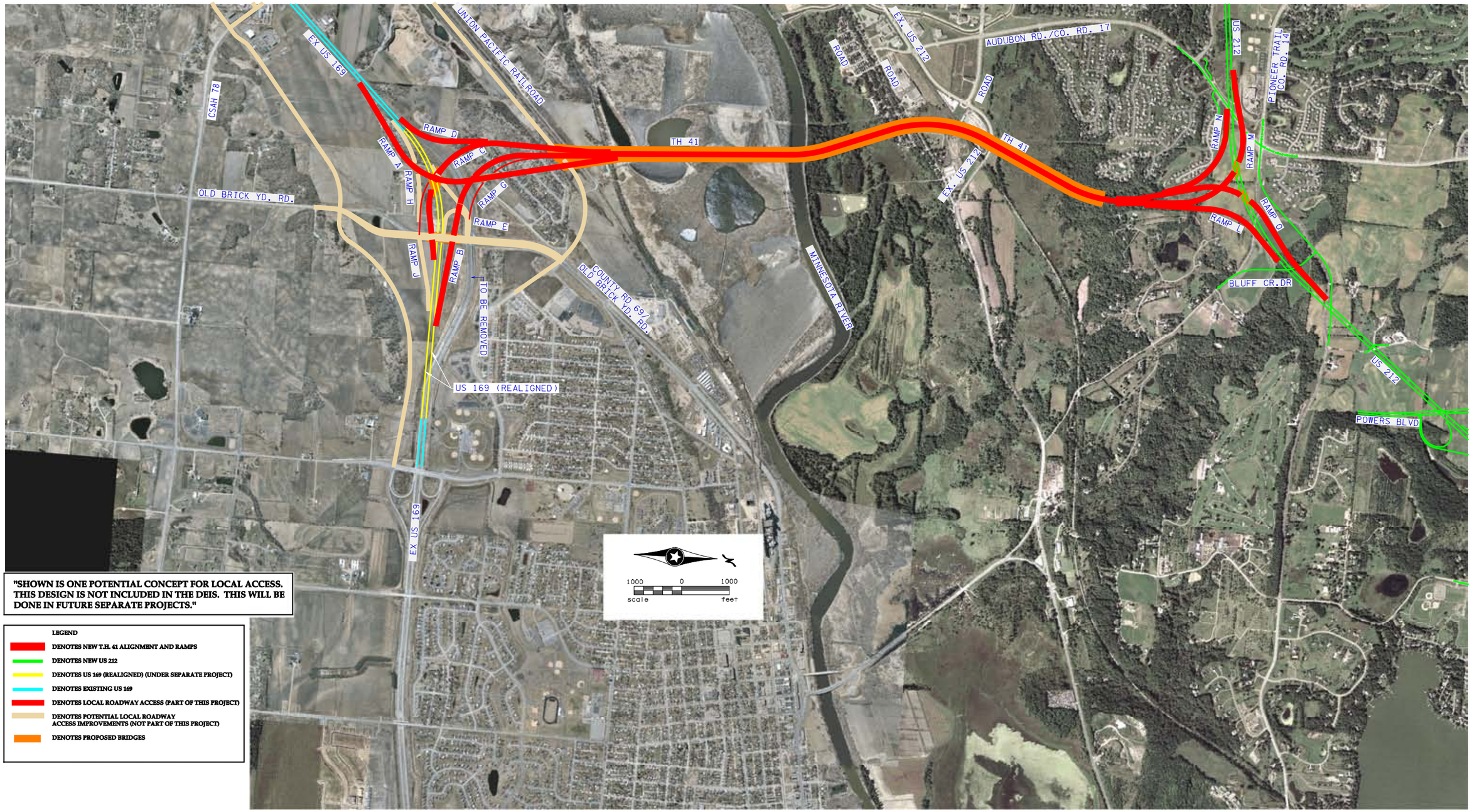

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ALTERNATIVE E-2

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Figure 3-11

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Full descriptions of the Build alternatives are provided in the following subsections. Physical relationships to resources and developments are provided for locational reference; impacts are discussed in subsequent DEIS chapters.

3.2.2.1 Alternative W-2 [Figure 3-6]

Alternative W-2 involves the construction of a new east-west freeway connection between US 169 and New US 212. Alternative W-2 is the westernmost Build alternative, located in Louisville Township in Scott County and just to the east of the City of Carver in Carver County. Alternative W-2 crosses areas identified as floodplain forest, a large wetland complex, the Minnesota Valley State Recreation Area (MVSRA - Minnesota Department of Natural Resources property), and the Minnesota Valley National Wildlife Refuge (MVNWR - U.S. Fish and Wildlife Service property north of the Minnesota River). Within the MVNWR, Alternative W-2 crosses through the Chaska Unit, most specifically between the Chaska Marsh and Chaska Lake water bodies. Alternative W-2 also crosses areas being developed or planned for development in the City of Carver and near Carver's downtown historic district and crosses the very western edge of a proposed development site—Heights of Chaska—located north of existing US 212 and east of CSAH 11 (See Chapter 5).
Alternative W-2 includes:

- Two new full-access directional interchange connections, one at US 169 and one at New US 212;
- Ramps for local access at the New US 212/CSAH 11 intersection (separate from the system ramps connecting New US 212 and New TH 41);
- A four-lane freeway approximately 3.1 miles in length;
- A new bridge from the Union Pacific Railroad in Scott County to approximately CSAH 40 in Carver County (10,550 feet in length);
- A grade separation connecting existing US 212 to Mt. Hope Road in the City of Carver;
- A realignment of the connection of existing US 212 to CSAH 11 that is being made as part of the New US 212 project, now under construction; and
- Partial reconstruction of ramps that are being constructed as part of the New US 212 project to connect New US 212 to CSAH 11 (impacted by the proposed project).

Alternative W-2 has been designed to accommodate local access to and from both US 169 and New US 212 and the new river crossing alignment via a series of local frontage roads and ramp connections.

It is assumed that the alignment of the US 169 mainline would not change. On US 169, local access can be accommodated at CSAH 14, existing TH 41/CSAH 78, and CSAH 69 as separate projects. On New US 212, local access is accommodated at CSAH 11. It should be noted that ramps and frontage road connections not noted in the bulleted list above are not considered part of this alternative; they are planned as part of implementation of the IRC plan discussed in Section 2.2.3.2, and, therefore, would be separate projects. These improvements are not yet

designed nor are they programmed (i.e., not in Mn/DOT's current 20-plan); however it is assumed that these improvements would be in place by 2040 under No-Build as well as Build conditions. It is also assumed that future improvements to US 169 would be designed to accommodate the proposed project. This differs for New US 212 where improvements are currently under construction and, where impacted by the proposed project, would require reconstruction.

The Alternative W-2/US 169 interchange is located approximately one mile southwest of the existing TH 41/CSAH 78 intersection with US 169. The proposed interchange at this location provides full access between US 169 and the new river crossing alignment. Local access can be accommodated via US 169 at its interchanges with CSAH 14 (located approximately one mile to the southwest of the interchange) and existing TH 41/CSAH 78 and CSAH 69 (respectively located approximately one mile and two miles to the northeast of the interchange). These connections and the complementary series of frontage roads are separate projects and are not included as part of this alternative. They are shown in the figure as a representation that planned US 169 improvements and local connections are feasible if Alternative W-2 is constructed.

The Alternative W-2/New US 212 interchange is located near the proposed diamond interchange at New US 212 and CSAH 11. This interchange provides full access between New US 212 and the new river crossing alignment. Access to and from CSAH 11 and Alternative W-2 can be accommodated at this interchange via additional ramps. Alternative W-2 includes the realignment of existing US 212 and the extension of Mt. Hope Road, as shown.

This alternative, including potential concepts for local access, is shown in Figure 3-6.

3.2.2.2 Alternative C-2 [Figure 3-7]

Alternative C-2 involves the construction of a new east-west freeway connection between US 169 and New US 212. Alternative C-2 is located within the central portion of the study area, along the western edge of downtown Chaska. Section 3.1.2.2 describes the development of this alternative and resulting amendment to the SDD.

Alternative C-2 crosses the site of a mobile home park located just west of existing TH 41 near the intersection of US 169 and TH 41. South of the Minnesota River, Alternative C-2 crosses over areas identified as floodplain and floodplain forest, through wetlands identified as part of the national wetland inventory, and through the Gifford Lake portion of the MVSRA. North of the Minnesota River, the alternative crosses through wetlands identified as part of the national wetland inventory and floodplain forest and floodplain areas. It also crosses the northeastern portion of the MVNWR Chaska Unit south of the levy across the Athletic Park ballpark site and approximately 1,250 feet south of the Chaska downtown historic district. North of existing US 212, Alternative C-2 crosses through the southern portion of the proposed Heights of Chaska development site.

Alternative C-2 includes:

- Two new full-access, directional interchange connections, one at US 169 and one at New US 212;
- Ramps for local access at the planned US 169/TH 41 interchange;

- Ramps for local access at the New US 212/CSAH 11 interchange (separate from the system ramps connecting New US 212 to New TH 41);
- A four-lane freeway approximately 3.9 miles in length;
- A new bridge from just south of the Union Pacific Railroad in Scott County to just north of existing US 212 in Carver County (9,550 feet in length); and
- Partial reconstruction of ramps that are being constructed as part of the New US 212 project to connect New US 212 to CSAH 1 (impacted by the project);
- Several bridges at both the New TH 41/US 169 interchange and the New TH 41/New US 212 interchange

The Alternative C-2/US 169 interchange that is located near the existing at-grade intersection between US 169 and existing TH 41/CSAH 78, which is planned to be converted to an interchange, assumed to occur prior to construction of the proposed project. Alternative C-2 assumes a configuration for the planned US 169/existing TH 41 interchange that can accommodate the proposed US 169/New TH 41 interchange including local access ramps; this configuration realigns existing TH 41 and CSAH 78 slightly to the southwest of their current alignments. As noted in Section 3.2.2.1, the US 169/existing TH 41 interchange and the complementary series of frontage roads are separate projects and are not included as part of this alternative. They are shown in Figure 3-7 as a representation that improvements to US 169 and local connections are feasible if Alternative C-2 is constructed. Alternative C-2 assumes that the alignment of the US 169 mainline would not change.

The Alternative C-2/New US 212 interchange is located near the diamond interchange being constructed as part of the New US 212 project at New US 212 and CSAH 11. Access to and from CSAH 11 and Alternative C-2 can be accommodated at this interchange via additional ramps.

Alternative C-2, including potential concepts for local access to the new river crossing, is shown in Figure 3-7.

3.2.2.3 Alternative C-2A [Figure 3-8]

Alternative C-2A involves the construction of a new freeway connection between US 169 and New US 212. A majority of the new freeway connection runs east-west (segment between US 169 and existing US 212), with a portion of the alignment running north-south north of existing US 212. The broad curve in the alignment is to minimize impacts to sensitive resources including wooded areas, the Chaska downtown historic district and a cemetery while connecting to New US 212 near Engler Boulevard. Alternative C-2A is located within the central portion of the study area, just west of downtown Chaska.

Alternative C-2A crosses the site of a mobile home park located just west of existing TH 41 near the intersection of US 169 and TH 41. This alternative also bisects a number of areas identified as national wetland inventory wetlands and floodplain forest south of the Minnesota River. North of the Minnesota River, Alternative C-2A bisects areas identified as floodplain forest. In

addition, this alternative bisects the MVNWR near the Chaska Unit; this area has been identified as floodplain forest and floodplain. National wetland inventory wetlands are also crossed by the alternative.

North of the Minnesota River and existing US 212, Alternative C-2A crosses through both the eastern and western portions of the proposed Heights of Chaska development site.

Alternative C-2A includes:

- Two new full-access directional interchange connections, one at US 169 and one at New US 212;
- Ramps for local access at the US 169/existing TH 41 interchange
- A four-lane freeway approximately 3.0 miles in length;
- A new bridge from just south of the Union Pacific Railroad in Scott County to just north of existing US 212 in Carver County (9,350 feet in length); and
- A grade separation at CR 140

Alternative C-2A has been designed to accommodate local access to and from existing TH 41/CSAH 78, CSAH 69, the new river crossing alignment and US 169 via a series of local ramps, interchanges and frontage road connections. It should be noted that these connections are not considered part of this alternative; they would be separate projects. They are shown in the figure as a representation that local connections are feasible if Alternative C-2A is constructed.

The Alternative C-2A/US 169 interchange is located near the existing at-grade intersection between US 169 and TH 41/CSAH 78. The proposed interchange at this location provides full access between US 169 and the new river crossing alignment. Alternative C-2A assumes a configuration for the planned US 169/existing TH 41 interchange that realigns existing TH 41 and CSAH 78 alignment slightly to the southwest. As discussed previously, it is assumed that US 169 improvements, including the US 169/existing TH 41 interchange will be constructed prior to the proposed project (but after selection of a preferred alternative corridor) and designed to accommodate the proposed project. Local access to/from New TH 41 can be accommodated at this interchange. This access is provided through a series of frontage roads, local access interchanges and ramps. As noted in Section 3.2.2.1, these connections are separate projects and are not included as part of this alternative. They are shown in the figure as a representation that local connections are feasible. The alignment of the US 169 mainline would not change.

The proposed interchange with New US 212 and Alternative C-2A is located near the planned interchange at Engler Boulevard and New US 212. (The proposed project will not require reconstruction of the New US 212/Engler Boulevard interchange.) This system-to-system interchange provides full access between New US 212 and the new river crossing alignment. Local access at New US 212 is not accommodated at this interchange location. The nearest local CSAH 11 access to New TH 41 under Alternative C-2A would be from the New US 212/ CSAH 11 interchange 1½ miles to the west or the New US 212/existing TH 41 one mile to the east.

Alternative C-2A, including potential concepts for local access to the new river crossing, is shown in Figure 3-8.

3.2.2.4 Alternative E-1 [Figure 3-9]

Alternative E-1 involves the construction of a new north-south freeway connection between US 169 and New US 212. Alternative E-1 is located within the eastern portion of the study area (this is the alternative located farthest to the west in this area); it utilizes portions of existing Audubon Road alignment. In addition to providing a connection between US 169 and New US 212, Alternative E-1 also includes a number of local road realignments between Engler Boulevard and New US 212.

For Alternatives E-1 (as well as for E-1A and E-2), it is assumed that improvements to US 169 include its realignment south of its existing alignment and construction of an interchange at CSAH 69. Note that the realignment of US 169 is assumed in this DEIS for study purposes only, and only for the New TH 41 eastern Build alternatives. The eastern alternatives could be built without this assumed realignment; impacts to the Bonnevista mobile home park would likely be greater. No decisions have been made about US 169 improvements; any such improvements, as well as local roadway improvements in the study area, would be separate projects. It is expected that land use studies of the US 169 corridor planned by the City of Shakopee will further inform planning for the US 169/CSAH 69 interchange. If Alternative E-1, E-1A or E-2 are identified as the Preferred Alternatives, the future alignment options for US 169 and their relationship to the proposed project, including influences on likely project impacts (notably the Bonnevista mobile home park), will be investigated further in the Tier I FEIS. Tier I decisions about the proposed project are not, however, expected to determine the future alignment of US 169 in this area.

South of the Minnesota River, Alternative E-1 crosses the western portion of a mobile home park located just north of US 169. Between the mobile home park and the river, Alternative E-1 crosses through the eastern edge of the MVSRA, Nyssen's Lake Area, through land identified as floodplain, floodplain forest, and wetland according to the national wetland inventory.

North of the Minnesota River, Alternative E-1 crosses through land identified as floodplain forest as well as through wetlands identified as national inventory wetlands. Additionally, Alternative E-1 crosses a mobile home park located between existing US 212 and the Minnesota River. North of Engler Boulevard, Alternative E-1 utilizes the existing Audubon Road right of way, continuing to the north to its connection to New US 212.

Alternative E-1 includes:

- Two new full-access directional interchange connections, one at US 169 and one at New US 212;
- Ramps for local access at the planned US 169/CSAH 69 interchange

- Ramp for local access (northbound) at existing TH 41
- A four-lane freeway approximately 3.1 miles in length;
- A new bridge from just north of existing US 169 to slightly north of Engler Boulevard (length: 10,800 feet [Low Profile]; 11,300 feet [High Profile] – see below);
- A realignment of Audubon Road;
- An overpass connecting two residential developments to realigned Audubon Road;
- Realignment/construction of a series of local roadway connections west of the proposed Alternative E-1 alignment that will connect to the new overpass;
- A revised interchange connection between New US 212 and existing TH 41 that extends the westbound New US 212 off-ramp approximately 4,500 feet east of its location under the configuration now under construction; and
- Two New TH 41 profile options ("High Profile" [i.e., New TH 41 is over New US 212 at their interchange] and "Low Profile" [i.e., New TH 41 is under New US 212 at their interchange]. Two profiles are considered for Alternatives E-1, E-1A and E-2 because of groundwater concerns related to Seminary Fen. Alternatives W-2, C-2 and C-2A do not appear to have groundwater issues that affect profile.)

Alternative E-1 has been designed to accommodate local access to and from the new river crossing alignment and US 169 for local roadways such as existing TH 41/CSAH 78, CSAH 69, and Marystown Road/CSAH 15 via a series of ramps, frontage roads and local interchanges. It should be noted that except for ramps for local access to/from New TH 41 at the planned US 169/CSAH 69 interchange, these ramps, frontage road connections and interchanges are not considered part of this alternative; they would be separate projects. They are shown in the figure as a representation that US 169 improvements and planned local connections are feasible if Alternative E-1 is constructed. Local access is not provided at the northern connection with New US 212. The only access (other than that between Alternative E-1 and New US 212) provided as part of this alternative is an off-ramp for northbound traffic on Alternative E-1 to existing TH 41.

The Alternative E-1/New US 212 interchange is located south of Pioneer Trail near Chaska High School/Pioneer Park complex. This interchange provides full access between New US 212 and Alternative E-1. As mentioned previously, directional ramps provide access to and from New US 212 along with a ramp for northbound traffic on the new river crossing alignment for access to existing TH 41. As part of the construction of this interchange, an off ramp for existing TH 41 for westbound traffic on New US 212 is removed from its to-be-constructed location and is shifted further to the east to allow for better spacing and to eliminate weave movements. No other local access is provided at the connection between Alternative E-1 and New US 212. The nearest local access from the west is ½ mile away at the New US 212/existing TH 41 interchange; the nearest local access to/from the east is 1½ miles away at the New US 212/Powers Boulevard interchange.

This alternative, including potential concepts for local access to the new river crossing, is shown in Figure 3-9.

3.2.2.5 Alternative E-1A [Figure 3-10]

Alternative E-1A involves the construction of a new north-south freeway connection between US 169 and New US 212. Alternative E-1A follows the same alignment as Alternative E-1 from US 169 to approximately Engler Boulevard.

North of Engler Boulevard, the connection of Alternative E-1A to New US 212 is shifted to the east (located east of Audubon Road) to follow the bluff line and to connect to New US 212 near Bluff Creek Drive. South of Engler Boulevard, Alternative E-1A crosses similar natural resources as Alternative E-1. However, north of Engler Boulevard, Alternative E-1A shifts to the northeast of Alternative E-1 and crosses the northwestern edge of the Seminary Fen protection area. Alternative E-1A connects to New US 212 south of Pioneer Trail, just east of the Pioneer Ridge Freshman Center and east of Audubon Road.

Alternative E-1A includes:

- Two new full-access, directional interchange connections, one at US 169 and one at New US 212;
- Ramps for local access at the US 169/CSAH 69 interchange;
- A four-lane freeway approximately 3.6 miles in length;
- A new bridge from just north of existing US 169 to slightly north of Engler Boulevard (length: 13,500 feet [Low and High profiles]); and
- Two New TH 41 profile options ("High Profile" and "Low Profile").

System connections and assumptions for US 169 improvements, including realignment and interchange with CSAH 69 are identical for Alternatives E-1 and E-1A.

The Alternative E-1A/New US 212 interchange is located south of Pioneer Trail and just east of the Pioneer Ridge Freshman Center near Bluff Creek Road. This interchange provides full access between New US 212 and Alternative E-1A. Directional ramps that can go under or over New US 212 have been developed for this alternative. No local access is provided at the connection between Alternative E-1A and New US 212. The nearest local access to/from the west is 1½ miles away at the New US 212/existing TH 41 interchange; the nearest local access to/from the east is one mile away at the New US 212/Powers Boulevard interchange.

This alternative, including potential concepts for local access to the new river crossing, is shown in Figure 3-10.

3.2.2.6 Alternative E-2 [Figure 3-11]

Alternative E-2 involves the construction of a new north-south freeway connection between US 169 and New US 212. Alternative E-2 is the easternmost alternative in the study area.

South of the Minnesota River, Alternative E-2 connects to US 169 just south and west of the existing intersection with US 169 and CSAH 69. One of the directional ramps at the Alternative E-2/US 169 interchange crosses the southeastern portion of the mobile home park located between existing and proposed US 169. North of existing US 169, Alternative E-2 bisects a mobile home park located between the railroad and existing

US 169. From the mobile home park, Alternative E-2 continues northward and crosses through the MVSRA through land identified as floodplain, floodplain forest, and wetland according to the national wetland inventory.

North of the Minnesota River, Alternative E-2 crosses through the northeastern corner of a mobile home park located just south of existing US 212. North of existing US 212, Alternative E-2 crosses reserve land of a local cemetery and continues in a northeasterly direction towards New US 212. Along this portion of the corridor, Alternative E-2 passes through the Seminary Fen protection area.

Alternative E-2 includes:

- Two new full-access, directional interchange connections, one at US 169 and one at New US 212;
- Ramps for local access at the US 169/CSAH 69 interchange;
- A four-lane freeway approximately 3.2 miles in length;
- A new bridge from just north of existing US 169 to approximately one mile north of existing US 212 (length: 12,000 feet [Low and High profiles]); and
- Two New TH 41 profile options ("High Profile" and "Low Profile").

The Alternative E-2/US 169 interchange is located near the existing at-grade intersection of US 169 and CSAH 69. The design of Alternative E-2 assumes that US 169 is shifted slightly to the south of its present alignment in order to accommodate the connection with the new river crossing and to allow for adequate space for local roadway connections. Directional ramps between US 169 and Alternative E-2 provide full access between the two roadways.

Local access on existing TH 41 and CSAH 69 to and from the new river crossing alignment and US 169 can be accommodated as part of this design. Additionally, access between Marystown Road/CSAH 15 and CSAH 69 and existing TH 41 is also accommodated. This access is accommodated through a series of frontage roads, local access interchanges and additional ramps. Except for local ramps to/from New TH 41 at the planned US 169/ CSAH 69 interchange, these connections are separate projects and are not included as part of this alternative. They are shown in the figure as a representation that US 169 improvements and local connections are feasible if Alternative E-2 is constructed.

The Alternative E-2/New US 212 interchange is located south of Pioneer Trail and east of the Pioneer Ridge Freshman Center. This interchange provides full access between New US 212 and Alternative E-2. Directional ramps that can go under or over New US 212 have been developed for this alternative. No local access is provided at the connection between Alternative E-2 and New US 212. The nearest local access to/from the west is 1½ miles away at the New US 212/existing TH 41 interchange; the nearest local access to/from the east is one mile away at the New US 212/Powers Boulevard interchange.

This alternative, including potential concepts for local access to the new river crossing, is shown in Figure 3-11.

3.2.3 Cost Estimates

Table 3-2 summarizes the estimated costs for all of the Tier I DEIS alternatives. Construction costs only include the cost of improvements that are required for the proposed project (as shown in Figures 3-1 through 3-11), including bridge and road segments, interchanges, and realignment of affected existing roadways and trails, and storm ponding. Included are costs for reconstruction of affected portions of the New US 212 project now under construction. Not included are costs that would be part of separate projects, (i.e., interchange at US 169/existing TH 41) even if the configuration of those separate projects would be affected by the selection of a New TH 41 corridor. It is assumed that improvements to the US 169 corridor will occur prior to construction of and designed to accommodate the proposed project.

Note that mitigation costs are not specifically estimated, but that the higher number in the cost range represents an added risk assessment percentage to account for several currently unknown factors, including mitigation.

TABLE 3-2
COST ESTIMATES (2005 DOLLARS)[1]

	Alternative								
Cost	**W-2**	**C-2**	**C-2A**	**E-1**		**E-1A**	**E-2**	
Construction[2]	335-390M	305-355M	345-405M	Low Profile High Profile	375-460M 395-485M	410-490M	Low Profile High Profile	370-440M 375-450M
Right of Way[3]	55-80M	75-105M	65-90M	Low Profile High Profile	100-135M 100-135M	55-75M	Low Profile High Profile	60-80M 60-80M
Total	**390-470M**	**380-460M**	**410-495M**	**Low Profile** **High Profile**	**475-595M** **495-620M**	465-565M	**Low Profile** **High Profile**	**430-520M** **435-530M**

(1) Rounded to nearest $5 million
(2) Range provided with high number representing construction cost with a roadway risk-assessment percentage added following Mn/DOT peer review of cost factors.
(3) Includes right of way acquisition and relocation costs. No differences between low and high profile options. Section 5.2.2.2.2 provides detailed cost estimates.

Funds from a variety of regional, state and federal sources are anticipated for this project. The project is included in the Mn/DOT Metro District's fiscally constrained Transportation System Plan (TSP) for preservation of right of way. The Metropolitan Council's Transportation Policy Plan (TPP) for the Twin Cities Metropolitan Area also includes right of way preservation for this project. It is shown on the 2030 constrained Metropolitan System Plan of Investment Priorities.

Upon determination of a preferred alternative, Mn/DOT will reevaluate needs and timing of right of way and construction funding during future TSP updates, which occur approximately every three years.

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4.0 TRANSPORTATION IMPACTS

Chapter 2.0, Purpose and Need, described the transportation impacts of the No-Build alternative, including increasing congestion, safety issues related to increased risk of crash incidents, increasing vehicle conflicts with rail traffic, and increasing bicycle/pedestrian conflicts as traffic volumes increase. This chapter will focus on how well each of the six Build alternatives addresses transportation issues identified in Chapter 2. The relationship or impact of the alternatives on intermodal relationships, energy use, and local and regional access changes is also discussed.

4.1 FUTURE TRAFFIC OPERATIONS

Assessment of future traffic operations for the DEIS alternatives (Build and No-Build conditions) was performed using two analysis techniques: (1) travel demand forecast model-based volume/capacity comparison of the river crossing corridors in/adjacent to the study area, and (2) traffic operations-model based analysis of the proposed Build alternative crossings and the US 169 and New US 212 segments in the immediate vicinity of each proposed crossing. The operations model analysis was used to identify capacity or operational issues.

The six Build alternatives are similar in that each provides a freeway connection between US 169 and New US 212. From a transportation perspective, the main difference among alternatives is general location and the orientation of the connection between US 169 and New US 212.

For all alternatives (Build and No-Build), highway improvements assumed include the following:

- US 169 conversion to a limited access facility – The conversion would include replacing existing, at-grade US 169 intersections with interchanges at CSAH 14, existing TH 41, and CSAH 69. For the purposes of the DEIS, it is assumed that the conversion would take place on the existing alignment for Alternatives W-2, C-2, and C-2A. For Alternatives E-1, E-1A, and E-2, it is assumed the converted US 169 freeway would be realigned to the south in the vicinity of CSAH 69. Note these improvements are not included in the 20-year plan, however, based on expected travel demand, their inclusion in the Corridor Management Plan (CMP), as described in Section 2.2.3.2, and consultations with affected communities, it is reasonable to assume their implementation by the 2040 forecast year.
- Construction of a New US 212 freeway on a new alignment – The new alignment is located north of the existing US 212 alignment. Construction completion is anticipated by Fall 2008.

Other highway network assumptions are detailed in *TH 41 River Crossing EIS: Technical Memorandum on Travel Demand Forecasting*, dated May 1, 2006 (Travel Forecast Memo), *Volume II: Technical Memoranda*.

4.1.1 Travel Demand Forecast Analysis

The study performed travel demand forecasting for year 2040. Travel forecasts were prepared using a modified version of the travel demand models developed and approved by the Twin

Cities Metropolitan Council and Mn/DOT. These models are computerized procedures for systematically predicting travel demand changes in response to development and transportation facility changes. Inputs to these models were developed in consultation with local communities and the Metropolitan Council.

Daily forecast volume, travelshed analysis, regional traffic effects analysis, and daily truck volume forecast results are summarized below and depicted in Figures 4-1 through 4-9; additional information is available in the May 2006 Travel Forecast Memo.

Table 4-1 shows the results of the 2040 travel demand forecasts for No-Build and the six Build alternatives.

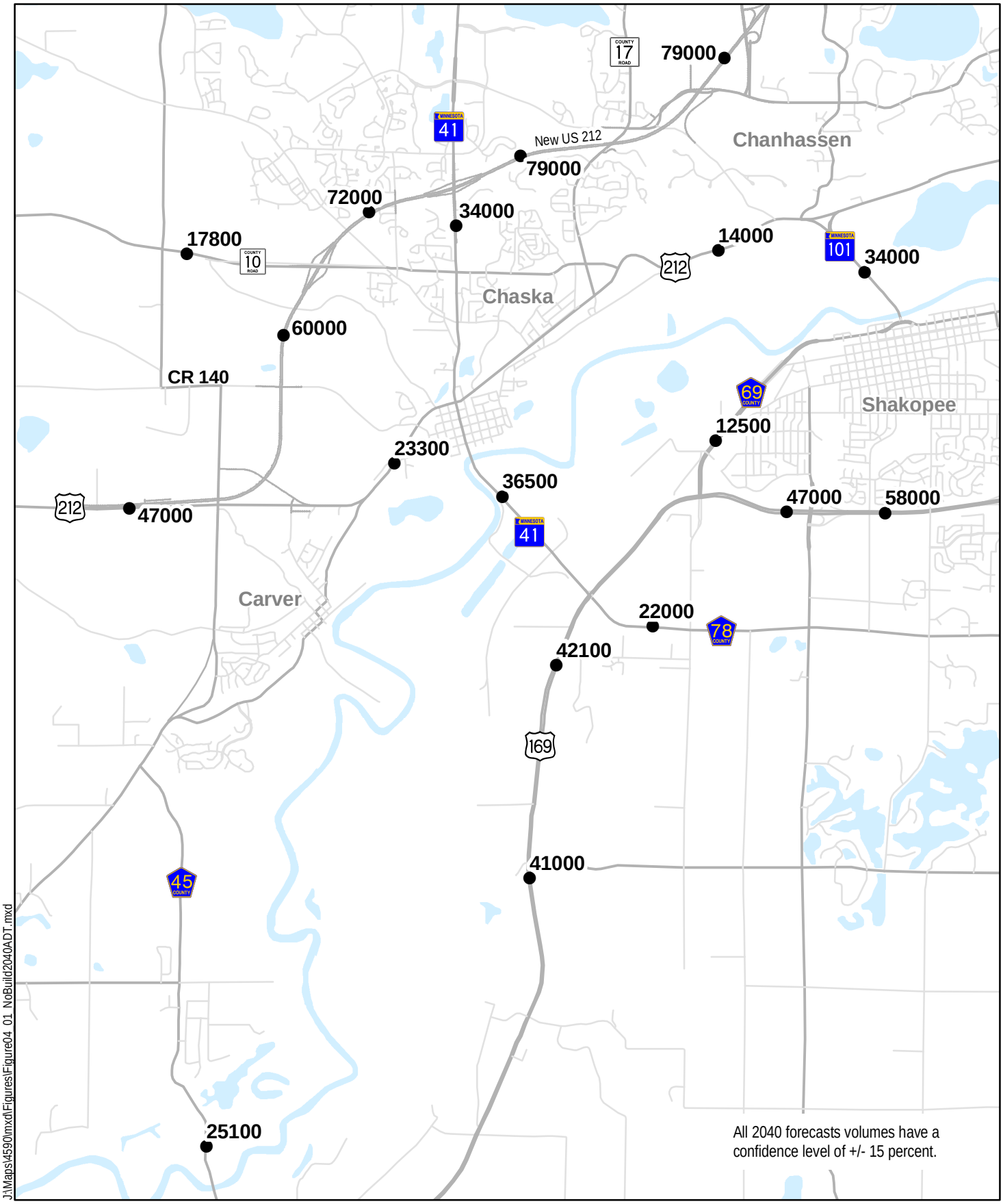
TABLE 4-1
DAILY RIVER CROSSING VOLUMES, 2000, 2040

		2040						
Crossing	***2000***[1]	**No-Build**	**W-2**	**C-2**	**C-2A**	**E-1**	**E-1A**	**E-2**
CSAH 9/45	*6,400*	25,100	19,200	21,600	21,300	20,800	21,300	21,300
TH 41	*18,500*	36,500	24,700	22,000	24,800	23,800	25,100	24,200
New TH 41			45,000	48,000	43,000	56,000	56,000	59,000
Highway 101	*21,400*	34,000	30,400	30,000	29,900	24,800	24,300	23,300
US 169	*54,000*	141,000	135,000	135,000	135,000	131,000	129,000	129,000
I-35W	*102,000*	133,000	133,000	133,000	133,000	132,000	132,000	132,000
Total	***202,300***	**369,600**	**387,300**	**389,600**	**387,000**	**388,400**	**387,700**	**388,800**

[1] Year 2000 volumes are used to calibrate the regional travel forecast model.

Forecast traffic for the New TH 41 river crossing ranges from 45,000 to 59,000 per day, with the eastern Build alternatives generally carrying more traffic than the western and central alternatives. Because all Build alternatives provide capacity exceeding 60,000 vehicles per day (vpd), and daily volumes on these crossings are forecast to be less than 60,000 vpd, the Build alternatives represent largely unconstrained demand on the new river crossings. Trips on the New TH 41 river crossing come largely from five sources:

- Existing TH 41 – Under No-Build conditions, demand to travel on the existing TH 41 river crossing is predicted to exceed capacity (estimated to be ten hours of congestion per day, see Section 4.1.3). All Build alternatives attract a substantial amount of traffic from the existing TH 41 river crossing, reducing its forecast future volume by 11,400 vehicles per day (31 percent, E-1A) to 14,500 vehicles per day (40 percent, C-2).
- CSAH 9/45 – Under the No-Build condition, CSAH 9/45 traffic volumes are predicted to be near capacity in the peak period (estimated to be five hours of congestion per day). The Build alternatives attract 3,500 vehicles per day (14 percent, C-2) or more from this crossing. Alternative W-2 attracts the most traffic, 5,900 vehicles per day (24 percent).



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NO BUILD DAILY TRAFFIC VOLUMES (2040)

Figure 4-1

TH 41 MINNESOTA RIVER CROSSING

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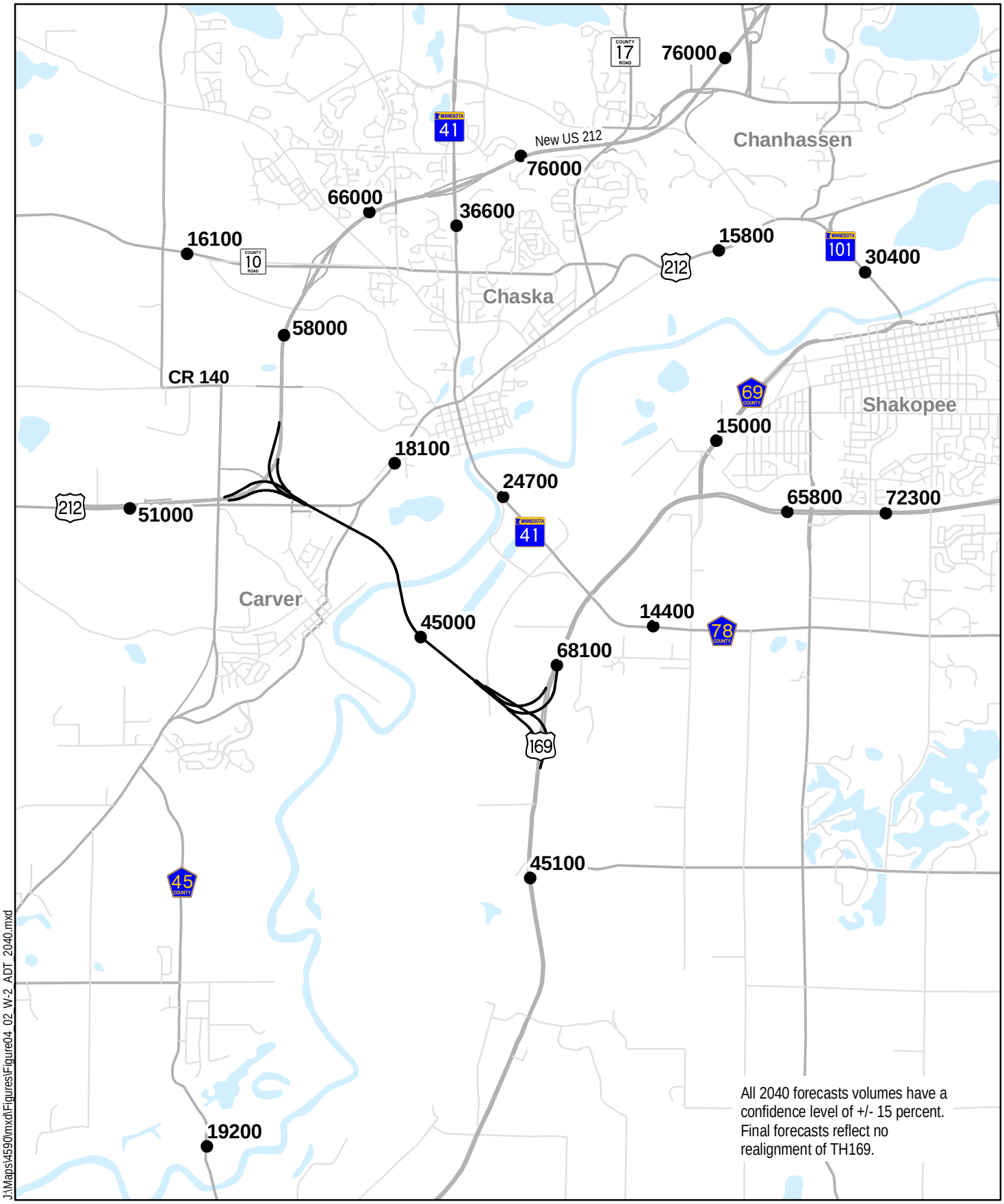

ALTERNATIVE W-2 DAILY TRAFFIC VOLUMES (2040)

Figure 4-2

TH 41 MINNESOTA RIVER CROSSING

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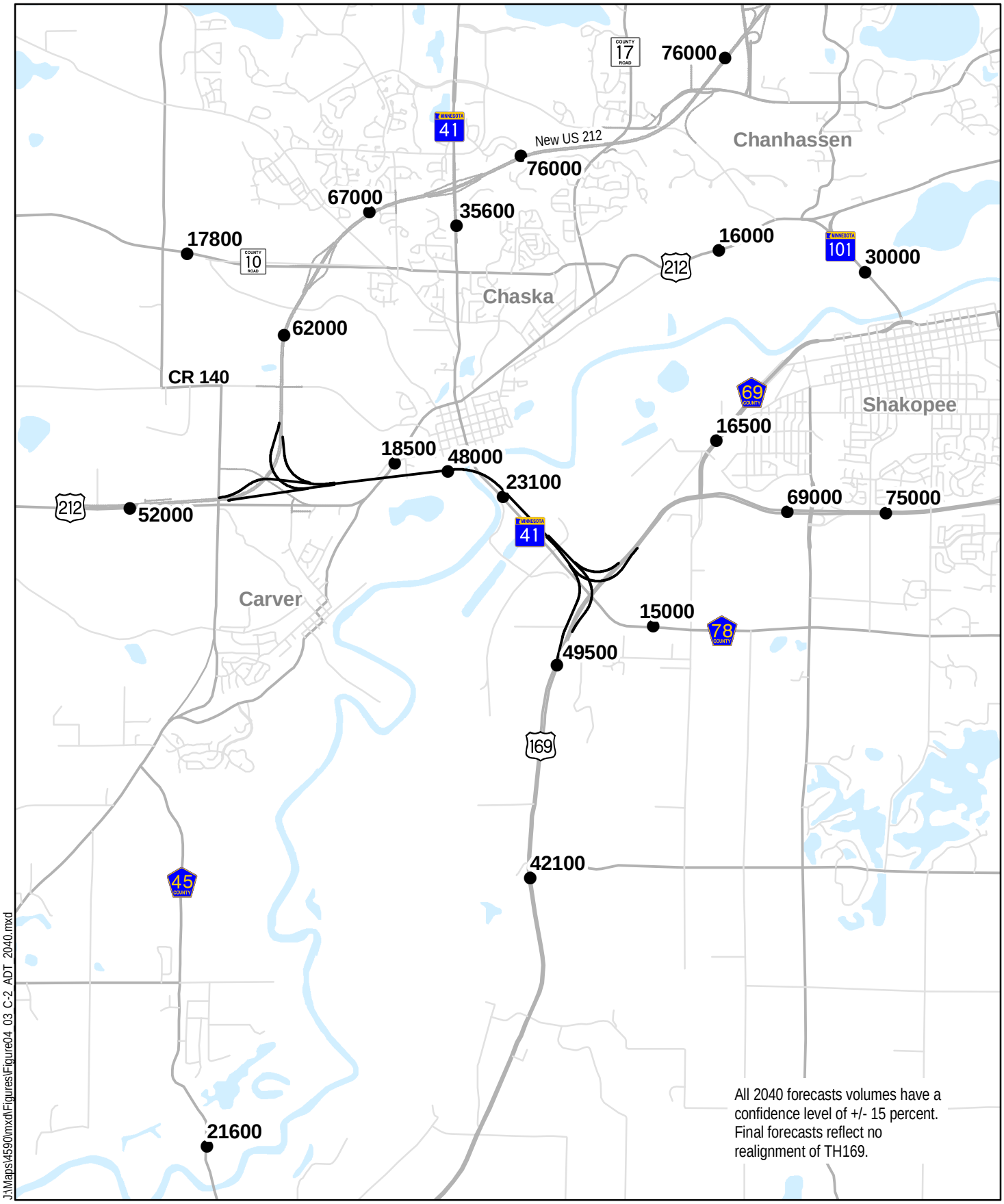

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ALTERNATIVE C-2 DAILY TRAFFIC VOLUMES (2040)

Figure 4-3

TH 41 MINNESOTA RIVER CROSSING

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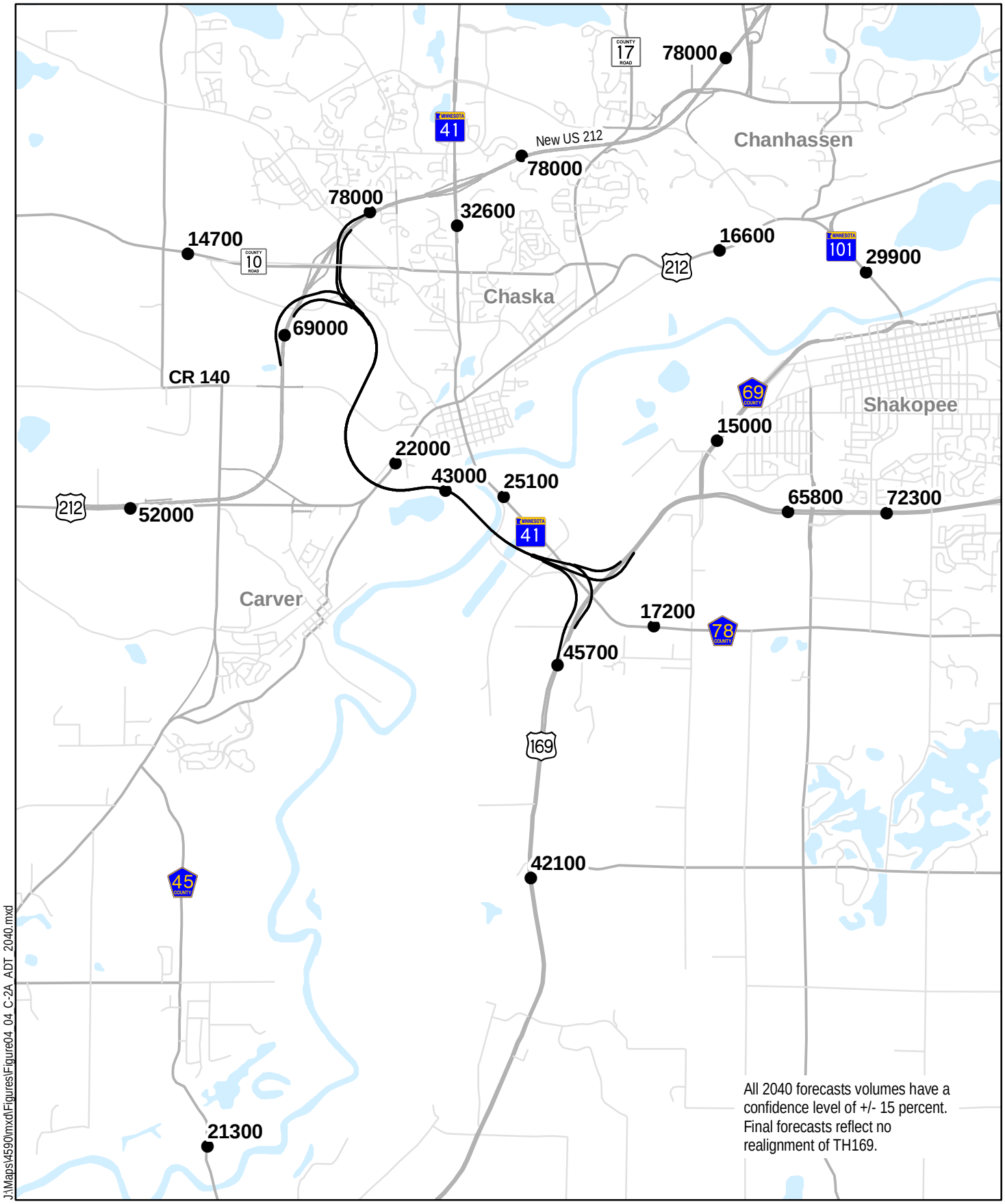

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ALTERNATIVE C-2A DAILY TRAFFIC VOLUMES (2040)

Figure 4-4

TH 41 MINNESOTA RIVER CROSSING

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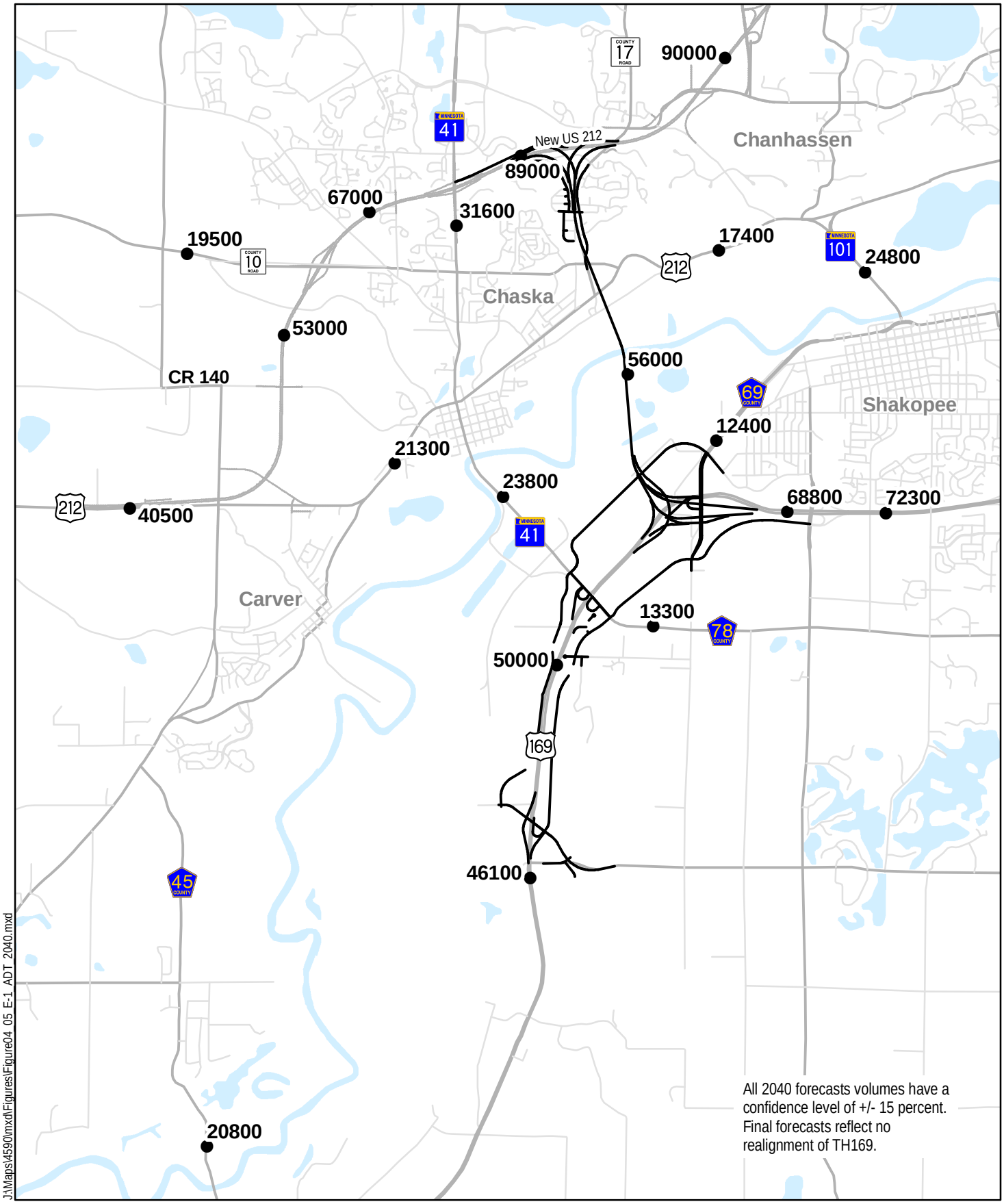

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ALTERNATIVE E-1 DAILY TRAFFIC VOLUMES (2040)

Figure 4-5

TH 41 MINNESOTA RIVER CROSSING

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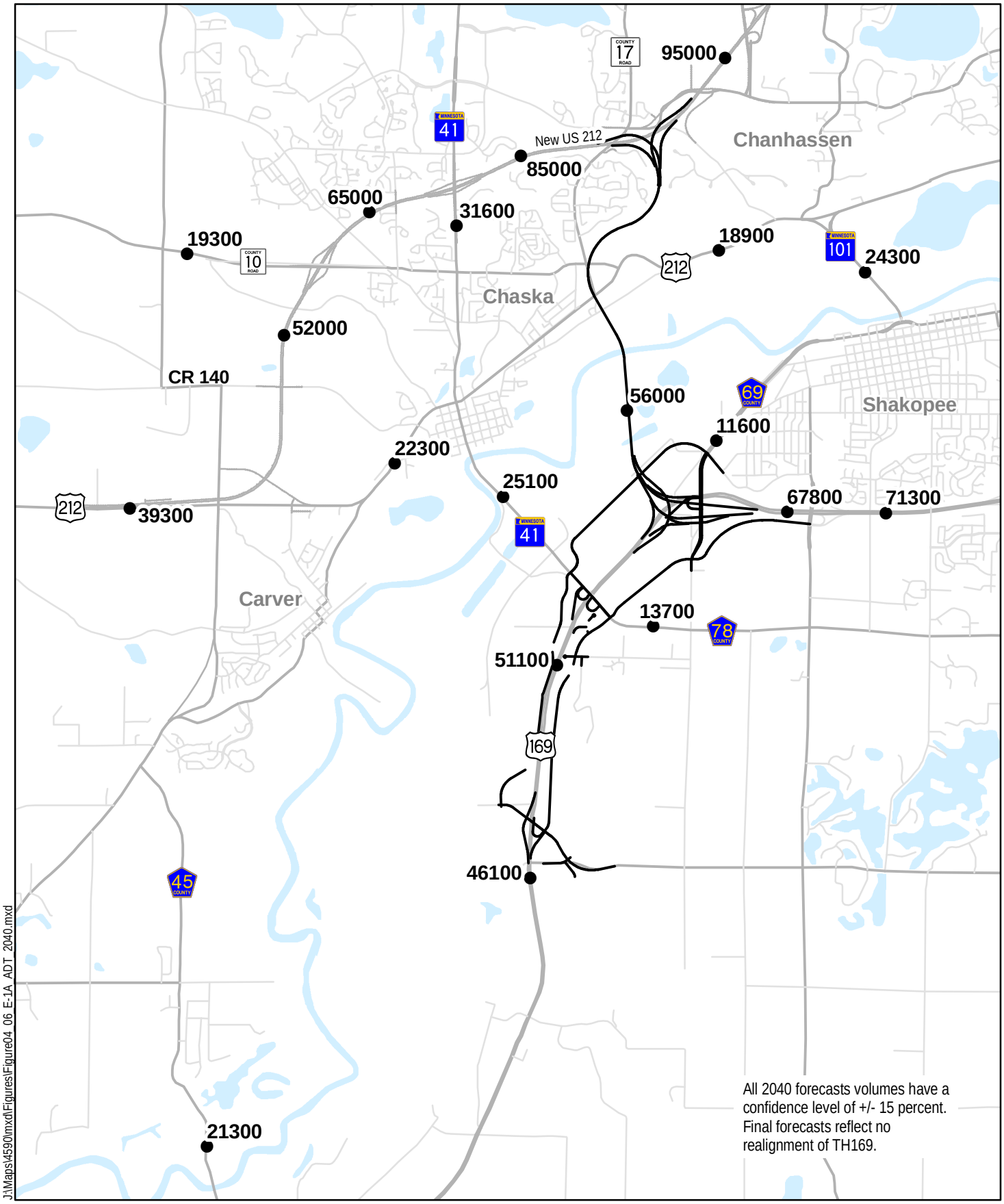

ALTERNATIVE E-1A DAILY TRAFFIC VOLUMES (2040)

Figure 4-6

TH 41 MINNESOTA RIVER CROSSING

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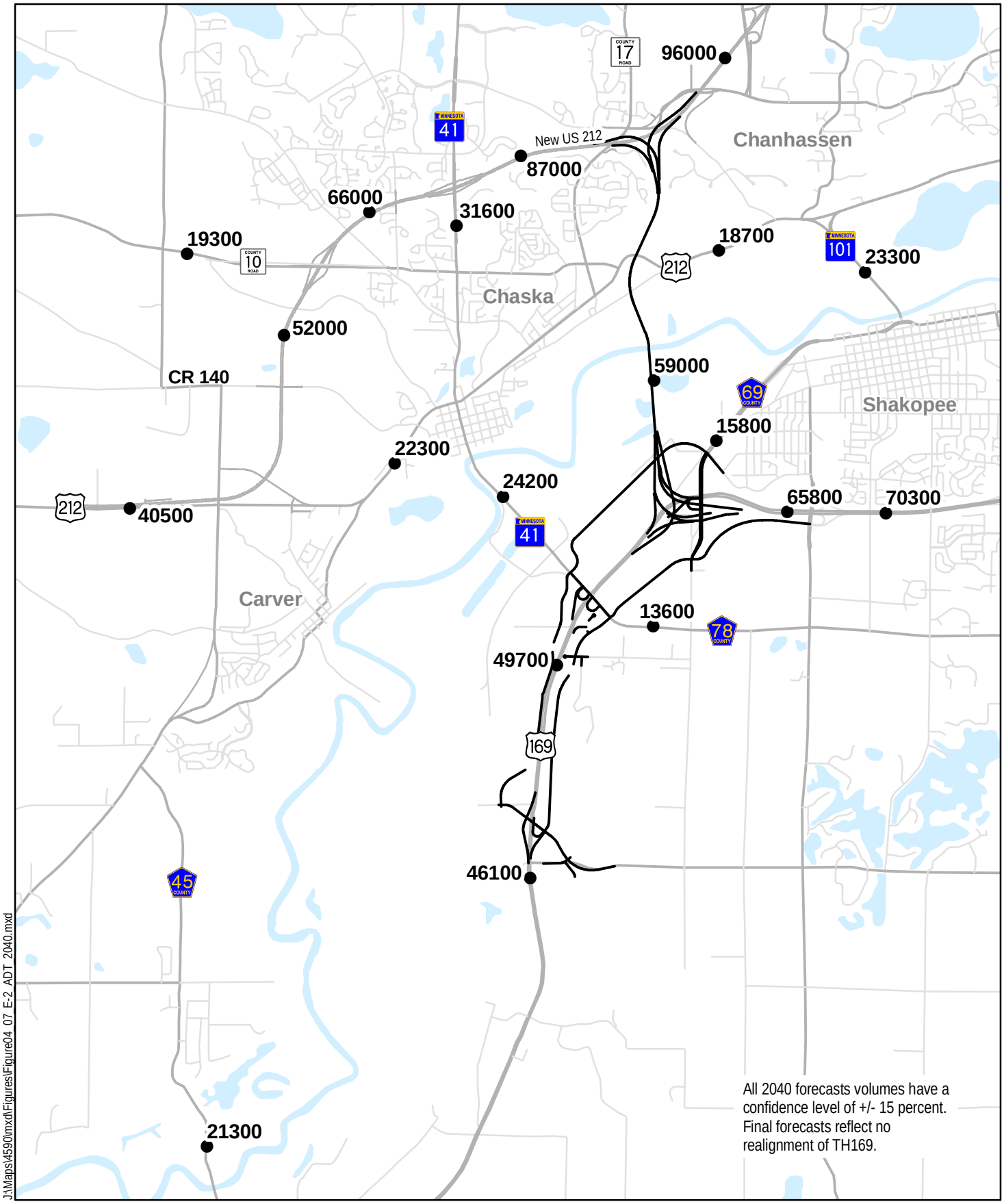

ALTERNATIVE E-2 DAILY TRAFFIC VOLUMES (2040)

Figure 4-7

TH 41 MINNESOTA RIVER CROSSING

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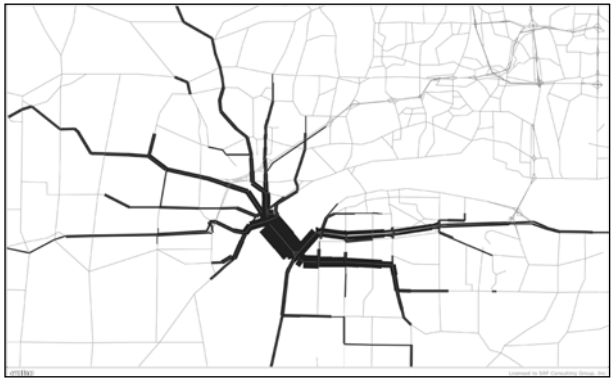
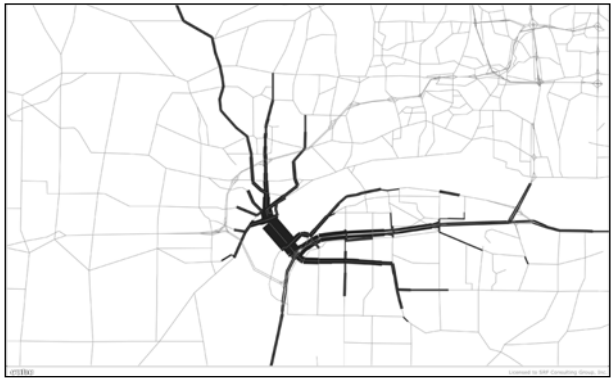
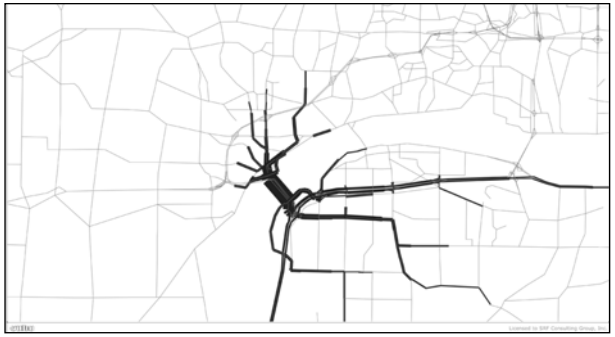
Alternative No Build: Existing TH 41 Travelshed



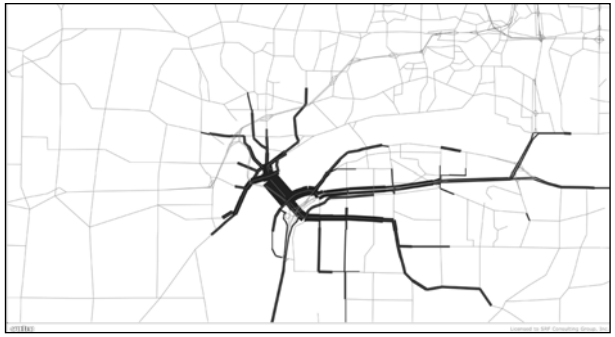
Alternative W2: Existing TH 41 Travelshed



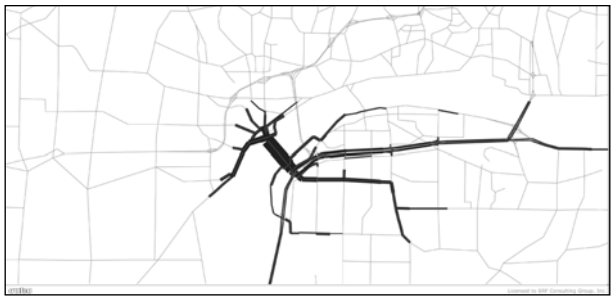
Alternative C2: Existing TH 41 Travelshed



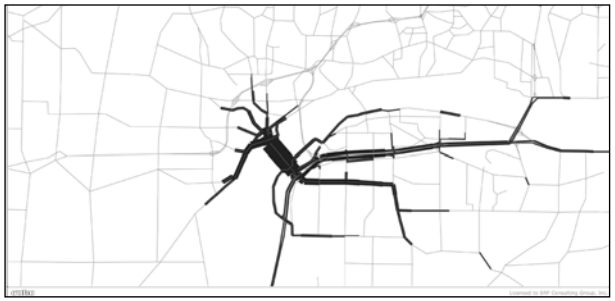
Alternative C2A: Existing TH 41 Travelshed



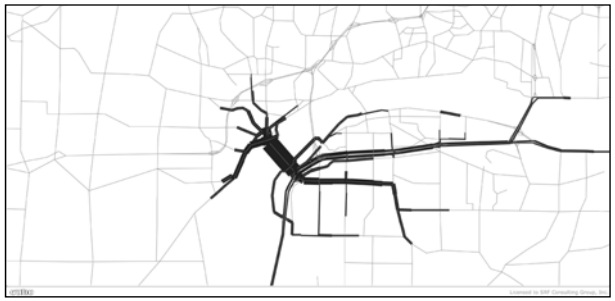
Alternative E1: Existing TH 41 Travelshed



Alternative E1A: Existing TH 41 Travelshed



Alternative E2: Existing TH 41 Travelshed



Graphics/Support/4590/EIS Figures

2040 TRAVELSHED — EXISTING TH 41

Figure 4-8

TH 41 MINNESOTA RIVER CROSSING
Draft Environmental Impact Statement
S.P. #1008-60
Minnesota Department of Transportation

Alternative W2: New TH 41 Travelshed

Alternative C2: New TH 41 Travelshed

Alternative C2A: New TH 41 Travelshed

Alternative E1: New TH 41 Travelshed

Alternative E1A: New TH 41 Travelshed

Alternative E2: New TH 41 Travelshed

Graphics/Support/4590/EIS Figures

2040 TRAVELSHED — NEW TH 41

Figure 4-9

TH 41 MINNESOTA RIVER CROSSING
Draft Environmental Impact Statement
S.P. #1008-60
Minnesota Department of Transportation

- Highway 101 – The eastern Build alternatives attract the largest amounts of traffic from Highway 101, reducing its volume by 10,000 vehicles per day (about 30 percent). Alternatives W-2, C-2, and C-2A attract 4,000 vehicles per day (about 12 percent).
- US 169 – The eastern Build alternatives attract the most traffic from US 169, reducing its volume by 10,000 to 12,000 vehicles per day (7 to 9 percent). Alternatives W-2, C-2, and C-2A reduce US 169 volumes by 6,000 vehicles per day (4 percent).
- Trips which would not cross the river under No-Build conditions – Under Build conditions, 18,000 to 20,000 trips per day would choose to travel to a destination across the river, as compared to staying on one side of the river under No-Build conditions. The additional trips reflect improved travel conditions (reduced congestion and delay) and perceived increased access to employment, shopping, and service industry options under Build conditions. Under No-Build conditions, larger numbers of people would choose to live and work on the same side of the Minnesota River, while with added river crossing capacity, it becomes more attractive to live on one side and work on the other.

Figures 4-1 through 4-7 depict the forecast 2040 No-Build and 2040 Build volumes on the major roads within the study area.

4.1.2 Peak Hour Traffic Operations Analysis

The travel demand forecast analysis summarized above provides a general indication of overall, daily travel demand in the study area. This information is valuable in comparing Build alternative effect on travel demand, but it does not identify specific capacity constraints. The study performed analysis of peak hour traffic operations to provide an indication of key roadway capacity constraints within the study area. The text below summarizes results from the peak hour traffic operations analysis performed for the freeway and local road networks.

Freeway

For each Build alternative, the study performed a planning-level peak hour traffic operations analysis for US 169, the New TH 41 river crossing, and New US 212 using year 2040 a.m. and p.m. peak hour volume forecasts developed using the Twin Cities Metropolitan Regional Forecasting Model. The planning-level analysis identified the basic number of lanes and auxiliary lanes needed to provide acceptable freeway operations (level of service C/D) during peak hours. Additional through lanes and/or auxiliary lanes were considered in areas where projected forecast volumes approached lane volume thresholds (2000 vehicles per hour per lane and 1800 vehicles per hour per lane in weaving sections). Auxiliary lanes were also considered in areas where the physical distance between ramps would necessitate them. In certain merge locations, more detailed analysis was performed using CORSIM software to determine the need for parallel acceleration lanes. Findings are incorporated into the designs for each Build alternative and were used in developing cost estimates. The designs are described in Chapter 3, and illustrated in Figures 3-6 through 3-11. Additional information is available in the technical memorandum, *TH 41 Freeway Alternatives Review*, dated April 26, 2006 and contained in *Volume II: Technical Memoranda*.

Local Traffic Operations

A peak hour traffic operations analysis was completed for intersections on existing TH 41 from Engler Boulevard to the river crossing in the City of Chaska. The analysis identified how the Build alternatives would impact traffic operations at intersections in downtown Chaska. Results of the analysis are summarized below; additional information is available in the technical memorandum, *TH 41 Traffic Study Update*, dated April 5, 2006 and contained in *Volume II: Technical Memoranda*. Figure 4-8 shows the location of the following nine analyzed intersections:

- Existing TH 41 and Engler Boulevard
- Existing TH 41 and Victoria Drive
- Existing TH 41 and existing US 212
- Existing TH 41 and 5th Street
- Existing TH 41 and US 169
- Existing TH 41 and 4th Street
- Existing TH 41 and 3rd Street
- Existing TH 41 and 2nd Street
- Existing TH 41 and 1st Street

A previous *TH 41 Traffic Study*, dated March 12, 2003, and contained in *Volume II: Technical Memoranda*, analyzed p.m. peak hour traffic operations analysis at most of these locations under 2030 No-Build conditions. The previous study found that all intersections operate at Level of Service F (LOS F) during the p.m. peak hour. (This 2003 study did not include analyses of intersections at existing TH 41 and Engler Boulevard or existing TH 41 and Victoria Drive.) The number of peak hour trips forecast for TH 41 in 2040 (Build and No-Build) exceeds the number forecast for 2030. Because of these results, 2040 operations were also assumed to result in LOS F and no additional intersection operations analysis was performed for this area. As noted in Section 2.2.1.3, increasingly in the metropolitan area, operational performance over the duration of the day rather than during peak hour is a more appropriate measure of congestion. Therefore, additional regional modeling analysis was done to evaluate the effect of the alternatives on duration of congestion. Results are presented in Section 4.1.3.

4.1.3 Daily Duration of Congestion

The p.m. peak hour traffic operations analysis pertains to one hour of the day. While this analysis shows peak hour operations would not change substantially (i.e., existing TH 41 would be congested from 4 to 5 p.m. under 2040 No-Build and Build conditions), forecast model-based analysis shows that the duration of congestion on existing TH 41 would be reduced substantially in the Build alternative scenarios. The present study included an analysis of number of hours of congestion on existing TH 41 during a typical week day. Number of congested hours, based on hourly capacities assumed in the travel demand forecast model, is shown in Table 4-2 for the following three locations:

- Existing TH 41 north of existing US 212 (and north of downtown Chaska)
- Existing TH 41 river crossing (south of downtown Chaska)
- Highway 101 river crossing (located adjacent to existing TH 41 river crossing)

TABLE 4-2
RESULTS FROM 2040 DIRECTIONAL HOURS OF CONGESTION ANALYSIS [(1),(2)]

	Location		
	Existing TH 41 North of Existing US 212 (north of downtown Chaska)	**Existing TH 41 River Crossing** (south of downtown Chaska)[(3)]	**Existing Highway 101 River Crossing**
Capacity [(4)]	*750 vplph*	*1200 vplph*	*1200 vplph*
Hours of Congestion			
No-Build	0	10	10
W-2	0	**3**	7
C-2	0	**2**	7
C-2A	0	**3**	7
E-1	0	**2**	6
E-1A	0	**3**	6
E-2	0	**2**	5

Notes:
(1) Directional hours of congestion are based on a total of 48 hours per day, 24 hours for each direction.
(2) **BOLD** numbers indicate locations where the hours of congestion are reduced by 70 percent or more.
(3) Hours are discrete.
(4) vplph = vehicles per lane per hour

The results show Build alternatives would substantially reduce the number of hours of congestion on existing TH 41 and Highway 101. As noted, the high percentage of heavy commercial trucks in traffic using existing TH 41 exacerbates congestion because trucks at a stop take longer than other vehicles to start up and go through a traffic signal. Therefore, it is important to note that with any Build alternative, truck traffic volumes on existing TH 41 through the downtown Chaska area would be reduced by approximately 65 percent as compared to No-Build conditions.

Conclusions for each analyzed location include the following:

<u>TH 41 North of Existing US 212</u>

- Based on hourly lane capacity, this section would not experience congestion in the future. It should be noted that based on traffic operations analysis, the intersection of existing TH 41/Engler Boulevard operates at a LOS F during the p.m. peak hour for 2030 No-Build conditions. Capacity for existing TH 41 is reduced at this intersection due to opposing traffic on Engler Boulevard. While traffic operations analysis shows delay for vehicles on existing TH 41 at this intersection, the delay is not substantial enough to produce congestion in the travel demand forecast model.

<u>Existing TH 41 River Crossing</u>

- Build alternatives reduce the daily hours of congestion by 70 to 80 percent as compared to No-Build.
- A desire to preserve historic buildings and accommodate pedestrian-scale activities limits the ability to add capacity on existing TH 41 through downtown Chaska in the future.

Existing Highway 101 River Crossing

- Alternatives W-2, C-2, and C-2A reduce the daily hours of congestion by 30 percent as compared to No-Build.
- Alternatives E-1, E-1A and E-2 reduce the daily hours of congestion by 40 to 50 percent as compared to No-Build.
- The possibility exists to add capacity to Highway 101 in the future to address local circulation issues.

4.2 VEHICLE MILES TRAVELED (VMT)/VEHICLE HOURS TRAVELED (VHT)

4.2.1 Average Daily Travel

In addition to traffic volumes and hours of congestion, travel demand models also forecast daily vehicle-hours of travel (VHT) and daily vehicle-miles of travel (VMT). These two elements provide indications of the overall efficiency of highway system alternatives. Table 4-3 illustrates how VMT and VHT generally respond differently to varying travel conditions. Under congested conditions, VHT is often higher indicating there is more delay/congestion in the network while VMT is lower (generally, people travel less because it is difficult to travel in congested conditions). Opposite effects occur when congestion is reduced, i.e., VHT decreases (delay is reduced) while VMT increases (people travel farther because it is easier to travel in the improved conditions).

TABLE 4-3
GENERAL RESPONSE TO VARYING TRAVEL CONDITIONS

	Travel Conditions	
	Congested	**Freeflow**
Vehicle-Hours Traveled (VHT)	Higher	Lower
Vehicle-Miles Traveled (VMT)	Lower	Higher

Table 4-4 summarizes VMT and VHT data for the study area.[1] All Build alternatives create a 2 percent increase of daily VMT and a 1 percent decrease in daily VHT as compared to No-Build conditions indicating the new river crossing reduces congestion and improves efficiency within the system as compared to No-Build. This is consistent with a project that creates a fundamental new link in the freeway system, decreasing congestion and travel time, and resulting in wider access to employment, shopping, and service options (the wider access results in VMT increases due to more and longer trips across the Minnesota River).

[1] VMT/VHT results are for the study area, not the entire region covered by the regional model. The study area consists of all of Carver and Scott Counties, and the portion of Hennepin County bounded by the Minnesota River, US 169, and TH 7. This study area was selected to account for the majority of the travelshed of the TH 41 crossing and all river crossings whose volumes are affected by various TH 41 alternatives.

TABLE 4-4
2040 DAILY VEHICLE MILES TRAVELED (VMT) AND VEHICLE HOURS TRAVELED (VHT)

Alternative	VMT	Difference Compared to No-Build miles (percent)	VHT	Difference Compared to No-Build hours (percent)
No-Build	15,688,000		476,600	
W-2	15,998,000	310,000 (2)	472,700	-3,900 (-1)
C-2	16,002,000	314,000 (2)	473,100	-3,500 (-1)
C-2A	16,042,000	354,000 (2)	473,500	-3,100 (-1)
E-1A	15,997,000	309,000 (2)	473,000	-3,600 (-1)
E-1	15,973,000	285,000 (2)	472,600	-4,000 (-1)
E-2	15,980,000	292,000 (2)	472,600	-4,000 (-1)

Among Build alternatives, Alternative C-2A results in the most growth in predicted VMT and the least reduction in predicted VHT. Alternative E-1 results in the least growth in predicted VMT and the most reduction in predicted VHT. However, the differences in VMT and VHT among the Build alternatives are less than one-half percent, and all Build alternatives show substantial benefit (reduced congestion, as shown by lower VHT, making travel easier, as shown by higher VMT) over the No-Build alternative.

4.2.2 Travel During Flood Events

Section 4.2.1 above discusses Build alternative travel characteristics under typical weekday conditions. But as discussed in Section 2.2.2, the existing TH 41 river crossing has been closed due to flooding for 15 days average during a flooding year with a flood having occurred three of seven years between 1993 and 2001. This closure substantially affects travel patterns and levels of congestion on the area's highway network. The study used the travel demand forecast model to analyze VMT and VHT impacts during flood events under No-Build and Build Alternative W-2 and E-2 conditions (these alternatives are located farthest to the east and west and can be used to set a reasonable range for all Build alternatives for the change in daily VMT/VHT under flood conditions).[2] Table 4-5 summarizes VMT and VHT data for the modeled alternatives under normal weekday conditions and flood conditions.

Compared to normal weekday conditions, VMT increases 6 percent and VHT increases 8 percent for the No-Build alternative during a flood event. Travelers are forced to drive farther and longer during a flood under No-Build conditions. For the Build alternatives, VMT increases 2 percent and VHT increases 2 to 3 percent during a flood event as compared to a normal weekday. Floods would continue to effect travel on the highway network under Build conditions, but the effect would be substantially less than under No-Build conditions.

[2] Bridges over the Minnesota River on Highway 101 and existing TH 41, and the approach roadways on CSAH 9/45 were closed in the travel demand model to represent flood conditions.

TABLE 4-5
COMPARISON OF 2040 DAILY VEHICLE MILES AND VEHICLE HOURS TRAVELED DURING NORMAL WEEKDAY AND FLOOD EVENT CONDITIONS

Travel Condition	Alternative	VMT	Difference Compared to Normal Weekday miles (percent)	VHT	Difference Compared to Normal Weekday hours (percent)
Normal Weekday	No-Build	15,688,000	NA	476,600	NA
	W-2	15,998,000	NA	472,700	NA
	E-2	15,980,000	NA	472,600	NA
Flood Event	No-Build	16,633,000	945,000 (6)	516,700	40,100 (8)
	W-2	16,346,600	348,600 (2)	485,400	12,700 (3)
	E-2	16,261,300	281,300 (2)	483,800	11,200 (2)

Notes:
NA = Not Applicable

Among alternatives under flood conditions, Table 4-6 shows the Build alternatives reduce both the vehicle-miles and vehicle-hours traveled as compared to No-Build. This is noteworthy because under normal weekday conditions, the opposite is true for VMT (see Table 4-4, VMT is higher for Build alternatives as compared to No-Build for normal weekdays). In addition, VHT savings for Build alternatives as compared to No-Build are eight times larger for flood conditions as compared to normal weekday conditions. These findings are consistent with a project that provides a new river crossing that remains open during flood events, providing an additional alternative route for public, commercial, and emergency vehicle travel during these events. Differences among Build alternatives under flood conditions are one-half percent or less.

TABLE 4-6
2040 DAILY VEHICLE MILES AND VEHICLE HOURS TRAVELED UNDER FLOOD CONDITIONS

Alternative	VMT	Difference Compared to No-Build miles (percent)	VHT	Difference Compared to No-Build hours (percent)
No-Build	16,633,000	NA	516,700	NA
W-2	16,346,600	-286,400 (-2)	485,400	-31,300 (-6)
E-2	16,261,300	-371,700 (-2)	483,800	-32,900 (-7)

4.3 SAFETY

4.3.1 Highway Network Safety

The study performed a network safety analysis for the study area under Build and No-Build conditions.[3] The analysis used VMT data broken out by facility type along with crash rates for each facility type to predict the number of crashes occurring in 2040. Table 4-7 summarizes the number of crashes predicted, accounting for flood events.

[3] The study area for which results are reported consists of all of Carver and Scott Counties, and the portion of Hennepin County bounded by the Minnesota River, US 169, and TH 7. This study area was selected to account for the majority of the travel shed of the TH 41 crossing and all river crossings whose volumes are affected by differing TH 41 alternatives.

From the highway network perspective, the Build alternatives produce mixed safety results. As noted in Section 4.2.1, VMT is predicted to increase substantially for Build alternatives as compared to No-Build. Because the number of crashes predicted is directly related to exposure (i.e., distance traveled), the number of crashes is also predicted to increase. Compared to the No-Build alternative and due to the increase in VMT, the number of crashes is predicted to increase 1 percent (from a low of 62 additional crashes for Alternative E-1 to a high of 101 additional crashes for Alternative C-2A) under 2040 Build alternative conditions.

Among Build alternatives, more non-freeway crashes are predicted for Alternatives C-2 and C-2A. On non-freeway facilities, more fatal or injury crashes occur per vehicle mile traveled as compared to freeway facilities (based on Mn/DOT 3-year crash severity rates for 2000 to 2002). Based on these results, Alternatives C-2 and C-2A would result in more injury crashes on the non-freeway roadway network as compared to other Build alternatives; however among all Build alternatives, the percentage difference from No-Build is negligible, each predicted to result in less than 1 percent more crashes.

TABLE 4-7
NUMBER OF CRASHES PREDICTED FOR STUDY AREA [(1)(2)]

				CHANGE		
Alternative	**Freeway**	**Non-Freeway**	**TOTAL**	**Freeway**	**Non-Freeway**	**TOTAL CHANGE**
No-Build	996	9,430	10,425			
W-2	1,058	9,433	10,491	62	4	66
C-2	1,052	9,460	10,512	56	30	87
C-2A	1,058	9,468	10,527	63	39	101
E-1	1,052	9,435	10,487	56	5	62
E-1A	1,055	9,444	10,498	59	14	73
E-2	1,053	9,438	10,491	57	9	66

Notes:
(1) Number of crashes was predicted based on VMT produced by the travel demand forecast model and 2000-2002 crash rates for different facility types. Mn/DOT Metro District statistics for rural freeways were used for freeway facilities. A weighted average of Metro District data for rural 4-lane expressways, urban 2-lane roadways with ADTs 5,000 - 8,000, and urban 2-lane roadways with ADTs 1,500 - 5,000 was used for non-freeway facilities. The weighting was based on the proportion of miles driven on each facility type in the forecasting model sub-area.
(2) Calculations for all alternatives include effects of five days of bridge closures per year due to of flooding.

4.3.2 Existing TH 41 Safety

Although there is more travel (VMT increases) in the Build alternatives as compared to No-Build, and as a result safety results are mixed on a network-wide basis, the Build alternatives would provide safety benefits in downtown Chaska. Section 2.2.4.1.1 indicates that existing TH 41 has a crash rate of 5.8 per million vehicle miles of travel in downtown Chaska, well above the statewide average for similar facility types. As discussed in Section 4.1.1, a new river crossing would attract 30 to 40 percent of traffic from existing TH 41. Table 4-8 shows that because a substantial amount of traffic is predicted to shift from existing TH 41, Build alternatives would reduce the number of crashes predicted in downtown Chaska by more than 30 percent. Statistically, the change among Build alternatives is roughly the same; between 11 and 13 fewer crashes than the No-Build are predicted in the year forecast (2040).

TABLE 4-8
RATE-BASED CRASH PREDICTION FOR DOWNTOWN CHASKA IN 2040[(1)]

Alternative	2040 ADT	Number of Crashes Predicted Per Year	Change from No-Build
No-Build	36,500	35	NA
W-2	24,700	24	-11
C-2	23,100	22	-13
C-2A	25,100	24	-11
E-1	23,800	23	-12
E-1A	25,100	24	-11
E-2	24,200	23	-12

(1) All alternatives use a length of 0.45 miles and a crash rate of 5.8 to predict the number of crashes on existing TH 41 in 2040.

4.3.3 Railroad Crossing Safety

As discussed in Section 2.2.4.1.3, existing TH 41 intersects railroad tracks in two at-grade crossing locations. Vehicle crashes have occurred at the at-grade crossing locations. This condition would not change in the No-Build alternative, and more TH 41 traffic would pass through the at-grade railroad crossings. All Build alternatives provide a grade-separated alternative and are predicted to reduce the amount of traffic traveling through the at-grade railroad crossings, reducing the risk of a crash in these locations. The study did not quantify the number of crashes that would likely be avoided under Build alternative conditions. However, Build alternative conditions will reduce the frequency of stops for trucks carrying hazardous/flammable materials (e.g., fuel). These stops can cause operational and safety issues.

4.3.4 Emergency Response

Improvements in emergency response times and route reliability are substantial benefits of the Build alternatives as compared to No-Build. Section 4.2.1 discussed substantial reductions in VHT for Build Alternatives under normal weekday conditions, indicating lower levels of congestion on the highway network. This will also benefit emergency response times. Section 4.2.2 discussed substantial reductions in VMT and VHT for Build alternatives under flood conditions, indicating shorter trips and less delay. This is a key benefit of the Build alternatives as compared to No-Build. Each of the Build alternatives provides a reliable route for emergency response over the Minnesota River that is not affected by flood conditions.

4.4 BENEFIT/COST ANALYSIS

A benefit/cost analysis was completed to compare the six Build alternatives to the No-Build alternative from an overall transportation perspective. The purpose of a benefit-cost analysis is to bring all of the direct effects of a transportation investment into a common measure (dollars), and to allow for the fact that transportation benefits accrue over a long period of time while construction costs are incurred primarily in the initial years. The primary elements that can be

monetized are travel time (hours traveled), changes in vehicle operating costs (miles traveled), vehicle crashes, annual and major maintenance costs, initial capital costs, and remaining capital value. Travel time, miles traveled, and crashes were discussed above. Initial capital costs include construction and right of way, which are further broken down for remaining capital value analysis in accordance with service life. Maintenance costs are approximated based on Mn/DOT annual cost per lane-mile estimates.

The benefit-cost analysis can provide an indication of the economic desirability of an alternative, but it is only a broad indicator for decision-making which must be weighed against other considerations, effects, and impacts of the project. A benefit/cost ratio of 1.0 is considered the minimum for justifying an improvement. The larger the ratio number, the greater the benefits per unit cost.

The benefit-cost analysis conducted for the proposed project resulted in benefit/cost ratios as follows:

- Alternative W-2: 3.43
- Alternative C-2: 3.39
- Alternative C-2A: 3.29
- Alternative E-1: 2.33
- Alternative E-1A: 2.72
- Alternative E-2: 2.84

Because all Build alternatives have benefit-cost ratios above 1.0, all are beneficial from an economic perspective.

It should be noted that mitigation costs were not included in the benefit-costs analysis, but that a sensitivity analysis on the highest cost/lowest benefit-cost ratio alternative indicates that mitigation cost would have to nearly double the total project cost for the benefit-cost ratio to drop below 1.0.

Additional detail on the benefit/cost analysis can be found in the memorandum entitled *Trunk Highway 41 (TH 41) River Crossing Benefit-Cost Analysis Assumptions and Results* August 29, 2006 amended November 20, 2006, contained (without attachments) in *Volume II: Technical Memoranda*. (Note: Complete Memorandum with attachments is available from Mn/DOT.)

4.5 LOCAL AND REGIONAL TRANSPORTATION SYSTEM ACCESS CHANGES

4.5.1 Local Access

As noted in Sections 3.23 and 3.24, planned local access to US 169 and New US 212 is assumed under No-Build conditions and accommodated under Build conditions for all alternatives. Local access to the New TH 41 river crossing and changes in local access caused by the proposed project are discussed in Section 5.1.2.3.

4.5.2 Regional Travelshed Analysis

Each Build alternative has a unique location and orientation which means it provides similar, but distinct regional access. The regional access provided can also be described as the travel market

served by the alternative. Travel market served is another defining feature of the alternatives identified through the travel forecasting process. Figures 4-8 and 4-9 illustrate the markets served by each alternative (including No-Build). The market analysis was performed using selected link analysis. Results show the following:

- North of the Minnesota River, Build alternatives substantially reduce long distance trips on existing TH 41. Alternative W-2 results in the smallest reduction; traffic oriented for Chanhassen and northern Chaska remains on existing TH 41 because the new crossing passes far to the west (see Figure 4-8).
- South of the Minnesota River, Build alternatives result in some reduction in long distance traffic on existing TH 41. Some long distance traffic remains because existing TH 41 is the primary access to all of Scott County from downtown Chaska (see Figure 4-8).
- Alternatives E-1, E-1A, and E-2 carry more north-south trips than the western and central alignments (see Figure 4-9) which indicates a stronger use of new US 212 to access the I-494 beltway.
- Alternatives W-2, C-2, and C-2A carry a larger portion of their traffic from western Carver County as compared to the eastern alignments (see Figure 4-9).
- Alternative C-2A carries fewer trips to/from western Chaska and southern Victoria because it provides no access to/from Engler Boulevard (CSAH 10, see Figure 4-9).

4.6 VEHICULAR ENERGY USE

Roadway projects consume energy both directly and indirectly. Direct energy impacts are defined as the fuel that would be used by vehicles traveling the roadway as well as fuel that would be consumed by vehicles using alternate routes during congested periods in lieu of the roadway under study. The primary direct impacts on transportation energy use related to the proposed project would result from changes in traffic volumes and traffic patterns associated with project Build and No-Build alternatives. Indirect impacts are defined as the fuel required to construct and maintain the road, and the fuel used to construct and maintain the vehicles using the roadway.

Energy consumption models commonly used for analysis of energy impacts can typically predict energy impacts within a margin of error of approximately 10 percent. As a result, differences in energy use of less than 10 percent among alternatives are not considered to be substantial. A preliminary assessment of total energy differences among alternatives, based on a comparison of total VMT as a primary indicator of differences in highway user energy consumption, indicated differences of up to two percent among all alternatives. The difference between the No-Build and each of the six Build alternatives' total VMT is one (2030) to two (2040) percent. (A discussion of values for No-Build and Build alternatives' total VMT is provided in Section 4.2.1). The difference in VMT for the six Build alternatives is less than one percent. Therefore, a detailed energy analysis (using modeling) was not performed for this project.

All of the Build alternatives would involve roadway construction and thus would result in construction-related energy use. The No-Build alternative would consume less indirect energy than any other alternative because no initial construction is required; however, periodic roadway maintenance, such as resurfacing, would occur over time.

Operational energy consumed may increase with the Build alternatives because the VMT is greater. This increase may be offset to some degree because all TH 41 traffic would no longer be forced to travel through traffic signals in downtown Chaska. Vehicle speed cycling (slowing at a traffic signal and then accelerating after the light turns green) consumes substantial amounts of fuel, particularly for trucks, which make up a substantial amount of the traffic stream in the existing TH 41 corridor.

4.7 OTHER MODES

4.7.1 Freight (Rail)

As discussed in Section 4.3.3., all Build alternatives provide grade-separated crossings over the two sets of railroad tracks that presently intersect existing TH 41. The Build alternatives also attract substantial amounts of traffic off existing TH 41, reducing the number of opportunities for train-vehicle conflict.

4.7.2 Freight (Highway Truck Traffic)

As noted in Chapter 2, heavy commercial vehicles (trucks) make up about 20 percent of the total daily traffic volume on existing TH 41, compared to 5 to 10 percent for typical roadways within the metropolitan area. The connection between US 169 and existing US 212 is used for truck transport of thousands of shipments of grain and other agricultural products from western and southwestern Minnesota to the Ports of Savage. A large amount of truck traffic is also generated by a number of aggregate mining facilities in and near the study area, as well as by the substantial amount of commercial/industrial development in the area.

Several factors are expected to cause truck percentages to decline in the future for all alternatives. As the metropolitan area's developing fringe moves outward, activities requiring truck transport, such as agricultural transport, gravel mining and residential construction, can be expected to decline in the Chaska area. In addition, commuter trips would be expected to grow faster than truck traffic, making the truck traffic a smaller portion of all traffic.

Truck volume forecasts were prepared using the Metropolitan Council regional freight model to estimate the relative differences between alternatives and the total Minnesota River crossing truck traffic.[*] Results of the truck forecast are shown in Table 4-9; they show the following:

- Truck volumes on existing TH 41 remain stable between 2000 and 2040 under No-Build conditions, but their portion of daily traffic falls from 14 percent to 7 percent.
- Alternatives C-2, E-1, E-1A, and E-2 attract the most truck traffic off existing TH 41 (74 percent, 2000 vehicles, as compared to No-Build). Alternatives W-2 and C-2A attract slightly less at 67 percent and 70 percent (1,800 and 1,900 vehicles per day), respectively.

[*] The primary inputs to the regional freight model include TAZ-level projections of employment by four classifications: (1) Agriculture, Mining, and Construction, (2) Manufacturing, Transportation, Communication, Utilities, and Wholesale Trade, (3) Office and Services, and (4) Retail Trade. These projections were not available for this study; the existing classification of employment was assumed. As a result, the precision associated with these freight forecasts is less than that for auto travel demand forecasts.

- Alternative E-2 attracts the most truck traffic off Highway 101 (29 percent, 400 vehicles per day as compared to No-Build). Alternatives C-2A, E-1, and E-1 still reduce truck volumes on Highway 101 (reduced by 7 percent, 100 vehicles per day, as compared to No-Build). Alternatives W-2 and C-2 increase truck volumes on Highway 101 by 7 percent (100 vehicles per day)

- Alternatives E-1, E-1A, and E-2 attract the most truck traffic off US 169 (7 to 9 percent, 600 to 800 vehicles per day, as compared to No-Build). In Alternative C-2A, more truck traffic travels on US 169 as compared to No-build (2 percent increase, 200 vehicles per day, as compared to No-Build).

- The New TH 41 crossing, with its higher volume, carries 5 percent of total traffic as trucks (a typical percent).

TABLE 4-9
MINNESOTA RIVER CROSSING 2040 TRUCK FORECASTS

	2000	2040						
	Existing	**No-Build**	**W-2**	**C-2**	**C-2A**	**E-1**	**E-1A**	**E-2**
Alternative	Number of Trucks per Day (Percent of ADT)							
TH 41	2,500 (14)[2]	2,700 (7)	900 (4)	700 (3)	800 (3)	700 (3)	700 (3)	700 (3)
New TH 41			2,360 (5)	2,350 (5)	2,210 (5)	3,650 (7)	4,130 (7)	4,040 (7)
Highway 101[1]		1,400 (4)	1,500 (5)	1,500 (5)	1,300 (4)	1,300 (5)	1,300 (5)	1,000 (4)
US 169	3,640 (7)	8,900 (6)	8,700 (6)	8,700 (6)	9,100 (7)	8,300 (6)	8,200 (6)	8,100 (6)
Total	**6,000 (6)**	**13,000 (6)**	**13,000 (6)**	**13,000 (6)**	**13,000 (6)**	**14,000 (6)**	**14,000 (6)**	**14,000 (6)**

Notes:
(1) No commercial vehicle counts at the Highway 101 crossing were available for this study; validation was not possible for Highway 101 as a result.
(2) 2000 data; the truck study done in October 2002 reported truck percentages approaching 20 percent.

Truck traffic will benefit substantially by shifting from existing to New TH 41. Although the route may be longer in some cases, the New TH 41 river crossing would provide the following benefits:

- Improved safety – the new river crossing would have a lower crash rate than existing TH 41.

- Reduced energy consumption – the new river crossing would reduce the number of speed cycles (the process of slowing for a traffic signal and then accelerating back to cruising speed) which freight-hauling trucks would encounter. See Section 4.6 for more information.

- Improved travel time – trucks traveling on the new river crossing would travel on an uncongested facility, as compared to traveling through downtown Chaska with its more than 10 hours of congestion per day under No-Build conditions.

4.7.3 Rail Transit

A future Light Rail Transit (LRT) corridor, extending from the eastern edge of Chaska to Hopkins, has been identified and is known as the Southwest Transitway. The transitway follows the Hennepin County Regional Trail Corridor which goes along Highway 5, approximately three miles north of New US 212, through Chanhassen and into Chaska for about one block at which point it terminates. The southwest transitway is one of the alternatives being studied by Hennepin County Regional Railroad Authority. However, rail transit beyond Eden Prairie is not being considered at this time. Plans from the Metropolitan Council indicate that portions of this corridor could have service sometime after 2020. Although no final alternative or plan for rail transit operation has been agreed to at this time, it is likely the LRT line would be located on former rail/existing trail corridors. Build alternatives include grade-separated crossings of all affected rail/trail corridors. Under these conditions, Build alternatives would have no direct impacts on rail transit.

4.7.4 Bicycle and Pedestrian Traffic

Section 2.2.4.1.2 discusses existing and anticipated bicycle/pedestrian issues within the study area under the No-Build condition, particularly in downtown Chaska and at the Minnesota Valley Trail crossing on existing TH 41. Build alternatives will provide a grade-separated crossing of the Minnesota Valley Trail and will also attract substantial amounts of traffic off existing TH 41, providing the following benefits to bicycle and pedestrian travel:

- Improved safety – reduce the potential for vehicle-bicycle or vehicle-pedestrian conflicts.
- Improved enjoyment of bicycle/pedestrian experience – reduced congestion and reduced truck volumes will create a more enjoyable bicycle/pedestrian travel experience.

A trail is located on the existing TH 41 river crossing bridge. Mn/DOT is committed to providing more substantial bicycle/pedestrian facilities on the new river crossing under Build alternative conditions. Specific details have not been discussed; this issue would be addressed in the Tier II EIS. Impacts on trails are discussed in Chapter 8.

4.7.5 Public Transit

Regularly-scheduled transit service crossing the Minnesota River is not currently in the study area, and no plans have been identified to provide such service in the foreseeable future. For this reason, there are no direct impacts of a new river crossing on the transit routes. Indirectly, a new TH 41 river crossing would increase overall river crossing capacity, decreasing congestion and facilitating any bus or vanpool service on the area's highway network. As discussed in Section 4.2.1, VHT (as a measure of congestion in the highway network) among the Build alternatives is not substantially different, and all Build alternatives show substantial benefit (reduced congestion) over the No-Build alternative. As described in Section 2.2.4.2.2, SouthWest Metro Transit is in the process of updating its long-term transit plan for the area. As part of the plan, construction is underway for a transit-centered development at the New US 212/Highway 101 intersection in Chanhassen and the design process is beginning for a park-and-ride at the New US 212/TH 41 intersection.

Existing park-and-ride facilities are located on Market Boulevard in Chanhassen; and Jonathan Boulevard, Bavaria Road/Hundertmark Road, and TH 41/Walnut Street in Chaska. They are used primarily by SouthWest Metro Transit riders, but are also used for ridesharing and carpooling. Congestion is predicted in downtown Chaska during peak hours under both Build and No-Build conditions. Build alternatives may not improve access to the park-and-ride lots by reducing levels of congestion, but they will improve conditions by providing reliable access, uninterrupted by flood conditions, for travelers crossing the Minnesota River. There is little difference among Build alternatives.

Rail transit is discussed in Section 4.7.3 above.

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5.0 SOCIAL, RELOCATION AND ECONOMIC IMPACTS

This chapter describes the social and economic environment of the project area and the potential social, environmental justice, relocation, and economic impacts of the proposed No-Build alternative and Build alternatives. This chapter does not attempt to project future racial and economic characteristics of the population, however, it is acknowledged that changes in ethnic compositions, income, poverty and household composition will occur in the coming decades in the study area.

Social and economic issues were identified using a number of information sources including agency correspondence, literature review, compilation of mapped data and input from project stakeholders. Local governments and public resource regulatory agencies were given opportunities to provide input on potential issues during early project correspondence, public meetings, Political Advisory Committee meetings, Project Management Team meetings, Study Advisory Committee meetings and individual agency contacts. The general public was given the opportunity to identify potential social, economic and environmental impacts related to the project during public open house meetings and public forums several times between April 2003 and June 2006. For more detail about these events refer to Section 15.2.4.

For a full description of the project area and the proposed alternatives, refer to Chapter 3.

5.1 SOCIAL IMPACTS

5.1.1 Affected Environment

5.1.1.1 Project Area and Population

The study area is located in the southwestern portion of the Twin Cities metropolitan area and encompasses portions of southeastern Carver County and northcentral Scott County.

Individual municipalities either partially or fully within the project area include the cities of Carver, Chaska and Chanhassen and Dahlgren Township in Carver County, and the City of Shakopee, Jackson Township and Louisville Township in Scott County. Figure 1-2 in Chapter 1 illustrates the study area and municipal boundaries.

Table 5-1 provides current and projected population data for the municipalities within the project area. According to 2000 Census data, the total population of municipalities located within the project area is 63,931.

Table 5-1 indicates the combined municipalities within the study area are projected to add an additional 115,190 inhabitants by 2040, more than doubling their present combined population.

TABLE 5-1
POPULATION, 2000 AND 2040
STUDY AREA, CITIES, TOWNSHIPS AND COUNTIES

	Location[3]	2000 Population[1]	2040 Population Estimates[2]	Percent Growth
	Seven-County Twin Cities Metropolitan Area	2,646,056	3,573,000	35
	Carver County	70,205	184,910	163
	Scott County	89,498	247,378	176
Cities	Eden Prairie	54,901	71,706	31
Cities	Carver	1,266	20,000	1,480
Cities	Chanhassen	20,321	45,900	126
Cities	Chaska	17,603	42,036	139
Cities	Victoria	4,025	9,800	143
Cities	Belle Plaine	3,789	13,500	256
Cities	Jordan	3,833	13,300	247
Cities	Savage	21,115	49,600	135
Cities	Shakopee	20,568	71,185	246

(1) Metropolitan Council
(2) 2040 population estimates were developed with input from local agencies and Metropolitan Council staff.
(3) A number of the cities listed will have annexed portions of surrounding townships by 2040. Anticipated incorporation of township land is accounted for in the 2040 population estimates. Except where orderly annexation agreements are in place, it is not possible to project which portion of townships will be within City limits in 2040. Note that regardless of area, 2000 population within townships is at very low density.

5.1.1.2 Socio-Economic and Racial Characteristics

Socio-economic and racial characteristics of the population in the study area are summarized in Tables 5-2 and 5-3. Key variables listed for each municipality include population, racial composition, number of households, median household income, and number and percentage of individuals below the poverty level.

Tables 5-2 and 5-3 indicate the population in the study area is predominantly white (all jurisdictions report 85 percent or more of their population as white). With the exception of Jackson Township in Scott County, the median household income is higher and the percent of population under the poverty level is lower within the study area population than for state and the Twin Cities metropolitan area populations.

5.1.1.3 Community Facilities

Community facilities include those serving local residents of the study area communities and those serving visitors and the traveling public. There are, of course, numerous community facilities both in and outside of the study area that serve the population residents in the study area. The proposed project could have some effect on residents' access to the array of these services. Those community facilities that are within the study area itself are noted below and shown in Figure 5-1.

TABLE 5-2
RACIAL AND ETHNIC COMPOSITION
STUDY AREA MUNICIPALITIES, 2000

Location	Race													Hispanic	
		White		Black		American Indian or Alaskan Native		Asian		Hawaiian/ Pacific Island		Other Race			
	Total Population	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
State of Minnesota	4,919,479	4,400,282	89.4	171,731	3.5	54,967	1.1	141,968	2.9	1,979	>0.1	65,810	1.3	143,382	2.9
Metropolitan Area	2,642,062	2,238,117	84.7	156,620	5.9	20,417	0.8	121,053	4.6	1,186	>0.1	45,061	1.7	95,902	3.6
Carver County	70,205	67,361	95.9	417	0.6	129	0.2	1,096	1.6	10	>0.1	613	0.9	1,791	2.6
City of Carver	1,266	1,233	97.4	3	0.2	3	0.2	6	0.5	0	0	12	0.9	21	1.7
City of Chanhassen	20,321	19,284	94.9	152	0.7	31	0.2	576	2.8	1	>0.1	84	0.4	402	2.0
City of Chaska	17,449	16,351	93.7	178	1.0	49	0.3	291	1.7	1	>0.1	381	2.2	1013	5.8
Dahlgren Township	1,453	1,435	98.8	0	0	3	0.2	5	0.3	0	0	2	0.1	3	0.2
Scott County	89,498	83,813	93.6	824	0.9	693	0.8	1,946	2.2	27	>0.1	1,114	1.2	2,381	2.7
City of Shakopee	20,568	18,842	91.6	273	1.3	193	0.9	495	2.4	8	>0.1	440	2.1	906	4.4
Jackson Township	1,361	1,168	85.8	3	0.2	15	1.1	21	1.5	0	0	137	10.1	298	21.9
Louisville Township	1,359	1,178	86.7	10	0.7	4	0.3	15	1.1	0	0	146	10.7	174	12.8

Source: U. S. Census Bureau, Census 2000

TABLE 5-3
HOUSEHOLD, INCOME AND POVERTY CHARACTERISTICS
STUDY AREA MUNICIPALITIES, 2000

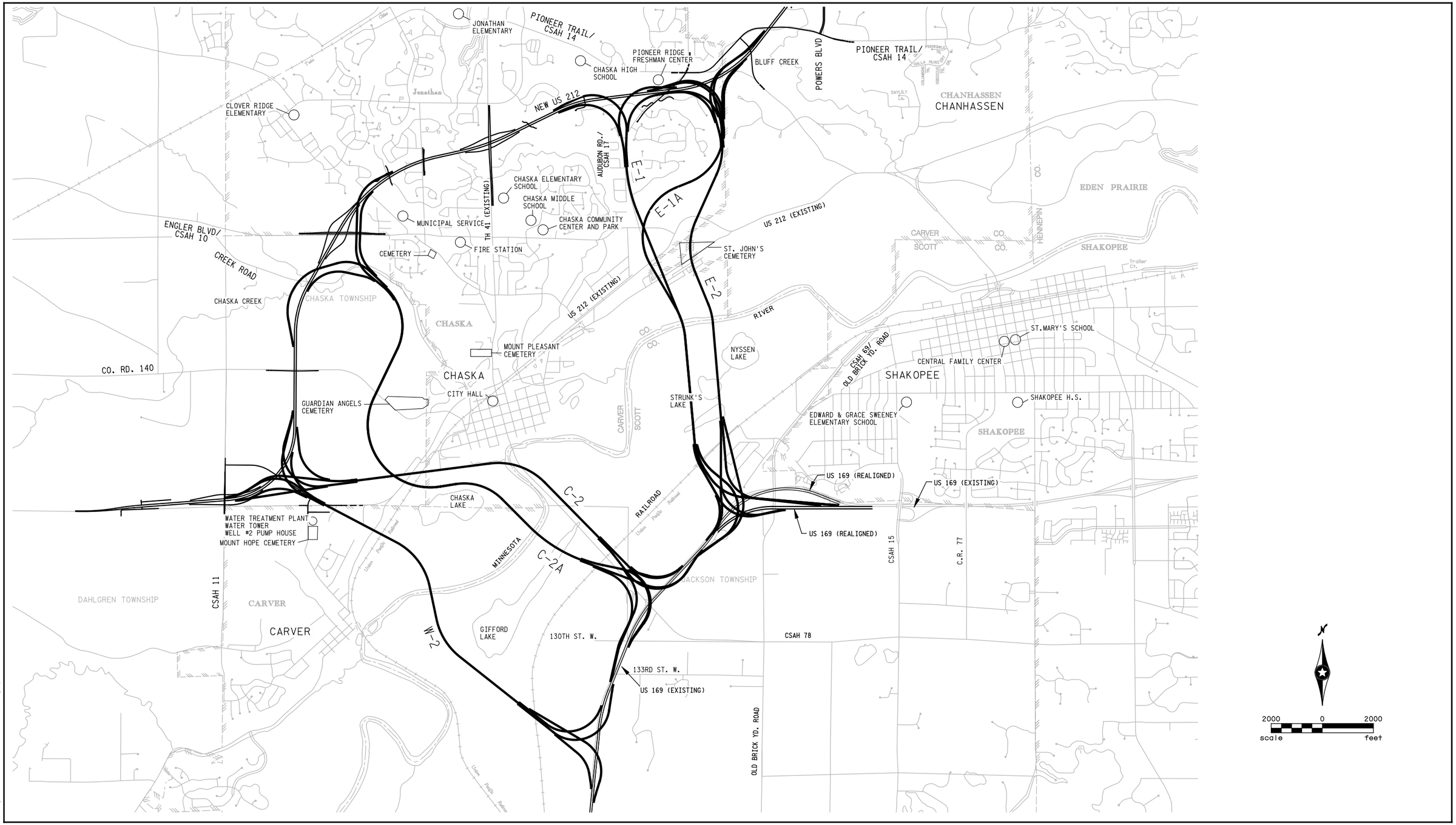
Location	Number of Households	Median Household Income, 1999	Number of Individuals Below the Poverty Level, 1999	Percent of Population Below the Poverty Level
State of Minnesota	1,895,127	$56,874	380,476	7.7
Metropolitan Area	1,021,456	$65,450	195,253	7.4
Carver County	24,356	$73,577	2,391	3.5
City of Carver	458	$70,673	24	1.9
City of Chanhassen	6,914	$93,092	386	1.4
City of Chaska	6,104	$69,612	816	4.7
Dahlgren Township	479	$68,977	38	2.6
Scott County	30,692	$72,212	2,979	3.3
City of Shakopee	7,540	$66,885	695	3.4
Jackson Township	461	$53,611	169	12.4
Louisville Township	410	$82,911	53	3.9

Source: U. S. Census Bureau, Census 2000

SCHOOLS

- **City of Shakopee**
  - Shakopee High School
  - St. Mary's School
  - Edward and Grace Sweeney Elementary School

- **City of Chaska**
  - Chaska High School (545 Pioneer Trail)
  - Pioneer Ridge Freshman Center (1085 Pioneer Trail East)
  - Middle School East (1600 Park Ridge Drive)
  - Middle School West (140 Engler Boulevard East)
  - Elementary School (1800 Chestnut Street North)
  - Guardian Angels School (215 2nd Street West)
  - Saint John's Lutheran Church LCMS School (300 4th Street East)
  - Carver-Scott Educational Cooperative (401 4th Street East)



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COMMUNITY FACILITIES

Figure 5-1

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Draft Environmental Impact Statement
S.P. #1008-60
Minnesota Department of Transportation

CHURCHES

- **City of Shakopee**
  - Jehovah's Witnesses Shakopee Congregation (13066 Old Brick Yard Road)
- **Chaska**
  - Guardian Angels Church (218 2nd Street West)
  - Valley Evangelical Free Church (150 Engler Boulevard)
  - Crown of Glory Lutheran Church (ELCA) (1141 Cardinal Street)
  - Saint John's Lutheran Church LCMS (300 4th Street East)
  - Discovery United Methodist Church (950 Trumble Street)
  - Moravian Church of Chaska (115 4th Street East)
- **Carver**
  - Trinity Lutheran Church (417 Oak Street North)

CEMETERIES

- **City of Carver**
  - Mount Hope Cemetery
- **Chaska**
  - Mount Pleasant Cemetery
  - St. John's Cemetery
  - Guardian Angels Catholic Cemetery

COMMUNITY CENTERS

- Chaska Community Center (1661 Park Ridge Drive)

LIBRARIES

- **Chaska**
  - Chaska Library, Carver County Library System (City Hall Plaza)

MUSEUMS

- **Chaska**
  - Chaska Historical Society (112 West 4th Street)

SPECIAL EVENT SITE

- **Louisville Township**
  - Renaissance Festival site (private) (north of Union Pacific Railroad, west of existing TH 41)

NURSING HOMES

- **Chaska**
  - Moravian Care Ministries (501 Oak Street North)
  - Carric Cottages (112001 Hidden Creek Place)

GOVERNMENT CENTERS

- **Carver**
  - City Hall (316 Broadway North)
- **Chaska**
  - City Hall (One City Hall Plaza)
  - Carver County Government Center (600 East 4th Street)

EMERGENCY SERVICES

- **Chaska**
  - Chaska Police Department (Two City Hall Plaza)
  - Chaska Fire Department (285 Engler Boulevard)

Parks and public recreation areas are discussed in Chapter 8.

5.1.2 Environmental Consequences

5.1.2.1 Community Cohesion

Community cohesion refers to existing and potential social interaction between or among geographically-defined groups. In particular, community cohesion addresses the spatial connectedness of individual sites both within and among the communities and integrates the concerns of safety, efficiency, environmental sensitivity and aesthetic continuity.

No-Build Alternative

Existing TH 41 is a primary regional traffic link across the Minnesota River connecting Scott and Carver Counties. It is heavily relied upon for local traffic within the City of Chaska; it is the City's "Main Street". The No-Build alternative would not change the physical connectivity of existing roadways. However, forecast increases in traffic volume (discussed in Chapter 2) may

negatively impact community cohesion connectedness between the east and west portions of Chaska by increasing the incidence of auto accidents, lengthening travel times, affecting pedestrian safety and access and increasing traffic congestion.

Build Alternatives

Each of the Build alternatives requires acquisition of business and residential properties. These impacts are detailed in Section 5.2.2.5.[1] This section describes acquisitions that particularly affect community cohesion.

For all Build alternatives, existing or planned local roadway connections that are affected by the proposed project will be functionally restored via grade-separation and/or local roadway realignment. These are discussed in Section 5.1.2.3. Note that as discussed in Chapters 2, 3 and 4, it is assumed that within the study area US 169 will be converted to a freeway facility, including interchanges at CSAH 14, existing TH 41 and CSAH 69, closure of direct access to properties from US 169 and provision of property access and local circulation through a system of frontage/backage roads. Figures 3-6 through 3-11 in Chapter 3 provide potential concepts for these US 169 and local improvements; any such improvements are not part of the proposed project.

Alternative W-2

Alternative W-2 would directly impact several residential and business properties in both Carver and Scott counties, as described in Section 5.2.2.3.

Alternative W-2 crosses the site of and would divide a townhome community (Riverbluff Estates now under construction) and areas planned for lower density residential use in the City of Carver. It would separate a small portion of Carver (east of the Alternative W-2 alignment) from the remainder of the community, though this separated area would be accessible by grade-separated crossings at Mt. Hope Road and CSAH 40.

There are no exclusively designated pedestrian or bicycling routes within or intersected by Alternative W-2. Foot and bicycle traffic in the area occurs on local, county and state roadways where permitted and would be retained.

Alternative C-2

Alternative C-2 would require acquisition of a portion of the Jackson Heights mobile home park (12 of 64 units) in Scott County. As further described in Section 5.1.2.4, Jackson Heights, as well as Mobile Manor, Bonnevista and Riverview Terrace mobile home parks are largely Hispanic, low-income communities.

[1] Note: For purposes of this DEIS, impacts on mobile home communities include the units that are located within the assumed corridor limits. It is recognized that acquisition in mobile home parks differ from other types of residential acquisitions in certain ways, one of which is that acquisition of some of the units in the park could affect the remaining units should the park as a whole be no longer economically viable due to the removal of units affected by the project. Because the proposed project is several years away and the economic impact on the affected mobile home parks is not quantifiable at this time, only the number of directly impacted units is assumed as a direct impact.

Alternative C-2 would impact the planned "Heights of Chaska" development. This proposed mixed-use, primarily single-family residential development includes up to 3,550 new housing units and 70,000 square feet of commercial space. Alternative C-2 passes through the southern portion of the planned development and would require its redesign to accommodate the necessary right of way and local access to the development.

Changes in vehicular access are described in Section 5.1.2.3. There are no exclusively designated pedestrian or bicycling routes within or intersected by Alternative C-2. Foot and bicycle traffic in the area occur on local, county and state roadways where permitted and would be retained.

Alternative C-2 would separate the small area of Chaska that would remain between existing US 212 and New TH 41 from the remainder of the city, as well as making a more prominent division between the cities of Chaska and Carver than currently exists. These areas will still be connected via grade-separated crossing at existing US 212. Alternative C-2A would also permanently change the visual relationship between the City of Chaska—particularly the original townsite—and the Minnesota River.

Alternative C-2A

In Scott County, Alternative C-2A would require acquisition of a portion of the Jackson Heights mobile home park (24 of 64 units) affecting the largely Hispanic, low-income community as well as several businesses and residences along existing US 169.

In Carver County, Alternative C-2A would require acquisition of several residential properties along existing US 212 and County Road 140 for right of way.

Alternative C-2A would impact the planned "Heights of Chaska" development. As noted above, this mixed-use, primarily single-family residential development includes up to 3,550 new housing units and 70,000 square feet of commercial space. Alternative C-2A passes through the southern portion of the planned development and would require its redesign to accommodate the necessary right of way and local access to the development. Alternative C-2 results in a separation of the portion of Chaska west of the alignment (chiefly the Heights of Chaska development) from the remainder of the city including its downtown, although a grade-separated crossing would be provided at CR 140.

Changes in vehicle access are discussed in Section 5.1.2.3. At present there are no exclusively designated pedestrian or bicycling routes intersected by Alternative C-2A. Foot and bicycle traffic in the area occur on local, county and state roadways where permitted and would be retained. CSAH 10/Creek Road is planned for future conversion to a non-motorized route dedicated to pedestrian and cycling use. It would be grade-separated from the new river crossing facility.

Alternative E-1

In Scott County, it is assumed (for Alternatives E-1, E-1A and E-2) that improvements to US 169 (under a separate project) include its realignment south of its existing alignment, as well as construction of an interchange at CSAH 69. These assumed US 169 improvements would

likely require the acquisition of a portion of the 66-unit Mobile Manor mobile home park. Alternative E-1 itself would require the acquisition of any remaining portion of Mobile Manor and a portion of the Bonnevista mobile home park (25 of 200 units), affecting these largely Hispanic, low-income communities. Alternative E-1 would also affect other individual residential and business properties in Scott County.

In Carver County, Alternative E-1 would require the acquisition of a portion of the Riverview Terrace mobile home park (30 of 241 units) affecting and dividing this largely Hispanic community, and would pass directly through several businesses along Stoughton Road and existing US 212 in the cities of Chaska and Chanhassen, directly north of Riverview Terrace.

Alternative E-1 would also require acquisition of numerous parcels in residential developments either side of existing Audubon Road.

Alternative E-1 is designed to run parallel with a realigned Audubon Road in Chaska. The realigned Audubon Road will provide access to the neighborhood east of the Alternative E-1 corridor as well as to the remaining neighborhoods west of the Alternative E-1 corridor via a grade-separation at Woodridge Drive and connection/extension of Brandenburg Drive-August Drive to serve the west end of Weston Ridge. The Alternative E-1 corridor would separate the established neighborhoods east and west of Audubon Road and substantially change the existing relationships within the neighborhoods and their connectivity to the surrounding area. While access to these neighborhoods would be provided as part of the project, connection between the two neighborhoods would be more circuitous, spatial connections would be severed, and opportunities for pedestrian movement between affected neighborhoods would be fewer.

New US 212, as being constructed, will create a separation between Chaska neighborhoods along Audubon Road south of the New US 212 corridor and the complex comprising Chaska High School, Pioneer Park, and the Pioneer Ridge Freshman Center. The Alternative E-1/New US 212 system interchange would exacerbate this separation.

At present, two designated pedestrian/bicycle routes connect the neighborhoods south of New US 212 to the high school complex. One of these paths begins at Weston Ridge Parkway and leads to the football fields and main school building. This connection will be preserved (reconstructed) as part of the New US 212 project. The other trail begins at Wildflower Lane and connects the neighborhood with Pioneer Ridge Freshman Center. Construction of New TH 41 in the Alternative E-1 corridor would impact these paths.

Alternative E-1A

In Scott County, impacts for Alternative E-1A are identical to those presented for Alternative E-1 above.

In Carver County, Alternative E-1A would require the acquisition of a portion of the Riverview Terrace mobile home park (17 of 241 units) affecting and dividing this largely Hispanic, low-income community. Alternative E-1A will also require the acquisition of residences in Chaska and Chanhassen and numerous business properties.

Alternative E-1A would pass directly through several businesses located along Stoughton Road and existing US 212 in the cities of Chaska and Chanhassen directly north of the Riverview Terrace.

While New TH 41 would bridge over Stoughton Road, existing US 212 and Engler Road, it will create a visual separation between the portions of the communities of Chaska and Chanhassen east and west of the corridor.

While access will continue to be provided via a realigned Bluff Creek Road, New US 212, as being constructed, will create a spatial separation between Chanhassen neighborhoods along Bluff Creek Road south of New US 212 and the major portion of Chanhassen north of New US 212. The Alternative E-1A/New US 212 system interchange would exacerbate this separation.

Alternative E-2

In Scott County, the assumed improvements to US 169 (under a separate project) are as described under Alternative E-1, above. As noted, those assumed US 169 improvements are anticipated to require the acquisition of at least a portion of the 66-unit Mobile Manor mobile home park. Alternative E-2 itself would require the acquisition of any remaining portion of Mobile Manor and a substantial portion of Bonnevista mobile home park (85 of 200 units) affecting these largely Hispanic and low-income communities. Alternative E-2 will also require the acquisition of numerous residences and business properties.

In Carver County, impacts to community cohesion are very similar to those noted for Alternative E-1A.

5.1.2.2 Community Facilities and Services

A New TH 41 route through the communities in the project area has the potential to impact the connectivity of existing facilities and services to the population. The following section examines potential impacts on community facilities and services for both the No-Build and Build alternatives. Note that impacts to parks are addressed in Chapter 8.

No-Build Alternative

As described in Chapter 4, existing TH 41 is expected to experience 10 directional hours of congestion a day under 2040 No-Build conditions, which will impede cross-town access within the City of Chaska to community facilities, such as clinics, schools, churches and libraries. Increased traffic loads on the existing transportation network will also slow school bus travel and increase the response time of law enforcement, fire departments and emergency ambulance service. The existing TH 41 bridge is subject to periodic closure due to flooding, which hampers access and response time for emergency personnel. The periodic closure of existing TH 41 interrupts important connections between the north and south sides of the Minnesota River, affecting commuter traffic, local delivery and regional freight traffic.

Build Alternatives

All Build alternatives result in fewer hours of congestion on existing TH 41 as compared to No-Build conditions, thus improving the overall general circulation, and access to community facilities and services. In addition, since the new bridge connection will not be subject to periodic closure due to flooding, it will enable emergency responders in Carver and Scott Counties to assist each other more effectively and efficiently.

Alternative W-2 impacts a private property that is the site of the annual Renaissance Festival and is also used for similar events. The impact is toward the edge of the site.

Alternatives W-2, C-2 and C-2A have no negative impact on existing community facilities or services, except for a minor acquisition of land from a maintenance facility site in Chaska.

Alternative E-1 would require acquisition of a church (Discovery United Methodist Church, Chaska) and church-residence and partial acquisition of school property. Alternative E-1 would require re-configuration of local roadways and pedestrian paths near the Chaska High School campus, creating slightly longer trips and more circuitous routes from residential areas to the school.

Alternative E-1A would require partial acquisition of school property.

Alternative E-2 would require acquisition of a cemetery (St. John's, Stoughton Road, Chaska) and partial acquisition of school property.

Both Alternatives E-1A and E-2 would require re-configuration of local roadways and pedestrian paths through the residential neighborhoods in Chaska and Chanhassen through which it passes.

5.1.2.3 Travel Patterns & Access

Transportation impacts of the No-Build alternative are described in Chapter 2. Transportation impacts of Build alternatives are described in Chapter 4. This section describes these impacts from the socio-economic perspective.

No-Build Alternative

The No-Build alternative would result in no direct impacts to access as existing routes would remain in place. Negative impacts from the No-Build alternative would result from congestion on existing TH 41 and Highway 101, as described in Chapter 2.

Build Alternatives

The proposed project is a limited access freeway connection between US 169 and New US 212 with grade separated interchanges at each end and no other proposed points of access. Each of the Build alternatives would impact the continuity of the local road network resulting in minor impacts on ease of access to community facilities for residents. Overall regional

connectivity would be enhanced by each of the six Build alternatives and Existing TH 41 would remain to carry local traffic. Access impacts are summarized in Table 5-4. For all alternatives, any affected access would be restored as part of the project. The discussion below is focused on implications of the project for design of US 169 and local roadway improvements in Scott County, and for realignment of New US 212-related improvements and local roadways in Carver County.

Alternative W-2

In Scott County, Alternative W-2 has no specific effect on the design of US 169 or local roadway improvements.

In Carver County, Alternative W-2 would require a new realignment of existing US 212 (which is being realigned as part of the New US 212 project). Alternative W-2 would also require the extension of Mt. Hope Road to connect to realigned existing US 212.

Alternative C-2

In Scott County, Alternative C-2 affects the future design of the US 169/existing TH 41 interchange and the US 169/CSAH 69 interchange. Potential concepts for those improvements are shown in Figure 3-7 in Chapter 3. Alternative C-2 would require the realignment of existing TH 41/CSAH 78 to the west.

In Carver County, Alternative C-2 requires the reconstruction of local ramps at the New US 212/CSAH 11 interchange.

Alternative C-2A

In Scott County, Alternative C-2A has very similar effects on design of future roadway improvements as Alternative C-2, discussed above.

In Carver County, Alternative C-2A does not require roadway realignment.

Alternative E-1

In Scott County, Alternative E-1 affects US 169/existing TH 41 and US 169/ CSAH 69 interchange designs; the effect on local roads design will depend on whether the assumed realignment of US 169 occurs.

In Carver County, there would be numerous local roadway alterations (realignments, grade-separations, roadway extensions) needed in order to restore access to affected properties. These include:

- the realignment of Audubon Road east of its existing alignment,
- new connections from realigned Audubon Road to Falls Curve, Wenz Avenue, Bluff Point Drive, Trumble Street, and Hazeltine Bluff Boulevard,

TABLE 5-4
ACCESS IMPACTS

	Alternative					
	W-2	**C-2**	**C-2A**	**E-1**	**E-1A**	**E-2**
Local Access to New TH 41 – Scott County	Via US 169 from US 169/CSAH 14 inter-change (2 mile west) and US 169/ existing TH 41 interchange (½ mile east)	At combined system/ local interchange (existing TH 41/ CSAH 78)	At combined system/ local interchange (existing TH 41/ CSAH 78)	At combined system/ local interchange (CSAH 69)	At combined system/ local interchange (CSAH 69)	At combined system/ local interchange (CSAH 69)
Local Access to New TH 41 – Carver County	At combined system/ local interchange (CSAH 11)	At combined system/ local interchange (CSAH 11)	Via New US 212 from US 212/ CSAH 11 interchange (1½ mile west) and US 212/ existing TH 41 interchange (1 mile east)	Via New US 212 from US 212/existing TH 41 interchange (½ mile west) and US 212/ Powers Boulevard interchange (1½ mile east)	Via New US 212 from US 212/ existing TH 41 interchange (1½ mile west) and US 212/ Powers Boulevard interchange (1 mile east)	Via New US 212 from US 212/ existing TH 41 interchange (1½ mile west) and US 212/ Powers Boulevard interchange (1 mile east)
Effect on design of US 169 and other local roadway improvements – Scott County	None	Existing TH 41/ CSAH 78 realigned; affects US 169/ existing TH 41 and US 169/CSAH 69 interchange design	Existing TH 41/ CSAH 78 realigned; affects US 169/ existing TH 41 and US 169/CSAH 69 interchange design	Affects US 169/existing TH 41 and US 169/ CSAH 69 inter-change design; effect on local roads depends on US 169 realignment decision	Affects US 169/ existing TH 41 and US 169/CSAH 69 interchange design; effect on local roads depends on US 169 realignment decision	Affects US 169/ existing TH 41 and US 169/CSAH 69 interchange design; effect on local roads depends on US 169 realignment decision
Required changes to other roadways – Carver County	Existing US 212 realigned; Mt. Hope Road extended	Rebuild US 212 local ramps rebuilt	None	Audubon realigned; new road to serve Weston Ridge Parkway area; Bluff Point realigned to serve Howard Lane area; overpass at Woodridge Drive to connect to realigned Audubon	None	None

- an overpass at Bluff Point Drive connecting the neighborhoods west and east of the corridor,
- extension of a roadway south from Bluff Point Drive to provide access to Howard Lane and Mabel Court,
- extension of a roadway north from Bluff Point Drive to provide access to Weston Ridge Parkway, including a grade-separation of the existing trail.

Alternative E-1A

In Scott County, Alternatives E-1A is identical to Alternative E-1.

In Carver County, Alternative E-1A requires no changes to other roadways.

Alternative E-2

In Scott County, Alternative E-2 has very similar implications for access as Alternatives E-1 and E-1A.

In Carver County, Alternative E-2 requires no changes to other roadways.

5.1.2.4 Environmental Justice

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations", issued in February 1994, requires that the evaluation of environmental justice be addressed (to the greatest extent practicable and permitted by law) in all federal planning and programming activities. The purpose of Executive Order 12898 is to identify, address and avoid disproportionately high and adverse human health or environmental effects of programs, policies and activities on minority and low-income populations. The proposed project has federal permit requirements and will receive federal funding. As such, it is considered a federal project for the purpose of compliance to this Executive Order.

Executive Order 12898 requires that the proposed actions be reviewed to determine if there are 'disproportionately' high or adverse impacts on these populations. 'Disproportionate' is defined in two ways: the impact is 'predominantly borne' by the minority or low-income population group, or the impact is 'more severe' than that experienced by non-minority or non-low income populations. The steps for defining environmental justice impacts includes the following:

1. Identification of the location of low-income population and/or minority population in the project area;

2. Identification of the impacts of the project upon the identified low-income population and/or minority population; and

3. Determination of whether or not the impacts are disproportionately high or adverse.

Modest changes in the population of low-income or minority persons in the affected area can be anticipated beyond the date of publication of this DEIS and the date of the data collected. New data will be collected and reevaluated as part of the Tier II EIS in order to determine impacts to these populations at that time.

Identification of the location of Low-Income or Minority Populations

The first step in the environmental justice determination process is to determine whether any minority and/or low-income persons are present within the study area. For the purposes of environmental justice, a low-income population or minority population is defined as a population of people or households located in close geographic proximity meeting the racial or income criteria set forth in Executive Order 12898.

Information on population characteristics of the study area was obtained primarily from Census 2000 data and discussions with local staff. Table 5-5 presents income and minority data by Census block group. See Figure 5-2 for Census tract, block group and block boundaries.

Minority Populations

Because data concerning racial/ethnic composition are recorded at the Census block level, it is possible to provide further detail regarding minority populations that have been identified in several sites throughout the study area.

Hispanics comprise just over six percent of the study area's total population. They comprise 40 to 80 percent of the population in selected Census blocks in the study area. The largest concentrations of Hispanics coincide with the Census blocks that contain the four mobile home parks in the study area. See Figure 5-3. Table 5-6 illustrates the composition of the Census blocks with the highest minority population concentrations in the study area; these blocks are organized by the mobile home parks that comprise them.

Low-Income

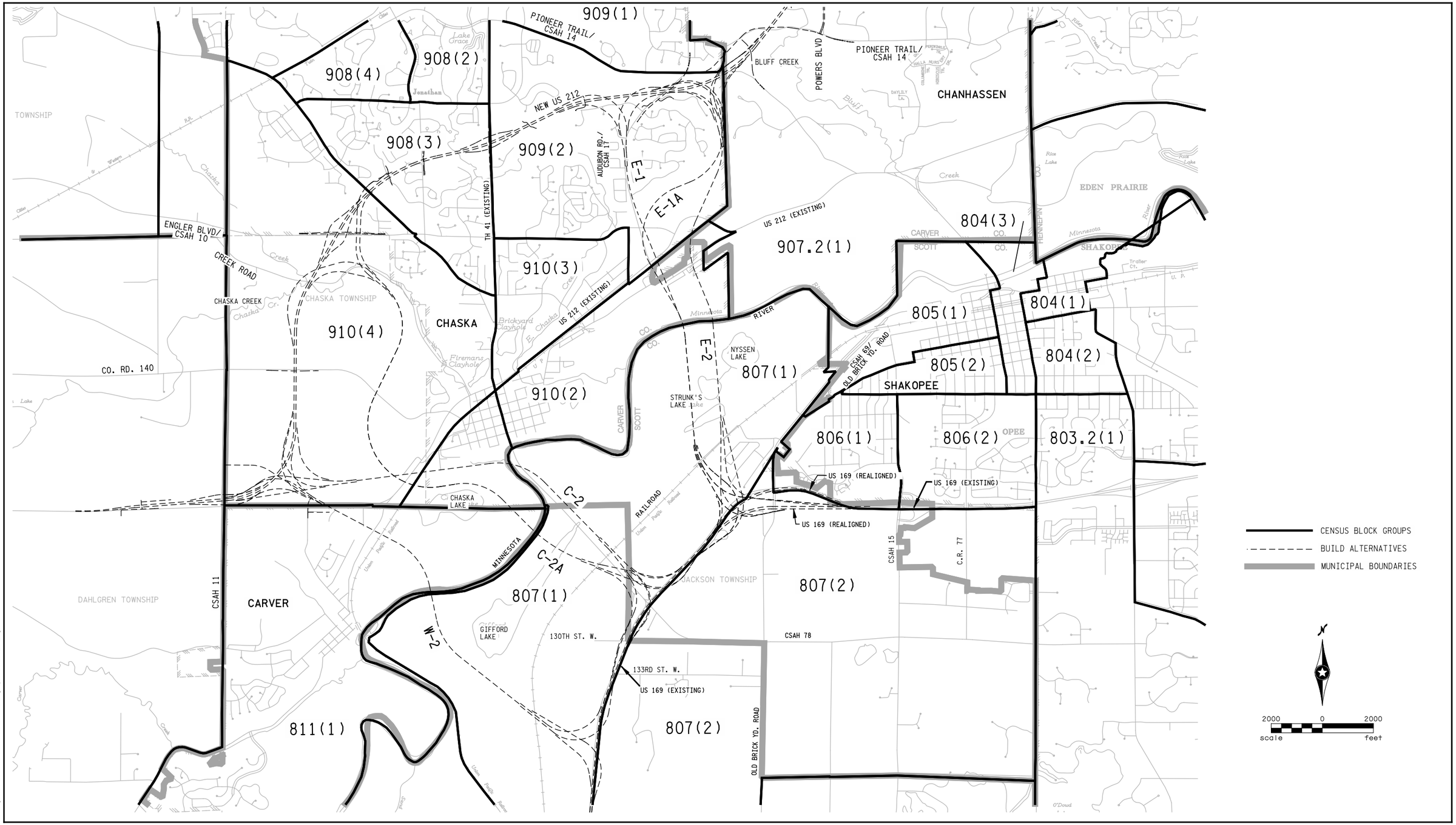
As shown in Table 5-5, Census Blocks Groups containing low-income populations have been identified in several locations throughout the study area, predominantly the older portions of the City of Chaska, the northern portions of Jackson Township and Louisville Township and northwestern areas of the City of Shakopee. The median household income in eight of the nine Census Block Groups (BGs) affected by one or more of the Build alternatives is lower than the median household income for both Scott County or Carver County. All of the Build alternatives pass through Census block groups where median household incomes are below state and metropolitan area levels.

In Scott County, the median household income for the BG in which Mobile Manor is located (807[2]) is $66,806 (note that this block group also covers other residential areas); the median household income for the BG in which Bonnevista and Jackson Heights are located (807[1]) is $40,625. This compares to the median household income for Scott County of $72,212. The percentage of persons with incomes below the poverty level is 14 percent in BG 807(1) and 8 percent in BG 807(2), compared to 3 percent in Scott County.

TABLE 5-5
LOW-INCOME[1] AND MINORITY CHARACTERISTICS, 2000

Tract (Block Group)	Total Population	Total Low-Income Population	Percent Low-Income Population	Total Minority Population	Percent Minority	Total Hispanic	Percent Hispanic	Affected by Alternative(s):
Carver County	70,205	2,391	3	2,844	4	1,791	3	
Scott County	89,498	2,979	3	5,685	6	2,381	3	
907.01(1)	5,784	78	1	407	**7**	195	3	
907.02(1)	1,268	20	2	38	3	16	1	
908 (2)	2,089	150	**7**	122	6	76	4	
908 (3)	3,124	37	1	110	4	48	2	C-2A
908 (4)	1,242	18	1	59	5	24	2	
909 (1)	1,158	18	2	58	5	3	0	
909 (2)	3,921	210	**5**	154	4	88	2	E-1, E-1A, E-2
910 (1)	598	36	**6**	24	4	7	1	C-2, C-2A
910 (2)	2,131	215	**10**	312	**15**	570	**27**	E-1, C-1A, E-2
910 (3)	1,886	104	**6**	213	**11**	164	**9**	E-1, C-1A, E-2
910 (4)	985	31	3	39	4	27	3	W-2, C-2, C-2A
911 (1)	1,896	24	1	41	2	25	1	W-2
911 (2)	1,711	42	2	19	1	8	0	
803.02 (1)	3,520	96	3	174	5	52	1	
804 (1)	605	16	3	67	**11**	90	**15**	
804 (2)	2,431	162	**7**	375	**15**	301	**12**	
804 (3)	874	6	1	65	**7**	70	**8**	
805 (1)	790	73	**9**	48	6	59	**7**	
805 (2)	1,589	158	**10**	198	**12**	72	5	
806 (1)	2,268	58	3	140	6	71	3	
806 (2)	2,014	21	1	188	**9**	49	2	
807 (1)	839	117	**14**	265	**32**	335	**40**	W-2, C-2, C-2A, E-1, E-1A, E-2
807 (2)	1,126	89	**8**	86	**8**	128	**11**	W-2, C-2, C-2A, E-1, E-2A, E-2
808 (1)	2,476	81	3	72	3	41	2	

Source: U. S. Census, 2000
[1] With 1999 incomes below the poverty level.
Note: Percent in **bold** is higher than percent in the highest study area county.



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CENSUS TRACTS AND BLOCK GROUPS

Figure 5-2

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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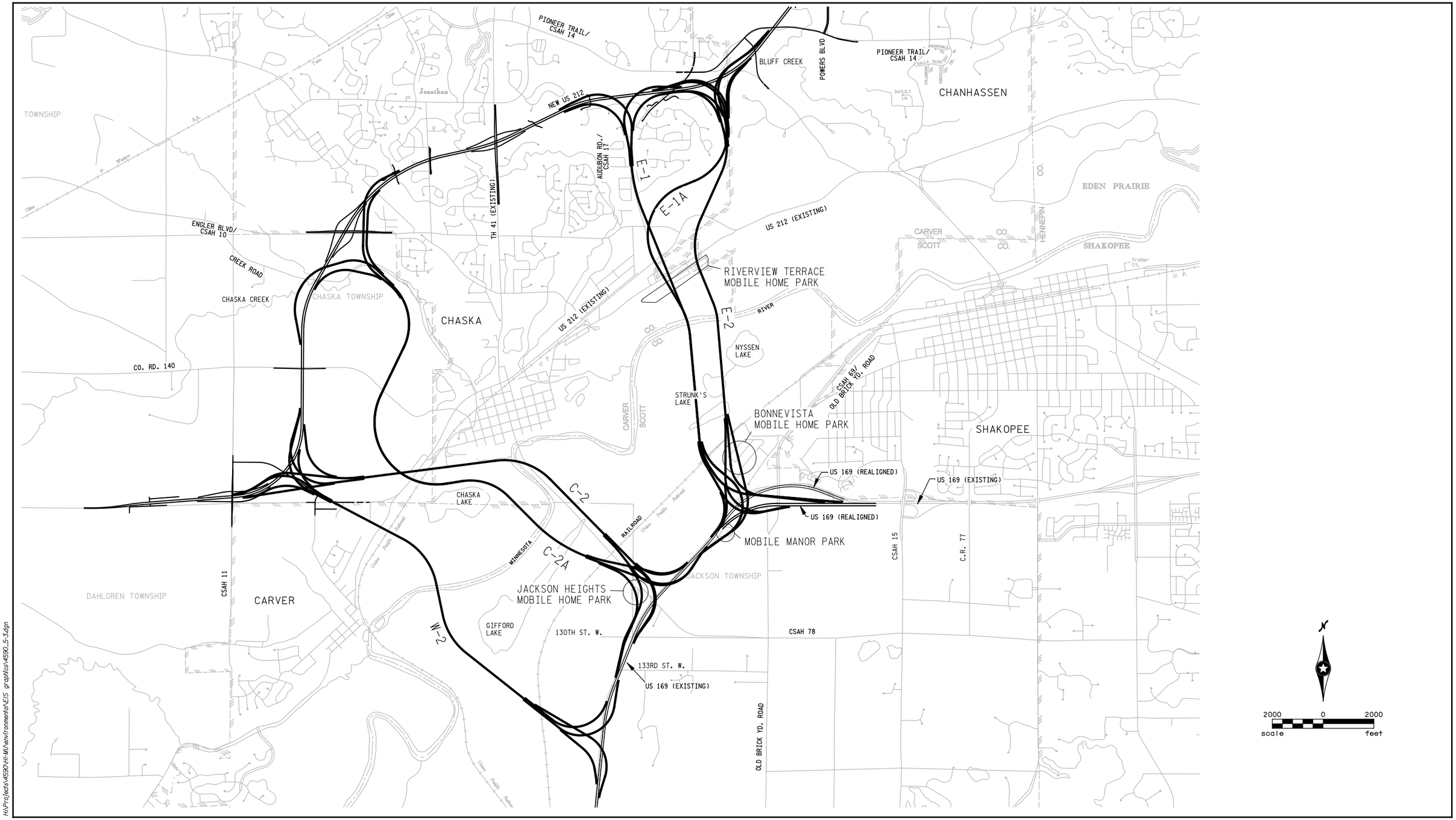

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MOBILE HOME PARKS

Figure 5-3

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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TABLE 5-6
ETHNIC COMPOSITION, BY CENSUS BLOCK, 2000
CENSUS BLOCKS WITHIN AFFECTED MOBILE HOME PARKS

Census Block	Total Population	Total White	Percent White	Total Hispanic	Percent Hispanic	Total Households
Mobile Manor (Scott County)						
807.2003	247	191	77	118	48	75
Jackson Heights (Scott County)						
908.1012	197	47	24	165	84	43
908.1014	25	25	100	16	64	5
908.1015	84	39	46	73	87	20
Bonnevista (Scott County)						
908.1005	346	310	90	40	12	139
908.1006	93	78	84	19	20	39
908.1004	72	54	75	22	31	29
Riverview Terrace (Carver County)						
910.2002	433	356	82	185	43	120
910.2011	127	75	59	86	68	31
910.2010	65	54	83	38	58	18
910.2009	31	25	81	23	74	10
910.2012	8	8	100	4	50	3
910.2013	131	99	76	67	51	36
910.2003	54	51	94	25	46	12
910.2004	37	25	68	25	68	11
910.2005	32	28	88	20	62	7

Source: U.S. Census (2000)

In Carver County, the median household income for the BG in which Riverview Terrace is located (910[2]) is $34,306 compared to the median household income for Carver County of $75,577. The percentage of persons with incomes below the poverty level is 10 percent in BG 910(2), compared to 3 percent in Carver County.

Impacts of Alternatives on Low-Income or Minority Populations

Issues that were considered when evaluating the potential for environmental justice impacts included social impacts, right of way, visual quality and noise.

Outreach efforts were made during the preparation of this DEIS to contact and engage the public with particular attention given to reaching minority and low-income communities. General open houses were held April 10, 2003, May 20, 2004, December 7, 2005, March 16, 2006 and June 21, 2006. Four open houses designed and advertised specifically for the residents of the mobile home communities were held on January 23, January 24, and July 19, 2006, (two on the same day) in the Riverview Terrace Community Room, Chaska (January 23 and July 19,2006) and the Scott County Government Center in Shakopee (January 26 and July 19, 2006). A Spanish translator was provided. Comments made and issues raised by attending these open houses focused chiefly on impacts of alternatives, project schedule, process for making decisions, and details of the acquisition and relocation process. More information on all public outreach efforts for the project is provided in Chapter 15.

Alternative W-2

Alternative W-2 has no direct impacts on minority or low-income populations since it does not pass through areas containing concentrations of minority or low-income populations. Alternative W-2 is too distant from the closest identified concentration of minority or low-income populations (Jackson Heights) to result in noise impacts to that population. Alternative W-2 would be visible from the Jackson Heights mobile home park.

Alternative C-2

Alternative C-2 would directly impact identified minority and low-income populations, specifically, requiring the removal of a portion of Jackson Heights (12 of 64 units) in Jackson Township. The population of this mobile home park is over 60 percent Hispanic and falls within Census block groups that exhibit the highest levels of poverty and lowest median household income in the study area.

2040 Build daytime noise levels (L_{10}—see definitions in Section 6.2.1.1 and additional detail in Section 6.2.2.1) at Jackson Heights would not exceed state or federal standards. Jackson Heights would be affected by construction noise.

Alternative C-2 would be visible from Jackson Heights and Mobile Manor.

Alternative C-2A

Alternative C-2A would directly impact identified minority and low-income populations, specifically, requiring the removal of a portion of Jackson Heights (24 of 64 units) in Jackson Township. The population of this mobile home park is over 60 percent Hispanic and falls within Census block groups that exhibit the highest levels of poverty and lowest median household income in the study area.

2040 Build daytime noise levels at Jackson Heights would exceed state standards by 3 decibels; they would not exceed federal standards. Jackson Heights would also be affected by construction noise.

Alternative C-2A would be visible from Jackson Heights Mobile Manor.

Alternative E-1

Alternative E-1 would directly impact identified minority and low-income populations. As previously noted, it is assumed (for Alternatives E-1, E-1A and E-2) that improvements to US 169 (under a separate project) include its realignment south of its existing alignment and construction of an interchange at CSAH 69. These assumed US 169 improvements would likely require the acquisition of a portion of the Mobile Manor mobile home park. Alternative E-1 would require removal of any remaining portion of Mobile Manor and portions of Bonnevista and the Riverview Terrace mobile home parks, a total of up to 121 units.

2040 daytime Build noise levels at Bonnevista would not exceed state or federal standards; levels at Riverview Terrace would exceed state but not federal levels. Bonnevista and Riverview Terrace would be affected by construction noise.

Alternative E-1 would have a major visual impact on the remaining residents of Bonnevista and Riverview Terrace mobile home parks. As discussed in Section 5.1.2.1, the right of way impacts on these communities affect community cohesion by removing a substantial number of units.

Alignment E-1A

Alternative E-1A would directly impact identified minority and low-income populations requiring the removal of any remaining portion of the Mobile Manor, and portions of the Bonnevista and Riverview Terrace mobile home parks, a total of up to 113 units.

2040 Build daytime noise levels at Bonnevista would not exceed state or federal standards; levels at Riverview Terrace would exceed both state and federal standards. Bonnevista and Riverview Terrace would be affected by construction noise.

Alternative E-1A would have a major visual impact on the remaining residents of Bonnevista and Riverview Terrace mobile home parks, and would impact the community cohesion of these communities by removing a substantial number of units.

Alignment E-2

Alternative E-2 would directly impact identified minority and low-income populations requiring the removal of any remaining portion of the Mobile Manor, substantial portions of the Bonnevista and Riverview Terrace mobile home parks, a total of up to 186 units.

2040 Build daytime noise levels at Riverview Terrace would exceed state and federal standards. The receptor representing Bonnevista would be eliminated if Alternative E-2 was constructed and was therefore not modeled; however it is reasonable to assume that any remaining portion of Bonnevista would experience high noise impacts similar to those reported for Alternative E-1A. Bonnevista and Riverview Terrace would be affected by construction noise.

Alternative E2 would have a major visual impact on the remaining residents of Bonnevista and Riverview Terrace mobile home parks, and would impact the community cohesion of these communities by removing a substantial number of units.

Mitigation of Impacts

Mitigation will be addressed in the Tier II EIS process. Right of way impacts would be mitigated in conformance with the Uniform Relocation and Real Property Acquisition Act of 1970, as amended by the Surface Transportation and Uniform Relocation Assistance Act of 1989 and 49 Code of Federal Regulations, Part 24, as described in Section 5.2.3. Mitigation for noise impacts could include consideration of use of noise barriers or other sound attenuation methods and/or incorporation of land use controls to limit the number of noise-sensitive receptors located adjacent to or in the vicinity of the preferred Build highway corridor, as described in Chapter 6, Section 6.4.3. Construction noise would be mitigated by adherence as is practicable to local noise ordinances. Mitigation for visual impacts would consider aesthetic design treatments, design elements, and vegetation measures as described in Chapter 6, Section 6.5.4. The identification of a preferred alternative corridor several years in advance of the project implementation will enable local communities to take into consideration the future reduction of affordable housing units due to the proposed project when those communities are planning for their long-term affordable housing needs.

Determination of High or Disproportionate Impacts

Noise impacts to low-income/minority populations are high where they occur for any of the five Build alternatives that affect mobile home areas (Alternatives C-2, C-2A, E-1, E-1A, and E-2) in that they exceed state and, in some cases, federal standards. Noise impacts for

Alternative E-1, E-1A and E-2 are disproportionate because, while similar high impacts accrue to residential receptors in areas with populations that are not low-income or minority, noise impacts to mobile home areas are either higher or accrue to more residences.

Visual impacts are not disproportionate to low-income/minority populations because similar impacts accrue to viewers (neighbors and travelers) that are not low-income or minority.

Table 5-7 presents the number of units that would be acquired in each affected low-income minority neighborhood (mobile home park) for each Build alternative, compared to the total number of residential acquisitions.

TABLE 5-7
MOBILE HOME COMMUNITY (ENVIRONMENTAL JUSTICE) ACQUISITIONS

	Alternatives					
	W-2	**C-2**	**C-2A**	**E-1**	**E-1A**	**E-2**
Total Residential Acquisitions (1)	13	29	78	261	136	210
Low Income/Minority Neighborhoods						
• Jackson Heights (of 64)	0	18	38	0	0	0
• Mobile Manor (of 66) (2)	0	0	0	66	66	66
• Bonnevista (of 200)	0	0	0	30	30	85
• Riverview Terrace (of 240)	0	0	0	30	17	31
Total within low-income/minority neighborhoods	0	18	38	126	113	182
Percent of Total Acquisitions	0%	62%	48%	48%	83%	87%

(1) Includes mobile home units plus other residential parcels with structures.
(2) Note that the number of units acquired from Mobile Manor by the proposed project will likely be lower than shown, since the assumed realignment of TH 169 would likely acquire a portion of this mobile home park prior to implementation of the proposed project.

The discussion below is focused on the social and right of way impacts for Alternatives C-2/C-2A, and E-1, E-1A/E-2. (Alternative W-2 does not affect any mobile home communities.)

Alternatives C-2/C-2A

Social and right of way impacts for Alternatives C-2 and C-2A are disproportionate for low-income minority populations because each requires removal of substantial portions of an entire neighborhood (Jackson Heights) (18 and 38 of 64 units, respectively); impacts of this scale do not accrue to populations that are not low income of minority. The impact to Jackson Heights compares to a total residential unit acquisition of 29 (Alternative C-2) and 78 (Alternative C-2A).

Alternative E-1

The social and neighborhood impacts to mobile home communities that result from Alternative E-1 also accrue to populations that are not low-income or minority. Alternative E-1 divides and removes 141 units from neighborhoods that are not mobile home communities. Despite these impacts, however, the impacts to low-income/minority populations

are still disproportionate because the proportion of impact is higher than the proportion of population. The 126-unit-impact to Mobile Manor, Bonnevista and Riverview Terrace compares to a total residential unit acquisition of 261 for Alternative E-1.

Alternative E-1A/E-2

Social and neighborhood impacts for Alternatives E-1A and E-2 are disproportionate for low income/minority populations because each requires removal of an entire low income/minority neighborhood (Mobile Manor) and a substantial portion of two other low income/minority neighborhoods (Bonnevista and Riverview Terrace); impacts of this scale do not accrue to populations that are not low income or minority. The respective 113-unit (Alternative E-1A) and 182-unit (Alternative E-2) impacts to Mobile Manor, Bonnevista and Riverview Terrace compares to total residential unit acquisitions of 136 (Alternative E-1A) and 210 (Alternative E-2).

Environmental Justice Finding

Based on the available data, low-income and minority populations are located in several portions of the corridor. Noise impacts may be high but not disproportionate and may be able to be mitigated. Social and right of way impacts are disproportionate to low-income/minority communities for Alternatives C-2, C-2A, E-1, E-1A and E-2.

5.1.3 Mitigation of Social and Community Impacts

Impacts to community cohesion, traffic patterns and access, community facilities and services are mitigated by overall improved regional accessibility and alleviation of congestion affecting quality of life, particularly in downtown Chaska. The improved regional accessibility and alleviation of congestion will also be a benefit to low-income and minority populations in the area in terms of access to job opportunities, goods and services, and therefore, provides mitigation for the environmental justice impacts of the proposed project. In addition, those impacts are mitigated in the environmental justice section above.

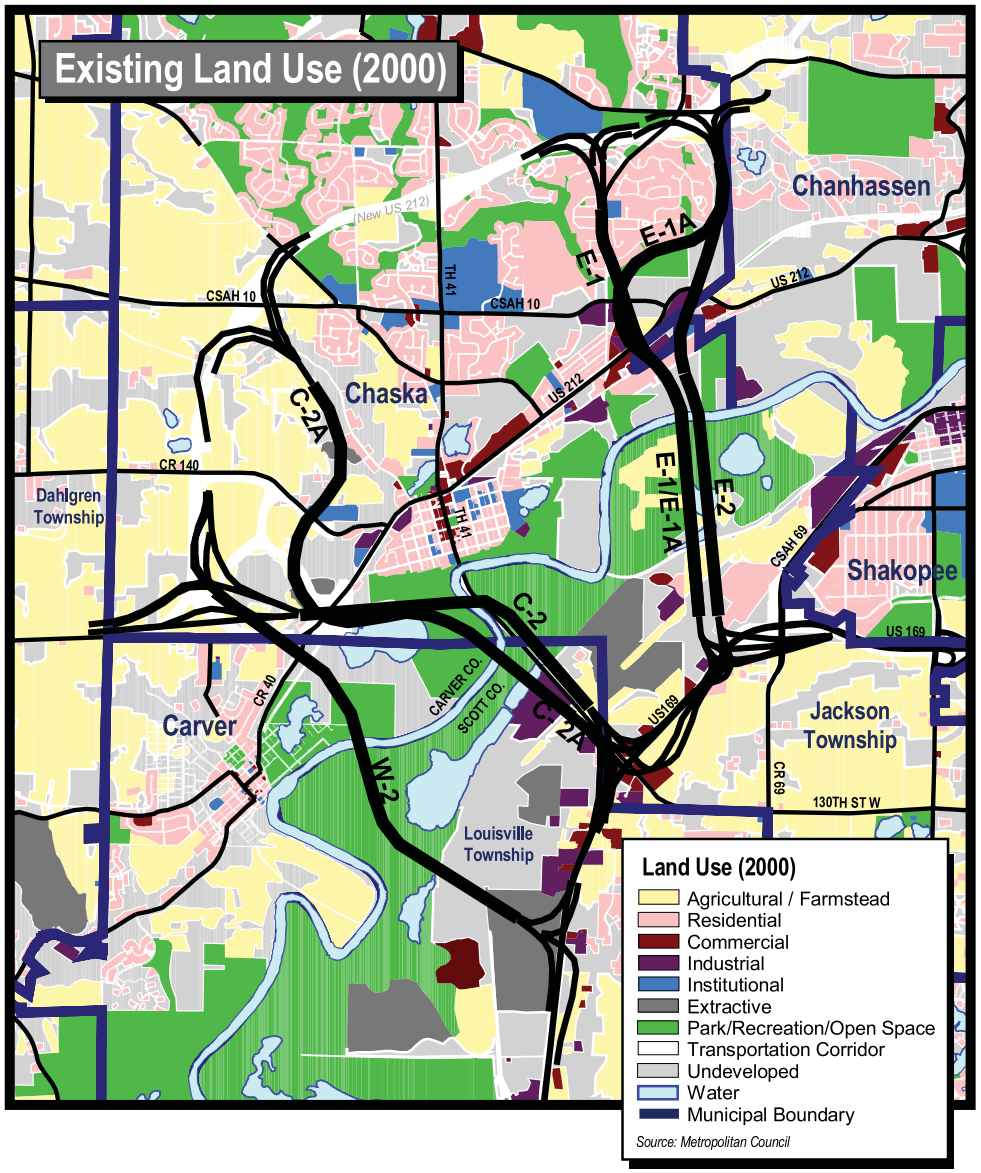
5.2 LAND USE

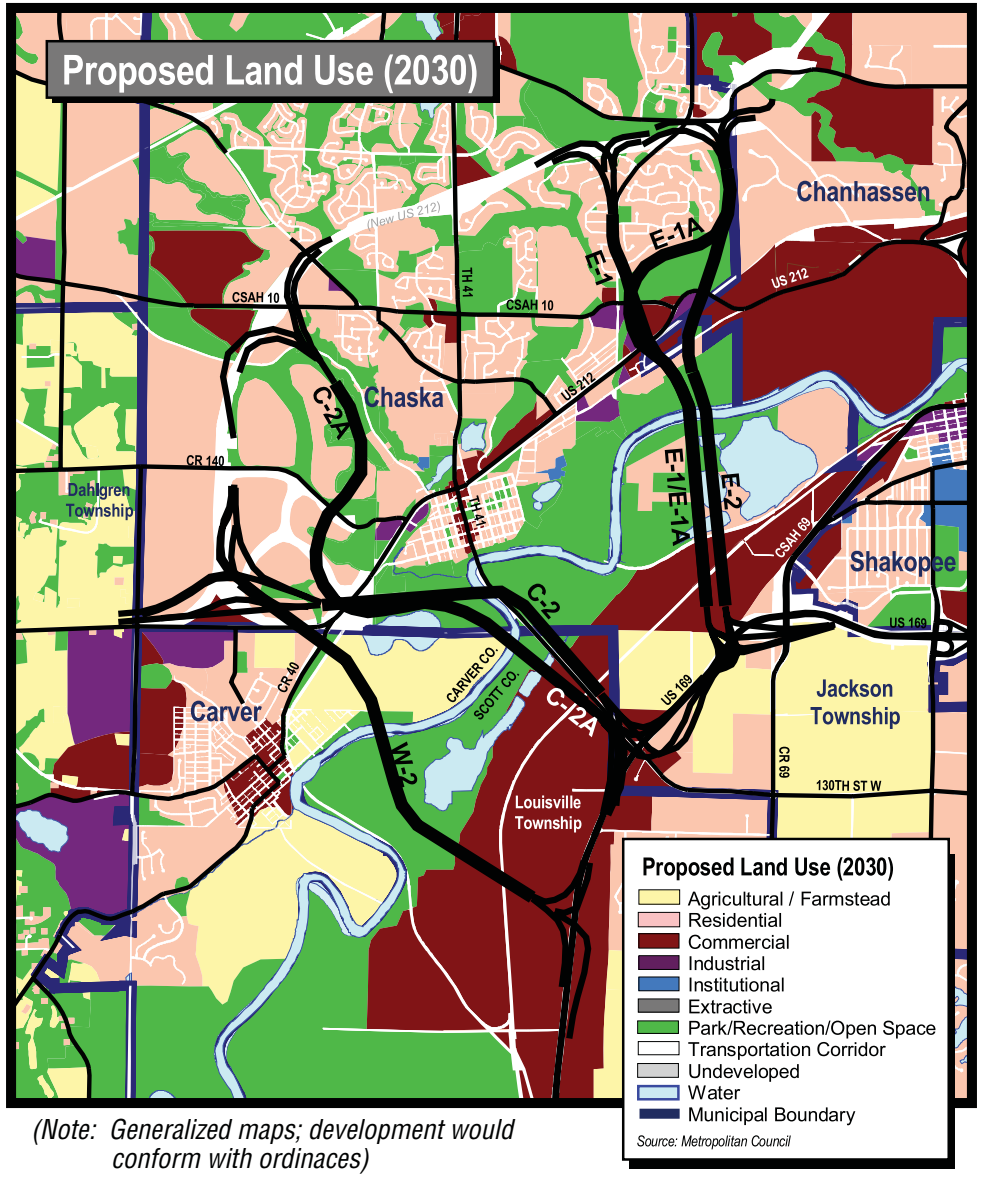
5.2.1 Affected Environment

5.2.1.1 Existing Land Use

The study area encompasses a total of 24,836 acres (38.8 square miles) in an arc of land along the Minnesota River in northcentral Scott County and southeastern Carver County, Minnesota. The study area incorporates portions of the cities of Chanhassen, Chaska, Carver and Shakopee as well as areas of the unincorporated townships of Dahlgren, Louisville and Jackson. The study area is shown in Figure 1-1. Figure 5-4 depicts existing (2000) and proposed (2030) land use.

Table 5-8 shows existing land use in the study area, as well as projected land uses to 2030. (Note: Land use projections for the study year 2040 are not available. Travel forecasts are based on available 2040 population and employment data.) The most prevalent existing land uses include undeveloped land (primarily forested, non-agricultural lands), agriculture, park/recreational/preserve areas, and residential. Substantial changes to existing land use patterns are anticipated over the next 30 years. The biggest changes are expected to be the expansion of residential and commercial land and loss of farmland.





(Note: Generalized maps; development would conform with ordinaces)

EXISTING AND PROPOSED LAND USE: 2000 AND 2030

Figure 5-4

TH 41 MINNESOTA RIVER CROSSING
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TABLE 5-8
EXISTING (2000) AND PLANNED (2030) LAND USES

Land Use	Existing Land Use[(1)(3)] (Acres)	Planned Land Use, 2030[(2)(3)] (Acres)	% Change
Undeveloped Land	6,222	166	*(-97)*
Agriculture	5,901	1,734	*(-71)*
Park/Open Space	4,209	4,672	11
Residential	3,571	6,131	72
Industrial/Utility	671	1,517	126
Commercial	635	5,696	797
Other	3,625	4,919	36
Total[(4)]	**24,834**	**24,835**	**---**

Source: Extracted from Metropolitan Council approved datasets.
(1) Metropolitan Council Existing Land Use (2000) GIS Dataset
(2) Metropolitan Council Proposed/Planned Land Use (2030) GIS Dataset
(3) Category definitions differ between 2000 data and 2030 projections. Data has been aggregated into uniform categories for clarity.
(4) Difference in totals due to rounding.

5.2.1.2 Planned and Anticipated Land Uses

Extensive amounts of residential and commercial development are planned within and adjacent to the study area in the coming decades. In Scott County, the City of Shakopee's *Comprehensive Plan Update* (as of January 2004 revisions) indicates that over 9,000 acres are designated for future urban expansion and commercial/industrial use along existing US 169 between CSAH 69 and the Louisville Township border. The City of Shakopee is in the process of conducting a land use study. The City's study will be informed by the New TH 41 planning process. Likewise, relevant information from the City's study will be incorporated in future environmental documentation for the New TH 41 project, as appropriate.

In Carver County, the largest planned residential development is the proposed 1,000-acre "Heights of Chaska." This site has been identified by the Metropolitan Council as a "Smart Growth Opportunity Site." Key factors of a Smart Growth Opportunity Site include a cohesive mix of residential, employment, commercial and civic uses, a range of residential densities, a street layout to organize commercially and residentially focused areas, accommodation of pedestrian and bicycle trail systems, management of storm water, consideration of aesthetics and the preservation of existing natural and cultural amenities. Residential development (Carver Commons and Spring Creek) is pending in the City of Carver in the immediate vicinity of existing US 212/New US 212/CSAH 11 interchange. Commercial/industrial use is also provided in this area. The area is currently agricultural.

5.2.2 Environmental Consequences

5.2.2.1 No-Build Alternative

The study area is anticipated to experience continual population growth and subsequent residential and commercial expansion in the coming decades. The No-Build alternative would not change the existing land use patterns, in that, areas planned for development would result in no changes to existing or planned land use. Growth may occur more slowly under No-Build conditions than Build conditions as roadway capacity would remain at present levels.

5.2.2.2 Build Alternatives

5.2.2.2.1 *Land Use Patterns and Plans*

Each of the alternatives will convert land from its existing/planned use to highway right of way. Land conversion by type is summarized in Table 5-9. Right of way acquisition is addressed in Section 5.2.2.2.2. Impacts to farmland are addressed in Chapter 6. Impacts to parks and recreational land are addressed in Chapter 8. Indirect impacts to land use are addressed in Chapter 12.

TABLE 5-9
ACRES OF LAND TO BE CONVERTED TO HIGHWAY RIGHT OF WAY

Land use	Alternatives					
	W-2	**C-2**	**C-2A**	**E-1**	**E-1A**	**E-2**
Residential	10	29	58	142	78	86
Commercial	17	53	48	4	9	5
Industrial	41	0	1	5	5	3
Public	54	46	62	69	96	73
Agriculture	132	190	127	29	26	25
Other	5	2	5	5	1	2
Total	**258**	**320**	**301**	**360**	**214**	**194**

5.2.2.2.2 Right of Way Acquisition and Relocation

Each of the Build alternatives would require acquisition of property for right of way. While it is premature to determine in detail the extent of acquisition required for each affected property in each corridor, estimates displayed in Table 5-10 were developed based on an assumed corridor width, based on limits shown in Figures 3-6 through 3-11. Methodology for estimating right of way impacts including costs, is documented in the *TH 41 River Crossing EIS: Technical Memorandum on Travel Demand Forecasting, Volume II: Technical Memoranda.*

TABLE 5-10
RIGHT OF WAY IMPACTS

	Alternatives					
	W-2	**C-2**	**C-2A**	**E-1**	**E-1A**	**E-2**
Total Affected Parcels	44	59	133	203	84	81
Parcels requiring total acquisition	16	31	81	124	37	39
Parcels requiring partial acquisition	28	28	52	79	47	42
Affected Parcels by Type						
Residential	7[6]	12	66	138	29	34
Mobile home[1]	0	3	3	6	6	8
Commercial	6	15	15	3	9	3
Industrial	1	0	1	3	4	2
Agricultural	17[6]	15	17	10	10	9
Public[2]	9	11	16	39	25	24
Undeveloped	2	0	10	0	0	0
Other[3]	2	3	5	4	1	1
Parcels with Structures						
Residential	6	11	40	135	23	28
Mobile Home[4]	0	18	38	126	113	182
Commercial	4	9	10	3	8	3
Industrial	1	0	0	1	1	2
Agricultural	5	10	9	5	4	5
Public	0	1	1	4	0	3
Other	0	0	0	2	0	0
Total Structures	16	49	98	276	149	223
Cost Range [5]	$55-80 M	$75-105M	$65-90M	$100-136M	$55-75M	$60-80M

(1) Represents tax parcels, not mobile home units.
(2) Includes recreational, civic, utilities uses.
(3) Includes railroad, exempt miscellaneous.
(4) Note that the number of mobile home units acquired for Alternatives E-1, E-1A and E-2 would likely be somewhat lower than shown, since the assumed realignment of TH 169 would likely acquire a portion of one mobile home park.
(5) Acquisition costs used values based on projected changes in land use (i.e. some agricultural/public lands were priced based on their projected value as a residential property). The high end of the cost ranges are based on Mn/DOT risk assessment.
(6) Agricultural parcels include seven properties that will be classified as residential before the anticipated build-year.

5.2.3 Mitigation

Mitigation of impacts on farmland and on parks and recreation areas is addressed in Chapters 6 and 8, respectively. Mitigation of indirect impacts on land use is addressed in Chapter 12.

Regarding right of way impacts, if one of the Build alternatives is chosen as the preferred alternative, all right of way acquisition and relocation would be in conformance with the Uniform Relocation and Real Property Acquisition Act of 1970, as amended by the Surface Transportation and Uniform Relocation Assistance Act of 1989 and 49 Code of Federal Regulations, Part 24. Two booklets entitled *Relocation: Your Rights and Benefits* and the *Guidebook for Property Owners* have been produced by Mn/DOT to provide information to property owners and persons to be displaced on their rights and benefits under the Uniform Act, including the Relocation Assistance Program. These documents are available from the Mn/DOT Office of Land Management.

5.3 ECONOMIC AND FISCAL IMPACTS

5.3.1 Affected Environment

Employment

Table 5-11 presents existing (2000) and projected (2040) employment for the cities and counties in the study area.

TABLE 5-11
EMPLOYMENT – 2000 AND 2040
COUNTIES AND CITIES IN THE STUDY AREA

Location	2000 Employment	Projected 2040 Employment	Employment Change 2000-2040
Carver County	**26,657**	**63,650**	**36,993**
Scott County	**32,009**	**75,006**	**42,997**
City of Chaska	10,185	20,400	10,215
City of Chanhassen	7,571	17,860	10,289
City of Carver	156	2,325	2,169
City of Shakopee	12,476	30,149	17,673
Totals[(1)]	**30,388**	**70,734**	**40,346**

Source: Metropolitan Council
[(1)] Totals are the sum of the four municipalities only.

Tax Base

The total taxes payable for the most current year (2006) is $38,359,060 (Scott County) and $38,828,591 (Carver County).

5.3.2 Environmental Consequences

The traffic forecasts presented in Chapters 2 and 4 assume the same amount and location of employment for No-Build and Build conditions, regardless of Build alternative.

As discussed in Section 5.2.1.2, the City of Shakopee is conducting a land use study that will be informed by the planning for a New TH 41. In addition, City of Carver planning staff have indicated that if either Alternative W-2 or Alternative C-2 is selected as the preferred alternative, the location of land guided for commercial development may be different than if the No-Build or an alternate Build alternative were chosen. While the selected alternative may influence the location of future jobs, it is not expected to result in different total job levels within the study area.

No-Build Alternative

Reliance on the existing roadway infrastructure without expanding capacity will limit local and regional transport and offer less efficient service and shipping for local businesses. Continued use of existing TH 41 through downtown Chaska and increased freight and regional traffic will have a detrimental impact to the downtown character and attractiveness for downtown reinvestment. Potential retail, commercial and service oriented businesses—many ideally suited to a location in a historic 'Main Street' context, may be discouraged from locating there due to the continued increase in traffic and congestion.

The No-Build alternative would result in no loss of taxable property due to direct right of way impacts. If increasing congestion, noise and vibration in downtown Chaska result in disinvestment in local properties, the tax base could be adversely impacted.

Build Alternatives

Table 5-12 reports the businesses affected by right of way acquisition for each of the six alternatives, including estimated number of employees. As shown, all alternatives have business impacts. Alternatives C-2 and C-2A have the greatest total business impacts. Certain business in downtown Chaska that depend on exposure to regional customers may be adversely affected by reduction in regional traffic on existing TH 41.

TABLE 5-12
BUSINESS AND EMPLOYMENT IMPACTS[(1)]

	Build Alternative					
	W-2	**C-2**	**C-2A**	**E-1**	**E-1A**	**E-2**
Commercial						
Businesses	5	11	11	2	5	3
Employees	99	114	96	25	174	3
Industrial						
Businesses	1	0	1	1	2	2
Employees	26	0	38	90	90	96
Total						
Businesses	6	11	12	3	7	5
Employees	125	114	134	115	264	99

[(1)] Based on businesses located on affected parcels, July 2006.

Acquisition of existing commercial and industrial land and its conversion to highway and highway right of way may have short-term impacts to employment in the study area.

As discussed in Section 5.4.2, the proposed Build alternatives would result in acquisition of between 16 and 272 parcels. Table 5-13 compares the total taxes payable for properties estimated to be acquired for each of the Build alternatives with the total taxes payable for Scott and Carver counties, and for each of the affected municipalities.

As shown, the impact on taxing jurisdictions (i.e., estimated tax loss from total acquisitions as a percent of total taxes payable) range from zero to 10.9 percent.

TABLE 5-13
TAXES PAYABLE: TOTAL ACQUISITION OF PROPERTIES, 2006

Alternative & Jurisdiction	Estimated Tax Loss from Total Acquisitions	Total 2006 County/City Taxes Payable	Estimated Tax Loss as a Percentage of 2006 Total County/City Taxes Payable
W-2			
Louisville Township	$25,150	$1,725,232	1.5
Jackson Township	$0	$1,175,181	0
Scott County Total	$25,150	$38,359,060	0.1
City of Carver	$15,339	$1,125,522	1.4
City of Chaska	$0	$3,533,401	0
City of Chanhassen	$0	$8,232,062	0
Carver County Total	$15,339	$38,828,591	< 0.05
C-2			
Louisville Township	$34,348	$1,725,232	2.0
Jackson Township	$127,810	$1,175,181	10.9
Scott County Total	$162,158	$38,359,060	0.4
City of Carver	$0	$1,125,522	0
City of Chaska	$17,420	$3,533,401	0.5
City of Chanhassen	$0	$8,232,062	0
Carver County Total	$17,420	$38,828,591	< 0.05
C-2A			
Louisville Township	$67,326	$1,725,232	3.9
Jackson Township	$99,392	$1,175,181	8.5
Scott County Total	$166,718	$38,359,060	0.4
City of Carver	$0	$1,125,522	0
City of Chaska	$45,887	$3,533,401	1.3
City of Chanhassen	$0	$8,232,062	0
Carver County Total	$45,887	$38,828,591	0.1
E-1			
Louisville Township	$0	$1,725,232	0
Jackson Township	$24,975	$1,175,181	2.1
Scott County Total	$24,975	$38,359,060	0.1
City of Carver	$0	$1,125,522	0
City of Chaska	$333,735	$3,533,401	9.5
City of Chanhassen	$0	$8,232,062	0
Carver County Total	$333,735	$38,828,591	0.9

TABLE 5-13 continued
TAXES PAYABLE: TOTAL ACQUISITION OF PROPERTIES, 2006

Alternative & Jurisdiction	Estimated Tax Loss from Total Acquisitions	Total 2006 County/City Taxes Payable	Estimated Tax Loss as a Percentage of 2006 Total County/City Taxes Payable
E-1A			
Louisville Township	$0	$1,725,232	0
Jackson Township	$33,706	$1,175,181	2.9
Scott County Total	$33,706	$38,359,060	0.1
City of Carver	$0	$1,125,522	0
City of Chaska	$82,053	$3,533,401	2.3
City of Chanhassen	$2,312	$8,232,062	< 0.05
Carver County Total	$84,365	$38,828,591	0.2
E-2			
Louisville Township	$0	$1,725,232	0
Jackson Township	$40,209	$1,175,181	3.4
Scott County Total	$40,209	$38,359,060	0.1
City of Carver	$0	$1,125,522	0
City of Chaska	$29,834	$3,533,401	0.8
City of Chanhassen	$2,312	$8,232,062	< 0.05
Carver County Total	$32,146	$38,828,591	< 0.05

Source: Estimated Tax Loss: Scott and Carver County property information web pages. No special assessments are included.

Taxes Payable: Scott County Assessor. Total for the whole county is the levy amount, total for municipalities include taxes payable to "all taxing districts" (school districts, county etc.). Carver County web page: http://www.co.carver.mn.us/ElectedOfficials/auditor/PropTax/docs/2006_Levy.pdf

5.3.3 Mitigation

Section 5.2.3 discusses mitigation for right of way impacts. Alleviation of traffic congestion on existing TH 41 will generally improve business conditions in downtown Chaska. While not mitigation, it should be noted that as employment in the study area communities is anticipated to grow substantially over the next decade, it is expected that there will be sufficient accessible job opportunity to replace jobs lost through acquisition of commercial/industrial properties.

In addition, the decrease in property tax base resulting from conversion of private property to public right of way will be offset by new development occurring in communities in the study area.

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6.0 PHYSICAL ENVIRONMENTAL IMPACTS

6.1 AIR QUALITY

6.1.1 Regulatory Overview

The scope and methods of the air quality analysis performed for this project were developed during a meeting with Minnesota Pollution Control Agency (MPCA) air quality staff on March 22, 2005.

Motorized vehicles affect air quality by emitting airborne pollutants. Changes in traffic volumes, traffic patterns, and roadway locations affect air quality by changing the number of vehicles in an area, changing traffic congestion conditions, and changing where vehicles travel. The U.S. Environmental Protection Agency (EPA) uses six "criteria pollutants" as indicators of air quality and has established National Ambient Air Quality Standards (NAAQS) for each of them. The NAAQS represent maximum concentrations above which adverse effects on human health may occur. The criteria pollutants are ozone, particulate matter, nitrogen dioxide, sulfur dioxide, lead, and carbon monoxide. In addition to the criteria air pollutants, the EPA also regulates air toxics.

6.1.2 Affected Environment

The study area is located within the Twin Cities Metropolitan Area, which currently has no areas that are not in attainment of air quality standards. The metropolitan area is classified as a “maintenance area,” for carbon monoxide. The area is subject to the State Implementation Plan (SIP) which contains procedures to monitor, control, maintain and enforce compliance with the NAAQS.

6.1.3 Environmental Consequences

<u>Ozone</u>

Ground-level ozone is a primary constituent of smog and is a pollution problem throughout many areas of the United States. Exposures to ozone can make people more susceptible to respiratory infection, result in lung inflammation, and aggravate preexisting respiratory diseases such as asthma. Ozone is not emitted directly from vehicles but is formed through the reaction of volatile organic compounds (VOC) and nitrogen oxides (NO_x) in the presence of sunlight. Transportation sources emit NO_x and VOCs and can therefore affect ozone concentrations. However, due to the phenomenon of atmospheric formation of ozone from chemical precursors, concentrations are not expected to be elevated where precursors are emitted (i.e. near a particular roadway).

Ozone concentrations in the lower atmosphere are influenced by a complex relationship of precursor concentrations, meteorological conditions and regional influences on background concentrations. The MPCA has determined that the contribution of a single roadway project to ozone concentrations is negligible and difficult to accurately quantify. The EPA has classified the project area as an attainment area in regard to ozone levels. Because of these factors, a quantitative ozone analysis was not conducted for this project.

Particulate Matter

Particulate matter (PM) is categorized by the size of particles being measured. For example, the $PM_{2.5}$ value is the measurement of particles smaller than 2.5 microns (a micron is a millionth of a meter) in a particular volume of air. Fine particles with very small diameters can move like gases and can be transported hundreds of miles from their source. Larger particles do not remain suspended and tend to settle out of the air relatively near their source.

The following summary of potential health impacts is excerpted from the EPA brochure Particle Pollution and Your Health (EPA document 452/F-03-001, September 2003):

> *Particle exposure can lead to a variety of health effects. For example, numerous studies link particle levels to increased hospital admissions and emergency room visits—and even to death from heart or lung diseases. Both long- and short-term particle exposures have been linked to health problems.*

The MPCA states on its web site:

> *Recent data suggests that particles 2.5 microns or smaller may pose the greatest threat to human health because, for the same mass, they absorb more toxic and carcinogenic compounds than larger particles and penetrate more easily deep into the lungs.*

Motor vehicles can influence particulate matter concentrations on a local scale by directly emitting fine particles and from wind turbulence that causes particles to be mixed into the air. On a regional scale, vehicular traffic can influence particle concentrations through emission of precursor compounds (nitrogen oxides, sulfur oxides and VOCs) as well as direct emissions. Vehicle related particulate matter tends to be smaller than 2.5 microns. A recent study, Transportation-Related Air Toxics: Case Study Materials Related to U.S. 95 in Nevada, March 7, 2003, completed by Sonoma Technology states:

> *With the exception of road dust, essentially all of the particulate matter attributed to vehicles (either as direct emissions or compounds which are emitted as gases and condense into particulate matter in the ambient air) is smaller than 2.5 mm in size (pm2.5).*

The concentration of fine particulates in the atmosphere is a complex function of background concentrations, the presence of various precursor compounds, direct emissions of nearby sources and meteorological conditions. Modeling of particulate concentrations is an emerging science and is being done on a regional and nationwide scale. The study referenced above, Transportation-Related Air Toxics: Case Study Materials Related to U.S 95 in Nevada, states:

> *There is currently a lack of guidance available to analysts regarding methodological approaches for analyzing the PM impacts of transportation projects at the micro scale.*

Widespread $PM_{2.5}$ monitoring began in Minnesota in 1999. An article published in the MPCA's Minnesota's Environment magazine, Volume 3, Number 3, Summer 2003, indicates that

particulate concentrations rise to concentrations considered unhealthy for sensitive people only a few times per year. Based on recent $PM_{2.5}$ monitoring, it appears that the State of Minnesota will be in attainment of recently enacted $PM_{2.5}$ standards.

Based on the relatively low ambient concentrations observed in Minnesota and the lack of analysis methodology, no project level modeling for particulate matter was conducted for this project.

Nitrogen dioxide (Nitrogen oxides)

Nitrogen oxides, or NO_x, are the generic term for a group of highly reactive gases, all of which contain nitrogen and oxygen in varying amounts. Nitrogen oxides form when fuel is burned at high temperatures. The primary sources of NO_x are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuels. The MPCA Air and Water Emissions Report, March 2000 indicates that on-road mobile sources account for 31 percent of NO_x emissions in Minnesota. In addition to being a precursor of ozone, NO_x can cause respiratory irritation in sensitive individuals and contribute to acid rain.

Nitrogen dioxide (NO_2) levels in the Twin Cities metropolitan area currently meet state and federal standards. Appendix C of the MPCA's 2001 Legislative Report Air Quality in Minnesota: Problems and Approaches, states:

> *Monitored NO_2 levels are currently about one third of the annual NO_2 standard. Although NO_x emissions have increased and may increase further due to increased vehicle travel and increased fuel combustion, it is unlikely that these increases will pose a threat to the annual NO_2 standard.*

The EPA's regulatory announcement EPA 420-F-99-051 (December 1999) describes the Tier 2 standards for tailpipe emissions and states:

> *The new tailpipe standards are set at an average standard of 0.07 grams per mile for nitrogen oxides for all classes of passenger vehicles beginning in 2004. This includes all light-duty trucks, as well as the largest SUVs. Vehicles weighing less than 6,000 pounds will be phased-in to this standard between 2004 and 2007.*
>
> *As newer, cleaner cars enter the national fleet, the new tailpipe standards will significantly reduce emissions of nitrogen oxides from vehicles by about 74 percent by 2030. The standards also will reduce emissions by more than 2 million tons per year by 2020 and nearly 3 million tons annually by 2030.*

Based on the relatively low ambient concentrations of NO_x in Minnesota and the long-term trend of reduction in NO_x emissions, it is unlikely that NO_x standards will be approached or exceeded in the project area. Because of these factors, a specific analysis of nitrogen dioxide was not conducted for this project.

Sulfur Dioxide

Sulfur dioxide is a colorless gas that can be detected by taste and odor. High concentrations of sulfur dioxide can affect breathing, cause respiratory illnesses and aggravate existing respiratory and cardiovascular diseases. It is converted in the atmosphere to sulfuric acid, a major component of acid rain.

The Twin Cities Metropolitan Area is classified as an attainment area for sulfur dioxide. A specific analysis of sulfur dioxide was not conducted for this project.

Lead

Due to the phase out of leaded gasoline, lead is no longer a pollutant associated with vehicular emissions.

Carbon Monoxide

Carbon monoxide (CO) is the traffic-related pollutant that is most likely to be a concern on a project level scale. The MPCA has established state standards (or maximum permissible concentrations) for CO of 30 parts per million (ppm) for a 1-hour period (average concentration), and 9 ppm for an 8-hour period (average concentration). The MPCA 1-hour standard is more stringent than the federal standard of 35 ppm; the MPCA 8-hour standard is the same as the federal standard.

The project area is currently designated as a maintenance area for CO. The maintenance status in the Twin Cities metropolitan area is contingent upon the implementation of measures to assure that CO concentrations remain below standards. The contingency stipulates that future CO concentrations be modeled for proposed transportation projects. In compliance with this stipulation, detailed intersection-level CO dispersion analysis will be performed in conjunction with a Tier II EIS.

Concentrations of CO are generally highest at at-grade intersections with poor levels of service and, consequently, with more idling vehicles. Because under all Build alternatives, New TH 41 will operate under free-flow conditions, and will be above grade, increasing dispersion distance to locations of human activity, New TH 41 is not expected to generate CO levels approaching state standards. Congestion (measured in hours of congestion) under all Build alternatives is projected to decline on existing TH 41 and on existing Hwy 101 relative to the No-Build alternative; there is not a substantial difference in hours of congestion among Build alternatives. Therefore, it is unlikely that CO levels approaching state standards will occur at at-grade intersections along existing TH 41 or Hwy 101 under any Build alternative.

Improvements in vehicle technology and in motor fuel regulations continue to cause reductions in vehicle emission rates. The EPA Mobile 6.2 emissions model estimates that emission rates will fall by at least 35 to 40 percent from 2006 to 2040. Consequently, 2040 vehicle-related CO concentrations in the study area are likely to be lower than existing concentrations even considering the increase in project-related and background traffic.

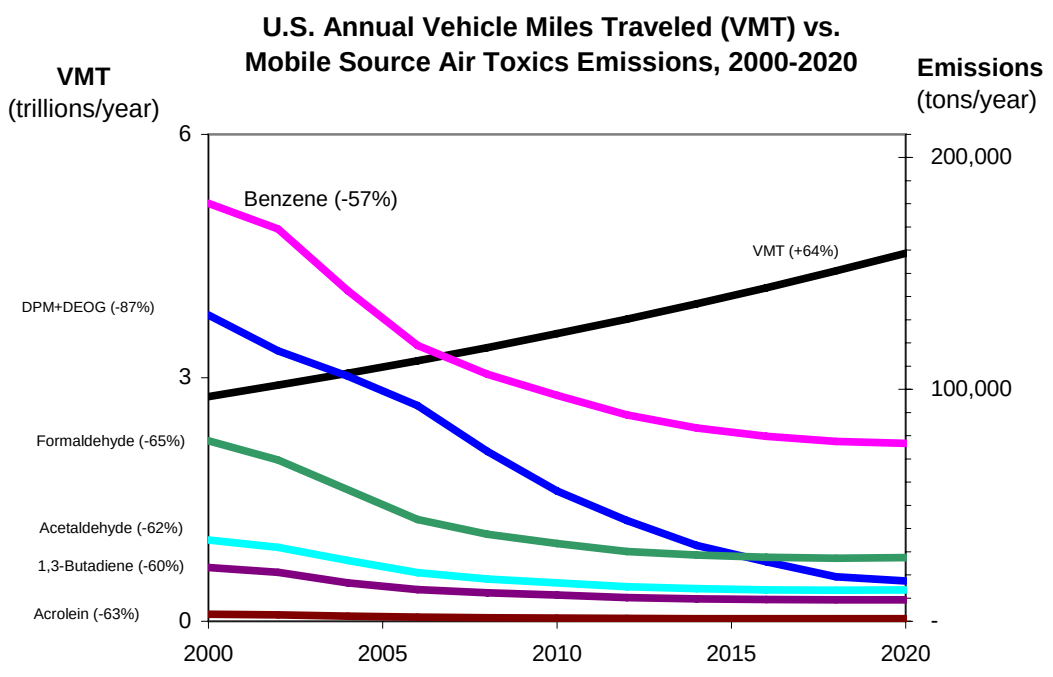
Mobile Source Air Toxics

In addition to the criteria air pollutants for which there are National Ambient Air Quality Standards (NAAQS), EPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners) and stationary sources (e.g., factories or refineries).

Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics defined by the Clean Air Act. The MSATs are compounds emitted from highway vehicles and non-road equipment.

Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

The EPA is the lead Federal Agency for administering the Clean Air Act and has certain responsibilities regarding the health effects of MSATs. The EPA issued a Final Rule on Controlling Emissions of Hazardous Air Pollutants from Mobile Sources, 66 FR 17229 (March 29, 2001). This rule was issued under the authority in Section 202 of the Clean Air Act. In its rule, EPA examined the impacts of existing and newly promulgated mobile source control programs, including its reformulated gasoline (RFG) program, its national low emission vehicle (NLEV) standards, its Tier 2 motor vehicle emissions standards and gasoline sulfur control requirements, and its proposed heavy duty engine and vehicle standards and on-highway diesel fuel sulfur control requirements. FHWA projects that, between 2000 and 2020, even with a 64 percent increase in vehicle miles traveled (VMT), these programs will reduce on-highway emissions of benzene, formaldehyde, 1,3-butadiene, and acetaldehyde by 57 percent to 65 percent, and will reduce on-highway diesel PM emissions by 87 percent, as shown in the following graph:



Notes: For on-road mobile sources. Emissions factors were generated using MOBILE6.2. Methyl tertiary-butyl ether proportion of market for oxygenates is held constant, at 50%. Gasoline Reid Vapor Pressure and oxygenate content are held constant. VMT: *Highway Statistics 2000*, Table VM-2 for 2000, analysis assumes annual growth rate of 2.5%. "Diesel Particulate + Diesel Exhaust Gas" is based on MOBILE6.2-generated factors for elemental carbon, organic carbon and SO4 from diesel-powered vehicles, with the particle size cutoff set at 10.0 microns.

As a result, EPA concluded that no further motor vehicle emissions standards or fuel standards were necessary to further control MSATs. The agency is preparing another rule under authority of CAA Section 202(l) that will address these issues and could make adjustments to the full 21 and the primary six MSATs.

Unavailable Information for Project Specific MSAT Impact Analysis

This DEIS includes a basic analysis of the likely MSAT emission impacts of the proposed project. However, available technical tools do not enable us to predict the project-specific health impacts of the emission changes associated with the alternatives in this DEIS. Due to these limitations, the following discussion is included in accordance with CEQ regulations (40 CFR 1502.22(b)) regarding incomplete or unavailable information. Note that the language and statistics quoted in this section are derived from "*Interim Guidance on Air Toxics Analysis in NEPA Documents*," Cynthia J. Burbank, published by FHWA on February 3, 2006.

Evaluating the environmental and health impacts from MSATs on a proposed highway project would involve several key elements, including emissions modeling, dispersion modeling in order to estimate ambient concentrations resulting from the estimated emissions, exposure modeling in order to estimate human exposure to the estimated concentrations, and then final determination of health impacts based on the estimated exposure. Each of these steps is encumbered by technical shortcomings or uncertain science that prevents a more complete determination of the MSAT health impacts of this project.

1. Emissions: The EPA tools to estimate MSAT emissions from motor vehicles are not sensitive to key variables determining emissions of MSATs in the context of highway projects. While the MOBILE 6.2 emissions model is used to predict emissions at a regional level, it has limited applicability at the project level. MOBILE 6.2 is a trip-based model with emission factors that are projected based on a typical trip of 7.5 miles, and on average speeds for this typical trip. This means that MOBILE 6.2 does not have the ability to predict emission factors for a specific vehicle operating condition at a specific location at a specific time. Because of this limitation, MOBILE 6.2 can only approximate the operating speeds and levels of congestion likely to be present on the largest-scale projects, and cannot adequately capture emissions effects of smaller projects. For particulate matter, the model results are not sensitive to average trip speed, although the other MSAT emission rates do change with changes in trip speed. Also, the emissions rates used in MOBILE 6.2 for both particulate matter and MSATs are based on a limited number of tests of mostly older-technology vehicles. Lastly, in its discussions of PM under the conformity rule, EPA has identified problems with MOBILE6.2 as an obstacle to quantitative analysis.

   These deficiencies compromise the capability of MOBILE 6.2 to estimate MSAT emissions. MOBILE6.2 is an adequate tool for projecting emissions trends, and performing relative analyses between alternatives for very large projects, but it is not sensitive enough to capture the effects of travel changes tied to smaller projects or to predict emissions near specific roadside locations.

2. Dispersion. The tools to predict how MSATs disperse are also limited. The EPA's current regulatory models, CALINE3 and CAL3QHC, were developed and validated more than a decade ago for the purpose of predicting episodic concentrations of carbon monoxide to determine compliance with the NAAQS. The performance of dispersion models is more accurate for predicting maximum concentrations that can occur at some time at some location within a geographic area. This limitation makes it difficult to predict accurate exposure patterns at specific times at specific highway project locations across an urban area to assess potential health risk. The National Cooperative Highway Research Program is conducting research on best practices in applying models and other technical methods in the analysis of MSATs. This work also will focus on identifying appropriate methods of documenting and communicating MSAT impacts in the NEPA process and to the general public. Along with these general limitations of dispersion models, FHWA is also faced with a lack of monitoring data in most areas for use in establishing project-specific MSAT background concentrations.

3. Exposure Levels and Health Effects. Finally, even if emission levels and concentrations of MSATs could be accurately predicted, shortcomings in current techniques for exposure assessment and risk analysis preclude the reaching of meaningful conclusions about project-specific health impacts. Exposure assessments are difficult because it is difficult to accurately calculate annual concentrations of MSATs near roadways, and to determine the portion of a year that people are actually exposed to those concentrations at a specific location. These difficulties are magnified for 70-year cancer assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over a 70-year period. There are also considerable uncertainties associated with the existing estimates of toxicity of the various MSATs, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population. Because of these shortcomings, any calculated difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with calculating the impacts.

6.1.3.1 Summary of Existing Credible Scientific Evidence Relevant to Evaluating the Impacts of MSATs

Research into the health impacts of MSATs is on-going. For different emission types, there are a variety of studies that show that some either are statistically associated with adverse health outcomes through epidemiological studies (frequently based on emissions levels found in occupational settings) or that animals demonstrate adverse health outcomes when exposed to large doses.

Exposure to toxics has been a focus of a number of EPA efforts. Most notably, the agency conducted the National Air Toxics Assessment (NATA) in 1996 to evaluate modeled estimates of human exposure applicable to the county level. While not intended for use as a measure of or benchmark for local exposure, the modeled estimates in the NATA database best illustrate the levels of various toxics when aggregated to a national or state level.

The EPA is in the process of assessing the risks of various kinds of exposures to these pollutants. The EPA Integrated Risk Information System (IRIS) is a database of human health effects that may result from exposure to various substances found in the environment. The IRIS database is located at http://www.epa.gov/iris. The following toxicity information for the six prioritized MSATs was taken from the IRIS database Weight of Evidence Characterization summaries. This information is taken verbatim from EPA's IRIS database and represents the Agency's most current evaluations of the potential hazards and toxicology of these chemicals or mixtures.

- **Benzene** is characterized as a known human carcinogen.
- The potential carcinogenicity of **acrolein** cannot be determined because the existing data are inadequate for an assessment of human carcinogenic potential for either the oral or inhalation route of exposure.
- **Formaldehyde** is a probable human carcinogen, based on limited evidence in humans, and sufficient evidence in animals.
- **1,3-butadiene** is characterized as carcinogenic to humans by inhalation.
- **Acetaldehyde** is a probable human carcinogen based on increased incidence of nasal tumors in male and female rats and laryngeal tumors in male and female hamsters after inhalation exposure.
- **Diesel exhaust** (DE) is likely to be carcinogenic to humans by inhalation from environmental exposures. Diesel exhaust as reviewed in this document is the combination of diesel particulate matter and diesel exhaust organic gases.
- **Diesel exhaust** also presents chronic respiratory effects, possibly the primary noncancer hazard from MSATs. Prolonged exposures may impair pulmonary function and could produce symptoms, such as cough, phlegm, and chronic bronchitis. Exposure relationships have not been developed from these studies.

There have been other studies that address MSAT health impacts in proximity to roadways. The Health Effects Institute (a non-profit organization funded by EPA, the FHWA, and industry) has undertaken a major series of studies to research near-roadway MSAT hot spots, the health implications of the entire mix of mobile source pollutants, and other topics. The final summary of the series is not expected for several years.

Some recent studies have reported that proximity to roadways is related to adverse health outcomes, particularly respiratory problems[1]. Much of this research is not specific to MSATs, instead surveying the full spectrum of both criteria and other pollutants. The FHWA cannot evaluate the validity of these studies, but more importantly, they do not provide information that would be useful to alleviate the uncertainties listed above and enable the performance of a more comprehensive evaluation of the health impacts specific to this project.

[1] South Coast Air Quality Management District, Multiple Air Toxic Exposure Study-II (2000); Highway Health Hazards, The Sierra Club (2004) summarizing 24 Studies on the relationship between health and air quality); NEPA's Uncertainty in the Federal Legal Scheme Controlling Air Pollution from Motor Vehicles, Environmental Law Institute, 35 ELR 10273 (2005) with health studies cited therein.

Relevance of Unavailable or Incomplete Information to Evaluating Reasonably Foreseeable Significant Adverse Impacts on the Environment, and Evaluation of impacts based upon theoretical approaches or research methods generally accepted in the scientific community.

Because of the uncertainties outlined above, a quantitative assessment of the effects of air toxic emissions impacts on human health cannot be made at the project level. While available tools do allow us to reasonably predict relative emissions changes between alternatives for larger projects, the amount of MSAT emissions from each of the project alternatives and MSAT concentrations or exposures created by each of the project alternatives cannot be predicted with enough accuracy to be useful in estimating health impacts. (As noted above, the current emissions model is not capable of serving as a meaningful emissions analysis tool for smaller projects.) Therefore, the relevance of the unavailable or incomplete information is that it is not possible to make a determination of whether any of the alternatives would have "significant adverse impacts on the human environment."

In this document, the FHWA has provided a qualitative analysis of MSAT emissions relative to the various alternatives, and has acknowledged that some of the project alternatives may result in increased exposure to MSAT emissions in certain locations, although the concentrations and duration of exposures are uncertain, and because of this uncertainty, the health effects from these emissions cannot be estimated.

6.1.3.2 Qualitative Assessment

As discussed above, technical shortcomings of emissions and dispersion models and uncertain science with respect to health effects prevent meaningful or reliable quantitated, absolute estimates of MSAT emissions and effects of this project. However, even though reliable methods do not exist to accurately estimate the health impacts of MSATs at the project level, it is possible to qualitatively assess the comparative levels of future MSAT emissions under the project. Although a qualitative analysis cannot identify and measure health impacts from MSATs, it can give a basis for identifying and comparing the potential differences among MSAT emissions—if any—from the various alternatives. Application of this qualitative methodology is consistent with FHWA policy. The qualitative assessment presented below is derived in part from a study conducted by the FHWA entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives*, January 2005.

For each of the Build alternatives, the amount of MSATs emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. VMT is discussed in Section 4.2.1. VMT was calculated for an area including all of Carver County, all of Scott County, and portions of Hennepin County. For each of the alternatives, VMT is two percent higher in this study area compared to the No-Build alternative. This suggests that MSAT emissions in the study area will increase slightly under Build conditions compared to No-Build conditions. Vehicle hours traveled (VHT) decrease by one percent under all Build alternatives, representing a higher average speed of traffic. Mobile 6.2 suggests that emissions rates for all MSATs other than DPM decrease as speeds increase. This suggests that the increase in MSATs resulting from higher VMT may be

moderated by higher average speeds. In addition, because the estimated VMT under each of the Build alternatives are nearly the same, varying by less that 0.3 percent, it is expected that there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions will likely be lower in the design year as a result of EPA's national control programs that are projected to reduce MSAT emissions by 57 to 87 percent from 2000 to 2020. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in virtually all locations.

Because of the specific characteristics of the project alternatives, under each alternative, there will be localized areas where VMT and VHT will increase, and other areas where they will decrease. Therefore, it is possible that localized increases or decreases in MSAT emissions may occur. However, even if those increases do occur, they too will be substantially reduced in the future due to implementation of EPA's vehicle and fuel regulations.

In conclusion, under all Build alternatives in the design year it is expected that there would be reduced MSAT emissions in the immediate area of the project, relative to the No-Build alternative, due to the reduced vehicle hours traveled (VHT) associated with more direct routing, and due to EPA's MSAT reduction programs. In comparing various project alternatives, MSAT levels could be higher in some locations than others, but current tools and science are not adequate to quantify them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause reductions that, in almost all cases, will cause region-wide MSAT levels to be substantially lower than today.

6.1.4 Mitigation

Any necessary mitigation measures will also be addressed as part of that process. Detailed air quality analyses will be conducted during the Tier II EIS process.

6.2. TRAFFIC NOISE

This section provides an analysis of the noise impacts that would result from each of the project alternatives (No-Build and Build Alternatives W-2, C-2, C-2A, E-2, E-1, and E-1A). The noise analysis was completed to assess existing traffic noise levels in the project area and to determine what effect the six potential Build alternatives would have on future noise levels. This noise analysis is also intended to help facilitate the identification of a preferred alternative among the various alternatives under consideration in this DEIS. The noise analysis presented in this section is based on preliminary design information. A more detailed and rigorous analysis will be completed with the Tier II EIS process.

The Build alternatives would create new traffic noise sources in different areas of the study area and could change traffic volumes along existing roadways. Increases in traffic can result in increased noise levels, which can be perceived as an annoyance by adjacent residents and other affected persons.

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The Build alternatives would create new traffic noise sources in different areas of the study area and could change traffic volumes along existing roadways. Increases in traffic can result in increased noise levels, which can be perceived as an annoyance by adjacent residents and other affected persons.

6.2.1 Affected Environment

The noise analysis consisted of monitoring existing noise levels at residential receptor sites and predicting future noise levels using computer modeling. As noted in Section 1.2 of this DEIS, the study area is currently characterized by a range of land uses, including urban- and suburban-density development, agricultural activities, and natural resource areas. Residences within the study area are mainly concentrated within the cities of Chanhassen, Chaska, and Carver; however, there are mobile home courts in Jackson Township and scattered residences located throughout the project corridor between New US 212 and US 169.

The study area is also characterized by the Minnesota River Valley. The Minnesota Valley State Recreation Area (MVSRA) is a resource common to the six Build alternatives, and is included within this noise analysis. The Minnesota Valley National Wildlife Refuge (MVNWR) is an urban wildlife refuge located within the project area. The MVNWR consists of eight non-contiguous units that currently stretch 34 miles from Fort Snelling to the City of Jordan. The Chaska Lake Units are located within the study area, (see Chapter 8), and are also included in this noise analysis. There are numerous existing roadways in the study area with traffic volumes high enough to be considered sources of traffic noise, including, but not limited to: TH 41; US 169; US 212 (existing and new); and multiple county highways and city streets. There are also numerous low traffic volume roads throughout the study area that would not substantially contribute to traffic noise.

6.2.1.1. Noise Analysis

Noise is defined as any unwanted sound. Traffic is a common source of noise near high-volume roadways and is regulated in Minnesota by the Minnesota Pollution Control Agency (MPCA) under Minnesota Statute 116.07 Subdivisions 2 and 4. Sound travels in a wave motion and produces a sound pressure level. This sound pressure level is commonly measured in decibels. Decibels (dB) represent the logarithmic increase in sound energy relative to a reference energy level. A sound increase of 3 dB is barely perceptible to the human ear, a 5 dB increase is clearly noticeable, and a 10 dB increase is heard as twice as loud. For example, if the sound energy is doubled (e.g., the amount of traffic doubles), there is a 3 dB increase in noise, which is just barely noticeable to most people. On the other hand, if traffic increases to where there is 10 times the sound energy level over a reference level, then there is a 10 dB increase and it is heard as twice as loud. [2]

To approximate the way that an average person hears sound, an adjustment, or weighting, of the high- and low- pitched sounds is made. The adjusted sound levels are stated in units of "A-weighted decibels" (dBA). In Minnesota, traffic noise impacts are evaluated by measuring and/or modeling the traffic noise levels that are exceeded 10 percent and 50 percent of the time during the hours of the day and/or night that have the heaviest traffic for a given hour. These numbers are identified as the L_{10} and L_{50} levels, respectively. For example, an L_{10} value of 65 dBA means that the noise level was at or greater than 65 dBA during 10 percent of the measurement period (i.e., more than 6 minutes per hour). Common noise levels from various indoor and outdoor sources are listed in Table 6-1.

[2] Minnesota Pollution Control Agency. 1999. *A Guide to Noise Control in Minnesota*. http://www.pca.state.mn.us/programs/pubs/noise.pdf

TABLE 6-1
NOISE LEVEL COMPARISONS

Noise Source	Sound Pressure Level (dBA)
Jet Engine (at 75 feet)	140
Jet Aircraft (at 300 feet)	130
Rock and Roll Concert	120
Pneumatic Chipper	110
Jointer/Planer	100
Chainsaw	90
Heavy Truck Traffic	80
Business Office	70
Conversational Speech	60
Library	50
Bedroom	40
Secluded Woods	30
Whisper	20

Source: "A Guide to Noise Control in Minnesota", Minnesota Pollution Control Agency, http://www.pca.state.mn.us/programs/pubs/noise.pdf and "Highway Traffic Noise", Federal Highway Administration, http://www.fhwa.dot.gov/environment/htnoise.htm.

6.2.1.2. Regulatory Framework

The MPCA is the governmental regulatory agency responsible for implementing regulations controlling traffic noise in Minnesota. Minnesota state noise standards have been established for daytime and nighttime periods. For residential land uses (identified as Noise Area Classification 1 or NAC-1), the Minnesota State standards for an hourly L_{10} are 65 dBAs for daytime and 55 dBAs for nighttime; the standards for L_{50} are 60 dBAs for daytime and 50 dBAs for nighttime. Recreation areas and wildlife refuges within the Minnesota River Valley also fall under the state NAC-1 classification. The MPCA defines daytime as 7:00 a.m. to 10:00 p.m. and nighttime from 10:00 p.m. to 7:00 a.m. Traffic noise analyses are conducted for the peak noise hour during both daytime and nighttime. The peak daytime traffic noise hour typically corresponds to the morning or evening rush hour, while the peak nighttime noise hour is almost always from 6:00 a.m. to 7:00 a.m.

Minnesota Statute 116.07, Subd. 2a. states that municipal and county roads, except for roadways for which full control of access has been acquired, are exempt from State noise standards. Within the study area, State standards apply to TH 41, US 212, US 169. Some county roads within the study area may be exempt from State noise standards, depending upon the access control on each individual county road. State standards would apply to any new TH 41 river crossing alternative. State standards are depicted in Table 6-2.

TABLE 6-2
MINNESOTA STATE NOISE STANDARDS

MPCA State Noise Standards					
Land Use	**Code**	**Day (7 a.m. – 10 p.m.) dBA**		**Night (10 p.m. – 7 a.m.) dBA**	
Residential	**NAC-1**	L_{10} of 65	L_{50} of 60	L_{10} of 55	L_{50} of 50
Commercial	**NAC-2**	L_{10} of 70	L_{50} of 65	L_{10} of 70	L_{50} of 65
Industrial	**NAC-3**	L_{10} of 80	L_{50} of 75	L_{10} of 80	L_{50} of 75

For residential and parkland uses (Federal Land Use Category B), the Federal L_{10} noise abatement criterion is 70 dBA for both daytime and nighttime. Locations where noise levels are "approaching" (defined as being within one dBA of the criterion threshold, i.e., 69 dBA) or exceeding the criterion level must be evaluated for noise abatement feasibility. Federal Noise Abatement Criteria (NAC) are shown in Table 6-3.

TABLE 6-3
FEDERAL NOISE ABATEMENT CRITERIA

FHWA Noise Abatement Criteria		
Category	**L_{10} dBA**	**Land Use**
A	**60**	Special areas requiring serenity
B	**70**	Residential and recreational areas
C	**75**	Commercial and industrial areas
D	**NA**	Undeveloped areas
E	**55***	Residential, hospitals, libraries, etc.

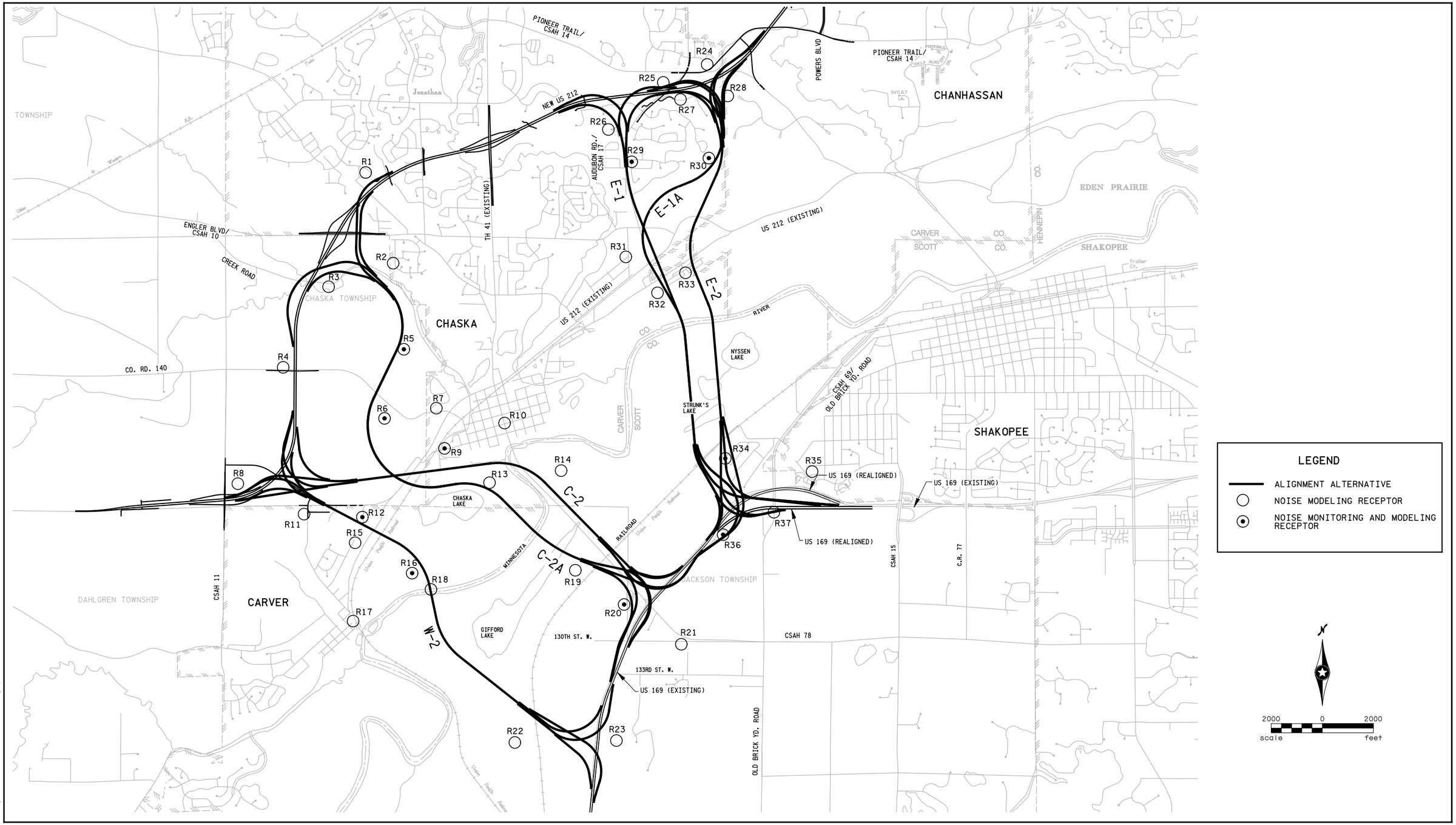
* Applies to interior noise levels. All other land uses are exterior levels.

In addition to the identified noise criteria, the FHWA also defines a noise impact as a "substantial increase" in the future noise levels over the existing noise levels. Mn/DOT considers an increase of five dBA or greater a substantial noise level increase. Because Federal funds are anticipated to be used as part of this project, the Federal noise criteria would apply to all roads associated with each Build Alternative.

6.2.1.4 Monitoring

Noise level monitoring is commonly performed during a noise study to document existing noise levels. Existing noise levels can be used as a "baseline" against which future scenarios are compared. In addition, when studying future noise levels projected with computer models, monitored noise levels for existing conditions are compared to modeled results for existing conditions to validate the computer modeling techniques and results.

Existing noise levels were monitored at nine sites in the project area, chosen to represent areas of outdoor human activity (i.e., residential yards), as well as natural areas within the river valley (see Tables 6-4 through 6-5). Noise monitoring locations are shown in Figure 6-1. Monitoring locations were chosen at residential sites adjacent to existing traffic noise sources and in areas close to the six potential Build alignments. Locations not currently affected by traffic noise are identified in Table 6-4A through Table 6-5F as "A," or ambient.



NOISE RECEPTOR LOCATIONS

Figure 6-1

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Draft Environmental Impact Statement
S.P. #1008-60
Minnesota Department of Transportation

Existing dominant noise at these receptors originates from non-traffic sources. Ambient noise is caused by wind, birds, insects, etc. and varies depending on meteorological conditions and time of day. Ambient noise levels in the study area were measured at levels ranging from 40 to 55 dBA (L_{10}). Ambient noise levels measured in the study area were averaged and used to characterize the background noise levels at receptors located in areas not affected by traffic noise. The average ambient noise levels at these receptors are 50 dBA (L_{10}) and 47 dBA (L_{50}).

Noise levels were monitored during October 2005. Monitoring methods used in this study comply with State and Federal guidelines. A trained noise monitoring technician was present at each session for the entire monitoring session to ensure correct operation of the instrumentation. Noise monitoring results are presented in Tables 6-4A through 6-5F. Monitoring results are presented along with the results of computer modeling for existing daytime and nighttime noise conditions. The monitored L_{10} noise levels are within three dBA of the modeled levels for most all receptors, supporting the validity of the model in predicting future noise levels. Monitored levels are 7 dBA (daytime L_{10}) below modeled levels at Receptor 12, which is located along Lano Lane, adjacent to existing US 212 and County Road 40. The difference in monitored versus existing modeled levels is likely the result of monitoring occurring just prior to the peak p.m. period, when traffic volumes were lower than those used to model daytime traffic noise. The monitoring location for Receptor R12 also occurred at a location within the Alternative W-2 corridor. Therefore, for modeling purposes, the receptor location was moved to the north outside of the Alternative W-2 corridor to represent receptors along Lano Lane. Locating the Receptor R12 modeling location closer to existing US 212 likely contributed to monitoring levels being lower than modeled levels. Monitored levels at Receptor R5 are 5 dBA (daytime L_{10}) greater than modeled levels, which is located adjacent to Creek Road. The monitoring at Receptor R5 occurred closer to Creek Road than the model location, which is closer to the Alternative C-2A corridor. The difference in monitored versus existing modeled levels is likely the result of the monitoring location being closer to traffic noise from Creek Road where higher levels of traffic noise would be observed.

6.2.2 Environmental Consequences

6.2.2.1. Modeled Receptor Sites

Traffic noise impacts were assessed by modeling noise levels at receptor sites likely to be most affected by changes in roadway alignment resulting from construction of the proposed Build alternatives. Figure 6-1 shows the noise modeling locations. The number of residences represented by each receptor is listed in parentheses in Tables 6-4A to 6-5F. This number represents the number of first-row residences or commercial properties immediately adjacent to a Build Alternative alignment. For example, Receptor R1 represents nine first-row residences near the Build Alternative C-2A interchange with New US 212. Conversely, Receptor R8 represents a single residence north of existing US 212. Receptor R10 represents the downtown Chaska area. While both commercial and residential land uses are located in downtown Chaska, for the purposes of this evaluation, Receptor R10 represents eight residential properties in the downtown Chaska area along both sides of existing TH 41 between 5th Street and the Minnesota River.

Receptors R20, R32, R33, R34, and R36 represent mobile home parks within the project area. Only those first-row mobile home structures immediately adjacent (i.e., first row residences) to the Build Alternative corridors were considered.

The average existing ambient noise levels are listed as the modeled existing (year 2004) and No-Build (year 2040) noise levels for those locations where traffic noise is not the dominant noise source. Year 2003 and 2004 average daily traffic (ADT) volumes were used to model daytime and nighttime peak traffic hours. Because ADT represents traffic volumes over a 24-hour period, 10 percent of the ADT was used to model the daytime peak traffic hour, and 8 percent of the ADT was used to model the nighttime peak traffic hour. Forecast year 2040 No-Build traffic volumes were used to model noise for those receptors that are near existing traffic noise sources (e.g., TH 41; US 169; existing and new US 212; County Highways, etc.). Forecast year 2040 Build traffic volumes, which are representative of the worst-case traffic volumes, were used to model traffic noise at all receptors. If the modeled noise for an isolated receptor was equal to or lower than the ambient level, it was assumed that the proposed alternative alignment had no noise impact and the ambient noise level was reported.

The eastern Build alternatives (Alternatives E-1, E-1A, E-2) each included both a low and high roadway profile option. For each of these three Build Alternatives, only the high profile option was included in the noise models as a worst-case scenario.

Noise modeling was done using the noise prediction program "MINNOISE", a version of the FHWA "STAMINA" model adapted by Mn/DOT. This model uses vehicle numbers, speed, class of vehicle, and the typical characteristics of the roadway being analyzed. The vehicle class percentages used for all roads except existing TH 41, new TH 41, US 169, and US 212 (existing and new) mainline were as follows: automobiles and light trucks, 97 percent; medium trucks, 2 percent; and heavy trucks, 1 percent. Vehicle class percentages used for US 212 (existing and new) for all models was as follows: automobiles and light trucks, 95 percent; medium trucks, 1 percent; and heavy trucks, 4 percent. The vehicle class percentage for existing TH 41, new TH 41 (Build condition models), and US 169 varied between models based on travel demand forecast results (see Table 4-9 of this DEIS). Posted and anticipated future speed limits were used to model all roadways.

New US 212, currently under construction and anticipated for completion in year 2008, was programmed into the year 2040 No-Build and year 2040 Build alternative noise models. This included noise barriers (earthen berms and noise walls) that are proposed for construction with new US 212. Under existing conditions (year 2003-2004), there are isolated residences in rural Carver County adjacent to the new US 212 corridor where ambient noise is dominated by non-traffic sources and/or low-volume roadways. These isolated receptors adjacent to the New US 212 corridor will experience a substantial increase in noise under the No-Build (year 2040) conditions with construction of New US 212. For example, Receptor R4 represents residences along County Road 140 west of the proposed New US 212 corridor. As shown in Table 6-4A, existing daytime L_{10} noise levels at Receptor R4 are 55 dBA. However, under future No-Build (year 2040) conditions, daytime L_{10} noise levels were modeled at 72 dBA, an increase of 17 dBA over existing conditions. This increase from existing to No-Build conditions is a result of traffic-generated noise from the New US 212 roadway.

TABLE 6-4A
NOISE MODELING RESULTS (ALTERNATIVE W-2) – DAYTIME

Receptor*	Monitored		Modeled Existing (2004)		Year 2040 No-Build		Difference Between Year 2040 No-Build and Existing (2004)		Year 2040 Build (Alternative W-2)		Difference Between Year 2040 Build and Existing (2004)		Difference between Year 2040 Build and Year 2040 No-Build	
	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
R8 (1)			52	47	65	**63**	13	16	**67**	**65**	15	18	2	2
R11 (6)			60	54	59	57	1	3	**68**	**65**	8	11	9	8
R12 [(1)] (3)	51	47	58	53	62	60	4	7	**72**	**70**	14	17	10	10
R15 (2)			55	49	59	56	4	7	65	**64**	10	15	6	8
R16 (1)			50A	47A	50A	47A	0	0	**68**	**66**	18	19	18	19
R17 (5)			54	47	60	55	6	8	62	58	8	11	2	3
R18 [(2)] (1)			49	46	54	53	5	7	**81**	**77**	32	30	27	24
R21 (5)			59	56	62	59	3	3	61	59	2	3	-1	0
R22 (1)			49	48	50	49	1	1	59	58	10	10	9	9
R23 (5)			62	60	63	**61**	1	1	63	**61**	1	1	0	0
State Standards	65	60	65	60	65	60	-	-	65	60	-	-	-	-
Federal NAC	70	-	70	-	70	-	-	-	70	-	-	-	-	-

Note: Bold numbers are above state standards.
* - Number in ( ) in this column is the number of residences and/or commercial buildings represented by each receptor.
A = ambient noise levels. Noise at these receptors is dominated by non-traffic sources.
(1) Monitoring for Receptor R12 occurred at a location within the proposed Alternative W-2 corridor. For modeling purposes, the location of Receptor R12 was moved to the north to represent residences along Lano Lane between existing US 212 and the Alternative W-2 corridor. Locating the modeling location for Receptor R12 closer to Existing 212 results in a higher modeled traffic noise level compared to the monitored level.
(2) Receptor R18 is located on the Minnesota River underneath Alternative W-2.

TABLE 6-4B
NOISE MODELING RESULTS (ALTERNATIVE C-2) – DAYTIME

Receptor*	Monitored		Modeled Existing (2004)		Year 2040 No-Build		Difference Between Year 2040 No-Build and Existing (2004)		Year 2040 Build (Alternative C-2)		Difference Between Year 2040 Build and Existing (2004)		Difference between Year 2040 Build and Year 2040 No-Build	
	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
R4 (6)			55	44	**72**	**68**	17	24	**69**	**64**	14	20	-3	-4
R6 (3)			50A	47A	60	57	10	10	58	56	8	9	-2	-1
R7 (5)			59	53	**68**	**64**	9	11	64	59	5	6	-4	-5
R8 (1)			52	47	65	**63**	13	16	**66**	**64**	14	17	1	1
R9 (13)	64	57	61	52	63	55	2	3	**68**	**62**	7	10	5	7
R10 (8)			**73**	**66**	**74**	**68**	1	2	**70**	**64**	3	2	-4	-4
R11 (6)			60	54	59	57	1	3	64	**62**	4	8	5	5
R12 (3)	51	47	58	53	62	60	4	7	63	**61**	5	8	1	1
R13 (1)			54	51	55	53	1	2	65	**63**	11	14	10	10
R14 (1)			57	54	58	56	1	2	64	**62**	13	11	6	6
R19 (4)			56	54	58	56	2	2	59	58	3	4	1	2
R20 (15)	59	56	63	**61**	64	**62**	1	1	65	**63**	2	2	1	1
R21 (5)	59	56	62	59	65	62	3	3	64	61	2	2	-1	-1
R36 (12)			**69**	**65**	**70**	**67**	1	2	**71**	**68**	2	3	1	1
State Standards	65	60	65	60	65	60	-	-	65	60	-	-	-	-
Federal NAC	70	-	70	-	70	-	-	-	70	-	-	-	-	-

Note: Bold numbers are above state standards.
* - Number in ( ) in this column is the number of residences and/or commercial buildings represented by each receptor.
A = ambient noise levels. Noise at these receptors is dominated by non-traffic sources.

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TABLE 6-4C
NOISE MODELING RESULTS (ALTERNATIVE C-2A) – DAYTIME

Receptor*	Monitored		Modeled Existing (2004)		Year 2040 No-Build		Difference Between Year 2040 No-Build and Existing (2004)		Year 2040 Build (Alternative C-2A)		Difference Between Year 2040 Build and Existing (2004)		Difference between Year 2040 Build and Year 2040 No-Build	
	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
R1 (9)			49	42	58	55	9	13	**66**	**64**	17	22	8	9
R2 (15)			50A	47A	56	55	6	8	63	**62**	13	15	7	7
R3 (7)			53	45	65	**62**	12	17	**67**	**65**	14	20	2	3
R4 (6)			55	44	**72**	**68**	17	24	**69**	**64**	14	20	-3	-4
R5 (1)	**66**	53	61	51	**68**	**61**	7	10	**73**	**70**	12	19	5	9
R6 (3)			50A	47A	60	57	10	10	**67**	**65**	17	18	7	8
R7 (5)			59	53	**68**	**64**	9	11	64	60	5	7	-4	-4
R9 (13)	64	57	61	52	63	55	2	3	**66**	60	5	8	3	5
R10 (8)			**73**	**66**	**74**	**68**	1	2	**71**	**65**	2	1	-3	-3
R13 (1)			54	51	55	53	1	2	**73**	**70**	19	19	18	17
R14 (1)			57	54	58	56	1	2	58	57	1	3	0	1
R19 (4)			56	54	58	56	2	2	**67**	**65**	11	11	9	9
R20 (15)	59	56	63	**61**	64	**62**	1	1	**68**	**66**	5	5	4	4
R21 (5)			59	56	62	59	3	3	62	59	3	3	0	0
R 36 (12)			**69**	**65**	**70**	**67**	1	2	**71**	**68**	2	3	1	1
R37 (1)			63	61	**66**	**63**	3	3	**67**	**65**	4	4	1	2
State Standards	65	60	65	60	65	60	-	-	65	60	-	-	-	-
Federal NAC	70	-	70	-	70	-	-	-	70	-	-	-	-	-

Note: Bold numbers are above state standards.
* - Number in ( ) in this column is the number of residences and/or commercial buildings represented by each receptor.
A = ambient noise levels. Noise at these receptors is dominated by non-traffic sources.

TABLE 6-4D
NOISE MODELING RESULTS (ALTERNATIVE E-1) – DAYTIME

Receptor*	Monitored		Modeled Existing (2004)		Year 2040 No-Build		Difference Between Year 2040 No-Build and Existing (2004)		Year 2040 Build (Alternative E-1)		Difference Between Year 2040 Build and Existing (2004)		Difference between Year 2040 Build and Year 2040 No-Build	
	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
R21 (5)			59	55	62	59	3	4	61	58	2	3	-1	-1
R24 (7)			60	55	**67**	**64**	7	9	**69**	**67**	9	12	2	3
R25 (1)			59	55	**68**	**66**	9	11	**73**	**70**	14	15	5	4
R26 (6)			50	47	60	59	10	12	**68**	**66**	18	19	8	7
R27 (17)			54	51	59	57	5	6	61	60	7	9	2	3
R28 (2)			50	47	62	**61**	12	14	63	**62**	13	15	1	1
R29 (11)	57	53	55	50	59	56	4	6	**77**	**73**	22	23	18	17
R30 (9)			50A	47A	50A	47A	0	0	55	54	5	7	5	7
R31 (8)			55	53	55	53	0	0	63	**62**	8	9	8	9
R32 (10)			55	51	56	52	1	1	**69**	**67**	14	16	13	15
R33 (4)			56	50	56	51	0	1	65	**63**	9	13	9	12
R34 (27)			50A	47A	50A	47A	0	0	63	62	13	15	13	15
R35 (15)			61	59	62	60	1	1	60	59	-1	0	-2	-1
State Standards	65	60	65	60	65	60	-	-	65	60	-	-	-	-
Federal NAC	70	-	70	-	70	-	-	-	70	-	-	-	-	-

Note: Bold numbers are above state standards.
* - Number in ( ) in this column is the number of residences and/or commercial buildings represented by each receptor.
A = ambient noise levels. Noise at these receptors is dominated by non-traffic sources.

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TABLE 6-4E
NOISE MODELING RESULTS (ALTERNATIVE E-1A) – DAYTIME

Receptor*	Monitored		Modeled Existing (2004)		Year 2040 No-Build		Difference Between Year 2040 No-Build and Existing (2004)		Year 2040 Build (Alternative E-1A)		Difference Between Year 2040 Build and Existing (2004)		Difference between Year 2040 Build and Year 2040 No-Build	
	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
R21 (5)			59	55	62	59	3	4	61	57	2	2	-1	-2
R24 (7)			60	55	**67**	**64**	7	9	**69**	**67**	9	12	2	3
R25 (1)			59	55	**68**	**66**	9	11	**74**	**71**	15	16	6	5
R27 (17)			54	51	59	57	5	6	63	**62**	9	11	4	5
R28 (2)			50	47	62	**61**	12	14	**72**	**69**	22	22	10	8
R29 (11)	57	53	55	50	59	56	4	6	**67**	**61**	12	11	8	5
R30 (9)			50A	47A	50A	47A	0	0	**74**	**71**	24	24	24	24
R31 (8)			55	53	55	53	0	0	63	**61**	8	8	8	8
R32 (10)			55	51	56	52	1	1	**70**	**67**	15	16	14	15
R33 (4)			56	50	56	51	0	1	62	**61**	6	11	6	10
R34 (27)			50A	47A	50A	47A	0	0	63	62	13	15	13	15
R35 (15)			61	59	62	60	1	1	60	58	-1	-1	-2	-2
State Standards	65	60	65	60	65	60	-	-	65	60	-	-	-	-
Federal NAC	70	-	70	-	70	-	-	-	70	-	-	-	-	-

Note: Bold numbers are above state standards.
* - Number in ( ) in this column is the number of residences and/or commercial buildings represented by each receptor.
A = ambient noise levels. Noise at these receptors is dominated by non-traffic sources.

TABLE 6-4F
NOISE MODELING RESULTS (ALTERNATIVE E-2) – DAYTIME

Receptor*	Monitored		Modeled Existing (2004)		Year 2040 No-Build		Difference Between Year 2040 No-Build and Existing (2004)		Year 2040 Build (Alternative E-2)		Difference Between Year 2040 Build and Existing (2004)		Difference between Year 2040 Build and Year 2040 No-Build	
	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
R21 (5)			59	56	62	59	3	5	61	57	2	1	-1	-2
R24 (7)			60	55	**67**	**64**	7	9	**70**	**68**	10	13	3	4
R25 (1)			59	55	**68**	**66**	9	11	**72**	**69**	13	14	4	3
R27 (17)			54	51	59	57	5	6	**71**	**69**	17	18	12	12
R28 (2)			50	47	62	**61**	12	14	**70**	**68**	20	21	8	7
R30 (9)			50A	47A	50A	47A	0	0	**69**	**67**	19	20	19	20
R32 (10)			55	51	56	52	1	1	60	59	5	8	4	7
R33 (8)			56	50	56	51	0	1	**70**	**68**	14	18	14	17
R35 (15)			61	59	62	60	1	1	59	58	-2	-1	-3	-2
State Standards	65	60	65	60	65	60	-	-	65	60	-	-	-	-
Federal NAC	70	-	70	-	70	-	-	-	70	-	-	-	-	-

Note: Bold numbers are above state standards.
* - Number in ( ) in this column is the number of residences and/or commercial buildings represented by each receptor.
A = ambient noise levels. Noise at these receptors is dominated by non-traffic sources.

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TABLE 6-5A
NOISE MODELING RESULTS (ALTERNATIVE W-2) – NIGHTTIME

Receptor*	Monitored		Modeled Existing (2004)		Year 2040 No-Build		Difference Between Year 2040 No-Build and Existing (2004)		Year 2040 Build (Alternative W-2)		Difference Between Year 2040 Build and Existing (2004)		Difference between Year 2040 Build and Year 2040 No-Build	
	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
R8 (1)			51	46	**64**	**62**	13	16	**66**	**64**	15	18	2	2
R11 (6)			**59**	**53**	**59**	**56**	0	3	**67**	**64**	8	11	8	8
R12 [(1)] (3)	**57**	54	**57**	**52**	**62**	**58**	5	6	**71**	**68**	14	16	9	10
R15 (2)			54	48	**59**	**55**	5	7	**64**	**62**	10	14	5	7
R16 (1)			50A	47A	50A	47A	0	0	**67**	**65**	17	18	17	18
R17 (5)			53	45	59	54	6	9	**61**	**56**	8	11	2	2
R18 [(2)] (1)			50A	47A	50A	47A	0	0	**80**	**75**	30	28	30	28
R21 (5)			**58**	**54**	**61**	**58**	3	4	**60**	**57**	2	3	-1	-1
R22 (1)			50A	47A	50A	47A	0	0	**58**	**56**	8	9	8	9
R23 (5)			**61**	**59**	**62**	**60**	1	1	**62**	**60**	1	1	0	0
State Standards	55	50	55	50	55	50	-	-	55	50	-	-	-	-
Federal NAC	70	-	70	-	70	-	-	-	70	-	-	-	-	-

Note: Bold numbers are above state standards.
* - Number in ( ) in this column is the number of residences and/or commercial buildings represented by each receptor.
A = ambient noise levels. Noise at these receptors is dominated by non-traffic sources.
(1) Monitoring for Receptor R12 occurred at a location within the proposed Alternative W-2 corridor. For modeling purposes, the location of Receptor R12 was moved to the north to represent residences along Lano Lane between existing US 212 and the Alternative W-2 corridor. Locating the modeling location for Receptor R12 closer to old 212 results in a higher modeled traffic noise level compared to the monitored level.
(2) Receptor R18 is located on the Minnesota River underneath Alternative W-2.

TABLE 6-5B
NOISE MODELING RESULTS (ALTERNATIVE C-2) – NIGHTTIME

Receptor*	Monitored		Modeled Existing (2004)		Year 2040 No-Build		Difference Between Year 2040 No-Build and Existing (2004)		Year 2040 Build (Alternative C-2)		Difference Between Year 2040 Build and Existing (2004)		Difference between Year 2040 Build and Year 2040 No-Build	
	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
R4 (6)			54	43	**71**	**68**	17	25	**68**	**63**	14	20	-3	-5
R6 (3)			50A	47A	**59**	**56**	9	9	**57**	**55**	7	8	-2	-1
R7 (5)			**58**	**52**	**67**	**62**	9	10	**63**	**58**	5	6	-4	-4
R8 (1)			51	46	**64**	**62**	13	16	**65**	**63**	14	17	1	1
R9 (13)	**58**	**55**	**60**	**51**	**62**	**53**	2	2	**66**	**60**	6	9	4	7
R10 (8)			**69**	**65**	**73**	**67**	4	2	**69**	**63**	0	2	-4	-4
R11 (6)			**59**	**53**	**59**	**56**	0	3	**64**	**61**	5	8	5	5
R12 (3)	**57**	54	**57**	**52**	**62**	**58**	5	6	**62**	**60**	5	8	0	2
R13 (1)			53	50	54	**52**	1	2	**63**	**62**	10	12	9	10
R14 (1)			**56**	**53**	**57**	**55**	1	2	**63**	**61**	7	8	6	6
R19 (4)			55	**53**	**57**	**55**	2	2	**58**	**57**	3	4	1	2
R20 (15)	**60**	**56**	**62**	**60**	**63**	**61**	1	1	**63**	**61**	1	1	0	0
R21 (5)			**58**	**54**	**61**	**58**	3	4	**60**	**57**	2	3	-1	-1
R36 (12)			**68**	**64**	**69**	**66**	1	2	**73**	**69**	5	5	4	3
State Standards	55	50	55	50	55	50	-	-	55	50	-	-	-	-
Federal NAC	70	-	70	-	70	-	-	-	70	-	-	-	-	-

Note: Bold numbers are above state standards.
* - Number in ( ) in this column is the number of residences and/or commercial buildings represented by each receptor.
A = ambient noise levels. Noise at these receptors is dominated by non-traffic sources.

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TABLE 6-5C
NOISE MODELING RESULTS (ALTERNATIVE C-2A) – NIGHTTIME

Receptor*	Monitored		Modeled Existing (2004)		Year 2040 No-Build		Difference Between Year 2040 No-Build and Existing (2004)		Year 2040 Build (Alternative C-2A)		Difference Between Year 2040 Build and Existing (2004)		Difference between Year 2040 Build and Year 2040 No-Build	
	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
R1 (9)			48	40	**58**	**54**	10	14	**64**	**62**	16	22	6	8
R2 (15)			48	43	55	**54**	7	11	**62**	**60**	14	17	7	6
R3 (7)			52	44	**64**	**61**	12	17	**66**	**64**	14	20	2	3
R4 (6)			54	43	**71**	**67**	17	24	**68**	**63**	14	20	-3	-4
R5 (1)			**60**	50	**67**	**59**	7	9	**71**	**68**	11	18	4	9
R6 (3)			50A	47A	**59**	**56**	9	9	**65**	**63**	15	16	6	7
R7 (5)			**58**	**52**	**67**	**62**	9	10	**63**	**58**	5	6	-4	-4
R9 (13)	**58**	**55**	**60**	**51**	**62**	**53**	2	2	**65**	**58**	5	7	3	5
R10 (8)			**69**	**65**	**73**	**67**	4	2	**70**	**64**	1	1	-3	-3
R13 (1)			53	50	54	52	1	1	**71**	**68**	18	18	17	16
R14 (1)			**56**	**53**	**57**	**55**	1	2	**57**	**55**	1	2	0	0
R19 (4)			55	**53**	**57**	**55**	2	2	**66**	**64**	11	11	9	9
R20 (15)	**60**	**56**	**62**	**60**	**63**	**61**	1	1	**66**	**63**	4	3	3	2
R21 (5)			**58**	**54**	**61**	**58**	3	4	**60**	**57**	2	3	-1	-1
R36 (12)			**68**	**64**	**69**	**66**	1	2	**70**	**67**	2	3	1	1
R37 (1)			**62**	**60**	**65**	**62**	3	2	**66**	**63**	4	3	1	1
State Standards	55	50	55	50	55	50	-	-	55	50	-	-	-	-
Federal NAC	70	-	70	-	70	-	-	-	70	-	-	-	-	-

Note: Bold numbers are above state standards.
* - Number in ( ) in this column is the number of residences and/or commercial buildings represented by each receptor.
A = ambient noise levels. Noise at these receptors is dominated by non-traffic sources.

TABLE 6-5D
NOISE MODELING RESULTS (ALTERNATIVE E-1) – NIGHTTIME

Receptor*	Monitored		Modeled Existing (2004)		Year 2040 No-Build		Difference Between Year 2040 No-Build and Existing (2004)		Year 2040 Build (Alternative E-1)		Difference Between Year 2040 Build and Existing (2004)		Difference between Year 2040 Build and Year 2040 No-Build	
	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
R21 (5)			**58**	**54**	**61**	**58**	3	4	**60**	**56**	2	2	-1	-2
R24 (7)			**59**	**54**	**66**	**63**	7	9	**67**	**64**	8	10	1	1
R25 (1)			**58**	54	**67**	**65**	9	11	**71**	**69**	13	15	4	4
R26 (6)			49	45	**59**	**58**	10	13	**67**	**65**	18	20	8	7
R27 (17)			53	49	**58**	**56**	5	7	**60**	**59**	7	10	2	3
R28 (2)			49	46	**62**	**60**	13	14	**62**	**61**	13	15	0	1
R29 (11)	**58**	**54**	54	49	**59**	**55**	5	6	**77**	**72**	23	23	18	17
R30 (9)			50A	47A	50A	47A	0	0	54	**53**	4	6	4	6
R31 (5)			54	**52**	55	**52**	1	0	**62**	**60**	8	8	7	8
R32 (10)			54	50	55	**51**	1	1	**68**	**66**	14	16	13	15
R33 (4)			55	49	55	50	0	1	**64**	**62**	9	13	9	12
R34 (27)			50A	47A	50A	47A	0	0	**63**	**61**	13	14	13	14
R35 (15)			**60**	**58**	**61**	**59**	1	1	**59**	**57**	-1	-1	-2	-2
State Standards	55	50	55	50	55	50	-	-	55	50	-	-	-	-
Federal NAC	70	-	70	-	70	-	-	-	70	-	-	-	-	-

Note: Bold numbers are above state standards.
* - Number in ( ) in this column is the number of residences and/or commercial buildings represented by each receptor.
A = ambient noise levels. Noise at these receptors is dominated by non-traffic sources.

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TABLE 6-5E
NOISE MODELING RESULTS (ALTERNATIVE E-1A) – NIGHTTIME

Receptor*	Monitored		Modeled Existing (2004)		Year 2040 No-Build		Difference Between Year 2040 No-Build and Existing (2004)		Year 2040 Build (Alternative E-1A)		Difference Between Year 2040 Build and Existing (2004)		Difference between Year 2040 Build and Year 2040 No-Build	
	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
R21 (5)			**58**	**54**	**61**	**58**	3	4	**60**	**56**	2	2	-1	-2
R24 (7)			**59**	**54**	**66**	**63**	7	9	**68**	**66**	9	12	2	3
R25 (1)			**58**	54	**67**	**65**	9	11	**73**	**70**	15	16	6	5
R27 (17)			53	49	**58**	**56**	5	7	**62**	**61**	9	12	4	5
R28 (2)			49	46	**62**	**60**	13	14	**72**	**68**	23	22	10	8
R29 (11)	**58**	**54**	54	49	**59**	**55**	5	6	**66**	**60**	12	11	7	5
R30 (9)			50A	47A	50A	47A	0	0	**75**	**72**	25	25	25	25
R31 (5)			54	**52**	55	**52**	1	0	**64**	**63**	10	11	9	11
R32 (10)			54	50	55	**51**	1	1	**71**	**69**	17	19	16	18
R33 (4)			55	49	55	50	0	1	**63**	**60**	8	11	8	10
R34 (27)			50A	47A	50A	47A	0	0	**63**	**61**	13	14	13	14
R35 (15)			**60**	**58**	**61**	**59**	1	1	**58**	**57**	-2	-1	-3	-2
State Standards	55	50	55	50	55	50	-	-	55	50	-	-	-	-
Federal NAC	70	-	70	-	70	-	-	-	70	-	-	-	-	-

Note: Bold numbers are above state standards.
* - Number in ( ) in this column is the number of residences and/or commercial buildings represented by each receptor.
A = ambient noise levels. Noise at these receptors is dominated by non-traffic sources.

TABLE 6-5F
NOISE MODELING RESULTS (ALTERNATIVE E-2) – NIGHTTIME

Receptor*	Monitored		Modeled Existing (2004)		Year 2040 No-Build		Difference Between Year 2040 No-Build and Existing (2004)		Year 2040 Build (Alternative E-2)		Difference Between Year 2040 Build and Existing (2004)		Difference between Year 2040 Build and Year 2040 No-Build	
	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
R21 (5)			**58**	**54**	**61**	**58**	3	4	**60**	**56**	2	2	-1	-2
R24 (7)			**59**	**54**	**66**	**63**	7	9	**69**	**66**	10	12	3	3
R25 (1)			**58**	**54**	**67**	**65**	9	11	**71**	**67**	13	13	4	2
R27 (17)			53	49	**58**	**56**	5	7	**70**	**68**	17	19	12	12
R28 (2)			49	46	**62**	**60**	13	14	**70**	**67**	21	21	8	7
R30 (9)			50A	47A	50A	47A	0	0	**68**	**66**	18	19	18	19
R32 (10)			54	50	55	**51**	1	1	**60**	**58**	6	8	5	7
R33 (8)			55	49	55	50	0	1	**69**	**67**	14	18	14	17
R35 (15)			**60**	**58**	**61**	**59**	1	1	**59**	**57**	-1	-1	-2	-2
State Standards	55	50	55	50	55	50	-	-	55	50	-	-	-	-
Federal NAC	70	-	70	-	70	-	-	-	70	-	-	-	-	-

Note: Bold numbers are above state standards.
* - Number in ( ) in this column is the number of residences and/or commercial buildings represented by each receptor.
A = ambient noise levels. Noise at these receptors is dominated by non-traffic sources.

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Noise monitoring and modeling results for existing residential receptors for existing (year 2004) conditions and for the year 2040 are presented in Tables 6-4A through 6-5F. Both daytime and nighttime L_{10} and L_{50} are shown for the existing condition and for year 2040 for both No-Build and Build alternatives. While both L_{10} and L_{50} descriptors are shown on the tables, the discussions of modeling results presented below only reference the L_{10} values, because the L_{10} descriptor is used to define both the state and federal noise level regulatory thresholds. Table 6-6 presents daytime L_{10} noise levels in relation to state noise standards and federal abatement criteria for 2040 No-Build and Build conditions.

Modeling Results

Alternative W-2

Noise monitoring and modeling results for Alternative W-2 are shown in Table 6-4A (daytime) and Table 6-5A (nighttime). The following discussion references L_{10} noise levels only.

State daytime L_{10} standards are not currently exceeded at any receptors along the Alternative W-2 corridor. State nighttime L_{10} standards are currently exceeded by 2 to 6 dBA at four receptors. In general, existing noise levels at residential sites are in the high 50s/low 60s dBA, and ambient noise levels at isolated locations in the river valley are in the mid 40s to 50 dBA.

Due to projected increases in traffic on existing roadways and the New US 212, No-Build 2040 L_{10} noise levels in the vicinity of Alternative W-2 would increase by up to 13 dBA over existing levels, while diversion of traffic to New US 212 would lessen noise increases in some other locations. Under 2040 No-Build conditions, State daytime noise standards would be reached at one receptor location and State nighttime noise standards would be exceeded at seven receptor locations in the vicinity of the W-2 corridor.

Construction of Alternative W-2 (2040 Build) would result in daytime L_{10} standards being exceeded by 4 to 16 dBA at five receptors; nighttime L_{10} standards would be exceeded at all receptors. In general, noise at isolated receptors would increase by approximately 10 to 18 dBA over existing levels; daytime noise at residences close to New US 212 would increase by approximately 8 to 15 dBA over existing levels; noise at residences elsewhere along the corridor would increase by approximately 1 to 14 dBA over existing levels.

Comparing 2040 noise levels under No-Build to those under Alternative W-2 Build conditions finds mixed results, with some receptors experiencing lower noise levels under Build conditions, others experiencing perceptible increases in noise levels under Build conditions, and currently isolated receptors experiencing much higher noise levels.

Alternative C-2

Noise monitoring and modeling results for Alternative C-2 are shown in Table 6-4B (daytime) and Table 6-5B (nighttime). The following discussion references L_{10} noise levels only.

State daytime L_{10} standards are currently exceeded by 4 and 8 dBA at two receptors along the Alternative C-2 corridor. State nighttime L_{10} standards are currently exceeded by up to 17 dBA at 9 receptors. In general, existing noise levels at residential sites are in the range of 50-60s dBA; the ambient noise levels at an isolated location is in the high 40s to 50 dBA.

Due to projected increases in traffic on existing roadways and New US 212, No-Build 2040 daytime L_{10} levels in the vicinity of Alternative C-2 would increase by up to 14 dBA over existing levels. While diversion of traffic to New US 212 would lessen noise increases in some other locations, under 2040 No-Build conditions, State daytime noise standards would be exceeded at three of the receptor locations in the vicinity of the C-2 corridor; nighttime standards would be exceeded at all but one of the receptors.

Construction of Alternative C-2 (2040 Build) would result in State daytime L_{10} standards being exceeded by 1 to 6 dBA at five receptors; nighttime L_{10} standards would be exceeded at all receptors. Noise at the most isolated receptor (R14) in the Minnesota River Valley would increase by approximately 13 dBA over existing levels. Noise at the receptor (R8) near the Alternative C-2 interchange with New US 212 would increase by approximately 14 dBA over existing conditions.

Five of the 13 receptors are predicted to have differences in noise levels that are lower under Alternative C-2 2040 Build conditions than under 2040 No-Build conditions. Noise levels that are 10 to 13 dBA higher under Build conditions occur at receptors west of existing TH 41 in the river valley.

Alternative C-2A

Noise monitoring and modeling results for Alternative C-2A are shown in Table 6-4C (daytime) and Table 6-5C (nighttime). The following discussion references L_{10} noise levels only.

State daytime L_{10} standards are currently exceeded by 4 and 8 dBA at two receptors along the Alternative C-2 corridor. State nighttime L_{10} standards are currently exceeded by up to 13 dBA at 7 receptors. In general, existing noise levels at residential sites are in the high 50s-low/mid 60s dBA and ambient noise levels at isolated locations are in the high 40s to 50 dBA.

Due to projected increases in traffic on existing roadways and New US 212, No-Build 2040 daytime L_{10} levels in the vicinity of Alternative C-2A would increase by up to 17 dBA over existing levels. While diversion of traffic to New US 212 would lessen noise increases in some other locations, under 2040 No-Build conditions, State daytime L_{10} noise standards would be exceeded at six of the receptor locations in the vicinity of the C-2A corridor; nighttime L_{10} standards would be exceeded at all but two of the receptors.

Construction of Alternative C-2A (2040 Build) would result in daytime L_{10} standards being exceeded by 1 to 8 dBA at 12 receptors; nighttime L_{10} standards would be exceeded at all receptors. In general, noise at isolated receptors would increase by approximately 11 dBA (R19)

over existing levels; daytime noise at residences close to New US 212 would increase by approximately 12 to 15 dBA over existing levels; and daytime noise in the river valley increases up to 20 dBA (R13) over existing levels.

Seven of the 15 modeled receptors are predicted to have differences in noise levels that are either imperceptible or lower under Alternative C-2A 2040 Build conditions than under 2040 No-Build conditions. Noise levels that are 9-17 dBA higher under Build conditions occur at receptors west of existing TH 41 in the river valley.

Alternative E-1

Noise monitoring and modeling results for Alternative E-1 are shown in Table 6-4D (daytime) and Table 6-5D (nighttime). The following discussion references L_{10} noise levels only.

State daytime L_{10} standards are not currently exceeded at any receptors along the Alternative E-1 corridor. State nighttime L_{10} standards are currently exceeded by up to 5 dBA at four receptors. In general, existing noise levels at residential sites are in the mid/high 50s dBA and ambient noise levels at isolated locations are in the high 40s to 50 dBA.

Due to projected increases in traffic on existing roadways and New US 212, No-Build 2040 daytime L_{10} levels in the vicinity of Alternative E-1 would increase by up to 13 dBA over existing levels. While diversion of traffic to New US 212 would lessen noise increases in some other locations, under 2040 No-Build conditions, State daytime noise standards would be exceeded at two of the receptor locations in the vicinity of the E-1 corridor; nighttime standards would be exceeded at eight receptors.

Construction of Alternative E-1 (2040 Build) would result in daytime L_{10} standards being exceeded by 4 to 12 dBA at five receptors; nighttime L_{10} standards would be exceeded at all but one receptor location. In general, daytime noise at isolated receptors would increase by approximately 8 to 14 dBA over existing levels; noise at residences close to New US 212 and US 169 would increase by up to 18 dBA over existing levels; and noise at residences elsewhere along the corridor would increase by approximately 1 to 22 dBA over existing levels.

Five of the 13 modeled receptors are predicted to have differences in noise levels that are either imperceptible or lower under Alternative E-1 2040 Build conditions than under 2040 No-Build conditions. Noise levels are notably higher under Build conditions both along existing residential areas and in isolated natural areas.

Alternative E-1A

Noise monitoring and modeling results for Alternative E-1A are shown in Table 6-4E (daytime) and Table 6-5E (nighttime). The following discussion references L_{10} noise levels only.

State daytime L_{10} standards are not currently exceeded at any receptors along the Alternative E-1A corridor. State nighttime L_{10} standards are currently exceeded by up to 4 dBA at four receptors. In general, existing noise levels at residential sites are in the mid/higher 50s dBA and ambient noise levels at isolated locations are in the high 40s to 50 dBA.

Due to projected increases in traffic on existing roadways and New US 212, No-Build 2040 L_{10} levels in the vicinity of Alternative E-1A would increase by up to 12 dBA over existing levels. While diversion of traffic to New US 212 would lessen noise increases in some other locations, under 2040 No-Build conditions, State daytime noise standards would be exceeded at two of the receptor locations in the vicinity of the E-1A corridor; nighttime standards would be exceeded at nine receptors.

Construction of Alternative E-1A (2040 Build) would result in daytime L_{10} standards being exceeded by 1 to 9 dBA at six receptors; nighttime L_{10} standards would be exceeded at all but one receptor. In general, daytime noise at isolated receptors would increase by up to 24 dBA over existing levels (Receptor R30); noise at residences close to New US 212 would increase by up to 21 over existing levels; and noise at residences elsewhere along the corridor would increase by up to 15 dBA over existing levels.

Four of the 13 receptors along the corridor are predicted to have differences in daytime noise levels that are either imperceptible or lower under Alternative E-1A 2040 Build conditions compared to 2040 No-Build conditions. Noise levels are notably higher under Build conditions both along existing residential areas and in isolated natural areas.

Alternative E-2

Noise monitoring and modeling results for Alternative E-2 are shown in Table 6-4F (daytime) and Table 6-5F (nighttime). The following discussion references L_{10} noise levels only.

State daytime L_{10} standards are not currently exceeded at any receptors along the Alternative E-2 corridor. State nighttime L_{10} standards are currently exceeded by up to 5 dBA at four receptors. In general, existing noise levels at residential sites are in the mid 50s-lower 60s dBA and ambient noise levels at isolated locations are in the high 40s to 50 dBA.

Due to projected increases in traffic on existing roadways and New US 212, No-Build 2040 L_{10} levels in the vicinity of Alternative E-2 would increase by up to 12 dBA over existing levels. While diversion of traffic to New US 212 would lessen noise increases in some other locations, under 2040 No-Build conditions, State daytime noise standards would be exceeded at two of the receptor locations in the vicinity of the E-2 corridor; nighttime standards would be exceeded at six receptors.

Construction of Alternative E-2 (2040 Build) would result in daytime L_{10} standards being exceeded by 4 to 7 dBA at six receptors; nighttime L_{10} standards would be exceeded at all

receptors. In general, noise at isolated receptors would increase by approximately 13 to 20 dBA over existing levels. Noise at residences close to New US 212 would increase by approximately 5 to 19 dBA over existing levels.

Four of the nine receptors along the corridor are predicted to have differences in noise levels that are either imperceptible or lower under Alternative E-2 2040 Build conditions than under 2040 No-Build conditions. Noise levels are notably higher (up to 20 dBA) in isolated areas.

Traffic Noise Impact Summary

Table 6-6 summarizes the traffic noise impact (i.e., number of modeled receptors exceeding State and Federal standards) associated with each Build Alternative. At the top of the table is the total number of receptors modeled for each Build Alternative. Within the table, the first number reported is the number of modeled receptors that exceed State daytime noise standards, exceed State nighttime noise standards, approach or exceed Federal noise abatement criteria (69 dBA), and meet Federal noise abatement criteria (increase ≥ 5 dBA). The second number reported in parentheses is the total number of residences represented by the modeled receptors that exceed State noise standards and Federal noise abatement criteria. This data is provided for existing, No-Build (year 2040) and Build (year 2040) conditions for each Build Alternative.

For example, under Alternative W-2, traffic noise was modeled at 10 receptor locations. None of these receptor locations exceed State daytime noise standards under existing and future No-Build conditions. However, 5 of the 10 modeled receptors will exceed State daytime noise standards under Alternative W-2 conditions. These 5 receptors represent a total of 12 first-row residences adjacent to the Alternative W-2.

As shown in Table 6-6, approximately 30 percent (Alternative C-2) to approximately 70 percent (Alternative E-2) of the modeled receptors, representing 12 (Alternative W-2) to 45 (Alternative E-2) residences, exceed State daytime noise standards under year 2040 Build conditions. Nearly all modeled receptors for all Build Alternatives exceed State nighttime noise standards. Approximately 15 percent (Alternative C-2 and Alternative E-1) to 56 percent (Alternative E-2) of the modeled receptor locations will approach (69 dBA) or exceed Federal noise abatement criteria under year 2040 Build conditions. Approximately 85 percent of the modeled receptor locations, representing 102 residences, will experience a noise increase of 5 dBA or greater under Alternatives E-1 and E-1A, as compared to 54 percent of modeled noise receptors representing 30 residences for Alternative C-2.

TABLE 6-6
TRAFFIC NOISE IMPACT SUMMARY TABLE

Type of Impact	Build Alternative Corridor																	
	W-2 10 Receptors Modeled			C-2 13 Receptors Modeled			C-2A 15 Receptors Modeled			E-1 13 Receptors Modeled			E-1A 12 Receptors Modeled			E-2 9 Receptors Modeled		
	Existing (Year 2003-2004)	No-Build (Year 2040)	Build (Year 2040)	Existing (Year 2003-2004)	No-Build (Year 2040)	Build (Year 2040)	Existing (Year 2003-2004)	No-Build (Year 2040)	Build (Year 2040)	Existing (Year 2003-2004)	No-Build (Year 2040)	Build (Year 2040)	Existing (Year 2003-2004)	No Build (Year 2040)	Build (Year 2040)	Existing (Year 2003-2004)	No-Build (Year 2040)	Build (Year 2040)
Receptors Over State Daytime Standards (L_{10})	0	0	5 (12)	2 (20)	4 (31)	5 (40)	2 (20)	6 (33)	12 (78)	0	2 (8)	5 (35)	0	2 (8)	6 (40)	0	2 (8)	6 (45)
Receptors Over State Nighttime Standards (L_{10})	4 (19)	7 (27)	10 (30)	9 (63)	13 (82)	14 (83)	9 (61)	14 (90)	16 (106)	4 (28)	8 (64)	12 (110)	4 (28)	8 (64)	12 (113)	4 (28)	6 (47)	9 (74)
Receptors Approaching/ Exceeding Federal Abatement Criteria (69 dBA)	0	0	2 (4)	2 (20)	3 (26)	3 (26)	2 (20)	3 (26)	5 (28)	0	0	4 (29)	0	0	5 (29)	0	0	6 (44)
Receptors Meeting Federal Abatement Criteria (increase $\geq$5 dBA over existing conditions)	N/A	6 (14)	8 (20)	N/A	4 (15)	8 (33)	N/A	6 (33)	11 (75)	N/A	8 (76)	11 (102)	N/A	8 (72)	10 (96)	N/A	4 (36)	7 (54)

Note: Number in parentheses is the total number of residences and/or commercial properties represented by the modeled receptors that would exceed State noise standards or Federal noise abatement criteria.
N/A = not applicable.

Noise Levels on Existing TH 41

Table 6-7 presents daytime and nighttime L_{10} noise levels on existing TH 41 at Receptor R10 in downtown Chaska under existing, 2040 No-Build and 2040 Build conditions. As shown, under year 2040 No-Build conditions, daytime noise levels are anticipated to increase by 1 dBA (L_{10}) due to increases in traffic volumes. Construction of any of the Build Alternatives (year 2040) is anticipated to result in noise levels lower than existing conditions. For each of the Build Alternatives, daytime and nighttime noise levels are anticipated to be 3-4 dBA lower, respectively, than under 2040 No-Build conditions. Noise levels exceed state standards and approach or exceed federal noise standards for existing, No-Build and Build conditions.

TABLE 6-7
NOISE LEVELS (L_{10}) ON EXISTING TH 41 (RECEPTOR R10)
EXISTING, 2040 NO-BUILD AND 2040 BUILD CONDITIONS

	Existing	2040 No-Build	2040 Build					
			W-2	C-2	C-2A	E-1	E-1A	E-2
Daytime								
R10 noise level (dBA)	73	74	71	70	71	70	70	70
Difference from Existing	–	1	-3	-3	-2	-3	-3	-3
Difference from No-Build	–	–	-4	-4	-3	-4	-4	-4
Nighttime								
R10 noise level (dBA)	69	73	70	69	70	69	69	69
Difference from Existing	–	1	1	0	1	0	0	0
Difference from No-Build	–	–	-3	-4	-3	-4	-4	-4

6.2.2.2. Noise on the River

Construction of a new bridge over the Minnesota River would introduce traffic noise to portions of the river surface that currently do not experience it, and people traveling on the river could be expected to hear this traffic noise as they pass beneath the bridge. Modeling was done for one bridge alignment (Alternative W-2) to document noise impacts experienced by boaters on the river itself. Alternative W-2 crosses the Minnesota Valley Recreation Area and the Minnesota Valley Natural Wildlife Refuge (NWL). Analysis results for daytime L_{10} and L_{50} noise on the river at different distances away from the proposed bridge are shown in Table 6-8. The differences in elevation above the normal water level (NWL) are similar along all six proposed Build alignments, the higher anticipated traffic volumes along the east alternatives (Alternative E-1, E-1A, E-2) may result in slightly higher noise levels on the river immediately adjacent to these alternatives.

Receptors R13 and R14 represent locations within the Minnesota Valley Recreation Area, located adjacent to Build Alternatives C-2 and C-2A. Noise levels at these locations would be up to 71 dBA (daytime L_{10}) for Receptor R13 under Alternative C-2A year 2040 conditions and 64 dBA for both Receptors R13 and R14 under Alternative C-2 year 2040 conditions. This

noise level would be above the daytime L_{10} State noise standards for Alternative C-2A and below the daytime L_{10} State noise standard for Alternative C-2. These daytime noise levels represent a 10-20 dBA increase above existing conditions and a 10-17 dBA increase over year 2040 No-Build conditions.

TABLE 6-8
NOISE MODELING RESULTS ON THE RIVER
(ALTERNATIVE W-2) – DAYTIME

Horizontal Distance from Bridge (feet)	Modeled Build (2040)	
	L_{10}	L_{50}
50	**81**	77
100	**79**	76
200	**77**	74
400	**74**	72
800	70	69
1,600	67	65
State Standards (NAC-1)	**65**	**60**
Federal Criteria (Activity Category B)	**70**	**-**

Bold numbers are above federal noise abatement criteria for activity category B.

Receptor R16 is located within the Minnesota Valley Natural Wildlife Refuge, which is crossed by Alternative W-2. Noise levels at this location would be 68 dBA (L_{10}) and 67 dBA (L_{10}) in the daytime and nighttime, respectively, for the year 2040 Build condition. This noise level would be above the State daytime and nighttime standards and up to 20 dBA above existing conditions.

6.2.3 Mitigation

Since both State and Federal noise criteria are exceeded at a number of existing receptors for all six Build Alternatives, noise impacts would result from construction of any of the Build Alternatives. Mitigation measures to avoid and/or minimize noise impacts could include consideration of use of noise barriers or other sound attenuation methods and/or incorporation of land use controls to limit the number of noise-sensitive receptors located adjacent to or in the vicinity of the preferred Build highway corridor. Evaluation of noise barriers as mitigation to avoid and/or minimize noise impacts will be included in the Tier II EIS. Guidance for local governments regarding potential noise mitigation measures such as recommended set-back distances from the highway corridor for proposed developments will be provided for the preferred alternative as part of the Tier I FEIS process.

6.2.4 Conclusions

Over the next 35 years, increased traffic on many of the roads in the study area, particularly TH 41, US 212, and US 169 will lead to higher traffic noise for the residences adjacent to these roads by the year 2040 regardless of which alternative is selected.

Residences are currently present along each of the proposed alternatives; the densest existing residential development near a proposed Build alternative corridor is found along the Alternative E-1 corridor. Other existing concentrations of residential receptors are in downtown Chaska and the eastern portion of the City of Carver, as well as mobile home communities along US 169 in Jackson Township and in eastern Chaska. A large amount of residential development is planned to occur in Chaska and Carver adjacent to western and central Build alternatives within the study timeframe. Residential development is also pending south of US 169 east of CSAH 69 in Shakopee. The noise analysis completed for this Tier I DEIS only analyzed existing receptors; but further discussion of potential impacts to future development along the identified preferred corridor and recommended avoidance measures based on land use planning strategies will be included in the Tier I FEIS.

Existing A-weighted noise levels vary from the low 40s in isolated areas away from existing traffic noise sources, to 69 dBA along existing TH 41 in Chaska. Increases in traffic volumes by the year 2040 would result in No-Build noise levels increasing by up to 17 dBA over existing noise levels at rural locations within the project area where lower volume roadways contribute to the existing traffic noise; this increase under future No-Build conditions is a result of traffic noise from New US 212. New US 212 is currently under construction and anticipated for completion by year 2008. Construction of any of the Build Alternatives would result in an increase of L_{10} noise levels from 0 to 18 dBA over existing conditions in areas close to existing high volume roadways, and to up to 32 dBA in isolated areas currently not exposed to traffic noise.

6.3. PRIME AND STATEWIDE IMPORTANT FARMLAND

6.3.1 Regulatory Overview

The Federal Farmland Protection and Policy Act (FPPA) of 1981 and the Minnesota Agricultural Land Preservation and Conservation Policy Act (M.S. 17.80-17.84) have been enacted to ensure that impacts on agricultural lands and operations are integrated into the decision-making process, and that impacts upon agricultural land are minimized to a reasonable extent. The project area was evaluated to identify any soils classified by the Natural Resources Conservation Service (NRCS) as being prime and unique farmland or statewide and local important farmland. In addition, the study area was reviewed for land held under state and/or federal easement or protection programs.

6.3.2 Affected Environment

Numerous agricultural properties are located within the study area. They are mostly concentrated in the townships of Chaska, Jackson, and Louisville and the City of Carver. As discussed in Chapter 5, some of this land is planned for development in the near future. Figures 5-4 and 5-5 in Chapter 3 depict agricultural land use (as well as other uses) for existing and 2030 conditions. Scott County and Carver County NRCS offices of the U.S. Department of Agriculture were contacted to obtain information on the location of prime and unique and statewide farmland in each county and to identify whether any lands within the study were held under state and/ or federal easement or protection programs.

Residences are currently present along each of the proposed alternatives; the densest existing residential development near a proposed Build alternative corridor is found along the Alternative E-1 corridor. Other existing concentrations of residential receptors are in downtown Chaska and the eastern portion of the City of Carver, as well as mobile home communities along US 169 in Jackson Township and in eastern Chaska. A large amount of residential development is planned to occur in Chaska and Carver adjacent to western and central Build alternatives within the study timeframe. Residential development is also pending south of US 169 east of CSAH 69 in Shakopee. The noise analysis completed for this Tier I DEIS only analyzed existing receptors; but further discussion of potential impacts to future development along the identified preferred corridor and recommended avoidance measures based on land use planning strategies will be included in the Tier I FEIS.

Existing A-weighted noise levels vary from the low 40s in isolated areas away from existing traffic noise sources, to 69 dBA along existing TH 41 in Chaska. Increases in traffic volumes by the year 2040 would result in No-Build noise levels increasing by up to 17 dBA over existing noise levels at rural locations within the project area where lower volume roadways contribute to the existing traffic noise; this increase under future No-Build conditions is a result of traffic noise from New US 212. New US 212 is currently under construction and anticipated for completion by year 2008. Construction of any of the Build Alternatives would result in an increase of L_{10} noise levels from 0 to 18 dBA over existing conditions in areas close to existing high volume roadways, and to up to 32 dBA in isolated areas currently not exposed to traffic noise.

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Numerous agricultural properties are located within the study area. They are mostly concentrated in the townships of Chaska, Jackson, and Louisville and the City of Carver. As discussed in Chapter 5, some of this land is planned for development in the near future. Figures 5-4 and 5-5 in Chapter 3 depict agricultural land use (as well as other uses) for existing and 2030 conditions. Scott County and Carver County NRCS offices of the U.S. Department of Agriculture were contacted to obtain information on the location of prime and unique and statewide farmland in each county and to identify whether any lands within the study were held under state and/ or federal easement or protection programs.

6.3.3 Environmental Consequences

No-Build Alternative

No impacts to farmland are anticipated with the No-Build alternative.

Build Alternatives

As identified in Section 6.3.1, the Scott County and Carver County NRCS offices were asked to provide assistance with the completion of the AD 1006 form (the Federal Farmland Conversion Impact Rating form used for proposed conversions of farmland to non-agricultural uses). Table 6-9 provides a summary of the information received from the NRCS (see Appendix A for complete information on the AD 1006 results). The acreages are rounded. There are differences between the number of acres in agricultural use to be converted to highway right of way reported in Chapter 5, Table 5-9, and the number of acres of farmland to be converted reported below in Table 6-9 because the Table 5-9 reflects land classification as assigned for County property assessment and Table 6-9 reflects most recent available MLCCS cropland cover data (mid-1990s). Note also that Table 5-9 provides information about number of affected agricultural land owners. Table 6-10 also provides information about number of affected agricultural landowners and parcels.

TABLE 6-9
FARMLAND CONVERSION IMPACT SUMMARY

	Acres to be Converted Directly[2]			**AD 1006 Score[1]**			**Acres to be Converted as a Percent of Farmland in County with Equal or Higher Relative Value[1][3]**	
Alternative	Scott	Carver	Total	Scott	Carver	Average	Scott	Carver
W-2	4	87	91	137	133	135	0.01	0.05
C-2	38	110	148	145	144	145	0.08	0.06
C-2A	24	77	101	102	144	123	0.05	0.04
E-1	43	7	50	156	124	140	0.09	<0.01
E-1A	43	49	92	156	124	140	0.09	0.03
E-2	27	51	78	141	126	134	0.05	0.03

(1) Data were provided by the NRCS offices of the relevant county as part of the USDA Farmland Conversion Impact Rating process.
(2) Note: Total acres to be directly converted is based on most recent MLCCS cropland cover data.
(3) Percent of farmland in county with equal or higher relative value was calculated by dividing the total acres to be converted by total acres prime and unique farmland in the county.

The results of the U.S. Department of Agriculture Farmland Conversion Impact Rating process as provided by NRCS are summarized in Table 6-9 (see Appendix A for completed forms). Based on most recent MLCCS data, Alternative C-2 would require the greatest total acreage of prime and unique statewide and local farmland; note that Table 5-9 reports that Alternative C-2 also has the greatest impact on property classified as agricultural for property tax purposes. However, much of the affected farmland in the Carver County portion C-2 corridor is

planned for development in the near future. Note that the AD 1006 score does not exceed 160 points for any of the Build Alternatives. None of the farmland impacts posed by any of the Build Alternatives represents a substantial portion of farmland in either of the study area counties, with the greatest proportional impact being 0.09 percent of all farmland in the County (Scott) with equal or higher value. Depending on timing of right of way acquisition, actual farmland impacts will likely be lower than those identified due to planned transition in land use.

TABLE 6-10
AGRICULTURAL PROPERTY IMPACTS

	Alternatives					
	W-2	**C-2**	**C-2A**	**E-1**	**E-1A**	**E-2**
Agricultural Landowners	9	14	14	6	6	7
Agricultural Parcels	17	15	17	11	10	10

Note: Several parcels classified as agricultural are owned by development companies.

6.3.4 Mitigation

Acquisition of any farmland would be in conformance with the Uniform Relocation and Real Property Acquisition Act of 1970, as amended by the surface Transportation and Uniform Relocation Assistance Act of 1989 and 49 Code of Federal Regulations, Part 24. See Section 5.2.3 for additional information. It is important to note that the impacts to farmland that are actually likely to occur are reduced by the orderly development of land (i.e., conversion of farmland to urban uses) provided for in local comprehensive plans and processes and by the opportunity for New TH 41 corridor preservation to take place in cooperation with local planning. Through this approach, much of the current farmland affected by any of the Build Alternatives will likely not be acquired until conversion to non-agricultural use (through development) is imminent. Efforts to avoid and minimize impacts to any remaining farmland will be part of the Tier II EIS process.

6.4. CONTAMINATED PROPERTIES

The presence of potentially contaminated properties is a concern in the development of highway projects because of the potential clean up costs and public health concerns associated with encountering unexpected wastes or contaminated soil or groundwater. Potentially contaminated sites are identified early during project development to avoid or minimize impacts.

6.4.1 Affected Environment

Phase I Environmental Site Assessments (ESAs) were conducted to assess the likely presence of potential or known contaminated properties within or directly adjacent to (within 1/8 mile) the alternative corridors (scoping corridors). The Phase I ESAs were completed in February 2006 in general conformance with Article 2, Minnesota Department of Transportation (Mn/DOT) Scope of work, and procedures in the ASTM Practice E 1527-00 (*Phase I ESAs- Proposed TH 41 New River Crossing- Alternatives W-2, C-2, E-1, and E-2 (C-2 included C-2A and E-1 included E-1A), Braun Intertec Corp.).* The Phase I ESA for Alternative C-2 was updated with an

planned for development in the near future. Note that the AD 1006 score does not exceed 160 points for any of the Build Alternatives. None of the farmland impacts posed by any of the Build Alternatives represents a substantial portion of farmland in either of the study area counties, with the greatest proportional impact being 0.09 percent of all farmland in the County (Scott) with equal or higher value. Depending on timing of right of way acquisition, actual farmland impacts will likely be lower than those identified due to planned transition in land use.

TABLE 6-10
AGRICULTURAL PROPERTY IMPACTS

	Alternatives					
	W-2	**C-2**	**C-2A**	**E-1**	**E-1A**	**E-2**
Agricultural Landowners	9	14	14	6	6	7
Agricultural Parcels	17	15	17	11	10	10

Note: Several parcels classified as agricultural are owned by development companies.

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Acquisition of any farmland would be in conformance with the Uniform Relocation and Real Property Acquisition Act of 1970, as amended by the surface Transportation and Uniform Relocation Assistance Act of 1989 and 49 Code of Federal Regulations, Part 24. See Section 5.2.3 for additional information. It is important to note that the impacts to farmland that are actually likely to occur are reduced by the orderly development of land (i.e., conversion of farmland to urban uses) provided for in local comprehensive plans and processes and by the opportunity for New TH 41 corridor preservation to take place in cooperation with local planning. Through this approach, much of the current farmland affected by any of the Build Alternatives will likely not be acquired until conversion to non-agricultural use (through development) is imminent. Efforts to avoid and minimize impacts to any remaining farmland will be part of the Tier II EIS process.

6.4. CONTAMINATED PROPERTIES

The presence of potentially contaminated properties is a concern in the development of highway projects because of the potential clean up costs and public health concerns associated with encountering unexpected wastes or contaminated soil or groundwater. Potentially contaminated sites are identified early during project development to avoid or minimize impacts.

6.4.1 Affected Environment

Phase I Environmental Site Assessments (ESAs) were conducted to assess the likely presence of potential or known contaminated properties within or directly adjacent to (within 1/8 mile) the alternative corridors (scoping corridors). The Phase I ESAs were completed in February 2006 in general conformance with Article 2, Minnesota Department of Transportation (Mn/DOT) Scope of work, and procedures in the ASTM Practice E 1527-00 (*Phase I ESAs- Proposed TH 41 New River Crossing- Alternatives W-2, C-2, E-1, and E-2 (C-2 included C-2A and E-1 included E-1A), Braun Intertec Corp.).* The Phase I ESA for Alternative C-2 was updated with an

addendum in May 2006, following revision to the Alternative C-2 corridor. The executive summary of each of these ESAs and the Addendum are included in *Volume II: Technical Memoranda*. The Phase I ESAs are available from Mn/DOT.

The Phase I ESAs compiled the following information:

- A review of reasonably ascertainable and practically reviewable regulatory information published by state and federal agencies, health, and /or environmental agencies.
- A review of the history of each corridor, including aerial photographs, fire insurance maps, directories, and other readily available corridor development data.
- A reconnaissance and environmental review of each corridor, including an assessment of the corridor for indicators of hazardous materials, petroleum products, polychlorinated biphenyls (PCBs), wells, storage tanks, solid waste disposal, pits and sumps, and utilities.
- An area reconnaissance, including a brief review of adjacent property uses and any pertinent environmental information noted in the corridor vicinity.
- Interviews with local government officials or agencies having jurisdiction over hazardous waste disposal or other environmental matters in the area of the corridor.

Sites of potential concern identified by a Phase I ESA can be categorized into three risk areas: high, medium, or low potential for environmental risk. Table 6-11 provides definitions for properties considered to have a high, medium or low potential for contamination.

TABLE 6-11
POTENTIAL FOR CONTAMINATION: DEFINITIONS

High Potential for Contamination	Sites where there are one or more of the following: ▪ documented releases to the subsurface, such as a leak or spill ▪ a large amount of chemicals known or inferred to be in use at the facility ▪ stains, odors, stressed vegetation or some other indication that a release has occurred ▪ active or inactive dumps/landfills
Medium Potential for Contamination	Sites where there are one or more of the following: ▪ known or inferred medium or small quantities of chemicals used or stored ▪ underground storage tanks with no documented release ▪ indications of poor housekeeping (poor housekeeping can indicate that any leaks or spills which occur may not be handled correctly) ▪ documented releases that have the potential to migrate to the corridor even though the site is located more than 500 feet from the existing corridor right of way
Low Potential for Contamination	Sites where there are one or more of the following: ▪ known or inferred small or very small quantities of chemicals used or stored on the property ▪ indications of good housekeeping (good housekeeping indicates that any leaks or spills which occur are more likely to be handled correctly)

Source: Mn/DOT Highway Development Process Handbook. Contaminated Properties, Appendix 1.

6.4.2 Environmental Consequences

No-Build Alternative

Because the No-Build Alternative would not involve new construction, it would not have impacts on potentially contaminated sites.

Build Alternatives

The Phase I ESAs identified many known or potentially contaminated properties in the Build alternatives. Each identified property was rated as having high, medium, or low potential for contamination (as defined in Table 6-10). Figure 6-2 depicts the locations of all of the properties in the broad scoping corridors that are rated as high or medium. The Phase I ESA provides detailed information about each of these as well as for the sites that were rated low. Table 6-12 lists those sites that may be in or near the alignment corridor for any of the Build alternatives, their general location and the reason for their assessment as medium or high potential for contamination. Table 6-13 summarizes the number of medium and high risk potential sites identified by Build alternative. As shown, each of the alternatives affects priorities that have high risk of contamination, with Alternatives C-2 and C-2A affecting the most high-risk properties and Alternatives E-1, E-1A and E-2 affecting the fewest high-risk properties.

No sites in the study are appeared on the EPA's National Priorities List (NPL) of uncontrolled or abandoned hazardous waste facilities identified for priority remedial actions under the Superfund Program or the EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) listing of actual and potential hazardous waste facilities. Nor did any sites in the study area appear on the MPCA's Superfund Permanent List of Priorities (SPL).

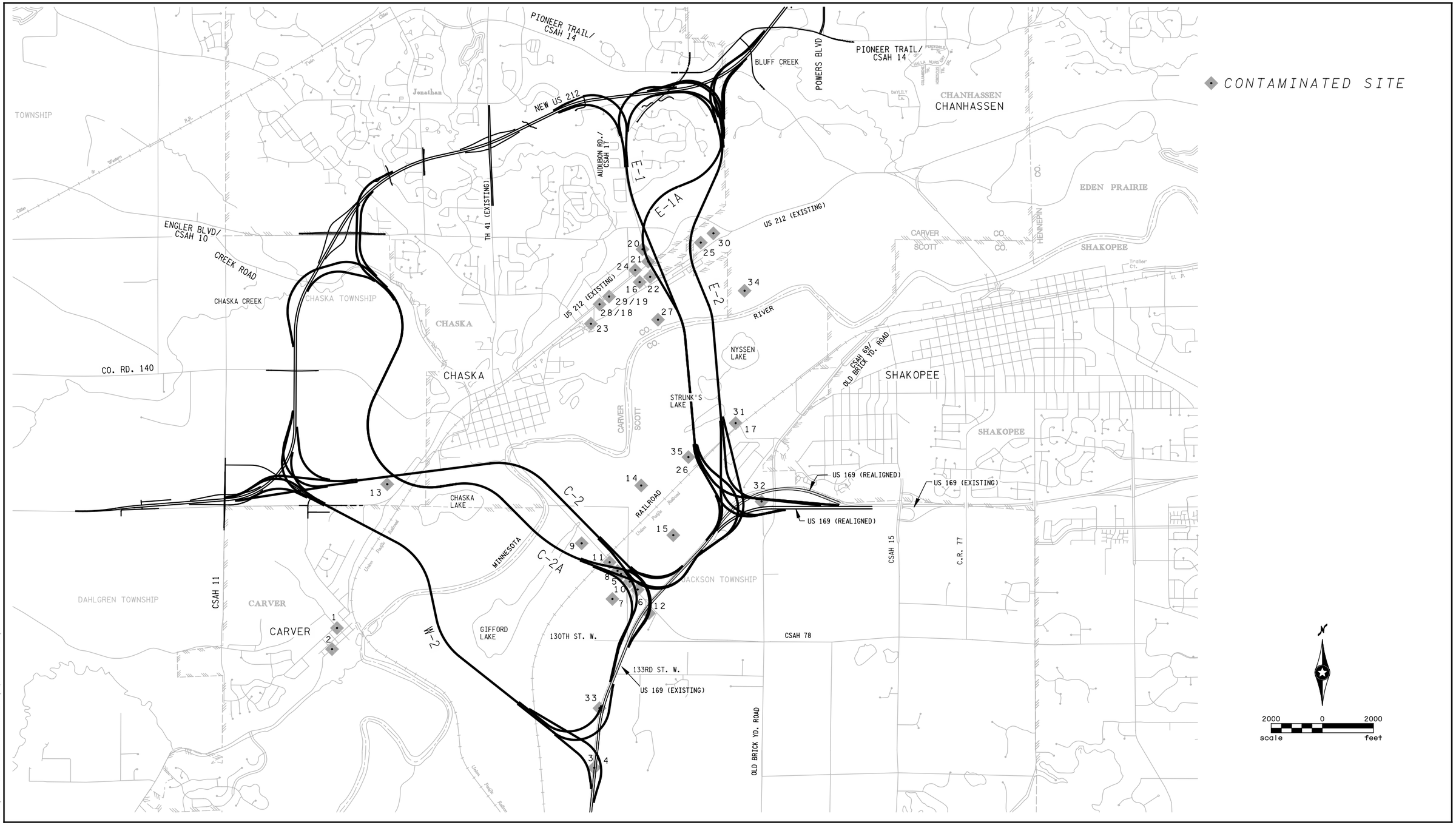
6.4.3 Mitigation

Further evaluation of potentially contaminated properties identified in the Phase I ESAs will be completed for the preferred alternative during the Tier II EIS process. Any properties within the vicinity of the preferred alternative that have the potential to be affected by construction and/or would be acquired as right of way would be investigated, if necessary, to determine the extent and magnitude of contaminated soil and/or groundwater in the areas of concern. The results of this investigation would be used to determine whether the contaminated materials can be avoided or whether the project's impacts to these properties can be minimized. If necessary, a plan would be developed for properly handling and for treating contaminated soil and/or groundwater during construction. Any soil and groundwater remediation activities would be coordinated with appropriate regulatory agencies.

TABLE 6-12
SITES WITH MEDIUM OR HIGH POTENTIAL FOR CONTAMINATION NEAR BUILD ALTERNATIVE CORRIDORS

Alternative	Potential for Contamination	# of properties	Location	Description (Figure 6-2 Reference Number)
W-2	Medium	0	NA	NA
	High	3	New TH 41/US 169 interchange area	Auto salvage yard that operated until mid-1980s; file review indicates that some remaining buried waste is likely. (3) 2 active gravel pits; potential for imported material from unknown sources and for hazardous solid waste materials (4, 33)
C-2	Medium	2	New TH 41/US 169 interchange area	Properties with underground storage tanks (USTs), but no documented releases (5,6)
	High	7	New TH 41/US 169 interchange area	Vehicle-oriented businesses (e.g. sales, gas stations, truck station), all with documented releases from leaking underground storage tanks (LUSTs) (7,8,10,11,12)
			West of New TH 41corridor, south of River, between UPRR and Gifford Lake	Farm with LUST (9)
			New TH 41 and existing US 212	Active gravel pit; potential for imported material from unknown sources and for hazardous solid waste materials (13)
C-2A	Medium	2	New TH 41/US 169 interchange area	Properties with underground storage tanks (USTs), but no documented releases (5,6)
	High	7	New TH 41/US 169 interchange area	Vehicle-oriented businesses (e.g. sales, gas stations, truck station), all with LUSTs (7,8,10,11,12)
			New TH 41/existing US 212	Active gravel pit; potential for imported material from unknown sources and for hazardous solid waste materials (13)
			West of New TH 41corridor, south of River, between UPRR and Gifford Lake	Farm with LUST (9)
E-1	Medium	5	New TH 41/US 169 interchange area	Property with above ground storage tank (AST) (32)
			New TH 41, existing US 212, Audubon Road	Vehicle-oriented businesses (e.g. gas stations, auto/truck service) with USTs, but no documented releases (16, 21, 22) Business with potential for dry-cleaning chemicals to be located previously or currently on site, but no documented releases (20)
	High	1	New TH 41 corridor/north of UPRR	Disturbed soil associated with an adjacent gravel pit; potential for imported material from unknown sources and for hazardous solid waste materials (26)
E-1A*	Medium	5	New TH 41/US 169 interchange area	Business with AST but no documented releases (32)
			New TH 41/ existing US 212/ Audubon Road	Vehicle-oriented businesses (e.g. gas stations, auto/truck service) with USTs, but no documented releases (16, 21, 22) Business with potential for dry-cleaning chemicals to be located previously or currently on site, but no documented releases (20)
	High	1	New TH 41, north of UPRR	Disturbed soil associated with an adjacent gravel pit; potential for imported material from unknown sources and for hazardous solid waste materials (26)
E-2	Medium	2	New TH 41/US 169 interchange area	Business with AST but no documented releases (32)
			New TH 41/UPRR	Farm with AST but no documented releases (31)
	High	1	New TH 41/Stoughton Road	Industrial business with groundwater contamination associated with LUST incidents. (25)

Note: South of existing US 212, E-1 and E-1A are on the same alignment.



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CONTAMINATED SITES

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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Figure 6-2

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TABLE 6-13
CONTAMINATED SITES SUMMARY

Number of Sites Near Corridor		Alternatives					
		W-2	C-2	C-2A	E-1	E-1A	E-2
Contamination Potential	Medium	0	2	2	5	5	2
	High	3	7	7	1	1	1

6.5 VISUAL IMPACTS

This section examines the existing visual environment in the project area, what visual impacts would result from the implementation of a No-Build or the Build alternatives, the viewers who would be affected by visual changes, and the possible mitigation measures. The construction of a new bridge crossing the Minnesota River along with the associated roadways and on/off ramps will have a dominant and permanent visual presence in the project area. Of note, this assessment is based on existing land uses, and that future conditions along each of the alternatives are expected to change as development and other land use changes occur prior to project construction.

6.5.1 Affected Environment

6.5.1.1 Visual Elements and Landscapes

This section describes the existing visual elements in the vicinity of each alternative and how they combine to create a landscape.

Figure 6-3 illustrates the portions of the study area comprising each of the landscapes discussed below and the general topography of the area.

6.5.1.1.1 *Visual Elements*

The visual elements of the study area can be divided into two groups: natural and cultural. These groups are defined as follows:

Natural Elements

The study area's natural environment is composed of those visual elements not constructed by humans. The dominant feature of the natural environment in the study area is the Minnesota River; however, other features include the wetlands, forested areas and scenic vistas of the surrounding area. Natural visual elements provide a sense of landscape harmony. Landscape harmony refers to the balance and continuity of water, vegetation and topography with constructed elements of buildings and roadways.

TABLE 6-13
CONTAMINATED SITES SUMMARY

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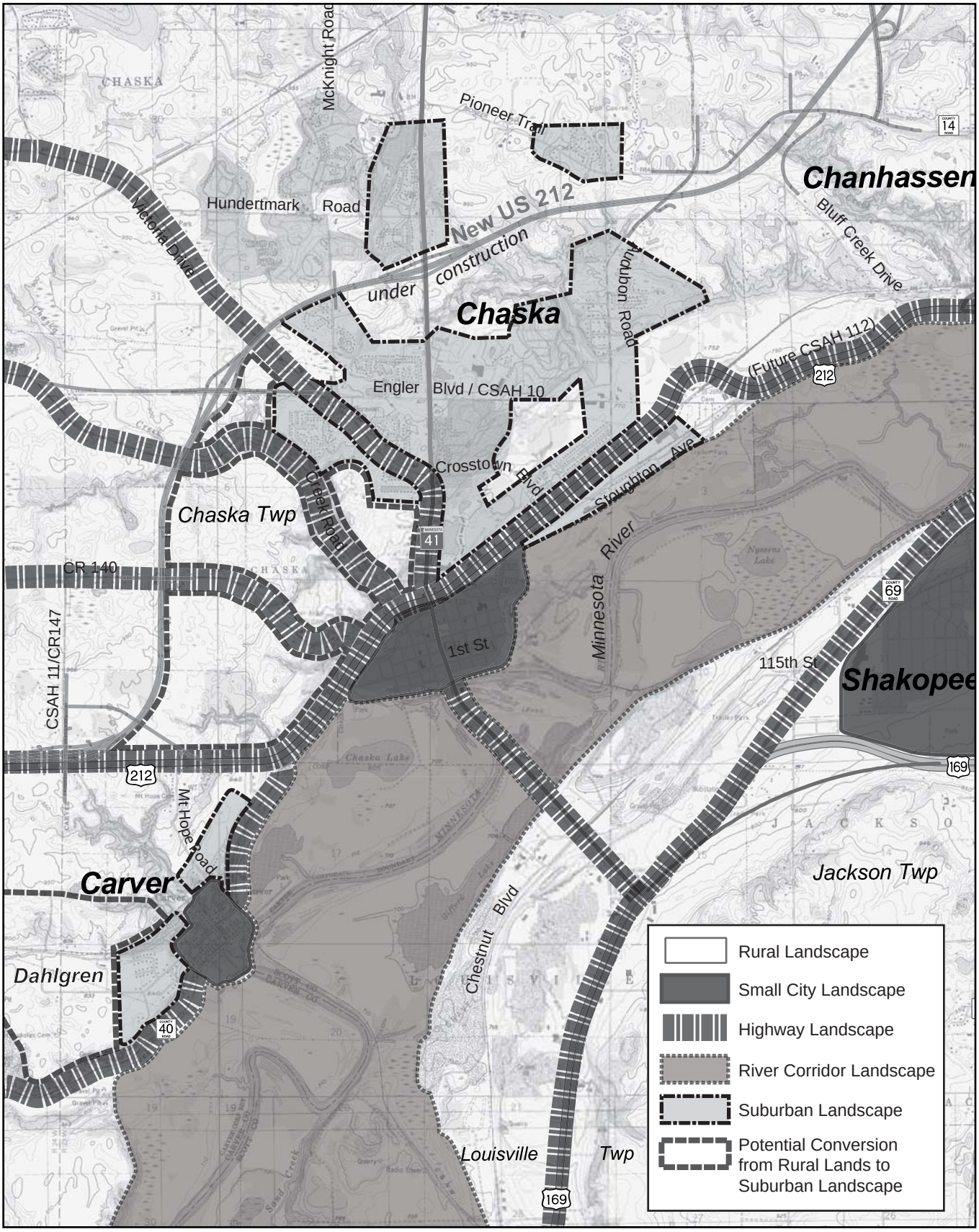

Graphics/Support/4590/EIS Figures

LANDSCAPES

Figure 6-3

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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Cultural Elements

The cultural environment includes those visual elements that are the result of human modification of the natural landscape or construction activities such as land cleared for agriculture and construction of homes, businesses and roadways. Cultural visual elements provide a composite sense of cultural order. Cultural order can be defined by the relationship of the built environment to the natural environment and among the elements within itself; i.e., the relationship and mix of residential and commercial districts or the impact of signage or lighting.

Project visual elements are those internal to the proposed structures of the project that provide a sense of design quality. The geometrics, structures, materials, design, finishes and architectural elements of the structure need to be integrated internally among them within the project and integrated with the surrounding cultural and natural landscape attributes.

Examining and defining visual quality and addressing questions of aesthetics is a subjective exercise. The amenities inventoried below reflect culturally held assumptions about which features compose key visual and aesthetic amenities within the given landscape.

6.5.1.1.2 Landscapes

Together the natural and cultural environments combine to create five general types of landscapes found within the project area. These landscapes are similar in all six Build Alternative corridors and are described below.

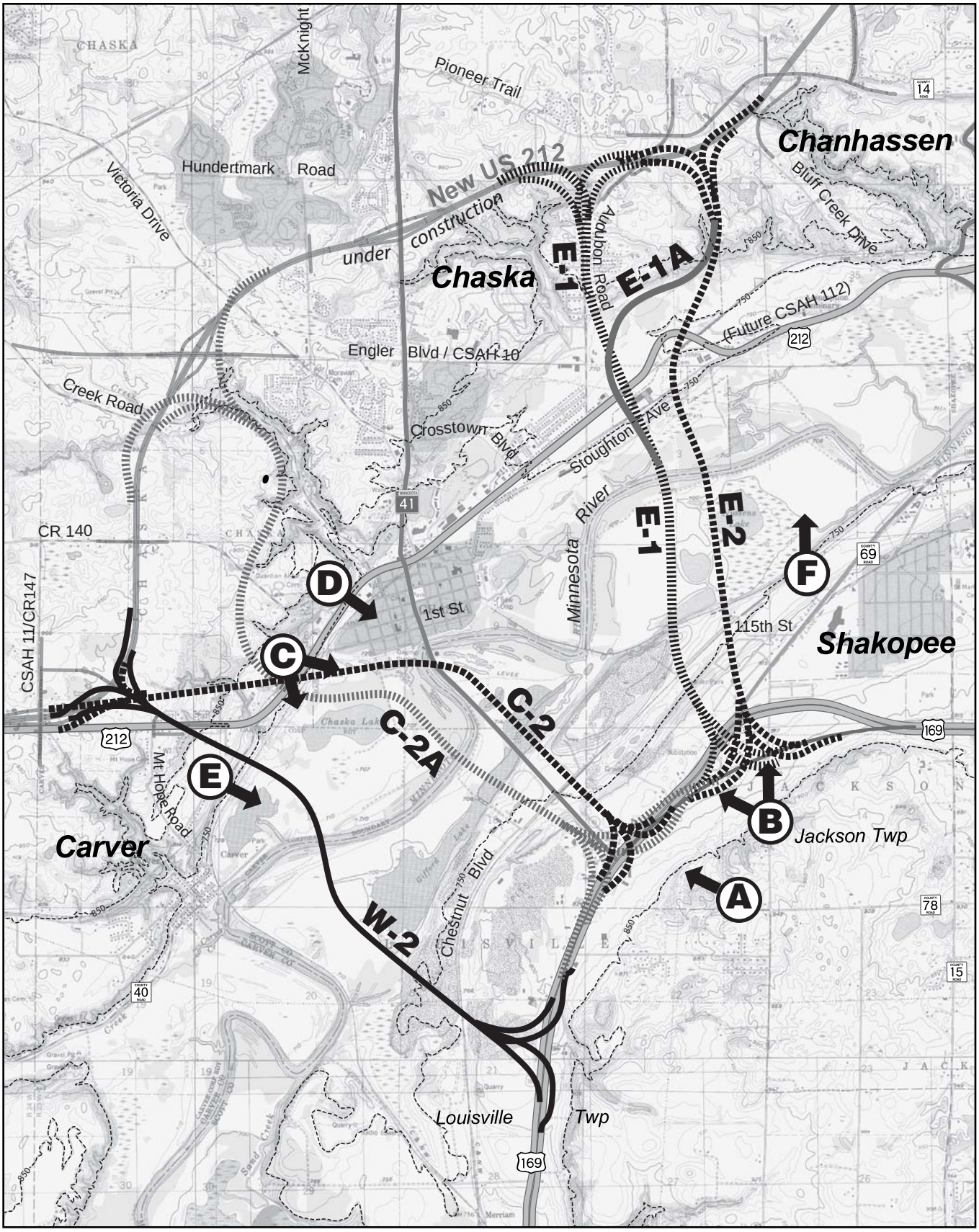
General Rural Landscape

The rural area surrounding the project areas is dominated by agricultural and rural residential cultural elements. The topography of the area is defined by the Minnesota River Valley and surrounding slopes and hillsides. The Minnesota River is at an elevation of just below 700 feet above sea level, with the surrounding lands rising to 900 feet providing views of the river valley and surrounding region. See Figure 6-4 for contour reference points. The fields are cultivated, fallow or pastureland interrupted visually by fencerows, wetlands, small to medium sized forest tracts and a combination of farmsteads and rural residential land uses.

Planned community expansion coupled with anticipated population growth for the study area serves as a prime indicator for land use change in coming years. As shown in Figure 5-4 in Chapter 5, by 2030 most of the agricultural lands in the study area will be converted to residential, commercial and other uses.

Small City Landscape

In Carver County, the study area contains the original townsites of both the cities of Chaska and Carver. These townsites are typical of the small cities that developed in the late 19th Century, exhibiting a compact arrangement of residential and commercial development and a distinct grid street pattern and commercial main streets. Both cities also maintain numerous historic buildings and prominent landmarks to create a unique and cohesive community appearance and sense of place. Views from the top of the valley from both the south and north shores of the Minnesota River include the landmark steeple of Guardian Angels Catholic Church in Chaska along with other prominent buildings.



Graphics/Support/4590/EIS Figures

KEY VIEWS - Location Map

Figure 6-4

TH 41 MINNESOTA RIVER CROSSING
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View A

View B

View C

Graphics/Support/4590/EIS Figures

KEY VIEWS - Photos

Figure 6-4a

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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View D

View E

View F

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KEY VIEWS - Photos

Figure 6-4b

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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Suburban Landscape

In Scott County, suburban growth from the City of Shakopee is expanding southward into Jackson Township. Residential growth occurring in the rural-agricultural areas of Jackson and Louisville townships is not as dense as that occurring in the municipalities of Carver County, however, upland areas—particularly those with desirable north-facing views of the Minnesota River valley—are experiencing low-density rural-residential development. City of Shakopee plans include preservation of a natural resources corridor along the bluff.

In Carver County, the upland areas surrounding the original townsites of Chaska and Carver, including the western portions of the City of Chanhassen are experiencing suburban-style-residential growth. Residential developments in these areas are predominantly detached, single-family homes on medium to large lots. Commercial development along the main roadway corridors leading to and from the cities of Chaska and Chanhassen is steadily increasing. In Scott County, the intersection of existing TH 41 and US 169 has an expanding commercial and residential (mobile home park) node with commercial expansion occurring along existing US 169 extending out from the City of Shakopee.

The upland portions of the landscape in Carver County are in the process of changing from dominantly rural-agricultural to suburban. On the ridgelands of 850 feet and above the cities of Carver and Chaska are experiencing modest to rapid suburban development with accompanying commercial and institutional expansion. To the north and west of the cities of Chaska and Carver, the landscape remains predominantly rural-agricultural, however, these areas are expected to develop during the planning timeframe. The City of Chanhassen borders the City of Chaska to the east and northeast and is experiencing comparable suburban and commercial growth along and extending from major roadways.

Minnesota River Valley

The dominant feature of the landscape within the study area is the Minnesota River valley. The low-lying bottomlands along the river channel are a mix of forests, open wetland and forested wetlands. The river valley within the study area contains portions of both the Minnesota Valley National Wildlife Refuge (MVNWR) and the Minnesota Valley Recreation Area (MVRA). (These resources are discussed in detail in Chapter 8.) In the eastern portion of the study area, the river valley contains portions of the Seminary Fen/Assumption Creek wetland complex, (Seminary Fen is discussed in Chapter 7). Where these lands rise up out of the river valley, the bluffs and shoreline are predominantly heavily wooded with a mix of deciduous tree species. The cultural elements within the immediate bottomland adjacent to the river include existing TH 41 bridge and roadway, the original townsites of Carver and Chaska, a small network of unimproved roadways, a public boat launch northeast of the Carver townsite and the railway bridge across the Minnesota River at the City of Carver. Additionally, an earthen-levee separates the Minnesota River from the original townsites of Chaska and Carver. All cultural landscape features in the river valley are above the 700-foot contour line. Development in the Minnesota River Valley falling between the 700-foot to 750-foot contours is found in Carver County and includes the Riverview Terrace mobile home park, original townsite of Chaska and residential properties to the northeast of the original townsite.

Highway Landscape

Existing TH 41, US 169, US 212 and County Highways 10, 11, 17, 69 and 140 currently create this landscape with the non-natural elements required of a highway facility, including paved surfaces, bridge structures and lighting. Local roadways are most dense in the urban areas and suburban fringes of Chaska, Carver, Chanhassen, Shakopee and along developing commercial nodes at highway intersections in Louisville and Jackson Townships. Roadways—both paved and unimproved—in the rural-agricultural areas generally follow the mile-section township and range grid; in some cases the roads follow local topography.

6.5.1.2 Potentially Visually-Affected Areas – Build Alternatives

This section describes in more detail the existing conditions for the potentially visually-affected areas that correspond to each of the Build alternative corridors. This narrative acknowledges that this document is a Tier I DEIS being prepared for the purpose of selecting a corridor for right of way preservation. Certain assumptions are made in order to estimate impacts and costs; however, the design detail is limited. Therefore, this visual assessment provides an inventory and discussion of the potential cultural and natural resources to be affected by each alternative in lieu of a comprehensive and detailed description of known visual impacts which would be prepared as part of the Tier II EIS process.

The addition of a bridge, roadway and interchanges to the study area will create dominant visual landscape features visible throughout the area. Under conditions for any of the Build alternatives, the bridge will pass through each of the landscape types identified and will be either partially or fully visible from roadways and developed areas that presently enjoy scenic vistas of the Minnesota River valley. The following narrative summarizes cultural and natural features common to all six alternatives, provides a list of key views that presently exist in the study area and a summary description of the present conditions in each of the six alignments.

Cultural Features

Residential, commercial, industrial and institutional activities take place throughout the study area. Each of the six proposed alternatives will be visible from existing residential neighborhoods, from existing parks, trails and open spaces and from existing commercial areas.

Natural Features

The natural elements of the study area are comprised of the Minnesota River valley and its upland areas. These two broad categories can be broken down into more detailed features such as the river channel proper, marshlands, forested wetlands, bottomland lakes and ponds, upland forest tracts, slopes and hillsides. Each of the six proposed alternatives will cross the valley and affect the views of and from the natural areas listed. For purposes of this analysis, the MVNWR and the MVSRA are considered natural features.

Key Views

The following list indicates the most prominent viewsheds available to neighbors and travelers entering the study area by road (see Figure 6-4; key views referenced below).

- Entering the study area from the east on CSAH 78 provides a panoramic view of the Minnesota River valley and surrounding countryside including the Carver County side of the river. (Key View A)

- Entering the study area from the south on CSAH 69 provides a panoramic view of the Minnesota River valley and eastern portion of the City of Shakopee with the ability to see the far-side of the river in Carver County. (Key View B)

- Entering the study area from the west on Creek Road and CR 140 provides some views of the river valley that are in some places interrupted by forest vegetation. (Key View C)

- Dramatic views of the river valley and the original townsite of Chaska are evident from Guardian Angels Cemetery and the residential neighborhood immediately to the east of it. (Key View D)

- Entering the study area from the west on CR 40 into the City of Chaska provides a view of the river valley. (Key View E)

- Driving along CSAH 69, parallel to the Minnesota River valley from north of its intersection with existing US 169 to its entry point into the City of Shakopee provides views of the river valley that are in some places interrupted by forest vegetation. (Key View F)

In addition, entering the study area on existing TH 41 from the north into the City of Chaska provides views of the city and river valley; while entering the study area on existing US 212 provides some intermittent views of the river valley and original Chaska townsite skyline, that are in some places, interrupted by forest vegetation. Finally, note that views at and above the 850-foot contour in the City of Chaska provide partial and full visibility of the river valley and western horizon.

Present Conditions in Build Alternative Corridors

Alternative W-2

The greatest concentration of cultural features along this alternative corridor is found in Carver County on the ridge above the river and along CR 40 to the northeast of the original City of Carver townsite. A cluster of suburban homes on small- to medium-sized lots in the Skyview neighborhood is situated on a dead-end city street and overlooks the river to the south and southeast. Townhomes are being developed along CR 40. Development is also planned or pending on land immediately east and north of the Skyview neighborhood.

The greatest concentration of natural features along the Alternative W-2 corridor is found in the Minnesota River valley, as the alignment bisects the southern portion of the Minnesota Valley Wildlife Refuge, near Gifford Lake crossing adjacent wetlands and the river, and continues up

the slope toward the Skyview neighborhood in Carver. Beyond the river valley and Skyview neighborhood, Alternative W-2 continues to the northwest terminating at New US 212 in an area that is presently rural-agricultural in character but that is planned for mixed residential.

Alternative W-2 would be visible from the Minnesota River levee in the City of Carver as it would cross the Minnesota River ¾ of a mile to the east of the old townsite. The new bridge would be visible from the upland areas of the City of Carver and Chaska above the 800-foot contour line (see Figure 6-4). Existing vegetation would likely screen most of the new bridge from roadways and residences below the 800-foot contour line except for where viewers are in the immediate vicinity or where there are gaps in vegetation.

In Scott County, Alternative W-2 originates on a segment of existing US 169 containing several businesses and would also pass through the Renaissance Festival event site.

Alternative C-2

Alternative C-2 would cross over the top of existing TH 41 approximately 1/8 of a mile south of where the existing bridge crosses the Minnesota River. In Scott County, the highest concentrations of cultural features in this corridor include businesses and residences near the intersection of existing TH 41 and US 169. While the amount and configuration of development in this area will likely have changed by time of construction, due to natural growth and redevelopment, and also due to expected US 169 improvements, this area will continue to be a concentration of commercial uses.

In Carver County, Alternative C-2 also passes near the original Chaska townsite, crosses the Minnesota River levee and crosses the rural-agricultural areas where it terminates at New US 212. The bridge would be able to be seen from the residences that are located along the ridge of the river valley between Chaska and Carver on existing US 212.

The highest concentration of natural features in the Alternative C-2 corridor are found in the Minnesota River valley. Alternative C-2 crosses the narrow northeastern portion of the Gifford Lake unit of the MVNWR and adjacent wetlands, the river channel, and continues up the slope in Carver County toward the residences along existing US 212. Alternative C-2 continues westward through rural-agricultural and wooded areas, terminating at New US 212.

Alternative C-2A

The largest concentration of cultural features potentially impacted by Alternative C-2A includes businesses and residences in proximity to the junction of existing TH 41 and US 169 in Scott County and, the original Chaska townsite and the residences along the north ridge of the river valley in Carver County. While it does not cross the property, Alternative C-2A is routed along the western side of Guardian Angels Cemetery; the cemetery is a high point that affords a view to the surrounding area and the river valley.

The highest concentration of natural features in the Alternative C-2A corridor includes the Minnesota Valley Wildlife Refuge, northeastern end of Gifford Lake, the river channel, the northern edge of Chaska Lake, the forests and wetlands of the river bottomlands and the top of the western side of the Chaska Creek valley.

As Alternative C-2A emerges up the slope in Carver County from the river bottom, it enters an area that is presently in farm fields but is planned for the Heights of Chaska mixed-use development. Alternative C-2A then runs northward roughly parallel to CSAH 10/Creek Road along the 900-foot contour and cuts through the wooded areas at the top of the western ridge of the Chaska Creek valley before terminating at New US 212.

Alternative E-1

The highest concentration of cultural features impacted by Alternative E-1 would include residential and commercial and commercial clusters in both Scott and Carver counties. In Scott County, these are found along existing US 169, TH 41/CSAH 78, CSAH 69 and local routes. The interchange with US 169 would create a prominent structure that would be visible from the upland areas to the southwest up to the 900-foot contour where deciduous forests along the slopes and bordering the agricultural lands form a solid visual buffer.

In Carver County, Alternative E-1 would be viewable from residential areas along the Audubon Road corridor and commercial and residential clusters along and accessed by existing US 212. The interchange with New US 212 would create a prominent structure viewable from adjacent residential, commercial and institutional properties.

Natural features potentially impacted by the Alternative E-1 corridor include the forested slopes of the river valley found in both counties, the forests and wetlands of the river bottomlands, the river channel, the western limit of the Seminary Fen buffer/protection area, and the woodland areas among the upland residential areas of Chaska.

The Alternative E-1/US 212 interchange would be located between two fully-developed suburban neighborhoods on either side of the Audubon Road corridor and just south of the Pioneer Park Freshman Center. The size of this structure would make it a prominent and highly-visible feature.

Alternative E-1A

Alternative E-1A is identical to Alternative E-1 from its origin at the existing US 169 junction to its crossing of the Minnesota River and contains the same concentration of cultural features. Alternative E-1A will be visible from residential and commercial sites in Scott County along existing US 169, CSAH 69 and local routes unobstructed by forest vegetation. The Alternative E-1A/US 169 interchange would create a prominent structure that would be visible from the upland areas to the southwest up to the 900-foot contour where deciduous forests form a solid visual buffer.

In Carver County, Alternative E-1A will impact residential areas along the southern portion of the Audubon Road corridor from its intersection with existing US 212 to Engler Boulevard, as well as commercial and residential clusters along existing US 212, and residences along the bluff east of Audubon Road and adjacent to the ravine heading north to New US 212.

Natural features to be impacted by the Alternative E-1A corridor include the forested slopes of the river valley in both counties, the forests and wetlands of the river bottomlands, the river channel, the western and northwestern limit of the Seminary Fen buffer/protection area, and the woodland areas among the upland residential areas of Chaska along the municipal boundary of Chaska and Chanhassen.

Alternative E-2

Alternative E-2 will be visible from residential and commercial clusters in Scott County along existing US 169, TH 41/78, CSAH 69 and local routes. The Alternative E-2/US 169 interchange would create a prominent structure that would be visible from the upland areas to the southwest to the 900-foot contour where deciduous forests along the slopes and bordering the agricultural lands form a solid visual buffer.

In Carver County, Alternative E-2 would be visible from residential areas along existing US 212 and between established suburban neighborhoods on both sides of the municipal boundary between Chaska and Chanhassen, including views of the Alternative E-2/New US 212 interchange.

Natural features in the viewshed of the Alternative E-2 corridor include the forested slopes of the river valley found in both counties, the forests and wetlands of the river bottomlands, the river channel, the northwestern portion of the Seminary Fen buffer/protection area, and the woodland areas among the upland residential areas along the boundary between Chaska and Chanhassen.

6.5.1.3 Affected Viewers

Viewers are those persons who experience the natural and cultural visual elements of the study area. Three groups of views have been identified for the project area: neighbors, travelers and users of the Minnesota River and Minnesota Valley Wildlife Refuge.

Neighbors and riverway users can be defined as those people who have views *of* the proposed structure, while travelers would be experiencing views *from* the proposed structure. Further subdivision of these groups provides a clearer understanding of their use and viewing of the landscape's visual elements. Neighbors are defined as individuals or groups who use or own property within view of the proposed project. These include homeowners, land owners, and retail, commercial and industrial interests within view of the proposed project. Riverway users are defined as people who utilize the river corridor, the Minnesota Valley Wildlife Refuge and surrounding areas for recreational use including outdoor wildlife viewing, boating, fishing, hunting or hiking.

Travelers are defined as those who will use the proposed roadway either frequently or infrequently. Travelers are composed of two component groups: commuter travelers and touring travelers. Commuting travelers will view the proposed structure as part of their continuous daily routine, while touring travelers will experience the landscape as part of infrequent, periodic or one-time-only travel through the viewshed.

TABLE 6-14
HEIGHT OF BRIDGE (TOP OF DECK) (IN FEET)

Alternative	At Railroad in Scott County	At Minnesota River Crossing	At CR 40 in Carver County	At Existing US 212 in Carver County	At Audubon Road in Carver County
W-2	32	58	52	--	--
C-2	40	59	--	40	--
C-2A	35	75	--	32	--
E-1					
Low Profile	45	65	--	37	50
High Profile	45	65	--	55	80
E-1A					
Low Profile	45	60	--	32	--
High Profile	45	60	--	32	--
E-2					
Low Profile	50	60	--	53	--
High Profile	50	60	--	70	--

Each of the six alternatives would change the visual setting of the study area for recreational users of the riverway and river bottom as the bridge and supporting pier structures would dominate the riverway landscape. Placement of the bridge may require modification of riverway slope banks resulting in change to the expected landscape and visual appearance of the site to riverway users.

For neighbors throughout the study area, the structures established under any of the six alternatives would be visible from distances up to two miles away. Affected neighbors include established viewers in residential areas, commercial areas, and roadways, in upland areas within the study area. Figures 6-5 through 6-10 provide cross-sections at selected locations for reference.

To travelers using the new structure, the bridge and elevated roadway would provide views of the landscape and riverway not presently available. No negative impacts are anticipated to result for travelers, since the alignments would be an extension of the existing roadway system and the panoramic views of the valley afforded by the high structure would be generally considered aesthetically pleasing.

6.5.2 Visual Consequences and Impacts

Impacts to cultural and natural features specific to each alignment are discussed below.

Alternative W-2

In Scott County, cultural features that would be visually impacted by Alternative W-2 include the commercial businesses in Louisville Township along existing US 169 and the Renaissance Festival event site (a private enterprise). With its designed height of 58 feet at the Minnesota River crossing, Alternative W-2 would potentially be visible from areas in Scott County at or above the 850-foot contour that are without vegetative screening.

In Carver County, Alternative W-2 would be visible from sites in the City of Carver including Riverside Park, the city's levee which borders the Minnesota River, the historic water tower and its surrounding grounds and the residential neighborhoods in the upland areas, notably the Skyview neighborhood which presently enjoys a wide, relatively uninterrupted southern view of the Minnesota River valley. With its designed height of 52 feet at its crossing of existing US 212, Alternative W-2 would be highly visible from the adjacent residential areas in Carver and Chaska. Figure 6-5 presents cross-sections relating the roadway to adjacent property at an illustrative location.

Natural features that would be visually impacted by construction of Alternative W-2 include the forests, marshes, bottomlands and slopes associated with the Minnesota River valley that fall within the W-2 corridor. Specifically, the Alternative W-2 passes to the south of Gifford Lake and would be visible from the lake as well as the river channel itself. The Alternative W-2 would also pass through, interrupt and divide numerous forest parcels in both Carver and Chaska.

Alternative C-2

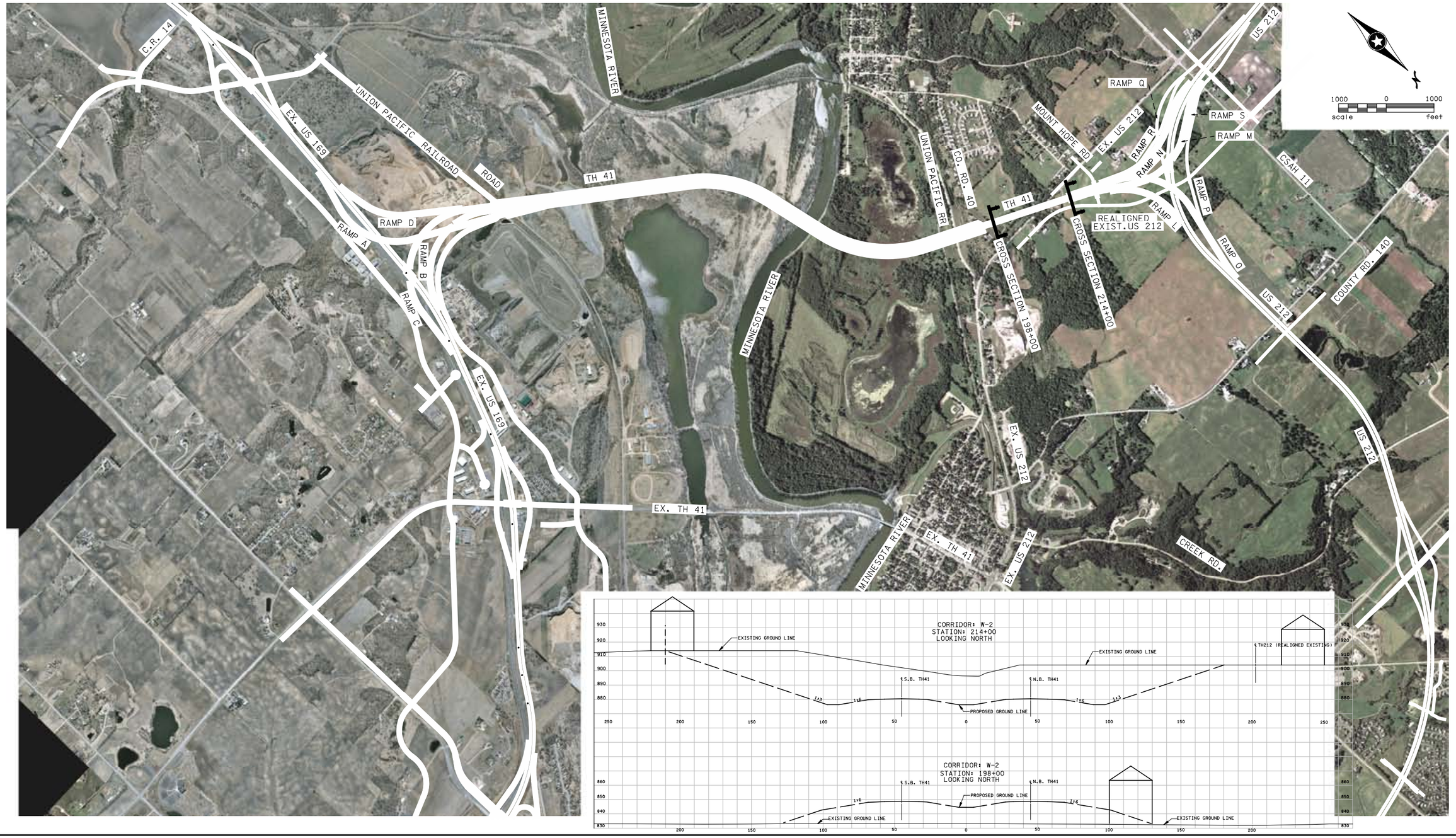
In Scott County, cultural features that would be visually impacted by Alternative C-2 include any remaining portions of the Jackson Heights Mobile Home Park that were not removed to make way for the alternative, include commercial properties along the existing US 169 corridor in proximity to the intersection with existing TH 41 and commercial and agriculture properties (including Malkerson Stables [a private equestrian enterprise]) in the river valley. Alternative C-2 would be visible from existing TH 41 (which is to remain in operation during and after the completion of the proposed project). With its designed height of 59 feet at the Minnesota River crossing, Alternative C-2 would be highly visible throughout the study area.

In Carver County, Alternative C-2 would be visible from the old townsite of Chaska (including Winkel and Hickory Park) looking to the south and southwest. The alternative would be visible from numerous upland residential neighborhoods which presently have unobstructed views of the Minnesota River valley. The alternative would also be visible from the Guardian Angels Cemetery in Chaska and its surrounding hillsides and residential neighborhoods. Alternative C-2 would be highly visible to the Heights of Chaska development. Figure 6-5 presents cross-sections relating the roadway to adjacent property at an illustrative location.

Natural features that would be visually impacted by the Alternative C-2 include the extreme northeastern tip of Gifford Lake, the Minnesota River channel and associated slopes, wetland and marshland areas that fall within the C-2 corridor and several forested parcels in the cities of Carver and Chaska.

Alternative C-2A

In Scott County, cultural features that would be visually impacted by Alternative C-2A include commercial properties along the existing US 169 corridor in proximity to the intersection with existing TH 41, and commercial and agricultural properties (including Malkerson Stables [a



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ALTERNATIVE W-2- SELECTED CROSS SECTIONS

Figure 6-5

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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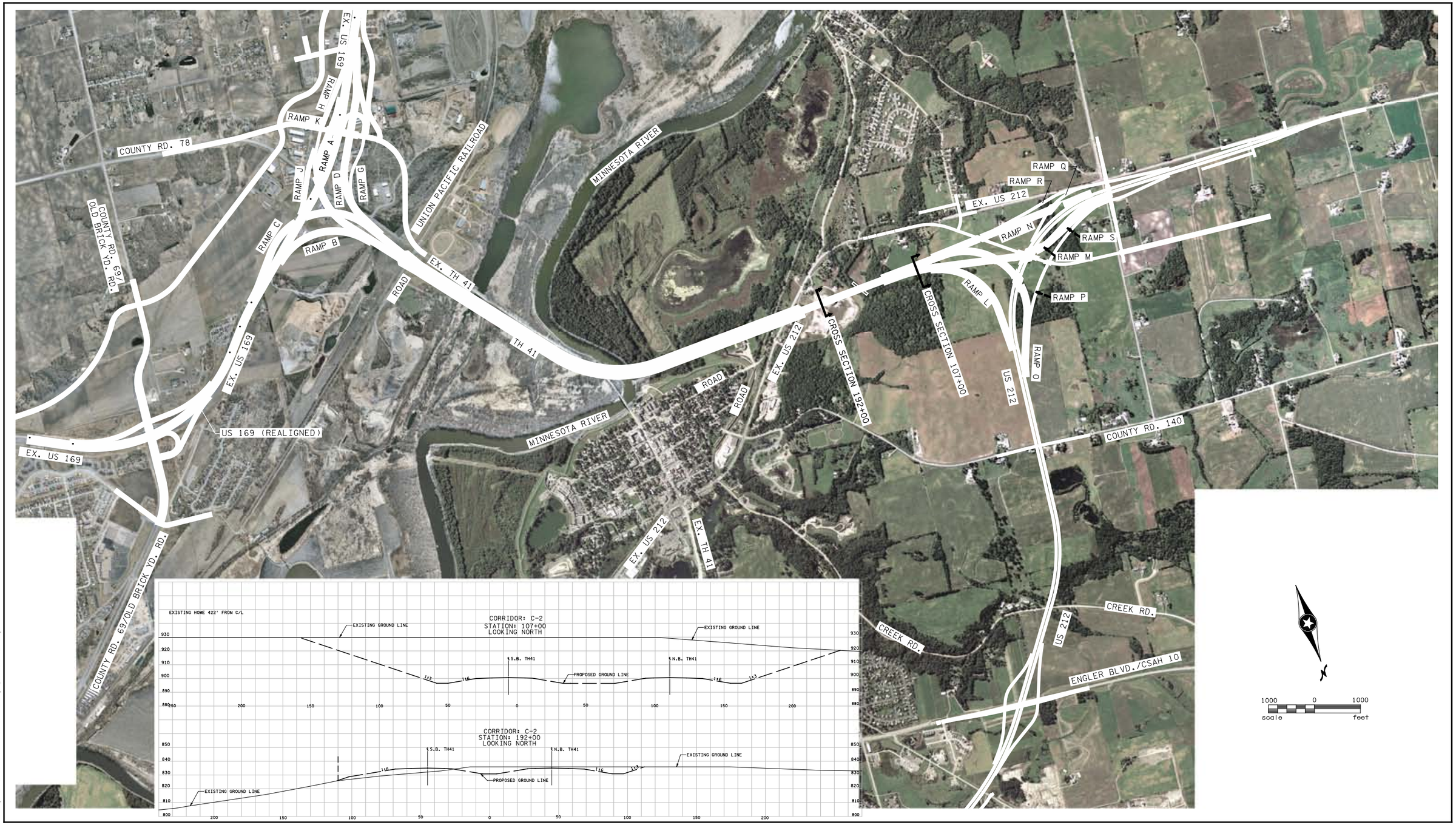

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ALTERNATIVE C-2-SELECTED CROSS SECTIONS

Figure 6-6

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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Minnesota Department of Transportation

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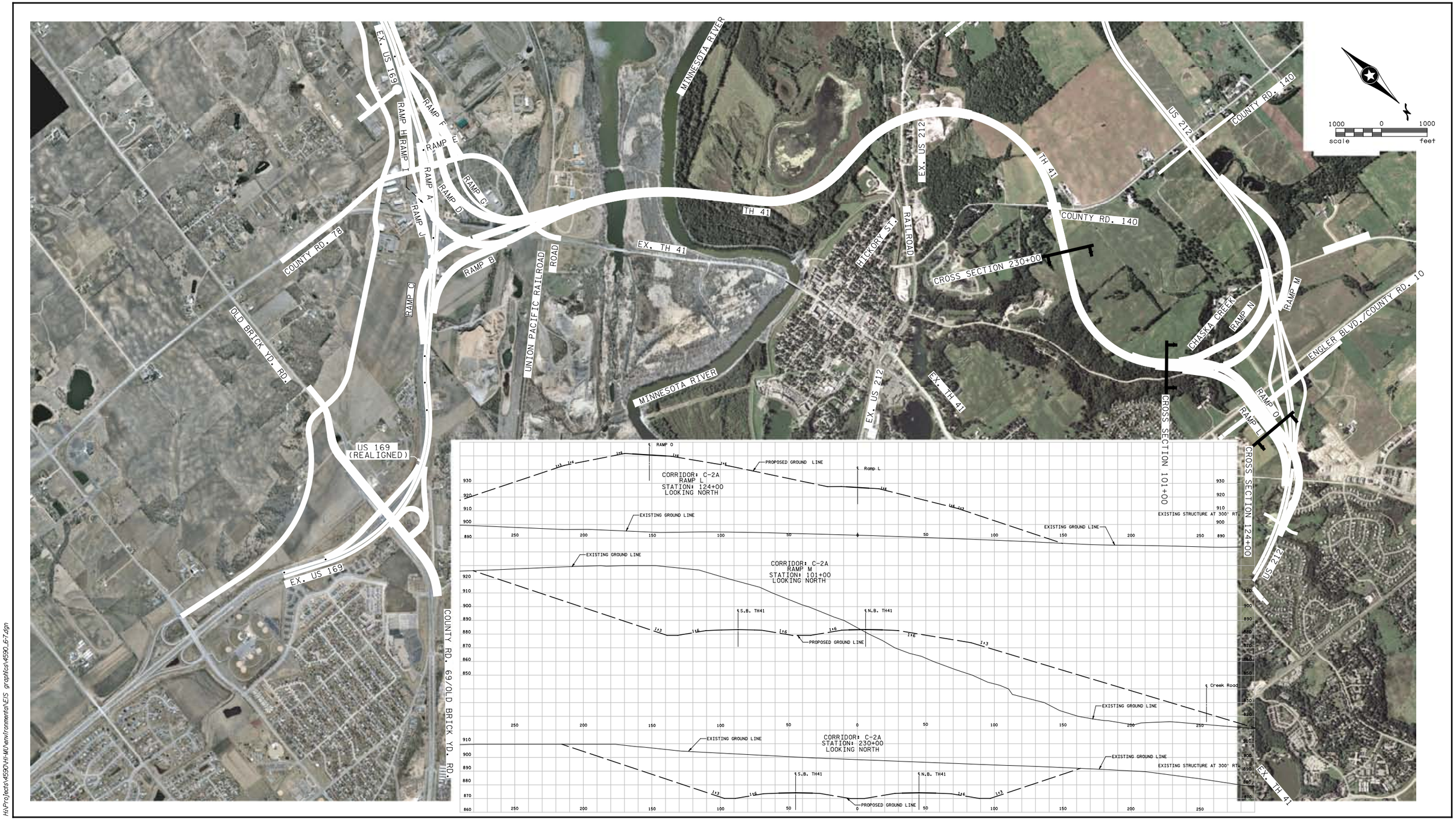

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ALTERNATIVE C-2A-SELECTED CROSS SECTIONS

Figure 6-7

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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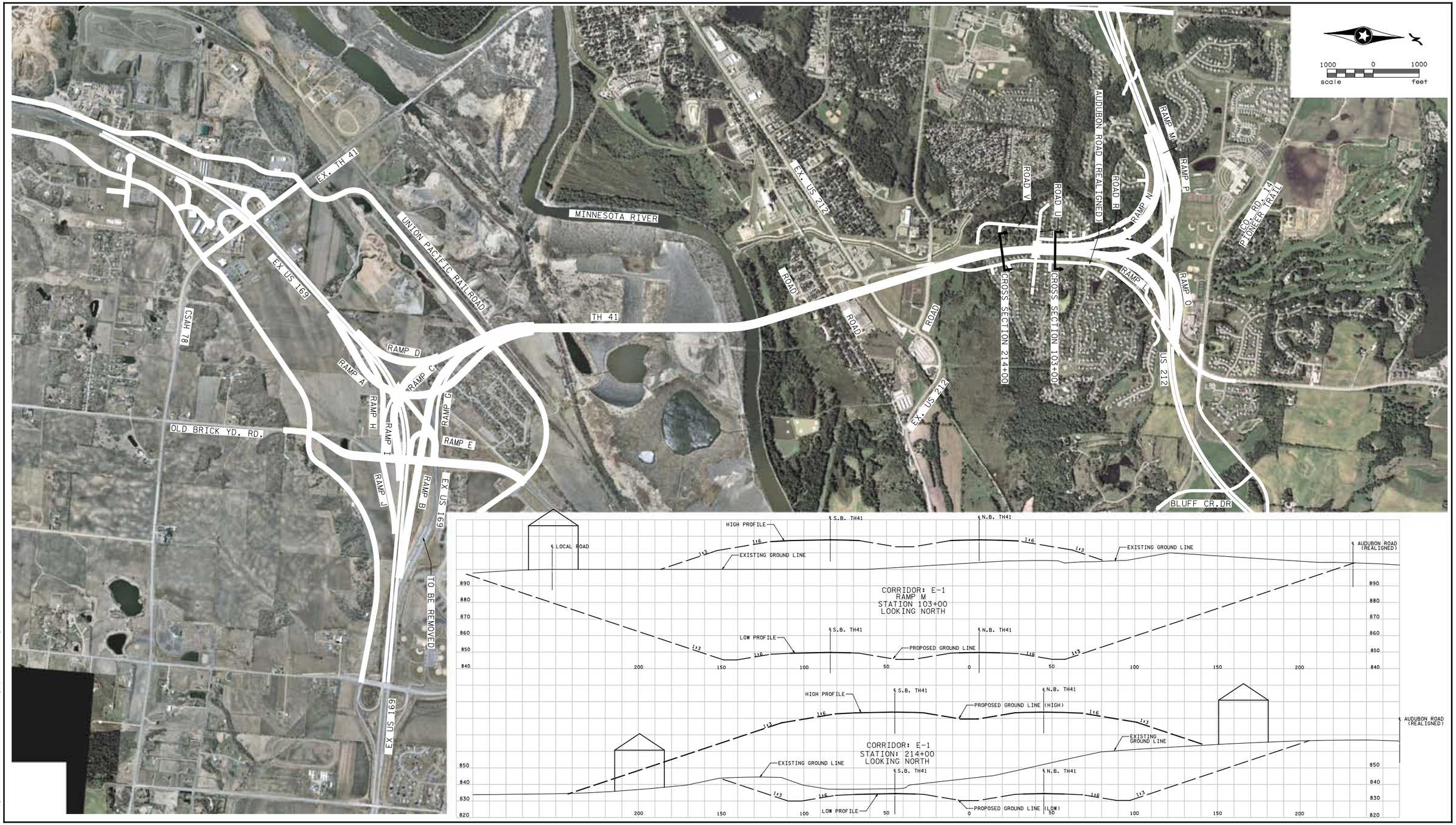

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ALTERNATIVE E-1-SELECTED CROSS SECTIONS

Figure 6-8

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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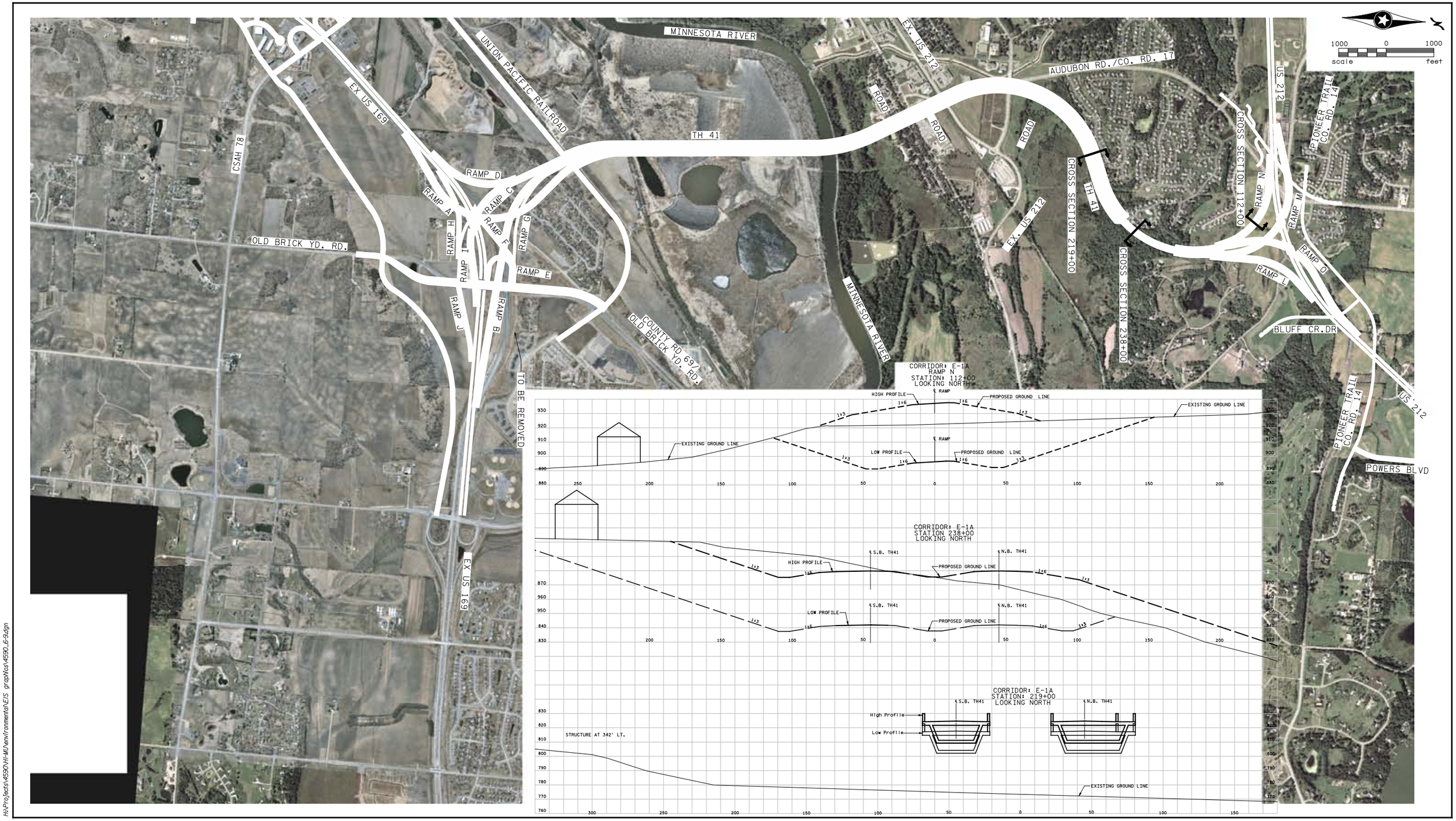

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ALTERNATIVE E-1A-SELECTED CROSS SECTIONS

Figure 6-9

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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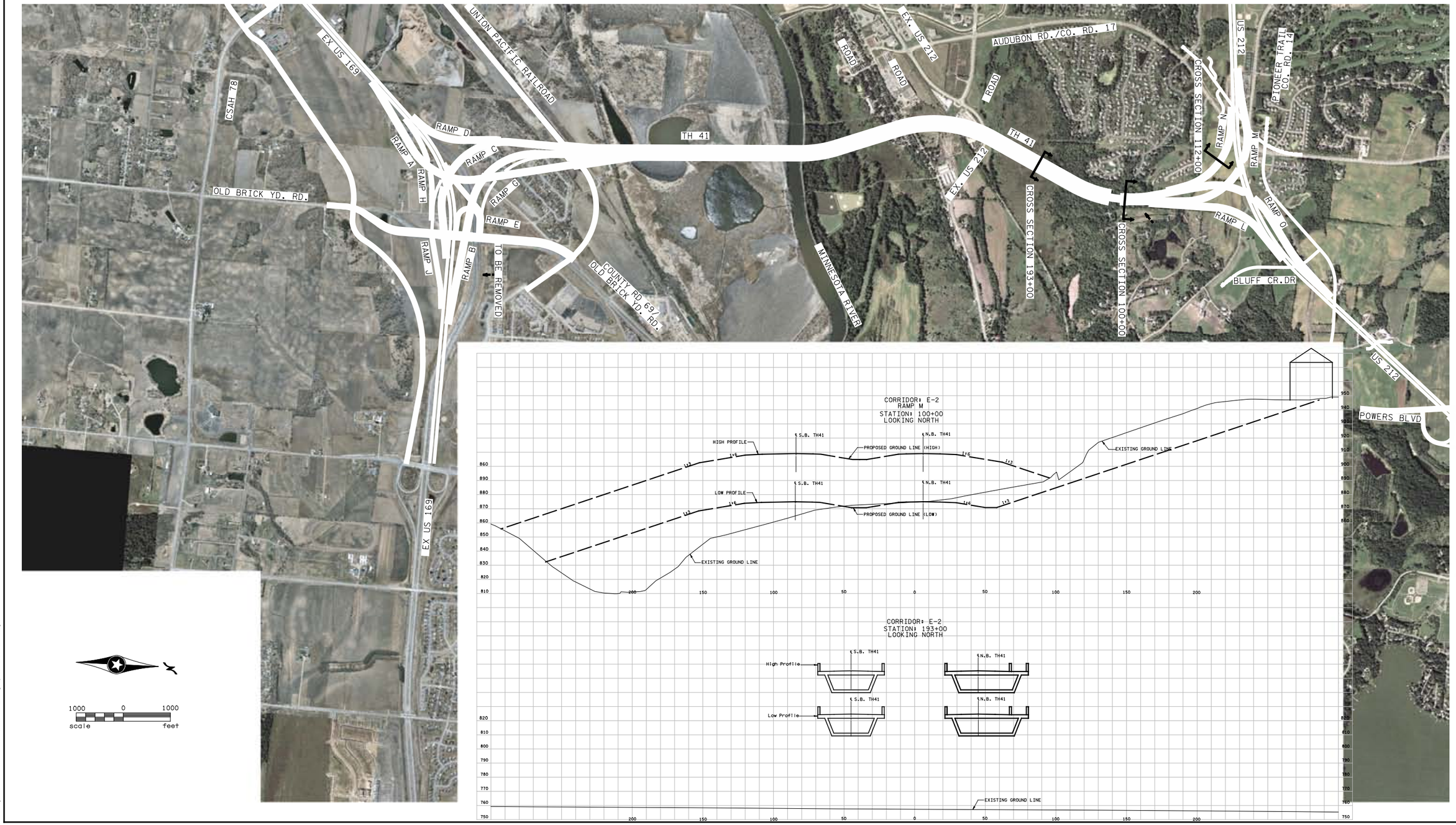

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ALTERNATIVE E-2-SELECTED CROSS SECTIONS

Figure 6-10

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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Minnesota Department of Transportation

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private equestrian enterprise]) in the river valley. Portions of Alternative C-2A —from its origin at existing US 169 to where it turns to the west after crossing the Minnesota River— would be visible from existing TH 41.

Of the six alternatives, C-2A is the highest, with a designed height of 75 feet at its crossing of the Minnesota River. At this height, the alternative would be the most dominant human-built structure in the study area.

In Carver County, Alternative C-2A would be visible from the old townsite of Chaska looking to the southwest, potentially being visible from both Winkel and Hickory Parks and Athletic Field looking to the west. The alternative would be visible from numerous upland residential neighborhoods which presently have unobstructed views of the Minnesota River valley. The alternative would also be visible from the Guardian Angels Cemetery in the City of Chaska and its surrounding hillsides and residential neighborhoods. Alternative C-2A would be highly visible to the Heights of Chaska development. Figure 6-5 presents cross-sections relating the roadway to adjacent property at an illustrative location.

Natural features that would be visually impacted by Alternative C-2A include the extreme northeastern tip of Gifford Lake, the Minnesota River channel and associated slopes, wetland and marshland areas, the northern shore of Chaska Lake, and several forested parcels in the cities of Carver and Chaska. Alternative C-2A would be visible on the western upland ridge of the CSAH 10/Creek Road route.

Alternative E-1

In Scott County, cultural features that would be visually impacted by Alternative E-1 include remaining portion of the Bonnevista mobile home park that would not be acquired for right of way. Alternative E-1 would be visible from commercial and residential properties on the western edge of the City of Shakopee and those found on CSAH 69 and existing US 169 routes in the vicinity.

In Carver County, Alternative E-1 would be visible from residential (including remaining portions of Riverview Terrace) and commercial areas along the existing US 212 corridor and the residential neighborhoods found in the upland areas of the City of Chaska. The alternative would potentially be visible from Riverview Park, Audubon Trail, Woodridge Park, Pioneer Park and the various buildings of the Chaska High School. Figure 6-5 presents cross-sections relating the roadway to adjacent property at an illustrative location.

Two profile options are under consideration for Alternative E-1. Both the high and low options situate the bridge at a height of 65 feet at its crossing of the Minnesota River, making it a highly visible landscape feature throughout the area. The low profile results in New TH 41 ramps at the New US 212 interchange going under New US 212. The high profile results in New TH 41 ramps at the New US 212 interchange going over New US 212. The low Alternative E-1 crosses 37 feet above existing US 212 in Chaska and 50 feet above Audubon Road. The high Alternative E-1 crosses 55 feet above existing US 212 and 80 feet above Audubon Road.

Under the high Alternative E-1 option, the structures would be higher and therefore of greater visibility to neighbors, travelers and river users than the low Alternative E-1 option. However, both of these options would result in creating a prominent and highly visible structure landscape feature to all viewer groups. Figure 6-5 presents cross-sections for the low and high alternatives relating the roadway to adjacent residential property at an illustrative location.

Natural features that would be visually impacted by Alternative E-1 include several small, unnamed lakes in the Minnesota River valley bottomlands, the western shore of Strunk Lake, the various features of the river valley (listed above), numerous undeveloped woodland parcels in the City of Chaska and the western tip of the Seminary Fen buffer protection area.

Alternative E-1A

Alternative E-1A is identical to Alternative E-1 for its length in Scott County, and as such, impacts the same cultural and natural features along that length.

In Carver County, Alternative E-1A would be visible from residential and commercial areas along the existing US 212 corridor and the residential neighborhoods found in the upland areas of the cities of Chaska and Chanhassen. The alternative would potentially be visible from Riverview Park, Pioneer Park and the buildings of the Chaska High School. Figure 6-5 presents cross-sections relating the roadway to adjacent property at an illustrative location.

Two profile options are under consideration for Alternative E-1A. Both the high and low options place the bridge at 60 feet above the Minnesota River and at 32 feet above existing US 212. The low profile results in New TH 41 ramps at the New US 212 interchange going under New US 212. The high profile results in New TH 41 ramps at the New US 212 interchange going over New US 212. The two profiles do not differ in height at the existing US 212. Figure 6-5 presents cross-sections for the low and high alternatives relating the roadway to adjacent residential property at an illustrative location.

Natural features that would be visually impacted by Alternative E-1A include several small, unnamed lakes in the Minnesota River valley bottomlands, Strunk Lake, the various features of the river valley (listed above), numerous undeveloped woodland parcels in the City of Chaska and the northwestern tip of the Seminary Fen buffer protection area.

Alternative E-2

In Scott County, Alternative E-2 is similar to Alternative E-1 and E-1A for its length lying parallel and to the east of these alternatives. As such Alternative E-2 impacts many of the same cultural and natural features along that length.

Cultural features that would be visually impacted by Alternative E-2 include commercial and residential properties on the western edge of the City of Shakopee and along the CSAH 69 and existing US 169 routes in the vicinity.

In Carver County, Alternative E-2 would be visible from residential and commercial areas along the existing US 212 corridor and the residential neighborhoods found in the upland areas of the cities of Chaska and Chanhassen. The alternative would be visible from Riverview Park, Pioneer Park and the buildings of the Chaska High School. Figure 6-5 presents cross-sections relating the roadway to adjacent property at an illustrative location.

As with Alternative E-1 and E-1A, Alternative E-2 has low and high profile options. Both the high and low options place the bridge at 60 feet above the Minnesota River. Under the high Alternative E-2, the crossing over existing US 212 is at 70 feet, while the low option places the existing US 212 crossing at 53 feet. Figure 6-4 presents cross-sections for the high and low profiles, which relate the road to adjacent residences at an illustrative location. While the high option for Alternative E-2 would be incrementally more visible than the low option, both structures would be prominent and visually dominating landscape features.

Natural features that would be visually impacted by Alternative E-2 include several small, unnamed lakes in the Minnesota River valley bottomlands, Strunk Lake, the various features of the river valley (listed above), numerous undeveloped woodland parcels in the City of Chaska and the northwestern portion of the Seminary Fen buffer protection area.

Summary of Environmental Consequences

Each Build Alternative would affect the visual quality for neighbors, travelers and Minnesota riverway users by adding highway, bridge and interchange structures to predominantly rural-agricultural areas (which are presently being converted to suburban areas), small town landscapes, suburban landscapes and the natural riverway landscape.

Neighbors in the river corridor landscape would experience the greatest change in visual quality as implementation of the proposed project would convert the existing landscape to a highway landscape.

Neighbors in the small city landscapes and suburban landscapes would experience substantial changes in their visual landscape. The original townsites of Chaska and Carver would be most impacted by the implementation of Alternatives W-2, C-2 and C-2A. Section 4(f) (i.e., park) resources are addressed in Chapter 8 and impacts to cultural resources are addressed in Chapter 10. Each of the six alignments would visually impact the suburban landscapes found throughout the study area.

In addition to the adverse impacts that may result for neighbors along the river corridor, users of the riverway and bottomlands may also experience adverse impacts to their river experience with the addition of river crossings, bridge piers and bluff cuts.

No adverse impacts to visual quality are anticipated to result for travelers in the study area. Travelers would either continue to experience additional structural elements consistent with the existing highway landscape or experience the benefit of rural and river corridor views not previously available. The highway facilities in the area would also be less congested, offering a better and more efficient driving experience.

6.5.3 Mitigation

This section of this DEIS lists possible measures that could be considered to mitigate for visual impacts within the different landscape types along the Build alternative corridors. Mitigation measures would be evaluated further and refined in the Tier II EIS process.

This DEIS does not address bridge type or design decisions, other than to assume a 250-foot pier spacing. The bridge type evaluation during the Tier II process will consider visual impact. For the bridge (including the underside) and for the interchanges associated with the proposed alternatives, consideration can be given to the aesthetic treatments and design elements such as structure materials, color and landscaping to minimize negative visual impacts. These design elements can also be used to minimize impacts to the rural-agricultural and small town landscapes present in the study area, as well as to riverway users.

Minimizing the clearing of natural vegetation and replacement of lost or removed vegetation with native species is another mitigation technique to retain visual quality. The vegetation present on the slopes of the Minnesota River valley provides a substantial measure of visual screening of the potential roadway alternatives. From most vantage points along the slopes of the valley, residences situated between the river level (at 700 feet above sea level) amount to the 800-foot contour would have a substantial amount of vegetative screening—with or without foliage—of any of the proposed alternatives. Sites above the 800-foot contour, however, have the potential of having the roadway alternatives present in their viewshed. In the winter and spring months, when the deciduous trees are without foliage, the density of the vegetation still provides a high level of visual screening.

The three predominant tree species found in the river valley and on the adjoining slopes which form the natural screening include Silver Maple (*Acer saccharinum*), Box Elder (*Acer negundo*) and Eastern Cottonwood (*Populus deltoides*). Mature heights of these trees range between 50 to 80 feet. Retention of slope and bottomland vegetation will ensure a level of natural screening is maintained.

The landscape of the river bottom can be differentiated from the surrounding visual environment by its dense trees and a minimal cultural impact, due to its lack of suitable development sites and legal protection from alteration. The bridge has the potential to be screened from view at sites at or below the 750-foot contour throughout the study area.

7.0 NATURAL ENVIRONMENTAL IMPACTS

This chapter describes the natural resources of the project area, set in the Minnesota River valley, and potential impacts on those resources that could result from the No-Build and Build Alternatives. Where relevant, potential measures to mitigate identified impacts are also discussed. Topics addressed in this chapter include: vegetation, wildlife and fisheries; state/federal threatened and endangered species; Seminary Fen and Assumption Creek; geology and soils; and Wild and Scenic Rivers. Wetland resources are discussed in Section 9.6 of the Water Resources chapter.

7.1 VEGETATION/INVASIVE VEGETATION, WILDLIFE AND FISHERIES

Biological surveys have been completed for much of the study area since 2000. In 2004, the U.S. Fish and Wildlife Service (USFWS) published its Comprehensive Conservation Plan and Environmental Assessment for the Minnesota Valley National Wildlife Refuge (MVNWR) and Wetland Management District. This included a survey of existing conditions for the Chaska Unit, the Refuge river unit within the study area. The Gifford Lake Wayside and Nyssen's Lake Units of the Minnesota Valley State Recreational Area (MVSRA) fall entirely within the study area. In 2002, a survey of the biological features in the MVSRA was completed by the Minnesota County Biological Survey (MCBS). In 2006, field survey was conducted to verify Minnesota Land Cover Classification System (MLCCS) and MCBS cover. The methodology and detailed findings of this study are presented in the *Seminary Fen Wetland Complex Phase 2 Study and Hydrologic and Ecological Assessment of Alternative Corridors* (Phase 2 Study) which is also discussed in Section 7.3.

7.1.1 Affected Environment

The study area is located within the transition zone between the Eastern Broadleaf Forest and the Prairie Parkland ecoregions as defined by the nationwide ecological classification system developed by the USDA Forest Service. The six proposed alternatives occur in a landscape of development, agriculture, gravel mining and fragmented natural communities. Natural plant communities within this transition zone contain a mixture of hardwood forest, oak savanna, and mesic prairie. Many of the lakes, wetlands, streams, and springs of these ecoregions exhibit diverse emergent and submergent aquatic vegetation. The discussion in this section is meant to address all native communities, some of which are wetlands. Refer to Chapter 9, Section 9.5 for analysis of specific direct impacts to wetlands.

Identification of native plant communities for the Phase 2 Study was accomplished using the MLCCS maps of Carver and Scott Counties that are available from the MnDNR. Although the alignment corridors are 300 feet wide, final highway alignments will not occupy that entire width. Therefore, the acreages of impact to native vegetation that are reported in this section represent worst case impact scenarios. In addition, if changes in land use and destruction of native vegetation independent of the proposed project occur between now and project construction, the actual impacts from the project will likely be less than stated here. However, it is not expected that the relative actual impact among alternatives would change.

Nearly the entire study area, including the six Build alternative corridors and surrounding lands, have been mapped and assigned MLCCS codes. A smaller portion of the area has been surveyed by MCBS. Areas identified as native plant communities in the MLCCS and MCBS were visited in the summer of 2006 to verify the classification and to assess the quality of the native plant community. Areas not mapped by MLCCS were visited to document the presence of native plant communities. A query of the MnDNR Natural Heritage and Non-game Research Program (NHNRP) Program database also produced records of natural features including native plant communities and protected species.

Several methods of classifying the vegetation in the alternative corridors were used in the Phase 2 Study. While related, the various approaches provide slightly different, but complementary, ways of describing vegetation and interpreting potential direct, indirect, and cumulative impacts:

- Cover type: A land cover classification based on MLCCS Level 1 categories (MnDNR 2004) that includes native plant communities, non-native plant communities, artificial surfaces and managed lands.
- Native Vegetation or Natural Communities: A classification of individual plant communities that are dominated by native species and appear to be of natural origin. Categories generally correspond to Level 4 and 5 MLCCS floristic groups (MnDNR 2004) and MnDNR Natural Heritage Program community types (MN Natural Heritage Program 1993; MnDNR 2005).
- Natural Community State Rarity Rankings: A classification of natural areas according to the relative rarity or abundance within the state or within regions of the state. Categories are defined in MN Natural Heritage Program (1993).
- Natural Community Element-Occurrence Rankings: A classification of natural areas based on ecological integrity and quality reflecting the presence or absence of human-caused disturbance such as grazing, plowing, logging, or invasive species. Categories are defined by the MnDNR Natural Heritage Program guidelines (MnDNR undated; 2004).
- Biodiversity Area: A classification of aggregated natural areas that may reflect the presence of multiple types of native plant communities, rare species, the size of plant communities, and the landscape context. Unlike the categories described above, the boundaries and classification of biodiversity areas were not verified or modified as part of this study. Biodiversity areas were defined by the MCBS. The extent of each category in the alternative corridors was determined during this study.
- Edge and Interior Habitats: A classification to reflect the effect of fragmentation on the quality of natural areas. Edge areas are generally of lower ecological quality compared to interior areas, but this difference is not captured by the element-occurrence ranking described above. Edge and interior areas were determined for two general categories of plant communities: forest (including woodland) and shrub/herbaceous communities.

This information is used in alternative comparisons below and presented in relation to impacts in Section 7.1.2.

7.1.1.1 Native Plant Communities

Native plant communities are groups of native plants that interact with each other and the surrounding environment in ways not greatly altered by humans or introduced plant or animal species. These groups form recognizable units, such as a mesic prairie or oak forest, that tend to repeat across landscape and over time. They may be classified and described by considering vegetation, successional status, topography, hydrology, landforms, substrates, soils, and natural disturbance regimes (including wildfires, normal flood cycles, and the effects of native pathogens, insects and microorganisms). While there are numerous types of native plant communities throughout the study area impacted by one or more Build alternative as discussed in Section 7.1.2, the most common native vegetation types found within the study area include floodplain forest, maple-basswood forest and mixed-emergent marsh. Notable areas of these communities, as well as a lowland hardwood forest, are discussed below. The native plant communities within each of the 300-foot Build alternative corridors are depicted in Figure 7-1.

Floodplain Forest

Floodplain forests historically dominated much of the floodplain along the Minnesota River and its tributaries. Today, segmented strips of disturbed floodplain forest remain within the study area. Floodplain forests provide an important function during flooding events, as forest cover and other woody stems increase surface roughness resulting in an increased detention of high flows. The cumulative effect is reduced peak flows downstream. In addition, floodplain forests along the Minnesota River support several forest wildlife species, including those less tolerant of fragmented forests.

Silver maple (*Acer saccharinum*), in association with peach-leaved willow (*Salix amygdaloides*), dominates the old river channels, whereas a combination of cottonwood (*Populus deltoides*), American elm (*Ulmus americana*), green ash (*Fraxinus pennsylvanica*), basswood (*Tilia americana*), and black ash (*Fraxinus nigra*) dominate the better-drained ridges. Scattered stumps are present throughout much of the forest, indicating significant selective logging. Many of the larger trees are knobby-trunked trees that were undesirable for logging. The subcanopy and seedling layers contain a diverse assemblage of typical floodplain forest tree species, most of which are also represented in the canopy. A fairly diverse community of forest herbs occurs on the better-drained portions of the forest. Wood nettle (*Laportea canadensis*) and several vine species, particularly moonseed (*Menispermum canadense*), river grape (*Vitis riparia*) and bur cucumber (*Sycios angulatus*), are especially abundant. Other typical ground layer species include Ontario aster (*Aster ontarionis*), white grass (*Leersia virginica*), Virginia waterleaf (*Hydrophyllum virginianum*), clearweed (*Pilea spp.*), and mad-dog skullcap (*Scutellaria lateriflora*). Old sand bars along the river are being invaded by sand bar willow (*Salix exigua*) and cottonwoods and are succeeding to forest.

As in every other floodplain forest along the Minnesota River, these areas in the project area have experienced an extraordinary flooding regime in recent years with numerous episodes of prolonged flooding, heavy silt and sand deposition, accumulation of large debris dams, and much reworking of the ground surface by flood waters. Many of the areas of floodplain forest are regenerated from croplands or colonized from changes in the river bottoms due to flooding. USFWS staff consulted for this DEIS advise that noted old growth floodplain forest, unchanged in more than a century, is present along the eastern boundary of the Chaska Unit of the

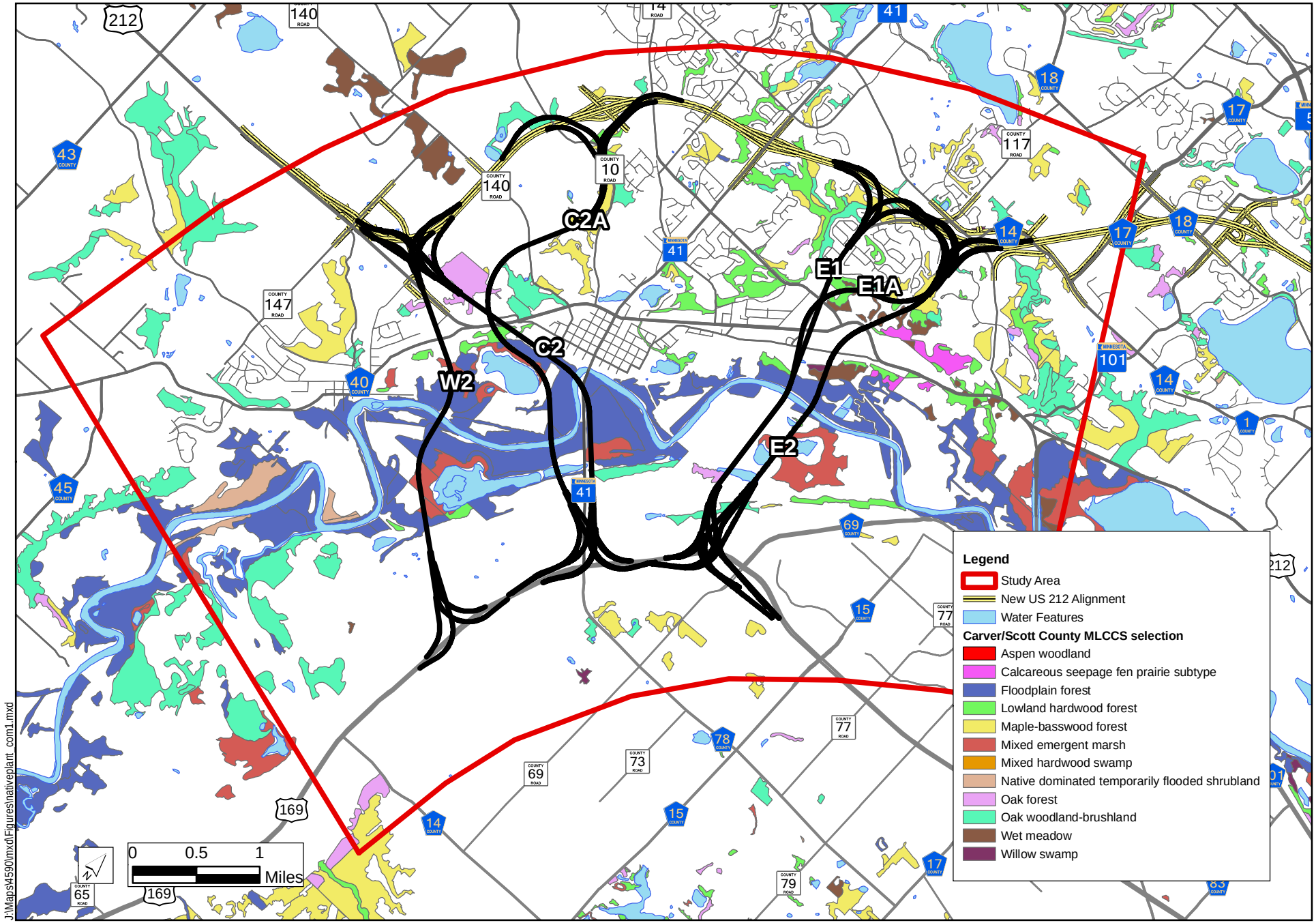
MVNWR. In addition, within the MVNWR and MVSRA, former croplands that were historical floodplain forest have been and are planned to be replanted with species typical of this community. Over the next 20 years, former cropland and turf grass communities can be expected to be in various stages of succession.

Several exotic plant species are present in some of the floodplain forests. Reed canary grass (*Phalaris arundinacea*) is prevalent in a few open areas of recent silt deposition along the edge of the Minnesota River. Common buckthorn (*Rhamnus cathartica*) is scattered throughout the better-drained part of the forests. Other exotic plants present in low numbers include moneywort (*Lysimachia nummularia*), burdock (*Arctium minus*), velvet weed (*Abutilon theophrasti*), creeping charley (*Glechoma hederacea*), and large-leaved plantain (*Plantago major*).

Maple-Basswood Forest

One of the native plant communities recognized as maintaining higher quality is maple-basswood forest found along the bluffs on the Carver County side of the Minnesota River. The value of the maple-basswood forest in the study area is enhanced by its adjacency to other forests and relatively low density of development in the immediate area. These areas are remnants of the "Big Woods", an area of dense forest characterized by maple-basswood forests. Minnesota had extensive stands of this woodland community at the time of European settlement. Today only a tiny fraction remains. Common tree species include sugar maple (*Acer saccharum*), basswood (*Tilia americana*), various oak types (*Quercus sp*.), ironwood (*Carpinus caroliniana*), elm (*Ulmus sp*.), hickory (*Carya sp*.), birch (*Betula sp*.), and aspen (*Populus sp*.). These forest communities have developed on the cool slopes of the bluffs, where rich soils formed from glacial till and loess, with the fertile leaf litter of the maple-basswood forest. Adequate soil moisture and protection from fire by wetlands, rivers, and topography have promoted development of this fire-sensitive community.

Within the study area, two areas of maple-basswood forest exist along the bluffs that would be affected by some of the alternative corridors. Between Audubon Road and Bluff Creek Drive, a 29.2-acre tract of maple-basswood forest covers the bluffs above the SFWC, and another tract is found west of Audubon Road, all near the eastern alternative corridors. A 45.8-acre tract of maple-basswood forest surrounds Chaska Creek, within the Alternative C-2A corridor. The total area of contiguous forest including portions outside of the study area that is bisected by Creek Road is 113.3 acres. Although approximately 30 acres of the forest is mapped as altered/non-native woodland, the relatively large area of contiguous forest is unusual in this part of the growing metropolitan region. These forests were observed to have an uneven-aged distribution of trees, including many that are between 20 and 36 inches diameter at breast height (dbh). Snags are present as well as coarse woody debris on the ground. No evidence of logging or grazing was noted, although the possibility that such anthropogenic disturbance has occurred cannot be discounted. Seedlings and saplings of shade tolerant species such as sugar maple, basswood, and hop hornbeam (*Ostrya virginiana*) are abundant in the forest. Invasive species such as buckthorn or garlic mustard (*Alliaria petoliata*) are either absent or present only at the margins of the forest. The herbaceous ground cover is species rich and includes langstalk sedge (*Carex pedundulata*), wild leek (*Allum tricoccum*), Virginia waterleaf, bloodroot (*Sanguinaria canadensis*), wild ginger (*Asarum canadense*), nodding trillium (*Trillium cernuum*), maidenhair fern (*Adiantum pedutam*), dutchman's breeches (*Dicentra cucullaria*), wood anemone (*Anemone quinquefolia*), and large-flower bellwort (*Uvularia grandiflora*).



NATIVE PLANT COMMUNITIES

Figure 7-1

TH 41 MINNESOTA RIVER CROSSING
Draft Environmental Impact Statement
SP 1008-60
Minnesota Department of Transportation

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Lowland Hardwood Forest

A few areas of lowland hardwood forest of varying quality exist within the study area. An area of particular note is a 6.1-acre stand located in Carver County north of existing US 212 near where it will intersect with New US 212 (W-2 and C-2 corridors) and is determined to have a good quality native community. Canopy species include basswood, red oak (*Quercus rubra*), white oak (*Q. alba*), burr oak (*Q. macrocarpa*), American elm (*Ulmus americana*), and green ash (*Fraxinus pennsylvanica*). Most of the individual trees that dominate the canopy, in particular oaks and basswood, have dbh of 30 to 36 inches. A rich assemblage of herbaceous species are present including Virginia waterleaf, bloodroot, wild ginger, nodding trillium, dutchman's breeches, wood anemone, jack-in-the-pulpit (*Arisaema triphyllum*), marsh fern (*Thelypteris palustris*), wood nettle (*Laportea canadensis*), and red baneberry (*Actaea rubra*). This lowland forest is contiguous with a larger tract of upland oak forest that is outside of the alternative corridors. These two forest communities are surrounded by roads and agricultural land, isolating them from other native plant communities. It should also be noted that the New US 212 corridor will remove approximately two acres of this forest.

Mixed-Emergent Marsh

A large area of emergent marsh occurs on the south and east sides of Nyssen's Lake (W-T, refer to Section 9.6, Wetlands) (E-1, E-1A and E-2 corridors). River bulrush (*Scirpus fluviatilis*) uniformly dominates a broad zone around the edges of the lake where there is deep standing water during the growing season. Outside this zone, in shallower water, is a more diverse assemblage of marsh plants dominated by a mosaic of patches of rice cut grass (*Leersia oryzoides*), lake sedge (*Carex lacustris*), hard stem bulrush (*Scirpus acutus*), bur reed (*Sparganium eurycarpum*), sweet flag (*Acorus calamus*), and common reed grass (*Phragmites australis*). A high diversity of typical marsh plants occurs here, including water plantain (*Alisma subcordatum*), broad-leaved arrowhead (*Sagittaria latifolia*), wild mint (*Mentha arvensis)*, water parsnip (*Sium suave*), swamp milkweed (*Asclepias incarnata*), American water horehound (L*ycopus americanus*), and giant water dock (*Rumex orbiculatus*). This marsh is in fine condition and is devoid of exotic species, except for reed canary grass growing in a narrow belt on the outermost edges of the marsh where the ground surface was disturbed by past land use or where sediment from upslope erosion has accumulated.

In July 2005, biologists from the USFWS evaluated the overall health of Carver Marsh (W-B, refer to Section 9.6, Wetlands) using the Wetland Health Evaluation Program (WHEP). In this protocol, both the plant and macroinvertebrate communities are surveyed to provide biological indicators to the overall health of the wetland. Vegetation observed includes River bulrush, Joe-pye weed (*Eupatorium maculatum*), and Climbing false buckwheat (*Polygonum scandens*), as well as a number of floating and submergent species. Woody vegetation included typical species found in floodplain forests, cottonwood, willow, silver maple, and box elder. The vegetation scored in the "Moderate" range. Numerous macroinvertebrates were observed, and the overall score was "Excellent." The diversity found at this site helped determine the site to be of moderate to excellent quality.

As noted, wetlands are more specifically addressed in Chapter 9.

7.1.1.2 Invasive Vegetation

Native plant communities within the study area threatened with invasion by exotic species which often change a diverse native plant community to a monotypic stand of the undesirable invasive. Species that have been introduced, or moved, by human activities to a location where they do not naturally occur are termed "exotic," "nonnative," "alien," and "nonindigenous." When nonnative species cause ecological or economic problems, they are termed "invasive" or "harmful exotic species." Natural resources within the study area are threatened by invasive species such as purple loosestrife (*Lythrum salicaria*), reed canary grass (*Phalaris arundinacea*), common and glossy buckthorn (*Rhamnus cathartica, Frangula alnus*), garlic mustard *(Alliaria petiolata)* and leafy spurge (*Euphorbia esula*).

Purple loosestrife invades marshes and lakeshores, replacing cattails and other wetland plants. The plant can form dense, impenetrable stands which are unsuitable as cover, food, or nesting sites for a wide range of native wetland animals including ducks, geese, rails, bitterns, muskrats, frogs, toads, and turtles. Many rare and endangered wetland plants and animals are also at risk.

Reed canary is a major threat to natural wetlands because it out competes most native species by forming large, single-species stands, with which other species cannot compete. Invasion is associated with disturbances, such as ditch building, stream channeling sedimentation and intentional planting. This Eurasian species has been planted throughout the U.S. since the 1800s for forage and erosion control and is still being planted.

Common and glossy buckthorn out-competes native plants for nutrients, light, and moisture by forming an impenetrable layer of vegetation. Buckthorn leafs out early in spring and retains leaves until late in the fall, creating dense shade and contributing to erosion by shading out other plants that grow on the forest floor. The aggressive growth habit of buckthorn degrades wildlife habitat and threatens the future of forests, wetlands, prairies, and other natural habitats. This is because it also serves as host to other pests, such as crown rust fungus and soybean aphid and lacks "natural controls" like insects or disease that would curb its growth.

Garlic mustard spreads into high quality upland woodlands and floodplain forests, not just into disturbed areas. Invaded sites undergo a decline on native herbaceous cover within 10 years, altering habitat suitability for native insects and thereby birds and mammals.

Leafy spurge is a problem for the moist and dry native prairies and savannas in the study area, quickly displacing native plants. Tolerant of a wide range of habitats, from dry to moist, and sunny to semi-shade, leafy spurge is most aggressive in dry soil conditions where there is less competition from native plants. MVNWR and MVSRA staff advises that it is creating a substantial management issue for their native prairie restoration efforts.

7.1.1.3 Fish and Wildlife Communities

The habitats described above support an array of wildlife species that are common to east central Minnesota. The floodplain and upland forest habitats provide cover for wildlife movement as most species do not prefer to move in the open fields where they are more subject to predation and easy detection by their prey. A rich diversity of birds, mammals, fish, reptiles, and amphibians inhabit lands within the study area.

Over 260 species of birds are attracted to the diverse habitats within the study area each year. Of these, over 120 are known to nest in the area. Common waterfowl of the area include Canada Goose, Mallard, Wood Duck, Blue-winged Teal, Gadwall, and American Widgeon. Waterfowl concentrate on the wetlands during spring and fall.

Marsh and water birds frequently observed in the valley and surrounding areas include Great Egret, Double-crested Cormorant, Great Blue Heron, Green Heron, and Black-crowned Night-Heron. Exposed mudflats on the river bottoms attract shorebirds including Greater and Lesser Yellowlegs and Spotted Sandpiper. Both Common Snipe and American Woodcock are commonly found on these lands as well.

Neo-tropical migrants attracted to forested habitats include thrushes, vireos and warblers. Year-round residents include Downy, Hairy, Pileated and Red-bellied Woodpeckers, Wild Turkey, and Ring-necked Pheasant. Birds of prey inhabiting the area include Red-tailed Hawk, American Kestrel, Sharp-shinned Hawk, Cooper's Hawk and Bald Eagle.

At least 50 mammals occur within the area as year-round residents and the most visible of these is the Whitetail Deer. Other mammals attracted to the river bottom aquatic habitats include mink, muskrat, raccoon and beaver. River otter, once nearly eliminated in this area, are now occasionally seen utilizing the Minnesota River wetlands and river banks. Small mammals typical of this area include short-tail shrew, white-footed mouse, thirteen-lined ground squirrel, and plains pocket gopher. Eastern chipmunks plus eastern gray, eastern fox, and red squirrels are commonly found in forested habitats. Both big and little brown bats use the area. Red fox are the most common carnivores of the area, followed by coyote and gray fox.

The Minnesota River is inhabited by an array of fish including game species such as northern pike, large mouth bass, walleye, bluegill, and crappie. Other species include shovel nose sturgeon, catfish, and red horse. Like most other fresh water systems in the United States, high populations of carp inhabit the Minnesota River. Due to regular spring flooding, many of the bottomland wetlands contain a diversity of fish that originate in the river. For some species, these wetlands offer spawning and nursery habitat.

Also within the study area, a designated trout stream exists, known as Assumption Creek, which flows through the area known as the Seminary Fen Wetland Complex discussed in Section 7.3. (See Figure 7-3.) However, information gathered for the Phase 1 Fen Study (see Section 7.3.1.) suggests that Assumption Creek would not likely support trout populations until it has passed through most of the fen because as it flows through the SFWC, it becomes intermittent and loses flow to the groundwater, and therefore would not support any fish population. However, from the east edge of the Seminary Fen down to the Minnesota River, it appears that Assumption Creek could provide a cold-water fishery sufficient to support trout.

Thirty species of reptiles and amphibians have been reported within the river valley. Many of these, such as the snapping and painted turtles, are associated with marsh and open waters while others, such as the common garter snake and the hognosed snake, occur in oak savanna and prairie. A chorus of spring peepers is common through the Minnesota River Valley during spring.

7.1.2 Environmental Consequences

Documentation of native plant communities within each alternative corridor provides a direct measure of the impact of alternative selection. Fragmentation of native plant communities was also considered and quantified in the Phase 2 Study. For this study, native plant communities within 100 feet of a boundary with a non-native community or artificial surface were defined as "edge" areas. Native plant communities that are beyond 100 feet of such a boundary were defined as "interior" areas. By this definition edge areas do not occur at the boundary of different types of natural area (e.g., oak forest and wet meadow or floodplain forest and river). Edge was only quantified if it represented a boundary between native vegetation and an artificial environment (e.g., a highway corridor).

Edges can have detrimental impacts on biodiversity due to alteration of microclimate and increased encroachment of alien or parasitic species. The most detrimental edge impact occurs when a mature forest is fragmented because of the difference between the microclimate of the intact forest and the open area. Changes in light, air and soil temperature, relative humidity, and wind alter plant succession at the edge of the mature forest. Predatory and parasitic animals can gain access to the forest habitat and may be particularly devastating for nesting success of forest birds. The distance into a forest of altered habitat (also termed depth of edge influence, DEI) varies widely among organisms and site conditions. For this analysis, the depth of edge influence (DEI) was defined to be 100 feet in which the most degraded ecological conditions might be expected.

The amount of edge and interior area within each alternative corridor were quantified as a direct measure of potential impact to natural areas differing in relative quality. If a highway corridor bisects a native plant community, the remaining vegetation *outside* the corridor exists in smaller, more isolated patches, and the amount of edge habitat increases. This indirect impact from fragmentation was measured by assessing the amount of *current* interior area that will *become* edge area outside of each alternative corridor.

In addition, observations of conditions beneath bridges elsewhere in the Minnesota River Valley were made to inform the assessment of potential environmental consequences of the proposed project.

In addition, note that some communities discussed in this section are wetlands. Complete analyses of direct fill impacts to wetlands is provided in Section 9.5.

<u>No-Build Alternative</u>

The No-Build Alternative would result in no new direct impacts to native plant communities or fish and wildlife habitat. However, increased congestion from existing TH 41 has the potential to result in impacts on water quality from runoff collecting contaminants from the increased vehicle usage, and noise pollution. The corridor-effect of the river valley can limit the dissipation of vehicle emissions, and the lower topography means that water-borne contaminants drain down into the valley.

Build Alternatives

All of the Build Alternatives would have a similar, though potentially minimal, impact upon fish habitat within the river valley. Any bridge piers placed within the river channel may create an obstacle within the fish habitat, though the fish could adjust to the placement by swimming around any pier and amphibians and reptiles, likewise, could maneuver around piers. However, current design efforts include spanning the entire river channel, with no placement of piers within the channel itself.

The Phase 2 Study also analyzed potential effects on existing vegetation from bridge construction based on visits to existing bridges over the Minnesota River. Qualitative assessments of possible ecological impacts of existing large-bridge crossings of the Minnesota River were conducted during visits in June through August, 2006. Anecdotal observations were made of the general environmental setting of each bridge and used to infer possible impacts from the proposed TH 41 river crossing. Bridges were selected that are similar to the proposed project, in that they cross a large portion of the Minnesota River floodplain and are relatively high bridges. The bridges that were visited for this purpose include TH 169 (Bloomington Ferry Bridge), I-35W, TH 77 (Cedar Avenue), I-494, TH 55 (Mendota Bridge), and I-35E. Because nearly the entire length of the Minnesota River Valley crossing will be made on bridges, rather than on filled embankments or at grades, the assessment focused on impacts under and surrounding existing elevated bridges. The following observations and conclusions are pertinent to all Build alternatives:

- Higher bridges have more vegetation, more native vegetation and less bare area beneath them. Lower bridges have more bare soil and more invasive species, especially reed canary grass, beneath them.
- Wider bridge decks have lower vegetation cover, lower-quality vegetation and more bare soil. These effects may be attenuated by spacing of bridge decks. For example, the total width of two bridge decks of the TH 77 (Cedar Avenue) bridge is 120 feet, which is similar to approximately 110 feet deck widths of I-35W and I-35E. However, the decks of TH 77 are set 45 feet apart, allowing for greater penetration of sunlight beneath the decks, and higher vegetation coverage and quality beneath.
- Forest communities are absent underneath bridges, with the exception of an early successional community of box elder trees under the Mendota Bridge, which is a relatively high bridge. There is no direct evidence of floodplain forests recovering or reestablishing under bridges.
- Herbaceous wetlands beneath the higher bridges, and in more open sites (i.e. not forested), tend to have more native vegetation, in terms of abundance and species richness than those beneath lower bridges.
- Permanently or semi-permanently flooded wetlands beneath the bridges tend to have more native vegetation, in terms of abundances and species richness than seasonally or temporarily flooded wetlands.

- White crystalline deposits were observed beneath lower bridges and in upland and seasonally-flooded wetlands. These deposits may be accumulated road salts, and while no laboratory analyses were conducted to confirm, circumstantial evidence seems to support this finding.
- Floodplain forests can grow very close to the edges of the bridges. Where mature forest vegetation is close to the bridges, the forest edge is not thickly populated by shrubs, saplings or invasive species. It appears that the shade of the bridges ameliorates the microclimate impacts of forest fragmentation to some extent.

Tables 7-1, 7-2, 7-3, 7-4, and 7-5 present impacts on vegetation. Table-7-6 summarizes these impacts. Note that these impacts are based on a 300-foot wide corridor. Actual construction limits would be more narrow. The impacts should be considered as relative comparison among alternatives. Note also that wetland impacts are addressed in Section 9.5, but that the impacts attributed to piers are more narrowly defined; i.e. not based on a 300-foot corridor.

Alternative W-2

In Scott County, Alternative W-2 crosses areas of aggregate mining before dropping down into the river valley.

In the river valley, approximately 86 bridge piers, 43 for each direction of travel, will need to be placed assuming 250 foot intervals for the current design.

In Carver County, Alternative W-2 crosses the Chaska Unit of the MVNWR, just north of Carver Marsh, where there is a relatively narrow strip of floodplain forest. The current alignment crosses between Chaska Lake and Carver Marsh in this unit of the MVNWR. Temporary impacts from construction in this area would be in the form of compaction for construction access, as well as dewatering for placement of the bridge piers. Assuming bridge piers approximately every 250 feet, 14 piers, seven for each direction of travel, would be placed through this portion of the Chaska Unit. This would result in 4.1 acres of direct wetland impact, including the native plant communities of Carver Marsh and Chaska Lake. MnDNR and USFWS staff advised that placement of the bridge between these two water bodies also creates a flight barrier for birds migrating between them.

The Alternative W-2 corridor covers 2.9 acres of the 6.1 acre lowland hardwood forest described Section 7.1.1. Alternative W-2 would also impact 25 acres of floodplain forest. Finally, 4.6 acres of oak forest at the interchange with New US 212 would be impacted. The total new forest edge created by this alternative would be approximately 15.9 acres.

Alternative C-2

In Scott County, Alternative C-2 would minimize the impacts to natural resources in the area by closely paralleling the alignment of existing TH 41 from US 169 nearly to the existing crossing.

This alternative would require a total of 80 bridge piers, 40 in each direction of travel, assuming 250 foot intervals for the current design.

TABLE 7-1
NATURAL COMMUNITY BY ALTERNATIVE CORRIDOR AND STATE RARITY RANKING

Vegetation [rarity ranking][1] (acres)	Alternative Corridor					
	W-2	C-2	C-2A	E-1	E-1A	E-2
Aspen Woodland [5]	0.0	0.9	0.0	0.0	0.0	0.0
Wetland Complex containing Calcareous Seepage Fen [1]	0.0	0.0	0.0	0.0	10.0	12.1
Floodplain Forest [3]	25.0	15.9	20.9	7.1	7.2	9.3
Lowland Hardwood Forest [4]	2.9	5.6	11.6	0.7	8.2	2.3
Maple-Basswood Forest [2]	0.0	11.2	22.4	10.4	10.7	13.4
Mixed Emergent Marsh [2]	19.3	3.6	16.2	1.0	1.0	8.7
Mixed Hardwood Swamp [3]	0.0	0.0	0.0	0.7	0.7	0.0
Native Dominated Temporarily Flooded Shrubland [4]	0.0	7.8	0.0	0.0	0.0	0.0
Oak Forest [2]	4.6	3.9	1.9	3.5	6.2	1.1
Oak Woodland-Brushland [4]	0.0	0.0	8.6	0.0	4.9	7.6
Wet Meadow [3]	0.0	3.5	0.0	6.4	0.04	4.3
Willow Swamp [4]	0.0	2.6	0.0	0.0	0.0	0.6
Total Natural Area	51.7	54.8	81.6	29.6	48.9	59.3

[1] Ranks of natural communities are defined in Minnesota Natural Heritage Program (1993). The numerical ranks range from 1 to 5 and "*…are intended to reflect the extent and condition of the natural communities in Minnesota…those ranked '1' are considered critically endangered in Minnesota, while communities ranked '5' are considered secure under present conditions.*" Where subtypes were possible, the ranking for the "Big Woods Section" subtype was used.

TABLE 7-2
NATURAL COMMUNITY STATE RARITY RANKINGS BY ALTERNATIVE CORRIDOR

State Rarity Ranking[1] (acres)	Alternative Corridor					
	W-2	C-2	C-2A	E-1	E-1A	E-2
1	0.0	0.0	0.0	0.0	10.0	12.1
2	23.8	18.7	40.5	14.8	17.9	23.2
3	25.0	19.4	20.9	14.1	8.0	13.6
4	2.9	15.9	20.2	0.7	13.1	10.4
5	0.0	0.9	0.0	0.0	0.0	0.0
Total	51.7	54.8	81.6	29.6	48.9	59.3

[1] Rarity ranks reflect the scarcity of different types of native plant communities within the state and within regions of the state. Ranks of natural communities are defined in Minnesota Natural Heritage Program (1993). The numerical ranks range from 1 to 5 and "*…are intended to reflect the extent and condition of the natural communities in Minnesota…those ranked '1' are considered critically endangered in Minnesota, while communities ranked '5' are considered secure under present conditions.*" The ranks of individual plant communities in the study area is given in Table 7.1.

TABLE 7-3
NATURAL COMMUNITY ELEMENT-OCCURRENCE RANKINGS BY ALTERNATIVE CORRIDOR

E-O Rank[1] (acres)	Alternative Corridor					
	W-2	C-2	C-2A	E-1	E-1A	E-2
A	0.0	0.0	0.0	0.0	0.0	0.0
B	33.3	36.3	44.9	2.8	8.1	8.7
BC	0.0	0.0	0.0	0.0	20.0	25.5
C	16.0	18.5	36.0	11.0	18.9	23.7
D	2.4	0.0	0.7	15.8	2.0	1.5

[1] The MnDNR Natural Heritage Program guidelines (MnDNR undated; 2004) were used for assessing and ranking the integrity of natural communities:
A –"*Highest quality natural community, no disturbances, and natural processes intact.*"
B –"*Good quality natural community. Has its natural processes intact, but shows signs of past human impacts. Low levels of exotics.*"
C –"*Moderate condition natural community with obvious past disturbance but is still clearly recognizable as a native community. Not dominated by weedy species in any layer.*"
D –"*Poor condition natural community. Includes some natives, but is dominated by non-natives and/or is widely disturbed and altered.*"

TABLE 7-4
BIODIVERSITY AREA RANKINGS BY CORRIDOR

Biodiversity Ranking[1] (acres)	Alternative Corridor					
	W-2	C-2	C-2A	E-1	E-1A	E-2
Outstanding	0.0	0.0	0.0	0.5	30.6	26.0
High	0.0	0.0	0.0	0.0	0.0	0.0
Moderate	0.0	0.0	0.0	13.6	14.0	10.8
Below Minimum Threshold	61.2	36.4	47.7	39.8	40.8	41.8
Total	62.1	36.4	47.7	53.9	85.4	78.5

[1] Biodiversity areas are defined and classified by the Minnesota County Biological Survey of the MnDNR. Categories are defined as follows: Outstanding – "*Sites containing the best occurrences of the rarest species, the most outstanding examples of the rarest native plant communities, and/or the largest, most intact functional landscapes present*;" High – "*Sites containing the 'best of the rest,' such as sites with very good quality occurrences of the rarest species, high quality examples of the rarest native plant communities, and/or important functional landscapes*;" Moderate – "*Sites containing significant occurrences of rare species, and/or moderately disturbed native plant communities and landscapes that have a strong potential for recovery*;" Below minimum threshold – "*sites lacking occurrences of rare species and/or natural features that meet MCBS standards for an Outstanding, High, or Moderate rank. These include areas of conservation value at the local level, such as habitat for native plants and animals, corridors for animal movements, buffers surrounding higher quality natural areas, and open spaces.*"

TABLE 7-5
ESTIMATES OF HABITAT FRAGMENTATION IMPACTS BY ALTERNATIVE CORRIDOR

Type of Impact (acres or percent)	Alternative Corridor					
	W-2	**C-2**	**C-2A**	**E-1**	**E-1A**	**E-2**
Impact to Forest Edge	9.1	18.8	31.9	16.2	14.2	11.6
Impact to Forest Interior	24.9	20.8	33.6	12.2	20.0	21.8
Percent of Forest Impact that is Interior Habitat	73.2%	52.5%	51.3%	42.9%	58.4%	65.2%
Impact to Shrub/herbaceous Edge	6.5	5.1	0.00	0.9	6.0	8.0
Impact to Shrub/herbaceous Interior	14.7	12.2	16.2	<0.1	3.5	16.6
Percent of Shrub/herbaceous Impact that is Interior Habitat	69.2%	70.3%	100.0%	1.5%	37.1%	67.5%
Creation of Forest Edge (outside corridor)	15.9	13.6	23.3	7.0	11.6	10.2
Creation of Shrub/herbaceous edge (outside corridor)	10.0	6.8	6.8	0.0	3.2	9.5

TABLE 7-6
SUMMARY OF POTENTIAL VEGETATION IMPACTS

Parameter (acres)	Alternative Corridor					
	W-2	C-2	C-2A	E-1	E-1A	E-2
Native Vegetation	51.7	54.8	81.6	29.9	48.9	59.3
High Quality Native Vegetation (BC rank or better)	33.3	36.3	44.9	2.8	28.1	34.2
State Rarity Ranking of Native Vegetation (Rank 1-3)	48.8	38.1	61.4	28.9	35.9	48.9
Outstanding Biodiversity Area	0.0	0.0	0.0	0.5	30.6	26.0
Forested Areas	33.9	38.6	61.3	22.3	33.0	26.3
Impact to Forest Interior	24.9	20.8	33.6	12.2	20.0	21.8
Creation of New Forest Edge	15.9	13.6	23.3	7.0	11.6	10.2

In Carver County, Alternative C-2 crosses a narrow band of old growth floodplain forest at the northernmost edge of the Chaska Unit of the MVNWR. In response to extensive discussions with natural resource agency staff and consultation with local stakeholders, the alignment was configured to minimize the crossing of this forest, and therefore, minimize the fragmentation of the resource. Total floodplain forest impacts amount to 15.9 acres with this alternative. Alternative C-2 would also impact 5.6 acres of lowland hardwood forest as it approaches the interchange with New US 212. Once the alignment reaches the top of the bluff in Carver County, it would impact 11.2 acres of maple-basswood forest and 3.9 acres of oak forest surrounded by agricultural fields. Total new forest edge resulting from this alternative would be approximately 13.6 acres.

Alternative C-2A

Alternative C-2A drops down from the Scott County bluffs into the river valley fairly quickly. Once in the valley Alternative C-2A assumes placement of 76 bridge piers, 38 in each direction of travel, at 250-foot intervals.

In Carver County, Alternative C-2A skirts the southern edge of a 100-plus acre old growth floodplain forest at the northernmost edge of the Chaska Unit of the MVNWR, and would result in the loss of 20.9 acres of this resource. It then winds to the west around the north end of Chaska Lake in the Chaska Unit of the MVNWR. By following along the edge of the forested area, fragmentation of the resource is minimized. However, 20 bridge piers, 10 in each direction of travel, at 250 foot intervals for the current bridge design would be required across the Chaska Unit of the MVNWR with this alternative. This results in 5.8 acres of direct wetland impacts for construction of bridge piers. Alternative C-2A takes the longest route through the river valley and the MVNWR.

Once the roadway reaches the top of the bluff, the alignment crosses mainly through agricultural fields, currently planned for development, as it heads north. Once the alignment reaches the top of the bluff in Carver County, it would impact 11.6 acres of lowland hardwood forest and 1.9 acres of oak forest as it approaches the interchange with New US 212. For the interchange with New US 212, it would impact 22.4 acres of maple-basswood forest surrounding Chaska Creek. As previously mentioned, most animal species prefer to move under forest cover, and Chaska Creek flows within forested buffer. Construction of the interchange could interrupt free movement within this corridor. This alternative would also impact 8.6 acres of native oak woodland-brushland area. Total new forest edge created by this alternative would be 23.3 acres.

Alternative E-1

Across the Minnesota Valley, Alternative E-1 would require a total of 94 bridge piers, 47 in each direction of travel, assuming 250-foot intervals for the current design.

Alternative E-1 crosses aggregate mining activities in Scott County before heading down into the river valley.

At the banks of the Minnesota River, on the Scott County and Carver County sides, the bridge would be crossing 7.1 acres of floodplain forest and 0.7 acres of lowland hardwood forest. It then crosses mainly through developed area up to the interchange with New US 212. Approximately 10.4 acres of maple-basswood forest and 3.5 acres of oak forest would be impacted as this alternative approaches the interchange with New US 212. Minimal new impacts would be expected to vegetative communities and wildlife habitat along Audubon Road. Total edge effect for this alternative is 7.0 acres.

Alternative E-1A

Across the Minnesota Valley, this alternative requires a total of 112 bridge piers, 56 in each direction of travel, assuming 250 foot intervals for the current design.

In Scott County and through the river valley, Alternative E-1A is identical to Alternative E-1. At the banks of the Minnesota River, the bridge would be crossing 7.2 acres of floodplain forest and 8.2 acres of lowland hardwood forest.

In Carver County, Alternative E-1A crosses mainly through developed area to the base of the bluff. At the base of the bluff, it turns to the east and hugs the toe of the bluff. The impacts to the toe of the bluff are discussed in Section 7.3.2, as this is the Seminary Fen Wetland Complex (SFWC). The alternative turns north following the coulee up the bluff to the interchange with New US 212. Construction of this alternative would result in the loss of 10.7 acres of the native maple-basswood forest in the coulee, eliminating the central portion of forest in this gulley, as well as creating a barrier to wildlife movement. Alternative E-1A would also impact 6.2 acres of oak forest and 4.9 acres of oak woodland-brushland with the interchange to New US 212. Total new forest edge created by this alternative would be 11.6 acres.

Alternative E-2

Across the Minnesota Valley, Alternative E-2 would require 98 bridge piers, 49 in each direction of travel.

In Scott County, Alternative E-2 crosses aggregate mining activities before heading down into the river valley. The alignment crosses floodplain agricultural fields prior to starting across the river. A native plant community of special note is located within the river bottom in Nyssen's Lake below the proposed bridge of Alternative E-2, as described in Section 7.1.1.2. A total of 4 bridge piers, 2 in each direction of travel, at 250-foot intervals are assumed across this resource, and those located within this plant community would result in a direct impact of 1.2 acres. As noted in the discussion above, the shading, debris and salt spray from a bridge structure also create the opportunity for invasive, exotic species to out-compete the native species, thereby compromising the integrity of the existing vegetative community even without direct fill impacts.

In Carver County, Alternative E-2 crosses 9.3 acres of floodplain forest along both banks of the Minnesota River. North of existing New US 212, Alternative E-2 crosses directly through the western portion of the SFWC, the impacts to which are discussed in Section 7.3.2. Alternative E-2 also impacts 2.3 acres of lowland hardwood forest. Across the SFWC, Alternative E-2 follows the coulee up the bluff to the interchange with

New US 212. Construction of this alternative would result in the loss of 13.4 acres of the native maple-basswood forest in the coulee, eliminating the central portion of forest in this gulley, as well as creating a barrier to wildlife movement. This alternative would also impact 1.1 acres of oak forest and 7.6 acres of oak woodland-brushland toward the interchange to New US 212. Total new forest edge created by this alternative would be 10.2 acres.

7.1.3 Mitigation

Refinement of the scoping alternatives into DEIS alternatives incorporated efforts to avoid impacts to crucial wildlife habitat where possible.

Where impacts to wildlife are unavoidable, the effect of the impacts would be minimized through design features such as provision of wildlife crossing areas where the roadway is at-grade. At this time, Alternatives C-2 and C-2A (wooded areas in Carver County) appear to have the most opportunity for such crossing areas. Timing construction to avoid nesting seasons, or to work during winter months when soils are frozen, are other practices to consider in minimizing impacts to wildlife. Disturbed areas would be re-vegetated with native plants and land in the right of way would be managed to have diverse grassy vegetation with trees and shrubs outside the required roadway clear zone. Restoration of unfragmented and closed-canopied forest on the Minnesota River bottoms is a mitigation opportunity that greatly increases the potential for the valley to sustain breeding populations of bald eagles, red-shouldered hawks, cerulean warblers and other forest bird species that were once much more abundant in the valley. In addition, the formerly-cultivated bottomlands within the river valley could be restored by planting cottonwoods and silver maple trees. This will help to accelerate the process of succession to forest communities. Cultivated or formerly-cultivated lands within the floodplain can be restored to floodplain forest where feasible.

Native grassland restoration can also occur as a part of the overall mitigation scheme. Former croplands can be planted to native grass mixtures consisting of big bluestem, little bluestem, switch grass, side oats grama, and Canada wild rye. A mixture of forbs could also be planted to enhance the biological diversity of many of these sites.

During construction, best management practices will be implemented to control erosion and sediment discharge to water bodies. Impacts to fisheries can also be minimized by constraining the timing of construction activities to minimize impacts to spawning fish. Bridge piers would be designed to avoid changes to river flow patterns. Permanent storm water treatment would be included in project design for any of the Build Alternatives, to avoid long-term impacts to water quality. As outlined in Section 9.6, impacts to wetlands would be mitigated through the creation of new wetlands.

7.2 STATE/FEDERAL THREATENED AND ENDANGERED SPECIES

7.2.1 Regulatory Overview

This section provides a summary of the presence of threatened and endangered species of plants, animals and aquatic species and their habitat in the study area and regulatory protection of these resources.

7.2.1.1 The Federal Endangered Species Act

The Federal Endangered Species Act was passed into law in 1973. The Act provides broad protection for species of animals and plants that are listed as threatened or endangered in the U. S. or elsewhere. Provisions include granting the Secretary of the Interior authorization to develop and implement recovery plans and the designation of critical habitat for each listed species. The Act outlines procedures for federal agencies to follow when taking actions that may jeopardize listed species and contains exceptions and exemptions.

7.2.1.2 State Endangered Species Act of 1974

Efforts by the federal government to recognize and protect endangered species through legislation were followed in many cases by supportive legislation at the state level. In Minnesota, the state legislature passed the State Endangered Species Act of 1974 (Minnesota Statute 84.0895). The Act states that a species' range in Minnesota should be a factor in determining its status. This statement legally guarantees that a list be developed and maintained specifically for species experiencing problems in Minnesota regardless of their national status. The Minnesota Department of Natural Resources (MnDNR), in conjunction with other plant and animal experts, developed the state list of endangered, threatened and special concern species.

7.2.1.3 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 is the domestic law that implements the United States' commitment to four international conventions (with Canada, Japan, Mexico, and Russia) for the protection of a shared migratory bird resource. The MBTA was originally framed to put an end to commercial trade in birds and their feathers. The MBTA regulates hunting, killing, taking or commerce in any part, next, or egg of selected birds unless permitted by license or regulations. The MBTA includes a list of protected species as well as provisions for fines/penalties for illegal takes. The MBTA regulations would apply if, at the time of construction, the preferred alternative corridor is used for nesting by any species protected under this act.

7.2.1.4 Implementation

The USFWS is the agency responsible for review and consultation regarding actions that could potentially impact federally-listed threatened and endangered species. The local USFWS area manager will be consulted throughout the process. Through this coordination, the USFWS issues guidance and thresholds for determining avoidance and minimization strategies for particular species (e.g., bald eagle nest protection zones).

The Minnesota Endangered Species Statute (Minnesota Statutes, Section 84.0895) is coordinated and enforced through the MnDNR. Initial project coordination is typically accomplished through a review of the Natural Heritage Information System database. If needed, follow-up coordination with MnDNR or other agency staff is performed. If a state-listed threatened or endangered species will be destroyed during the construction of the proposed project, a Threatened and Endangered Species Taking Permit would be required from the DNR.

7.2.2 Affected Environment

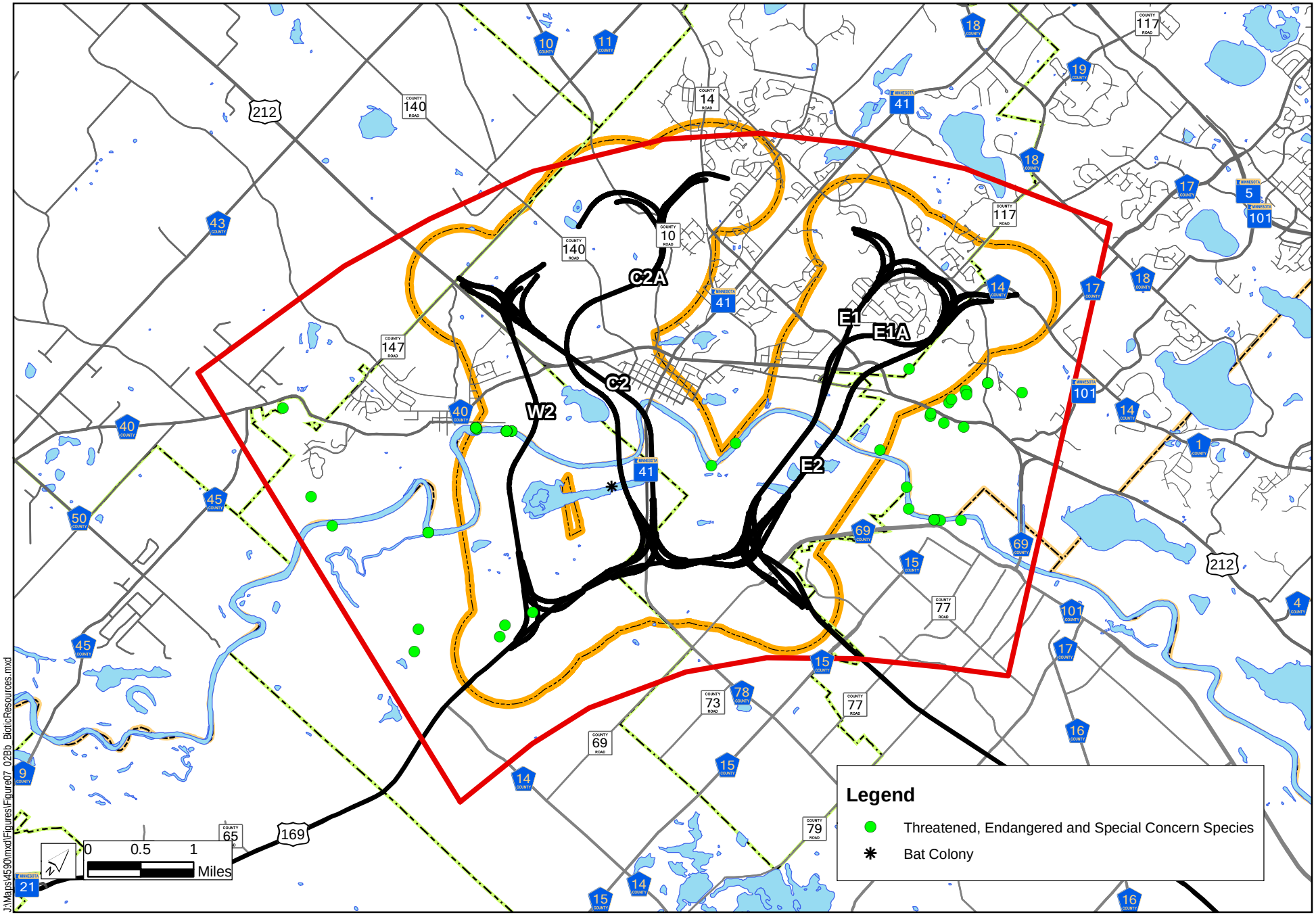
To evaluate whether rare or endangered species are present in the study area, a request was made to the MnDNR Natural Heritage Program (NHP) in June 2005. Upon review, 119 known occurrences of rare species or native plant communities were identified as existing within a one mile radius of the study area (see letter dated June 14, 2005 in Appendix A). Species that fall within a half-mile buffer of the alignments are represented in Table **7-7** and on Figure 7-2; all other species within the study area but outside the half-mile buffer are in Table 7-8 and shown on Figure 7-2. Discussion of a few of the species of note follows the tables.

In addition to review of the NHP information, the MnDNR MCBS conducted biological surveys of Scott and Carver Counties within the study area during the field seasons of 1995 through 1998, with follow-up surveys conducted in 2000. For these particular surveys, more intensive review was conducted within lands designated as part of the MVSRA, and Gifford Lake Wayside and Nyssen's Lake Units are both within the study area. Surveys of rare plants and animals for these surveys were more intensive than the scope of work generally pursued as part of a county-level survey.

The Minnesota River supports a relatively diverse population of freshwater mussel (unionid) species. Of the mussel shell specimens found in recent surveys, two (Higgins eye and Winged mapleleaf) are on the Federal list of Endangered and Threatened Species, and several others are on the Minnesota state list of Endangered and Threatened species. Mussels are sedentary filter feeders that depend on a stable substrate for burrowing, and good water quality and flow for feeding, respiration, and reproduction. They also require an intermediate host (usually a fish species) to complete their life cycle. Changes in substrate characteristics, water quality, flow patterns, or host fish habitat can be detrimental to unionid species. None of the rare shells found in 1990 and 1999 collections were from live specimens. The extremely rare mussels require harder, more stable river bottom substrates and relatively good water quality, and appear to be eliminated from the Minnesota River due to heavy siltation and water pollution. Some of the shells found could be as old as 100 years.

The study area includes habitat for the Bald Eagle (*Haliaeetus leucocephalus*), which, during the breeding season, is typically in forests near rivers where large trees are available for nesting. According to the MnDNR, studies show that Bald Eagles are vulnerable to human intrusion, though this depends upon the particular eagle, as some have become accustomed to human activity near their nests. Wintering areas are also critical for use by Bald Eagles. In general, within certain defined areas from nesting or roosting/feeding sites, eagles need to be protected from human disturbance, physical alterations of their habitat (including clearing of vegetation), environmental contaminants, and loss of food sources.

Shovelnosed sturgeon has recently been of some concern because of apparent population reductions through much of its range in Minnesota, including the Minnesota River. While it apparently had once been relatively abundant, recent MnDNR surveys did not report it and other authorities believe the sturgeon to be scarce or absent altogether. The typical habitat of the shovelnosed sturgeon is the deep main channels of the free-flowing river. Loss of habitat and numbers of sturgeon place this species in the Special Concern category.



THREATENED, ENDANGERED AND SPECIAL CONCERN SPECIES

Figure 7-2

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TABLE 7-7
THREATENED, ENDANGERED, SPECIAL CONCERN SPECIES WITHIN ½ MILE BUFFER OF BUILD ALTERNATIVES

Species (*Scientific name*)	Federal Status	State Status	Number of Observations	Last Observation
Animals				
Higgins Eye – mussel (*Lampsilis higginsi*)	Endangered	Endangered	1 (dead)	08/16/89
Fluted-shell – mussel (*Lasmigona costata*)		Special Concern	1 (dead)	09/29/99
Monkey Face – mussel (*Quadrula metanevra*)		Threatened	3 (dead)	09/29/99
Ebony shell – mussel (*Fusconaia ebena*)		Endangered	2 (dead)	09/29/99
Mucket – mussel (*Actinonaias ligamentina*)		Threatened	2 (dead)	09/29/99
Wartyback – mussel (*Quadrula modulata*)		Endangered	1 (dead)	09/20/00
Pistolgrip – mussel (*Tritogonia verrucosa*)		Threatened	3 (dead)	08/17/89
Black Sandshell – mussel (*Ligumia recta*)		Special Concern	1 (dead)	08/17/89
Yellow Sandshell – mussel (*Lampsilis teres*)		Endangered	1 (dead)	09/29/99
Rock Pocketbook – mussel (*Arcidens confragosus*)		Endangered	2 (dead)	09/29/99
Winged Mapleleaf – mussel (*Quadrula fragosa*)	Endangered	Endangered	1 (dead)	**9/29/99**
Hickorynut – mussel (*Obovaria olivaria*)		Special Concern	1 (dead)	09/29/99
Elktoe – mussel (*Alasmidonta marginata*)		Threatened	1 (dead)	08/16/89
Round Pigtoe – mussel (*Pleurobema coccineum*)		Threatened	1 (dead)	08/16/89
Bald Eagle – bird (*Haliaeetus leucocephalus*)	Threatened	Special Concern	2	2003
Shovelnose Sturgeon – fish (*Scaphirhynchus platorynchus*)		Special Concern	3	09/30/99
Regal Fritillary – butterfly (*Speyeria idalia*)		Special Concern	1	07/06/75
Plants				
Kitten-tails (*Besseya bullii*)		Threatened	1	05/05/79
Hill's Thistle (*Cirsium hillii*)		Special Concern	1	07/12/79
Sterile Sedge (*Carex sterilis*)		Threatened	1	06/15/95

TABLE 7-8
THREATENED, ENDANGERED, SPECIAL CONCERN SPECIES WITHIN STUDY AREA, BUT OUTSIDE ½ MILE BUFFER OF BUILD ALTERNATIVES

Species (*Scientific name*)	Federal Status	State Status	Number of Observations	Last Observation
Animals				
Mucket – mussel		Threatened	2	09/29/99
Wartyback – mussel		Endangered	1	09/20/00
Yellow Sandshell – mussel		Endangered	2	**9/29/99**
Shovelnose Sturgeon – fish		Special Concern	2	08/14/98
Round Pigtoe – mussel		Threatened	1	**9/29/99**
Bald Eagle – bird	Threatened	Special Concern	2	2003
Rock Pocketbook – mussel		Endangered	2	**9/29/99**
American Brook Lamprey – fish (*Lampetra appendix*)		No legal status, but special note of first siting since 1940's	1	10/20/00
Plants				
Small White Lady's-slipper (*Cypripedium candidum*)		Special Concern	1	06/15/95
Kitten-tails		Threatened	3	06/23/01
Sterile Sedge		Threatened	3	07/06/95
American Ginseng (*Panax quinquefolius*)		Special Concern	1	06/06/95
Marsh Arrow-grass (*Triglochin palustris*)		Non	1	08/21/95
Hair-like Beak-rush (*Rhynchospora capillacea*)		Threatened	1	08/20/90
Whorled Nut-rush (*Scleria verticillata*)		Threatened	1	08/28/90
Valerian (*Valeriana edulis var. ciliata*)		Threatened	1	09/11/92
Twig-rush (*Cladium mariscoides*)		Special Concern	1	09/11/92
Beaked Spike-rush (*Eleocharis rostellata*)		Threatened	1	09/11/92

Many of the threatened/endangered plant species are located in the wetlands of the SFWC and are discussed in detail in the Phase 1 Fen Study and Phase 2 Study (Section 7.3.1). These species are unique in their ability to tolerate calcareous groundwater flows and low nutrient conditions found in the calcareous environment.

7.2.3 Environmental Consequences

No-Build Alternative

No federal or state listed species have been observed in the vicinity of the existing bridge. Therefore, no adverse impacts to rare species are anticipated from this alternative.

Build Alternatives

Alternative W-2

At the south end of Alternative W-2, near the interchange with US 169, plant communities with Kitten Tails (state threatened) and Hills Thistle (state-listed special concern) were reported as last observed in 1979. In addition, the Regal Fritillary butterfly was observed in this location in 1975. This alternative would result in the interchange construction impacting the immediate area of these observations. However, based on 2003 aerial photos, habitat of Kitten Tails, Hills Thistle, and the Regal Fritillary butterfly has likely been destroyed. Should this alternative be selected, a botanical survey will be required to determine if these species are still present in this location.

Freshwater mussel concentrations, including the monkey face mussel, were observed in the Minnesota River in the area of the W-2 bridge crossing. While all of the latest observations of the threatened or endangered species have involved dead specimens, a mussel study should be conducted for the Tier II FEIS to establish the existing species of mussels in the concentration. Any bridge piers placed directly within the river channel would have an impact upon a mussel concentration.

Alternative C-2

No federal or state listed species have been identified within a half mile of the Alternative C-2 corridor. However, a mussel study should be conducted for the Tier II FEIS to establish the existence of any mussel concentration in the area. Any bridge piers placed directly within the river channel would have an impact upon a mussel concentration.

Alternative C-2A

No federal or state listed species have been identified within a half mile of the Alternative C-2A corridor, though a bat colony has been reported in this area. However, a mussel study should be conducted for the Tier II FEIS to establish the existence of any mussel concentration in the area. Any bridge piers placed directly within the river channel would have an impact upon a mussel concentration.

Alternative E-1

No federal or state listed species have been identified within a half mile of the Alternative E-1 corridor. However, a mussel study should be conducted for the Tier II FEIS to establish the existence of any mussel concentration in the area. Any bridge piers placed directly within the river channel would have an impact upon a mussel concentration.

Alternative E-1A

Threatened and endangered species, including sterile sedge and other plant species, are found at the north end of Alternative E-1A. The alignment is located directly within native plant communities and sites of biodiversity significance of the Seminary Fen, where many of these threatened and endangered species have been observed. Refer to Section 7.3 for more information about these impacts. In addition, a mussel study should be conducted for the Tier II FEIS to establish the existence of any mussel concentration in the area. Any bridge piers placed directly within the river channel would have an impact upon a mussel concentration.

Alternative E-2

Threatened and endangered species, including sterile sedge and other plant species, are found at the north end of Alternative E-2. The alignment is located directly within native plant communities and sites of biodiversity significance of the Seminary Fen, where many of these threatened and endangered species have been observed. Refer to Section 7.3 for more information about these impacts. In addition, a mussel study should be conducted for the Tier II FEIS to establish the existence of any mussel concentration in the area. Any bridge piers placed directly within the river channel would have an impact upon a mussel concentration.

7.2.4 Mitigation

Due to the sensitive nature of the area and the presence of threatened and endangered species, continuing involvement with the MnDNR and USFWS will take place. Mitigation measures to avoid, minimize, or alleviate impacts to threatened/endangered or other protected species and sites of biodiversity significance will be defined during the Tier II process after the preferred alternative is selected. Additional field surveys may be needed to confirm the presence of rare and protected species, such as mussels and Kitten Tails, in the preferred alternative corridor or at the time that project final design is implemented. Avoidance measures such as minor alignment shifts will be considered during final design to minimize impacts on identified species. Other mitigation measures may need to include timing of construction activities to avoid disturbance during bird nesting periods, or endangered mussel relocation when live specimens are identified in the preferred alternative corridor. Regulatory protections for these resources are discussed in Section 7.2.1.

7.3 SEMINARY FEN/ASSUMPTION CREEK

This section discusses the Seminary Fen that is located on the north side of the Minnesota River, at the toe of the bluff, and is formally listed as a calcareous fen under Minnesota Rule 7050.0180 Subp. 6b, B Carver County, Seminary Fen and listed on the DNR Identification of Known Calcareous Fens Order (No. 05-001). Seminary Fen is a calcareous seepage fen, a rare and threatened type of wetland that is sensitive to changes in water chemistry and groundwater flow. Calcareous fens are peat-accumulating wetlands dominated by distinct groundwater inflows and having specific chemical characteristics. Discharging groundwater is characterized as circum-neutral to alkaline with high concentrations of calcium and low dissolved oxygen content. The chemistry provides environments for specific and often rare

hydrophytic plants, which include several plants on the state special concern and threatened species lists. Calcareous fens have special protection under state law, and are formally defined and delineated based on the presence of specific hydrology, water chemistry, soils, and vegetation indicator criteria.

Many of the plants specific to calcareous fens are state-listed as threatened or endangered because they are rarely found outside of the calcareous fen environment. The specific reason for the adapted nature of calciphiles has not been investigated in detail. However, their specific adaptation to calcareous environments is thought to result from their ability to withstand continuously saturated, nutrient-poor anaerobic environments that other plants cannot tolerate.

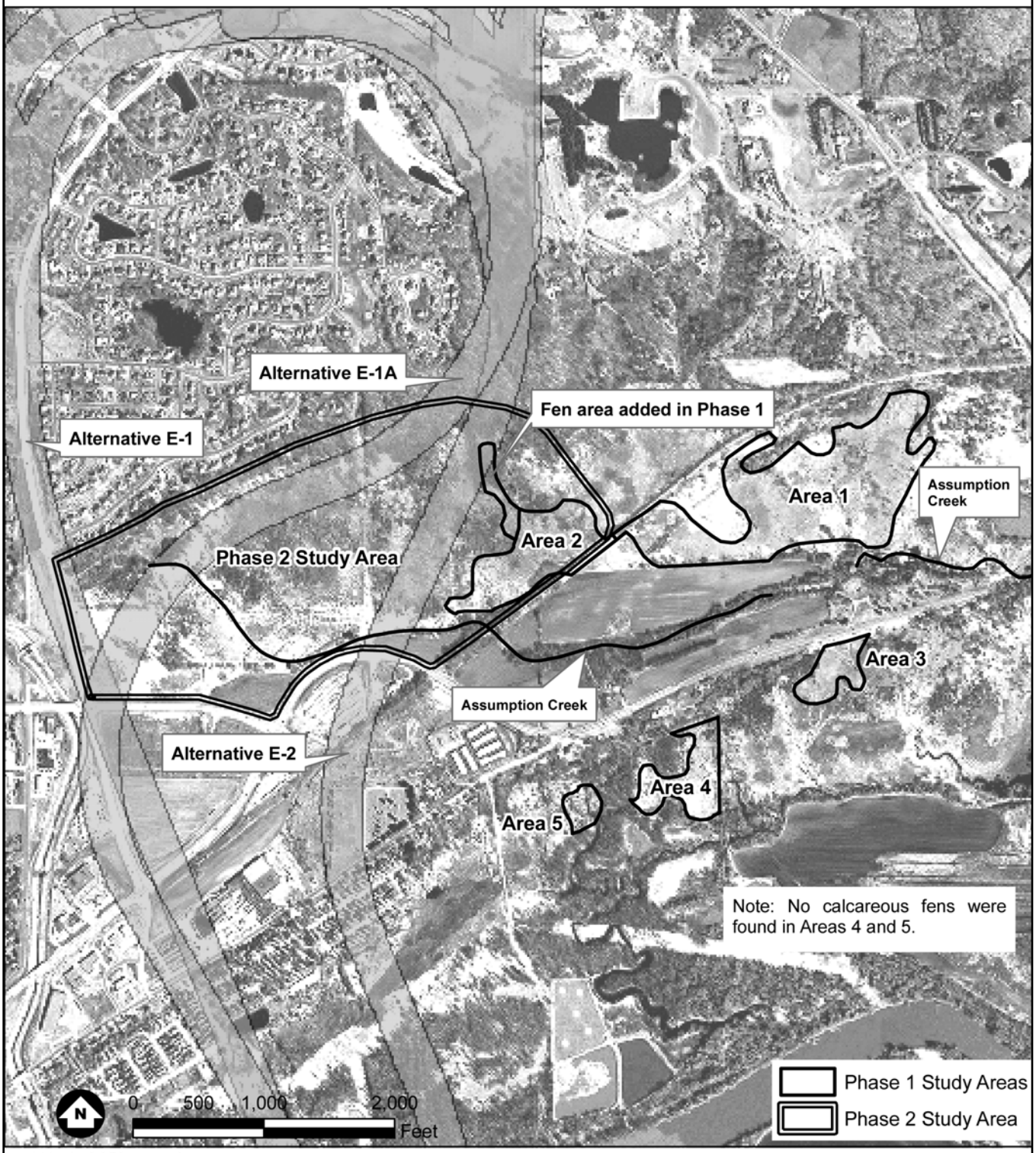
The Seminary Fen is located within a larger wetland complex, referred to as the Seminary Fen Wetland Complex (SFWC). The SFWC, along with associated bluffs, is a site of Outstanding Biodiversity Significance, per the Minnesota County Biological Survey (MCBS) and an Outstanding Resource Water protected under Minnesota Statutes 103G.223 and Rules 8420.1010 to 8420.1070 and MPCA Rule 7050. Five previously identified calcareous fen components (CFC) of the SFWC (CFC-SFWC), Areas 1 through 5, are discussed below individually and within the context of the SFWC as a whole (see Figure 7-3). (Note: The term "Seminary Fen" generally comprises all of the CFCs, for which detailed information is provided below.)

7.3.1 Affected Environment

During 2005 and 2006, an extensive study of the vegetative communities, soils, hydrology, and hydrogeology of the Seminary Fen was undertaken. The study is documented in two reports, *Phase 1 Characterization Seminary Fen Wetland Complex – TH 41 Over the Minnesota River Highway Project, Carver County, Minnesota*, dated March 2006 (Phase 1 Fen Study) and *Seminary Fen Wetland Complex Phase 2 Study*, dated January 2007 (Phase 2 Study), both of which are available from Mn/DOT (and are posted on the project website http://projects.dot.state.mn.us/srf/041/). Executive Summaries are included in *Volume II: Technical Memoranda*.

The Phase 1 Fen Study characterization:

- Provides essential background information on calcareous fen regulation in Minnesota and on the hydrology, soil, water chemistry, and vegetation criteria used to identify calcareous fens in Minnesota;
- Discusses impacts known to adversely affect calcareous fens in general, focusing on those impacts associated with bridge construction;
- Places the Seminary Fen in a local and regional hydrogeological context necessary to understand calcareous fen function and characteristics;
- Assesses historic land use impacts to the Seminary Fen; and
- Quantifies the hydrologic, soil, water chemistry, and vegetation criteria found in the mapped CFC-SFWC.



Graphics/Support/4590/EIS Figures

Source: BARR Engineering

SEMINARY FEN

Figure 7-3

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The Phase 2 Study focused on describing additional calcareous fen areas and assessing the potential hydrologic and ecological impacts to the SFWC that are posed by the three eastern alignment alternatives (E-1, E-1A, and E-2). The Phase 2 Study also assesses the potential hydrologic and ecological impacts to other natural communities near the three other alignment alternatives (W-2, C-2, and C-2A) which are not proximal to the SFWC. The results and implications based on this latter portion of the Phase 2 Study are discussed in Sections 7.1 and 7.2 of this document.

As noted above, the Seminary Fen is located in a large wetland complex in the eastern portion of the study area. It is currently listed as the only calcareous fen in Carver County. The SFWC exists as a large North Unit adjacent to the north bluff of the Minnesota River and a South Unit that lies south of existing US 212. (See Figure 1-3 for the general boundaries of the entire SFWC.) The two units are separated by an upland terrace consisting of coarse-textured glacial outwash sediments. The large peatland system has a gradual slope to the south from the toe-of-slope positions at the bluff edge to the terrace feature that separates the North Unit of the SFWC from the South Unit of the SFWC. Similarly, peatlands to the south of the terrace feature also present a gradual slope from the south of the terrace to the active floodplain of the Minnesota River.

Historic impacts to the SFWC were noted on aerial photos dating back to 1937. While the SFWC is considered to be relatively pristine, the immediate area of the wetland and the adjacent bluffs have been impacted by fragmentation, municipal well withdrawals, bluff top urbanization and storm water management, ditch and tile drainage, hydrologic alteration and surface water diversions, possible mining of peat and/or underlying sediments, and limited industrial development. The Seminary Fen may, in fact, be maintained in the face of existing and historic disturbance by the sheer size of the wetland complex within which it is embedded, combined with the calcareous nature of the underlying sediments. Drainage impacts especially have affected the hydrology and plant community associated with a large, historic, calcareous fen peat mound in CFC Area 1.

CFC Areas 1 and 2 in the North Unit of the SFWC are associated with groundwater discharge focused at the base of the bluff, originating from groundwater recharge of wetlands north of the SFWC on top of the bluff and bedrock aquifers, as documented in the Phase 2 Study. Areas 3, 4 and 5 in the South Unit of the SFWC are approximately 15 to 20 feet lower in elevation than the southern portions of the North Unit. Observed conditions suggest that the source of the discharging groundwater to the South Unit originates as recharge from a portion of Assumption Creek that flows on the terrace and groundwater recharge occurring at the northern edge of the terrace feature.

Field observations and interpretations of the results of groundwater monitoring for the Phase 1 Fen Study suggest a complex hydrology where groundwater discharges at and near the bottom of the bluff, becomes channeled surface flow in spring runs, diffuse surface flows and subsurface throughflow across and within the sloping peat in the North Unit of the SFWC, recharges the groundwater system underlying the coarse textured terrace feature, and then discharges again as spring heads and spring runs in the South Unit of the SFWC. Virtually all of the SFWC, both within and outside of the CFC-SFWC, meets the hydrology criterion for calcareous fens that requires evidence of stable, upward groundwater flow and the presence of peat soils (Histosols) or mineral soils with peat surfaces.

Assumption Creek, which flows through the SFWC and is designated as a trout stream, has very complex hydrology and has been substantially affected by historic diversions and channelization. In its current configuration, Assumption Creek headwaters lie within the North Unit of the SFWC, where it has two main tributaries originating to the west and to the east of CFC Area 2, respectively. North of the railroad embankment, the tributaries were observed to be perennial throughout the field season. However, once the tributaries join and flow under the railroad embankment, the stream becomes intermittent and loses water to the groundwater system. The data and field observations suggest that most of the water recharged on and flowing through the terrace feature resurfaces as groundwater seeps and spring heads at the toe-of-slope positions at the terrace's southern edge, including CFC Areas 3, 4 and 5.

Phase 1 Fen Study chemical analysis data suggest that the discharging groundwater and surface flows originating as seeps, spring heads, and spring runs are saturated with respect to calcium carbonate, and remain so as the water flows south through the system to the Minnesota River. As a result, the groundwater and surface water flows within all CFC Areas of the SFWC fulfill the water chemistry criteria for calcareous fens, and facilitate the presence of diverse, calciphile-dominated plant communities.

Similarly, field investigation of the soils within the SFWC found that all of the wetland soils examined would meet the calcareous fen soil criteria. All of the soils are Histosols (organic soils layer that is greater than 16" thick) or have histic epipedons (organic soil layer that is 8"-16" thick). However, soils in CFC Areas 4 and 5 exhibited alluvial (river sediments) strata and high mineral content in the peat that represent periodic inundation by Minnesota River floodwater. Both areas are well within the 100-year floodplain of the Minnesota River. Periodic flooding retards or prevents calcareous fen development and maintenance by disturbance, sediment burial, and the introduction of elevated nutrient levels in the sediments that favor plant species adapted to disturbance and high nutrient levels. These areas were dominated by rank, high stature vegetation and lacked sufficient quantities of calciphiles to meet the calcareous fen vegetation criteria. Therefore, Areas 4 and 5, while being high quality wetlands, are not calcareous fens.

Vegetation provides the main criteria by which calcareous fens are formally defined, as the documented presence of enough certain indicator species is required. Several rare and protected plant species and species with a high affinity for calcareous fens were observed in the SFWC, such as sterile sedge (*Carex sterilis*), American grass-of-Parnassus (*Parnassia glauca*), smooth sawgrass (*Cladium mariscoides*), white lady's slipper (*Cypripedium candidum*), beaked spikerush (*Eleocharis rostellata*), low nutrush (*Scleria verticillata*), and marsh arrowgrass (*Triglochin palustris*). Numerous locations of calcareous fen were found in Area 1, which supports a diversity of different plant communities representative of the variation possible in calcareous fen vegetation. Despite the presence of calcareous fen plant communities, the area has suffered extensive ecological disturbance in the form of ditch and tile drainage and excavation of peat. Invasive species such as reed canary grass (*Phalaris arundinacea*), common reed (*Phragmites australis*), and buckthorn (*Rhamnus cathartica* and *Frangula alnus*) all pose biotic threats to the fen communities.

CFC Areas 2 and 3 also meet the calcareous fen criteria for vegetation, but do not display the same level of quality and diversity as found in CFC Area 1. Invasive species mentioned above also pose a threat in these Areas. During the Phase 1 Fen Study field investigation, an additional

area of calcareous fen community was identified along the northwest edge of Area 2. This information led to the Phase 2 Study of the entire western portion of the SFWC to determine the presence of calcareous fen community not previously identified. (See Figure 7-3). The field analysis for the Phase 2 Study resulted in a detailed characterization, which includes additional calcareous fen communities. The characterization of the additional portions of Area 2 include areas that meet calcareous fen criteria, areas that likely met calcareous fen criteria historically and are restorable, areas that likely met calcareous fen criteria historically but are severely degraded and not likely restorable to calcareous fen, and upland or non-fen wetlands. See Figure 7-3A. The severely degraded areas are those that have been extensively ditched and drained to the extent that restoration of hydrology is not probable. Invasive vegetation such as reed canary grass and buckthorn pose immediate biotic threats to existing and restorable fen communities.

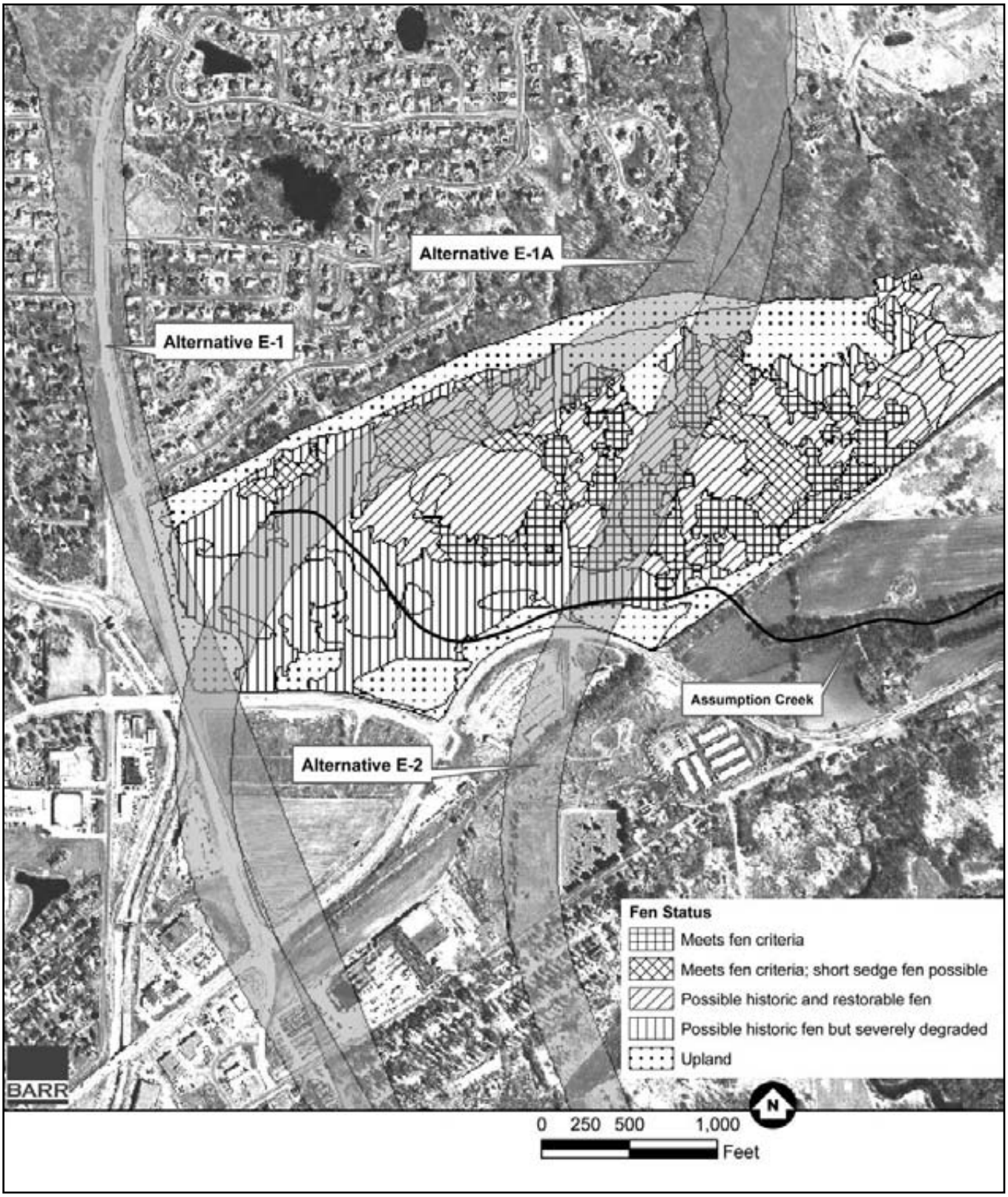
CFC Areas 4 and 5 failed to meet the full vegetation criteria for calcareous fens. The plant communities resembled riparian forest and emergent marsh ecosystems more than calcareous fens. The sites are apparently subject to periodic flooding from the Minnesota River, as noted with the soils findings, and deposition of sediments and nutrients may prevent development of calcareous fen characteristics.

7.3.2 Environmental Consequences

The long-term viability of the Seminary Fen is very much dependent upon land uses. Any significant reduction in the amount of upstream permeable soils and related groundwater recharge can threaten this rare plant community. Furthermore, the SFWC is ecologically degraded in many locations in different ways, and this deterioration will continue without active management, with or without the proposed project.

Construction assumptions were developed in consultation with Mn/DOT staff for the Phase 2 Study impact assessment efforts. As noted elsewhere in this DEIS, bridge piers for each direction of travel were assumed at 250 foot spacing. Bridge pier footprints are approximately 110 feet by 130 feet, or 14,300 square feet. Typical bridge pier construction and dewatering is generally used where high organic, marly or peaty soils are not expected. The use of a sheet-piling coffer dam with a concrete bottom seal is the method used by Mn/DOT where organic, marly, or peaty soils are expected. The coffer dam/sheet piling approach is assumed to be used for bridge pilings within the SFWC. The stage of the drain for dewatering within the coffer dam/sheet pile was assumed at five feet below the ground surface. In other words, water table above five feet would be drawn-down for the construction of the bridge pier footing.

Assumptions were also made for reviewing post-construction impacts to groundwater flow in and near the SFWC. It was assumed that the shallow soils would undergo compaction during construction. In the groundwater model, recharge was set to zero over the entire footprint of the proposed alignment west and north of the Minnesota River. The purpose of this modeling was to determine the influence of the construction and operation of the highway. In particular, road spray containing de-icing agents and other contaminants would infiltrate along the right of way of the highway. Particle tracing with results from the groundwater flow modeling was used to predict where these infiltrating contaminants would flow and where they may impact surface water.



Graphics/Support/4590/EIS Figures

Source: BARR Engineering

CALCAREOUS FEN STATUS - PHASE 2 STUDY AREA

Figure 7-3A

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No-Build Alternative

The No-Build Alternative would result in no direct impacts to the SFWC or to Assumption Creek.

Build Alternatives

Alternatives W-2, C-2 and C-2A

Construction of the W-2, C-2 and C-2A alternatives would result in no direct or indirect impacts to the SFWC or Assumption Creek, because they are located well to the west and out of the SFWC sphere of influence. According to the groundwater modeling results in the Phase 2 Study, no impacts would be expected to the groundwater recharge areas to the SFWC with the construction of any of these alternatives.

Alternatives E-1, E-1A and E-2 (Considerations)

The Phase 2 Study reports that impacts of highway construction in the vicinity of the SFWC can result from many factors, among the most important being alterations to wetland hydrology and direct loss of native vegetation. The impacts of altered hydrology can be qualitatively predicted from scientific literature and observations of the SFWC itself. Ecological impacts can be reasonably inferred, but the magnitude and rate of impacts are difficult to predict. Empirical studies demonstrate the importance of the many factors that are associated with highway construction and development that negatively impact native wetland vegetation, including calcareous fen vegetation, but do not provide a means to easily quantify predictions. Interactions among factors may create novel and untested conditions, which will likely hasten the rate and severity of detrimental impacts.

Impact considerations that were investigated for all eastern alternatives are based on the Phase 2 Study. None of the alternatives are anticipated to pose a direct threat to the highest quality fen areas in Area 1 or lower quality fen communities in Area 3. Indirect impacts may occur from Corridors E-1, E-1A, and E-2 through factors such as increased abundance of invasive species and migration of road salt into groundwater and subsequent discharge. However, the complexity of interacting factors prevents an unequivocal prediction of the likelihood or severity of these potential impacts. As detailed in subsections below, Alternative E-1 poses little potential for impact to the SWFC, with the exception of limited groundwater drawdown and very limited change to existing groundwater flow paths. The impact considerations are of direct relevance to Alternatives E-1A and E-2. Groundwater modeling predicted that dewatering associated with bridge pier construction would result in lowered water tables in or near portions of the SFWC. Drawdown in SFWC-CFC Areas 1 and 3 would be less than 0.1 foot during construction for all alternative corridors. Therefore, it is not expected that this drawdown would have a negative impact on plant communities in Areas 1 and 3, especially if drawdown occurs during the dormant season. Area 2, on the other hand, may be impacted by groundwater drawdown. Table 7-9 summarizes the direct and hydrologic impacts from bridge pier construction to SFWC for each of the eastern alternatives. Table 7-10 summarizes the amount of impact (assuming a 300-foot wide corridor) by calcareous fen status.

TABLE 7-9
SUMMARY OF IMPACTS TO SEMINARY FEN WETLAND COMPLEX

Alternative	Total bridge piers within SFWC	Direct Impact from bridge piers (ac)	Temporary dewatering rate for pier construction (cfs)	Modeled change in seepage, post-construction (cfs)
E-1	4	1.2	0.12	-0.012
E-1A High/Low	22	6.4	0.43	+0.076
E-2	14	4.1	0.49	-0.0025

TABLE 7-10
ALTERNATIVE CORRIDOR IMPACT BY CALCAREOUS FEN STATUS (ACRES)*

Alternative Corridor	Calcareous Fen Status		
	Current Fen	Possible Historic and Restorable Fen	Possible Historic and Severely Degraded Fen
E-1	0.0 ac	0.0 ac.	1.0 ac
E-1A High/Low	4.0 ac.	3.6 ac.	11.9 ac
E-2	5.8 ac.	3.9 ac	2.0 ac.

*Fen impacts based on acreage within the 300-foot width corridor.

Soil compaction from construction traffic would probably be worse in dewatered conditions than in saturated conditions because the normal buoyancy of saturated organic soil would be lost. Generally, saturated organic soils resist compaction. Soils are displaced, rather than compacted, when pressure is applied. The use of swamp mats under equipment spreads the weight and prevents displacement and creation of ruts. However, even the use of mats on dewatered organic soil could cause irreversible compaction. This compaction would lower the soil surface and alter the flow of groundwater through the peat. After the completion of dewatering, restoration of water tables would probably yield water levels that are substantially higher than the soil surface, due to compaction, depression and subsidence. Modeling suggests that groundwater flows will be altered from soil compaction after construction on a peat-substrate wetland.

The net result of hydrologic alterations means that some areas of the SFWC may experience more groundwater discharge, and some areas may experience less. Soil compaction or subsidence may occur in some areas; groundwater flow paths may be altered. These impacts may result in new areas of inundation, areas of seasonally variable water tables, areas with soils not saturated to the surface for long portions of the growing season, and areas in which precipitation and surface water assume greater importance. Any of these changes can alter plant community composition and succession away from calcareous fen plant communities. Although many wetland plants are adapted to fluctuating water tables and soils that are not saturated for

extended portions of the growing season, fen species are found in environments that are, essentially permanently saturated to the surface. Lowered water tables could stress or kill fen vegetation, depending on the timing and duration of the drawdown. Competitive interactions would be altered, favoring species that aggressively exploit hydrologically altered environments.

While conducting dewatering activities when the plants are dormant could reduce stress, mortality and altered succession, it should be recognized that a dormant-season water table drawdown may actually have detrimental impacts on wetland vegetation, including fen species. Most wetland plant species in the SFWC are perennials with long-lived underground organs such as rhizomes, tubers and bulbs. Normally, when these tissues are dormant, the soil is saturated. During the winter, the pores in the soil are filled with ice rather than air. A water table drawdown during the dormant season could produce a dry frozen soil, and subject the plant tissues to a freeze-drying effect. This atypical stress may reduce the viability of wetland plants, setting up another opportunity for exotic and invasive species to take over.

In the SFWC, areas that become drier or exhibit a more seasonally-variable water table would be expected to become dominated by reed canary grass or buckthorn. Areas that become wetter, or even inundated or ponded, would be expected to become dominated by cattails and common reed. Development of any of the eastern alternative would increase the amount of altered edge within the Area 2 of SFWC. Even if loss of calcareous fen and wetland vegetation is initially limited to within the corridor footprint, the altered habitat in the corridor will likely provide opportunities for encroachment of invasive species. This process can be seen in the SFWC currently, where reed canary grass is encroaching along a ditch within a transmission line corridor through the Phase 2 Study area. Encroachment of reed canary grass is common underneath many of the large highway bridges in the Minnesota River Valley and along highways that cross wetlands. The presence of reed canary grass through the length of the corridor in the SFWC would provide an abundant seed source as well as creeping plant roots that expand out of the corridor and into remnant wetlands, including fen communities. While the highway project is not responsible for the presence of the invasive species in the SFWC, without intensive and ongoing vegetation management, the project could substantially increase invasive species distribution.

Salt spray may create an additional stress. Any addition of salts, particularly those containing chloride or sodium ions, would exacerbate an already stressed SFWC. Note that compounds such as potassium acetate, which show promise as effective deicing agents with fewer negative environmental side effects, have unknown implications at this time. For example, acetate is a component of many metabolic pathways, and introduction into a wetland complex may create unforeseen biological chain reactions. Salt deposition is known to favor invasive species to the detriment of native vegetation in various types of wetlands, including calcareous fens. Though the Phase 2 Study did not model or estimate amounts of salt runoff or deposition patterns, it is understood from available literature that runoff concentrations can be several orders of magnitude greater than background concentrations or than those necessary to alter vegetation. It is assumed that salt addition to the SFWC would have a potential negative impact (although the extent and severity of impact has not been quantitatively estimated) because of the specific water chemistry required to sustain the fen plant communities. The amount of salt necessary to cause a

detrimental impact on fen vegetation may be relatively low although higher values are more commonly cited in the literature. Most salt spray is expected to fall in the immediate vicinity of the highway, although the possibility of longer distance dispersal cannot be excluded.

An additional hazard of salt spray in the SFWC is the possibility of the salt migrating away from the initial deposition site through ground and surface water. Surface water is present in the Phase 2 Study area as a result of groundwater discharge. The surface water in the SFWC coalesces to create the origin of Assumption Creek, which passes through a region of apparent strong groundwater recharge. The SFWC water apparently reappears as groundwater discharge south of existing US 212, where extensive wetlands are located, including calcareous fen in Area 3. Highway salts could flow into the ground and be discharged in fen and wetland areas down gradient, including the western portions of Area 1, as well as Areas 3, 4 and 5. These groundwater patterns suggest that road salt could migrate away from the highway corridor in ground and surface water and be discharged in additional wetlands. The net result could be detrimental for native wetland vegetation including fen species, even if they are not adjacent to any of the proposed highway corridors. As with hydrological alterations, road salt and other contaminants could likely affect wetland succession toward communities with lower richness and diversity of native species and increased abundance of exotic and invasive species.

General construction impacts through uplands adjacent to the SFWC have the potential for erosion, which leads to the deposition of sediment in wetlands. Such sedimentation would bury vegetation and increase nutrient availability. Surface water runoff would alter the chemical environment of the fen communities. Both would shift wetland succession towards invasive or exotic species.

The following discussion addresses impacts specifically for each eastern alternative. As noted, findings are detailed in the Phase 2 study.

Alternative E-1

Alternative E-1 is located just to the west of the SFWC along Audubon Road. Because there is an existing road in the location of this proposed alternative, there would be no direct impacts to calcareous fen communities in the SFWC due to the construction of this alternative. However, four bridge piers, two in each direction of travel, are proposed at the very western edge of the SFWC, not within any calcareous fen areas. This would result in a total direct wetland impact within SFWC of 1.2 acres. According to the groundwater modeling in the Phase 2 Study, bridge pier construction dewatering would result in a total of 0.12 cubic feet per second (cfs) of drawdown. This translates to a water table drawdown during construction of 0.1 to 0.6 feet. Drawdown of 0.1 foot (1.2 inches) would extend up to 800 feet to the east of the corridor alignment. This effect is predicted to reach a small portion of calcareous fen area identified in the Phase 2 Study.

Post construction analysis predicts a small net decrease (-0.012 cfs) in the rate of seepage in the SFWC, due to decreases in recharge that would result from increases in impervious area within the footprint of the alignment. In addition, ground water flow paths for post-construction conditions were compared to pre-construction conditions. The flow paths originating toward the

west of the alignment discharge to the unnamed drainage west of the alternative corridor or to the Minnesota River. Many of the flow paths originating toward the east discharge in the vicinity of Areas 4 and 5 in the western portion of the SFWC. Very limited changes to the existing flow paths are predicted with the construction of Alternative E-1. Transport of contaminants, as discussed above, would be through these groundwater flow paths.

Alternative E-1A

Alternative E-1A is located at the western edge of the SFWC, following Audubon Road north to approximately Engler Boulevard, where it turns to the east at the base of the bluff along the northern boundary of the SFWC. Current bridge design assumptions require piers approximately every 250 feet, requiring 22 piers along the toe of the bluff, 11 for each direction of travel, within the SFWC. Within the SFWC, (6.4 acres) of direct wetland impacts, including calcareous fen wetland, would result from pier construction. Additional calcareous fen area would be lost within and around the highway corridor due to temporary dewatering, construction traffic, soil compaction and shading by the bridges. Alternative E-1A intersects calcareous fen at the toe of the bluff, which is the site of what the data suggest is some of the highest-quality original fen in the Phase 2 Study area. In addition, this alternative is up-gradient of additional calcareous fen and passes through areas of strong groundwater discharge critical for the hydrology of the large peatland that is the Phase 2 Study area. The net result is that large areas of calcareous fen will be directly lost from construction and operation of Alternative E-1A, and non-fen wetland areas will likely be further degraded. That degradation may be so severe as to eliminate calcareous fen from large areas outside of the actual corridor. As noted, however, past and ongoing ecological degradation, not associated with the proposed project, may eliminate fen vegetation from the site.

Direct impacts to the groundwater system in this area can be expected with this alternative due to dewatering for placement of the bridge piers. As noted in the Phase 1 Fen Study, groundwater is discharged to the SFWC at the toe of the bluff in the proposed location of Alternative E-1A. A hydraulic head of approximately three feet was noted along the base of the bluff in this location, indicating a very active upwelling of groundwater. According to the groundwater modeling in the Phase 2 Study, bridge pier construction dewatering would result in a total of 0.43 cfs of drawdown. The drawdown in SFWC wetland from the construction of the bridge piers is predicted to be between 0.1 and 4 feet. The deepest area of drawdown is in the immediate vicinity of the bridge pier construction, while drawdown of 0.1 foot (1.2 inches) would extend 2,000 feet to the south of the corridor alignment over a large area of the SFWC.

Post construction analysis predicts that Alternative E-1A will result in a small net increase in the seepage in the SFWC of less than 0.1 cfs. The increase is attributed to changes in permeability of soils that have undergone compaction during construction, which slightly alter groundwater flow paths. In addition, groundwater flow paths for post-construction conditions were compared to pre-construction conditions. The flow paths reviewed around Alternative E-1A indicate that only those at the western extreme of the corridor discharge directly to the Minnesota River. The majority of flow paths in Alternative E-1A discharge to Areas 3, 4 and 5 of the SFWC, south of existing US 212. Limited changes to the existing flow paths are predicted with the construction of Alternative E-1A, apart from the noted increase in seepage. Transport of contaminants, as discussed above, would be through these groundwater flow paths.

Construction of Alternative E-1A would result in an increase in the amount of altered edge within the Area 2 portion of the SFWC. Construction of this alternative would exacerbate the encroachment of reed canary grass and other exotic or invasive species into the SFWC.

Alternative E-2

Alternative E-2 is located directly within the SFWC. Current bridge design assumptions require piers approximately every 250 feet, requiring 14 piers, 7 for each direction of travel, within the SFWC, including calcareous fen areas. Within Area 2 of the SFWC, 4.1 acres of direct wetland impacts, including calcareous fen wetland, would result from pier construction. Alternative E-2 has a more perpendicular orientation to the bluff than Alternative E-1A, and, therefore, directly impacts less of the toe-of-bluff calcareous fen. This alternative is up-gradient of additional calcareous fen and passes through areas of strong groundwater discharge critical for the hydrology of the large peatland that is the Phase 2 Study area. The net result is that similar to Alternative E-1A, large areas of calcareous fen will be directly lost from construction and operation of Alternative E-2, and non-fen wetland areas will likely be further degraded, with that degradation possibly being so severe as to eliminate calcareous fen from large areas outside of the actual corridor. (Again, note the ongoing degradation of Area 2, regardless of the proposed project.)

Direct impacts to the groundwater system in this area can be expected with this alternative from dewatering for placement of the bridge piers. According to the groundwater modeling in the Phase 2 Study, bridge pier construction dewatering would result in a total of 0.49 cfs of drawdown. The drawdown in SFWC wetland from the construction of the bridge piers would be between 0.1 and 4 feet. The deepest area of drawdown is in the immediate vicinity of the bridge pier construction, while drawdown of 0.1 foot (1.2 inches) would extend up to 1,750 feet beyond the corridor alignment, over a large area of the SFWC.

Post construction analysis predicts a small net decrease (-0.0025 cfs) in the seepage in the SFWC from Alternative E-2, due to decreases in recharge that would result from increases in impervious area within the footprint of the alignment. In addition, groundwater flow paths for post-construction conditions were compared to pre-construction conditions. The flow paths reviewed around Alternative E-2 indicate that only a few at the western extreme of the corridor discharge directly to the Minnesota River. The vast majority of flow paths in Alternative E-2 discharge to Areas 3, 4 and 5 of the SFWC, south of existing US 212. Limited changes to the existing flow paths are predicted with the construction of Alternative E-2. Transport of contaminants, as discussed above, would be through these groundwater flow paths.

Construction of Alternative E-2 will result in an increase in the amount of altered edge within the Area 2 portion of the SFWC, thereby exacerbating the encroachment of reed canary grass into the SFWC.

7.3.3 Mitigation

The Minnesota Wetland Conservation Act (WCA) states that calcareous fens may not be drained or filled or otherwise altered or degraded except as provided for in a management plan approved

by the MnDNR. The MnDNR would provide technical assistance in the development of a management plan for the SFWC, if an alternative that impacts it is chosen. According to correspondence with the Mn//DNR, a fen management plan includes:

- a detailed description of the fen including soils, hydrology, chemistry, vegetation, and endangered, threatened or special concern species,
- description of project impacts,
- avoidance, minimization and mitigative measures ("sequencing" as described below), and
- monitoring efforts.

If an E alternative is chosen for further development, Mn/DOT would be responsible for preparing the fen management plan with coordination with DNR and other stakeholders. Mn/DOT would not proceed with preparing this management plan without further consultation with MnDNR staff, including a secure understanding of MnDNR qualifying criteria for a fen impact.

In addition, federal and state wetland regulations require the use of a sequenced approach when projects have the potential to impact wetlands. Sequencing requires first avoiding wetland impacts if possible, and, if impacts are not avoidable, they must be minimized to the greatest extent practicable. Sequencing also includes rectification of temporary impacts and reduction or elimination of impacts over time. After all options for avoidance, minimization, rectification and long term reduction of impacts have been considered and implemented, compensation that will replace lost wetland functions is required for those impacts that are not avoidable. Mitigation of impacts to wetlands other than the SFWC is discussed in detail in Section 9.5.4.

Many wetlands within the SFWC that are not characterized as calcareous fen have been found to be high quality sedge meadows and shrub carrs. Careful mitigation of the losses of these wetland types, with closely monitored establishment of similar vegetative communities, would be conducted. Any mitigation with a dissimilar type of wetland may also be permitted at a higher mitigation ratio. In order to minimize the temporary impacts to the wetlands, construction in these areas may be completed during the winter when the surface is frozen or using swamp mats, thus minimizing compaction. Seeps and spring heads, however, often remain unfrozen except in the coldest of winters, so compaction could remain as a potential impact.

Several techniques are available for minimizing and mitigating for adverse impacts to the SFWC. Complete avoidance of impacts to the SFWC is only possible by excluding Alternatives E-1A and E-2. Without active management and restoration, there may be very little ecologically-intact calcareous fen when construction of proposed project occurs (currently assumed to be many years in the future). However, the site will still be a large, groundwater-supported wetland complex. The techniques described below pertain to impact minimization to the SFWC, regardless of the presence of fen vegetation. It should be noted that these techniques may not prevent all detrimental impacts to the wetlands.

Coffer Dams

The use of coffer dams and a bottom grout seal is considered essential for any bridge pier construction in or near wetlands and is standard Mn/DOT practice. Coffer dams and bottom grout seals will limit the portion of the SFWC that is affected by groundwater drawdown.

Swamp Mats

Using swamp mats under construction traffic to the extent possible will help reduce compaction of organic soils by distributing vehicle weight. However, as stated earlier, organic soil may be compacted under dewatered conditions, even with the use of swamp mats. This compaction may be severe enough to alter groundwater flow, surface elevation, plant growth, and competition. All of these changes can alter the composition of plant communities. Altering groundwater flow may affect vegetation down gradient of the compaction, thus creating impacts well beyond the construction footprint.

Dormant Season Construction

Dewatering and construction of bridge piers during the dormant season will likely reduce, but not eliminate, detrimental impacts on native vegetation. However, compared to dewatering during the growing season, dormant season dewatering is preferred.

Surface Water Protection

Because inputs of surface water and transported nutrients and sediments are detrimental to fen vegetation, measures will be taken to minimize discharges of surface water from the highway and from surrounding uplands to the SFWC.

Erosion and Sedimentation Control

Sedimentation from uplands will be controlled, both during and after construction. The SFWC should be protected during the removal of existing vegetation and earthwork on adjacent uplands to avoid detrimental sedimentation, should any of the eastern alternatives be selected.

Relocation of Fen Vegetation

It is possible under certain circumstances to collect soil and/or plants from wetlands to be impacted and relocate them to new sites for establishment. Relocation has the advantage of preserving the existing species and local genotypes that are present in the SFWC, providing potentially species-rich vegetation in restoration sites and possibly saving protected plant species populations. Possible restoration sites are available in Area 1 of the SFWC. Details outlining methods of increasing the success of restoration sites are provided in the Phase 2 Study.

Transplantation may preserve some fen vegetation from direct impact areas, but the proposed highway corridors still have risks of soil degradation, altered hydrology, and introduction on

invasive species into fen areas outside of the highway right of way. If transplantation will be necessary, the opportunity to conduct small-scale trials in the years prior to highway construction to perfect techniques would be investigated. Mn/DOT is aware of the challenges surrounding transplantation and successful establishment of these protected species. Note that any transplantation of protected species would be coordinated with MnDNR.

Vegetation Management

Disturbed areas area routinely revegetated following construction. However, disturbance and habitat edges create opportunities for the spread of invasive and undesirable species. Not only should appropriate native species be planted and invasive species controlled in disturbed areas, areas surrounding construction should be actively managed to control invasive species. Such control may be necessary for at least 10 years following the cessation of all construction activity. Propagules of invasive species such as reed canary grass, common reed and common buckthorn are abundant in and around the SFWC. Soil disturbance and habitat fragmentation associated with highway construction will provide fresh sites for colonization and spread of invasive species. While the highway project is not responsible for the presence of the invasive species in the SFWC, without intensive and ongoing vegetation management, the project could substantially increase invasive species distribution.

Management of the Use of Road Salts

Mn/DOT's comprehensive maintenance program includes ongoing research in the use of road salts and other emerging technologies for deicing. Mn/DOT will continue to research and evaluate technologies for minimizing or preventing salt spray and runoff from any highway corridor. Certain compounds, such as potassium acetate, show promise as effective deicing agents with fewer negative environmental side effects than traditional deicers such as sodium chloride or magnesium chloride. However, the full environmental implications of alternative deicing compounds have not been investigated. The movement of water through this wetland ecosystem means that any deicing compound used should be expected to migrate well beyond the limits of the highway right of way. By the time bridge design and construction occurs, new technologies may be available, and environmental effects of relatively new deicing agents will be better understood. Options for preventing salt release would be thoroughly evaluated. If one of the eastern alternatives is selected, a monitoring plan would be developed and implemented to document baseline conditions and the spread of deicing agents in the SFWC after the highway opens.

Restoration and Management for Compensatory Mitigation

Several opportunities exist for management and restoration within the SFWC to provide compensatory mitigation for the proposed project or for fen restoration activities in general. Even if none of the eastern alternatives are selected, wetland impacts are expected with any of the build alternatives for which compensatory mitigation will be required. Activities, including active management in the present, conducted prior to or concurrent with any construction may be considered for this compensatory mitigation. Given the difficulties of fen restoration and management, it should not be assumed that an impacted fen can simply be recreated at another

site. However, the SFWC is ecologically degraded in many locations in different ways, and this deterioration will continue without active management. Therefore, restoration and management throughout the SFWC could potentially offset impacts from the proposed project.

Fen restoration has been attempted less often than other types of wetland restoration. The characteristic environmental conditions of a fen make such restoration challenging. Therefore, some restoration efforts may have a low probability of success, at least without detailed background studies, careful design and rigorous management. For some restoration activities, a trial-and-error approach is recommended, whereby small-scale restoration projects can be attempted, replicated, and monitored before attempting larger scale projects. Compensatory mitigation for the proposed project could begin years, or even decades, before any impacts occur. Whereas advance mitigation is generally preferred to after-the-fact mitigation, the challenges of fen restoration and mitigation make advance mitigation even more important.

The highest priorities for restoration and management of the SFWC should be to preserve the remaining high-quality fen areas and prevent further degradation through erosion-control measures. The next priority should be to maintain and enhance the overall viability of fen vegetation through shrub removal, invasive species removal, and prescribed burning. Finally, numerous opportunities are present to reverse historic impacts from excavation, ditching, tiling, impoundment, railroad and transmission line construction, and fire suppression. These opportunities may require hydrological restoration, soil manipulation, and revegetation. Methods for hydrological restoration include blocking or filling drainage ditches, breaking drain tiles within the fen, and regrading or removing soil to intercept the water table. Soil removal from upper soil profiles of potential restoration areas may be necessary to eliminate highly-degraded organic soil that may not be optimal for fen plants. Revegetation may involve seeding, growing plants in greenhouses or collecting in the field for transplantation, or collection and spread of topsoil to relocate seedbanks and living rhizomes. Plugs of soil and plants could be collected throughout the SFWC for use in restoration. Additionally, soil in future impact areas could be collected and used for restoration. Impact areas could be managed through shrub removal and prescribed burning for years before construction to increase the viability of plant populations and seedbanks before relocation.

In any wetland restoration project, assuring appropriate hydrology and control of invasive and undesirable species are critical. For fen restoration to be successful, a continuous supply of groundwater must be present that will saturate the soil to the surface for most of the year. Once the hydrology has been restored, the likelihood of fen vegetation restoration is greatly increased. Long-term well studies should be conducted before, during and after hydrological restoration to ensure that appropriate hydrology is present and to assist in troubleshooting and developing corrective actions. Effective hydrologic restoration would saturate soil to the surface without causing inundation. The well studies would provide information on the optimal ground surface elevation within the hydrologically degraded portions of the fen. It may be necessary to regrade or remove soil so that the saturation will occur. An on-site case study outlined in the Phase 2 Study and published reports of fen restoration demonstrate the potential for restoration within the SFWC.

Much of the SFWC could be restored to tall sedge fen communities with appropriate management. In Area 1, a sizeable area of short sedge fen exists which would be considered a priority. With hydrological restoration and vegetation management, microsites of short sedge fen may reestablish (such as certain locations near the toe of the bluff in the Phase 2 Study area). The Phase 2 Study provides detailed discussion regarding restoration and management methods for specific areas of the SFWC.

7.4 GEOLOGY/SOILS

7.4.1 Affected Environment

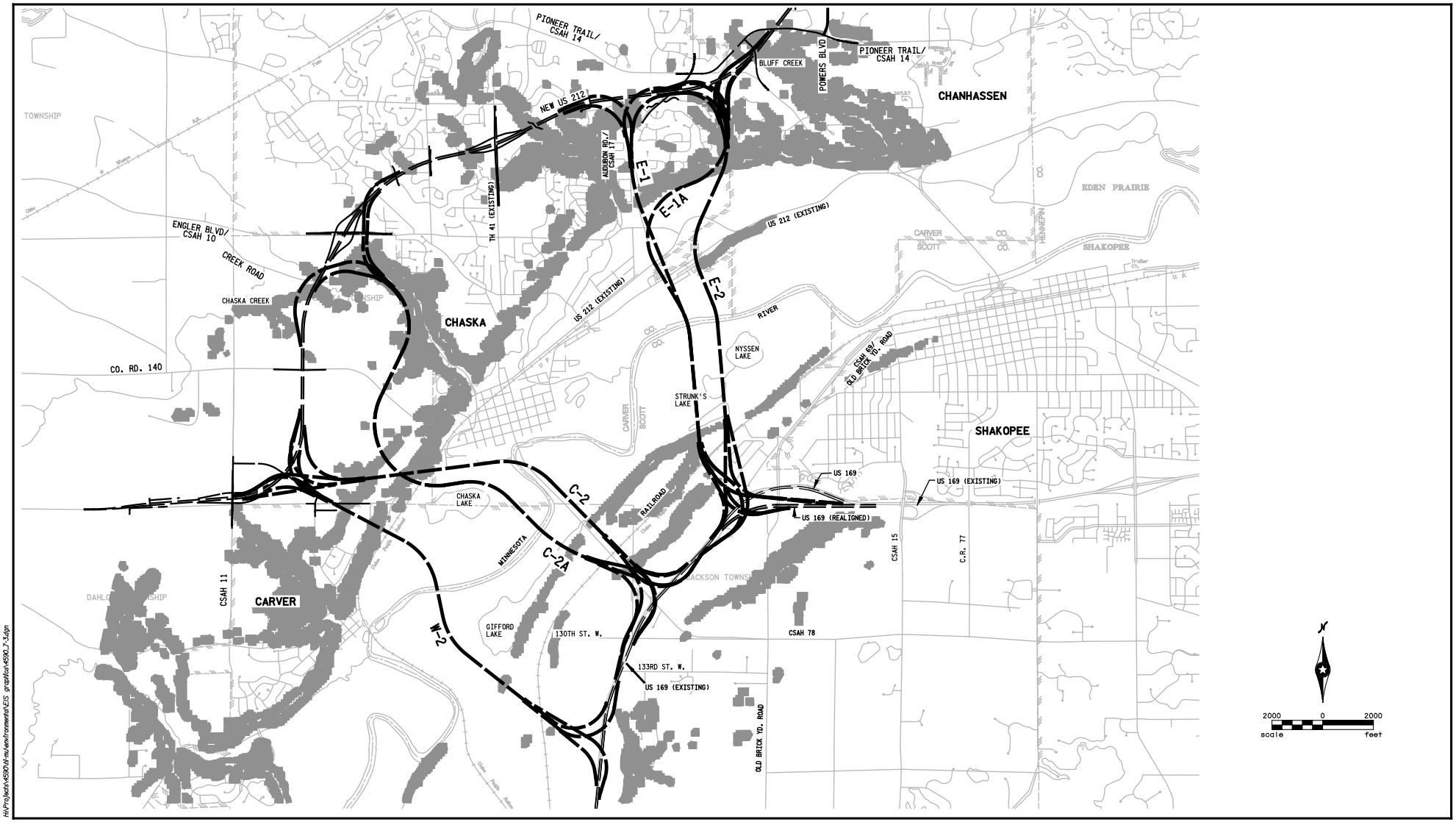
Information provided in the Phase I Environmental Site Assessment, completed by Braun Intertec, dated February 2006 and available from Mn/DOT (Phase I ESA), documents the geologic conditions of the study area and is summarized in this section. Two of the main concerns in the study area are locations that have steep slopes and locations that have highly erodible soils. Information for erodible soils was gathered from the Scott and Carver County soil surveys from the Natural Resource Conservation Service (NRCS). Slope information was obtained from the Metropolitan Council. Refer to Figure 7-4 for details.

Scott County Geology

The unconsolidated sedimentary deposits in the vicinity of the study area in Scott County starting from the Minnesota River and extending to the southeast are Holocene alluvium deposits, Holocene and Pleistocene lower-terrace deposits and Holocene and Pleistocene middle-terrace deposits. The Holocene alluvium deposits consist of gray to yellowish brown floodplain deposits. The deposits are three feet to more than 10 feet thick with variable texture, sorting and bedding. Clay and silt can be interbedded with sand and gravel. The deposits include small areas of lake, marsh and older stream sediment.

The Holocene and Pleistocene lower-terrace deposits consist of undulated erosional and depositional surfaces covered by at least 1½ feet of fine, wind-deposited sand and silt and locally by stream-deposited sandy, silty clay. The Holocene and Pleistocene middle-terrace deposits consist of undulating erosional and depositional surfaces covered by at least 1½ feet of fine, wind-deposited sand and silt and locally by stream-deposited sandy, silty clay, though at a surface of 75 to 115 feet above the present floodplain.

The uppermost bedrock units in the vicinity of the study area in Scott County are the Upper Cambrian, Franconia Formation and the Upper Cambrian, St. Lawrence Formation. The Franconia Formation is described as very fine-grained, glauconitic quartzose sandstone and shale. The St. Lawrence Formation is described as silty dolomite interbedded with siltstone, soft shale, and very fine-grained quartzose sandstone. The depth to bedrock in the vicinity of the study area is approximately 200 feet to 250 feet below land surface.



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STEEP SLOPES WITH HIGHLY ERODIBLE SOILS

Figure 7-4

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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Scott County Soils

Soil types located within in the study area south of the Minnesota River (Scott County) include:

1. Loamy and sandy soils on gently sloping topography, including Hubbard, Estherville, Waukegan, and Zimmerman soil types found on terraces;

2. Rocky shallow soils, including the soil subtypes Copas, and Faxton that are on terraces; and

3. Nearly level soils, including Dorchester, Oshawa, and Mixed Alluvial association that are on floodplains.

Carver County Geology

The unconsolidated sedimentary deposits in the vicinity of the study area starting from the Minnesota River and extending to the northwest are Holocene floodplain alluvium; Holocene fan deposits, Pleistocene till, low-relief deposits, and Holocene colluvial deposits. The Holocene floodplain alluvium deposits consist of river-channel, overbank, and slackwater sediments consisting of dark-brown to gray silt loam to silty clay loam, and layers of fine sand and gravel. Organic debris is both disseminated in the sediments and forms discrete peat beds in places. The amount of sand and gravel increases adjacent to the river channel and in areas of channel migration.

The Holocene fan deposits consist of slopewash sediments of loam to loamy fine sand, beds of silt loam to silty clay loam, fine sand, and gravel, and disseminated organic debris deposited in the floodplain at the base of steep slopes. The Pleistocene till, low-relief deposits consist of pebbly loam to clay loam and pockets of silt, sand, and gravel in places. Average composition of very coarse sand fraction includes crystalline rocks (45 percent), carbonate rocks (26 percent), and shale fragments (30 percent). Different units are distinguished on the basis of geomorphic expression. The surface topography is level to rolling with overall relief of about 10 feet. There are also steep gullies as deep as 180 feet. The till is underlain in many places by thick deposits of sand and gravel. The Holocene colluvial deposits consist of reworked sediments of a friable mixture of sand, silt, clay and pebbles. These deposits resemble the till and buried sand and gravel from which they are derived and may contain disseminated organic debris.

The uppermost bedrock units in the vicinity of the study area in Carver County include the Upper Cambrian, St. Lawrence and Franconia Formations. The St. Lawrence Formation consists of silty, very finely crystalline, generally thick-bedded, tan to pink dolostone interlayered with thin intervals of siltstone or, rarely, beds of very fine-grained glauconitic sandstone or maroon to green shale. The fine-grained, glauconitic sandstone and shale of the Franconia becomes dolomitic in central and eastern Carver County, where the two units are distinguishable only by the higher glauconite content of the Franconia. Fine-to medium-grained quartzose sandstone with minor amounts of white or light-colored shale forms the upper part of the Franconia in parts of the north and west. The depth to bedrock in the vicinity of the study area is approximately 200 feet to 250 feet below land surface.

Carver County Soils

Soil types located within the study area north of the river (Carver County) include:

1. Medium-textured to moderately fine textured deep soils on rolling topography, including the Lester-Hayden-Peat association in the uplands;

2. Deep, medium-textured to moderately fine textured soils on strong rolling to hilly topography, including the Hayden-Lester-Peat association in the uplands;

3. Moderately deep to shallow medium-textured soils over sand and gravel on nearly level to strongly rolling topography, including the Fairhaven-Kasota-Estherville association found on outwash terraces above the Minnesota River;

4. Coarse-textured to medium-textured soils on very steep slopes, including the Salida-Haden association found on hills and bluffs; and

5. Chiefly medium-textured to moderately fine textured soils, including the Alluvial land-Chaska-Oshawa association found on the floodplains along the Minnesota River.

7.4.2 Environmental Consequences

No Build Alternative

No impacts to the soils and geology of the study area would be expected from the No-Build Alternative as land disturbing activities would not result in disturbance of steep slopes or highly erodible soils.

Build Alternatives

Each of the Build Alternatives would require excavation in the vicinity of and /or disturbance to steep river bluffs. Disturbances to the vegetative cover that occur during construction could result in erosion of temporarily bare soils. Erosion of the river bluffs is of special concern because eroded sediment could be washed into the Minnesota River, or other surrounding water bodies.

All alternatives intersect the Hubbard-Estherville-Dakota-Waukegan-Zimmerman association and Dorchester-Oshawa-Mixed alluvium association.

All the alternatives cross the alluvial land-Chaska-Oshawa association found along the Minnesota River. All the alternatives also cross the Salida-Haden association, which is known for very steep soils on hills and bluffs. All the alternatives cross the Lester-Hayden-Peat and Hayden-Lester-Peat soil associations.

The main concern when dealing with erodible soils and steep slopes in the study area are areas where highly erodible soils and steep slopes join to create conditions that can cause erosion

issues if vegetation is removed. Table 7-11 summarizes the impacts on erodible soils. Impacts are presented in lengths for a 300-foot corridor width for each Build alternative. As noted elsewhere in this document, this is a worst-case planning level width. The discussion by alternative below provides additional detail.

TABLE 7-11
POTENTIAL EROSION IMPACTS

Alternative	Scott County[1]	Carver County[1]	Total Length of Crossing[1]
W-2	430 ft. (3.0 acres.) – PHEL[2]	120 ft. (0.8 acres) – steep HEL	550 ft. (3.8 acres) [3]
C-2	250 ft. (1.7 acres.) – steep HEL	1,700 ft. (11.7 acres) – steep HEL	1,950 ft. (13.4 acres)
C-2A	350 ft. (2.4 acres) – PHEL	4,630 ft. (31.9 acres) – steep HEL	5,430 ft. (34.3 acres)
E-1	700 ft. (4.8 acres) – steep HEL	2,300 ft. (15.8 acres) – steep HEL	3,000 ft. (20.6 acres)
E-1A	700 ft. (4.8 acres) – steep HEL	4,000 ft. (27.5 acres) – steep HEL	4,700 ft. (32.3 acres)
E-2	0 ft. (0 acres)	2,610 ft. (18.0 acres) – steep HEL	2,700 ft. (18.0 acres)

(1) See discussion below for assumptions about where steep slopes/erodible soils would likely be bridged and are therefore not included in total.
(2) Abbreviations – (potentially) Highly Erodible Soil ([P] HEL).
(3) Plus impacts from two bridge piers.

Alternative W-2

In Scott County, Alternative W-2 the bridge would be elevated over a narrow stretch of steep slopes and highly erodible soils at the river's edge, where it appears possible to span the area with no placement of bridge piers. As the bridge intersects with the land along the higher bluffs, with the approaches to the US 169 interchange, a 430-foot length of potentially highly erodible soils is crossed. This poses the potential for soil erosion with construction in this area.

In Carver County, Alternative W-2 crosses approximately 475 feet of steep slopes (up to 18%) and highly erodible and potentially highly erodible soils where the river valley rises. In this location, however, the bridge may still be elevated, thereby minimizing disturbance of the slopes and soils with placement of two bridge piers. Further up the bluffs, where the bridge would make landfall and begin the approaches to the New US 212 interchange, it crosses 120 feet of steep slopes (up to 18%) and highly erodible soils. Construction in this location poses a severe risk of soil erosion.

Alternative C-2

In Scott County, as the river valley starts to rise, Alternative C-2 passes over a narrow stretch of the steepest slopes, classified in the 12-18 percent range, and the most highly erodible soil. At this location, however, the bridge would still be elevated, and only one bridge pier may be placed in this location. Where the river valley rises once again up to the location with the US 169 interchange, the bridge and ramps would intersect a length of 250 feet of steep (up to 18%) slopes and highly erodible soils. Construction in this location poses a severe risk of soil erosion.

In Carver County, as the bluffs rise out of the river valley, Alternative C-2 cuts into the bluff across a length of 1,700 feet of highly erodible soil and steep slopes (up to 18%). Construction of the bridge in this location, making landfall in the highly erodible soils, poses a severe risk of soil erosion.

Alternative C-2A

In Scott County, Alternative C-2A crosses a very narrow strip of steep slopes and highly erodible soils at the river's edge. The bridge would be elevated in this location, and bridge piers could span erodible slopes in this location. Closer to the US 169 interchange, the bridge makes landfall and splits for the approaches to the interchange across approximately 350 feet of potentially highly erodible soils. The potential for soil erosion exists with construction in this location.

In Carver County, Alternative C-2A crosses over 450 feet of steep slopes (up to 18%) and potentially highly erodible soils, posing a high risk for soil erosion. Once the bridge makes landfall, and turns to the north, it would cross over moderate slopes and potentially highly erodible soils, posing some risk for soil erosion. However, once the alignment reaches the Chaska Creek ravine, it cuts through 4,630 feet of steep slopes (up to 18%) and highly erodible soils along the entire ravine. This poses a severe risk of soil erosion and slope failure.

Alternative E-1

In Scott County, Alternative E-1 is elevated over a narrow strip of steep slopes (up to 18%) and highly erodible soils, where bridge piers can span this stretch. As the bridge makes landfall and begins the approach to the US 169 interchange, it crosses 700 feet of steep slopes and highly erodible soils. Construction in this location poses a severe risk of soil erosion.

In Carver County, Alternative E-1 remains elevated over potentially erodible soils. However, at the intersection with the bluffs above the river valley, the approaches to the New US 212 cut through 2,300 feet of steep slopes (up to 18%) and highly erodible soils. Construction in this area poses a severe risk of soil erosion.

Alternative E-1A

In Scott County, Alternative E-1A is elevated over a 780-foot length of steep slopes (up to 18%) and highly erodible soils. Bridge piers will not be located within these areas. As the bridge makes landfall and begins the approach to the US 169 interchange, it crosses 700 feet of steep slopes and highly erodible soils. Construction in this location poses a severe risk of soil erosion.

In Carver County, once Alternative E-1A turns into the bluffs above the Minnesota River, it cuts through approximately 4,000 feet of steep slopes (up to 18%) within highly erodible soils. Potential for soil erosion and slope failure is severe with construction in this location.

Alternative E-2

In Scott County, Alternative E-2 is elevated over a 150-foot width of steep slopes (up to 18%) and highly erodible soils. Bridge piers can be spaced so none are located within these areas. As

the bridge makes landfall and begins the approach to the US 169 interchange, it crosses only potentially highly erodible soils. Construction in this location poses the potential for soil erosion.

In Carver County, once Alternative E-2 cuts into the bluffs above the Minnesota River through 2,000 feet of steep slopes (up to 18%) and highly erodible soils. In addition, the easternmost interchange with New US 212 would cut across 610 feet of highly erodible soils on steep slopes adjacent to Bluff Creek. Potential for soil erosion and slope failure is severe with construction in these locations.

7.4.3 Mitigation

The proposed road profiles have been designed to minimize disturbances to steep bluffs. As the design of a Preferred Alternative is carried forward, it will be further refined to avoid and minimize impacts to steep slopes and organic soils.

Best management practices (BMPs) such as erosion control blankets, fast growing cover crops and silt fencing (similar to those outlined in the MPCA's manual "Protecting Water Quality in Urban Areas") would be implemented in accordance with the National Pollutant Discharge Elimination System (NPDES) permit which is required for this project. After construction is complete, disturbed areas would be re-vegetated to control erosion on a permanent basis.

Correction of organic soils is minimized by avoiding wetland areas as described in Section 9.6. If organic soil correction is needed, methods such as compaction (surcharging) and the use of lightweight fill would be elevated to minimize disturbance to the soil and surrounding wetlands. Timing of construction during winter, when soils are frozen, may also help to minimize impacts to the wetlands.

7.5 WILD AND SCENIC RIVERS

7.5.1 Regulatory Overview

7.5.1.1 Federal

The Wild and Scenic Rivers Act, (Pub. L. 90-542 as amended; 16 U.S.C. 1271-1287) established a method for providing Federal protection for certain of our country's remaining free-flowing rivers, preserving them and their immediate environments for the use and enjoyment of present and future generations. Rivers are included in the system so that they may benefit from the protective management and control of development for which the Act provides. The National Park Service (NPS) is the agency responsible for implementation of this Act. In October of 1968, the Wild and Scenic Rivers Act pronounced,

> *It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values, shall be*

preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dams and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes.

At this time, the Minnesota River is not listed as a National Wild and Scenic River, but rather is listed as a candidate for potential Wild and Scenic River designation.

According to the Regional Wild and Scenic Rivers Specialist with the NPS, Midwest Region, the entire segment of the Minnesota River in the study area is listed on the Nationwide Rivers Inventory (NRI) prepared by the NPS. The NRI is a register of rivers that may be eligible for inclusion in the National Wild and Scenic River System. These rivers were included on the NRI based on the degree to which they are free-flowing, the degree to which the rivers and their corridors are undeveloped, and the outstanding natural and cultural characteristics of the rivers and their immediate environments. The Minnesota River was listed on the NRI because of its free-flowing condition and outstanding scenic, recreational, wildlife and historic values.

The intent of the NRI is to provide information to assist in making balanced decisions regarding use of the nation's river resources. A Presidential directive and subsequent instructions issued by the Council on Environmental Quality required that each Federal agency, as part of its normal planning and environmental review processes, take care to avoid or mitigate adverse effects on rivers identified in the NRI. Further, all agencies are required to consult with NPS prior to taking actions that could effectively foreclose wild, scenic, or recreational status for rivers on the inventory.

The Wild and Scenic Rivers Act provides that a river may be added to the National Wild and Scenic Rivers System or through the authority granted to the Secretary of the Interior. To be eligible for inclusion in the system through either method, rivers must meet certain criteria set forth in the Act.

7.5.1.2 State

Procedures for proposing State-administered rivers for designation have also been issued by the Department of the Interior. Minnesota Statutes 103F.301-103F.345 (the Minnesota State Wild and Scenic Rivers Act) designates the MnDNR as the agency responsible for state-designated Wild and Scenic Rivers. Upstream of Chaska, the Minnesota River from Lac Qui Parle to Franklin, is listed as a state Wild and Scenic River. However, the segment of the river within the study area is not. As described in Section 8.1.1, this segment of the Minnesota River is a State-designated Canoe and Boating Route.

7.5.2 Affected Environment

This section of the Minnesota River is not impacted or restricted by dams and provides a relatively natural setting through which it flows. As stated above, the Minnesota River was

listed on the NRI because of its free-flowing condition and outstanding scenic, recreational, wildlife and historic values. Also as noted, the Minnesota River is not designated as a National Wild and Scenic River but is a candidate for potential Wild and Scenic River designation. Finally, as noted, it is a state-designated Canoe and Boating route.

7.5.3 Environmental Consequences

The NPS was consulted with regard to NRI and potential Wild and Scenic River designation for the proposed project. The NPS did not comment specifically about potential impacts but rather advised on considerations as the project proceeds.

No-Build

The No-Build alternative would have no impact upon the Minnesota River's candidacy as a potential Wild and Scenic River or its function as a Canoe and Boating route.

Build Alternatives

All of the Build Alternatives would have a similar impact upon the setting of this stretch of the Minnesota River. While no structures, aside from bridge piers if placed within the river channel, would change the free-flowing condition of the river, the construction of a bridge would have an impact upon the scenic value of this section of the river. Additional impacts upon the wildlife and historic values of the river are discussed in Sections 7.1 and 10 respectively, and if any of these impacts are considered adverse, they must be mitigated. Impacts upon the recreational value of this stretch of the river are varied depending upon the recreational use in consideration. Canoeing and fishing activities would not be directly impacted, as the free-flowing condition of the river would not be changed. However, wildlife viewing and similar nature-based activities may be impacted with the introduction of a bridge span across the river.

Alternative W-2

In addition to the general comments above, Alternative W-2 would specifically affect the recreational uses of the river at the MVNWR Chaska Unit with the introduction of a bridge span overhead.

Alternative C-2

Alternative C-2 would have a very minimal impact upon the scenic, recreational, wildlife and historic values of this stretch of the river, because it is very close to the existing TH 41 bridge span and the development of nearby downtown Chaska.

Alternative C-2A

Alternative C-2A would specifically affect the recreational uses of the river at the MVNWR Chaska Unit with the introduction of a bridge span overhead.

Alternatives E-1 and E-1A

Both Alternative E-1 and Alternative E-1A cross the Minnesota River at the same location, so their impacts would be identical. These alternatives would specifically affect the recreational uses of the river this location of a crossing because of the introduction of a bridge span overhead.

Alternative E-2

Alternative E-2 would specifically affect the recreational uses of the river at this location because of the introduction of a bridge span overhead.

The NPS will review project plans for the preferred alternative to provide guidance in reducing impacts to the river and its candidacy for listing as a Wild and Scenic River. Generally, NPS recommends measures to avoid and minimize impacts to the values provided by this river in accordance with the Wild and Scenic Rivers Act.

7.5.4 Mitigation

Mitigation of impacts to a river listed on the NRI includes incorporating features into the design of the preferred alternative to further minimize visual impacts to riverway users. Some of these design features could include:

- Minimizing scale of the bridge;
- Minimizing vegetation disruption;
- Minimizing bluff cuts and other erosion/sedimentation sources; and
- Incorporation of aesthetic features in bridge design to make it more visually pleasing.

8.0 PARKS, TRAILS, RECREATIONAL AREAS AND NATURAL AREAS/SECTION 4(F)/SECTION 6(F)

This Chapter provides information about public recreational and natural resource areas, trails, and parks within the study area as designated by Section 4(f) of the Department of Transportation Act of 1966 (49 USC 303, 23 USC 138) and Section 6(f) of the Land and Water Conservation Fund Act of 1965 (16 USC 2509) (LAWCON). Draft Section 4(f) and 6(f) Evaluations for specific resources are provided in Appendix B and referenced where appropriate in this chapter.

With each of the six Build alternatives and the No-Build alternative, the primary recreational resource affected is the Minnesota River. The Minnesota River is not designated as a Wild and Scenic River. The segment of the river within the study area is listed on the Nationwide Rivers Inventory, prepared by the National Park Service, which is a register of rivers that may be eligible for inclusion in the National Wild and Scenic River System. The Minnesota River was listed because of its free-flowing condition and outstanding scenic, recreational, wildlife and historic values. In addition to the river, there are several other recreational facilities within the corridors. Following is a description of these resources and potential impacts that may result from the Build alternatives as well as potential mitigation measures to minimize impacts.

8.1 AFFECTED ENVIRONMENT

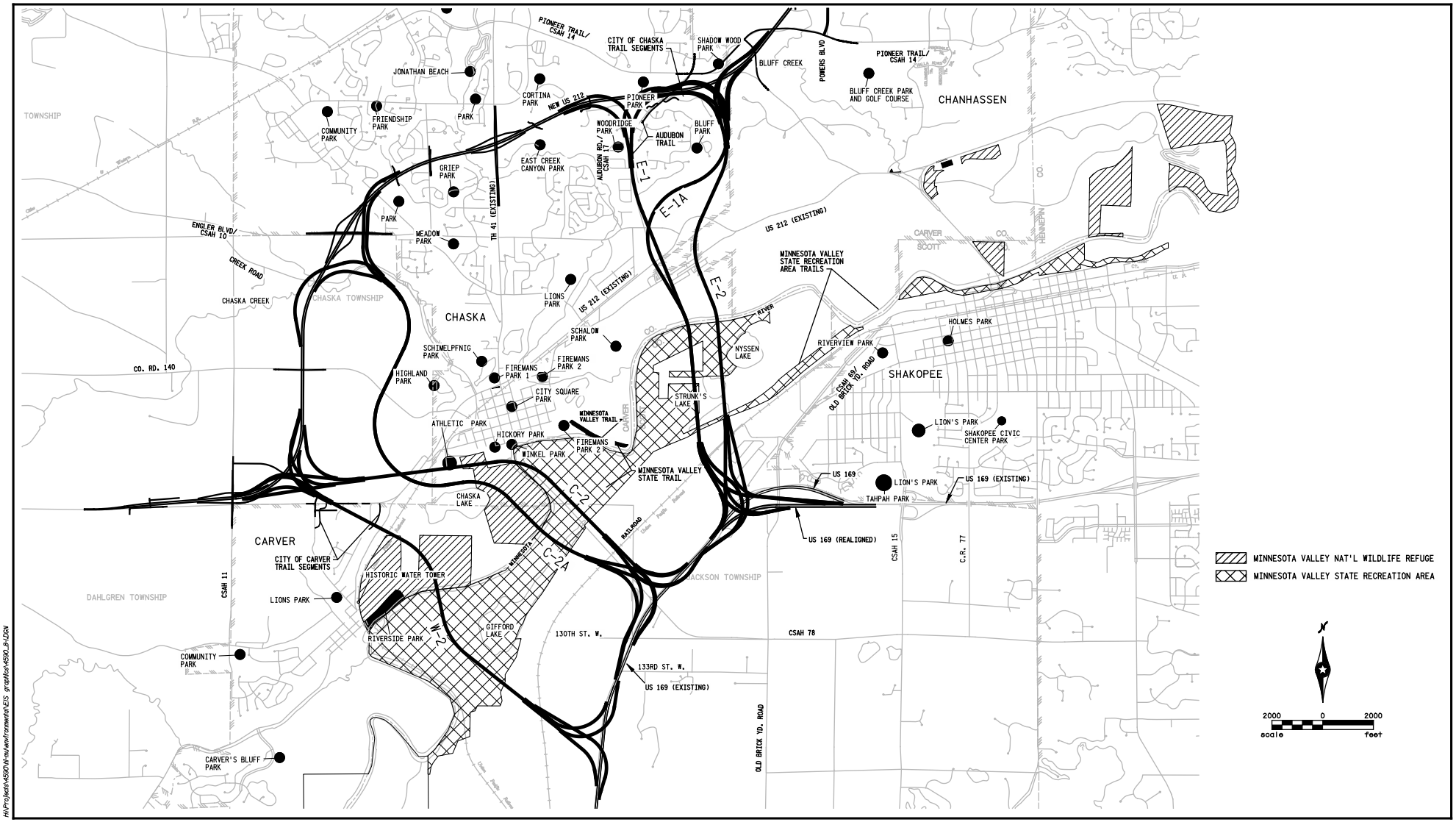
Resources will be presented as they relate to Section 4(f) and Section 6(f) classifications for the No-Build and six Build alternatives. A total of 36 parks, public recreational facilities and wildlife refuge were considered in the evaluation; Figure 8-1 shows the location of these resources. Information about park facility usage and plans was provided by City, County and State agency staff.

8.1.1 Resources in the Vicinity of the Existing TH 41 (No-Build) Corridor

Minnesota Valley National Wildlife Refuge

According to its website, the Minnesota Valley National Wildlife Refuge (MVNWR) is one of four urban wildlife refuges in the nation. It was established in 1976 and is managed by the U.S. Fish and Wildlife Service (USFWS). Its objective is to preserve and protect wildlife and wildlife habitat and to provide opportunities for wildlife-oriented recreation and education. The Refuge is home to many animals such as the bald eagle and is a crucial corridor for migrating birds. The MVNWR consists of eight non-contiguous units that stretch 34 miles from Fort Snelling to the City of Jordan. The Chaska Unit is within the study area and is located in the northeastern part of the City of Carver and the extreme southwest part of the City of Chaska. This 600-acre unit consists of marsh-edged lake surrounded by farmland and floodplain forest.

A hiking and biking trail runs through the Refuge, with a trailhead in Riverside Park in the City of Carver. According to City of Carver staff, the trail receives moderate use. According to City of Chaska staff, a trailhead is planned at Athletic Park in the City of Chaska in the next few years. The MVNWR has received (LAWCON) funding and is therefore subject to Section 6(f) requirements.



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PUBLIC RECREATIONAL FACILITIES

Figure 8-1

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Draft Environmental Impact Statement
S.P. #1008-60
Minnesota Department of Transportation

Minnesota River

The Minnesota River is a tributary of the Mississippi River, approximately 332 miles long. The Minnesota River drains a watershed of nearly 17,000 square miles in Minnesota and about 2,000 square miles in South Dakota and Iowa. It flows through the study area Cities of Carver, Chaska, Shakopee, and Chanhassen. It joins the Mississippi River south of the Twin Cities near historic Fort Snelling. The river is used recreationally for boating, canoeing, and fishing.

This segment of the Minnesota River is designated by the Minnesota Department of Natural Resources (MnDNR) as a "Canoe and Boating Route." This is a recreational designation. The river itself is the route; therefore no route is shown on a map. There are no restrictions associated with this designation, however the MnDNR staff would review construction plans to ensure that there is an adequate channel for boat passage both during and after construction. If such a passage cannot be preserved, provisions for a portage would likely be created. Whenever a new bridge is constructed with federal or state funds the MnDNR requests that there be consideration given to providing additional access (watercraft and off-street parking) if no such access is already available in the area. Note that Section 4(f) only applies to rivers on the National Wild and Scenic River system; as described in Section 7.5, this segment of the Minnesota River is not on the National Wild and Scenic River system.

Minnesota Valley State Recreation Area

The portion of the Minnesota Valley State Recreation Area (MVSRA) in the study area runs from the City of Carver on the south end through the City of Chanhassen on the north end. Set in the Minnesota River Valley, it is an important resource to residents of the Twin Cites metropolitan area and is known for its rich environmental qualities including many different plant and animal communities ranging from fens and wetlands to floodplain forest and blufftop oak savanna. The Nyssen's Lake Area offers trail access for snowmobiling, horseback riding, mountain biking, and hiking. The Gifford Lake Area offers fishing and trail access. Three boat ramp facilities and parking are within the affected area. More than 170,000 people visit the MVSRA annually. The MVSRA has received LAWCON funding and is therefore subject to Section 6(f) requirements.

Minnesota Valley State Trail

The Minnesota Valley State Trail (MV Trail) in the MVSRA runs through the study area and offers recreational opportunities for biking, hiking, snowmobiling, and horseback riding. The five-mile paved trail, referred to as the Chaska/Shakopee Bike Trail, runs from the former Milwaukee Railroad right of way near the Carver County Courthouse area in Chaska to Murphy's Landing in Shakopee. When reconstruction of the existing TH 41 river bridge is complete in 2007 it will restore the MV Trail connection between the City of Chaska and Murphy's Landing in the City of Shakopee. This trail river crossing is being restored after a deteriorated bridge crossing was removed by the MnDNR in 1997.

The north end of the MnDNR Carver Rapids Wayside recreation area is located directly south of Chaska across the Minnesota River. The MnDNR has developed a horse, mountain bike, and snowmobile trail from Chaska upriver to Belle Plaine. The northerly trailhead is located on the east side of existing TH 41 about one-half mile south of the Minnesota River/Chaska city limits.

The MV Trail has received LAWCON funding and is therefore subject to Section 6(f) requirements.

Winkel Park

Winkel Park, 220 Pine Street in Chaska, is located on the north shore of the Minnesota River just west of northbound TH 41 at the entrance into downtown Chaska. This 4-acre neighborhood park is owned and managed by the City of Chaska. It is a trailhead and provides boat launching facilities and off-street parking. It receives moderate use. No restrooms, play or picnic facilities are present. Winkel Park has received LAWCON funding and is therefore subject to Section 6(f) requirements.

Hickory Park

Hickory Park, 120 Hickory Street in Chaska, is located just west of Winkel Park. This half-acre neighborhood park is owned and managed by the City of Chaska. It provides a play structure and picnic tables. It receives light use. No off-street parking or restroom facilities are present.

City Square Park

City Square Park, 300 Chestnut Street in Chaska, is located in downtown Chaska on the east side of existing TH 41 and south of existing US 212. This 2-acre community park is owned and managed by the City of Chaska. It provides a gazebo and picnic tables and is used primarily as a gathering place for concerts, weddings and picnics. No off-street parking or restroom facilities are present.

Firemen's Park I

Firemen's Park I, 260 Highway 212 in Chaska, is located at the northwest corner of existing TH 41 and existing US 212. This 6-acre community park is owned and managed by the City of Chaska. It is a trailhead and offers open space, picnic areas, access to a swimming beach, off-street parking and restrooms. It receives moderate use. Fireman's Park I has received LAWCON funding and is therefore subject to Section 6(f) requirements.

Schimelpfnig Park

Schimelpfnig Park, 419 Creek Road in Chaska, is located northwest of the existing TH 41 and existing US 212 intersection. This 2-acre neighborhood park is owned and managed by the City of Chaska and offers open space, picnic areas, off-street parking and restrooms. It receives moderate use.

Chaska Elementary School and Chaska Middle School

Chaska Elementary School, 1800 Chestnut Street, Chaska Middle School East, 1600 Park Ridge Drive, and Chaska Middle School West, 140 Engler Boulevard in Chaska, are located on a combined campus at the intersection of Engler Boulevard/CSAH 10 and TH 41. Outdoor recreational facilities open to the public include five ball fields, eight multi-purpose fields and a playground structure. The fields are in high demand after school hours and are fully scheduled, April through October, by various athletic groups during the weekday evening hours and Saturday mornings. The fields are available for unscheduled use on Saturday afternoons and all day Sunday.

Chaska Community Park and Chaska Community Center

Chaska Community Park and Community Center, 1441 Park Ridge Drive in Chaska, are located on the north side of Engler Boulevard/CSAH 10 east of the intersection of Engler Boulevard and TH 41. This 31-acre neighborhood park and community center is owned and managed by the City of Chaska and provides a play structure and picnic tables. The Community Center features a performing arts theater and two hockey rinks; it serves as a community gathering place.

8.1.2 Resources Common to the Six Build Alternatives

Previously-Described Resources

- Minnesota River as identified in 8.1.1.
- Minnesota Valley State Recreation Area (MVSRA) as identified in 8.1.1.
- Minnesota Valley State Trail (MV Trail) as identified in 8.1.1.

8.1.3 Resources in the Alternative W-2 Area

Previously-Described Resources

- Minnesota River as identified in 8.1.1
- Minnesota Valley State Recreation Area (MVSRA) as identified in 8.1.1.
- Minnesota Valley State Trail (MV Trail) as identified in 8.1.1.
- Minnesota Valley National Wildlife Refuge (MVNWR) as identified in 8.1.3.

Riverside Park

Riverside Park, 300 Main Street in Carver, is located on the northern shore of the Minnesota River, east of the Historic Water Tower (discussed in Chapter 10). This 18-acre park is owned by the City of Carver and managed by the USFWS. Its primary use is for boat launching; it provides a trailhead for the MVNWR trail system. The City is considering offering primitive camping. No potable water, picnic or restroom facilities are present. According to City of Carver staff, the park hosts a horseshoe tournament once a year. Riverside Park has received LAWCON funding and is therefore subject to Section 6(f) requirements.

Depot Park

Depot Park, 308 County Road East in Carver, is located at the site of the Historic Water Tower. This half-acre park is owned and managed by the City of Carver. Facilities include a picnic shelter and off-street parking. A caboose on site is planned to be used as a future visitor center.

Lions Park – Carver

Lions Park, 700 Lime Street in Carver, is located west of the Historic Water Tower. This 4-acre park is owned and managed by the City of Carver. Facilities include a pavilion, athletic field, playground equipment and restrooms. It is used primarily for picnics and play.

Trails in the City of Carver

The City of Carver owns and manages a system of trails and intends to connect them to the MVNWR trails where appropriate. Within the project area, there is an existing trail that extends south from existing US 212 approximately 1,000 feet, and a trail that is being constructed that extends south from existing New US 212 along Spring Creek Drive. The City plans include a future trail along the UPRR rail corridor from the river to existing US 212 and a future trail along existing US 212 between the UPRR rail corridor trail and the existing City trail at Spring Creek Drive.

8.1.4 Resources in the Alternative C-2 Area

Previously-Described Resources

- Minnesota River as identified in 8.1.1.
- Minnesota Valley State Recreation Area (MVSRA) as identified in 8.1.1.
- Minnesota Valley State Trail (MV Trail) as identified in 8.1.1.
- Minnesota Valley National Wildlife Refuge (MVNWR) as identified in 8.1.3.
- Winkel Park as identified in 8.1.1.
- Hickory Park as identified in 8.1.1.
- City of Carver Trail along Spring Creek Drive.

Athletic Park

Athletic Park, 725 West First Street in Chaska, is located north of Chaska Lake and west of the MVNWR. This 8-acre community park is owned and managed by the City of Chaska. Facilities include a ball field, grandstand with a capacity of 1,000, concession stand, lights, restrooms and off-street parking. This park is used heavily by high school ball teams and adult municipal ball teams. The site is subject to periodic flooding in the spring.

Trails in the City of Chaska

The City of Chaska owns and manages a network of trails. The network consists of greenway trails (leisure and recreation trails which primarily parallel the watershed system of East Chaska Creek leading to the University of Minnesota Arboretum) and roadway trails (destination trails that interconnect most of Chaska's major public facilities and service centers).

Creek Road in Chaska is scheduled to be converted to a City-owned trail in conjunction with the Heights of Chaska development (described in Chapter 5). The Metropolitan Council has plans to connect this trail with a proposed Victoria-to-Chaska Regional Trail (Carver Regional Park to Minnesota Valley State Trail – generally located on existing CR 11). Conversion is planned to occur when CR 11 is upgraded, sometime in the next five to ten years, according to City of Chaska staff.

8.1.5 Resources in the Alternative C-2A Area

Previously-Described Resources

- Minnesota River as identified in 8.1.1.
- Minnesota Valley State Recreation Area (MVSRA) as identified in 8.1.1.
- Minnesota Valley State Trail (MV Trail) as identified in 8.1.1.
- Minnesota Valley National Wildlife Refuge (MVNWR) as identified in 8.1.3.
- Athletic Park as identified in 8.1.4.
- Trails in the City of Chaska as identified in 8.1.4

Highland Park

Highland Park, 421 Tupelo Way in Chaska, is located about one-half mile northwest of Chaska City Hall. This 1-acre neighborhood park is owned and managed by the City of Chaska. It provides a play structure and picnic tables. It receives light use. No off-street parking or restroom facilities are present.

Meadow Park

Meadow Park, 305 Engler Boulevard in Chaska, is located on the south side of Engler Boulevard just west of TH 41. This 3-acre neighborhood park is owned and managed by the City of Chaska. It provides a play structure and picnic tables. It receives light use. No off-street parking or restroom facilities are present.

Municipal Services Building Open Space Area

Municipal Services Building Open Space Area, located northwest of the Municipal Services building in Chaska, is owned by the City of Chaska. This open space will be developed into a park once construction of New US 212 is complete. A sports facility is planned, with ball fields, off-street parking, restrooms and lights. Anticipated future use is heavy.

Griep Park

Griep Park, 317 Groves Drive in Chaska, is located about one-quarter mile northwest of the intersection of TH 41 and Engler Boulevard/CSAH 10. This City of Chaska property is currently maintained as open space. The future 1-acre neighborhood park planned for the site will be developed as nearby residential development occurs. A play structure and picnic tables are planned. Future anticipated use is light. No off-street parking or restroom facilities are planned.

8.1.6 Resources in the Alternative E-1 Area

Previously-Described Resources

- Minnesota River as identified in 8.1.1.
- Minnesota Valley State Recreation Area (MVSRA) as identified in 8.1.1.
- Minnesota Valley State Trail (MV Trail) as identified in 8.1.1.
- Trails in the City of Chaska as identified in 8.1.4.

Tahpah Park

Tahpah Park, 1490 Adams Street in Shakopee, is located at the northwest corner of US 169 and CSAH 15. This 50-acre park is owned and operated by the City of Shakopee and provides a sports field, baseball stadium, concession stand and trails. Tahpah Park received LAWCON funding and is therefore subject to Section 6(f) requirements.

Lions Park – Shakopee

Lions Park, 1099 Adams Street in Shakopee, is located on CSAH 15, about one-quarter mile north of US 169. This 50-acre park is owned and managed by the City of Shakopee and provides a youth building, aquatic park, warming house, picnic shelters, trails and restrooms.

Tahpah-Lions trail runs through the park. The trail received LAWCON funding and is therefore subject to Section 6(f) requirements.

East Creek Trail in the City of Chaska

The East Creek Trail follows the East Creek flood channel in the City of Chaska from the river northward past existing US 212 near Audubon Road. The trail received LAWCON funding and is therefore subject to Section 6(f) requirements.

The Hennepin County Southwest Regional Light Rail Transit Trail

The Hennepin County Southwest Regional Light Rail Transit Trail is a 27-mile trail that follows abandoned railroad beds, and consists of two corridors between Hopkins and Victoria and between Hopkins and Chanhassen. The corridor between Hopkins and Chanhassen is in the study area. The trail is owned by the Hennepin County Regional Rail Authority (HCRRA) and

is designed for non-motorized uses, such as bicycling, hiking, jogging, walking and cross-country skiing. The corridors were acquired by the HCRRA for future light rail transit use. A cooperative agreement between HCRRA and Three Rivers Park District allows the corridors to be used for interim recreational purposes.

The trail extends into Carver County and runs somewhat parallel to existing US 212. The City of Chanhassen manages the stretch from the trailhead near Bluff Creek Road westerly to its border with Chaska a distance of approximately two miles. The trail continues into the City of Chaska about one block to existing US 212 where it terminates. The City of Chaska has plans to extend the trail into downtown Chaska, according to City staff. According to City of Chanhassen staff, the trail is very popular and receives extensive use, although the lack of a connection to Chaska's trails creates limited use of the segment west of Bluff Creek Road.

Schalow Park

Schalow Park, 865 Mallory Lane in Chaska, is located about one-quarter mile northeast of downtown Chaska. This 3-acre neighborhood park is owned and managed by the City of Chaska. It provides a play structure and picnic tables. It receives light use. No off-street parking or restroom facilities are present.

Lions Park – Chaska

Lions Park, 1300 Crosstown Boulevard in Chaska, is located in a residential area east of TH 41 and south of Engler Boulevard/CSAH 10. This 26-acre community park and sports facility provides three ball fields, play structure, concession stand, restrooms, lights and off-street parking. Lions Park has received LAWCON funding and is therefore subject to Section 6(f) requirements.

City of Chaska Trails – Audubon Trail

The City of Chaska owns and operates a trail, known as Audubon Trail that is parallel to Audubon Road, running south-north near the border with the City of Chanhassen between Engler Boulevard/CSAH 10 on the south and Lyman Boulevard/CSAH 18 on the north. The trail is about 2.5 miles in length.

Wood Ridge Park

Wood Ridge Park, 685 August Drive in Chaska, is located in a residential neighborhood west of Audubon Road and south of Pioneer Trail/CSAH 14. This 1-acre neighborhood park is owned and managed by the City of Chaska. It provides a play structure and picnic tables. It receives light use. No off-street parking or restroom facilities are present.

Bluff Park

Bluff Park, 1140 Ridge Bluff Drive in Chaska, is located in a residential neighborhood east of Audubon Road and south of Pioneer Trail/CSAH 14. This 8-acre neighborhood park is owned and managed by the City of Chaska. It provides a play structure and picnic tables. It receives light use. No off-street parking or restroom facilities are present.

Pioneer Park/Chaska Senor High School/Pioneer Ridge Freshman Center Complex

Pioneer Park, 545 Pioneer Trail in Chaska, is located on the south side of Pioneer Trail/ CSAH 14 between Chaska Senior High School and Pioneer Ridge Freshman Center. This community park is used primarily for outdoor sporting activities by students at the adjacent schools and by municipal athletic groups in the evenings and on weekends. Park facilities include six tennis courts, six multi-purpose/ball fields, a picnic shelter, and play structure. Portable restroom facilities are present. The majority of what is called "Pioneer Park" is owned and maintained by School District 112. About 10 acres of the park are owned by the City of Chaska – two acres west of the high school building and eight acres west of Pioneer Ridge Freshman Center. The fields are in high demand after school hours and are fully scheduled, April through October, by various athletic groups during the weekday evening hours and Saturday mornings. The fields are available for unscheduled use on Saturday afternoons and all day Sunday.

Chaska Senior High School, 545 Pioneer Trail, is located on the south side of Pioneer Trail/CSAH 14 east of TH 41. The property is owned and maintained by School District 112. Outdoor recreational facilities open to the public include ball fields, multi-purpose fields and tennis courts. The track and football field are not open to the public for recreational purposes. The fields are in high demand after school hours and are fully scheduled, April through October, by various athletic groups during the weekday evening hours and Saturday mornings. The fields are available for unscheduled use on Saturday afternoons and all day Sunday.

Pioneer Ridge Freshman Center, 1085 Pioneer Trail, is located on the south side of Pioneer Trail/ CSAH 14 east of TH 41. The property is owned and maintained by School District 112. Outdoor recreational facilities open to the public include ball fields, multi-purpose fields and tennis courts. The fields are in high demand after school hours and are fully scheduled, April through October, by various athletic groups during the weekday evening hours and Saturday mornings. The fields are available for unscheduled use on Saturday afternoons and all day Sunday.

City of Chanhassen Trails

The City of Chanhassen has proposed two trails in the vicinity of Alternatives E-1A and E-2: one running west-east beginning at the City's western border with Chaska at Pioneer Trail/ CSAH 14; the second running along Battle Creek Drive. These proposed trails will be constructed in conjunction with future road and/or subdivision improvements.

8.1.7 Resources in the Alternative E-1A Area

Previously-Described Resources

- Tahpah Park as identified in 8.1.6.
- Lions Park – Shakopee as identified in 8.1.6.
- Minnesota River as identified in 8.1.1.
- Minnesota Valley State Recreation Area (MVSRA) as identified in 8.1.1.

- Minnesota Valley State Trail (MV Trail) as identified in 8.1.1.
- East Creek Trail in the City of Chaska as identified in 8.1.6.
- Hennepin County Southwest Regional LRT Trail as identified in 8.1.6.
- Schalow Park as identified in 8.1.6.
- Lions Park – Shakopee as identified in 8.1.6.
- Bluff Park as identified in 8.1.6.
- Audubon Trail as identified in 8.1.6.
- Trails in the City of Chaska as identified in 8.1.4.
- Pioneer Park/Chaska Senior High School/Pioneer Ridge Freshman Center complex as identified in 8.1.6.
- City of Chanhassen Trails as identified in 8.1.6.

Shadow Wood Park

Shadow Wood Park, 2666 Shadow Wood Drive in Chaska, is located just east of the Audubon Road and Pioneer Trail/CSAH 14 intersection. This 2-acre neighborhood park is owned and managed by the City of Chaska. It provides a play structure and picnic tables. It receives light use. No off-street parking or restroom facilities are present.

8.1.8 Resources in the Alternative E-2 Area

Previously-Described Resources

- Tahpah Park as identified in 8.1.6.
- Lions Park – Shakopee as identified in 8.1.6.
- Minnesota River as identified in 8.1.1.
- Minnesota Valley State Recreation Area (MVSRA) as identified in 8.1.1.
- Minnesota Valley State Trail (MV Trail) as identified in 8.1.1.
- East Creek Trail in the City of Chaska as identified in 8.1.6.
- Hennepin County Southwest Regional LRT Trail as identified in 8.1.6.
- Bluff Park as identified in 8.1.6.
- Audubon Trail as identified in 8.1.6.
- Trails in the City of Chaska as identified in 8.1.4.
- Pioneer Park/Chaska Senior High School/Pioneer Ridge Freshman Center complex as identified in 8.1.6.
- Shadow Wood Park as identified in 8.1.6.
- City of Chanhassen Trails as identified in 8.1.6.

8.2 ENVIRONMENTAL CONSEQUENCES

As shown on Figure 8-1, a number of parks, recreation areas and refuge are located in the study area. Of these, the following would be affected by one or more of the proposed Build alternatives: Minnesota Valley State Recreation Area, Minnesota Valley State Trail, Minnesota Valley National Wildlife Refuge, Athletic Park, Audubon Trail, and Pioneer Park/Chaska High School/Pioneer Ridge Freshman Center complex and trail segments in the City of Chaska system of trails. Potential for acquisition or other "use" of these resources for any of the proposed alternatives is described in the Draft Section 4(f) Evaluation that has been completed for each of the Section 4(f) resources listed (See Appendix B. The Draft Section 4(f) Evaluation also addresses historic sites, which are discussed in Chapter 10.). This chapter summarizes information on "use" as the term is applied to Section 4(f), as well as potential for other impacts on these resources. Impacts to the Minnesota Valley State Trail (MV Trail) are combined with those of the Minnesota Valley State Recreation Area (MVSRA) because the MV Trail is located within the MVSRA.

8.2.1 No-Build Alternative

The No-Build alternative would result in increased daily traffic volumes and congestion on TH 41 as compared to Build conditions, particularly in downtown Chaska where noise and vibration pose serious quality of life concerns that could affect the use and enjoyment of Winkel Park, City Square Park, and Fireman's Park I.

8.2.2 Build Alternatives

Each of the six Build alternatives would impact the Minnesota River, which is a Canoe and Boating route, the MVSRA and the MV Trail as land would need to be acquired or easements granted to cross the river, recreation area, and trails. The MVSRA and MV Trail have received LAWCON funding and are subject to provisions of Section 6(f). New TH 41, as it crosses the river, MVSRA, and MV Trail, would be a bridge and its supporting piers. The amount of land required for each of the six Build alternatives is discussed in the appropriate sections below. In all cases, noise would be substantially higher under Build conditions as compared to No-Build conditions. These resources would also be affected by visual impacts discussed in Chapter 6, impacts to vegetation discussed in Chapter 7, and water resource impacts discussed in Chapter 9.

8.2.2.1 Alternative W-2

Impacts on Section 4(f) resources in this corridor, through direct acquisition or easements would total 51.0 acres, as follows:

- MVNWR – 20.4 acres
- MVSRA/MV Trail – 30.6 acres (Section 6[f])

It is assumed that refinements in the design of Alternative W-2 will allow for grade-separation from the existing City of Carver trail that extends from US 212 (along Lano Lane) south to Skyview Drive, as well as complete avoidance of the other existing and future City of Carver trails in the study area.

The bridge crossing would be approximately 60 feet above the river and would be visible from the river, MVSRA, MV Trail and MVNWR as well as from Riverside, Lions, and Depot parks in the City of Carver.

Noise levels would be discernibly higher under 2040 Build conditions than 2040 No-Build conditions (daytime L_{10}) at the receptors in the Refuge (R16), and along the river (R18). The change in decibel level in the Refuge is 21 dBA (from 47 to 68) and 27 dBA (from 54 to 81) along the river.

8.2.2.2 Alternative C-2

Impacts on Section 4(f) resources in this corridor, through direct acquisition or easements would total 34.3 acres, as follows:

- MVNWR – 8.5 acres
- MVSRA/MV Trail – 22.3 acres (Section 6[f])
- Athletic Park – 3.5 acres (It is possible that the entire 8-acre site would need to be acquired if the remaining portion would not be useable as a ballfield or other recreational use such as a soccer field.)

The bridge crossing would be approximately 60 feet above the river and would be visible from the river, MVSRA, MV Trail and MVNWR as well as from Athletic, Winkel and Hickory parks in the City of Chaska. Access to MVSRA from existing TH 41 may experience temporary impacts during construction, but access would be maintained.

Noise levels would be discernibly higher under 2040 Build conditions than 2040 No-Build conditions (daytime L_{10}) at the receptor in the MVSRA (R14). The change in decibel level is 6 dBA (from 58 to 64).

8.2.2.3 Alternative C-2A

Impacts on Section 4(f) resources in this corridor, through direct acquisition or easements would total 41.5 acres, as follows:

- MVNWR – 36.1 acres
- MVSRA/MV Trail – 5.4 acres (Section 6[f])

The bridge crossing would be approximately 75 feet above the river and would be visible from the river, MVSRA, MV Trail and MVNWR as well as from Winkel, Hickory and Athletic parks in the City of Chaska. The planned park near the connection with New US 212 would likely be impacted by noise and views.

Noise levels would be discernibly higher under 2040 Build conditions than 2040 No-Build conditions (daytime L_{10}) at the receptors in the Refuge (R13), and the MVSRA (R19). The change in decibel level in the Refuge is 18 dBA (from 55 to 73) and 9 dBA (from 58 to 67) in the MVSRA.

8.2.2.4 Alternative E-1

Impacts on Section 4(f) resources in this corridor, through direct acquisition or easements would total 22.4 acres (does not include impact to Audubon Trail or City of Chaska trail segments), as follows:

- MVSRA/MV TRAIL – 12.0 acres (Section 6[f])
- Audubon Trail – approximately 7,200 linear feet (1.4 miles; 1.32 acres) (would be reconstructed as part of Audubon Road realignment)
- Pioneer Park/Chaska High School/ Pioneer Ridge Freshman Center complex – 10.4 acres
- City of Chaska Trail Segments south of New US 212 (near the Pioneer Park/ Chaska High School/Pioneer Ridge Freshman Center complex – approximately 3,000 linear feet (0.55 acre) of easterly segment; approximately 1,200 linear feet (0.22 acre) of westerly segment

The bridge crossing would be approximately 65 feet above the river and would be visible from the river, MVSRA and MV Trail. The New TH 41/US 169 interchange area may be visible from the easternmost area of Tahpah Park in the City of Shakopee.

Noise levels would be discernibly higher under 2040 Build conditions than 2040 No-Build conditions (daytime L_{10}) at the receptors near the MVSRA (R32), along Audubon Road (R29), and near the school complex (R25). The change in decibel level near the MVSRA is 13 dBA (from 56 to 69), 18 dBA (from 59 to 77) along Audubon Road and 5 dBA (from 68 to 73) near the Pioneer Park/Chaska High School/Pioneer Ridge Freshman Center complex.

8.2.2.5 Alternative E-1A

Impacts on Section 4(f) resources in this corridor, through direct acquisition or easements would total 14.7 acres (does not include impact to Audubon Trail or City of Chaska Trail segments), as follows:

- MVSRA/MV Trail – 12.0 acres (Section 6[f])
- Pioneer Park/Chaska High School/ Pioneer Ridge Freshman Center complex – 2.7 acres
- Audubon trail – approximately 1,000 linear feet (0.18 acre)
- City of Chaska Trail segments south of New US 212 near the Pioneer Park/ Chaska High School/Pioneer Ridge Freshman Center complex – approximately 800 linear feet (0.15 acre)

The bridge crossing would be approximately 60 feet above the river and would be visible from the river, MVSRA and MV Trail. The proposed interchange at US 212 would be visible from Shadow Wood Park in the City of Chaska. The New TH 41/US 169 interchange may be visible from the easternmost area of Tahpah Park in the City of Shakopee.

Noise levels would be discernibly higher under 2040 Build conditions than 2040 No-Build conditions (daytime L_{10}) at the receptors near the MVSRA (R32) and the Pioneer Park/Chaska High School/Pioneer Ridge Freshman Center School complex (R25). The change in decibel level near the MVSRA is 14 dBA (from 56 to 70) and 6 dBA (from 68 to 74) near the park and school complex.

8.2.2.6 Alternative E-2

Impacts on Section 4(f) resources in this corridor, through direct acquisition or easements would total 5.3 acres (does not include impact to Audubon Trail or City of Chaska trail segments), as follows:

- MVSRA/MV Trail – 4.2 acres (Section 6[f])
- Pioneer Park/Chaska High School/ Pioneer Ridge Freshman Center Complex – 1.1 acres
- Audubon Trail – approximately 1,000 linear feet (0.18 acre)
- City of Chaska Trail segments south of New US 212 near the Pioneer Park/ Chaska High School/Pioneer Ridge Freshman Center complex – approximately 800 linear feet (0.15 acre)

The bridge crossing would be approximately 60 feet above the river and would be visible from the river, MVSRA and MV Trail. The New TH 41/US 169 interchange area may be visible from the easternmost area of Tahpah Park in the City of Shakopee. The proposed interchange at US 212 would be visible from Shadow Wood Park in the City of Chaska.

Noise levels would be discernibly higher under 2040 Build conditions than 2040 No-Build conditions (daytime L_{10}) at the receptors near the MVSRA (R33) and the Pioneer Park/Chaska High School/Pioneer Ridge Freshman Center complex (R25). The change in decibel level near the MVSRA is 14 dBA (from 56 to 70) and 4 dBA (from 68 to 72) near the park and school complex.

8.3 CONCLUSIONS/SECTION 4(F)/SECTION 6(F) IMPACTS

The project has been reviewed for applicability of Section 4(f) (see Appendix B). Each of the six Build alternatives would result in impacts to publicly owned parks, recreation areas, trails, and wildlife refuge. Three of the alternatives would impact outdoor recreation areas at joint publicly owned schools/city-owned park complex.

The project has also been reviewed for potential Section 6(f) involvement. All six of the Build alternatives would cause the conversion of land acquired, planned or developed with funds from the Land and Water Conservation Act of 1965 (LAWCON). Therefore, Section 6(f) is applicable to this project.

Section 4(f) and Section 6(f) Impacts

The Section 4(f) legislation as established under the Department of Transportation Act of 1966 (49 USC 303, 23 USC 138) provides protection for publicly owned parks, recreation areas, historic sites (regardless of ownership), wildlife and/or waterfowl refuges from conversion to a transportation use. The Federal Highway Administration (FHWA) may not approve the use of land from a significant publicly owned park, recreation area, or wildlife and waterfowl refuge, or any significant historic site unless a determination is made that:

- There is no feasible and prudent alternative to the use of the land from the property; and
- The action includes all possible planning to minimize harm to the property resulting from such use (23 CFR 771.135).

Additional protection is provided for outdoor recreational lands under the Section 6(f) legislation (16 USC 4602-8(f)(3)) where Land and Water Conservation (LAWCON) funds were used for the planning, acquisition or development of the property. These properties may be converted to a non-outdoor recreational use only if replacement land of at least the same fair market values and reasonable equivalent usefulness and location is assured.

8.4 MITIGATION

Due to the extensive amount of public land within the study area, impacts to public recreational and wildlife management properties are unavoidable. Each of the Build alternatives would affect one or more of these Section 4(f) resources: Minnesota Valley National Wildlife Refuge; Minnesota Valley State Recreation Area; Minnesota Valley State Trail; Athletic Park; Audubon Trail; the Pioneer Park/Chaska High School/Pioneer Ridge Freshman Center complex and trail segments in the City of Chaska system trails. In addition, each of the Build alternatives would use land that has received LAWCON funds. Therefore, development and evaluation of alternatives will be performed consistent with the requirements of federal Section 4(f) and Section 6(f) regarding conversion of these types of properties to transportation use (see Appendix B).

9.0 WATER RESOURCES

This chapter describes the surface water and groundwater resources of the project area and the potential impacts on those resources that could result from the six Build Alternatives and the No-Build Alternative. Where relevant, measures that could mitigate possible impacts are also discussed.

9.1 SURFACE WATER QUALITY

This section presents background information regarding the waterborne pollutants of most concern with respect to highway storm water runoff and a comparison of the DEIS alternatives with respect to opportunities for avoiding or mitigating water quality impacts. Storm water can carry a variety of pollutants, which can affect downstream areas as well as groundwater through infiltration. Storm water runoff is a concern with the roadway project both during and after construction. Construction sites have the potential to contribute substantial amounts of sediment, carrying pollutants and affecting waterways if appropriate controls are not implemented. After construction, impervious surfaces do not allow storm water runoff to soak into the ground and contribute a variety of pollutants to waterways directly or through municipal storm drains.

9.1.1 Regulatory Overview

At the federal level, the Environmental Protection Agency (EPA) regulates storm water as part of the National Pollutant Discharge Elimination System (NPDES) permit program under the Clean Water Act. The EPA delegated permitting authority for Minnesota's NPDES program to the Minnesota Pollution Control Agency (MPCA) in 1974. The MPCA issues combined State Disposal System (SDS) and NPDES storm water permits. Under the NPDES program, all regulated parties must develop storm water pollution prevention plans to address storm water discharges, both during and after construction.

Section 303(d) of the federal Clean Water Act and EPA's Water Quality Planning and Management Regulations require states to develop Total Maximum Daily Loads (TMDLs) for water bodies not meeting water quality standards. The TMDL process establishes the allowable loading of pollutants for a water body based on the relationship between pollutant sources and in-stream water quality conditions. The development of a TMDL Report provides a basis for determining the pollutant reductions necessary from point and nonpoint sources to restore and maintain the quality of the water resources. Components of a TMDL Report include a waste load allocation for point sources, a load allocation for nonpoint sources, a margin of safety included in the modeling assumptions, and reserve capacity to allow for growth. Currently, there are no TMDLs established for this section of the Minnesota River. It is not known when these will be established.

At the local level, Carver and Scott Counties have adopted comprehensive water resource management plans. Policies within both plans establish that each development or land-disturbing activity shall be responsible for managing its storm water effectively, either on- or off-site. The preference is for on-site management, with post-construction runoff rates equal to or less than, and water quality equal to or better than, pre-construction rates. Regional off-site management for linear improvements, such as the proposed project, may also be considered. Potential water quality treatment ponds were developed for each of the alternatives to meet current standards.

9.1.2 Affected Environment

The Minnesota River is the dominant water body in the study area. Figure 9-1 depicts the sub-watershed boundaries within the study area, along with the dominant flow patterns within each boundary. The drainage area of the Minnesota River located upstream from the study area is relatively large. Therefore, water quality of the Minnesota River within and downstream from the study area is influenced by land uses and water quality improvement practices upstream from the study area. Upstream of the study area, the vast majority of land uses within the Minnesota River Basin are agricultural. Within the study area, land uses are a mix of agriculture, aggregate mining, and suburban and urban development.

Carver Creek, in Carver County, and Sand Creek, in Scott County, are both at the western edge of the study area. Land uses in both of these watersheds are mainly agricultural, with aggregate mining operations and some new development.

Chaska Creek is a tributary stream to the Minnesota River within the central portion of the study area. The watershed of Chaska Creek is mainly agricultural, though a steady change to development is taking place from the eastern edge of this watershed.

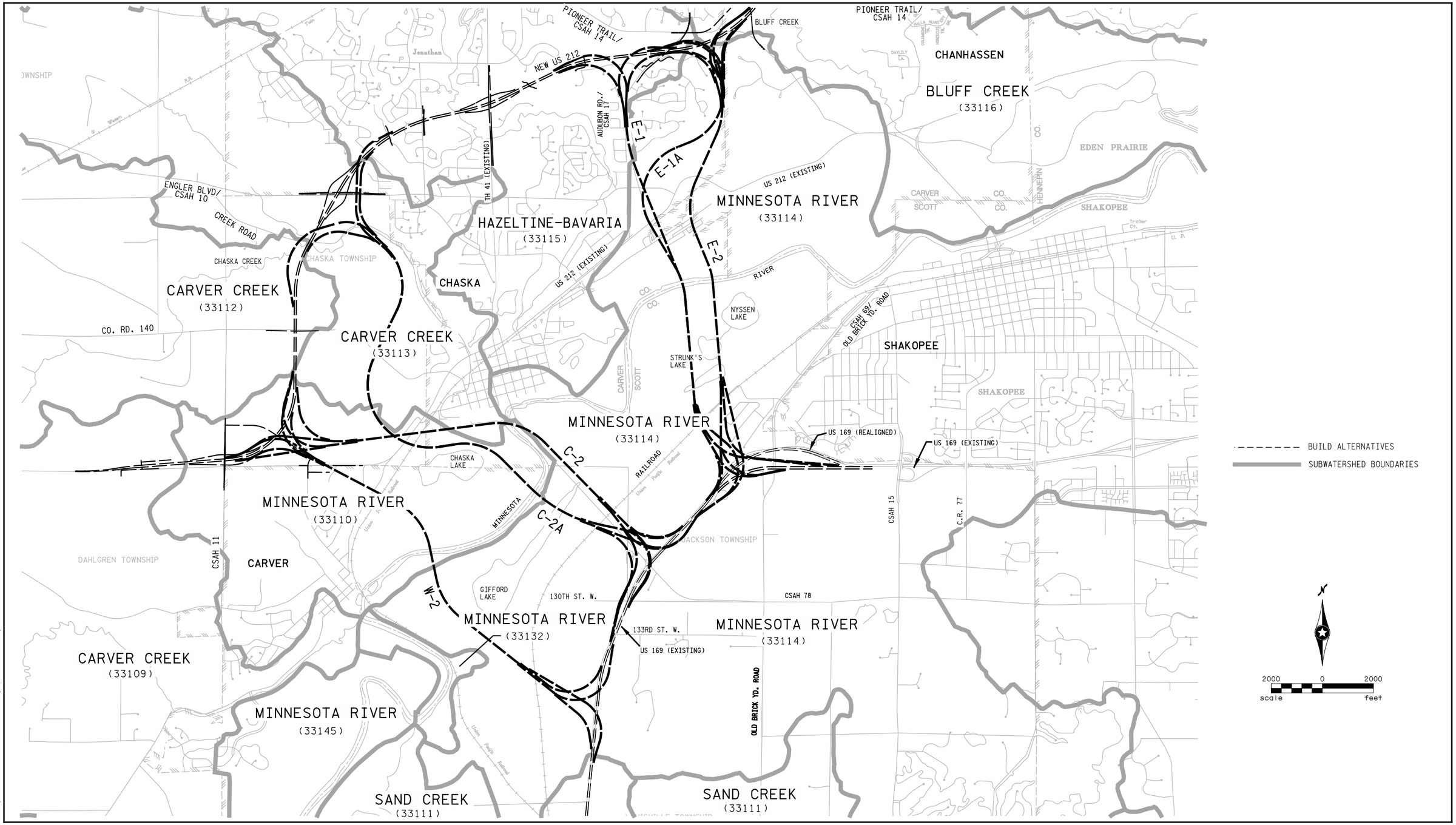
Assumption Creek is also a tributary to the Minnesota River located within the eastern portion of the study area. Assumption Creek is on the MPCA Special Waters list (waters of special designation that require specific management practices to preserve their level of use) as a trout stream and tributary. Refer to Section 7.3.1 for further information from the Phase 1 Fen Study of the Seminary Fen/Assumption Creek complex.

Impaired waters are defined by Minnesota law as polluted waters that do not meet water quality standards because they contain various pollutants above acceptable limits. Much of the Minnesota River is designated by the MPCA as an impaired water for various pollutants. Within the study area the following water bodies are impaired: the Minnesota River (mercury in water column, mercury and polychlorinated biphenyls [PCBs] in fish tissue, turidity, fecal coliform), Chaska Creek (fecal coliform), Carver Creek (fecal coliform, turbidity) and Sand Creek (fish index of biotic integrity [IBI]). These pollutants impair the waters for use as aquatic recreation areas and for supporting aquatic life. Fish Consumption Advisories (FCAs) limit the consumption by humans of aquatic life; therefore, fishing is limited to a recreational catch-and-release activity only, and not for subsistence.

Within the next 20 years (prior to construction of a New TH 41 crossing), the study area will likely become fully developed with residential, commercial and industrial development. Storm water management requirements for developments should result in treatment of nearly all runoff prior to discharge into receiving waters.

9.1.3 Environmental Consequences

Pollutants commonly found in roadway runoff include materials from a variety of sources: atmospheric fallout, vehicle exhaust, lubrication system losses, tire and brake wear, transportation load losses, deicing agents and paint from infrastructure. These sources can produce pollutants including: particulates, nitrogen, phosphorous, lead, zinc, iron, copper, cadmium, chromium, nickel, manganese, cyanide, sodium/calcium/chloride, sulfate and



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SUBWATERSHED BOUNDARIES

Figure 9-1

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Draft Environmental Impact Statement
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petroleum compounds. The extent to which these pollutants would affect water quality within the proposed alternative corridors is dependent upon the level of treatment provided for surface water runoff from the roadways and bridges prior to discharge to a receiving water body.

Roadway de-icing compounds used on roadways and river crossing bridges (and other developed areas) can present special water quality concerns if their use is not monitored. Chloride and sodium, common components of de-icing salt, are not effectively removed in many detention ponds because they do not bind as readily to other compounds or to soil particles and, therefore, tend to stay in solution where they can be discharged with outflow water. In addition, a mixture of melted snow and de-icing agents can be sprayed from bridge decks over bridge railings and directly into the river and other natural resources below. Higher traffic speeds result in increased spray distances. The spray impacts plus the 'spring flush' of chloride/sodium from treatment ponds can combine to create relatively high levels of de-icing-related pollutants in early spring. The extent of these impacts varies with the winter and spring weather, which affects how much de-icing is needed in the winter and how much spring melt water and spring precipitation are produced to dilute the effects of the de-icing compounds. All of the alternatives have some potential impacts on water quality because they all result in the production of pollutants described above.

In addition, the negative effect of non-roadway generated pollutants (such as those for which the waters within the study area are impaired) can be exacerbated to the degree that impervious surface resulting from the project increases the rate of runoff for storm water that may carry these pollutants.

9.1.3.1. No-Build Alternative

The No-Build Alternative would have the least increase in pollutant loading, since it would not result in construction of additional impervious pavement surface area. However, the increasing traffic volumes on existing TH 41 and Highway 101 would continue to generate pollutant levels in the future, especially as congestion levels result in increasing vehicle idling. The existing TH 41 corridor in the vicinity of Chaska and the existing TH 41 bridge also provide limited opportunities for storm water detention/treatment prior to discharge to the Minnesota River. The reconstructed existing TH 41 bridge drains over half of the runoff north to the city's storm sewer system and the remainder to the eastern floodplain. The city storm sewer system is part of the levee system. Although runoff from the reconstructed existing TH 41 bridge does not drain directly to the river, it is not routed through conventional BMPs either.

9.1.3.2. Build Alternatives

All of the alternatives involve relatively long bridges across the river (1.8 to 2.5 miles, depending on alternative). Conveyance systems would likely be required to take bridge runoff to water quality ponds located at the low points. The conveyance system design would likely need some type of energy dissipation as well as wet detention basins to prevent erosion, remove roadway pollutants and contain contaminated spills. Potential ponding locations were analyzed for each of the alternatives for water quality treatment. The Build alternatives vary with respect to availability of ponding locations in the vicinity of the river to provide treatment of bridge runoff. Since wet detention basins near the proposed bridge may be located partially or completely within the 100-year floodplain, design and construction of these features may require special considerations to prevent 100-year flood events from impacting the effectiveness of these ponds.

The differences among alternatives with respect to potential water quality impacts relate to: 1) the amount of additional pollutants that will be produced due to traffic volumes and length of roadway surface; and 2) the ability to provide design features to remove pollutants prior to discharge to a water body. The primary differences among alternatives relate to opportunities for providing effective pollutant removal. Preliminary assessment of treatment options for the Build alternatives indicate that the primary factors that differ between alternatives are: 1) rural vs. urban location, and; 2) ponding location availability in the vicinity of the Minnesota River.

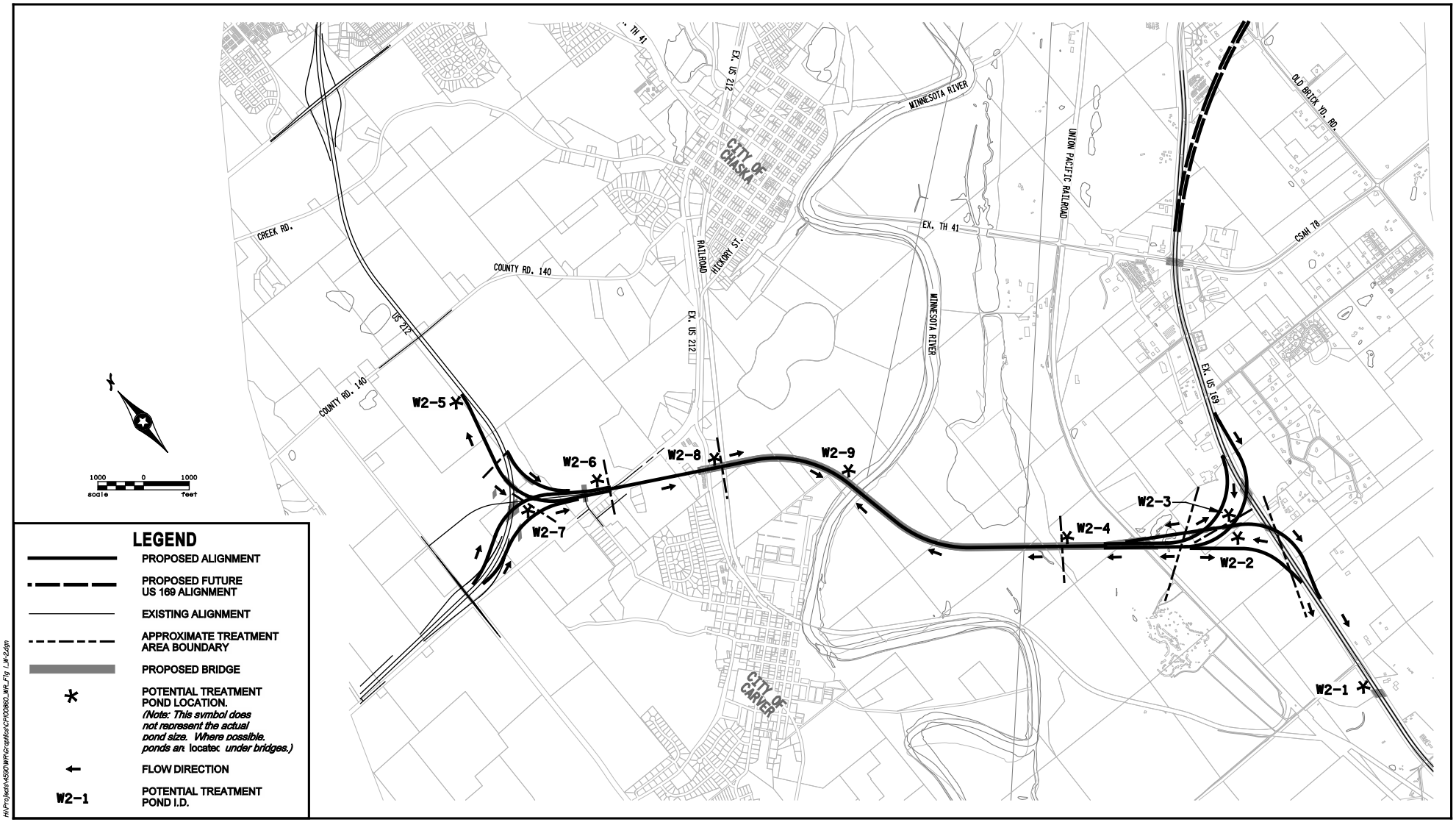
For review under this section, and for this Tier I DEIS, ponds were analyzed for dead storage, providing treatment for water quality purposes, and not designed in detail to account for detention of excess runoff for water quantity control, as that is a level of design detail appropriate for the Tier II EIS process. For purposes of right of way impact estimation, (see Chapter 5) total pond sizes were estimated based upon basic assumptions for rate control, the active storage needed to achieve desired discharge rates, pond depth, sideslopes and berm width. Resulting estimated pond sizes range from 0.5 to 2.4 acres (measured to the toe of the berm). (Methodology for pond sizing and location is detailed in the *TH 41 Water Resources Technical Memorandum*, dated August 30, 2006 and included in *Volume II: Technical Memoranda*.)

As discussed previously in this document, the assumed corridor for Tier I EIS analysis purpose is 300 feet, adjusted for topographic, potential storm water ponds and at interchanges. Note that most of the potential pond areas fall within the 300-foot corridor (including many that fit totally under the bridge structure), or within ramp areas of the system interchanges. Of the 15 (of 90 identified) ponds that are not in interchange areas and that require right of way beyond the 300-foot corridor, one would require approximately two acres of additional right of way; the remainder would require less than an acre of additional right of way. These right of way requirements are accounted for in the right of way costs and areas reported included in Section 5.2.2.

Figures 9-2 through 9-10 depict flow direction and potential storm water treatment pond locations for each of the proposed Build alternatives, (including High and Low Profile options for the three eastern alternatives.) Table 9-1 summarizes permanent treatment storage volume data for all Build alternatives. As noted, more specific pond design will occur during the Tier II EIS process.

TABLE 9-1
STORM WATER PERMANENT TREATMENT STORAGE VOLUME SUMMARY

Alternatives	Total Area Treated (acres)	Permanent Storage				
		Total	In Floodplain		Out of Floodplain	
		Ac-Ft	Ac-Ft	Percent	Ac-ft	Percent
W-2	105.3	10.4	3.5	33.6	6.9	66.4
C-2	107.0	13.9	4.4	31.9	9.4	68.1
C-2A	149.0	17.2	4.1	24.0	13.1	76.0
E-1 (High Profile)	122.0	15.0	5.0	33.2	10.0	66.8
E-1 (Low Profile)	120.0	14.7	5.0	33.8	9.7	66.2
E-1A (High Profile)	118.4	14.9	3.9	26.0	11.1	74.0
E-1A (Low Profile)	118.4	14.9	3.9	26.0	11.1	74.0
E-2 (High Profile)	115.9	14.8	4.4	29.5	10.5	70.5
E-2 (Low Profile)	115.9	14.8	4.4	29.6	10.4	70.4



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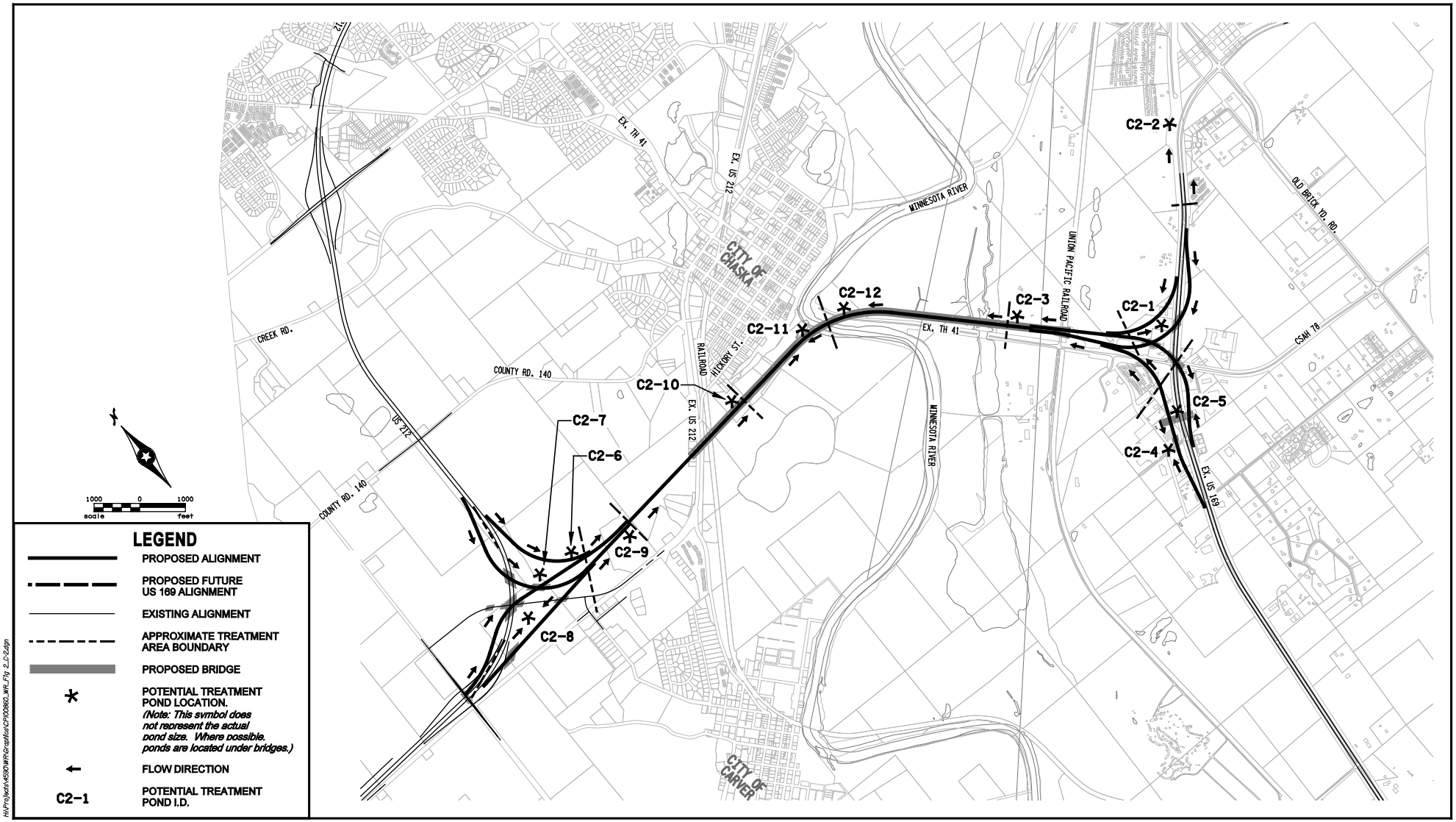
PROPOSED STORM TREATMENT PONDS - ALTERNATIVE W-2

Figure 9-2

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
S.P. 1008-60
Minnesota Department of Transportation



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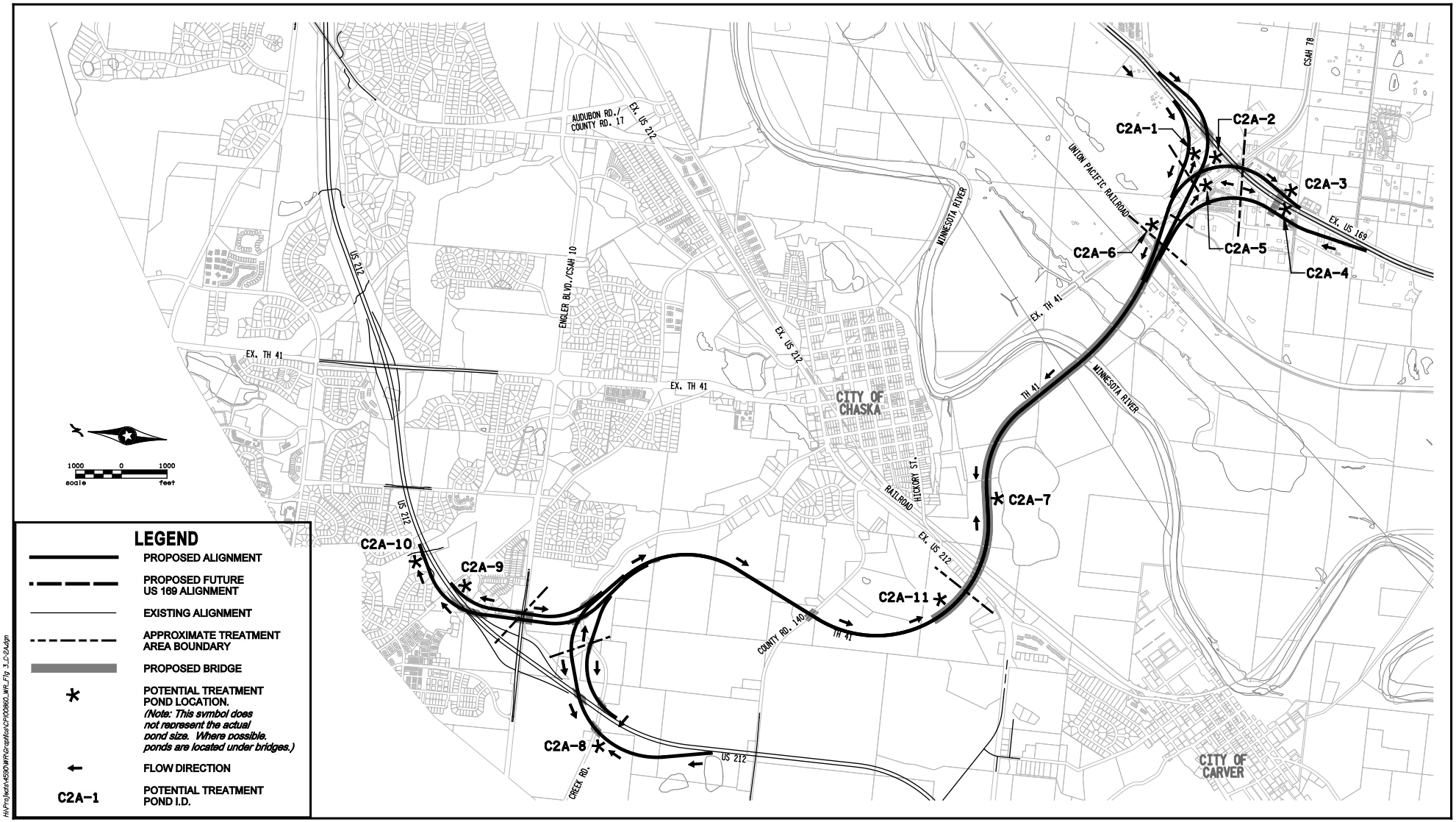
PROPOSED STORM TREATMENT PONDS - ALTERNATIVE C-2

Figure 9-3

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
S.P. 1008-60
Minnesota Department of Transportation



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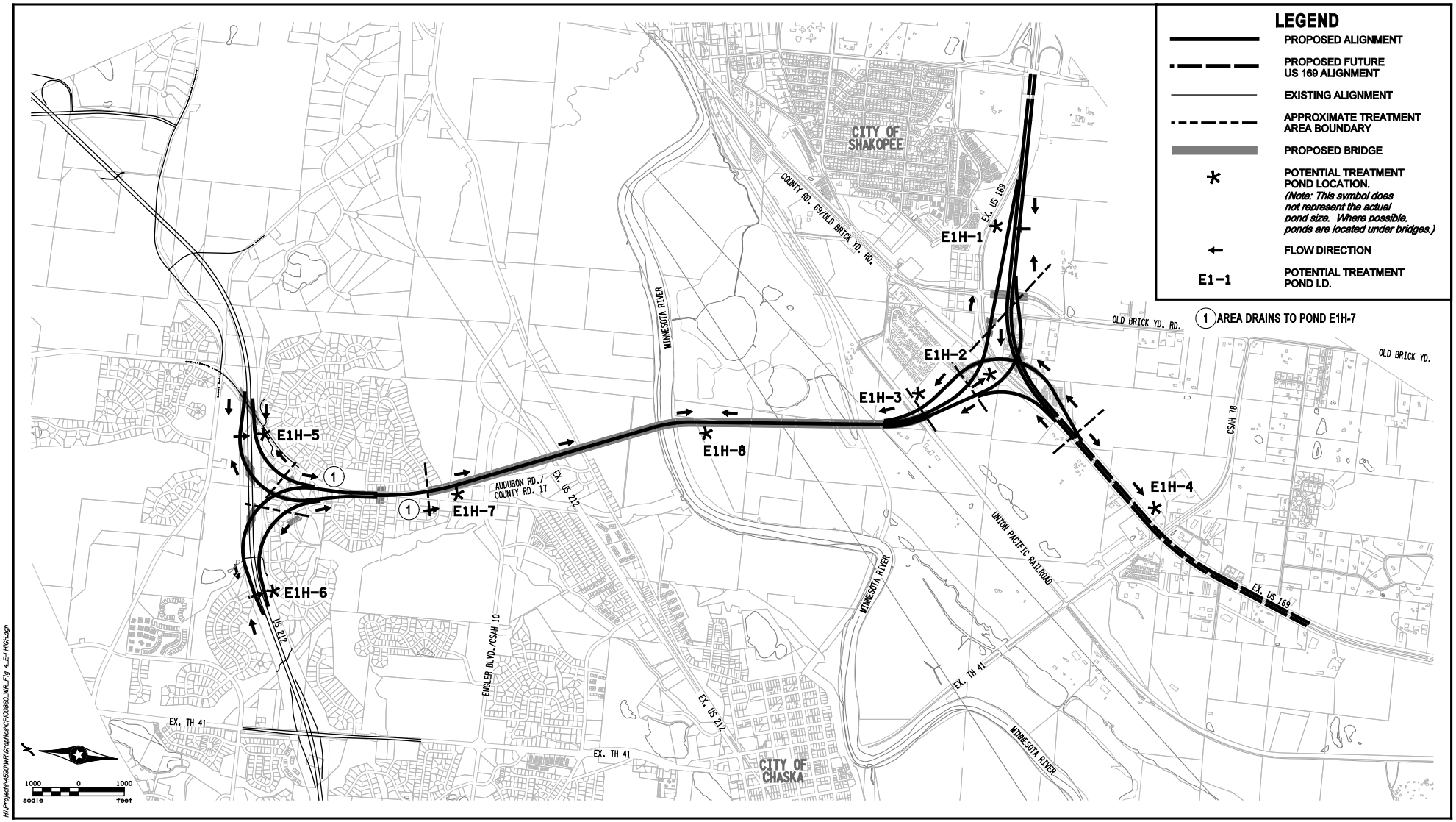
PROPOSED STORM TREATMENT PONDS - ALTERNATIVE C-2A

Figure 9-4

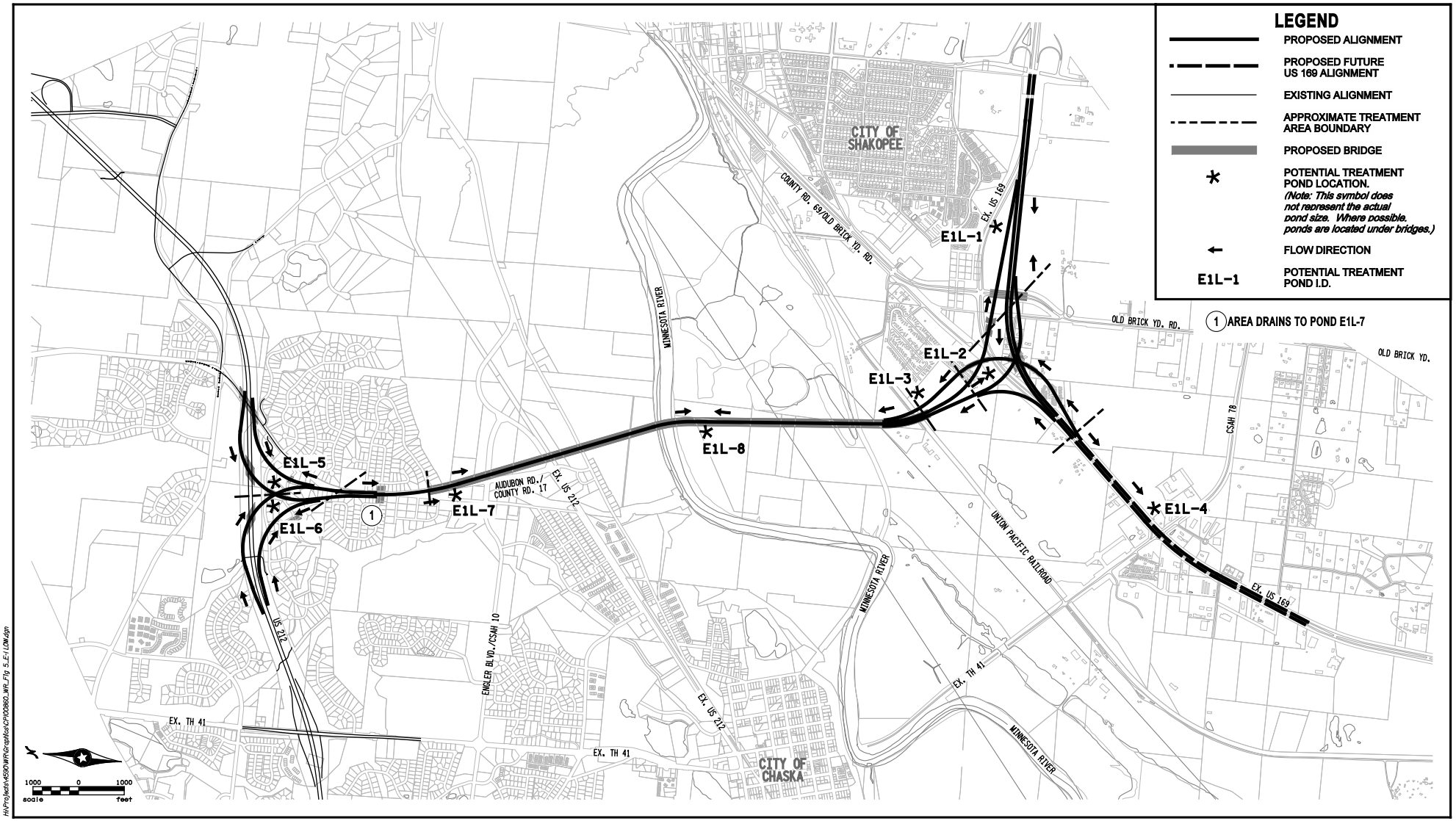
TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
S.P. 1008-60
Minnesota Department of Transportation



PROPOSED STORM TREATMENT PONDS - ALTERNATIVE E-1, HIGH PROFILE

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
S.P. 1008-60
Minnesota Department of Transportation

Figure 9-5



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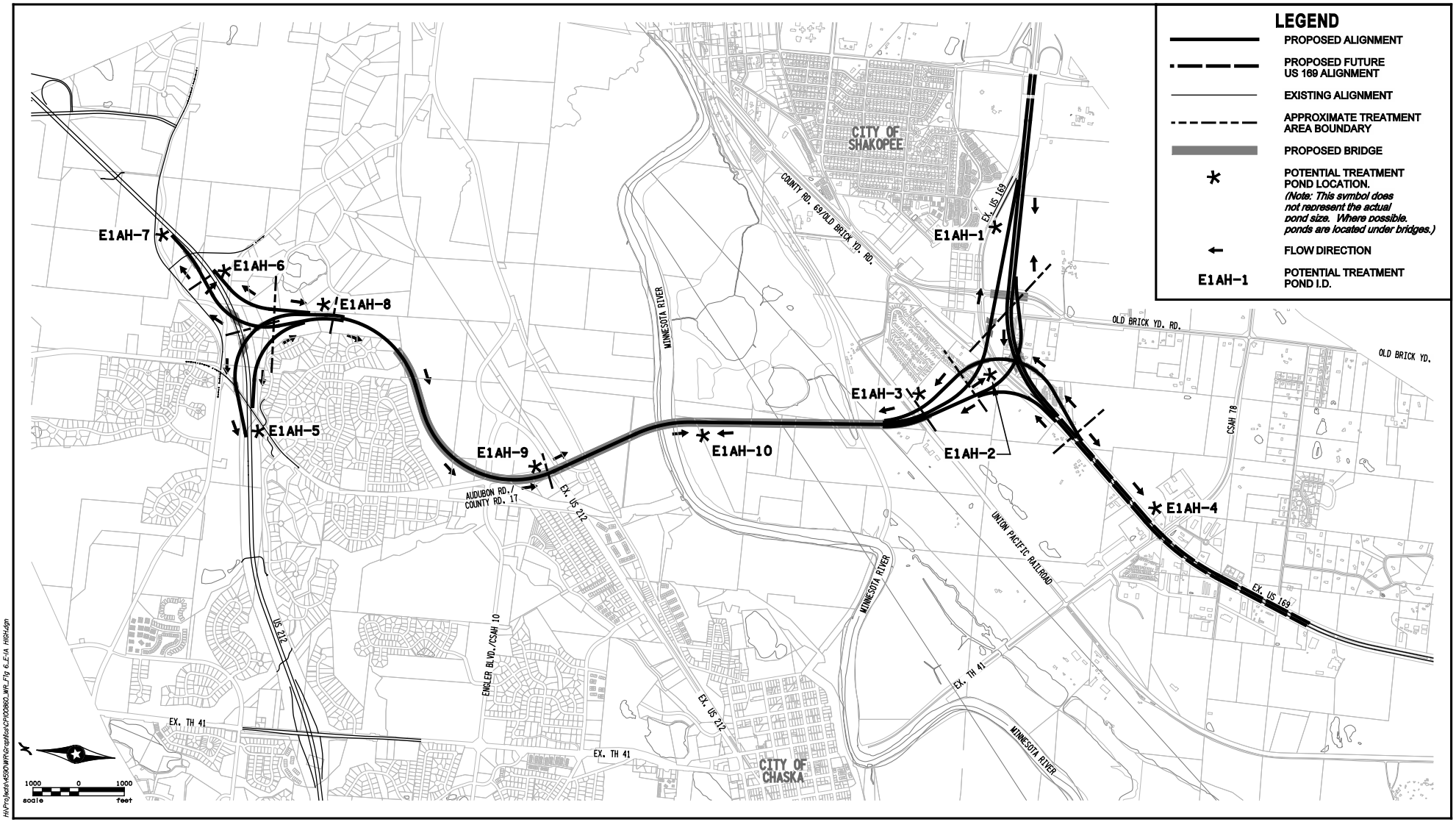
PROPOSED STORM TREATMENT PONDS - ALTERNATIVE E-1, LOW PROFILE

Figure 9-6

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
S.P. 1008-60
Minnesota Department of Transportation



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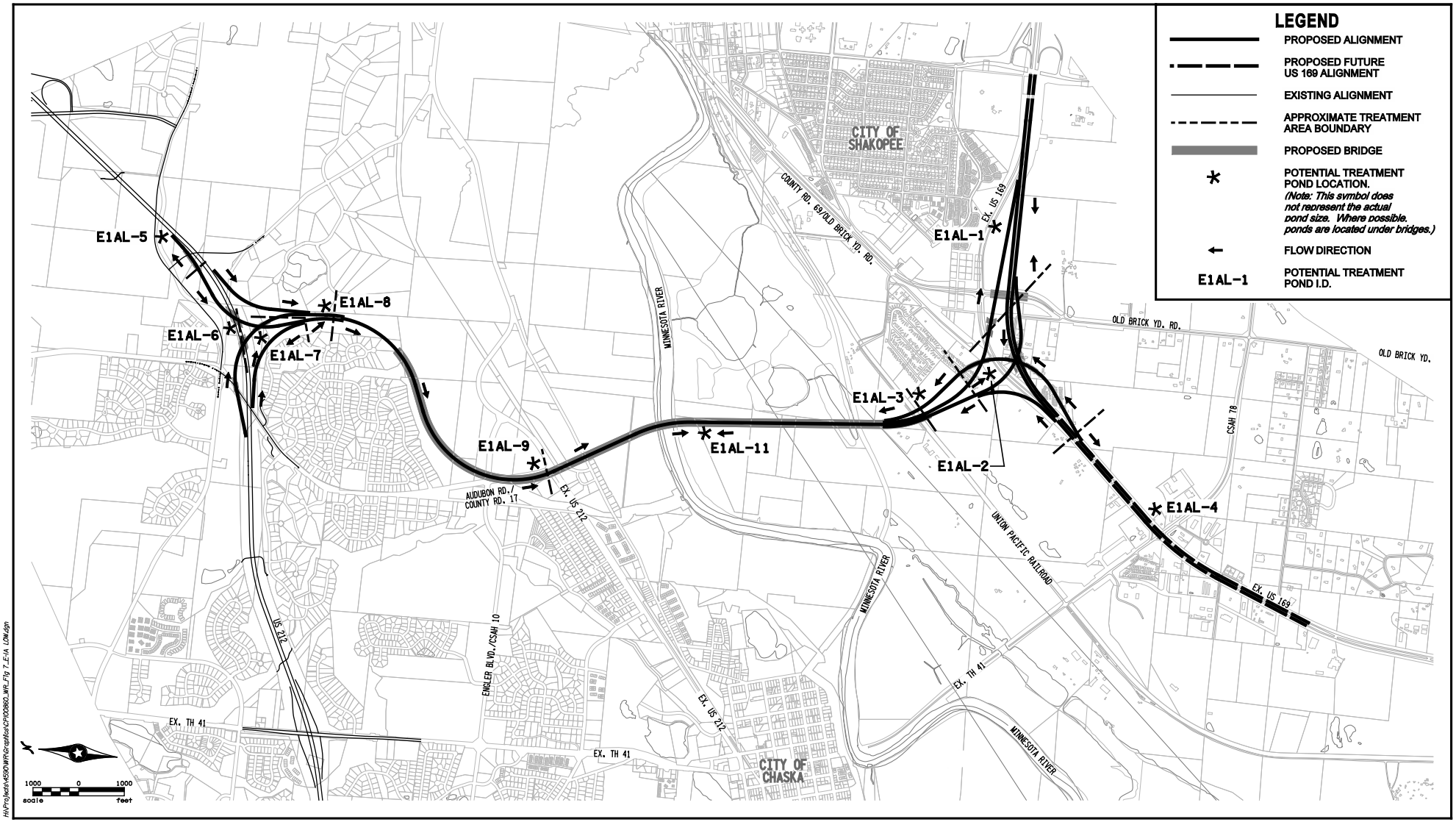
PROPOSED STORM TREATMENT PONDS - ALTERNATIVE E-1A, HIGH PROFILE

Figure 9-7

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
S.P. 1008-60
Minnesota Department of Transportation



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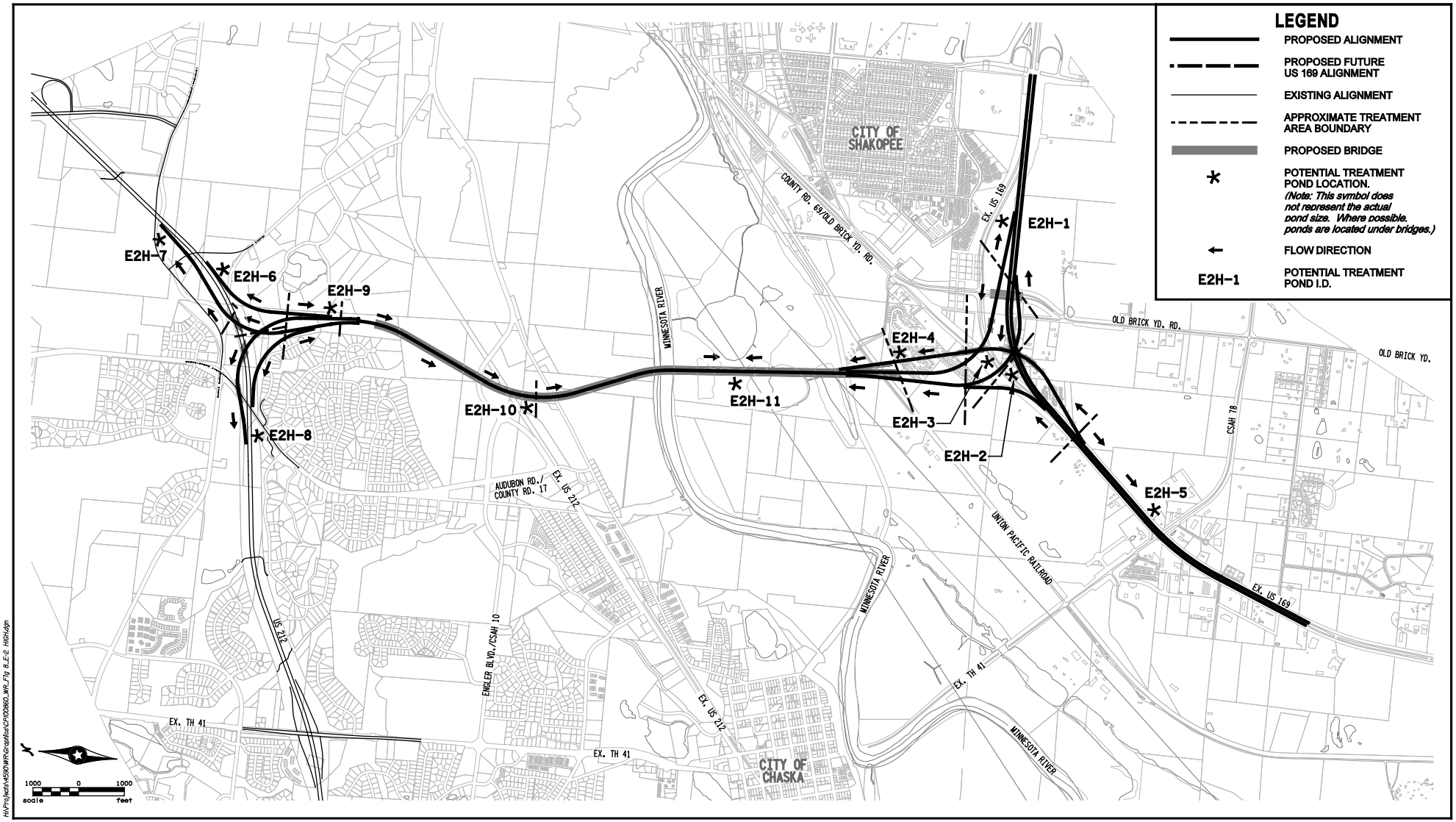
PROPOSED STORM TREATMENT PONDS - ALTERNATIVE E-1A, LOW PROFILE

Figure 9-8

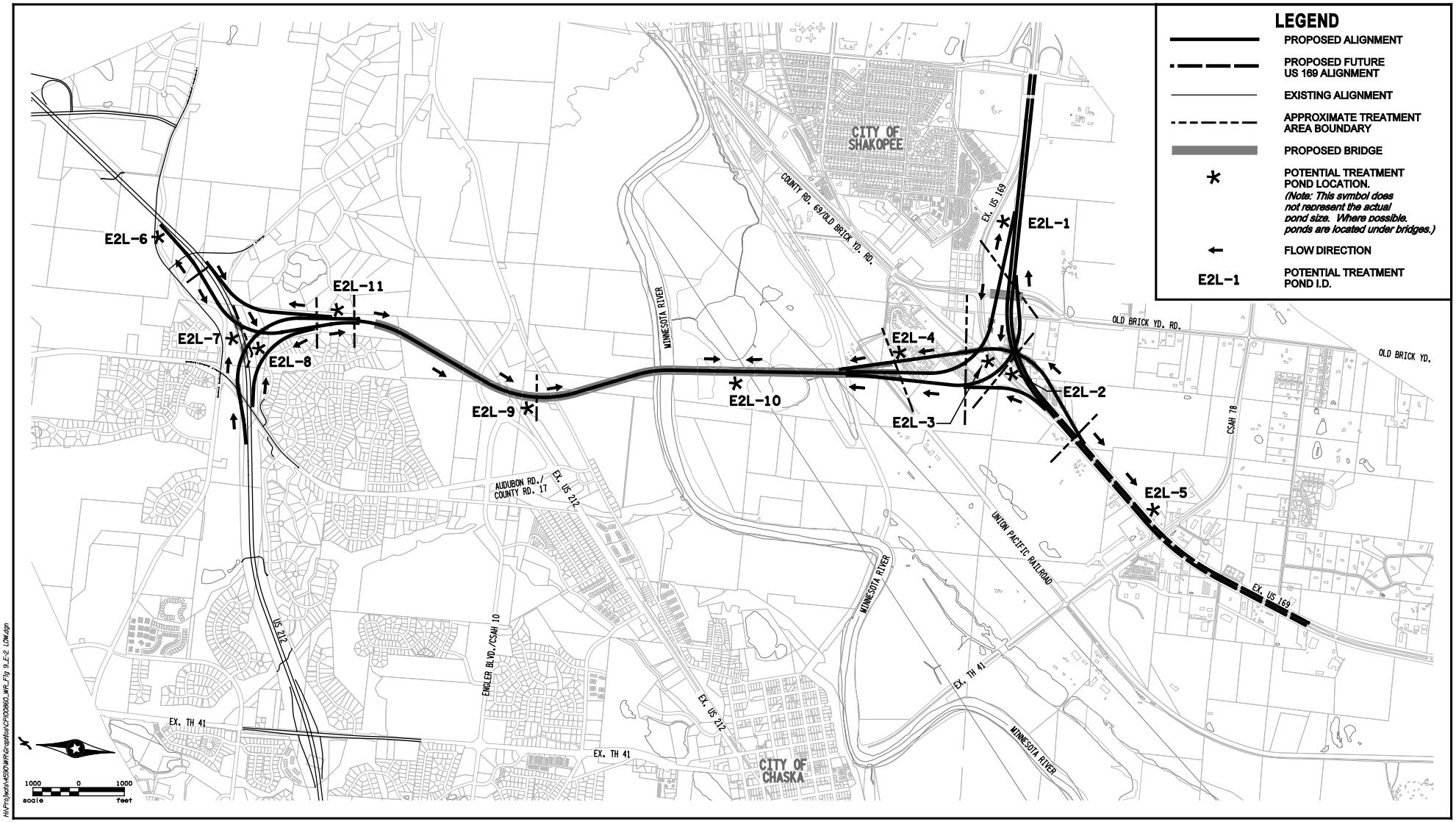
TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
S.P. 1008-60
Minnesota Department of Transportation



PROPOSED STORM TREATMENT PONDS - ALTERNATIVE E-2, HIGH PROFILE

Figure 9-9

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
S.P. 1008-60
Minnesota Department of Transportation



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PROPOSED STORM TREATMENT PONDS - ALTERNATIVE E-2, LOW PROFILE

Figure 9-10

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
S.P. 1008-60
Minnesota Department of Transportation

Alternative W-2

In Scott County, Alternative W-2 lies almost entirely within the Minnesota River watershed. Only the westbound US 169 interchange ramp has the potential to cross to the Sand Creek sub-watershed of the Minnesota River.

In Carver County, Alternative W-2 lies almost entirely within the Minnesota River watershed. The westbound interchange with New US 212 has the potential to cross a small portion of the Carver Creek sub-watershed of the Minnesota River, located in the western portion of the study area, northeast of the City of Carver. As shown in Figure 9-2, nine potential treatment locations were identified for this alternative. One pond, with an approximate treatment volume of 3.5 acre-feet (ac-ft), would need to be located in the floodplain near the lowest point of the bridge. This pond would be located within the MVNWR.

Alternative C-2

Alternative C-2 lies within the Minnesota River watershed in Scott County and within a small portion of the Chaska Creek sub-watershed of the Minnesota River, southwest of downtown Chaska in Carver County. As shown on Figure 9-3, twelve potential pond treatment locations were identified for this alternative. Three storm water ponds would be located within the floodplain below the low point of the bridge in order to minimize the amount of runoff collecting over the river. The approximate total treatment volume in the floodplain would be 4.4 ac-ft.

Alternative C-2A

Alternative C-2A lies within the Minnesota River watershed in Scott and Carver counties and within the Chaska Creek sub-watershed of the Minnesota River, south and west of downtown Chaska in Carver County. As shown on Figure 9-4, 11 potential pond treatment locations were identified for this alternative. One pond near the New US 212 interchange would be located in a wetland area, due to the location of a ramp low point. One pond, with an approximate treatment volume of 4.1 ac-ft, would be located in the MVNWR.

Alternative E-1

Most of Alternative E-1 is located entirely within the watershed of the Minnesota River. The interchange with New US 212 is located within the Hazeltine-Bavaria sub-watershed to the Minnesota River. Two sub-alternatives are being considered for the proposed alignment: E-1 High Profile and E-1 Low Profile, in which ramps from New TH 41 travel over or under New US 212, respectively. The purpose of discussing the two sub-alternatives is to provide a comparison between potential groundwater impacts to the Seminary Fen versus visual impacts to the neighborhoods in the area. Both sub-alternatives bisect the bluff in a location where treatment for the drainage area is better suited at the bottom of the bluff. Therefore, treatment for the interchange ramps will be treated at the base of the bluff, rather than within the drainage area at the top of the bluff.

E-1 High Profile

As shown on Figure 9-5, eight potential pond treatment locations were identified for this sub-alternative. One pond, with an approximate treatment volume of 5.0 ac-ft, would be located in the floodplain.

E-1 Low Profile

Figure 9-6 shows the eight potential treatment locations that were identified for this sub-alternative. One pond, with an approximate treatment volume of 5.0 ac-ft, would be located in the floodplain.

Alternative E-1A

Alternative E-1A is located mainly within the Minnesota River watershed. Both ramps of the interchange with New US 212 cross into small portions of the Hazeltine-Bavaria and Bluff Creek sub-watersheds of the Minnesota River. Two sub-alternatives are being considered for the proposed alignment: E-1A High Profile and E-1A Low Profile, in which ramps from New TH 41 travel over or under New US 212, respectively.

E-1A High Profile

Figure 9-7 shows the 10 potential pond treatment locations that were identified for this sub-alternative. One pond, with an approximate treatment volume of 3.9 ac-ft, would be located in the floodplain.

E-1A Low Profile

Figure 9-8 shows the 10 potential pond treatment locations that were identified for this sub-alternative. One pond, with an approximate treatment volume of 3.9 ac-ft, would be located in the floodplain.

Alternative E-2

Alternative E-2 is located mainly within the Minnesota River watershed. Both ramps of the interchange with New US 212 cross into small portions of the Hazeltine-Bavaria and Bluff Creek sub-watersheds of the Minnesota River. Two sub-alternatives are being considered for the roadway alignment: E-2 High Profile and E-2 Profile Low, in which ramps from New TH 41 travel over or under New US 212, respectively.

E-2 High Profile

Figure 9-9 shows the eleven potential pond treatment locations that were identified for this sub-alternative. One pond, with an approximate treatment volume of 4.4 ac-ft, would be located in the floodplain.

E-2 Low Profile

Figure 9-10 shows the eleven potential pond treatment locations that were identified for this sub-alternative. One pond, with an approximate treatment volume of 4.4 ac-ft, would be located in the floodplain.

9.1.4 Mitigation

As stated in Section 9.1.2, the Build Alternatives would increase the volume and rate of runoff compared to No-Build conditions and, as described in Section 9.1.2, this runoff would contain contaminants common to roadways. Best management practices (BMPs) would be incorporated as required to meet state and federal water quality regulatory requirements. These may include wet detention basins, filter strips, and infiltration areas. These features would be designed to meet the regulatory requirements in effect at the time of final design.

To the extent practicable, storm water runoff from any of the proposed alternatives would also be routed through a wet detention basin prior to discharging in to the river. This would provide both water quality treatment as well as contaminated spill containment. Section 9.1.3.2 describes the availability of ponding locations in the vicinity of the Minnesota River.

Under Alternatives E-1, E-1A and E-2, the New TH 41/US 169 interchange would lie close to the wellhead protection area for Scott County. Under Alternative C-2, the New TH 41/New US 212 interchange would lie close to the wellhead protection area for the Chaska municipal water supply (see Section 9.4.2). Design of the various conveyance systems for mitigation of water quality impacts will also need to consider potential impacts to groundwater.

As noted in Section 9.1.2 above, surface water quality impacts from winter de-icing materials present special problems. Mitigation strategies for these roadway pollutants include minimization and removal/treatment strategies such as carefully monitoring timing, method and application rates of de-icing materials. Plow operators should be trained to lower application rates to the recommended amount and, when possible, be provided with new equipment (e.g., infrared sensors that measure pavement temperature) that increase efficiency of application. Plow operators should also be monitored for the amount of material they are applying, to identify operators who tend to over-apply. Pre-wetting can also be used to increase effectiveness of materials and help increase adhesion to the pavement surface, resulting in lower application rate requirements. These techniques currently offer the most promising mitigation to reduce de-icing impacts. They are currently a major emphasis of Mn/DOT maintenance staff.

Additional strategies and de-icing chemicals will likely be developed in future years, as this is a dynamic and growing field of study. The state of the art in de-icing procedures will be discussed in the Tier II EIS.

9.2 SURFACE WATER QUANTITY (DRAINAGE)

This subsection presents background information regarding the watersheds and drainage areas that flow into and through the project area, as well as a comparison of the DEIS alternatives with respect to opportunities for avoiding or mitigating water flow impacts.

The conversion of land from “pre-settlement” natural conditions to intensive agriculture and urban development has affected water drainage patterns in the project area in many ways. When the land was converted to agricultural use, runoff rates increased as trees were removed and the ground was compacted and left uncovered for a good portion of the year. With the conversion of agricultural land to urban development, impervious surface area has reduced infiltration and increased runoff volumes and rates. Runoff from land modified by human activities changes natural hydrologic patterns, accelerates stream flows, modifies stream channels and degrades aquatic habitat, and, left unmanaged, these effects can be highly detrimental to these resources.

9.2.1 Regulatory Overview

As discussed above in Section 9.1, EPA regulates storm water as part of the NPDES permit program under the federal Clean Water Act. The EPA delegated permitting authority for Minnesota's NPDES program to the MPCA. The MPCA issues combined State Disposal System (SDS) and NPDES storm water permits, which address water quantity issues, as well as water quality. Under the NPDES program, all regulated parties must develop storm water pollution prevention plans to address storm water discharges, both during and after construction. Similarly, at the local level, Carver and Scott Counties have adopted comprehensive water resource management plans, which also address water quantity management.

9.2.2 Affected Environment

The Minnesota River and associated floodplain, wetlands, and tributaries exist within each of the Build Alternative corridors. The stretch of the Minnesota River within the study area is part of the 1,760 square-mile Lower Minnesota River watershed. Identification of the surface water resources within the entire project area was based on a review of aerial photography, U.S. Geological Survey (USGS) maps, National Wetland Inventory (NWI) maps, Minnesota Department of Natural Resources (MnDNR) public waters maps and field investigations.

As discussed in previous sections, the existing land uses are a mix of commercial and residential development, agricultural, aggregate mining, wildlife refuge, and recreational parks. Drainage from these areas flows toward the Minnesota River, often through various wetlands, storm water ponds, small lakes and creeks. In developed areas, the existing roadways utilize urban roadway designs, collecting storm water in catch basins to be treated within the storm water management system of the community. In areas without formal development or with large-lot development, existing roadways utilize rural designs where ditches and culverts allow for infiltration and convey excess storm water to ponding areas or directly to water resources. Within the next two decades prior to construction of the preferred alternative, the land uses are expected to gradually change to a fully developed area with little to no agricultural activities remaining.

As described in Section 9.1.3.2, all of the Build alternatives lie within the watershed of the Minnesota River. Additionally, many of the Build alternatives include small segments in watersheds of tributaries to the Minnesota River. Figure 9-1 shows the sub-watershed boundaries surrounding each alternative, along with the dominant flow patterns within each boundary. A brief description of the drainage patterns for each Build alternative is provided below.

<u>Alternative W-2</u>

Alternative W-2 lies primarily within the Minnesota River watershed in Scott County. In Carver County, Alternative W-2 lies mainly within the Carver Creek sub-watershed.

<u>Alternatives C-2 and C-2A</u>

The easternmost portions of Alternatives C-2 and C-2A fall within the Minnesota River watershed. Most of the western half of Alternative C-2 also falls within the Chaska Creek sub-watershed. The westernmost Alternative C-2/New US 212 interchange lies within an unnamed

sub-watershed, which drains through the Chaska Creek sub-watershed of the Minnesota River before outletting to the Minnesota River. The entire western half of the Alternative C-2A corridor falls within the Chaska Creek sub-watershed, which drains to the Minnesota River.

Alternatives E-1, E-1A and E-2

The vast majority of each of the eastern alternatives lies directly within the Minnesota River watershed. The interchanges of Alternatives E-1A and E-2 with New US 212 fall within the Bluff Creek and Hazeltine-Bavaria subwatersheds, which drain to the Minnesota River. The northern interchange of Alternative E-1 also lies within the Hazeltine-Bavaria Creek sub-watershed.

9.2.3 Environmental Consequences

No-Build Alternative

The No-Build alternative would not increase the amount of impervious roadway surface in the project area and would not alter the existing drainage conditions with regard to quantity of storm water runoff.

Build Alternatives

Each of the Build alternatives would increase the amount of impervious area within their respective project corridors, decreasing infiltration, therefore increasing the quantity of storm water runoff. As discussed in Section 9.1.3.2, storm water ponds would be sized for the active storage volumes necessary to provide runoff rate control, in addition to the dead storage volume calculated for the storm water quality treatment requirements. The amount of impervious surface added to the project area by each of the Build alternatives is as follows:

- Alternative W-2: 44.1 acres
- Alternative C-2: 47.7 acres
- Alternative C-2A: 60.3 acres
- Alternative E-1: 48.3 acres
- Alternative E-1A: 52.9 acres
- Alternative E-2: 47.7 acres

Where ponds are located with the floodplain of the Minnesota River, they are placed high enough to be protected to the 50-year flood event, but not the 100-year flood event. Therefore the effectiveness of treatment would be reduced during those 100-year flood events.

9.2.4 Mitigation

As stated in Section 9.2.1, the Build alternatives would increase the volume and rate of runoff compared to No-Build conditions. Mitigation for the majority of the Build alternatives would involve utilizing storm ponds to encourage infiltration and evapotranspiration by plants. Other BMPs would be incorporated as required to meet state and federal water quantity regulatory requirements. These may include wet detention basins, filter strips, and infiltration areas. These features would be designed to meet the regulatory requirements in effect at the time of final design.

To the extent practicable, storm water runoff from any of the proposed alternatives would also be routed through a wet retention basin prior to discharging into the river. The availability of ponding locations in the vicinity of the Minnesota River is described in Section 9.1.3. Design of the various conveyance systems to mitigate runoff increases will also need to consider potential impacts to groundwater.

9.3 FLOODPLAINS/WATER BODY MODIFICATION

This section addresses the existing floodplain and potential impacts to this resource with each of the Build Alternatives. This section includes references to the following:

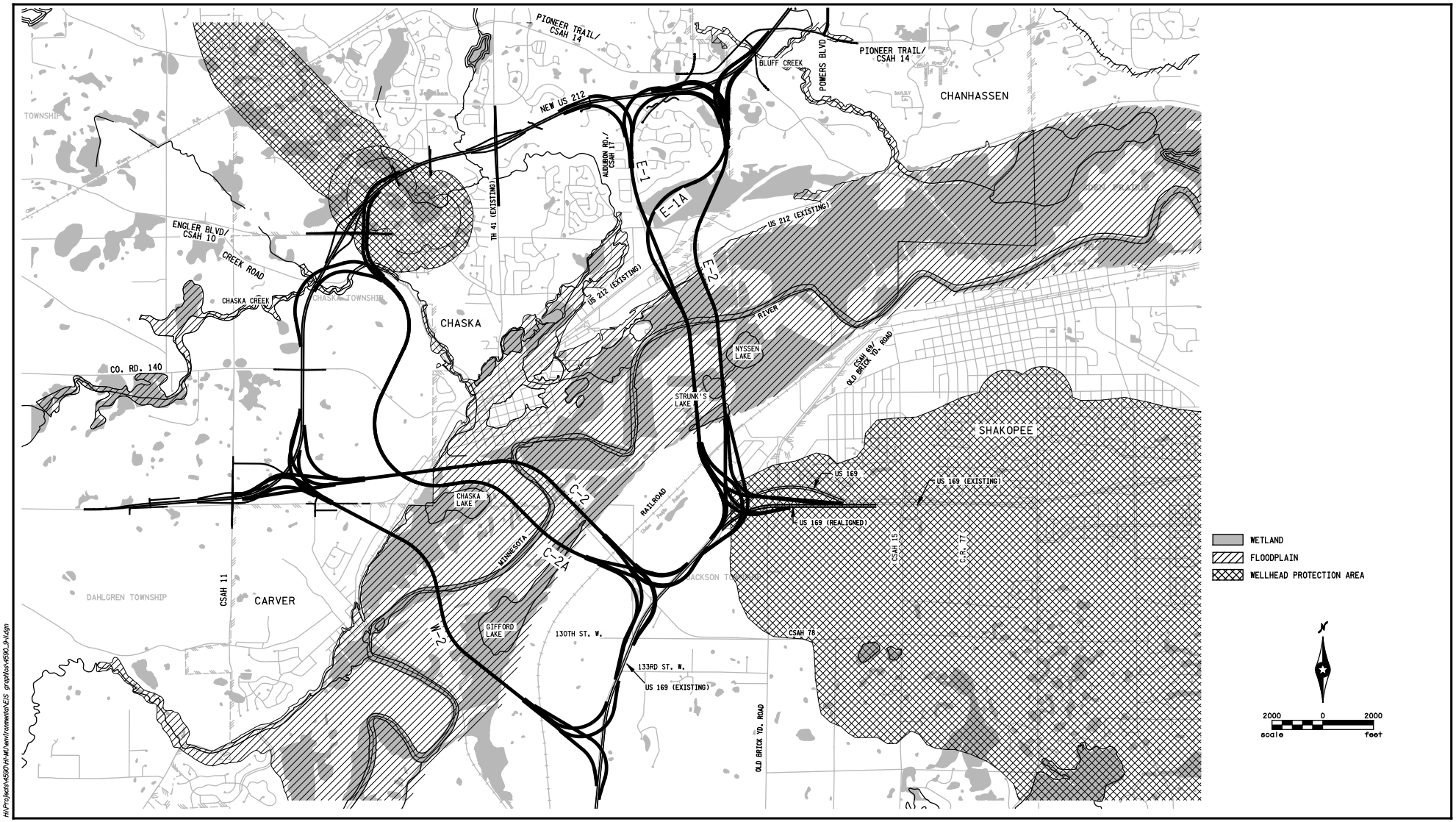
- floodplain –the land adjoining lakes and rivers that is covered by the "100-year" or "regional" flood, i.e. that has a one percent chance of occurring in any given year,
- floodway – the land immediately adjoining the river channel that is the natural conduit for flood waters,
- flood fringe – the remainder of the floodplain lying outside of the floodway, and the
- Regulatory Flood Protection elevation – one foot minimum above the 100-year flood plus any stage increase due to the designation of flood fringe areas.

9.3.1 Regulatory Overview

Presidential Executive Order 11988 and Minnesota Statute 103F.101 – 103F.155 on floodplain management set the basis for consideration, evaluation and mitigation of floodplain impacts resulting from federally funded projects. State of Minnesota statute provides that for new crossings, no approach fill for a crossing shall encroach upon a community designated floodway. When a floodway has not been designated or when a floodplain management ordinance has not been adopted, increases in flood stage in the regional flood of up to one-half of one foot shall be approved if they will not materially increase flood damage potential. Generally, no structure, fill, deposit, obstruction, storage of materials or equipment, or other uses may be allowed that will cause any increase in the stage of the 100-year or regional flood or cause an increase in flood damages. Roads and bridges within the floodplain, failure or interruption of which would result in danger to the public health or safety or disrupt the orderly functioning of the area, should be built at least to the Regulatory Flood Protection Elevation.

9.3.2 Affected Environment

The study area is located in the Minnesota River Valley, and includes floodplains associated with the Minnesota River, Chaska Creek and Bluff Creek, as shown on Figure 9-11. The floodplain width (within which floodplain fringe and floodway boundaries are defined) is very similar in the location of each of the six Build Alternatives, approximately one mile wide. Within the study area, the limits of the 100-year floodplain and the floodway are virtually identical.



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FLOODPLAIN, WETLANDS AND WELLHEAD PROTECTION AREAS

Figure 9-11

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Draft Environmental Impact Statement
S.P. #1008-60
Minnesota Department of Transportation

The flood profile of this stretch of the Minnesota River is governed by hydraulic structures on the Mississippi River. The Corps of Engineers (COE) Minnesota River flood control project includes an earthen levee along the north bank in the cities of Carver and Chaska, with diversion channels in the City of Chaska. The flood control project was completed in 2001.

As noted in Section 9.1.2, Assumption Creek is located in the eastern portion of the study area and is one of the last remaining trout streams located in the Twin Cities. The hydrology of Assumption Creek within the study area was investigated. The Phase 1 Fen Study reports that Assumption Creek has very complex hydrology and has been substantially affected by historic diversions and channelization. In its current configuration, Assumption Creek headwaters lie within the north unit of the SFWC, where it has two main tributaries originating to the west and to the east of Area 2, respectively. Assumption Creek flows as an ephemeral stream to the south and makes an abrupt easterly turn, flowing between Fen areas and existing US 212. It passes underneath existing US 212 and flows toward the Minnesota River. The *Phase I Fen Study* reports that north of the railroad embankment the tributaries were observed to be perennial through the field season; however, once the tributaries join and flow under the railroad embankment, the stream becomes intermittent and loses water to the groundwater system.

Water bodies within the Minnesota River Valley are depicted in Chapter 8, Figure 8-1, and include Gifford Lake, Chaska Lake, Strunk's Lake and Nyssen Lake.

Other water bodies located in the study area but not within any of the Build corridors include Courthouse Lake, located just south of downtown Chaska, which is a trout lake stocked by the DNR; Firemens Lake, and Clay Lake, located respectively west and east of existing TH 41, just north of downtown Chaska; East Chaska Creek; Porter Creek; and numerous small creeks.

9.3.3 Environmental Consequences

9.3.3.1. Floodplain

Federal and state laws, rules and guidelines establish a framework to address impacts to designated floodplains. This framework consists of four issues (listed below) that have been evaluated to assess the impact each proposed alternative would have on a floodplain environment. If the assessment of these issues indicates the potential for significant floodplain impacts, then further assessment in the form of a floodplain finding, would be required. The No-Build and Build alternatives will be determined to have no adverse floodplain impacts if:

- No significant potential for interruption of a transportation facility which is needed for emergency vehicles or provides a community's only evacuation route will occur,
- No significant impact on natural and beneficial floodplain values will occur,
- No significant increased risk of flooding will result, and
- The project will not support and/or result in incompatible floodplain development.

No-Build Alternative

The No-Build alternative would not result in further encroachment on the floodplain.

Build Alternatives

In accordance with Executive Order 11988 and Minnesota Statute 103F.101 – 103F.155, an analysis of floodplain impacts that would result from the Build Alternatives was completed. The floodplain assessment consists of an analysis of the flooding risks, excavation/fill impacts, and activities that would occur in the floodway and floodplain as a result of each alternative. The floodplain will be affected in some way by all of the Build alternatives through the possible introduction of project design elements such as bridge piers, retaining walls, and fill for the construction of berms around storm water treatment pond(s). As noted above, in the study area the floodplain and floodway are virtually identical. Table 9-2 summarizes the type and extent of 100-year floodplain encroachments anticipated for each alternative.

TABLE 9-2
SUMMARY OF TYPE AND EXTENT OF 100-YEAR FLOODPLAIN IMPACTS WITHIN THE PROJECT AREA FOR EACH ALTERNATIVE

Alternative	Type of Encroachment	Length of Impact (ft)
Alternative W-2	Minnesota River – Transverse	7,920
Alternative C-2	Minnesota River – Transverse	7,250
Alternative C-2A	Minnesota River – Transverse Chaska Creek – Transverse	6,506 1,464
Alternative E-1	Minnesota River – Transverse	5,730
Alternative E-1A	Minnesota River – Transverse Bluff Creek – Transverse	5,716 163
Alternative E-2	Minnesota River – Transverse Bluff Creek – Transverse	5,934 166

- **No significant potential for interruption of a transportation facility which is needed for emergency vehicles or provides a community's only evacuation route will occur.**

  None of the alternatives would affect roadways needed for evacuation during periods of high floodwaters. All of the proposed Build alternative bridges and connecting roadways would be constructed above the 100-year floodplain.

- **No significant impact on natural and beneficial floodplain values will occur.**

  Construction of any of the Build Alternatives has the potential to impact natural and beneficial floodplain values of seasonally flooded and floodplain forest ecosystems, the extent to which is discussed below. As discussed in Section 7.1.2 permanent impacts within the floodplain from the Build Alternatives would be shading effects upon the vegetative communities below the bridge, trash and debris from the bridge structure, as well as the impacts from salt spray for winter de-icing. Impacts identified from other nearby river crossings (i.e., similar elevated bridges) indicate that the vegetative communities below may be impacted, because opportunistic, invasive species could begin to crowd out the less-adaptable native species. Shading impacts are minimized by bridges of high elevation, as well as those with a distance separating each direction of travel, that allow penetration of adequate light. In addition, elevated bridges crossing through floodplain forest help to minimize the creation of new edge effect by simulating the canopy created by the larger stature trees of the native forest. Impacts to wetlands in the floodplain that are discussed below are also covered in more detail in Section 9.5.3.2.

The discussion that follows is meant to address only the impacts to "natural and beneficial floodplain values." Impacts to floodplain forest include the loss of the canopy and shade from the trees as well as the surface roughness that increases the detention of high water flows, therefore reducing peak flows downstream.

Not all floodplain forests are wetlands. Impacts to floodplain wetlands reported below, including those located within the floodplain forest, address the actual footprint of fill that would result in the loss of wetland acreage. (Note that the pier footprint of approximately 0.6 acres is based on an assumed individual pier impact of 110 feet by 120 feet with the area between the two piers assumed to be impacted as well.)

Alternative W-2

Alternative W-2 would cross the MVNWR, including Carver Marsh and portions of floodplain forest. This would result in impacts to 25 acres of floodplain forest on both sides of the river. Within floodplain wetlands, 36 bridge piers, 18 in each direction of travel, would result in total direct impacts of 10.5 acres.

Alternative C-2

In Scott County, Alternative C-2 would minimize the impacts to natural resources in the area by closely paralleling the alignment of existing TH 41 from US 169 nearly to the existing crossing. On the west bank of the Minnesota River, in Carver County, Alternative C-2 crosses a narrow band of old growth floodplain forest at the northernmost edge of the Chaska Unit of the MVNWR. Impacts to a total of 15.9 acres of floodplain forest would result from this configuration.

A total of 36 bridge piers, 18 in each direction of travel, are assumed within floodplain wetlands for Alternative C-2, resulting in 10.5 acres of floodplain wetland impact.

Alternative C-2A

Alternative C-2A drops down from the Scott County bluffs into the river valley fairly quickly, and therefore no substantial impacts are expected to natural and floodplain values on this side of the river.

In Carver County, Alternative C-2A skirts the southern edge of a 100-plus acre of the old growth floodplain forest at the northernmost edge of the Chaska Unit of the MVNWR, and would result in impacts to 20.9 acres of this resource. It then winds to the west around the north end of Chaska Lake in the Chaska Unit of the MVNWR. By following along the edge of the forested area, fragmentation of the resource is minimized. However, this alternative assumes 20 bridge piers at 250-foot intervals, 10 in each direction of travel across the Chaska Unit of the MVNWR. This alternative takes the longest route through the river valley and the MVNWR. Aside from the old growth floodplain forest impact mentioned above, there is an additional impact to five acres of non-old growth floodplain forest.

Within floodplain wetland areas, 38 bridge piers, 19 in each direction of travel, would result in a total of 11.1 acres of direct fill impact. These impacts are in the Minnesota River Valley. It is expected that the Chaska Creek floodplain can be spanned.

Alternative E-1

In Scott County, the bridge would impact three acres of floodplain forest at the bank of the Minnesota River. In Carver County, construction of Alternative E-1 would impact four acres of floodplain forest immediately adjacent to the bank of the Minnesota River.

Within floodplain wetland areas, 26 bridge piers, 13 in each direction of travel, are assumed, resulting in 7.6 acres of direct fill impact.

Alternative E-1A

In Scott County, Alternative E-1A crosses floodplain agricultural fields prior to starting across the river. At the bank of the Minnesota River, the bridge would impact three acres of floodplain forest. In Carver County, Alternative E-1A impacts four acres of floodplain forest along the bank of the Minnesota River.

Within floodplain wetland areas, 26 bridge piers, 13 in each direction of travel, are assumed, resulting in 7.6 acres of direct fill impact. These impacts are in the Minnesota River Valley. It is expected that the Bluff Creek floodplain can be spanned.

Alternative E-2

As described in Section 7.1.1.3, a native plant community of special note is located within the river bottom in Nyssen's Lake, below the proposed bridge of Alternative E-2. Up to 4 bridge piers at 250-foot intervals, 2 in each direction of travel, are assumed across this resource, and those located within this plant community would result in direct impacts of 1.2 acres. Depending upon the height of the bridge structure, the shading, debris and salt spray from a bridge structure also create the opportunity for invasive, exotic species to out-compete the native species, thereby having the potential compromise the integrity of the existing vegetative community even without direct fill impacts. Alternative E-2 impacts a one-acre area of floodplain forest in Scott County and 8 acres of floodplain forest along the bank of the Minnesota River in Carver County.

Within floodplain wetland areas, 30 bridge piers are assumed, 15 in each direction of travel, resulting in 8.8 acres of direct fill impacts. These impacts are in the Minnesota River Valley. It is expected that the Bluff Creek floodplain can be spanned.

TABLE 9-3
NATURAL AND BENEFICIAL FLOODPLAIN VALUES IMPACT SUMMARY

Alternative	Total Floodplain Forest Impacts (acres)[1]	Total Floodplain Wetland Impacts (acres)2
W-2	25.0	10.5
C-2	15.9	10.5
C-2A	25.9	11.1
E-1	7.1	7.6
E-1A	7.2	7.6
E-2	9.3	2.8 (1.2 to Native Plant Community: Nyssen's Lake)

[1]Floodplain forest (not all of which is wetland) impact area is based upon loss within 300-foot construction corridor.
[2]Floodplain wetland impacts are calculated from the proposed bridge pier footprint (0.583 ac)only.

- **No significant increased risk of flooding will result.**

  Impacts on floodplain storage from potential storm water treatment pond berms in the floodplain and impacts on floodplain conveyance due to piers and storm water treatment ponds were analyzed for each Build alternative. The results are presented in Table 9-4.

TABLE 9-4
FLOODPLAIN IMPACTS TO MINNESOTA RIVER – BUILD ALTERNATIVES

	Volume Impacts			Conveyance Impacts	
Alternative	**Impact Volume[1] CY**	**Floodplain Volume[2] CY**	**Floodplain Storage Reduction %**	**Number of Piers in Floodplain**	**Water-Surface Elevation (WSEL)[3] Impact (ft)**
W-2	5,567	15,782,900	0.04%	32	+0.01
C-2	12,106	15,155,556	0.08%	27	+0.02
C-2A	5,900	14,175,556	0.04%	29	+0.01
E-1	6,333	11,231,111	0.06%	23	+0.02
E-1A	5,767	11,085,556	0.05%	23	+0.02
E-2	6,033	11,853,889	0.05%	24	+0.01

Notes:
(1) Impacts due to storm water treatment pond berms in floodplain.
(2) Volume in the 300-foot wide highway right of way below the 100-year flood elevation.
(3) Flood Insurance Rate Map (FIRM), Federal Emergency Management Agency (FEMA)

Hydraulically, the impacts in the base flood (100-year) water surface elevation caused by the Build alternatives are in the range of 0.01 feet to 0.02 feet. Refinement of pier shape, pier alignment, and pier spacing may be able to minimize the 0.02 feet increase. The lack of impact is primarily due to the expansive floodplain width, the high flow capacity, and the extremely low flow velocities. Note that, while no increase to 100-year flood elevation is desirable, the maximum flood stage increase (i.e. within the floodway) allowed by state rules in 0.5 feet.

- **The project will not support and/or result in incompatible floodplain development.**

  No incompatible floodplain development will result from constructing any of the Build Alternatives since the proposed project does not provide local access in the vicinity of floodplain areas. Also, county and city ordinances govern development within the floodplain.

Based upon the above assessment, no significant floodplain impacts are expected from any of the alternatives.

Regarding other water body modification, wetland impacts are presented in Section 9.5, and impacts to Assumption Creek in relation to Seminary Fen are presented in Chapter 7, Section 7.3, and aquatic impacts are presented in Chapter 7, Section 7.1.

9.3.3.2. Chaska Flood Control Project

Alternative C-2 is proximate to the Chaska levee; however the corridor was located so as to avoid any impact to the project. Alternative E-1 is proximate to the East Chaska Creek diversion channel; however, the corridor was located so as to avoid any impact to the project.

9.3.4 Mitigation

All of the Build alternatives have been designed to limit floodplain impacts wherever feasible. Impacts due directly to roadway construction are relatively small and have been minimized as much as possible. The preliminary designs for wet detention ponds included minimization of floodplain encroachment by locating the ponds above the 100-year floodplain where possible. In addition, waterway crossings (including the proposed bridge for all options and any localized flood area crossings that may be identified during final design) would comply with state and federal regulations, and would minimize the headwater and tailwater impacts of structures.

The Build alternatives would not substantially increase flooding risks, impact floodplain's natural and beneficial values, or support incompatible floodplain development. All alternatives except the No-Build alternative would eliminate any potential for disruption of a transportation facility. All alternatives include measures to minimize floodplain impacts and preserve the natural and beneficial floodplain values, including the use of a bridge of high elevation to allow the penetration of light below. Any adverse impacts can be successfully minimized through careful design and construction considerations. Temporary and permanent erosion control measures would be used where appropriate and would be designed to meet regulatory guidelines. Therefore, no substantial impacts on the floodplain would result from any of the Build Alternatives.

As noted, it is not anticipated that any of the Build alternatives would directly impact the Chaska Flood Control project; however, the potential for impact will be evaluated during the Tier II EIS process and a mitigation plan for identified impacts will be devised in consultation with COE.

9.4 GROUNDWATER/HYDROGEOLOGY

9.4.1 Affected Environment

Information in this section was taken from the Scott County Geological Atlas, 1982, Minnesota County Well Index (CWI) database, and from the Minnesota Department of Health's Wellhead Protection Database and analysis completed by Barr Engineering.

On average, the depth to groundwater in the study area ranges from zero in the river bottom areas to 50 feet in the bluff areas. The Prairie du Chien-Jordan aquifer, ranging in thickness from one foot to more than 200 feet, is a major source of water in the project area, and, when present, is generally the first aquifer to be reached. Underlying aquifers are the Jordan Sandstone Aquifer and the Franconia-Ironton-Galesville Aquifer. The regional groundwater flow direction within the unconsolidated deposits in the study area is generally to the northwest south of the Minnesota River and to the southeast north of the Minnesota River. Local, smaller scale groundwater movement varies based on terrain and may be discharged to lakes and streams. In the vicinity of

the river valley, the water table generally slopes down towards the elevation of the river. Groundwater discharge areas occur in this environment where the water table intersects with the bluffs, as is the case at the eastern end of the study area. This is discussed in detail in Section 7.4.

Soils in the project area generally consist of relatively permeable sandy outwash deposits. The Minnesota River valley is highly susceptible to contamination of the water supply due to this general soil composition of outwash and ice-contact deposits of sand and gravel. These soil types are highly permeable because of the course grain of the soils. While some layers of marl, clay and silt are present at varying depths, there does not appear to be a regional confining layer in the outwash aquifer. The glacial outwash aquifer is used by residential, commercial, municipal and irrigation wells.

Water supply wells are common in the study area. Due to the relatively permeable soils and lack of a continuous confining layer between the surface and utilized aquifer, the groundwater supply wells in the study area are vulnerable to contamination. The potential for contamination exists within current designated wellhead protection areas (WPA). These WPAs are designed to prevent well contamination by effectively managing potential sources of contamination in all or a portion of the well's recharge area. WPAs are defined by Minnesota Rules Chapter 4720, and, once delineated, are protected through implementation at the local level of a wellhead management plan that includes land use and development controls, site clean-up, well-sealing, and education programs, among other measures. One WPA is located north of Chaska and starting just to the west of existing TH 41. This WPA extends to the northwest out of the study area. Another WPA is located south of Shakopee, from approximately the existing TH 41/US 169 interchange and extending to the southeast. Refer to Figure 9-11 for locations of the wellhead protection areas within the study area.

9.4.2 Environmental Consequences

9.4.2.1 No-Build Alternative

The potential for impacts to the groundwater and hydrogeologic resources in the area from the No-Build Alternative is through contamination from inadequate water quality treatment and spills with the existing conditions. Existing TH 41 does not currently lie within a WPA, though contamination of groundwater in general is still a risk throughout the study area.

9.4.2.2 Build Alternatives

Dewatering/Flowpaths/Recharge

An evaluation was performed to predict the potential hydrogeologic effects of construction and post-construction of the proposed project, (Phase 2 Study [See Chapter 7, Section 7.3 for additional detail.]). The predictions were generated through the use of computer groundwater flow models specifically developed (based on regional geology and hydrogeology) and calibrated for potential impact on groundwater as it relates to Seminary Fen. That resource is considered to be much more vulnerable than any other area resource to changes in groundwater because its special character is dependent on upwelling groundwater. A calibrated local model

of the fen was created and assumptions were used concerning construction methodologies and post-construction conditions in order to make predictions of effects. Due to the sensitive nature of the calcareous fen resource and the presence of organic, marly and peaty soils, it is assumed that each of the bridge pilings within the Seminary Fen Wetland Complex (SFWC) would use a sheet-piling coffer dam with a concrete bottom seal. See Figure 9-11A. The evaluation of groundwater impacts in the area of Seminary Fen applied only to Alternatives E-1, E-1A and E-2, as modeled effects of Alternatives W-2, C-2 and C-2A were all determined to be far enough removed from the SFWC. For Alternatives E-1, E-1A and E-2, the results of the modeling analyses are as follows:

1. Of the three alternatives closest to the Seminary Fen (eastern alignments), Alternative E-1 is predicted to have the least impact on the fen in terms of the drawdown during construction, reduced discharge of groundwater to the fen during construction, and in terms of discharge of degraded groundwater to the fen after construction. Alternative E-1 is also predicted to have the lowest dewatering rate of the three alternatives located nearest the fen. This conclusion assumes that the coffer dam approach to bridge construction will be used in areas near the fen.

2. Alternative E-1A is predicted to have the greatest effect on seepage to fen areas during construction, followed by Alternative E-2. However, Alternative E-1A is predicted to result in a small net increase in seepage to fen areas – this seems to primarily be due to some rerouting of seepage paths through compaction of soils, forming shallow barriers to flow.

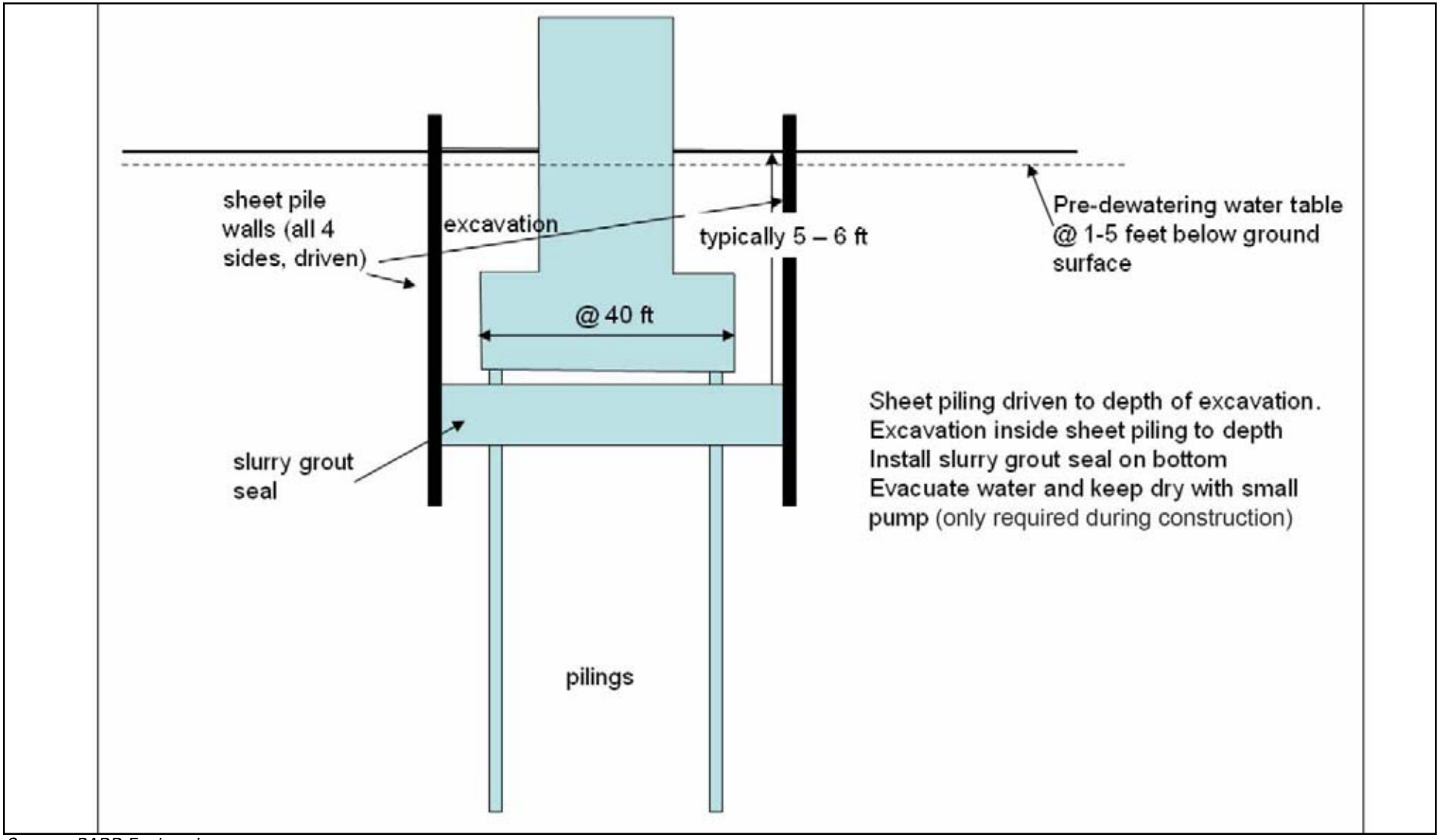
3. Alternatives E-1A and E-2 have a greater likelihood of transmitting salt spray to fen areas via groundwater transport than Alternative E-1. Alternative E-1 primarily affects the westernmost portion of the fen complex and does not appear to generate flow paths that would be directed to the better fen areas in the eastern portion of the wetland complex.

Interpretation of these hydrologic findings regarding the impacts on the health of Seminary Fen is provided within Section 7.3.

As discussed elsewhere in this document, high and low profile options were developed for Alternatives E-1, E-1A and E-2 in order to evaluate the trade-off between potential visual and groundwater effects. In each case, the “High Profile” will have less potential for groundwater impact than the “Low Profile.”

In order to understand the potential of the project to have impacts on groundwater elsewhere in the study area, a calibrated local model focused on water resources near the Minnesota River was created and assumptions about construction were used to predict resulting groundwater impacts, for Alternatives W-2, C-2 and C-2A. The results of the modeling analyses are as follows:

1. Any dewatering performed during construction on any of these alternatives is not predicted to cause measurable drawdown in the Seminary Fen area or measurable reduction in groundwater discharge to the fen.



Graphics/Support/4590/EIS Figures

Source: BARR Engineering

BRIDGE PIER CONSTRUCTION SCHEMATIC FOR PEAT OR ORGANIC SOILS

Figure 9-11A

TH 41 MINNESOTA RIVER CROSSING
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2. Less drawdown is predicted for any of the western/central alternatives than for the eastern alternatives, which are located closer to the fen, because on average the modeled water table is further below land surface in this area than near the fen. Of the west and central alternatives, Alternative W-2 is predicted to result in the least impact on local water resources in terms of drawdown.

3. None of these alternatives will generate excessive drawdown on local water resources if the depth of dewatering is limited to within five feet of ground surface.

Construction of additional impervious surfaces can impede recharge of groundwater. However, construction of any of the alternatives would not likely have any regional effect on groundwater recharge because road runoff collected into storm water ponds would infiltrate into the permeable soils.

Contamination

Grading for project construction may be expected to intersect the water table, especially where the bridge structures make landfall along the bluffs on both sides of the river valley. Potential project related sources of ground and surface water contaminants include spills during construction and traffic related spills and runoff after the project is built. During construction, spills could occur from on-site transport, storage and transfer of fuels for construction equipment. After construction, spills of fuel and various hazardous materials can occur along roads primarily as a result of crashes.

Runoff from road surfaces can contain various organic and mineral pollutants. Road runoff is considered a non-point source of pollution with relatively low concentrations of pollutants, generally measured in parts per million. These pollutants generally include heavy metals, hydrocarbons, sediment, de-icing chemicals, and debris that can threaten the quality of surface waters if not properly controlled. Road runoff is not considered a major source of groundwater contamination due to the relatively low concentrations of pollutants in road runoff and the ability of soil to filter these pollutants as water infiltrates through soil.

9.4.3 Mitigation

With regard to potential groundwater impacts to Seminary Fen, and as discussed in Section 7.3, the groundwater modeling conducted for this evaluation indicate the benefits of using sheet piling and installing a grout seal in the base of the excavations for the bridge piers. These benefits include reduced drawdown beyond the limits of the excavation and reduced impact to the rate of seepage of groundwater into the fen.

Construction dewatering during the non-growing season has the potential to cause less impact to plants that depend on upwelling groundwater conditions. Utility dewatering in the vicinity of the Savage Fen Wetland Complex on the south side of the Minnesota River has been performed during non-growing season to minimize impacts.

Soil compaction during construction may lead to longer term disturbances of groundwater flow paths (and in some case actually increase flows to fen areas). Methodologies to minimize the footprint and extent of compaction could be evaluated.

Beyond these measures particular to the fen, note that measures such as vegetated filter strips along road embankments, grassed swales/ditches and detention basins can be implemented to promote infiltration/groundwater recharge of highway runoff. As discussed in Section 9.1, best management practices will be implemented as part of the proposed project to treat road runoff and to minimize water quality and drainage impacts.

If necessary, roads that encroach on wellhead protection areas can be constructed with additional containment features such as clay-lined ditches that would contain spills and prevent contamination to water supply aquifers. Not all Build alternatives are located in the vicinity of wellhead protection areas; therefore, the need to address special design issues related to wellhead protection will be addressed in the Tier II EIS.

9.5 WETLANDS

This section identifies and characterizes wetlands that may be impacted by any of the Build alternatives. This section contains an inventory and an analysis of potential impacts for each alternative. Note that direct impacts to wetlands in the Seminary Fen Wetland Complex (SFWC) are included in Tables 9-6, 9-7 and 9-8; more extensive analysis of potential impacts to the SWFC is provided in Chapter 7, Section 7.3.

9.5.1 Regulatory Overview

Wetlands provide valuable functions such as wildlife habitat, water quality improvement, flood storage, groundwater recharge, aesthetics and recreation and, as a result, are protected by state and federal regulations. These regulations require avoidance and minimization of wetland impacts where possible and compensation for impacts that cannot be avoided.

At the federal level, Executive Order 11990, “Protection of Wetlands” (1977) established a national policy requiring that adverse impacts on wetlands be avoided and minimized to the greatest extent practicable. The U.S. Army Corps of Engineers (COE) regulates the placement of fill in waters of the United States, including wetlands, through Section 404 of the Clean Water Act. Mitigation is required for unavoidable impacts. The level of impact resulting from the project determines whether the COE would issue a Nationwide, General or Individual Permit. Larger, more complex projects, such as the proposed project, would likely be regulated through an Individual Permit. Individual Permits are subject to an extensive multi-agency review process.

At the state level, the Minnesota Wetland Conservation Act (WCA) established requirements for wetland protection, with oversight provided by the Board of Water and Soil Resources (BWSR). The WCA requires the Local Governmental Unit (LGU) within which an impacted wetland exists, to administer the wetland permitting process and enforce mitigation requirements. In addition, the MnDNR regulates lakes, larger wetlands and watercourses that are identified as state public waters. These water bodies are identified on public waters inventory maps by an assigned number designation.

9.5.2 Affected Environment

Many wetlands along each Build Alternative were identified based on published mapping (National Wetlands Inventory (NWI); see Figures 9-2 through 9-10), examination of aerial photos, topographical maps, soil surveys and finally a field inspection of each alternative. As the alternatives were refined, alignment shifts and interchange configurations were considered to avoid identified wetland areas wherever possible. While many wetlands were identified in the vicinity of each corridor, only those that would potentially be impacted by each alternative are described here, with the exception of the SFWC, for which a thorough study was conducted and is described in detail in Section 7.3.

For this DEIS, formal delineations were not completed for the wetlands within the corridors for each alternative. That level of detail will likely be completed during the Tier II process. The decision about the appropriate time to complete delineations will be dependent upon the rules in place at the time the Tier II EIS is being conducted.

Classification

All identified wetlands are classified in accordance with two classification systems. The simpler of the two systems is known as the Circular 39 System, and it characterizes wetland basins into eight different types in Minnesota, based on the predominant water regime. The classification used on the NWI mapping is known as the Cowardin System and is based on a combination of water regime and vegetative community, among other characteristics. Cowardin subdivides wetland basins into different classifications if different types exist within one wetland complex. These two systems are summarized in Table 9-5 below.

TABLE 9-5
WETLAND CLASSIFICATION SYSTEM DESCRIPTORS/MODIFIERS

Circular 39		
Type 1	Seasonally flooded basins and flats	
Type 1L	Seasonally flooded hardwoods	
Type 2	Inland fresh meadow, saturated at or near the surface after heavy rains or seasonally	
Type 3	Inland shallow fresh marsh, flooded up to 6-inch depth	
Type 4	Inland deep fresh marsh, flooded up to 3-foot depth	
Type 5	Inland open fresh water, flooded up to 6.6-foot depth, marshy border may be present	
Type 6	Shrub swamp, flooded up to 6-inch depth	
Type 7	Forested swamp, flooded up to 6-inch depth	
Type 8	Bog	
Cowardin System		
System/Subsystem	**Class/Subclass**	**Water Regime**
P – Palustrine	EM – Emergent	A – Temporarily flooded
	1 – Persistent	B – Saturated
R – Riverine		C – Seasonally flooded
	FO – Forested	F – Flooded
L – Lacustrine		G – Intermittently exposed
1 – Limnetic	SS – Scrub-Shrub	H – Permanently flooded
2 – Littoral		J – Intermittently flooded
	UB – Unconsolidated bottom	d – Partially drained/ditched

A summary of wetlands that could be impacted by any of the Build Alternatives is presented in Table 9-7 below. This table includes information on each wetland type, approximate size, dominant vegetation and topographic setting. Locations of these wetlands are shown on Figures 9-11 through 9-13. Information includes data gathered during field review by Barr, as well as the Minnesota Land Coverage Classification System (MLCCS).

The wetlands identified in the project area generally consist of either floodplain wetlands in the river valley or depressions within the surrounding outwash plains and above the bluffs. Most of the identified wetlands are vegetated with cattails and/or reed canary grass. Surrounding uplands are agricultural fields or developed areas. As noted previously, for the Tier I EIS process, a detailed assessment of wetland functions was not completed; however, indicators of high functional levels are noted with respect to potential impacts in Section 9.5.2. The indicators of high functional levels noted below include the presence of notable plant communities, records of the presence of endangered or threatened wildlife species or species of concern in or using the wetland or adjacent lands, and the presence of ground water discharge areas. A functional analysis, using the Minnesota Routine Assessment Method (MnRAM) may be completed in the Tier II EIS for select, representative wetlands that would be impacted by the preferred alternative. Results of functional analysis will be used to develop appropriate mitigation.

Wetlands identified within the study area of each of the alignments are listed in Table 9-6.

TABLE 9-6
WETLAND AND WATERCOURSE INVENTORY

Wetland Basin ID (DNR #)	Circular 39/ Cowardin Classification/ Topographic Setting	Approximate Size (est. from NWI polygons)	Impact by Alternative	Notes
W-A (118P)	Type 5 L2UBG PFO5F PEM/UBF PEMCd Floodplain	>100 ac	W-2 5.2 acres C-2A: 1.7 acres	Gifford Lake
W-B (4P)	Type 3/1L PEM/FO1C PEMC PEMFd Floodplain	>100 ac	W-2: 4.1 acres	Carver Marsh
W-C (4P)	Type 5/L L1UBH/PFOIC Floodplain	>100 ac	C-2: 4.1 acres of 1L C-2A: 9.3 acres of 1L	Chaska Lake
W-D	Type 3 PUBF Isolated	0.5 ac	W-2: 0.3 acre C-2: 0.3 acre	
W-E	Type 3 PEMC Isolated	0.25 ac	W-2: 0.01 acre C-2: 0.1 acre	

TABLE 9-6 continued
WETLAND AND WATERCOURSE INVENTORY

Wetland Basin ID (DNR #)	Circular 39/ Cowardin Classification/ Topographic Setting	Approximate Size (est. from NWI polygons)	Impact by Alternative	Notes
W-F	Type 3 PEM/UBC Isolated	2 ac	W-2: 0.8 acre	
W-G	Type 3 PEMC Isolated	0.5 ac	Temporary Impacts only (W-2)	
W-H	Type 3 PEMC Isolated	0.5 ac	W-2: 0.1 acre	
W-I	Type 5 PUBGh Tributary	7.5 ac	C-2A: 0.5 acre	
W-J	Type 3 PEMC Tributary	0.5 ac	C-2A: 0.2 acre	
W-K	Type 3 PEMC Isolated	4.6 ac	C-2A: 1.6 acres	
W-L	Type 3 PEMC Isolated	4.0 ac	C-2A: 0.2 acre	
W-M	Type 3 PEMCd Isolated	90 ac	C-2A: 2.6 acres	
W-N	Type 3/1L PEM/FO1Cd Floodplain	75 ac	C-2: 2.9 acres	MVSRA property
W-O	Type 3/1L PEM/SS1Cd Floodplain	16 ac	C-2: 1.7 acres	MVSRA property
W-P	Type 1L PFO1C PSS1/EMC Floodplain	1 ac	C-2: 0.6 acres	MVSRA property
W-Q	Type 1L PFO1C PSS1/EMC Floodplain	92 ac	C-2: 1.2 acres	MVSRA property
W-R	Type 3 PEMC Floodplain	30 ac	E-1: 1.7 acres E-1A: 1.7 acres E-2: 1.2 acres	
W-S (117W)	Type 3 PEMCd Floodplain	40 ac	E-1: 1.2 acres E-1A: 1.2 acres E-2: 1.7 acres	
W-T (116P)	Type 3 PEMFd Floodplain	>100 ac	E-2: 1.2 acres	Nyssen's Lake, part of MCBS Natural Community

TABLE 9-6 continued
WETLAND AND WATERCOURSE INVENTORY

Wetland Basin ID (DNR #)	Circular 39/ Cowardin Classification/ Topographic Setting	Approximate Size (est. from NWI polygons)	Impact by Alternative	Notes
W-U	Type 3 PEMC Floodplain	5 ac	Assumes can be spanned	
W-V (223W)	Type 3/1L PFO1C PSS1/EMC Floodplain	>100 ac	E-1: 3.5 acres E-1A: 3.5 acres E-2: 4.1 acres	
W-W	Type 2/6 PEM/SSBd PFO1/EMCd Assumption Creek Flowthrough	>100 ac	E-1: 1.2 acres E-1A: 6.4 acres E-2: 4.1 acres	Seminary Fen Wetland Complex
W-X	Type 3 PEMC Isolated	10 ac	E-1A High: 0.4 acre E-1A Low: 0.1 acre E-2: 2.3 acres	
W-Y	Type 3 PEMC Isolated	0.5 ac	E-1A High: 0.19 acre E-1A Low: 0.19 acre E-2: 0.2 acre	
W-Z	Type 3 PEMC Isolated	0.5 ac	E-1A High: 0.33 acre E-1A Low: 0.33 acre E-2: 0.3 acre	
W-Aa	Type 2 PEMB Isolated	0.5 ac	E-1: 0.01 acre E-1A High: 0.01 acre E-1A Low: 0.01 acre	
W-Bb	Type 3 PEMC Isolated	1.5 ac	Assumes can be spanned (E-1)	
W-Cc	Type 3 PEMC Isolated	0.5 ac	E-1: 0.2 acres	
W-Dd	Type 3/1L PFO1C PSS1/EMC Floodplain	32 ac	E-1: 1.2 acres E-1A: 1.2 acres E-2: 0.6 acres	
W-Ee	Type 1L PFO1C Floodplain	6.8 ac	W-2: 1.2 acres	
Watercourse	**Circular 39/ Cowardin Classification/ Topographic Setting**	**Approximate Size (est. from NWI polygons)**	**Impact by Alternative**	**Notes**
Chaska Creek	R2UBG Riverine Flowthrough	N/A	Assumes C-2A can span channel	DNR Protected Waterway
Minnesota River	R2UBH Riverine Flowthrough	N/A	Assumes any alternative can span channel	DNR Protected Waterway

9.5.3 Environmental Consequences

9.5.3.1 No-Build Alternative

The No-Build Alternative would have no impacts upon wetland resources.

9.5.3.2 Build Alternatives

Impacts to wetlands are summarized in Tables 9-6, 9-7 and 9-8 and discussed below.

Permanent impacts from bridge piers are based upon a 14,300-square foot (130 ft x 110 ft), or 0.33-acre footprint per pier. This footprint also accounts for impacts from construction access, including temporary roads and swamp mats that may result in compaction of the soil surrounding the permanent pier footprint. Temporary impacts for construction access will be removed and restored upon completion.

The Phase 2 Study also analyzed impacts to wetlands with native plant communities. The assumptions used in the Phase 2 Study were a complete impact to the resource within the 300-foot corridor for each alternative. The wetland impacts analyzed in this DEIS are more precise based on more detailed design and bridge pier location information. Outside of the impacts to wetlands from bridge pier construction, no direct fill impacts are expected with any of the alternatives. Based on the impact analysis conducted for Phase 2 Study, it would appear that Alternative E-1A has the largest area of direct impact to wetlands with native plant communities. However, using the more precise calculations for the DEIS, Alternative E-2 would have the largest overall direct fill impact to wetland resources, with or without intact native plant communities.

Alternative W-2

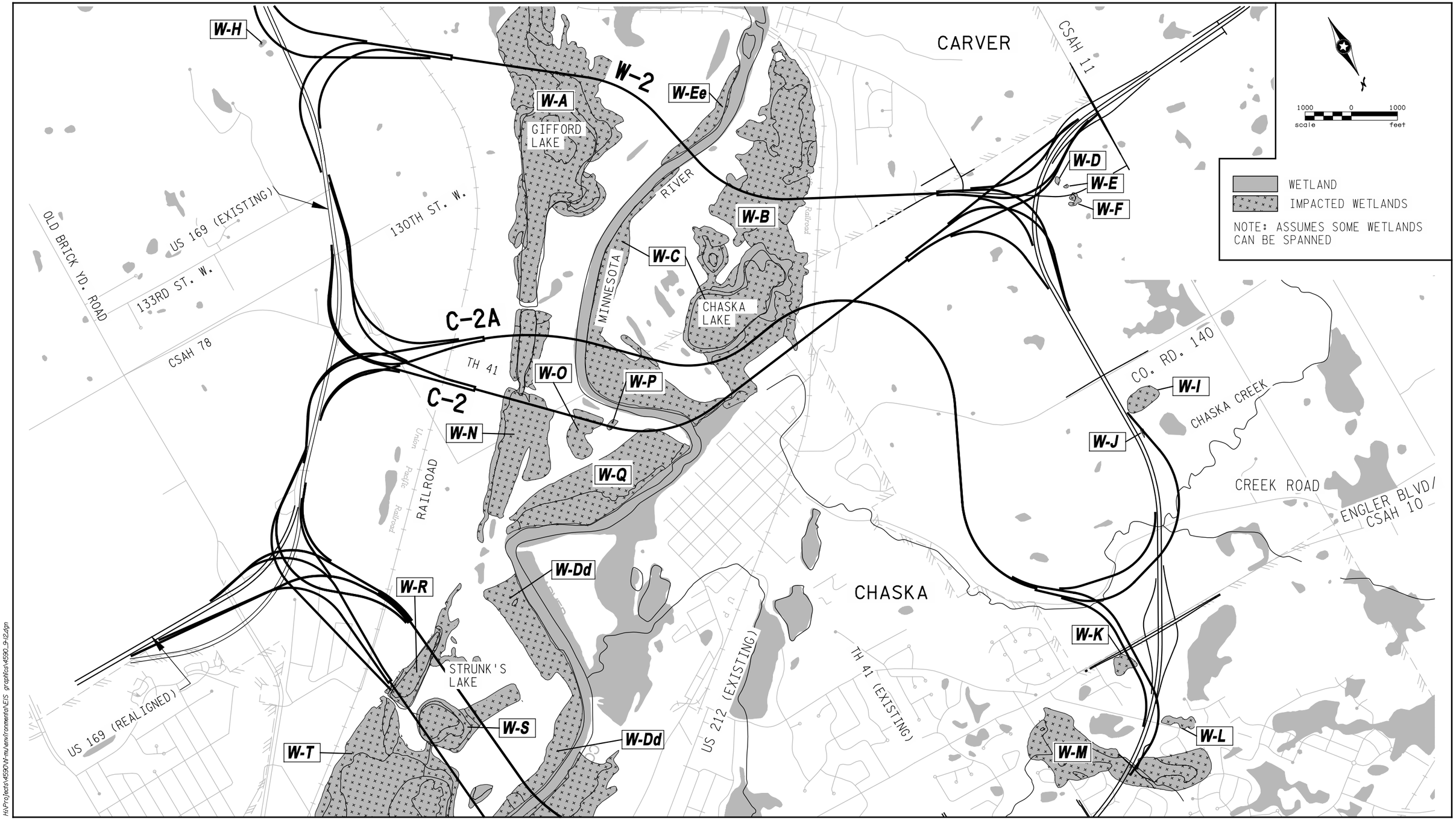
In Scott County, less than 0.1 acres of wetland W-H would be impacted for the interchange with US 169. In the river valley, where the bridge spans the wetlands on the valley floor, 36 bridge piers, 18 in each direction of travel, are anticipated that would directly impact a total of 10.5 acres of wetland. In Carver County, a total of 1.1 acres of wetlands W-D (0.3 ac), W-E (0.01 ac) and W-F (0.8 ac) would be impacted for the interchange with New US 212. Total wetland impacts for Alternative W-2 equal 11.6 acres.

Alternative C-2

A total of 36 bridge piers within wetland areas, 18 in each direction of travel, are anticipated with this alternative, resulting in a total of 10.5 acres of direct impact to wetlands in the river valley. In Carver County, a total of 0.4 acres of wetlands W-D (0.3) and W-E (0.1) would be impacted for the interchange with New US 212. Total wetland impacts for Alternative C-2 equal 10.9 acres.

Alternative C-2A

A total of 38 bridge piers within wetland areas, 19 in each direction of travel, are anticipated with this alternative, resulting in 11.1 acres of direct impact to wetlands in the river valley. In Carver County, a total of 5.0 acres of wetlands W-K (1.6 ac), W-L (0.2 ac), W-M (2.6 ac), W-J (0.2) and W-I (0.5 ac) would be impacted for the interchanges with New US 212. Total wetland impacts for Alternative C-2A equal 16.1 acres.



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POTENTIALLY IMPACTED WETLANDS, WESTERN PORTION OF THE STUDY AREA

Figure 9-12

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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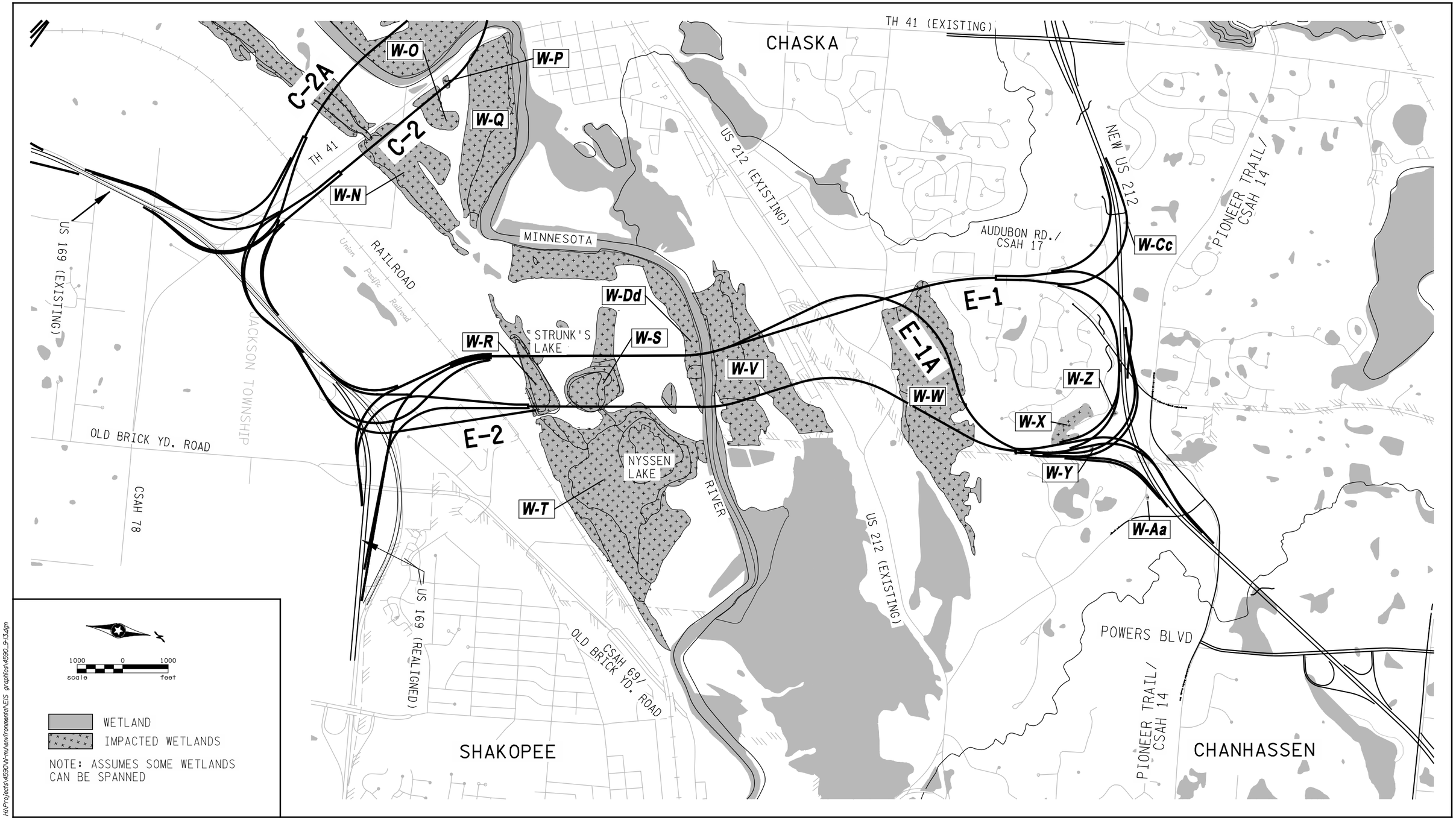

POTENTIALLY IMPACTED WETLANDS, EASTERN PORTION OF THE STUDY AREA

Figure 9-13

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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Alternative E-1

A total of 26 bridge piers in the river valley, 13 in each direction of travel, and four within the SFWC, two in each direction of travel are anticipated with this alternative, resulting in 7.6 acres of direct impact to wetlands in the river valley and 1.2 acres of impact to W-W, at the extreme western edge of the SFWC. In Carver County, a total of 0.2 acres of wetland W-Cc would be impacted with the interchange with New US 212. Total wetland impacts for Alternative E-1 equal 9.0 acres.

Alternative E-1A

For both the High and Low Profiles of E-1A, 26 bridge piers are anticipated within the river valley wetlands, 13 in each direction of travel, resulting in 7.6 acres of direct wetland impact. This alternative also crosses the SFWC with 22 bridge piers, 11 in each direction of travel resulting in 6.4 acres of direct wetland impact at its northern edge along the base of the bluffs. Both the E-1A High and E-1A Low alternatives would impact 0.5 total acres of wetlands W-Y (0.19 ac), W-Z (0.33 ac) and W-Aa (0.01 ac).

E-1A High Profile would also impact 0.4 acres of wetland W-X, resulting in a total wetland impact of 14.9 acres.

E-1A Low Profile would also impact 0.1 acres of wetland W-X, resulting in a total wetland impact of 14.6 acres.

Alternative E-2

Within the river valley wetlands, 30 bridge piers are anticipated, 15 in each direction of travel, resulting in 8.7 acres of direct wetland impact. This alternative also requires 14 bridge piers, 7 for each direction of travel, across the SFWC, including calcareous fen areas. This results in 4.1 acres of direct wetland impact to the SFWC. Above the bluff, a total of 2.8 acres of wetlands W-X (2.3 ac), W-Y (0.2 ac) and W-Z (0.3 ac) would be impacted for this alternative. Total wetland impacts for both the high and low profiles of Alternative E-2 equal 15.7 acres.

TABLE 9-7
WETLAND IMPACT SUMMARY – BRIDGE, OTHER

Alternative	Number/Location of Bridge Piers within Wetlands	Impact from Bridge Piers (ac)	Other Wetland Impacts (ac)	Total Wetland Impacts (ac)
W-2	**36**/river valley	10.5	1.2	**11.7**
C-2	**36**/river valley	10.5	0.4	**10.9**
C-2A	**38**/river valley	11.1	5.0	**16.1**
E-1	**26**/river valley **4**/SFWC	7.6 1.2	0.2	**9.0**
E-1A High Profile	**26**/river valley **22**/SFWC	7.6 6.4	0.9	**14.9**
E-1A Low Profile	**26**/river valley **22**/SFWC	7.6 6.4	0.6	**14.6**
E-2[(1)]	**30**/river valley **14**/SFWC	8.8 4.1	2.8	**15.7**

[(1)] No difference between High Profile and Low Profile.

TABLE 9-8
WETLAND IMPACT SUMMARY – TYPE

Alternative	Type						
	1L	2	3	5	3/1L	2/6	Total
W-2	1.2	0	1.2	5.2	4.1	0	**11.7**
C-2	5.9	0	0.4	0	4.6	0	**10.9**
C-2A	9.3	0	4.6	2.2	0	0	**16.1**
E-1	0	.01	3.1	0	4.7	1.2	**9.0**
E-1A High Profile	0	.01	3.8	0	4.7	6.4	**14.9**
E-1A Low Profile	0	.01	3.5	0	4.7	6.4	**14.6**
E-2[(1)]	0	0	6.9	0	4.7	4.1	**15.7**

[(1)]No difference between High Profile and Low Profile.

9.5.4 Mitigation

Evaluation for this Tier I DEIS was completed with the understanding of the rules in place at the time of publication. Closer to the time of construction the Tier II EIS process will review the status of Federal and state regulations.

Federal and state wetland regulations require the use of a sequenced approach when projects have the potential to impact wetlands. Sequencing requires first avoiding wetland impacts if possible, and, if impacts are not avoidable, they must be minimized to the greatest extent practicable. Sequencing also includes repair of temporary impacts and reduction or elimination of impacts over time. After all options for avoidance, minimization, rectification and long term reduction of impacts have been considered and implemented, compensation that will replace lost wetland functions is required for those impacts that are not avoidable.

Efforts to avoid wetland impacts from the proposed river crossing began when potential alignments were being developed. See Chapter 3 for discussion of the alternatives development process. The alignments within each broad corridor were refined during scoping to avoid/minimize wetland impacts. Minor shifts in the alignments as they were developed during the DEIS process avoided wetland impacts where possible. The following shifts in alignments were made specifically to avoid or minimize wetland impacts:

- Alternative W-2 was shifted to avoid the open water area of Chaska Lake (W-3).
- Alternative C-2A takes a winding route which was meant to avoid Chaska Lake (W-3) and fragmentation impacts to old-growth floodplain forest.
- Alternative E-1A is currently aligned to avoid impact to Nyssen's Lake (W-17) and minimize impact to the Seminary Fen wetland protection area (W-19).

Complete avoidance of wetland impacts was not deemed prudent and feasible in all cases due to the need to balance impacts to other natural communities and the social environment.

Further minimization, rectification, long term reduction and compensation of wetland impacts will be addressed in detail in subsequent steps in the environmental process. Additional design modifications will also be considered during the design of the final project to further minimize wetland impacts. Temporary construction access within the river valley that impact wetlands will be restored upon completion. In addition, these temporary impacts may be further minimized through timing of construction during winter months when soils are frozen.

Long term reduction of impacts will be accomplished by maintaining the existing hydrologic characteristics of basins experiencing partial impacts as a result of the project. Specifically, this would be accomplished through measures that ensure that drainage patterns between and through wetlands are maintained and prevent wide fluctuations from existing water levels.

After a preferred alternative is identified, a wetland compensation plan for replacement of the affected wetland areas will be developed in subsequent steps in the environmental process. That plan would reassess the areas of wetland impacts (and mitigation needed) based on refined design plans, formal wetland delineations, and the current and applicable wetland mitigation guidelines and regulations in effect at that time. The intent of a wetland mitigation plan is to replace lost wetland functions in the project area, where possible, by creating new wetlands or restoring degraded wetlands. Where suitable on-site locations are not available for some impacts, off-site wetland mitigation, preferably within the same watershed, may be considered to accomplish some of the required mitigation. The mitigation strategies and implementation will be developed, permitted and carried out in coordination with the appropriate state and federal wetland regulatory agencies.

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10.0 HISTORIC AND ARCHAEOLOGICAL RESOURCES

This chapter describes historical, architectural and archeological resources found within the proposed project's Area of Potential Effect (APE), and anticipated effects on these cultural resources resulting from the No-Build alternative and the Build alternatives as required by Minnesota Statute Chapter 138 and Section 106 of the National Historic Preservation Act of 1966 (as amended). Minnesota statutes requires that state departments and agencies consider impacts on properties listed on the National Register of Historic Places (NRHP), the State Register of Historic Places, and the State Historic Site Network in their project planning. The Minnesota Field Archaeology Act requires investigations of non-federal public land where archaeological sites are known or suspected to be located. Section 106 requires federal agencies to consider the effects of their actions on historic properties and consult with interested parties to determine ways to avoid, minimize, or mitigate effects caused by an undertaking.

Minnesota Rules Chapter 4410.3900 (Environmental Review Program) states that when a joint federal and state environmental document is being prepared, governmental agencies shall, to the fullest extent, avoid duplication between Minnesota Statutes and federal requirements. Therefore, for the purposes of this Tier I Draft EIS, the federal Section 106 process, described below, is being conducted to meet requirements set forth by Minnesota Statute Chapter 138 and the Field Archaeology Act. Section 106 includes a review process whereby the federal agency consults with the State Historic Preservation Office (SHPO), the Tribal Historic Preservation Office (THPO) on tribal land, the Advisory Council on Historic Preservation (AHCP) if appropriate, tribes with historic ties to the area, other interested parties, and the public to identify, evaluate, assess effects, and mitigate adverse impacts on any historic properties affected by their undertaking.

The Section 106 process consists of four steps: (1) initiation of the Section 106 process; (2) identifying and evaluating historic properties; (3) assessing the effects of an undertaking on historic properties; and (4) consultation for methods to avoid, minimize, or mitigate any adverse effects. An historic property is defined as any prehistoric or historic building, structure, site, object or district included in, or eligible for inclusion on the NRHP.

Criteria for determining whether a site, building, structure, or object is eligible for listing on the NRHP, as set forth in federal regulation 36 CFR 60, are used to evaluate the significance of historic properties. To qualify for listing in the NRHP, a property must possess integrity of location, design, setting, materials, workmanship, feeling, association, and significance in American history, architecture, archaeology, engineering and culture under one of the following criterion:

Criterion A: association with events that have made a significant contribution to the broad patterns of history; or

Criterion B: association with the lives of persons significant in our past; or

Criterion C: embodiment of the distinctive characteristics of a type, period, or method of construction, or representation of the work of a master, possession of high artistic values, or representation of a significant and distinguishable entity whose components may lack individual distinction; or

Criterion D: the ability to yield information important in prehistory or history (U.S. Department of the Interior 1997: 2).

Identification of significant cultural resources and potential effects to those resources has been and continues to be coordinated with SHPO. Consultation with Native American tribes has been coordinated by the Federal Highway Administration (FHWA). See FHWA correspondence to the Lower Sioux Indian Community dated March 15, 2007 in Appendix A.

Potential effects to cultural resources can include direct impacts caused by the proposed project, including demolition and construction activities; however, it can also include indirect impacts such as visual and noise. All possible impacts have been considered in determining effects to cultural resources. Analysis for this Tier I EIS is based on an assumed corridor width of 300 feet adjusted where appropriate for topographic considerations, storm water pending and at interchanges; design detail will be developed during the Tier II EIS process. A Section 106 process will be conducted with the Tier II EIS process. At that time, the APE will be updated, properties within the APE will be evaluated for NRHP eligibility, and a determination of effect on NRHP-listed or eligible properties will be made.

10.1 AGENCY COORDINATION AND PUBLIC INVOLVEMENT

FHWA is the agency responsible for cultural resources review and has delegated authority to Mn/DOT Cultural Resources Unit (CRU) to lead the review efforts in consultation with FHWA. Periodic updates on the cultural resources studies were provided to agencies at the Project Management Team (PMT) meetings (June 16, 2005 and September 22, 2005) and the Study Advisory Committee (SAC) meetings (May 5, 2005, July 20, 2005, October 31, 2005 and May 17, 2006) during the study process. Updates were provided to the general public at open houses held December 7, 2005 and June 21, 2006. Information and handouts on the status of the Section 106 process were available at these meetings. A handout was also posted on the project website. The preliminary findings of the cultural resources studies were presented at the public open house on June 21, 2006, as described in Chapter 15 of this DEIS.

The Heritage Preservation Commissions (HPCs) of Carver and Chaska are consulting parties on the project for the Section 106 process. This means that they are invited to participate in the meetings and receive updates on the Section 106 process as it proceeds. They are also given the opportunity to review and comment on official determinations made and can be involved in mitigation discussions. The HPCs can also be signatories on a Memorandum of Agreement (MOA), if one is undertaken as part of the Section 106 process. Staff from Mn/DOT CRU met with representatives of the Chaska HPC, April 25, 2006 July 20, 2006, and August 15, 2006.

10.2 CULTURAL RESOURCE STUDIES

Phase I/II architecture/history and archeological history investigations were conducted between 2004 and 2006 by Louis Berger, Inc. as part of the Section 106 process for the proposed project. These studies:

- developed a historic context for the project area (See Section 10.2.1);
- compiled data on previously documented architectural resources and identified and evaluated additional potentially eligible architectural historic properties for NRHP eligibility (See Section 10.2.2); and
- compiled data on previous archeological investigations and recorded sites and evaluated potentially eligible archeological sites for NRHP eligibility (See Section 10.2.3).

The management summaries for these reports (entitled *Phase I/II Architecture/History Investigation for Five Proposed Alternative Route Corridors for Trunk Highway 41 Near Chaska, Carver and Scott Counties, Minnesota, June 2006* and *Phase I and II Archeological Investigations of Alternative Route Corridors for Trunk Highway 41 Near Chaska, Carver and Scott Counties, Minnesota, June 2006*) are included in *Volume II: Technical Memoranda*. The full reports are available from Mn/DOT. The findings of these studies are summarized below.

10.2.1 Historical Background and Context

For the architecture and historic investigations, the historic contexts of development in the study area are principally "Early Agriculture and River Settlement 1840-1870" and "Railroad and Agricultural Development 1870-1940". Rivers played a key role in the early pattern of settlement in the area and the Minnesota River was an important transportation route. The inception in the late 1860s of railroad construction in the counties in the study area lent new impetus to their general development. The coming of the railroad was a great boon to the area, since its relative dependence in the river for the transport of goods meant that commercial shipping ceased during the winter and in low water conditions. Chaska became the preeminent urban center and home to the town's brickmaking industry. The buff-colored "Chaska brick" contributed to the architectural look of the Twin Cities and other central Minnesota communities throughout the region.

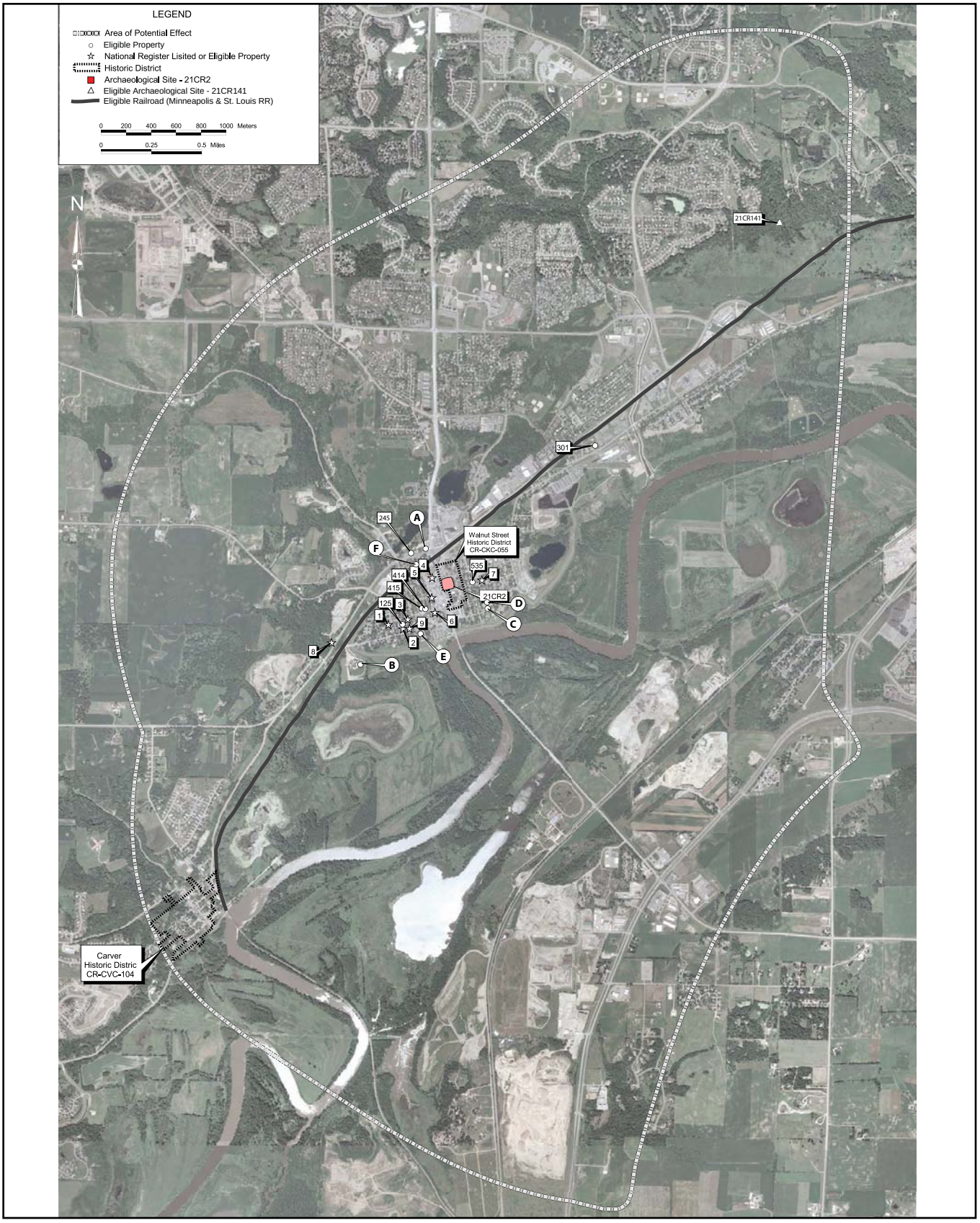
Agriculture formed the dominant aspect of economic life from initial settlement until recent years. Food processing emerged as a leading industry during the early twentieth century, and in Chaska, ultimately surpassing brickmaking as the town's most important manufacturing activity. Recent decades have seen another period of transition for the area, evolving increasingly into "bedroom communities" with many old farmsteads being built over with new residential developments.

For the archeological investigations, the pre-contact period of cultural history in the study area dates after about 12,000 years ago because most of the region was covered by glaciers until that time. The historic Dakota were present in the Carver-Scott County area by A.D. 1600. Driven west from lands in the Western Great Lakes by the Ojibwe and others, the Dakota became the dominant tribe in present-day Minnesota, South Dakota, western Wisconsin, and northern Iowa by 1800. The European-American exploration and latter settlement of south and central Minnesota followed navigable rivers and streams, which were the easiest modes of transportation. Subsequent settlements occurred along trails and roadways, and then along rail lines.

10.2.2 Architectural/Historical Resources

10.2.2.1 Area of Potential Effect (APE)

The area of potential effect (APE) for architectural resources was defined as the area liable to physical or visual impacts from the proposed alternative river crossings. Because of the large scale of the project and the potential direct and indirect impacts to historic properties and the potential for the project corridor locations to be adjusted, in 2004 Mn/DOT CRU, in consultation with SHPO, delineated an architectural APE that encompassed a large region around the proposed alternatives (Figure 10-1).



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AREA OF POTENTIAL EFFECT (APE)
for Architectural Investigation and NRHP Eligible Resources

Figure 10-1

TH 41 MINNESOTA RIVER CROSSING
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10.2.2.2 Previous Documented Resources

Several architectural/historic resource studies had been done in the area prior to the studies undertaken for the proposed project. The earliest of these studies dates from 1977 and resulted in the NRHP listing or eligibility of 10 architectural resources and two historic districts (Carver Historic District and Walnut Street Historic District) within the APE for the proposed project. The properties in the Carver Historic District are presented in Table 10-1 and depicted on Figure 10-1. The properties in the Walnut Street Historic District in the City of Chaska are presented in Table 10-2 and depicted on Figure 10-1.

TABLE 10-1
CARVER HISTORIC DISTRICT, CITY OF CARVER (CR-CVC-104)

Site No.	Property	Address	C/NC Status
CR-CVC-001	Railroad Water Tower	Co. Hwy. 40	Contributing
CR-CVC-004	Pesek House	217 4th St. E	Contributing
CR-CVC-005	Roger Dauwalter House	209 4th St. E	Contributing
CR-CVC-006	John Hebeison House (The Gables)	201 4th St. E	Contributing
CR-CVC-007	Thaemart House	121 4th St. E	Contributing
CR-CVC-008	Levi Griffin House	113 4th St. E	Contributing
CR-CVC-009	Golnick House	109 4th St. E	Contributing
CR-CVC-010	Springside	113 4th St. W	Contributing
CR-CVC-011	Walter Anderson House	117 4th St. W	Contributing
CR-CVC-012	M. Dauwalter House	121 4th St. W	Non-Contributing
CR-CVC-013	Larson House	201 4th St. W	Contributing
CR-CVC-014	Claesson House	205 4th St. W	Non-Contributing
CR-CVC-015	Tholen House	213 4th St. W	Contributing
CR-CVC-016	Swanson House	221 4th St. W	Contributing
CR-CVC-017	Earl Dauwalter House	320 Ash St.	Contributing
CR-CVC-018	St. Nicholas Church	412 4th St. W	Contributing
CR-CVC-019	Swedish Methodist Church	220 4th St. W	Contributing
CR-CVC-020	Duncan House	216 4th St. W	Contributing
CR-CVC-021	M. Goetz House	212 4th St. W	Contributing
CR-CVC-022	Drazen House	200 4th St. W	Contributing
CR-CVC-023	Wiebe House	116 4th St. W	Contributing
CR-CVC-024	Phillips House	112 4th St. W	Contributing
CR-CVC-025	Swanson House	108 4th St. W	Contributing
CR-CVC-026	Old Fire Station	108 4th St. E	Contributing
CR-CVC-027	John Funk House	112 4th St. E	Contributing
CR-CVC-028	Oesterich House	400 Oak St. N	Contributing
CR-CVC-029	Buetow House	200 3rd St. E	Contributing
CR-CVC-030	Houghton/Skoog House	120 3rd St. E	Contributing
CR-CVC-031	Anton Knoblach House	112 3rd St. E	Contributing
CR-CVC-032	Floyd Holtz House	116 3rd St. W	Contributing
CR-CVC-033	Finkel House	120 3rd St. W	Contributing
CR-CVC-034	Christian Bristle House	200 3rd St. W	Contributing
CR-CVC-035	Lenzen House	208 3rd St. W	Non-Contributing

TABLE 10-1 continued
CARVER HISTORIC DISTRICT, CITY OF CARVER (CR-CVC-104)

Site No.	Property	Address	C/NC Status
CR-CVC-036	Meusissen House and Barn	220 3rd St. W	Contributing
CR-CVC-037	D. Swanson House	212 3rd St. W	Non-Contributing
CR-CVC-038	G. Reisgraf House	300 3rd St. W	Contributing
CR-CVC-039	Roger Dauwalter House	316 3rd St. W	Contributing
CR-CVC-040	Cordrary House/Carver County Printing	320 3rd St. W	Contributing
CR-CVC-041	Hilldale	412 3rd St. W	Contributing
CR-CVC-042	Salem Lutheran Church	221 3rd St. W	Contributing
CR-CVC-043	Poppitz House	217 3rd St. W	Contributing
CR-CVC-044	Lund House	209 3rd St. W	Contributing
CR-CVC-045	Dragotis House	201 3rd St. W	Contributing
CR-CVC-046	John Hebeisen Hardware Store	213 Broadway	Contributing
CR-CVC-047	Goetz House	117 3rd St. E	Contributing
CR-CVC-048	Doubel House	121 3rd St. E	Contributing
CR-CVC-049	Presbyterian Church	109 Main St. E	Contributing
CR-CVC-050	Dikeside	121 Main St. W	Contributing
CR-CVC-051	Read House	201 Main St. W	Contributing
CR-CVC-052	Luthy House	209 Main St. W	Contributing
CR-CVC-053	Olaf Hanson House	217 Main St. W	Contributing
CR-CVC-054	Piekkenpol House	301 Main St. W	Contributing
CR-CVC-055	P. Swenson House	309 Main St. W	Contributing
CR-CVC-056	Greek Revival House	401 Main St. W	Contributing
CR-CVC-057	Tengblad House	220 Main St. W.	Contributing
CR-CVC-058	East Lake House	208 Main St. W	Contributing
CR-CVC-059	Dennin House	200 Main St. W	Contributing
CR-CVC-060	Kling House	xxx Jorgenson St.	Contributing
CR-CVC-061	Moldenhauer House	120 Main St. W	Contributing
CR-CVC-063	Temperance Hotel	100 Broadway	Contributing
CR-CVC-064	Riverside Bar	120 Broadway	Contributing
CR-CVC-065	Mobil Gas Station	200 Broadway	Contributing
CR-CVC-066	Mobil Oil Gas Station Office	Broadway (200 block)	Contributing
CR-CVC-067	Commercial Building	Broadway (200 block)	Contributing
CR-CVC-068	Gehl's Meat Market & Ice House	212 Broadway	Contributing
CR-CVC-069	Harvey's Bar	220 Broadway	Contributing
CR-CVC-070	Post Office	Broadway	Contributing
CR-CVC-071	Barber Shop & Saloon	300 Broadway	Contributing
CR-CVC-072	Nelson Drugstore	304 Broadway	Contributing
CR-CVC-073	Funk Bank	308 Broadway	Contributing
CR-CVC-074	Village Hall	316 Broadway	Non-Contributing
CR-CVC-075	House	404 Broadway	Contributing
CR-CVC-076	Woodman Hall	408 Broadway	Contributing
CR-CVC-077	House	416 Broadway	Contributing
CR-CVC-078	House	420 Broadway	Contributing
CR-CVC-079	Sexton House	100 5th St. W	Contributing

TABLE 10-1 continued
CARVER HISTORIC DISTRICT, CITY OF CARVER (CR-CVC-104)

Site No.	Property	Address	C/NC Status
CR-CVC-080	Carver Cottage	121 6th St. W	Contributing
CR-CVC-081	Carver Creamery and Ice House	Broadway & 5th St. (Non-Extant)	Non-Contributing
CR-CVC-083	Rev. Raedeke House	501 Oak St.	Non-Contributing
CR-CVC-084	Trinity Lutheran Church	417 Oak St.	Non-Contributing
CR-CVC-085	Dauwalter Garage/Blacksmith	421 Broadway	Non-Contributing
CR-CVC-086	Charles Dauwalter House	413 Broadway	Contributing
CR-CVC-087	Funk Hardware Store	401 Broadway	Contributing
CR-CVC-089	The Sunflower	317 Broadway	Contributing
CR-CVC-090	Drugstore	313 Broadway	Contributing
CR-CVC-091	Anton Knoblach Bank	309 Broadway	Contributing
CR-CVC-092	Drugstore and Post Office	217/221 Broadway	Contributing
CR-CVC-093	Kings Arms Company	205 Broadway	Contributing
CR-CVC-094	House	205 4th St. W	Contributing
CR-CVC-095	George DuTroit Bank	205 Broadway	Contributing
CR-CVC-096	Carver Fire Department	117 Broadway	Non-Contributing
CR-CVC-097	Carver School	420 Oak St.	Contributing
CR-CVC-098	Stone Arch Bridge (L-2526)	4th St. over Carver Spring	Contributing
CR-CVC-099	Stone Arch Bridge (L-2722)	6th St. over Carver Spring	Contributing
CR-CVC-100	Stone Arch Bridge (L-2783)	Main St. over Carver Spring	Contributing
CR-CVC-105	St. Nicholas School	5th St. & Ash St.	Contributing
CR-CVC-106	St. Nicholas Church Activity Hall	5th St. & Ash St.	Non-Contributing

TABLE 10-2
WALNUT STREET HISTORIC DISTRICT IN THE CITY OF CHASKA (CR-CKC-055)

Site No.	Property Name	Address	C/NC Status
CR-CKC-019	Tenement Houses	414-422 Walnut St.	Contributing
CR-CKC-026	Dienslake House	412 Walnut St.	Contributing
CR-CKC-027	Chris Klein House/City Hall	205 - 4th St.	Contributing
CR-CKC-028	Steinberger House	320 Walnut St.	Contributing
CR-CKC-029	Charles Klein House/Library	314 Walnut St.	Contributing
CR-CKC-056	Gibson House	308 Walnut St.	Contributing
CR-CKC-031	K.K. Klammer House	302 Walnut St.	Contributing
CR-CKC-032	Ess Brothers Foundry and Machine Shop	218 Walnut St.	Contributing
CR-CKC-033	Edmund Ess House	212 Walnut St.	Non-contributing
CR-CKC-034	Frank Meisseler House	206 Walnut St.	Contributing
CR-CKC-035	Second Faber and Linenfelser Store	200 Walnut St.	Contributing
CR-CKC-036	First Faber and Linenfelser Store	123 Walnut St.	Non-contributing
CR-CKC-037	Werner Store	2nd St. E.	Non-contributing

TABLE 10-2 continued
WALNUT STREET HISTORIC DISTRICT IN THE CITY OF CHASKA (CR-CKC-055)

Site No.	Property Name	Address	C/NC Status
CR-CKC-038	George DuToit Bank	xxx 2nd St. E.	Contributing
CR-CKC-039	Philip Henk Hardware Store	122 2nd St. E.	Contributing
CR-CKC-040	Anne Marie's Decorating	xxx 2nd St. E.	Contributing
CR-CKC-041	Diedrick Building	100 2nd St. E.	Contributing
CR-CKC-042	Henry Young House	109 2nd St. E.	Contributing
CR-CKC-043	Hammer & Bierstettel Store	107 2nd St. E.	Contributing
CR-CKC-044	Chaska Auto Body	115 2nd St. E.	Non-contributing
CR-CKC-045	K. Hammer Building	123 2nd St. E.	Contributing
CR-CKC-046	Wolff House	207 Walnut St.	Contributing
CR-CKC-047	Ess House	211 Walnut St.	Contributing
CR-CKC-048	Ess House	217 Walnut St.	Contributing
CR-CKC-049	Garage	N/A	Contributing
CR-CKC-050	public square	N/A	Contributing
CR-CKC-051	Moravian Church	115 - 4th St. E.	Contributing
CR-CKC-052	Schmidt House	415 Walnut St.	Contributing
CR-CKC-053	Nord House	423 Walnut St.	Contributing

10.2.2.3 Current Studies and Determination of Eligibility

The Phase I architecture/history investigation was conducted in November and December, 2004. The survey identified a total of 619 properties within the proposed project's APE that were constructed before 1964. Of those properties, 75 were constructed between 1956 and 1964. The remaining 531 properties are more than 50 years of age. Most of the 531 properties that are more than 50 years of age are not eligible for inclusion in the NRHP as they have poor integrity or are of a common property type that lacks distinction.

Of the 619 properties identified in the Phase I survey that were constructed before 1964, nine individual properties were recommended for Phase II evaluation with respect to NRHP criteria. Another 17 properties located on Oak Street between 2nd and 4th Streets in Chaska adjacent to the Walnut Street Historic District were identified as being potentially eligible for inclusion in the NRHP under Criterion B and were also recommended for Phase II evaluation. The Phase II evaluation, conducted in March 2006, evaluated the significance of properties identified in the Phase I investigation.

The Phase II report provided a detailed investigation of these 26 properties. Based on this research, seven of the properties were considered eligible for inclusion in the NRHP under various criteria. Subsequent to the Phase II report, and at the request of the Chaska HPC, four additional properties were identified, investigated and determined eligible by Mn/DOT CRU. All of these properties are listed on Table 10-3, along with previously listed or determined eligible properties, and depicted in Figure 10-1. A summary of the historical significance and determination criteria for each of these recently determined-eligible properties is provided below.

TABLE 10-3
PROPERTIES LISTED OR ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES

Map ID	Site No.	Property Name	NREG Status/ Criteria	Brief Significance Statement
125	CR-CKC-174	H. Oesterreich House	C	The Oesterreich House is determined eligible under Criterion C for inclusion in the NRHP as a significant example of a Chaska brick residence constructed in the Queen Anne style.
245	CR-CKC-009	Riedele House	B, C	The Riedele House is determined eligible under Criterion B for its association with Andreas [Andrew] Riedele, one of Chaska's prominent brick manufacturers and under Criterion C as a significant example of the cross-wing type of Chaska brick residence utilized in an urban area.
301	CR-CKC-293	Crystal Sugar Beet Factory Office	A, C	The Crystal Sugar Beet Factory Office is determinedd eligible under Criteria A for its association with the sugar beet industry in Chaska and under Criteria C as a significant example of a commercial Chaska brick building.
415	CR-CKC-007	George A. DuToit House	C	The George A. DuToit house is determined eligible under Criteria C as a significant example of a Queen Anne style Chaska brick house.
414	CR-CKC-006	Guardian Angels Catholic Church, Rectory, and School	C	The Guardian Angels Catholic Church and Rectory is determined eligible under Criteria C as it is a significant example of a Gothic Revival church built with Chaska brick.
535	CR-CKC-021	Lyman W. Noble/ John Sutheimer House	C	The Noble/Sutheimer House is determined eligible under Criterion C as an early, significant example of a Chaska brick residence constructed in 1858 in Chaska, Minnesota.
A	CR-CVC-146 CR-CKC-623 CR-CHC-035	Minneapolis & St. Louis Railroad and Depot	A	The Minneapolis and St. Louis Railroad in Carver County is determined eligible under Criterion A for its association with the development of several key industries in Chaska including the Carver County Sugar Beet Factory, the numerous Chaska brick yards and manufacturers, and the Chaska Flour Mill.
21CR141	21CR141	Archeology Site	D	This multi-component pre-contact site is determined eligible for its deeply buried archeological deposits that were found to have integrity and potential for contributing significant information about the occupation of the lower Minnesota River valley during the Archaic Period.
B	XXXXXXX	Chaska Cubs Ball Field* (Athletic Park)	A	The Chaska Cubs Ball Field is locally significant and determined eligible under Criterion A, in the areas of recreational and social history and retains the key features of a 1950s ball field.

*Identified subsequent to the Phase II report.

TABLE 10-3 continued
PROPERTIES LISTED OR ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES

Map ID	Site No.	Property Name	NREG Status/ Criteria	Brief Significance Statement
C	CR-CKC-0572	Griep House*	C	The Griep House is determined eligible under Criterion C as a significant example of a Chaska brick residence.
D	CR-CKC-0381	House*	C	This house is determined eligible under Criterion C as a significant example of the cross-wing type of Chaska brick residence.
E	CR-CKC-545	Fink-Young House*	C	The Fink-Young House is determined eligible under Criterion C as a significant example of a Chaska brick residence.
1	CR-CKC-002	Frederick E. DuToit House	NRHP-Listed	Victorian vernacular, c 1870
2	CR-CKC-004	Eder-Baer House	NRHP-Listed	Queen Anne, c 1900
3	CR-CKC-005	E. H. Lewis House	NRHP-Listed	Victorian vernacular, c 1870
4	CR-CKC-011	Brinkhaus Saloon Livery Barn	NRHP-Listed	Livery barn, c 1872
5	CR-CKC-012	Courthouse Saloon	NRHP-Listed	Commercial building & livery barn, 1888
6	CR-CKC-015	Herald Block	NRHP-Listed	Commercial building, 1871
7	CR-CKC-022	Frederick Greiner House	NRHP-Listed	Victorian vernacular, c 1870
Area Out-lined on Map	CR-CKC-055	Walnut Street Historic District	NRHP-Listed	Includes 200-500th Block of Walnut Street, the Public Square, and E. 2nd Street between Walnut and Chestnut Sts. Twenty-nine properties total are in the district; twenty-one of which are contributing. A prehistoric burial ground (21-CR-2) is located in the Public Square.
8	CR-CKC-057	Chaska Historical Marker	Eligible (DOE) (previous determination)	Commemorative roadside marker, 1938
9	CR-CKC-059	Conrad Fink House	Eligible (CEF) (previous determination)	Victorian vernacular, c 1900
F	CR-CKC-0516	Scott House		
Area Outlined	CR-CVC-104	Carver Historic District	NRHP-Listed	Roughly bounded by Fifth Street, County Highway 40, Hickory Street, and the levee. Ninety-seven properties are in the district; eighty-six of which are contributing.

- **H. Oesterreich House (CR-CKC-174).** The Oesterreich dwelling is a two-story Queen Anne style Chaska brick house constructed in 1885. Helmuth Oesterreich, a brick mason, came to the United States from Prussia and formed the contracting firm of Oesterreich Brothers, responsible for the masonry work on the Catholic and New Moravian Churches in Chaska. The Oesterreich House is eligible for inclusion in the NRHP under Criterion C as a significant example of a Chaska brick residence constructed in the Queen Anne style. Unlike its vernacular counterparts, the Oesterreich Chaska brick house displays typical Queen Anne

style characteristics including a hipped roof with lower cross gables, a prominent bay window, decorative sandwich brackets in the eaves, and false half-timbering in the uppermost gable.

- **Riedele House (CR-CKC-009).** The two-story Riedele House near the railroad in Chaska is a Chaska brick dwelling constructed in 1879 by Andreas Riedele that was operated as a hotel for an unknown period of time. The house was constructed of bricks that were salvaged from the Ulmer and Lieverman Brewery, which burned in 1878. Andreas Riedele was born in Germany in 1829. He came to the United States in the mid 1850s, farming near Philadelphia for one year before coming to Minnesota in 1855. In 1881, he entered into the brick manufacturing industry. The Riedele House is eligible for inclusion in the NRHP under Criterion B for its association with Andreas Riedele and the Klein Brothers, two of Chaska's prominent brick manufacturers. The house is also eligible under Criterion C as a significant example of the cross-wing type of Chaska brick residence. The Riedele Chaska brick house displays the typical characteristics of the Chaska brick farmhouse including a cross-wing form and segmental arch windows with a double row of brick headers. The house is a significant example of the typical Chaska brick farmhouse type utilized in an urban area.

- **Crystal Sugar Beet Factory (Office - CR-CKC-293).** The Crystal Sugar Beet Factory one-story Chaska brick office building was constructed in 1906 across the road from the processing plant. As the office for the Carver County Sugar Company, the building has a significant association with one of Chaska's most important industries. There are also very few significant examples of Chaska brick commercial buildings in the area. The office building is eligible for listing in the NRHP under Criteria A for its association with the sugar beet industry in Chaska and under Criteria C as a good example of a commercial Chaska brick building. Though the windows on the office have been replaced on the building, the factory office retains its integrity of workmanship, materials, feeling, association, location and setting.

- **George A. DuToit House (CR-CKC-007).** The George A. DuToit House is a two-story Chaska brick house constructed in 1878. George A. DuToit was born in New York in 1847. He came to Carver County in 1856. He studied pharmacy in Shakopee and established a drug store in Carver. Around 1870, DuToit established a bank in the rear section of his drug store. In 1874, DuToit closed the drugstore in Carver and moved the bank to Chaska. DuToit was appointed by Governor Knute Nelson to the State Capitol Commission, responsible for construction of the state capitol building. By 1915, DuToit was president of the Carver County State Bank in Chaska. DuToit served two terms as the mayor of Chaska. The George A. DuToit house is eligible for inclusion in the NRHP under Criteria C as a significant example of a Queen Anne style Chaska brick house. The house features typical Queen Anne characteristics including a hipped roof with cross gables, a large bay window with Queen Anne style leaded glass windows, deep eaves with modillions, pedimented gables with pseudo-Palladian style windows and shingle siding, an oval window on the east façade, and decorative corbelled chimneys.

- **Guardian Angels Catholic Church and Rectory (CR-CKC-006).** The Guardian Angels Catholic Church is a Gothic Revival style building constructed of Chaska brick in 1885. The church was designed by John Geiser with a 162-foot high steeple. The entire church complex is surrounded by a stone and Chaska brick wall. The new building was dedicated

by Bishop Thomas L. Grace of St. Paul in 1885. In 1902, fire broke out at the church while a new furnace was being installed. The church was gutted and the steeple collapsed. Though the damage was extensive, the congregation reconstructed the church using the walls of the gutted building. Within a year the new church was dedicated by Archbishop John Ireland of St. Paul. The new building was nearly identical to the original 1885 structure.

- The Guardian Angels Catholic Church and Rectory is eligible for inclusion in the NRHP under Criteria C as it is a significant example of a Gothic Revival church built with Chaska brick. Though the church is a religious property, it does meet Criteria Consideration G as the complex's significance is derived from architectural distinction. The church exhibits all of the hallmark characteristics of the Gothic Revival style including Gothic arch windows and doors, corbelled brick, brick buttresses, quatrefoil motifs in the stained glass windows, and a central buttressed tower with a steeply pitched steeple.

- **Lyman W. Noble/John Sutheimer House (CR-CKC-021).** The Noble/Sutheimer dwelling, a two-story, Chaska brick house, was constructed in 1858. It is thought to have been the first Chaska brick house built in Carver County. Lyman Noble was working as a brick mason and it is likely that he constructed the house for Ezekiel Ellsworth. In 1861, Sarah Ellsworth obtained ownership of her father's home. In 1868, Lyman Noble married Sarah Ellsworth. In 1894, John Sutheimer purchased the Noble property. Sutheimer immigrated to the United States from Germany in 1853 with his parents. By 1870 Sutheimer and his family moved to St. Paul and began a cigar manufacturing business. In 1886, Sutheimer moved his cigar business to Chaska and later established a new cigar manufacturing firm.

- **The Noble/Sutheimer House** is eligible for inclusion in the NRHP under Criterion C as a significant example of a Chaska brick residence in Chaska, Minnesota. It is one of the best preserved examples of a Chaska brick house. The house was one of the first built in the newly platted townsite of Chaska by Lyman W. Noble, one of the earliest known masons in the area.

- **The Minneapolis and St. Louis Railroad (CR-CVC-146, CR-CKC-623, CR-CHC-035).** The Minneapolis and St. Louis Railroad in Carver County (approximately 7.5 miles) runs from the Minnesota River, just northeast of the city of Carver, along US Highway 212 through the northern section of Chaska and Chanhassen Township to the Hennepin County line. The railroad continued to operate until the late 1980s. In 1991, the tracks were taken out of the Hopkins to Chaska section of the line. Shortly thereafter, the same section of line was purchased by the Hennepin County Regional Railroad Authority (HCRRA) for future rail transit use. The section has been temporarily converted into a bike/walking trail, known as the Southwest LRT Trail.

  The Minneapolis and St. Louis Railroad in Carver County is eligible for inclusion in the NRHP under Criterion A for its association with the development of several key industries in Chaska including the Carver County Sugar Beet Factory, the numerous Chaska brick yards and manufacturers, and the Chaska Flour Mill. As with many Minnesota towns, Chaska and Carver owed their development to the railroad that was an important link to the Twin Cities.

Based on the Phase II study, Mn/DOT CRU made a determination of eligibility for each of these properties. This determination was submitted to the SHPO on July 13, 2006 (Appendix A). The Carver HPC and the Chaska HPC were provided with a copy of the determination and given the

opportunity to review and comment. Subsequent to the Phase II study, the Chaska HPC identified the following properties which Mn/DOT CRU investigated and determined to be eligible on the NRHP. This determination was submitted to the SHPO in August 25, 2006, with copies provided to the Carver HPC and the Chaska HPC (Appendix A). The SHPO provided comments in a letter dated September 27, 2006 (Appendix A).

- **Chaska Cubs Ball Field at Athletic Park (Not Yet Assigned).** The Chaska Cubs Ball Field at Athletic Park is an intact 1950s ball field built during the heyday of town ball in Minnesota, which was a major recreational activity following World War II. The Chaska Cubs were founded in 1929 and played in the Class A league of the Association of Minnesota Amateur Baseball Leagues (now the Minnesota Baseball Association). The property type that best illustrates the town ball phenomena in post-World War II Minnesota is the town ball field. Town ball fields from this era are characterized by a wood or wood and cinderblock grandstand, with wood bleachers, chicken-wire screen, and concession stand; wooden or cinderblock dug outs; a grassy field; and large flood lights that allowed for evening games. The Chaska Cubs Ball Field at Athletic Park is locally significant under Criteria A under the areas of recreational and social history.

- **Griep House (CR-CKC-0572).** This two-story gable front Chaska brick house was built in 1890 and owned by Herman Griep, a sugar factory laborer. It is eligible under Criterion C as a significant example of a Chaska brick residence.

- **House (CR-CKC-0381).** This two-story cross-wing Chaska brick house was built in 1895 by the Lipinski family, descendants of local Polish settlers. It features an entry on the gable-front of the main façade as well as an entry on the side gable of the wing. It is eligible under Criterion C as a significant example of the cross-wing type of Chaska brick residence.

- **Fink-Young House (CR-CKC-545).** This Chaska brick house was built in 1883 by Conrad Fink. It was sold to Horace Young, owner of the Rex Theater, in 1938 and remained in the family until 2006 when it was sold to a great-great granddaughter of Conrad Fink. It is eligible under Criterion C as a significant example of a Chaska brick residence.

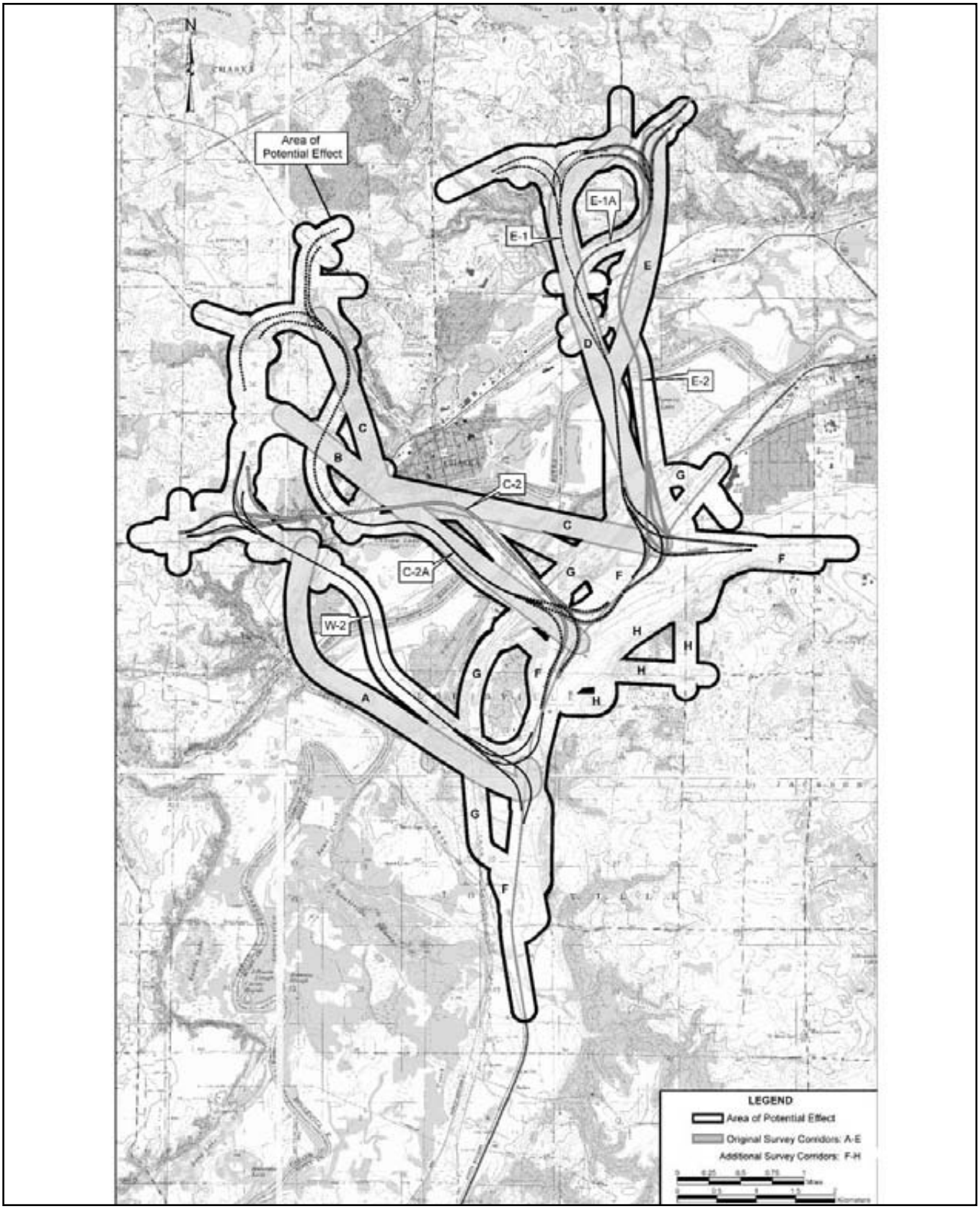
10.2.3 Archeological Resources

10.2.3.1 Area of Potential Effect

The APE for geomorphological and archeological work was defined as the construction limits of the proposed alternative route corridors (Figure 10-2). The different corridors that were investigated as part of the archeological investigation had a combined length of approximately 45.8 miles and included an estimated 5,552 acres. The APE was adjusted as needed as the DEIS Build alternatives were refined.

10.2.3.2 Previous Investigations and Recorded Sites

A number of archeological investigations dating back to 1882 have been performed within one mile of the project site and several pre-contact and historical sites have been recorded. No archeological sites within the project APE have been previously NRHP-listed or determined to be eligible.



Graphics/Support/4590/EIS Figures

AREA OF POTENTIAL EFFECT (APE)
for Archaeological and Geomorphological Investigation

Figure 10-2

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Draft Environmental Impact Statement
S.P. #1008-60
Minnesota Department of Transportation

10.2.3.3 Current Studies and Determinations of Eligibility

The archeological studies for the proposed project included a geomorphological assessment (November/December 2004 and March 2005), a Phase I investigation (October/ November 2004 and June and October 2005) and a Phase II site evaluation (May 2006).

The geomorphological assessment was conducted to identify areas of high to moderate potential for deeply buried archeological deposits within the APE. Fifty-one geomorpholigical cores were extracted on alluvial fans, on terraces and on the floodplain to assess the geologic potential for archeological deposits and to interpret the depositional character of the lower Minnesota River valley. The potential for buried archeological sites was determined by examining 1) the soil-stratigraphic character of the buried portion of the landscape, 2) the age of these deposits and 3) the potential for archeological sites in unburied and buried contexts of the same landscape.

The Phase I archeological investigation was designed to identify archeological resources within the corridors and provide recommendations for identified cultural resources as to their eligibility for listing on the NRHP. It included a literature search to identify locations of previously recorded archeological sites to help assess the potential for unrecorded sites in the project corridors. Surface and limited subsurface investigations of archeological resources within the project area to assess their nature and integrity were also part of the Phase I investigation. Finally, Phase I defined spatial boundaries of archeological sites in relation to the project area.

Three archeological sites were identified during the course of the Phase I investigation that yielded artifacts which were clearly cultural. One of these sites was recommended for a Phase II site evaluation. The site, (21CR141), is situated on a broad alluvial fan in a steep, narrow drainage of the Hazeltine Bluffs. Because of the recovered artifacts and buried soil horizons recovered from Site 21CR141, the site was recommended for Phase II testing to evaluate its potential for inclusion on the NRHP. The deposits discovered during Phase I included four Oneota pottery sherds, six small flakes, very small bone fragments and charcoal. These were found in a deeply buried (5Ab) horizon at 315 to 350 centimeters below ground surface near the base of the ravine.

The Phase II investigation evaluated the scientific significance of the archeological deposits identified at site 21CR141 in the Phase I investigation. Sub surface testing was done to refine the horizontal and vertical boundaries of the site deposits and look for evidence of archeological features or diagnostic artifacts that would facilitate interpretation of the site's chronology and primary functions. Phase II test excavations at Site 21CR141 resulted in the recovery of a small amount of bone and one flake from the Surface A horizon and buried soils in the test units on top of the alluvial fan. Animal bone fragments were found between the ground surface and 46 centimeters below ground surface in the test units. The four Oneota pottery sherds recovered in Phase I investigation appear not to be associated with other deposits of this culture and may be considered an isolated find. The site is a multi-component pre-contact site. The deeply buried archeological deposits in the area were found to have integrity and potential for contributing significant information about the occupation of the lower Minnesota River valley during the Archaic Period (5,000 -3,000 B.C.).

Based on this study, Mn/DOT CRU made a determination that the site is eligible for listing in the NRHP based on Criteria D (Letter dated July 13, 2006, Appendix A). The site is listed in Table 10-3 and depicted on Figure 10-2. No other archeological resources were identified in the study area.

10.3 REQUESTS FROM LOCAL HERITAGE PRESERVATION COMMISSIONS FOR CONSIDERATION OF ADDITIONAL PROPERTIES

Subsequent to the Phase II study the Carver HPC contacted Mn/DOT CRU to request that four properties be considered for eligibility on the NRHP. Mn/DOT CRU determined that none of the identified properties in the City of Carver retained sufficient integrity to be considered eligible for listing on the NRHP, as noted in Table 10-4. The Chaska HPC requested that 30 properties be considered. (Note: three of the properties identified by the Chaska HPC already been determined to be eligible prior to their request). Mn/DOT CRU determined that four of the identified properties in the City of Chaska be further considered to determine eligibility, as shown in Table 10-5. Mn/DOT CRU made a determination that three of these properties are eligible to be listed on the NRHP. These three properties are discussed in Section 10.2.2.3 and listed in Table 10-3.

It is important to note that any sites not determined to be eligible for the NRHP through the Section 106 process being conducted for the proposed project are not precluded from being eligible in the future, should measures be taken to restore their integrity.

TABLE 10-4
CITY OF CARVER – ADDITIONAL POTENTIALLY ELIGIBLE HISTORIC PROPERTIES REQUESTED FOR FURTHER CONSIDERATION

Property Name	Property Address	Property Status/Determination
Minneapolis Hotel and Saloon	212 Fourth Street East	Not being considered
Railroad Hotel	216 Fourth Street East	Not being considered
Railroad Hotel Saloon	220 Fourth Street East	Not being considered
Residence of owners of the Railroad Hotel and Saloon	430 Lime Street North	Not being considered

TABLE 10-5
CITY OF CHASKA – ADDITIONAL POTENTIALLY ELIGIBLE HISTORIC PROPERTIES REQUESTED FOR FURTHER CONSIDERATION

Property Name	Property Address	Property Status/Determination
Oesterreich Hardware	103 West Second Street	Not being considered
Butch's Bar	100 East Second Street	Contributing to Walnut Street Historic District
Philip Henk Cigar Factory	102-104 East Second Street	Contributing to Walnut Street Historic District
Young Family Home	109 East Second Street	Contributing to Walnut Street Historic District
Moravian Church	115 East Fourth Street	Contributing to Walnut Street Historic District
Minneapolis - St. Louis Depot	101 East Highway 212	**Determined eligible prior to request**
E.A. Taylor House	403 East Third Street	Not being considered
Music Teacher's Home	113 Oak Street	Not being considered
Griep House	116 Maple Street	Not being considered
Griep House	512 East Second Street	**Determined eligible after request**
House	620 Willow	Not being considered
Nikolai House	906 Stoughton (205 W First)	Not being considered
Jasper/Heller/Holtz Home	1201 Valley Street	Not being considered
Liberty Heights	599 Independence	Out of APE
Pass House	1695 Bavaria Road	Out of APE
Koehnen House	111000 Bavaria Road	Out of APE
Eitel House	Not available	Out of APE
House	300 West Sixth Street	Not being considered
House	512 Cedar Street	Not being considered
Scott House	516 Pine Street	**Determined eligible prior to request**
Chaska Mill	500 Pine Street	Not being considered
House	205 West First Street	**Determined eligible after request**
Fink-Young House	322 West First Street	**Determined eligible after request**
Glatzel House	403 West First Street	Not being considered
Cottage	622 West First Street	Not being considered
Building	201 Hickory	Not being considered
Fink-Koehnen Family	205 Elm Street	Not being considered
Guardian Angels Monastery and brick walls	Not available	**Determined eligible prior to request**
Brickyards	North side of 212 at 41	Not being considered
Mount Pleasant Cemetery	Not available	Not being considered

10.4 DETERMINATION OF EFFECT/ENVIRONMENTAL CONSEQUENCES

Mn/DOT CRU reviewed the project pursuant to its Federal Highway Administration (FHWA)-delegated responsibilities for compliance with Section 106 of the National Historic Preservation Act, as amended (36 CFR 800). Preliminary findings were made by Mn/DOT CRU in a letter dated July 13, 2006 (Appendix A). Final findings were made in a letter to the SHPO dated August 24, 2006 (Appendix A).

The findings are as follows:

No-Build Alternative. The No-Build alternative would have an adverse effect on the Walnut Street Historic District in Chaska.

Alternative W-2. A determination of effect on the Carver Historic District cannot be made at this time because the design elements cannot be known at this time and because of uncertainty about noise impacts.

Alternative C-2. Alternative C-2 as planned would have no adverse effect on the Walnut Street Historic District in Chaska. A determination of effect on six historic properties in the area of Elm Street and 1st Street in Chaska cannot be made at this time because of uncertainty about noise impacts. Alternative C-2 would have an adverse effect on the Chaska Cubs Ball Field (a.k.a. Athletic Field) since it will directly impact the property. A determination of effect on seven historic properties in Chaska cannot be made at this time because of uncertainty about noise impacts and visual effects.

Alternative C-2A. Alternative C-2A would have no visual impacts on the identified historic properties, but that it may have potential auditory impacts. A determination of effect cannot be made at this time because of uncertainty about noise impacts.

Alternatives E-1, E-1A and E-2. Each of the eastern alternatives (E-1, E-1A and E-2) will have no adverse effects on historic properties, based on the condition that archeological site 21CR141 be avoided through adjustments to the proposed E-1A or E-2 alignments if either is selected (Alternative E-1 would completely avoid the site area).

Mn/DOT CRU stated that because a complete determination of effects cannot be made for Alternatives W-2, C-2 and C-2A based on available data, FHWA will develop a Programmatic Agreement (PA) with SHPO that would establish a review process for additional information about noise and visual impacts to avoid or minimize any potential adverse effects.

In a letter dated September 27, 2006, the SHPO concurred with Mn/DOT CRU that one archeological site meets National Register criteria and that the eleven history/architecture properties identified are National Register eligible (Appendix A). In regards to the Build alternatives, SHPO indicated that Alternative C-2 has the greatest potential for effects on historic properties (including direct effects), and that this issue should be closely considered as part of the alternative selection process. Finally, SHPO requested that the Programmatic Agreement developed with FHWA include provisions for review and update of survey data and updated effects analysis at the time of the Tier II EIS, or at another appropriate point in the planning process. This is being requested since the detailed design and construction of the project may be many years in the future.

11.0 CONSTRUCTION IMPACTS

This chapter describes potential construction-related impacts that may result from the proposed project. Impacts associated with construction may include: traffic congestion, impacts to the transportation system, impacts to business access, noise, air quality, visual, water quality and soil erosion, river substrate/habitat impacts, canoe/boat use, potential contaminated substance spills/leaks, borrow and excess materials, utility disruption, and earthborn vibrations. A more detailed discussion of potential construction impacts and mitigation will be provided as part of the Tier II EIS assuming one of the six Build alternatives is identified as the preferred alternative. With the implementation of the preferred alternative, all applicable precautions would be taken to limit impacts connected with highway, interchange and bridge construction activities.

11.1 AFFECTED ENVIRONMENT

The study area encompasses the cities of Carver, Chaska, and Chanhassen, in Carver County and the City of Shakopee and Jackson and Louisville Townships in Scott County. Existing TH 41 and the Minnesota River are also within the study area. Chapters 4, 5, 7, 8, and 9 of this DEIS describe the existing transportation system, land use and natural resources in the study area.

11.2 ENVIRONMENTAL CONSEQUENCES

Because the No-Build alternative would not have construction impacts associated with it, impacts discussed below relate only to Build Alternatives. Note that construction impacts to Seminary Fen are addressed in Section 7.3.3.

11.2.1 Traffic Congestion, Detour and Neighborhood and Business Access Issues

Construction of the proposed project is expected to take approximately four years to complete, with no difference in construction time among alternatives. Construction of any of the Build alternatives is likely to cause temporary traffic delays making it more difficult to access adjacent development during construction. Assuming that development planning for currently undeveloped land provides for corridor right of way, Build alternative corridors that are located where there is less existing development will result in less traffic disruption than Build alternative corridors that are located where there is more existing development. Anticipated impacts to traffic resulting in congestion would continue until construction is complete. A construction staging plan would be developed during final design. The staging plan would further assess potential construction-related traffic congestion problems, property access needs, and total length of construction time. Traffic control measures would be in accordance with the Minnesota Manual on Uniform Traffic Control Devices (MMUTCD).

During the construction phase, detours maybe needed, but will be minimized to the greatest extent possible. Specific detour routes will be determined in consultation with affected communities prior to construction.

Existing businesses within the study area would experience access impacts during construction. Each of the six Build alternatives would result in varying degrees of access impacts for businesses in the vicinity of each proposed interchange and along each corridor. The construction staging plan would include efforts to ensure that traffic movements and access to businesses would be maintained. The effects on businesses and neighborhoods are:

Alternative W-2

Businesses near the TH 41/US 169 interchange in Scott County and residences near US 212 in the vicinity of CSAH 40 in the City of Carver may experience access impacts during construction. Traffic congestion may occur at US 169, existing US 212, CSAH 40, Mt. Hope Road, New US 212, and CSAH 11.

Alternative C-2

Access and congestion problems may occur at the intersection of US 169 and existing TH 41 in Scott County. Temporary traffic congestion may also occur at existing US 212 and New US 212.

Alternative C-2A

Businesses near the US 169 interchange in Scott County may experience access impacts during construction. Increased congestion may occur during construction of the grade-separated intersections with existing US 212 and existing TH 41. Additional traffic impacts may occur at CSAH 10, Creek Road, CSAH 140 and New US 212.

Alternative E-1

Access to neighborhoods along Audubon Road and to the Pioneer Ridge Freshman Center in Chaska will likely be disrupted during construction. Congestion and access impacts would occur at US 169 and CSAH 69 in Scott County and for businesses and residences near Stoughton Avenue and existing US 212 in the City of Chaska.

Alternative E-1A

Temporary congestion may occur around New US 212, existing US 212, existing TH 41, and US 169. Access impacts can be expected to occur around the Pioneer Ridge Freshman Center and for businesses located near existing US 212 and along Stoughton Avenue.

Alternative E-2

Temporary congestion around New US 212, along with access impacts to the Freshman Center could occur during construction. In addition congestion and access limitations may occur around US 169 and existing US 212 and along Stoughton Avenue.

11.2.2 Noise

Noise would be generated by construction equipment (including pile driving) used in the construction of highway improvements. Noise levels due to construction activities in the project area would vary depending on the types of equipment used, the location of the equipment, and the operating mode. During a typical work cycle, construction equipment may be idling, preparing to perform tasks, or operating under a full load. Equipment may be congregated in a specific location or spread out over a larger area. Adverse impacts resulting from construction noise are expected to be temporary and limited to properties adjacent to the project corridor. Project construction would be expected to take approximately four years. Noise impacts during construction would not be continuous along the entire corridor. Construction would take place in phases (e.g., south of the river, the bridge and north of the river). The construction noise impacts would be localized near the area where construction was taking place.

Section 6.2 identifies the potential traffic noise impacts for each of the Build alternatives. Noise impacts from construction equipment and related activities may be experienced at the identified receptors. Among receptors that may be particularly sensitive to daytime construction noise are the Minnesota Valley National Wildlife Refuge (W-2, C-2, and C-2A Build alternatives), the Minnesota Valley State Recreation Area (C-2, C-2A Build alternatives) and the Pioneer Ridge Freshman Center and Chaska High School, (E-1, E-1A and E-2 Build alternatives).

All construction equipment would be properly muffled and held to the manufacturer's specifications as they pertain to operational noise levels. Construction methods that could result in noise of inordinate levels or intrusiveness (such as pile driving) may be necessary. The noise associated with these activities would be minimized in intrusiveness by restricting the hours of operation as much as possible. The City codes of Chanhassen, Shakopee, and Chaska contain ordinances restricting construction activities that create noise to certain hours of the day, with further restrictions being implemented on weekends and holidays. The specific hours in which construction activities are allowed vary depending on the jurisdiction, but all are between 7:00 a.m. and 10:00 p.m. Mn/DOT will make a good faith effort to comply with local ordinances.

11.2.3 Air Quality

Air quality impacts from construction include increased dust and airborne particulates caused by grading, filling, removals and other construction activities. Dust impacts would be minimized through standard dust control measures such as watering. After construction is complete, dust levels are expected to return to near existing conditions. Air quality impacts may also result from emissions from construction equipment and possibly from traffic stopped at intersecting roadways or on potential detour routes. These impacts are expected to be minimal and of short duration.

11.2.4 Visual

Visual impacts would occur with all of the Build alternatives. Temporary visual impacts include the presence of construction equipment and workers, temporary changes in the views experienced by travelers when re-routing is necessary, a decrease in vegetation in some areas and the addition of increased time in which traffic remains in a certain area due to the increased congestion associated with construction.

11.2.5 Water Quality and Soil Erosion

The potential for soil erosion and impacts on water quality are greatest during construction when removal of vegetation for initial clearing, grubbing, and grading activities exposes soil and makes it more susceptible to erosion. Areas adjacent to the Minnesota River, lakes, streams, and wetlands have the highest potential for adverse impacts. A National Pollutant Discharge Elimination System (NPDES) permit would be required for this project. Erosion prevention and sediment control requirements would be followed in accordance with the NPDES permit, which includes an erosion control plan, as well as best management practices (BMPs) contained in Mn/DOT's standard specifications, details and special provisions. These BMPs may include, but are not limited to, the following: minimizing vegetation clearing, construction of sedimentation basins, silt control devices (silt fences, hay bales), slope drains, and prompt revegetation of exposed construction areas. An erosion control plan would be developed as part of the design for the preferred alternative.

Also, construction in or near waterways and wetlands would be undertaken in accordance with Mn/DOT's Standard Specifications for Road and Bridge Construction or special provisions to minimize erosion and sedimentation. Temporary and permanent erosion control methods may include silt fences, flotation silt curtains, retention basins, detention ponds, interceptor ditches, seeding and sodding, riprap of exposed embankments, erosion mats, and mulching. Drainage systems, including ditches on private lands, would be maintained, restored or re-established in a manner that would not impound water. Where appropriate, permanent storm water detention facilities would be located in areas adjacent to the river, streams and wetlands such that roadway runoff would be intercepted before entering the waterway.

11.2.6 Seminary Fen

Construction impacts and potential mitigation to Seminary Fen are detailed in Chapter 7.

11.2.7 River Substrate/Habitat Impacts

Construction of the bridge piers for each of the Build alternatives would result in some disturbance of the river substrate and therefore may impact aquatic species habitat (including potential mussel habitat). Direct impacts to river substrate/habitat would be minimized by planning construction activities to minimize disturbance of the river bottom.

11.2.8 Canoe/Boat Use

Each of the Build alternatives includes the construction of bridge piers in the river. The Build alternatives would result in temporary impacts to river users near work areas resulting from construction activities that may include launching materials via barges and setting bridge pier and support materials in place with cranes. Barge and crane operations would cause temporary channel obstructions that could affect river use for recreational boaters and canoeists. The segment of the Minnesota River in the study area is designated by the Minnesota Department of Natural Resources (MnDNR) as a "Canoe and Boating Route."

Temporary impacts may affect the City of Carver's boat launch adjacent to the Alternative W-2 corridor and the Winkel Park boat launch located near the Alternative C-2 corridor. These temporary effects could cause closure for several months while the adjacent span is being constructed.

MnDNR staff would review construction plans to ensure that there is an adequate channel for boat passage during construction. If such a passage cannot be preserved, provisions for a portage would likely be created.

11.2.9 Potential Contaminated Substance Spills/Leaks

Each of the Build alternatives has potential for spills or leaks of hazardous or toxic substances. If such an incident should occur during construction of the proposed project, it would be responded to according to Minnesota Pollution Control Agency (MPCA) containment and remedial action procedures. Of specific concern would be the release of hazardous or toxic substance (e.g., during refueling) into the river – a source water protection area. A spill containment plan would be required to be in place prior to construction to minimize these potential impacts.

11.2.10 Borrow or Excess Material

Preliminary estimates indicate that up to 3.3 million cubic yards of borrow may be required for this project. This figure is an estimate based on Tier I level design.

Selection of borrow material that may be required for the construction of the proposed improvements would be the responsibility of the construction contractor. Any new borrow sites would be subject to environmental reviews under Minnesota Rule Chapter 4410.4300, Subp. 12 and may require an archaeological survey of the site. Archaeological reviews of these areas are conducted by the Cultural Resources Unit at Mn/DOT. It is not possible to identify potential areas from which borrow might be obtained, and therefore what specific environmental impacts might potentially occur, as the project is many years in the future.

The disposal of excess material would be conducted in accordance with Mn/DOT specifications and according to a project disposal plan that would conform to state regulatory requirements. There would be no disposal of excess materials into wetlands, floodplains or other sensitive areas.

11.2.11 Utility Disruption

Throughout the corridor both above- and underground utilities, such as electric, telephone, cable, public water supply and sanitary sewer, are distributed to users within and near the study area. In addition to the sanitary sewer system that currently exists in the study area, a sanitary sewer to connect the cities of Carver and Chaska line is in the conceptual planning stage. Known utilities in the study area include power transmission lines, gas lines and an electric substation. Additionally, the Metropolitan Council Environmental Services (MCES) Chaska Sanitary Forcemain crosses under the Minnesota River northeast of the existing TH 41 river crossing. Identification of other above- and underground utilities would be completed once a preferred alternative is selected; exact locations would be defined during final design.

Impacts to utilities are anticipated during construction of each of the six Build alternatives. Impacts could include utility relocation and/or temporary interruptions in service. If a Build alternative is selected as the preferred alternative, a design plan would be developed to minimize potential impacts to utilities, including coordination with utility providers.

11.2.12 Earthborn Vibrations

This project is not anticipated to require blasting; however, it could involve pile driving, compacting and/or pavement breaking or the operation of other construction equipment that may result in temporary earthborn vibrations that have the potential to affect homes. The location and magnitude of construction vibrations cannot be assessed until the final design phase of the project. However, the typical practice is to use vibration monitoring, and if the vibrations reach a certain level, require that the contractor shut down and revise operations to reduce earthborn vibrations.

11.3 MITIGATION

The discussions in Section 11.2 include identification of mitigation measures that could be used to avoid/minimize construction impacts. (Mitigation of construction impacts to SWFC is addressed in Chapter 7.) As part of the Tier II EIS process, details of the construction activities including mitigation measures such as a detailed erosion control plan, a plan for management and disposal of any excess material, a construction staging plan, special construction techniques for river bridge construction, traffic flow management techniques and access maintenance and/or detour plan would be developed. In addition, safety measures would be used (fencing, signage) that would prevent the public from entering areas of construction or from passing beneath bridge construction (when overhead activities are a concern).

12.0 POTENTIAL INDIRECT EFFECTS

The Council on Environmental Quality (CEQ) regulations (40 CFR 15888.8) distinguishes between direct and indirect effects. Direct effects are caused by an action and occur at the same time and place as the action. Indirect effects (also referred to as secondary impacts) are reasonably foreseeable effects caused by the action that occur later in time or farther in distance. Indirect impacts may include effects related to changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems.

Chapters 4 through 11 of this DEIS are focused chiefly on direct impacts resulting from the proposed project. The areas where direct impacts have the potential to cause indirect impacts are as follows:

1. Land Use Patterns. The proposed project has the potential to change land use patterns in the study area by increasing visibility of and accessibility to developable land. Such change in land use patterns could result in different impacts on the social and natural environment than otherwise would occur. The proposed project may also induce growth (and therefore the potential for additional environmental impacts) beyond the study area.

2. Related Transportation Improvements. Each of the Build alternatives would require that certain improvements to US 169 (that are planned as separate projects) be designed within certain parameters (i.e., interchanges would have to be configured to achieve adequate spacing from the proposed New TH 41/US 169 system interchange). This influence on the design of US 169 local access interchanges could result in those interchanges having different impacts on the environment than they otherwise would. In addition, the proposed project has a direct effect on traffic volumes on area roadways which could result in indirect environmental impacts if these volumes change in a way that requires expansion of any of these other roadways.

3. Area Economic Conditions. Depending on which Build alternative is selected, the proposed project has direct impacts that may indirectly affect broader economic conditions in the study area. The direct impacts that have the potential to affect economic conditions include changes in traffic levels in or near business areas, removal of affordable housing, and physical and social impacts on certain neighborhoods.

4. Ecological Relationships. The proposed project has direct impacts on specific vegetation resources which may indirectly affect the wildlife species that use those areas as habitat. In addition, more widespread indirect effects may also occur through the complex relationships within the affected ecosystem.

These four topics are discussed below. (Note that indirect impacts on cultural resources are discussed in Chapter 10.)

12.1 LAND USE PATTERNS

12.1.1 Affected Environment

As identified in the CEQ regulations, indirect impacts may include growth induced development or a change in both short-term and long-term land use patterns. It is important to distinguish between "induced travel" and "induced development" or "induced growth." As discussed in Chapter 4, the proposed project will induce *travel* within the travelshed, i.e., more of the total trips in the area will cross the river under Build conditions than under No-Build conditions. The effects of induced travel are direct impacts that have been accounted for in the Chapter 4 discussion of changes in VMT and in the benefit/cost analysis. Induced *growth* refers to more population and/or jobs or more development of land in the study area under Build conditions than under No-Build conditions.

Mn/DOT has met with communities in the study area to review their planned future land use and development trends. Population, household and employment forecasts for the study area have been developed based on Metropolitan Council projections and in consultation with affected communities. All of the study area communities are expected to be effectively built-out by the 2040 study year. This projected growth is anticipated to occur with the proposed new river crossing (Build condition) or without the proposed project (No-Build condition). None of the affected communities has indicated intent to reduce growth under No-Build conditions. While, depending on timing of construction, the project may affect the pace of planned growth within the study area, the project is not anticipated to induce growth in the study area beyond what will likewise occur under No Build conditions.

The proposed project does have the potential to influence the location and type of development within the study area. Visibility and accessibility from the proposed river crossing would improve the attractiveness of land for more intensive development. All communities within the study area have prepared and adopted land use and comprehensive plans to guide and phase their future development. The location and current planned use of developable land in relationship to the proposed project is summarized in Table 12-1. Cities are in the process of updating their comprehensive plans. It is likely that cities will consider the location of the proposed project in guiding their future land use.

12.1.2 Environmental Consequences

The relative amount of development in the study area is anticipated to be the same no matter which of the potential six alignments is selected as the final preferred alternative. However, the construction of any of the six Build alternatives could result in the planned growth that is already identified by the communities, to occur in a somewhat different configuration than currently planned. For example, implementation of any of the Build alternatives could result in commercial development occurring in the vicinity of local access to the new river crossing, rather than at some other location in the community. This has been specifically suggested for land located north of the combined regional/local interchanges in Carver County associated with Alternatives W-2 and C-2. The expected increase in visibility and accessibility from development areas caused by any of the Build alternatives may result in more intense development than otherwise would occur. The more intensive use of land could pose localized traffic congestion, greater impacts to vegetation, more impervious surface/storm water runoff, and more dramatic visual change.

TABLE 12-1
DEVELOPABLE LAND/ACCESS TO/FROM NEW TH 41

	Alternative					
	W-2	**C-2**	**C-2A**	**E-1**	**E-1A**	**E-2**
Scott[(1) (2)]						
Availability of developable land near New TH 41/ US 169 system interchange.	90%+ developable. Planned as commercial/ industrial.	60% developable – substantial developments in place. Planned as commercial/ industrial.	60% developable – substantial developments in place. Planned as commercial/ industrial.	90% developable. Planned as commercial/ industrial.	90% developable. Planned as commercial/ industrial.	90% developable. Planned as commercial/ industrial.
Closest local access to/ from New TH 41.	Two miles west at US 169/CSAH 14 interchange; one-half mile east at US 169/existing TH 41 interchange.	Local ramps at New TH 41/US 169/ existing TH 41 system interchange.	Local ramps at New TH 41/US 169/ existing TH 41 system interchange.	Local ramps at New TH 41/US 169/ CSAH 69 system interchange.	Local ramps at New TH 41/US 169/ CSAH 69 system interchange.	Local ramps at New TH 41/US 169/ CSAH 69 system interchange.
Carver[(2)]						
Availability of developable land near New TH 41/ New US 212 system interchange.	90% developable. Planned for mixed use, residential to north, with some commercial within Height of Chaska and commercial at US 212/CSAH 11.	90% developable, planned for mixed use, residential to north, with some commercial within Height of Chaska and commercial at US 212/CSAH 11.	90% developable. Planned for residential to north and northeast office/ commercial to northwest Heights of Chaska to south.	15% developable, substantially developed as residential, public, minor commercial. No plans for land use change.	15% developable, substantially developed as residential, public, minor commercial. No plans for land use change.	15% developable, substantially developed as residential, public, minor commercial. No plans for land use change.
Closest local access to/ from New TH 41.	Local ramps at New TH 41/ New US 212/ CSAH 11 system interchange.	Local ramps at New TH 41/ New US 212/ CSAH 11 system interchange.	One-half mile west at New TH 212/ CSAH 11 inter-change; one mile east at New US 212/ existing TH 41 interchange.	One-half mile west at New US 212/ existing TH 41; 1½ mile east at New US 212/ Powers Boulevard interchange.	1½ mile west at New US 212/ existing TH 41; one mile east at New US 212/ Powers Boulevard interchange.	1½ mile west at New US 212/ existing TH 41; one mile east at New US 212/ Powers Boulevard interchange.

(1) The City of Shakopee plans to conduct a market analysis/land use study for the portion of US 169 in the project area.
(2) Comprehensive Plan updates are underway for communities in the study area.

Because of the time frame for the proposed project, it is likely that many of the developable sites in the study area will be developed before the project is constructed. The type and intensity of development that occurs will be in anticipation of the project, rather than in reaction to it, and will be subject to local land use controls. The purpose of planning for the proposed project in a tiered process is not only to preserve the corridor well in advance of design and construction, but also to ensure that cities and counties can properly plan and regulate for development in the area adjacent to the river crossing corridor and throughout the community. While there is a potential for environmental consequences from any potential change in planned land use, local land use controls are adequate to manage any potential development in the areas of Scott and Carver Counties within the study area. The counties have fairly stringent controls for infiltration, water quality treatment, volume, and rate control and it is expected that permitting requirements will continue to be strengthened in response to TMDL requirements.

The improved accessibility between the two sides of the river may provide additional impetus for development beyond the study area. In particular, residential development of land in western Carver County may be encouraged by the combination of relatively affordable land values and the improved ease of access to the commercial/industrial development planned along US 169. Development in rural areas beyond the project study area will be subject to local land use controls and implementation capability, orderly annexation agreements and sewer capacity.

As the question of induced growth and accompanying environmental impacts is considered for any transportation project, it is important to consider that transportation improvements only affect the *location* of households and jobs within the region, not the *total number* of households and jobs within the region, which is a function of overall economic conditions. If there is faster development in one part of the region due to improvement in accessibility, there will be slower development elsewhere in the region. It is not possible to predict accurately where development elsewhere in the region would occur under No-Build conditions or what the resulting impacts would be to sensitive resources.

12.1.3 Mitigation

As discussed above, local governments have the authority to avoid, minimize and mitigate indirect impacts to land through their local land use plans and land use controls. With these means, local governments can guide where development will be allowed and where land should be preserved. Local governments retain control over the intensity and type of development through their zoning ordinance and subdivision regulatory authority. Additionally, local governments have the authority and responsibility for making land use decisions in and beyond the study area and have several tools in place that if implemented would minimize indirect impacts to land use. Planning tools may need to be strengthened in communities beyond the study area that may experience accelerated growth pressures as a result of improved river crossing accessibility.

Numerous regulatory, permitting and approval processes are required for the approval and construction of a project of this scale and magnitude. These are in place to ensure additional agency review and to minimize development impacts. These include:

- Minnesota Environmental Quality Board regulations, which require environmental analysis and documentation for larger projects (e.g., residential and commercial developments)

- State and federal wetland permits and approvals, including:
  - Minnesota DNR Public Waters Permit
  - MPCA NPDES Construction Permit
  - MPCA Clean Water Act 401 Certification
  - U.S. Army Corps of Engineers Section 404 Permits
  - Wetlands Conservation Act (WCA) Permits

12.2 RELATED TRANSPORTATION IMPROVEMENTS

12.2.1 Affected Environment

Planned US 169 Corridor Improvements

Each of the Build alternatives has an effect on the design of a future interchange and/or local roadway connections in the US 169 corridor in Scott County. Interchange improvements at US 169/CSAH 14, US 169/existing TH 41/CSAH 78, and US 169/CSAH 69, as well as development of the local roadway system in the US 169 corridor, are planned under No-Build and Build conditions. These improvements are separate projects that have not yet been designed; each project would be evaluated under its own environmental process. For design and analysis purposes, this DEIS assumes that these separate improvements (hereafter referred to as the "planned US 169 corridor improvements") will be designed to accommodate the New TH 41 Build alternative that is selected.

The US 169 corridor improvements (including interchanges and local road networks) described in Chapter 3 and depicted in Figures 3-6 – 3-11, are concepts only, developed for the purpose of designing New TH 41 Build alternatives that can function operationally with planned US 169 corridor improvements (i.e., have adequate interchange spacing) and fit with local transportation system needs. These planned US 169 corridor improvement concepts are the basis for this discussion of potential indirect impacts. However, it is important to note that alternate US 169 improvement designs that can accommodate any of the New TH 41 Build alternatives are possible.

This discussion assumes that planned US 169 corridor improvements would be designed to minimize impacts (e.g., assumes that a diamond interchange would be selected if possible and that diamond ramps would generally have fewer impacts than loop ramps). This discussion is focused on the potential for planned US 169 corridor improvements to have greater environmental impacts than they otherwise would have, because their design needs to accommodate the New TH 41 Build alternative. Any such difference in impacts of a planned US 169 corridor improvement would be considered an indirect impact of the proposed New TH 41 project.

The future alignment of US 169 in the vicinity of CSAH 69 is unknown at this time. As part of the future US 169/CSAH 69 interchange project, US 169 could be reconstructed along its existing alignment, with relatively minor geometric improvements, or it could be straightened out and shifted south. This alignment decision is not dependent upon which

New TH 41 alternative is selected; however, the designs of US 169 and of Alternative E-1, Alternative E-1A or Alternative E-2 would need to accommodate each other. The designs of Alternative E-1, Alternative E-1A and Alternative E-2 evaluated in this DEIS assume that US 169 is straightened out and shifted south. (See Figures 3-9, 3-10, and 3-11.) The impact of this assumed realignment of US 169 is described in Section 12.2.2., but it is important to note that it is not an indirect effect of (i.e., not necessitated by) the proposed New TH 41 project per se. Any of the eastern Build alternatives could be redesigned to accommodate a reconstructed US 169 on its existing alignment.

Area Roadways

The construction of the proposed project will influence the traffic flow on roadways throughout the study area. While it is not practical to model changes in traffic on all roadways, the travel forecasts do include No-Build and Build average daily traffic (ADT) for major area roadways. The discussion of potential indirect impacts is focused on whether the changes in traffic that result from any Build alternative (compared to No-Build) could require expansion of a roadway, potentially causing environmental impacts that otherwise would not occur.

12.2.2 Environmental Consequences

Planned US 169 Corridor Improvements

Alternative W-2 assumes that the planned US 169/CSAH 14 interchange would include a loop in the southwest quadrant, in order to maintain adequate spacing from the New TH 41/ US 169 interchange to the east. Compared to a standard diamond design (assumed if there were no spacing constraint), such a design would increase impacts in the southwest quadrant while decreasing impacts in the southeast quadrant of the US 169/CSAH 14 interchange. The total area of impact due to ramps would likely be slightly greater, but there appear to be no sensitive resources (e.g., wetlands, native vegetation, structures) in the area that would be additionally impacted (i.e., the southwest quadrant). Alternative W-2 also has an effect on the location of the future frontage road on the south side of US 169, requiring that it be located close to bluff, potentially impacting commercial structures. It is not known what the specific location of this local road would be if Alternative W-2 is not selected as the river crossing corridor; it may or may not affect these structures.

Alternative C-2 and Alternative C-2A each assume a folded diamond design of the planned US 169/existing TH 41/CSAH 78 interchange (which would be combined with the system interchange when it is built) in order to maintain adequate spacing from the planned US 169/CSAH 69 interchange to the east. They also assume location of the interchange west of existing TH 41 in order to accommodate the New TH 41/US 169 system interchange. For each, this design and location would increase impacts to the area west of existing TH 41 (including three single family homes) and decrease impacts at and east of existing TH 41. Compared to a standard diamond design, the total area of impact due to ramps would be slightly greater, but other than the homes, there appear to be no other sensitive resources in the area that would be additionally impacted. Alternative C-2 and Alternative C-2A both also assume realignment of existing TH 41/CSAH 78 as part of the planned US 169/existing TH 41 interchange design. This

realigned roadway would be approximately 3,000 feet longer for Alternative C-2 and 3,060 feet longer for Alternative C-2A, than the existing alignment, resulting in additional cost and right of way impacts compared to maintaining existing TH 41/CSAH 78 in place.

Alternative E-1/E-1A (note that Alternative E-1 and Alternative E-1A are identical in Scott County) and Alternative E-2 each assume a folded diamond design of the planned US 169/existing TH 41/CSAH 78 interchange in order to maintain adequate spacing from the New TH 41/US 169/CSAH 69 interchange to the east. Compared to a standard diamond design and as described above, this design would increase impacts west of existing TH 41 while decreasing impacts east of existing TH 41. The total area of impact due to ramps would be slightly greater with a folded diamond design, but there are no sensitive resources in the area that would be additionally impacted. (These alternatives do not assume location of the US 169/existing TH 41 interchange west of existing TH 41 nor realignment of existing TH 41/CSAH 78.)

As noted, Alternative E-1/E-1A and Alternative E-2 designs assume that US 169 in the vicinity of CSAH 69 will be realigned to the south. This realignment would be approximately one mile long and would have additional right of way impacts compared to reconstructing US 169 on its existing alignment, though this additional impact would be offset by the likely conversion of excess right of way to private land. It is important to note that these right of way impacts are not an indirect effect of the New TH 41 project; either Alternative E-1/E-1A or Alternative E-2 could be redesigned to accommodate reconstruction of US 169 on its existing alignment. However, if the decision were made to reconstruct US 169 on its existing alignment, the resulting redesign of Alternative E-1/E-1A or Alternative E-2 would impact additional mobile homes at the Bonnevista mobile home park. If one of the eastern alternatives is identified as the preferred alternative for the New TH 41 river crossing, additional analysis will be done in the Tier I FEIS regarding the advantages and disadvantages of the two alignment options for US 169.

Area Roadways

The differences among alternatives in 2040 traffic volumes on area roadways included in the travel forecast was examined to determine whether selection of any New TH 41 Build alternative would result in traffic levels that would require expansion of other area roadways that otherwise would not occur.

In many cases, area roadways included in the travel forecast model experience a reduction in forecast ADT under Build conditions. Of the roadways where one or more of the Build alternatives results in an increase in volumes over No-Build conditions, only US 212 at the western end of the project area had 2040 Build volumes (for Alternatives W-2, C-2 and C-2A) that may pose capacity issues. Mn/DOT is currently studying the need for improvements to US 212 west of the project area; this study will assess the environmental impacts associated with any recommended improvements.

12.2.3 Mitigation

Because of the time frame involved (i.e., the proposed project is not scheduled to be implemented for several years), the potential indirect impacts of the proposed project that are

related to other transportation projects (planned US 169 corridor improvements; future US 212 improvements) can be managed through coordination with those projects as they proceed. Each of the potentially-affected transportation projects would be subject to its own environmental review and resulting mitigation plans and commitments. Mn/DOT will be the planning and implementing agency for future US 169 and US 212 improvements, and therefore will be responsible for mitigation of any impacts of these projects, whether or not they are considered secondary impacts of the proposed river crossing project.

12.3 AREA ECONOMIC CONDITIONS

12.3.1 Affected Environment

Business Area Traffic

The proposed project results in changes to traffic levels in or entering business areas, specifically in downtown Chaska (existing TH 41) and on the westernmost entrance from US 169 to downtown Shakopee (CSAH 69). Businesses rely on traffic for exposure and customer access, however excessive traffic congestion becomes counterproductive for business viability by causing delays and parking difficulties for potential customers. Congestion, particularly involving heavy trucks, has been identified as a problem for business in downtown Chaska. Under all Build conditions, congestion and truck percentages in downtown Chaska decrease and traffic becomes more local, less regional in nature.

Historically, the route that is now CSAH 69 was the main road through the downtown Shakopee business area. In 1996, the completion of US 169 (the Shakopee Bypass) removed through regional traffic from Shakopee's downtown. Access from US 169 to downtown Shakopee from the west is available at the US 169/CSAH 69 intersection. The next access to the east is at the US 169/CSAH 15 (Marystown Road) interchange. Access to the downtown business area is circuitous from this interchange. CSAH 15 travels through a residential neighborhood, park and institutional area of the community and terminates at railroad tracks north of CSAH 69. Because CSAH 15 does not provide a good entrance to downtown, access from US 169 to downtown Shakopee via CSAH 69 has been expressed as being very important to downtown Shakopee merchants. Under all Build conditions, access from US 169 to CSAH 69 is maintained. Of the Build alternatives, Alternative E-1A results in the lowest 2040 ADT on CSAH 69 (11,600) and Alternative C-2 results in the highest 2040 ADT on CSAH 69 (16,500). Under the No-Build condition, 2040 ADT on CSAH 69 is 12,500.

Affordable Housing

Five of the six Build alternatives affect the supply of affordable housing in the study area due to right of way acquisition within one or more of four mobile home parks. These impacts range from 18 units (Alternative C-2) to 182 units (Alternative E-2). 2000 Census data as well as current anecdotal data indicate these mobile home communities have high percentages of persons in poverty and lower average household incomes.

According to the Metropolitan Council, (*Transportation Policy Plan Demographics, Appendix E*, November 2004), less than 45 percent of residents in the southwest quadrant of the metropolitan area (which includes the project study area) commute to the central cities (Minneapolis and

St. Paul) for work, and the jobs per household ratio in the southwest quadrant is higher than exists in either the central cities or any other quadrant of the metropolitan area. While data on the location of jobs held by residents of the affected mobile home parks has not been collected, it is reasonable to assume that many work in or near the study area communities.

The supply of affordable housing has been an issue of concern throughout the metropolitan area for several years. Based on its examination of jobs proximity (i.e., ratio of lower-wage jobs to lower-wage workers), existing amount of affordable housing, and availability of transit service, the Metropolitan Council projects that, by 2020, the four cities in the study area together will need over 4,200 additional affordable housing units and that Scott and Carver counties together will need over 11,000 additional affordable units. (*Affordable Housing Need in the Twin Cities, 2011-2020*, summary report dated January 2006.)

A mobile home is a unique affordable housing option in that, while the resident in many cases owns the unit itself, he or she rents the lot on which the unit is located. There are currently few options within the study area to which a mobile home unit could be moved and there is little likelihood that any new mobile home parks will be developed within the study area.

Impacts on Neighborhoods

Neighborhood investment is important to the economic vitality of the local communities and the region as a whole. Direct impacts of the proposed project on neighborhoods in the study are presented earlier in this DEIS. In summary, these effects are as follows:

- The proposed project results in the estimated removal of 11 to 266 housing units depending upon the Build alternative.
- Noise levels in residential areas would be generally discernibly higher than No Build conditions under one or more Build alternatives, with some exceptions. There are a number of locations where noise levels are increased in a neighborhood under a particular Build alternative, but decreased under one or more of the other Build alternatives. Note that noise levels reported in Chapter 6 are presented without consideration of mitigation (i.e., noise walls).
- The proposed project will affect visual quality in several neighborhoods including neighborhoods immediately adjacent to proposed roadway, but also neighborhoods that view the river valley from a distance.
- Certain alternatives will create barriers between neighborhoods and the broader community. Access will be provided but it will be more circuitous.

12.3.2 Environmental Consequences

Business Area Traffic

Any indirect effect to the viability of the Shakopee business community due to reduction in traffic levels on CSAH 69 (which occurs for the eastern Build alternatives only) are expected to be minor and would be offset by increased market area accessibility.

Projected reduction in traffic on existing TH 41 will benefit businesses in downtown Chaska. The shift from regional trips to local trips on existing TH 41 may have an indirect impact on Chaska hospitality businesses that have a regional market; however any such impact should be minimized by the ease of access between US 169 and downtown Chaska that will be provided by the planned US 169/existing TH 41 interchange.

Affordable Housing

It is not possible to predict the total supply of affordable housing nor the balance between the availability of lower cost housing and lower wage jobs that will exist in the study area if and when mobile home units are acquired for right of way for the proposed project. First, while Mn/DOT plans to work with local communities to begin right of way corridor preservation activities soon after the conclusion of the Tier I EIS process, acquisition of property through eminent domain cannot occur until after the Tier II EIS process is completed; many factors will affect the timing of any earlier voluntary right of way acquisition. Second, timing of right of way acquisition as it affects mobile home communities is particularly uncertain, because, as noted, while these residents may own their units, park owners (who may have different acquisition timing interests) own the lots. Third, the extent to which communities in the study area will be able to increase the supply of affordable housing, and thereby offset the removal of units by the proposed project, is unknown.

Despite these uncertainties, there is the potential that any removal of affordable housing (i.e., mobile home units) by the proposed project will have indirect impacts (1) on local businesses, by reducing the availability of labor if potential workers cannot find housing in the area, and (2) on low and moderate income families throughout the housing market area who would have fewer housing options if the impact is not offset by an increase in the area supply of affordable units. Local planning to meet the long-term affordable housing needs is done in the context of metropolitan housing goals and local needs. The Scott County Housing and Redevelopment Authority completed a comprehensive housing needs assessment in 2006, which addressed affordable housing needs. The Carver County Community Development Agency has as its stated mission the provision of affordable housing for County residents.

Impacts on Neighborhoods

There is little potential that the direct impacts of the proposed project on neighborhoods addressed in Chapters 5 and 6 (social, noise and visual) will result in indirect impacts on neighborhood quality to the degree that there would be large-scale disinvestment in property. Well-established, economically stable neighborhoods, as well as new residential developments exist near freeway-type facilities throughout the metropolitan area, the closest examples being along US 169 in Shakopee, Eden Prairie and Bloomington. Direct impacts will be mitigated as appropriate (e.g., noise walls, landscaping) to minimize the potential for adverse indirect effects on overall neighborhood stability. Increased regional accessibility and alleviation of local traffic congestion also provide positive offsets to the negative impacts of roadway projects on neighborhoods.

This Tier I DEIS assumes broad corridors for impact analysis purposes. The actual right of way requirements for the proposed project will not be determined until detailed design is completed during the Tier II EIS process, likely several years in the future. As noted above, Mn/DOT cannot acquire land for right of way through eminent domain until conclusion of the Tier II EIS process. In the meantime, the uncertainty about the details and timing of right of way acquisition has the potential to indirectly affect investment in properties that are located within the Build alternative corridor that is selected during the Tier I process. Communication between Mn/DOT and affected property owners about timing and the right of way acquisition process will be important to alleviating uncertainty and minimizing the potential for such indirect effect.

Alternative C-2A and Alternative E-1 each create a physical division between a sizable Chaska neighborhood area (Alternative C-2A: future Heights of Chaska; Alternative E-1: the existing neighborhood located east of Audubon Road) and the remainder of the community, and particularly the downtown. This poses potential indirect impacts on viability of businesses that rely on the local market and on long-term investment in the downtown.

12.3.3 Mitigation

Because of the timeframe for actual construction of the proposed project, the potential for indirect impacts on area economic conditions can only be speculative at this time. However, an advantage of selecting a corridor to be preserved well in advance of project implementation is that it allows each community to not only plan for its future land use and transportation system to fit physically with the project, but also to plan for potential indirect effects of the project. Communities will have time to plan for an adequate supply of affordable housing, businesses will have time to plan for expected change in market accessibility, and potentially-affected property owners will have time to plan for eventual acquisition.

The Tier II EIS will evaluate the potential for more specific indirect effects of the project on area economic conditions and develop mitigation strategies as appropriate.

12.4 ECOLOGICAL RELATIONSHIPS

12.4.1 Affected Environment

Each of the Build alternatives affects sensitive natural resources. Chapters 7 and 9 discuss the direct impacts of the proposed project on resources including floodplain forests, old growth floodplain forests, oak forest, maple-basswood forests, native plant communities, and wetlands.

12.4.2 Environmental Consequences

It is beyond the scope of this DEIS to quantify any specific indirect effect occurring farther in distance or later in time due to direct impacts of the project on any natural area. Because ecological relationships are by their nature complex and would extend beyond the study area, the indirect impacts that would result from the removal of habitat by the proposed project are discussed here only in general terms. Each of the affected resources represents an ecosystem

involving a web of physical and biological links among air, water, soil, plants, and animals. Therefore the project will indirectly impact these resources as well. Chapter 7 discusses the indirect effects of hydrological changes on Seminary Fen, the effects of fragmentation of native vegetation and edge effect on wildlife habitat.

The potential for indirect impacts due to ecosystem effects also extends to humans because they view and/or recreate in natural areas, encounter wildlife, experience microclimate effects, breathe air, use surface and groundwater, and enjoy other connections, many intangible, with the natural environment.

Impacts of the project on natural areas can result in impacts on biodiversity, the value of which is well documented and encompasses global life support (energy transfer, storage and release of carbon, nutrient, oxygen and water cycling); economic benefit; aesthetics and stewardship value.

While broader ecosystem changes may be legitimately considered as secondary effects of the proposed project, they occur within a much more involved and far-reaching context.

12.4.3 Mitigation

Provisions to restore or preserve habitat elsewhere are among the potential mitigation measures for the direct impacts of the proposed project on natural areas. Wetland mitigation is required by law. Impacts on natural areas in public recreation lands (i.e., MVNWR and MVSRA) would be subject to Section 4(f) and Section 6(f) mitigation requirements. Restoration or protection of habitat that would be done to mitigate direct impacts would have a corresponding beneficial indirect impact on the broader ecosystem. Mitigation of specifically-identified indirect effects of the proposed project will be addressed in the Tier II EIS process.

13.0 CUMULATIVE IMPACTS

This chapter describes the potential for cumulative impacts from the Build alternatives in combination with other past, present, and future actions. Cumulative impacts analysis takes into account an array of potential actions and their impacts that are unrelated to the proposed action (Build alternatives), except to the extent that their impacts may, in combination with the impacts from the proposed action, result in adverse impacts. Cumulative impacts are defined, as follows, in the Council on Environmental Quality's (CEQ) regulations (40 CFR 1500-1508) when implementing the procedural provisions of the National Environmental Policy Act (NEPA) of 1969, as amended:

> The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. (40 CFR 1508.7)

Direct and indirect impacts of the Build alternatives have been discussed in the previous chapters of this DEIS. Cumulative impacts are not causally linked to the Build alternatives, but are the total effect of actions with similar impacts in a broader geographic area. The purpose of a cumulative impacts analysis is to identify impacts that may be minimal and therefore neither significant nor adverse when examined within the context of the proposed action, but that may accumulate and become both significant and adverse over a large number of actions.

13.1 CUMULATIVE IMPACT METHODOLOGY

This discussion of cumulative impacts will assess the effects of the Build alternatives as described in the previous chapters of this DEIS for their potential to combine with the impacts of other foreseeable activities in the past, present, and future which, when combined, have the potential to create further adverse impacts. To that end, this chapter will attempt to anticipate the impacts of other actions with similar impacts and to assess the cumulative impacts of those actions in combination with the direct and indirect impacts of the Build alternatives. Note that this Tier I Draft EIS identifies and evaluates the social, economic and environmental issues associated with alternative corridor locations, as a basis for identifying a preferred alignment corridor that can be preserved for future use, and therefore is limited in its ability to quantify all impacts of the project. A Tier II EIS process will be initiated in the future, as the project moves forward for implementation. The Tier II process will focus on preferred alignment design alternatives, and an updated assessment of environmental impacts including cumulative impacts.

The cumulative impacts analysis includes the following five steps:

1. Identify the geographic area to be studied for each resource
2. Establish a time frame for the analysis
3. Identify past, present and future conditions
4. Identify past actions
5. Identify future actions anticipated

Each of these steps is described below.

13.1.1 Geographic Area to be Studied for Each Resource

Chapters 4 through 11 of this Tier I DEIS analyze the social, economic and environmental impacts that would occur within and immediately adjacent to the construction limits of the six Build alternatives. Chapter 12 describes the potential indirect impacts for each of the Build alternatives.

The land encompassing the overall project study area (See Figure 1-2 in Chapter 1) was chosen as the broadest geographic area for the cumulative impacts analysis as it relates to land development, social impacts, noise, vegetation and wildlife, water quantity and quality, and visual quality. Exceptions to this broad geographic study area for cumulative impacts are as follows:

- Minnesota Valley National Wildlife Refuge (MVNWR): geographic study area includes all eight units of the Refuge as defined by the U.S. Fish and Wildlife Service, an area described in Section 13.3.9.
- Minnesota Valley State Recreation Area (MVSRA) and Minnesota Valley State Trails (MV Trail): geographic study area includes the portion of the MVSRA and MV Trail within the project study area, an area described in Section 13.3.10.
- Seminary Fen Wetland Complex (SFWC): geographic study areas include the individual areas specifically identified as meeting the criteria for a calcareous fen, and the supporting wetland complex as described in Chapter 7 and Section 13.3.6.
- Parks, Trails and Outdoor Public Recreation Facilities: geographic study area includes Athletic Park, the system of trails and the Pioneer Park/Chaska High School/Pioneer Ridge Freshman Center in the City of Chaska, as described in Section 13.3.11.

13.1.2 Time Frame for the Analysis

Many of the potential impacts considered in this analysis are related to direct or indirect effects of changes to, and intensification of, land use and associated infrastructure. Cumulative impacts analysis suggests considering past conditions and activities, current day actions as well as reasonably foreseeable future actions. Therefore, the period between 1970 and 2040 was defined for all resources being studied.

The timeframe of the analysis considers previous impacts that have occurred to resources since the 1970s, the time when the rate of development became accelerated in the project area. Information about existing conditions is based on the most recent data available and can be from data obtained between 2000 and 2006. For example, 2000 Census data are used and 2005-2006 field surveyed conditions are used. Year 2040 was selected as the future conditions analysis year because that is as far in the future as Metropolitan Council population and employment projections are available.

13.1.3 Past, Present and Future Conditions

As described above, cumulative impacts are defined as those impacts resulting from the proposed project combined with those from other past, present, or reasonably foreseeable future actions. Ideally, all potential future development activities in the study area would be identified as part of this analysis so that their potential impacts could be taken into consideration in combination with those from the Build alternatives. Actions that could, in combination with the proposed action, result in cumulative impacts on the environment, can be generally classified as those related to intensification of land use (urbanization). The conversion of rural, agricultural, or open space land to residential, commercial, industrial or infrastructure uses is an example of this change.

13.1.3.1 Past Actions

Since 1970 the communities in the study area have experienced a transition from a small town or agricultural setting to a more urban environment. Past actions include residential and commercial development and highway and other infrastructure improvements. This development has increased the population of the municipalities in the study area and expanded employment opportunities. Between 1990 and 2000 Scott County was the fastest growing county in the state and Carver County was the third fastest. Scott County's population increased by over 54 percent during that time period and Carver County's grew by over 46 percent. Recent actions in the study area include:

- Residential and commercial development.
- Reconstruction of the existing TH 41 Bridge.
- Initiation of construction of New US 212.
- Improvements to the US 169/existing TH 41/CSAH 78 intersection and system of backage roads north of US 169.

13.1.3.2 Future Actions Anticipated

The proposed project would occur in the context of a trend of urbanization throughout the study area. Extensive amounts of residential and commercial development are planned within and adjacent to the study area in the cumulative impacts analysis time frame. Tables 2-1 and 2-2 in Chapter 2 show 2040 population and employment projects for cities and counties in the study area. Table 5-7 in Chapter 5 shows existing (2000) and planned (2030) land uses. For the purposes of this analysis, the "other actions" discussed include projected land development as currently anticipated in county and local plans, known private development actions as provided by local planning officials, and planned and proposed roadway or other infrastructure projects within the broad geographic study area. These include the following:

Scott County:

- Bluffs at Marystown: (west of Marystown Road and north of 130th Street in Shakopee) residential development of approximately 750 residential units, 45,000 square feet of commercial/office space and a new elementary school.

- Countryside: (east of Marystown Road and north of 128th Street in Shakopee) residential development of approximately 430 units.
- Bruggeman: (east of Old Brick Yard Road and north of 130th Street in Shakopee) residential development of approximately 750 units.
- New high school: (immediately south of the Countryside residential development, noted above, in Shakopee) planned for approximately 1,600 students.
- Commercial development: (Jackson Township adjacent to US 169 northeast of existing TH 41 and US 169) characterized as "major."
- Conversion of US 169 to an expressway with interchanges at CSAH 14, existing TH 41/CSAH 78, and CSAH 69.
- Potential realignment of US 169 as part of conversion referenced above. (Note: impacts that would result from a realignment of US 169 are also discussed in Chapter 12.)
- Continued development of local roadway network paralleling US 169.

Carver County:

- Heights of Chaska: (west of downtown Chaska on the south and north sides of CR 140) a 1,000 acre development site that includes a mix of residential, employment, commercial and civic uses. Approximately 3,550 residential units and 70,000 square feet of commercial space are planned.
- River Bluff Estates: (south side of CR 40 in Carver) a residential town home development of approximately 42 units, currently under construction.
- Spring Creek: (southeast quadrant of the CR 147/US 212 intersection) a residential development of approximately 350 units. The land has been platted.
- City of Carver AUAR: (south of existing US 212, west of CSAH 11) a 1,700-acre development area with various mixed use scenarios under consideration.
- Completion of New US 212 construction.
- Potential improvements to Highway 101 corridor (under study).

13.2 EFFECTS ON RESOURCES

To the degree practical given available information and resources, the following steps were taken to analyze the potential for cumulative effects:

- Summarize the existing condition of each potentially affected resource and how it has been affected by other actions, public or private.
- Summarize impacts to the affected resource from the Build alternatives.

- Identify other present actions and reasonably foreseeable future actions and their possible impacts on that resource.
- Summarize the impacts to the affected resources from reasonably foreseeable future actions. Discuss the potential for cumulative impacts to the resource based on consideration of effects of all past, present and future actions as well as consideration of special designations or standards that relate to the resource, ongoing regulatory authority, policies, or plans that afford some measure of protection to the affected resources, and measures that could avoid or minimize negative effects on the resource.

13.3 RESOURCES ANALYZED

This chapter discusses cumulative impacts to the following: land development/conversion of agricultural and open space to more intensive uses, social/community cohesion/access/environmental justice/community facilities, traffic noise, visual quality, vegetation/wildlife, Seminary Fen Wetland Complex, wetlands, water quality and quantity, Minnesota Valley National Wildlife Refuge, Minnesota Valley State Recreation Area and Trails, parks/trails/outdoor recreation facilities, and cultural resources.

13.3.1 Land Development/Conversion of Agriculture and Open Space Land to More Intensive Uses

This section addresses the potential for cumulative impacts on land development generally, with particular consideration of the impact on conversion of agricultural and open space land to more intensive uses.

13.3.1.1 Past and Existing Conditions

The study area includes land in the Cities of Carver, Chaska and Chanhassen in Carver County and the City of Shakopee and townships of Louisville and Jackson in Scott County. Existing land uses include agricultural, residential (including mobile home parks), commercial, industrial and public (including the MVNWR and the MVSRA).

Since 1970 many acres of land have been developed in Scott and Carver Counties. Metropolitan Council research indicates that the amount of land devoted to residential and commercial uses in Scott and Carver Counties has more than doubled from 1970 to 2000. Similar data on the growth in residential and commercial land uses are reported for the cities and townships in the study area. The Metropolitan Council reported that the percentage of city land in urbanized use in 1970 in Shakopee (22 percent), Chaska (20 percent) and Chanhassen (32 percent) increased to 48, 59, and 63 percent respectively in 2000. This increase has resulted in intensification of already developed areas as well as conversion of land previously used for agriculture. In addition, roadways such as US 169 and New US 212 have been and are being constructed to meet local and regional transportation demands.

13.3.1.2 Impacts from Proposed Action

The proposed action will result in direct impacts due to acquisition of land for right of way, including land currently used for residential, commercial, agricultural and public purposes (see Table 5-8 in Chapter 5). The Build alternatives, depending upon which is selected as the preferred alternative, will acquire between 26 and 190 acres of land currently classified as agricultural affecting between nine and 17 agricultural landowners. The affected land is either under cultivation or open space.

The proposed project is not anticipated to change the projected number of households or employment in the study area compared to the No-Build alternative since the same assumptions were used for No-Build and Build alternatives. As discussed in Chapter 12, the indirect impact of the proposed action on land development could result in planned growth to occur in a different configuration or intensity than otherwise planned and could provide impetus for development beyond the study area. In summary, construction of the proposed project in Scott County would facilitate and enhance the planned mixed commercial-industrial development along US 169. In Carver County, the project would facilitate and enhance planned commercial nodes at the proposed interchanges with New US 212 for Alternatives W-2, C-2, and C-2A.

13.3.1.3 Impacts from Other Future Actions

The City of Shakopee in Scott County is likely to be fully developed by 2040, including land annexed from Jackson and Louisville Townships (with the exception of the land owned by the Shakopee Mdewakanton Sioux Community). In Carver County, the City of Carver is expected to be fully developed by 2010; developers are currently seeking to annex to and develop an additional 2,000 acres in the City of Carver. The City of Chaska is expected to be fully developed by 2015 and the City of Chanhassen is expected to be fully developed by 2040.

The anticipated growth in the study area will result in the conversion of undeveloped and agricultural land to urban uses. This growth is provided for in the comprehensive plans of the communities in the study area. In Scott County reconstruction of US 169 and other roadways, and the major commercial development planned along US 169 will impact agricultural land; these actions may also result in the conversion of existing land to more intensive uses. In Carver County, anticipated development and infrastructure will affect mainly agricultural land.

13.3.1.4 Potential for Cumulative Impacts

The proposed project will result in cumulative impacts to land use as the impacts from the proposed project together with those from other past and future actions represent a substantial change in land use. While this is a cumulative impact, it is not an adverse one because the project and other future actions are assumed and anticipated in the comprehensive plans of the communities within the study area. The western and central portions of study area encompass a substantial amount of undeveloped land, some of which is platted or being planned for development. The proposed project will require conversion of farmland and open space for right of way, the amount varying depending upon which alternative is selected as the preferred. The Build alternatives, in combination with other land development and roadway projects, could

result in intensification of land use in already developed areas, and could encourage development of areas previously used for agriculture and open space. Planned roadway improvements will improve the perceived accessibility of these areas if existing transportation routes are substantially improved relative to total travel time and convenient use or access to the regional system. However, the goal of comprehensive planning is to reduce the negative cumulative effects of land development through orderly growth.

Land development is guided by city and county comprehensive plans and zoning regulations. These plans document consideration of the benefits and negative impacts of land development and prescribe patterns of development that are conducive to the goals of the community. Through zoning regulations, these same entities can control the intensification of development and protection of agricultural land and open space from further development. Development of local transportation facilities are also guided by these comprehensive plans and are evaluated based on consistency with comprehensive plans. Careful planning coordination and consistency among local, county, and regional agencies should continue in order to avoid non-compact and disorderly development known as "sprawl."

All future right of way acquisition would be completed in accordance with the Uniform Relocation and Real Property Acquisition Act of 1970, as amended by the Surface Transportation and Uniform Relocation Assistance Act of 1987 and 49 Code of Federal Regulations, Part 24, and effective April 1989. The Federal Farmland Protection and Policy Act (FPPA) of 1981 and the Minnesota Agricultural Land Preservation and Conservation Policy Act (M.S. 17.80-17.84) have been enacted to ensure that impacts on agricultural lands and operations are integrated into the decision-making process, and that impacts upon agricultural land are minimized to a reasonable extent. It is anticipated that future actions in the study area will be evaluated to identify any soils classified by the Natural Resources Conservation Service (NRCS) as being prime and unique farmland or statewide and local important farmland. In addition, areas proposed for future actions would be reviewed to identify land held under state and/or federal easement or protection programs.

13.3.2 Social

This section addresses the potential for cumulative impacts on social conditions, specifically on neighborhoods (neighborhoods and community cohesion, access, environmental justice and community facilities).

13.3.2.1 Past and Existing Conditions

As previously described, existing communities within the study area include Carver, Chaska, Chanhassen and Shakopee, as well as the townships of Louisville and Jackson, and are considered part of the Twin Cities metropolitan area. Historically, these communities developed as river towns surrounded and supported by agricultural uses. Since the 1970s, and increasingly in the 1990s to the present, they have experienced substantial growth and urbanization. The area has transformed from a small town agricultural setting to a suburban setting. Today, there are established neighborhoods as well as developing neighborhoods within each of these communities. Scott County neighborhoods within the study area consist of three mobile home

parks and a small group of homes west of the US 169/existing TH 41 intersection. Past impacts on these neighborhoods related to increased traffic on US 169 and existing TH 41 and change in character due to development along the US 169 corridor. In Carver County, the study area includes an array of neighborhood types including townhome developments, long-established residential areas, areas of older homes in and near historic districts, more "upscale" neighborhoods and mobile home parks. Depending on neighborhood location, past impacts include construction of New US 212 (on-going) and traffic increases on area roadways.

13.3.2.2 Impacts from the Proposed Action

Each of the Build alternatives requires acquisition of businesses and residential properties. These impacts are detailed in Section 5.1.2.1. Potential additional property impacts due to indirect impacts (i.e., influence on design of other planned roadway improvements) are discussed in Section 12.2.2. Existing or planned local roadway connections that are impacted by the proposed project will be functionally restored via grade-separation and/or local roadway realignment. The continuity of the local road network would be impacted by the Build alternatives resulting in minor impacts on the ease of access to community facilities for residents.

All of the Build alternatives result in fewer hours of congestion on existing TH 41, thus improving the overall general circulation and access to community facilities and services.

The environmental justice finding in Section 5.1.2.4 of Chapter 5 states that social and right of way impacts are disproportionate to low-income/minority communities for Alternatives C-2, C-2A, E-1, E-1A, and E-2. The loss of housing units in general and the loss of affordable housing units in particular, would impact the diversity of housing in the communities in the study area. According to City staff, Shakopee's current zoning ordinance is generally not amenable to the establishment of new mobile home parks. And while the City of Chaska ordinance allows for new mobile home parks, City staff indicated that the cost of land would make it unlikely to occur.

The number of residential units impacted by the Build alternatives, including single family homes, townhome units (under construction) and mobile home units, is as follows:

Alternative W-2:	13 units
Alternative C-2:	29 units (plus potential impacts of 3 units due to indirect impact)
Alternative C-2A:	78 units (plus potential impacts of 3 units due to indirect impact)
Alternative E-1:	261 units
Alternative E-1A:	136 units
Alternative E-2:	210 units

13.3.2.3 Impacts from Other Future Actions

Commercial development in Jackson Township in the vicinity of US 169 that is projected in current land use plans could result in the development of one or more of the mobile home parks in Scott County. Improvements to US 169, if realigned as assumed for Alternatives E-1, E-1A, and E-2, would likely impact Mobile Manor. This impact is noted in Chapters 5 and 12.

13.3.2.4 Potential for Cumulative Impacts

The proposed action, in conjunction with future actions could have a cumulative impact on the social environment. Reconstruction of US 169 (depending upon alignment) and the major commercial development planned in the same area has the potential to remove some or all of Mobile Manor mobile home park. The proposed project would take the remainder of the homes in the mobile home park if any of the eastern alternatives is chosen as the preferred alternative.

The comprehensive plans for the cities within the study area, which serve as an official community vision for each city, assume and provide for future growth and urbanization. Increasing development pressure will require continued careful policy- and decision-making by local units of government to minimize cumulative impacts on the affected communities.

13.3.3 Traffic Noise

13.3.3.1 Past and Existing Conditions

Generally, noise levels in the study area have increased as the transition from a small town agricultural setting to a suburban environment has occurred. Existing daytime L_{10} noise levels along all Build alternatives range from 43 dBA in isolated areas away from traffic noise sources to 73 dBA along existing TH 41 in the City of Chaska. Daytime noise standards at several existing receptor locations are exceeded (see Tables 6-4A-6-4F in Chapter 6). Traffic noise is a growing concern as the area continues to develop.

13.3.3.2 Impacts from the Proposed Action

Noise impacts would result from construction of any of the Build alternatives. Construction of the proposed project would result in an increase in daytime L_{10} noise levels from 0 dBA to 22 dBA over existing conditions in areas close to existing high volume roadways and up to 32 dBA in isolated areas currently not exposed to traffic noise.

13.3.3.3 Impacts from Other Future Actions

The general increase in growth and urbanization of the area will result in increased noise levels in the study area. Anticipated land development will both increase the number of sensitive receptors (e.g., residential uses) and the number of roadways that generate traffic noise. The most notable change in noise levels will be observed in the relatively undeveloped portions of the Cities of Shakopee, Carver and Chaska. Note, however, that area growth and planned roadway improvements are included as assumptions in the travel forecasting done for the proposed project and that changes in traffic on major roadways throughout the system under No-build conditions are included in the noise modeling for the project.

13.3.3.4 Potential for Cumulative Impacts to Traffic Noise

Traffic volumes from future development have been assumed in the model for the Build alternatives, therefore cumulative impacts have been accounted for in the analysis. The number of sensitive receptors experiencing noise levels exceeding state standards is expected to increase in the study area as development and traffic levels increase. As development in the study area occurs in the future there will be opportunities to create buffers to decrease noise impacts.

Where feasible and reasonable, noise mitigation (noise walls or barriers) along high-volume roadways must be considered to satisfy state and federal requirements. This evaluation will be included in the Tier II EIS, closer to the time of construction.

Two physical characteristics of noise lessen the potential for cumulative noise impacts. First, noise does not grow proportionally with the amount of traffic growth. As explained in Chapter 6 of the DEIS, a doubling of traffic along a roadway results in only an additional 3 dBA in sound level, a difference that is barely audible to the human ear. Second, traffic noise levels are generally localized and tend to disburse over relatively short distances.

In addition, local governmental units have the authority to decrease noise impacts on sensitive receptors by designating exclusive land uses in areas of highest noise impact, requiring appropriate subdivision design that would create a buffer to reduce the impacts of traffic noise on sensitive receptors, requiring noise insulation, or restricting time periods when noise can be generated.

13.3.4 Visual Quality

The natural environment is composed of those visual elements not constructed by humans. Natural elements within the project corridor include the maple-basswood and oak forests, floodplains, wetlands and the Minnesota River. The cultural environment includes those visual elements that are the result of human modification of the natural landscape or construction activities such as clearing and grading for agriculture and construction of homes, businesses and roadways.

13.3.4.1 Past and Existing Conditions

Visual conditions in the study area vary and include natural areas, agricultural areas, and developed areas. The visual setting includes the Minnesota River valley, rural landscapes, and historic districts and properties in the Cities of Carver and Chaska. The area has experienced a transition from small town agricultural environment to a more developed and urbanized environment. The natural and cultural environments combine to create a varied landscape dominated by agricultural and residential cultural elements such as fields, barns, industrial buildings and houses in areas to the south and west, and a small city/suburban landscape in areas to the north and east. City of Shakopee staff note that US 169 and adjacent development have had a substantial impact on the visual landscape in that area.

13.3.4.2 Impacts from the Proposed Action

All of the Build alternatives would impact, in varying degrees, the viewsheds and visual corridors within the study area by introducing views of traffic, pavement and other structural roadway features, including bridges, through currently undisturbed natural areas and farm fields.

13.3.4.3 Impacts from Other Future Actions

Additional development and associated roadway construction may affect the visual qualities of the study area as it continues its transition to an urban landscape. While some individuals may

value the aesthetic qualities of natural and rural environments, other individuals equally value orderly and well-designed developed areas. Local controls may affect the visual quality of development.

13.3.4.4 Potential for Cumulative Impacts

Anticipated future development and the proposed action are anticipated in the comprehensive plans for the cities and counties in the study area therefore are not expected to have a cumulative impact. Individuals who value natural environments may view further development in the study area as a degradation of visual quality. Orderly and well-designed built environments may be equally valued by others. These differences in values cannot be clearly interpreted as adverse impacts. Comprehensive plans for area communities identify a community vision that includes the proposed project (though not the location).

13.3.5 Vegetation and Wildlife

13.3.5.1 Past and Existing Conditions

Where development has occurred, impacts to vegetation and wildlife have also occurred. Impacts are greatest where natural areas are developed and trees, vegetation and wildlife habitat are impacted. The health and abundance of wildlife populations is largely dependent on the quality and quantity of habitat available to support them. Past and present development has fragmented and reduced the quality of wildlife habitat.

In 2002 the City of Shakopee completed a natural resources inventory for the City and adjacent townships. City staff characterizes impacts to natural resources since the 1970s as substantial. Since the early 1990s, the City of Chanhassen has been one of the Metropolitan Council's plat monitoring communities. City staff confirmed that despite tree preservation efforts, development is claiming between 30 and 60 percent of the trees on development sites. There is a large forested area in southern Chanhassen that is protected from development. The cities of Carver and Chaska have not undertaken similar studies.

Vegetative resources in and near the study area, as addressed in Chapter 7 of the DEIS, include floodplain forest near the river, calcareous fens, maple-basswood forest, oak forest, native vegetation, wetlands and cultivated agricultural land. Kitten-tails (threatened), Hill's Thistle (special concern) and Sterile Sedge (threatened) are found in the study area. The Seminary Fen is home to vascular plant and bryophyte (moss) calcephiles, including several protected plant species. Threatened and endangered animal resources in the study area include numerous types of mussels, the Fritillary Butterfly and the Bald Eagle. These resources are found on both publicly and privately owned property.

13.3.5.2 Impacts from the Proposed Action

All of the Build alternatives cross the Minnesota River valley and impact floodplain forest, wetlands, native vegetation and agricultural land. The Build alternatives would directly impact wildlife habitat and could potentially create a barrier to wildlife movement. Alternatives W-2, C-2 and C-2A would occur in areas in Carver County that are largely undeveloped natural areas.

Alternatives W-2 and C-2A cross directly through the Minnesota Valley National Wildlife Refuge (MVNWR), and to a lesser extent Alternative C-2, resulting in fragmentation of the MVNWR. All of the Build alternatives cross the Minnesota Valley State Recreation Area and MV Trail.

All of the Build alternatives would result in direct impacts on Minnesota River aquatic species during construction of the new river crossing and implementation of mitigation items. The Shovelnose Sturgeon (a species of special concern in the State) could be impacted by all of the Build alternatives. Numerous types of mussels (threatened, endangered or special concern) could be impacted by Alternative W-2, as could the Fritillary Butterfly (a species of special concern in the State). Bald Eagles (threatened) could be impacted by Alternatives E-1A and E-2. Sterile sedge (federal threatened and endangered) along with other native plant species associated with Seminary Fen could also be impacted by E-1A and E-2. Mitigation measures would be designed to avoid, minimize and alleviate impacts to threatened/endangered or other protected species and sites of biodiversity significance during the Tier II EIS process.

Areas impacted by the Build alternatives would experience exposure to the new roadway including impacts from bridge abutments, piers, storm water ponds and channels, and any areas shaded by the new structure. Trash, debris and salt spray for winter deicing could impact the vegetation below the bridge and could create an opportunity for invasive species to crowd out less-adaptable native species. Build alternatives would impact the following types of vegetation and threatened, endangered or special concern species:

Alternative W-2: floodplain forest, oak forest, lowland hardwood forest, Kitten Tails, Hills Thistle, Regal Fritillary Butterfly, various mussel types, Shovelnose Sturgeon

Alternative C-2: floodplain forest, aspen woodland, maple-basswood forest, lowland hardwood forest, oak forest, Shovelnose Sturgeon

Alternative C-2A: floodplain forest, maple-basswood forest, oak forest, oak woodland brushland, lowland hardwood forest, Shovelnose Sturgeon

Alternative E-1: floodplain forest, maple-basswood forest, lowland hardwood forest, oak forest, Shovelnose Sturgeon

Alternative E-1A: floodplain forest, calcareous fen, maple-basswood forest, lowland hardwood forest, oak forest, and oak-woodland brush, threatened, endangered, and special concern species associated with Seminary Fen (including, but not limited to, Sterile sedge, Low nutrush, Beaked spikerush, White lady's slipper, Twig rush), Shovelnose Sturgeon

Alternative E-2: floodplain forest, calcareous fen, maple-basswood forest, lowland hardwood forest, oak forest, and oak-woodland brush, threatened, endangered, and special concern species associated with Seminary Fen (including, but not limited to, Sterile sedge, Low nutrush, Beaked spikerush, White lady's slipper, Twig rush), Shovelnose Sturgeon

As noted in Chapter 12, direct impacts to vegetation and wildlife habitat have the potential for indirect impacts to resources within the broader ecosystem due to the web of ecological relationships among habitat and wildlife.

13.3.5.3 Impacts from Other Future Actions

Future anticipated developments in the study area (described in Section 13.1.3.2) on undeveloped land could result in loss of native vegetation, wooded areas and wetlands, and wildlife habitat.

This is especially true in the largely undeveloped areas of Carver County. River Bluff Estates, currently under construction, and the Heights of Chaska planned development in Carver County are located in undeveloped natural areas and agricultural areas. Construction of New US 212 will also remove vegetation, including forested areas as noted in Chapter 7. A large amount of land in the Minnesota River valley is under public ownership and thereby protected from future development. It is anticipated that future actions, including roadway construction and residential and commercial development, will include land use planning and preliminary studies to avoid and/or minimize impacts to wildlife habitat. Where impacts are unavoidable, it is likely that exercise of land use controls through project review and permitting by the appropriate regulatory agencies would include use of design considerations to reduce the overall impact.

13.3.5.4 Potential for Cumulative Impacts

The proposed action, in combination with other foreseeable actions in the area, could result in cumulative impacts on vegetative and wildlife habitat resources regardless of which alternative is chosen as preferred. Development controls of the governmental units within the study area include one or more of the following: natural resource corridor plan, conservation easements, woodland management ordinance, shore land protection ordinance, tree preservation and reforestation ordinance, bluff protection ordinance, wetland protection ordinance, wooded steep slopes ordinance. The City of Shakopee is developing regulations based on its Natural Resource Corridor Plan to protect identified greenways. These controls can help to protect natural areas, if they are in place before development occurs. Local governmental units should continue to take appropriate steps to protect these resources from other future actions. In addition, large amounts of habitat would continue to exist in a natural state through the protection of the MVNWR and the MVSRA.

13.3.6 Seminary Fen

13.3.6.1 Past and Existing Conditions

As discussed in Chapter 7 of the DEIS, the Seminary Fen Wetland Complex (SFWC) is a calcareous seepage fen, a rare and threatened type of wetland that is sensitive to changes in water chemistry and groundwater flow. Calcareous fens have special protection under state law, and are formally defined and delineated based on the presence of specific hydrology, water chemistry, soils, and vegetation indicator criteria. Many of the plants specific to calcareous fens

are state-listed as threatened or endangered because they are rarely found outside of the calcareous fen environment. Calcareous fens are often found as embedded discharge areas within a larger wetland complex. This is particularly true of calcareous fens that have been identified in the Minnesota River Valley where extensive wetlands are located in backswamp areas distant from the river, and in depressions and abandoned channels within the broad valley floor.

Because of their size and location in and near urbanizing areas, Minnesota Valley wetlands are particularly subject to various disturbances. Historic impacts to the fen are noted on aerial photos dating back to 1937. While the SFWC is considered to be relatively pristine, the immediate area of the wetland and the adjacent bluffs have been impacted by fragmentation, municipal well withdrawals, bluff top urbanization and storm water management, ditch and tile drainage, hydrologic alteration and surface water diversions, potential mining of peat and/or underlying sediments, and limited industrial development. The Seminary Fen may, in fact, be maintained in the face of existing and historic disturbance by the sheer size of the wetland complex within which it is embedded, combined with the calcareous nature of the underlying sediments. Assumption Creek, which flows through the SFWC and is designated as a trout stream, has very complex hydrology and has been substantially affected by historic diversions and channelization.

Residential development of the bluff top started prior to 1990 where ongoing construction is evident in an historic agricultural field northwest of the fen. Aerial photographs of the bluff-top area indicate that it was completely developed by 2000.

Recent studies discussed in Chapter 7 have identified the boundaries of calcareous fen within the SFWC based on current hydrologic, soil, water chemistry and vegetation criteria, finding that CFC Areas 1, 2 and 3 are calcareous fen. Each area has been disturbed and are threatened by invasive species. CFC Area 2 is of most concern in relation to the proposed project. Previous assessments did not identify this area as fen, most likely because it is overgrown with woody vegetation. The Phase II study conducted for the DEIS found that, despite the presence of several fen indicator species and the abundance of some of the, the amount of calcareous fen and native wetland plant communities has been substantially reduced over time. Shrub coverage and invasive species encroachment are serious and immediate threats to remaining fen vegetation.

13.3.6.2 Impacts from the Proposed Action

Alternatives E-1A and E-2 would result in direct impacts to wetlands, including calcareous fen wetland, due to bridge pier construction. Additional calcareous fen area would be lost within and around the highway corridor due to temporary dewatering, construction traffic, soil compaction and shading. The proposed action would also increase the amount of altered edge and allow for transport of contaminants, including road salt, through groundwater flow paths. In both cases, degradation may be so severe as to eliminate calcareous fen from large areas. As noted above, however, the relevant area (Area 2) is already degraded and threatened with further degradation regardless of the project.

13.3.6.3 Impacts from Other Future Actions

Chapter 7 reports that without active and sustained management of the SWFC, it is likely that the ongoing degradation (i.e., domination by non-fen plant species) will continue, independent of the proposed project. Potential future actions, other than construction of the proposed project within the Alternative E-1A or E-2 corridors, that would negatively affect the resource would therefore include not only any development on the calcareous fen (which would be subject to state regulation), but also continued lack of proactive management. It should be noted that the hydrology study found the groundwater recharge area for the SWFC to be fairly limited. The recharge area is already developed, except for available land along Bluff Creek Drive.

13.3.6.4 Potential for Cumulative Impacts

If Alternative E-1A or E-2 is constructed, the resources in CFC Area 2 will effectively be lost due to direct impacts, therefore no cumulative impact applies specific to CFC Area 2. There is potential for cumulative impacts to the entire SWFC, however, if either Alternatives E-1A or E-2 is constructed (assuming the resource exists at the time of construction), management of the remaining CFC Areas 1 and 3 and the broader wetland complex does not occur, or if development that directly affects the resource takes place.

The Wetland Conservation Act (WCA) states that calcareous fens may not be drained or filled or otherwise altered or degraded except as provided for in a management plan approved by the Minnesota Department of Natural Resources (MnDNR). The MnDNR would provide technical assistance in the development of a management plan for the SFWC, if a Build alternative that impacts it is chosen. The development of this plan would occur during the Tier II EIS process, closer to the time of design and construction.

In addition, federal and state wetland regulations require the use of a sequenced approach when projects have the potential to impact wetlands. Sequencing requires first avoiding wetland impacts if possible, and, if impacts are not avoidable, they must be minimized to the greatest extent practicable. Sequencing also includes rectification of temporary impacts and reduction or elimination of impacts over time. After all options for avoidance, minimization, rectification and long term reduction of impacts have been considered and implemented, compensation that will replace lost wetland functions is required for those impacts that are not avoidable.

13.3.7 Wetlands (Seminary Fen Discussed in Section 13.3.6)

13.3.7.1 Past and Existing Conditions

Historically, many of the wetlands in this region of the Minnesota River Valley have been filled, drained or otherwise disturbed since the area was initially settled to accommodate agriculture and development, according to a report by the University of Minnesota on water quality in the Minnesota River Basin. Also, “exemptions in place” have had some impact on wetlands.

Wetlands in Minnesota are federally regulated by Executive Order 11990, US DOT Administrative Order related to the impacts of transportation projects on wetlands and by the

U.S. Army Corps of Engineers under Section 404 of the Clean Water Act. In addition to federal regulation, Minnesota wetlands are also regulated by Governor's Executive Order 91-3, and the Minnesota Wetland Conservation Act as well as the MnDNR Division of Waters.

A survey in the study area of each of the Build alternatives identified a total of 32 wetlands that could be potentially impacted by the proposed action. Wetland basins were found in four general areas–along the Minnesota River valley floodplain, near the proposed interchange of New US 212 and Alternative C-2A, near the proposed interchange of New US 212 and the eastern alternatives, and in the Seminary Fen. The wetlands were classified according to methodology described in Section 9.5.2 of Chapter 9.

13.3.7.2 Impacts from the Proposed Action

As described in Table 9-7 in Chapter 9, the Build alternatives would directly wetlands as follows:

Alternative W-2:	11.7 acres
Alternative C-2:	10.9 acres
Alternative C-2A:	16.1 acres
Alternative E-1:	9.0 acres
Alternative E-1A:	14.9 acres (High Profile) and 14.6 acres (Low Profile)
Alternative E-2:	15.7 acres (High and Low Profiles)

Wetland functions and attributes include vegetation diversity, wildlife habitat and food, flood/storm water discharge, sediment and nutrient retention, aesthetics/recreation and groundwater recharge/discharge. Impacts to wetlands caused by construction can diminish these functions and affect the benefits these unique ecosystems contribute to landscapes.

13.3.7.3 Impacts from Other Future Actions

The continued growth and development associated with the trend of urbanization throughout the study area is likely to have a corresponding continued impact on wetlands through filling. Similarly, expansion of existing or construction of new roadways may impact wetlands.

Potential indirect impacts on wetlands from residential development could occur from storm water discharges into wetlands. Increased flow into wetlands could alter hydrology, causing changes in plant communities and disrupting life cycles of wetland inhabitants. Increases in storm water flow and increased nutrients and sediment also could result in wetland degradation. Fragmentation of wildlife habitat could also occur with increased development since many animals use both wetlands and uplands during their life cycles.

13.3.7.4 Potential for Cumulative Impacts

The amount of wetland impact ranges from approximately 10 to 23 acres. However, the impact to wetlands from past and future development in this area, which has been and will continue to experience rapid urbanization, is anticipated to result in cumulative impacts to the area's wetland resources. There are extensive regulations in place to protect wetlands in Minnesota. Despite this, there are some limitations of the wetland protection system that allow for exemptions to the regulations that result in wetland loss.

13.3.8 Water Quality and Quantity

13.3.8.1 Past and Existing Conditions

The Minnesota River basin, historically a wetland landscape, is now dominated by an agricultural landscape and the large urban population of the Twin Cities. These changes in land use over time help explain the poor water quality in the river, according to a report by the University of Minnesota on water quality in the Minnesota River basin. Because of the poor water quality of the Minnesota River, the river has been identified as an impaired water subject to Total Maximum Daily Loads (TMDLs) (pollution reduction plan, which will form the basis for an implementation plan.

As discussed in Chapter 9, conversion of open land to impervious surface increases runoff that may carry pollution and sediments and cause erosion as it discharges into surface water bodies. Degrading water quality can adversely affect fish, waterfowl, wildlife, and plant life sustained by the affected water body.

Groundwater can also be affected as land is converted from open space to more urbanized (residential, commercial or industrial) uses. Depending on the nature of wastewater systems in place, seepage of nitrates from septic systems as well as from agricultural uses can cause potential threats to groundwater quality.

13.3.8.2 Impacts from the Proposed Action

As described in Chapter 9, any of the Build alternatives chosen as the preferred alternative, would incorporate design features to effectively treat roadway and bridge storm water runoff prior to discharge into surface waters. In addition to permanent storm water runoff treatment and permanent erosion control, temporary erosion control and temporary storm water pollution prevention measures would be used during construction. Some of the Build alternatives have more storage than others in the floodplain which has an impact on pond effectiveness.

There would likely be short-term impacts on water quality and aquatic life resulting from construction related activities that disturb river-bottom sediment. These impacts are expected to be transitory but will differ depending on the bridge design and the method of construction.

13.3.8.3 Impacts from Other Future Actions

In general, urbanization of existing agricultural land uses is expected to result in increased impervious surfaces. As the percent of impervious surface increases in a watershed, the volume of storm water runoff increases. Increased runoff, if not properly managed, can have a variety of negative impacts on receiving water bodies. These potential impacts include increased chances of flooding, erosion of streambanks and drainage ways, warming of stream waters, and decreased groundwater base flow due to less infiltration. Storm water management practices are routinely used to reduce the magnitude of these potential impacts.

13.3.8.4 Potential Cumulative Impacts

Given the design standards and management controls available for protecting the quality of surface waters and groundwater, it is likely that potential impacts of the project, along with other foreseeable actions, would be minimized or mitigated to a substantial degree, and cumulative impacts on water quality and quantity are not anticipated.

Stringent standards and regulations at the state and federal level are in place to protect water quality. Regulatory authorities, such as Watershed Districts, have considerable authority to regulate activities that affect water quality. Storm water management is required for all new roadway projects, which often incorporate drainage from adjacent land, thereby increasing the area receiving runoff treatment. Over time, the increasing amount of runoff treatment is likely to reduce the concentration of pollutants reaching surface waters.

Water quality can be impaired from development related activities, raising the concern for potential cumulative impacts. However, the regulatory structures currently in place reduce the potential for adverse impacts to water quality resulting from the proposed action in combination with other public and private actions. To prevent cumulative impacts on water quality and quantity, local and regional government agencies should continue their efforts to develop and administer comprehensive storm water management and erosion control plans.

13.3.9 Minnesota Valley National Wildlife Refuge

13.3.9.1 Past Impacts and Existing Conditions

The Minnesota Valley National Wildlife Refuge (MVNWR), established in 1976 and managed by the U.S. Fish and Wildlife Service (USFWS), is located in the study area. MVNWR consists of eight non-contiguous units (Long Meadow, Black Dog, Bloomington Ferry, Wilkie, Upgrala, Chaska, Louisville Swamp, Rapids Lake) that stretch 34 miles from Fort Snelling to the City of Jordan. Since its creation, the size of MVNWR has grown from 9,300 acres to 16,000 acres in 2006. According to USFWS staff, MVNWR will add 8,000 acres as the USFWS is able to acquire additional land as part of the mitigation for impacts of the Minneapolis-St. Paul Airport expansion on MVNWR land. There are no plans to expand MVNWR beyond 24,000 acres.

The 600-acre Chaska Unit is located in the northeastern part of the City of Carver and the extreme southwest part of the City of Chaska. Acquisition of this unit was completed in 2003. The Chaska Unit consists of marsh-edged lake surrounded by farmland and floodplain forest. There is a trail through the Chaska Unit that is almost complete and there are plans to open the area for archery hunting.

While there have been no past impacts on the Chaska Unit, USFWS staff report that all of the other units experience impacts from storm water runoff. For example, the Bloomington Ferry Unit has 27 storm water outlets for the City of Bloomington. Concerns cited by USFWS staff include erosion potential from development on fragile soils and steep slopes along the bluffs in the river valley and impacts to groundwater from well withdrawals by cities in the metropolitan area.

The Cedar Avenue Bridge was built through the Long Meadow Unit in 1982. The Bloomington Ferry Bridge (US 169), was built through the Wilkie and Bloomington Ferry Units in 1996. Most recently, the Minneapolis-St. Paul Airport was expanded in the Long Meadow

Unit in 2003. Past impacts from river crossings, cited by USFWS staff, include aesthetics, noise, trash, deicing chemicals, lighting, habitat fragmentation, and invasive species in disturbed areas. Concerns about possible fuel and chemical spills are also cited, though none have occurred.

13.3.9.2 Impacts from the Proposed Action

Three of the Build alternatives would directly impact MVNWR by requiring land to be acquired for right of way (Alternative W-2 20.4 acres, Alternative C-2 8.5 acres, and Alternative C-2A 36.1 acres). Two of these alternatives, W-2 and C-2A, would substantially fragment wildlife habitat in the MVNWR. Alternative C-2 would impact MVNWR to a lesser extent since it runs through the northernmost edge of the Chaska Unit.

The impacts experienced at other river crossings in the MVNWR could occur with the proposed project as well. These impacts include aesthetics, noise, trash, deicing chemicals, lighting, habitat fragmentation, and influx of invasive species in disturbed areas. Concerns about potential fuel and chemical spills reaching MVNWR marshes and lakes and ground water are cited by USFWS staff, though no spills from tanker trucks have occurred.

13.3.9.3 Impacts from Other Future Actions

USFWS staff did not identify any specific threats to MVNWR in terms of other future actions requiring acquisition of land. The impacts from urbanization on storm water and groundwater are cited as issues of concern. Storm water outlets in MVNWR and the ability to treat the volume of runoff are of concern at all units except the Chaska Unit. As development, and associated storm water runoff, in the City of Carver continues, this may become a concern for the Chaska Unit as well. In addition, there are concerns about long term water table reductions resulting from well withdrawals by nearby cities because this could result in lakes and marshes drying up.

13.3.9.4 Potential for Cumulative Impacts

The proposed project has the potential for having a cumulative impact on the MVNWR, depending upon which alternative is chosen as preferred, since three of the Build alternatives go through it. MVNWR has experienced impacts from other river crossings and the airport expansion. In addition, continued development of the communities along the Minnesota River valley will impact MVNWR through storm water runoff and long term well withdrawals.

However, the size of impact from the proposed project in relation the overall size of MVNWR is relatively small. Also, MVNWR has more than doubled in size since it was created in 1976. Finally, MVNWR is given a high degree of protection by federal laws, reducing the potential for substantial impacts resulting from the proposed action in combination with other actions.

13.3.10 Minnesota Valley State Recreation Area and Minnesota Valley State Trail

13.3.10.1 Past and Existing Conditions

The Minnesota Valley State Recreation Area (MVSRA) and Minnesota Valley State Trail (MV Trail), established in 1969, links Fort Snelling State Park and units of the Minnesota Valley

National Wildlife Refuge to waysides and other public lands as far west as Le Sueur. The MVSRA and MV Trail is owned and managed by the Minnesota Department of Natural Resources (MnDNR). A portion of the 5,000-acre MVSRA is located within the study area. The area's river, lakes, and scenic qualities attract more than 150,000 visitors every year. The portion of the MVSRA in the study area stretches from Carver on the west to Chanhassen on the east. There were some expansions to the MVSRA in the mid-1970s, including the Chaska section; however, there are no expansion plans for the MVSRA other than that the MnDNR is slowly adding to MV Trail system as opportunities become available.

Past impacts to the MVSRA and MV Trail include installation of a gas line in 2001 and the current reconstruction of the existing TH 41 bridge crossing the Minnesota River. MVSRA staff indicates that impacts from the gas line installation were temporary and occurred during construction. The current bridge reconstruction of existing TH 41 is requiring approximately two additional acres of MVSRA land for right of way purposes.

13.3.10.2 Impacts from the Proposed Action

All of the Build alternatives would require acquisition of or easements through the MVSRA and MV Trail and would result in temporary construction impacts to recreation facilities and permanent visual impacts. The specific amount of land required for right of way is as follows:

Alternative W-2:	30.6 acres
Alternative C-2:	22.3 acres
Alternative C-2A:	5.4 acres
Alternative E-1:	12.0 acres
Alternative E-1A:	12.0 acres
Alternative E-2:	4.2 acres

13.3.10.3 Impacts from Other Future Actions

MVSRA staff does not anticipate any future actions that will require land to be acquired from its holdings. As the area becomes increasingly developed there will be more demand by area users on the MVSRA and MV Trail. In addition, as development occurs along the bluff areas there will be visual impacts on the resource.

13.3.10.4 Potential for Cumulative Impacts

Past actions have impacted the MVSRA and MV Trail and all of the Build alternatives would impact the MVSRA and MV Trail as well. The magnitude of these impacts, in relation the overall size of the resource, however, is relatively small. Therefore, cumulative impacts are not anticipated. Parklands are given a high degree of protection by local, county, state, and federal laws, reducing the potential for substantial impacts resulting from the proposed action in combination with other actions.

13.3.11 Other Parks, Trails and Outdoor Public Recreation Facilities

13.3.11.1 Past and Existing Conditions

Athletic Park in the City of Chaska is an eight acre community park that provides a ball field and grandstand with seating for 1,000. Built in the 1950s, Athletic Park (a.k.a., Chaska Cubs Ball Field) has been determined to be eligible for the National Register of Historic Places (NRHP). The levee and flood control project in the area impacted the park by requiring removal of a portion of the parking lot, approximately 24 spaces. This did not impact the playability of the ball field. Since there is a strong demand for this type of recreation facility the City has plans to construct an additional ball field on the grounds at Athletic Park, add a picnic area and make improvements to the parking lot.

In addition to Athletic Park, the City of Chaska owns and manages a system of trails. The system consists of greenway trails (leisure and recreation trails) and roadway trails (destination trails) built primarily in the 1980s. Several segments of the trail system are being temporarily impacted by the New US 212 construction. In these instances, trail segments are being preserved through bridges and tunnels so no permanent impacts are expected.

In addition, public outdoor recreation facilities exist at the Pioneer Park/Chaska High School/Pioneer Ridge Freshman Center Complex that include ball fields, soccer fields, play structure, and picnic area. The size of Pioneer Park was decreased in 2002 to allow for an expanded site for the recently constructed Pioneer Ridge Freshman Center. Ball fields that were lost at Pioneer Park at that time were replaced on Chaska High School property.

13.3.11.2 Impacts from the Proposed Action

Alternatives W-2 and C-2A would not impact park, trails or outdoor recreation facilities. Alternative C-2 would directly impact Athletic Park by requiring 3.5 acres for right of way. It is possible that the entire park would need to be acquired if the remaining land is not usable for park purposes. City of Chaska staff has stated that if the playability of the ball field is impacted the City would want to relocate it and replace it with an equivalent facility, preferably near downtown. Alternative E-1 would impact three trail segments in the City of Chaska including a 1.4 mile segment of Audubon Trail. Alternatives E-1A and E-2 would impact two trail segments including approximately 1,000 feet of Audubon Trail. Three of the Build alternatives (E-1, E-1A, E-2) would impact Pioneer Park and/or the outdoor recreational facilities at Chaska High School and Pioneer Ridge Freshman Center through right of way acquisition. All of the eastern alternatives would likely result in temporary construction impacts to these outdoor recreation facilities.

13.3.11.3 Impacts from Other Future Actions

There are no anticipated developments that will impact these resources.

13.3.11.4 Potential for Cumulative Impacts

Impacts from past actions combined with the proposed action could result in cumulative impacts to Athletic Park if Alternative C-2 is chosen as the preferred alternative. The levee and flood

control project took a small portion of the park and the proposed action would take about half of the remaining park. As noted, it is possible that the entire park would need to be acquired if the remaining land is not useable for park purposes.

The proposed project could impact three trail segments that are also being impacted by New US 212 construction. However, all three segments are being preserved as part of the New US 212 project and are planned to be preserved as part of the proposed project as well. Therefore, cumulative impacts to the city's trail system are not anticipated.

Past actions have decreased the size of Pioneer Park. Alternatives E-1, E-1A and E-2 would directly impact Pioneer Park/Chaska High School/Pioneer Ridge Freshman Center Complex by requiring land from the outdoor facilities, though this is not expected to result in cumulative impacts to the resource because the facilities could still function.

13.3.12 Historic and Archeological Resources

13.3.12.1 Past and Existing Conditions

Several archaeological and historic resources exist within the study area reflecting patterns of Native American settlement, and nineteenth and early twentieth century development patterns. Historic resources in the area include archaeological sites and structures. Designated historic districts can be found in the Cities of Carver and Chaska. Historic property types present in the area include residences, commercial buildings, railroad, church, and park.

13.3.12.2 Impacts from the Proposed Action

Alternative C-2 is the only alternative that will directly impact an historic property (Athletic Park a.k.a. Chaska Cubs Ball Field) that is listed or determined eligible for the National Register of Historic Places (NRHP). A determination was made that the eastern alternatives (E-1, E-1A and E-2) will have no adverse effects on historic properties (this determination is based on the condition that the archeological site 21CR141 can be avoided through adjustments to the proposed E-1A or E-2 alignments if either is selected); E-1 would completely avoid the site. A final determination of effects on the other Build alternatives (W-2 and C-2A) as well as potential effects of Alternative C-2 on additional resources has not yet been made. The No-Build alternative will have an adverse effect on the Walnut Street Historic District in downtown Chaska. A complete discussion of each property listed on or determined eligible for the NRHP and the assessment of effects on each property are provided in Chapter 10 of this DEIS.

13.3.12.3 Impacts from Other Future Actions

The proposed future actions (i.e., development and new transportation infrastructure) considered in this analysis are planned to occur in areas beyond the developed areas of Carver and Chaska where historic properties tend to be located. Archeological sites on the other hand can be located in areas beyond the developed areas of cities and could be impacted by future actions. Impacts

resulting from intensification of land use can be controlled through local comprehensive planning and zoning controls. Local communities can also enact further controls to protect historic properties as the Cities of Carver and Chaska have already done.

Designation of historic properties by local governments can provide some protection for their preservation, as well as design review to guard against inappropriate changes that can destroy the historic characteristics of properties. Changes to National Register-listed or eligible properties would be reviewed under the Section 106 process if federal funds, permits or licenses are required as part of an undertaking. National Register listing, however, does not prevent demolitions or other negative effects on properties if federal funds, licenses or permits are not required. Privately funded development related to historic properties is not regulated under federal regulations and would only be reviewed if located in a local historic district, or applied to a locally designated property.

13.3.12.4 Potential for Cumulative Impacts

The proposed action, in combination with past and future actions, is not expected to result in cumulative impacts to historic properties or archeological sites. Cumulative impacts to historic properties are identified in conjunction with the criteria of adverse effect in 36 CFR 800.5 (a) (1), noting that adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

The proposed Build alternatives would redirect traffic, including truck traffic, from traveling through downtown Chaska resulting in a positive impact and improved environment for the Walnut Street Historic Districts and nearby properties. Changes in land-use patterns associated with development could alter the setting of some historic properties. Further development of previously undeveloped lands may also disturb existing archaeological sites, both in rural areas and the historic archaeology in urbanized areas.

13.4 CONCLUSIONS

13.4.1 Summary of Potential Cumulative Impacts

The greatest potential for cumulative impacts exists in issue areas related to land development, vegetation and wildlife, wetlands, MVNWR, and Athletic Park in the City of Chaska. Table 13-1 summarizes potential cumulative impacts. Potential impacts to these resources resulting from development projects are typically considered through local and county comprehensive planning efforts, permitting regulations and environmental review processes of NEPA and MEPA. Many of these impacts can be avoided or minimized through the continued application and enforcement of land use controls, development controls and roadway access restrictions.

TABLE 13-1
SUMMARY OF POTENTIAL CUMULATIVE IMPACTS FINDINGS

Resource/Ecosystem/Human Community	**Potential for Cumulative Impact**	
	✓greater potential	**×less potential**
Land Development-Conversion of Agricultural Land to more Intensive Uses	✓	
Social	✓	
Traffic Noise		×
Visual Quality		×
Vegetation/Wildlife/Threatened and Endangered	✓	
Seminary Fen Wetland Complex	✓	
Wetlands	✓	
Water Quality and Quantity		×
Minnesota Valley National Wildlife Refuge	✓	
Minnesota Valley State Recreation Area and MV Trail		×
Parks, Trails and Outdoor Recreation Facilities	✓	
Cultural Resources		×

14.0 UNAVOIDABLE ADVERSE IMPACTS

This chapter documents the adverse environmental impacts of the Build alternatives that cannot be avoided; the relationship between short-term use of the environment and the maintenance and enhancement of long-term productivity; and irreversible and irretrievable commitment of resources. This chapter is not intended to repeat the environmental impacts discussed in the previous chapters, but rather to summarize the impacts that cannot be avoided as required under 40 CFR, Part 1502.16. A complete summary of impacts can be found in the Executive Summary of this Tier I DEIS.

14.1. ADVERSE IMPACTS THAT CANNOT BE AVOIDED

Note that for the purpose of the Tier I DEIS, impacts are based on an assumed 300-foot corridor, adjusted for topography, potential stormwater ponds, and at interchanges. Mitigation opportunities for the impacts summarized below are discussed in previous chapters. The Tier I FEIS will provide additional discussion of mitigation for the preferred alternative, however, mitigation detail will be finalized during the Tier II EIS process.

14.1.1 Right of Way

Households and businesses would be relocated due to right of way acquisition needed for the Build alternatives. The displacement of businesses and residences could have a negative impact on the tax bases of the affected areas if the businesses are not reestablished or residents not relocated within their original communities. Each property owner would be compensated for acquisition and/or relocation costs according to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) (49 CFR Part 24). However, property owners and occupants would experience unavoidable inconvenience as a result of relocation.

Estimated right of way requirements range from 214 acres to 360 acres. Estimated residential and business relocations range from 13 to 261 and 3 to 12, respectively. More detailed information on right of way acquisition can be found in Chapter 5.

14.1.2 Noise

The Build alternatives would result in year 2040 noise levels exceeding the Minnesota daytime and nighttime state noise standards at several locations in the study area. See Chapter 6 for a discussion of noise levels along the alternative corridors and potential noise mitigation. Noise mitigation will be analyzed along the project corridor selected as the preferred alternative in the Tier II EIS.

Noise modeling conducted for this Tier I DEIS and detailed in Chapter 6 indicates that, compared to No-Build conditions, the proposed project would result in an increase of 9 to 45 additional properties exceeding state daytime noise standards, 0 to 44 additional properties approaching or exceeding federal noise abatement criteria (69 dBA), and 6 to 26 additional properties meeting federal noise abatement criteria (increasing ≥5 dBA over existing conditions).

14.1.3 Visual

Construction of a bridge over the Minnesota River under any of the Build alternatives would have an impact on the existing visual setting for residents and visitors in the area. Visual impacts of the Build alternatives cannot be avoided since the bridge is a key component of each alternative.

14.1.4 Farmland

As determined by the Farmland Conversion Impact rating process, reported in Section 6.3, each of the Build alternatives would result in the conversion of farmland to roadway use. The total acreage of farmland to be converted directly varies with each Build alternative and ranges from 51 to 148 acres. (Note: Data used to make this determination was 1990s MLCCS information because it was the most current available, however, it does not reflect recent land use changes. Farm owners would be compensated in accordance with 49 CFR Part 24, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended).

14.1.5 Vegetation

All Build alternatives would require removal of trees and vegetation for bridge, roadway and interchange construction. Depending on alternative, there will be impacts to floodplain forest, (7 to 25 acres), oak forest (1 to 6 acres), maple-basswood forest (0 to 22 acres) lowland hardwood forest (1 to 12 acres) and oak woodland brush (0 to 9 acres). The amount of vegetative loss varies among alternatives and is discussed in detail in Chapter 7.

14.1.6 Floodplain

For all Build alternatives, river bridge construction would result in fill in the floodplain. The Build alternatives would result in transverse floodplain disturbance ranging from 5,730 feet to 7,970 feet. Some of the storm water ponds for the Build alternatives would be located within the floodplain. No substantial impact on 100-year flood elevations is expected.

14.1.7 Wetlands

The amount of wetland impact varies with each Build alternatives and ranges from 9.4 to 22.5 acres. Complete avoidance of wetland impacts would not be possible. Impacts on wetlands would be mitigated in accordance with U.S. Army Corps of Engineers and Wetland Conservation Act (WCA) requirements.

14.1.8 Minnesota Valley State Recreation Area and the Minnesota Valley State Trail

All alternatives would result in impacts to the Minnesota Valley State Recreation Area and the Minnesota Valley State Trail (MVSRA/MV Trail), ranging from 4.2 to 30.6 acres. Mn/DOT would allow recreational facilities to occur within the right of way beneath the bridge (e.g., trails, canoe and boating).

14.1.9 Soils

All Build alternatives cross steep slopes on hills and bluffs which are characterized by highly erodible soils. The length of these approximately 300-foot wide crossings ranges from 550 to 5,430 feet. Erosion resulting from disturbances of vegetative cover during construction could occur.

14.1.10 Water Quality and Quantity

All Build alternatives lie within sub-watersheds of the Minnesota River watershed, which drains to the Minnesota River. The Build alternatives would increase the amount of impervious surface and decrease infiltration resulting in an increase in the quantity of storm water runoff. All of the Build alternatives require storm water ponds, including some ponds within the 100-year floodplain.

14.1.11 Construction

Any of the Build alternatives would result in unavoidable temporary impacts on the environment due to the necessary construction activities. Construction related impacts include disruption of the flow of traffic, noise and air quality impacts, possible utility outages and relocations and earthborn vibrations.

14.2 SHORT-TERM USE OF RESOURCES VERSUS LONG-TERM PRODUCTIVITY

Each of the six Build alternatives results in similar impacts to fiscal, social, economic, physical and natural resources in the study area. Potential impacts to fiscal resources include the use of state and federal funds for the materials, labor and right of way acquisition required for construction of a Build alternative. The cost of constructing a Build alternative and converting existing residential, commercial and agricultural land use to transportation uses would be recovered through more efficient travel and an increase in tax base due to accessibility to existing and future land uses.

Impacts to social and economic resources (see Chapter 5) such as changes in access and the impacts to humans as a result of right of way acquisition and relocation would be counteracted, similar to the fiscal resource impact, by providing a more efficient transportation facility that would, in the long-term, improve accessibility and mobility in the area.

Chapters 6, 7 and 9 identify the impacts to the physical and natural environment resulting from the Build alternatives, including impacts to air quality, noise, wildlife, and wetlands. The long-term transportation service and efficiency benefits would outweigh short-term adverse impacts to the physical environment (e.g., air quality and noise impacts). Short-term impacts to the natural environment (e.g., wetlands and wildlife) would be mitigated to alleviate long-term consequences.

Although each Build alternative would result in the short-term use of resources, the short-term use of these resources is consistent with long-term productivity of the area, including present and future transportation needs of the state and region (see Chapter 2 – Purpose and Need). The transportation improvements are based on local, regional and state planning documents which have considered the need for existing and future transportation needs within the context of present and future land use development.

14.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Implementation of the proposed project involves the commitment of a range of fiscal, social and economic, and physical and natural resources. Construction of a Build alternative would require a substantial one-time expenditure of both state and federal funds which are not retrievable. While these public funds are not directly retrievable, the money spent can be considered a long-term investment in the economic vitality of the region.

The amount of land required for each of the six Build Alternatives would vary ranging from approximately 194 to 360 acres. Land used in the construction of the proposed project is considered an irreversible commitment during the time period that the land is used for a highway facility. However, if a greater need arises for use of the land or if the highway facility is no longer needed, the land can be converted to another use. At present, there is no reason to believe such a conversion would ever be necessary or desirable.

Considerable amounts of fossil fuels, labor and highway construction materials such as cement, aggregate and bituminous material would be required for each of the Build alternatives. Additionally, large amounts of labor and natural resources are used in the fabrication and preparation of construction materials. The use of these materials is generally considered irretrievable. However, these materials are not in short supply and their use would not have an adverse effect upon continued availability of these resources. In addition, some of these materials may have salvage value and may be recycled at the end of the facility's design life.

The commitment of these resources is based on the concept that residents in the immediate area, state and region would benefit by the improved quality of the transportation system. These benefits would consist of improved accessibility, safety, savings in time and greater availability of quality services which are anticipated to outweigh the commitment of these resources.

15.0 COMMENTS AND COORDINATION

This chapter describes the process used to involve stakeholders (public and government agencies) in the preparation of the DEIS, as well as the scoping process, for the proposed project.

Public and agency involvement for this project has been on-going since 2002. The scoping and DEIS preparation process have included meetings with local governments and other interested parties, input from the Project Management Team (PMT), Study Advisory Committee (SAC), Fen study groups, Policy Advisory Committee (PAC), and public information meetings.

15.1 AGENCY/LOCAL GOVERNMENT COORDINATION

The Minnesota Department of Transportation (Mn/DOT) is the lead agency for the project and the Federal Highway Administration is the lead federal agency for the project. Table 15-1 lists the agencies/governments that have been involved in the project.

TABLE 15-1
AGENCY AND ORGANIZATION INVOLVEMENT

Project Management Team (PMT)	
▪ Minnesota Department of Transportation (Mn/DOT) ▪ Scott County ▪ Carver County ▪ City of Shakopee ▪ City of Carver	▪ City of Chaska ▪ City of Chanhassen ▪ Metropolitan Council ▪ Federal Highway Administration (FHWA)
Study Advisory Committee (SAC)	
▪ Mn/DOT ▪ Scott County ▪ Carver County ▪ City of Shakopee ▪ City of Carver ▪ City of Chaska ▪ City of Chanhassen ▪ Metropolitan Council ▪ FHWA ▪ Jackson Township ▪ Louisville Township	▪ U.S. Fish and Wildlife Service (USFWS) ▪ U.S. Army Corps of Engineers (COE) ▪ Lower Minnesota River Watershed District (LMRWD) ▪ Shakopee Mdewakanton Sioux Community ▪ Riley-Purgatory-Bluff Creek Watershed District ▪ Scott Watershed Management Organization

TABLE 15-1 continued
AGENCY AND ORGANIZATION INVOLVEMENT

Study Advisory Committee (SAC) continued	
▪ Minnesota Department of Natural Resources (MnDNR) ▪ Minnesota Pollution Control Agency (MPCA) ▪ U.S. Environmental Protection Agency (USEPA) ▪ Audubon Society ▪ Southwest Corridor Coalition ▪ Shakopee Chamber of Commerce ▪ Minnesota Center for Environmental Advocacy	▪ Carver Watershed Management Organization ▪ Minnesota Board of Water and Soil Resources (BWSR) ▪ Friends of the Minnesota Valley ▪ Sierra Club ▪ East Chaska Neighborhood Group ▪ Chaska Heritage Preservation Commission (HPC) ▪ Carver Downtown and HPC
Policy Advisory Committee (PAC)	
▪ Mn/DOT ▪ Scott County ▪ Carver County ▪ City of Shakopee ▪ City of Carver ▪ City of Chaska	▪ City of Chanhassen ▪ Metropolitan Council ▪ Jackson Township ▪ Louisville Township ▪ Shakopee Mdewakanton Sioux Community ▪ Southwest Corridor Coalition
Fen Study Group	
▪ Mn/DOT ▪ Scott County ▪ City of Chanhassen ▪ Metropolitan Council ▪ FHWA ▪ MnDNR	▪ City of Chaska ▪ USEPA ▪ USFWS ▪ COE ▪ LMRWD ▪ BWSR ▪ Friends of the Minnesota Valley

Table 15-2 presents the agencies and organizations that receive the DEIS.

TABLE 15-2
AGENCIES AND ORGANIZATIONS RECEIVING COPIES OF THE DEIS

Federal Agencies U.S. Army Corps of Engineers U.S. Fish and Wildlife Service U.S. Environmental Protection Agency U.S. Department of Agriculture-Natural Resource Conservation Service U.S. Department of the Interior
State Agencies Minnesota Department of Natural Resources Minnesota Department of Agriculture Minnesota Department of Commerce Minnesota Environmental Quality Board Minnesota Pollution Control Agency Minnesota State Historic Preservation Officer Minnesota Department of Health Board of Water and Soil Resources Minnesota State Patrol Division-Department of Public Safety
Metropolitan Planning Organization Metropolitan Council
Counties Carver Scott
Cities Carver Chaska Chanhassen Shakopee
Townships Jackson Louisville
Tribal Government Shakopee Mdewakanton Sioux Community
Libraries Legislative Reference Library Environmental Conservation Library

15.1.1 Project Management Team (PMT)

The Project Management Team (PMT) consists of staff from Mn/DOT, the Metropolitan Council, FHWA, Scott County, Carver County, and the cities of Shakopee, Carver, Chaska, and Chanhassen. The role of the PMT is to advance the study to key milestones in the development of the Scoping Decision Document and the Tier I EIS. In addition, the PMT reviews recommendations provided by the Study Advisory Committee (SAC) and the Policy Advisory Committee (PAC).

15.1.2 Study Advisory Committee (SAC)

The Study Advisory Committee (SAC) represents all of the local government units in the study area, key state and federal environmental agencies, regional agencies, environmental organizations and associations and other interested parties. The role of the SAC is to review and provide comments on the overall study, as well as to communicate project information to the represented agencies.

15.1.3 Policy Advisory Committee (PAC)

The Policy Advisory Committee (PAC) includes elected or appointed officials from local and regional agencies. The agencies involved are Mn/DOT, Scott County, Carver County, Cities of Carver, Chanhassen, Chaska, and Shakopee, along with the Southwest Corridor Coalition, Metropolitan Council, Jacksonville Township, Louisville Township, and the Shakopee Mdewakanton Sioux Community. The PAC meets at key points in the process to review information and provide recommendations.

15.1.4 Fen Study Groups

The Fen Study Group was formed to provide input to a special study of the Seminary Fen (see Section 7.1.) This group met on the following dates:

- May 3, 2004
- May 25, 2004
- July 27, 2004
- May 26, 2005
- September 20, 2005
- July 17, 2006
- January 24, 2007

In addition, a small agency group (Mn/DOT, MnDNR, COE, LMRWD) advised on the technical protocols and methodologies for the Seminary Fen study. The technical group met on the following dates:

- May 24, 2005
- August 19, 2005
- September 2, 2005
- September 8, 2005
- March 15, 2006
- December 15, 2006

15.1.5 Natural Resource Coordination

In addition to the natural resource coordination and discussions that occurred during the SAC meetings and as noted in Section 15.1.4, Mn/DOT held separate meetings with agency staff to discuss natural resource issues. Meeting dates and agencies were:

- April 3, 2003 (MnDNR)
- September 10, 2003 (FHWA, Corps of Engineers, EPA)
- August 2, 2005 (MnDNR, USFWS, LMRWD)
- January 11, 2006 (MnDNR, USFWS, LMRWD, Friends of the Minnesota Valley, FHWA)

In addition, the National Park Service was consulted regarding potential Wild and Scenic River status.

15.1.6 Cooperating Agencies

The following agencies were invited by FHWA to be "cooperating agencies" for the project.

- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service

The role of cooperating agencies is to provide input related to relevant areas of expertise during the EIS development process. Cooperating agencies receive relevant technical studies and preliminary drafts of the DEIS and FEIS and participate in meetings to discuss the project and relevant findings.

15.1.7 Cultural Resources Coordination

Mn/DOT Cultural Resources Unit (CRU) is the lead agency on cultural resources for the proposed project. Periodic updates on the cultural resources studies were provided at the Project Management Team (PMT) meetings (June 16, 2005 and September 22, 2005) and the Study Advisory Committee (SAC) meetings (May 5, 2005, October 31, 2005 and May 17, 2006) during the study process. Information and handouts on the status of the Section 106 process were available at these meetings. A handout was also posted on the project website. The findings of the cultural resources studies were presented at the public open house on June 21, 2006.

The Heritage Preservation Commissions (HPC) of Carver and Chaska are consulting parties on the project for the Section 106 process. This means that they are invited to participate in the meetings and receive updates on the Section 106 process as it proceeds. They are also given the opportunity to review and comment on official determinations made and can be involved in mitigation discussions. The HPCs can also be signatories on a Memorandum of Agreement (MOA), if one is undertaken as part of the Section 106 process. Staff from Mn/DOT CRU met with representatives of the Chaska HPC three times in 2006, April 25, July 20, August 15.

15.2 PUBLIC INVOLVEMENT

Mn/DOT encourages public involvement and outreach at all stages in the decision-making process for the proposed project. Mn/DOT has engaged community organizations, area property owners, business owners, and residents; as well as local, county, regional and state agencies in the development of the project. Specific public involvement and outreach efforts are discussed in detail below.

15.2.1 Project Updates

During scoping, project updates were mailed to stakeholder agencies, organizations and other interested persons. During the DEIS process, updates are listed on the project website.

15.2.2 Website

Mn/DOT maintains a project website that is updated at key points in the study process. The project website (http://projects.dot.state.mn.us/srf/041/index.html) provides background information on the project, updates to reflect current project status, maps, and answers to frequently asked questions.

15.2.3 Media Coverage

Press releases were provided to local media outlets to inform the public about the open house meetings (discussed in Section 15.2.4.) Articles about the proposed project have appeared in local newspapers throughout the scoping and DEIS preparation period.

15.2.4 Public Meetings

Notice of the public meetings was provided on the project website, in newspaper advertisements and articles, and in mailings to potentially affected property owners in the study area. At each of the meetings noted below, Mn/DOT and consultant staff were present to answer questions. Attendees were given the opportunity to provide written comments at and following the meeting. A court reporter was present at the Scoping Meeting to record oral comments.

The public information meetings that have taken place prior to the publication of the DEIS are as follows:

<u>April 10, 2003 Open House</u> (31 Attendees)

An informational open house meeting was held at the Carver County Government Center, Chaska, MN to provide information on the study purpose, review the study process, highlight initial findings regarding project need, identify potential environmental issues and alternatives development to date.

May 20, 2004 Scoping Meeting (11 Attendees)

A public scoping meeting was held at the Carver County Government Center, Chaska, MN during the public comment period for the Scoping Document to present the findings of the Scoping Document and the Draft Scoping Decision Document.

December 7, 2005 Open House (237 Attendees)

An informational open house was held at the Carver County Government Center, Chaska, MN to provide information about the need for the project, the EIS process, schedule, and the current No-Build and Build alternatives.

January 23-24, 2006 Open Houses (50 Attendees – Combined)

Two informational open houses for residents/owners of the mobile home communities located within affected portions of the study area were held at the Riverview Terrace Community Room, Chaska, MN and the Scott County Government Center, Shakopee, MN respectively. Because many of the mobile home community residents are Spanish-speaking, the flyer advertising the open house included a Spanish translation and a Spanish translator was provided at the open house meetings. The information provided at these open house meetings was the same as provided at the December 7, 2005 open house.

March 16, 2006 Open House (98 Attendees)

An informational open house was held at the Chaska City Hall, Chaska, MN to explain revisions made to the C-2 alignment and give attendees a chance to view and make comments on the revised alignment.

June 21, 2006 Open House (195 Attendees)

An informational open house was held at the Chaska Community Center, Chaska, MN, to present preliminary findings of environmental impact analyses.

July 19, 2006 Open Houses (53 Attendees)

Two informational open houses for residents/owners of the mobile home communities discussed above were held at the Riverview Terrace Community Room, Chaska, MN, and the Scott County Government Center, Shakopee, MN. The flyer included a Spanish translation and a Spanish translator was provided at the meeting. The information provided at these open house meetings was the same as provided at the June 21, 2006 open houses.

Comments received during and following all public meetings were summarized and provided to the PMT and SAC for information.

15.2.5 Other Meetings

Mn/DOT has met with other stakeholders, including representatives of the study area cities and counties, neighborhood organizations, chambers of commerce, transportation coalitions, and state, regional and federal agencies, to discuss the project and specific issues and concerns.

15.2.6 Business Input

The scoping process included surveys of downtown Chaska customers and retail establishment owners/managers and downtown Shakopee business owners/managers to gather information on trade areas and perceptions about the effect of traffic-related conditions on businesses. Mn/DOT also met with various business groups during the study process to provide updates and discuss comments and questions.

15.2.7 Public Hearing

Two opportunities for public hearing (one in Scott County and one in Carver County) will be held on the DEIS not less than 15 days after the notice of its availability is published in the EQB Monitor. The purpose of the public hearing will be to provide the public the opportunity to review the six Build alternatives and the findings of the impact analysis completed as part of the DEIS process, and comment on the DEIS.

The availability of the DEIS will be published in the Federal Register and the Minnesota EQB Monitor. Advertisements announcing the availability of the DEIS and the date of the public hearing will be published in local newspapers. Adjacent property owners and interested persons will also be mailed notices announcing availability of the DEIS. The record for public comment will remain open for not less than 10 days after the last date of the informational meeting. Written comments may be submitted anytime during the comment period, which in total will be at least 45 days from notice of availability.

16.0 LIST OF PREPARERS

Agency/Staff Name	DEIS Responsibility
Federal Highway Administration	
Cheryl Martin	Review of DEIS; coordination of DEIS Input
Minnesota Department of Transportation	
Diane Langenbach	Project Manager, review of DEIS
Lynn Clarkowski	Project Manager, review of DEIS
Lisa Freese	Area Manager, review of DEIS
Gerry Larson	Review of DEIS
Nancy Radle	Review of contaminated properties information
Peter Wasko	Review of noise analysis and information
Nick Tiedeken	Review of wetlands/fen study
Sarma Straumanis	Review of wetlands/fen study
Kristen Zschomler	Preparation of cultural resource studies
SRF Consulting Group, Inc.	
Nancy Frick	Project Manager, review of DEIS
Don Demers	DEIS preparation-engineering oversight and coordination
Curt Kobilarcsik	DEIS preparation-engineering oversight and coordination
Dave Montebello	Transportation Planning
Matt Meyer	DEIS preparation (soils)
Geoff Mass	DEIS preparation (visual, social)
Barbara Walther	DEIS preparation (wetlands, vegetation, wildlife and fisheries)
Kady Dadlez	DEIS preparation (cultural, cumulative impacts)
Brett Danner	Noise analysis
Jonathan Ehrlich	Preparation of travel forecasts
Todd Polum	Traffic operations analysis
David Filipiak	DEIS preparation (water resources)
Eric Roerish	DEIS preparation (water resources)
Mary Karlsson	Benefit-cost analysis
Sub-Consultants	
Braun Intertec Corporation	Phase I Environmental Site Assessment
Barr Engineering	Seminary Fen Phase 1 hydrology, Seminary Fen Phase 2 Study
Peterson Environmental Consulting, Inc.	Seminary Fen Phase 1 Study
Louis Berger	Cultural Resources Investigations

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APPENDIX A

CORRESPONDENCE

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Minnesota Department of Natural Resources

Natural Heritage and Nongame Research Program, Box 25
500 Lafayette Road
St. Paul, Minnesota 55155-40__
Phone: (651) 296-7863 Fax: (651) 296-1811 E-mail: sarah.hoffmann@dnr.state.mn.us

June 14, 2005

Ms. Barbara Walther
SRF Consulting Group, Inc.
One Carlson Parkway North, Suite #150
Minneapolis, MN 55447-4443

Re: Request for Natural Heritage information for vicinity of proposed TH 41 over the Minnesota River, Carver and Scott Counties
NHNRP Contact #: ERDB 20030506-0004

Dear Ms. Walther,

The Minnesota Natural Heritage database has been reviewed to determine if any rare plant or animal species or other significant natural features are known to occur within an approximate one-mile radius of the area indicated on the map enclosed with your information request. Based on this review, there are 119 known occurrences of rare species or native plant communities in the area searched. Please see the enclosed database printouts for details. As this project is in the scoping stages and details on the exact location of the crossing are unknown at this time, we have not provided interpretation as to which elements may be impacted by the various alignments, as this would greatly delay the delivery of information on rare feature locations to you. Please compare the rare feature locations on the database printouts with maps of the project study area, and note areas where impacts to rare features are possible. As you may know, the rare features data are also available electronically as Arcview shapefiles. This provides a much more efficient and accurate way of assessing impacts to rare species and native plant communities for large study areas, so we encourage you to view the data this way. The native plant community and "Sites of Biodiversity Significance" GIS data can be downloaded from the DNR's Data Deli website at http://maps.dnr.state.mn.us/deli. The rare species data are only released under the terms of a license agreement, so please contact me to discuss adding Carver and Scott County to SRF's license agreement if you are interested in obtaining these data.

The Natural Heritage database is maintained by the Natural Heritage and Nongame Research Program, a unit within the Division of Ecological Services, Department of Natural Resources. It is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. Its purpose is to foster better understanding and protection of these features.

Because our information is not based on a comprehensive inventory, there may be rare or otherwise significant natural features in the state that are not represented in the database. A county-by-county survey of rare natural features is now underway, and has been completed for both Carver and Scott County. Our information about native plant communities is, therefore, quite thorough for those counties. However, because survey work for rare plants and animals is less exhaustive, and because there has not been an on-site survey of all areas of the counties, ecologically significant features for which we have no records may exist on the project area.

The enclosed results of the database search are provided in two formats: index and full record. To control the release of locational information, which might result in the damage or destruction of a rare element, both printout formats are copyrighted.

The index provides rare feature locations only to the nearest section, and may be reprinted, unaltered, in an Environmental Assessment Worksheet, Environmental Impact Statement, municipal natural resource

plan, or report compiled by your company for the project listed above. If you wish to reproduce the index for any other purpose, please contact me to request written permission. **The full-record printout includes more detailed locational information, and is for your personal use only. If you wish to reprint the full-record printouts for any purpose, please contact me to request written permission.**

Please be aware that review by the Natural Heritage and Nongame Research Program focuses only on *rare natural features*. It does not constitute review or approval by the Department of Natural Resources as a whole. If you require further information on the environmental review process for other natural resource-related issues, you may contact your Regional Environmental Assessment Ecologist, Wayne Barstad, at (651) 772-7940.

An invoice in the amount of $135.45 will be mailed to you under separate cover within two weeks of the date of this letter. You are being billed for map and database search and staff scientist review. Thank you for consulting us on this matter, and for your interest in preserving Minnesota's rare natural resources.

Sincerely,

Sarah D. Hoffmann
Endangered Species Environmental Review Coordinator

encl: Database search results
Rare Feature Database Print-Outs: An Explanation of Fields

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TWP	RNG	PRIMARY SECTION	FED STATUS	MN STATUS	S RANK	ELEMENT and OCCURRENCE NUMBER	MANAGED AREA
T114N	R23W	04				SEDIMENTARY STRUCTURE (ORDOVICIAN) #9	
T114N	R23W	04				SEDIMENTARY UNIT OR SEQUENCE (ORDOVICIAN) #26	
T114N	R23W	05	LT	SPC		HALIAEETUS LEUCOCEPHALUS (BALD EAGLE) #1774	MINNESOTA VALLEY NWR
T114N	R23W	06			S2	DRY PRAIRIE (CENTRAL) SAND-GRAVEL SUBTYPE #112	
T114N	R24W	01		THR		BESSEYA BULLII (KITTEN-TAILS) #2	
T114N	R24W	01			S2	DRY PRAIRIE (CENTRAL) SAND-GRAVEL SUBTYPE #113	
T114N	R24W	02		NON		REITHRODONTOMYS MEGALOTIS (WESTERN HARVEST MOUSE) #8	
T115N	R22W	06		NON		LAMPROPELTIS TRIANGULUM (MILK SNAKE) #18	
T115N	R22W	06		THR		LANIUS LUDOVICIANUS (LOGGERHEAD SHRIKE) #130	
T115N	R22W	06		SPC		PITUOPHIS CATENIFER (GOPHER SNAKE) #13	
T115N	R23W	02		THR		ACTINONAIAS LIGAMENTINA (MUCKET MUSSEL) #93	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	02		END		ARCIDENS CONFRAGOSUS (ROCK POCKETBOOK MUSSEL) #9	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	02	LT	SPC		HALIAEETUS LEUCOCEPHALUS (BALD EAGLE) #2225	
T115N	R23W	02		END		LAMPSILIS TERES (YELLOW SANDSHELL MUSSEL) #8	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	02				MUSSEL SAMPLING SITE #135	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	02		END		QUADRULA NODULATA (WARTYBACK MUSSEL) #9	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	02		NON		SCAPHIRHYNCHUS PLATORYNCHUS (SHOVELNOSE STURGEON) #1	
T115N	R23W	02		NON		SCAPHIRHYNCHUS PLATORYNCHUS (SHOVELNOSE STURGEON) #87	
T115N	R23W	03			S2	MIXED EMERGENT MARSH (PRAIRIE) #27	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	09		NON		SCAPHIRHYNCHUS PLATORYNCHUS (SHOVELNOSE STURGEON) #2	
T115N	R23W	09		NON		SCAPHIRHYNCHUS PLATORYNCHUS (SHOVELNOSE STURGEON) #73	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	16				BAT CONCENTRATION #41	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	17		THR		ACTINONAIAS LIGAMENTINA (MUCKET MUSSEL) #92	MINNESOTA VALLEY NWR
T115N	R23W	17		THR		ALASMIDONTA MARGINATA (ELKTOE MUSSEL) #67	MINNESOTA VALLEY NWR
T115N	R23W	17		END		ARCIDENS CONFRAGOSUS (ROCK POCKETBOOK MUSSEL) #8	MINNESOTA VALLEY NWR
T115N	R23W	17		END		FUSCONAIA EBENA (EBONYSHELL MUSSEL) #7	MINNESOTA VALLEY NWR
T115N	R23W	17	LE	END		LAMPSILIS HIGGINSI (HIGGINS EYE MUSSEL) #9	MINNESOTA VALLEY NWR
T115N	R23W	17		SPC		LASMIGONA COSTATA (FLUTED-SHELL MUSSEL) #50	MINNESOTA VALLEY NWR
T115N	R23W	17		SPC		LIGUMIA RECTA (BLACK SANDSHELL MUSSEL) #93	MINNESOTA VALLEY NWR
T115N	R23W	17				MUSSEL SAMPLING SITE #134	MINNESOTA VALLEY NWR
T115N	R23W	17		SPC		OBOVARIA OLIVARIA (HICKORYNUT MUSSEL) #55	MINNESOTA VALLEY NWR
T115N	R23W	17		THR		PLEUROBEMA COCCINEUM (ROUND PIGTOE MUSSEL) #74	MINNESOTA VALLEY NWR
T115N	R23W	17		THR		QUADRULA METANEVRA (MONKEYFACE MUSSEL) #25	MINNESOTA VALLEY NWR
T115N	R23W	17		END		QUADRULA NODULATA (WARTYBACK MUSSEL) #8	MINNESOTA VALLEY NWR
T115N	R23W	17		NON		SCAPHIRHYNCHUS PLATORYNCHUS (SHOVELNOSE STURGEON) #3	
T115N	R23W	17		THR		TRITOGONIA VERRUCOSA (PISTOLGRIP MUSSEL) #26	MINNESOTA VALLEY NWR
T115N	R23W	18			S2	MAPLE-BASSWOOD FOREST (BIG WOODS) #137	
T115N	R23W	20		THR		ACTINONAIAS LIGAMENTINA (MUCKET MUSSEL) #164	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	20		END		ARCIDENS CONFRAGOSUS (ROCK POCKETBOOK MUSSEL) #18	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	20		SPC		CYCLEPTUS ELONGATUS (BLUE SUCKER) #4	
T115N	R23W	20		THR		PLEUROBEMA COCCINEUM (ROUND PIGTOE MUSSEL) #80	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	21		THR		BESSEYA BULLII (KITTEN-TAILS) #3	
T115N	R23W	28		THR		BESSEYA BULLII (KITTEN-TAILS) #25	MINNESOTA VALLEY NWR
T115N	R23W	28		SPC		CIRSIUM HILLII (HILL'S THISTLE) #13	
T115N	R23W	28		SPC		SPEYERIA IDALIA (REGAL FRITTILARY) #41	
T115N	R23W	29				BAT CONCENTRATION #42	MINNESOTA VALLEY NWR
T115N	R23W	29			S2	DRY OAK SAVANNA (SOUTHEAST) SAND-GRAVEL SUBTYPE #7	MINNESOTA VALLEY NWR
T115N	R23W	30		THR		BESSEYA BULLII (KITTEN-TAILS) #108	MINNESOTA VALLEY NWR

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TWP	RNG	PRIMARY SECTION	FED STATUS	MN STATUS	S RANK	ELEMENT and OCCURRENCE NUMBER	MANAGED AREA
T115N	R23W	30			S2	DRY PRAIRIE (CENTRAL) SAND-GRAVEL SUBTYPE #90	MINNESOTA VALLEY NWR
T115N	R23W	30	LT	SPC		HALIAEETUS LEUCOCEPHALUS (BALD EAGLE) #1678	MINNESOTA VALLEY NWR
T115N	R23W	31		THR		ACTINONAIAS LIGAMENTINA (MUCKET MUSSEL) #91	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	31		END		ARCIDENS CONFRAGOSUS (ROCK POCKETBOOK MUSSEL) #7	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	31		SPC		BUTEO LINEATUS (RED-SHOULDERED HAWK) #264	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	31		SPC		DENDROICA CERULEA (CERULEAN WARBLER) #73	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	31		END		ELLIPTIO CRASSIDENS (ELEPHANT-EAR MUSSEL) #9	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	31		SPC		ELLIPTIO DILATATA (SPIKE MUSSEL) #159	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	31			S3	FLOODPLAIN FOREST SILVER MAPLE SUBTYPE #62	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	31		END		FUSCONAIA EBENA (EBONYSHELL MUSSEL) #13	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	31		NON		GYMNOCLADUS DIOICA (KENTUCKY COFFEE-TREE) #12	CARVER RAPIDS WAYSIDE
T115N	R23W	31		END		LAMPSILIS TERES (YELLOW SANDSHELL MUSSEL) #7	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	31		SPC		LASMIGONA COSTATA (FLUTED-SHELL MUSSEL) #125	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	31			S2	MAPLE-BASSWOOD FOREST (BIG WOODS) #119	MINNESOTA VALLEY NWR
T115N	R23W	31				MUSSEL SAMPLING SITE #133	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	31		SPC		OBOVARIA OLIVARIA (HICKORYNUT MUSSEL) #98	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	31		THR		QUADRULA METANEVRA (MONKEYFACE MUSSEL) #24	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	31		END		QUADRULA NODULATA (WARTYBACK MUSSEL) #7	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	31		NON		SCAPHIRHYNCHUS PLATORYNCHUS (SHOVELNOSE STURGEON) #5	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	31		THR		TRITOGONIA VERRUCOSA (PISTOLGRIP MUSSEL) #25	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	32		NON		ALOPECURUS CAROLINIANUS (CAROLINA FOXTAIL) #34	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	32		SPC		BACOPA ROTUNDIFOLIA (WATER-HYSSOP) #16	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	32		THR		BESSEYA BULLII (KITTEN-TAILS) #98	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	32		THR		BESSEYA BULLII (KITTEN-TAILS) #103	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	32			S2	DRY OAK SAVANNA (SOUTHEAST) SAND-GRAVEL SUBTYPE #5	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	32		END		ELEOCHARIS WOLFII (WOLF'S SPIKE-RUSH) #4	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	32		SPC		EMPIDONAX VIRESCENS (ACADIAN FLYCATCHER) #49	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	32		NON		MYOSOTIS VERNA (FORGET-ME-NOT) #13	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	32		NON		MYOSURUS MINIMUS (MOUSETAIL) #34	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	32			S4	ROCK OUTCROP (CENTRAL) #22	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	32		END		TALINUM RUGOSPERMUM (ROUGH-SEEDED FAMEFLOWER) #24	MINNESOTA VALLEY RECREATION AREA
T115N	R23W	33				COLONIAL WATERBIRD NESTING SITE #862	MINNESOTA VALLEY NWR
T115N	R23W	33			S2	DRY PRAIRIE (SOUTHEAST) SAND-GRAVEL SUBTYPE #44	MINNESOTA VALLEY NWR
T115N	R23W	33			S3	FLOODPLAIN FOREST SILVER MAPLE SUBTYPE #43	MINNESOTA VALLEY NWR
T115N	R23W	33			S4	OAK WOODLAND-BRUSHLAND (BIG WOODS) #8	MINNESOTA VALLEY NWR
T115N	R23W	34			S2	MAPLE-BASSWOOD FOREST (BIG WOODS) #120	
T115N	R23W	34		SPC		PANAX QUINQUEFOLIUS (AMERICAN GINSENG) #196	
T115N	R24W	13			S2	MAPLE-BASSWOOD FOREST (BIG WOODS) #115	
T115N	R24W	13		SPC		PANAX QUINQUEFOLIUS (AMERICAN GINSENG) #194	
T115N	R24W	24		THR		BESSEYA BULLII (KITTEN-TAILS) #119	
T115N	R24W	36		SPC		PITUOPHIS CATENIFER (GOPHER SNAKE) #96	MINNESOTA VALLEY NWR
T116N	R22W	19			S3	POOR FEN SEDGE SUBTYPE #20	
T116N	R22W	30		NON		ARABIS LAEVIGATA (SMOOTH ROCK-CRESS) #27	RICHARD T. ANDERSON CONSERVATION AREA
T116N	R22W	30		THR		BESSEYA BULLII (KITTEN-TAILS) #101	
T116N	R22W	30		SPC		PANAX QUINQUEFOLIUS (AMERICAN GINSENG) #260	RICHARD T. ANDERSON CONSERVATION AREA
T116N	R22W	30		SPC		PITUOPHIS CATENIFER (GOPHER SNAKE) #97	
T116N	R22W	31		THR		BESSEYA BULLII (KITTEN-TAILS) #102	
T116N	R22W	31			S2	DRY PRAIRIE (CENTRAL) SAND-GRAVEL SUBTYPE #91	

TWP	RNG	PRIMARY SECTION	FED STATUS	MN STATUS	S RANK	ELEMENT and OCCURRENCE NUMBER	MANAGED AREA
T116N	R23W	26			S2	DRY PRAIRIE (CENTRAL) HILL SUBTYPE #15	
T116N	R23W	26			S4	LOWLAND HARDWOOD FOREST #33	
T116N	R23W	26			S2	MAPLE-BASSWOOD FOREST (BIG WOODS) #111	
T116N	R23W	26			S2	OAK FOREST (BIG WOODS) MESIC SUBTYPE #26	
T116N	R23W	34			SU	CALCAREOUS SEEPAGE FEN (CENTRAL) PRAIRIE SUBTYPE #2	
T116N	R23W	34		THR		CAREX STERILIS (STERILE SEDGE) #104	
T116N	R23W	34			S2	MAPLE-BASSWOOD FOREST (BIG WOODS) #138	
T116N	R23W	34			S3	WET MEADOW #65	
T116N	R23W	35			SU	CALCAREOUS SEEPAGE FEN (CENTRAL) PRAIRIE SUBTYPE #1	
T116N	R23W	35			SU	CALCAREOUS SEEPAGE FEN (CENTRAL) PRAIRIE SUBTYPE #3	
T116N	R23W	35		THR		CAREX STERILIS (STERILE SEDGE) #105	
T116N	R23W	35		THR		CAREX STERILIS (STERILE SEDGE) #106	
T116N	R23W	35		THR		CAREX STERILIS (STERILE SEDGE) #107	
T116N	R23W	35		SPC		CLADIUM MARISCOIDES (TWIG-RUSH) #35	
T116N	R23W	35		SPC		CYPRIPEDIUM CANDIDUM (SMALL WHITE LADY'S-SLIPPER) #261	
T116N	R23W	35		THR		ELEOCHARIS ROSTELLATA (BEAKED SPIKE-RUSH) #11	
T116N	R23W	35		NON		LAMPETRA APPENDIX (AMERICAN BROOK LAMPREY) #114	RAQUET WMA
T116N	R23W	35			S2	MAPLE-BASSWOOD FOREST (BIG WOODS) #139	
T116N	R23W	35		SPC		PANAX QUINQUEFOLIUS (AMERICAN GINSENG) #198	
T116N	R23W	35		THR		RHYNCHOSPORA CAPILLACEA (HAIR-LIKE BEAK-RUSH) #65	
T116N	R23W	35		THR		SCLERIA VERTICILLATA (WHORLED NUT-RUSH) #20	
T116N	R23W	35		NON		TRIGLOCHIN PALUSTRIS (MARSH ARROW-GRASS) #91	
T116N	R23W	35		THR		VALERIANA EDULIS VAR. CILIATA (VALERIAN) #47	

RECORDS PRINTED = 119

U.S. Department of Homeland Security

United States Coast Guard

Commander
Eighth Coast Guard District

1222 Spruce Street
St. Louis, MO 63103
Staff Symbol: (dwb)
Phone: 314-269-2381
Fax: 314-539-3755
Email:

16210.1/MN
April 11, 2006

Ms. Nancy C. Frick
SFR Consulting Group, Inc.
One Carlson Parkway North, Suite 150
Minneapolis, MN 55447-4443

Subj: PROPOSED TRUNK HIGHWAY 41 BRIDGE CROSSING, MINNESOTA RIVER

Dear Ms. Frick:

Please refer to your letter dated March 23, 2006, concerning the subject project.

Pursuant to the Coast Guard Authorization Act of 1983, we will not exercise jurisdiction for bridge administration purposes over the Minnesota River at the proposed crossing site in the vicinity of Chaska, Minnesota. Accordingly, the Coast Guard offers no objection to the project and a Coast Guard bridge permit will not be required.

We appreciate the opportunity to comment on the navigational aspects of bridge projects. If there are any questions on this matter, please contact Mr. Dave Studt at the above number.

Sincerely,

ROGER K. WIEBUSCH
Bridge Administrator
By direction of the District Commander

Copy: Lynn Clarkowski, MNDOT, Roseville, MN

APR 2006

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 4/12/06
Name Of Project TH 41 New Minnesota River Crossing	Federal Agency Involved MnDOT
Proposed Land Use A new river crossing – Trunk Highway	County And State Scott County/ Minnesota
PART II *(To be completed by NRCS)*	Date Request Received By NRCS

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply – do not complete additional parts of this form)*	Yes ☐	No ☒	Acres Irrigated NONE	Average Farm Size N/A 146 Acres
Major Crop(s) CORN SOYBEANS	Farmable Land In Govt. Jurisdiction Acres		Amount Of Farmland As Defined In FPPA Acres	%
Name Of Land Evaluation System Used	Name Of Local Site Assessment System		Date Land Evaluation Returned By NRCS 4/19/06	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	W-2 Site A	W-2A Site B	W-2 Site C	E-1/E-1A (same on Scott co. side) Site D
A. Total Acres To Be Converted Directly	4.1	24.2	38.2	43.4
B. Total Acres To Be Converted Indirectly	0	.7	7	2.7
C. Total Acres In Site	0.0 4.1	0.0 24.9	0.0 45.2	0.0 46.1
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	53,683	53,683	53,683	53,683
B. Total Acres Statewide And Local Important Farmland	N/A	N/A	N/A	N/A
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	.007%	.03%	.08%	.09%
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by NRCS)* Land Evaluation Criterion				
Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)	0 80	0 45	0 85	0 90

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use	15	15	15	15	13
2. Perimeter In Nonurban Use	10	10	8	8	10
3. Percent Of Site Being Farmed	20	0	3	3	10
4. Protection Provided By State And Local Government	20	0	0	0	0
5. Distance From Urban Builtup Area	0	0	0	0	0
6. Distance To Urban Support Services	0	0	0	0	0
7. Size Of Present Farm Unit Compared To Average	10	0	0	0	0
8. Creation Of Nonfarmable Farmland	25	25	25	25	25
9. Availability Of Farm Support Services	5	5	5	5	5
10. On-Farm Investments	20	0	0	2	5
11. Effects Of Conversion On Farm Support Services	25	0	0	0	0
12. Compatibility With Existing Agricultural Use	10	2	1	2	2
TOTAL SITE ASSESSMENT POINTS	160	57	57	60	66
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	80	45	85	90
Total Site Assessment *(From Part VI above or a local site assessment)*	160	57	57	60	66
TOTAL POINTS *(Total of above 2 lines)*	260	137	102	145	156

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

See Instructions on reverse side) Form AD-1006 (10-83)

This form was electronically produced by National Production Services Staff

Part V – Relative Value is based on a visual Average of Prime Farmland Soil Types

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 4/12/06
Name Of Project TH 41 New Minnesota River Crossing	Federal Agency Involved MnDOT
Proposed Land Use A new river crossing – Trunk Highway	County And State Scott County/ Minnesota
PART II *(To be completed by NRCS)*	Date Request Received By NRCS

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply – do not complete additional parts of this form)*	Yes ☐	No ☐	Acres Irrigated None	Average Farm Size NA 146
Major Crop(s) Corn, Soybeans, Hay	Farmable Land In Gov't Jurisdiction Acres: %		Amount Of Farmland As Defined In FPPA Acres: %	
Name Of Land Evaluation System Used	Name Of Local Site Assessment System		Date Land Evaluation Returned By NRCS 5/2/06	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	E-2 Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	27.2			
B. Total Acres To Be Converted Indirectly	1			
C. Total Acres In Site	0.0 28.2	0.0	0.0	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	53.683			
B. Total Acres Statewide And Local Important Farmland	NA			
C. Percentage Of Farmland In County Or Local Gov't Unit To Be Converted				
D. Percentage Of Farmland In Gov't Jurisdiction With Same Or Higher Relative Value	105 %			
PART V *(To be completed by NRCS)* Land Evaluation Criterion				
E. Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	80	0	0	0

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use	15	13			
2. Perimeter In Nonurban Use	10	9			
3. Percent Of Site Being Farmed	20	1			
4. Protection Provided By State And Local Government	20	0			
5. Distance From Urban Builtup Area	0	0			
6. Distance To Urban Support Services	0	0			
7. Size Of Present Farm Unit Compared To Average	10	1			
8. Creation Of Nonfarmable Farmland	25	25			
9. Availability Of Farm Support Services	5	5			
10. On-Farm Investments	20	0			
11. Effects Of Conversion On Farm Support Services	25	0			
12. Compatibility With Existing Agricultural Use	10	2			
TOTAL SITE ASSESSMENT POINTS	160	61	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	80	0	0	0
Total Site Assessment *(From Part VI above or a local site assessment)*	160	61	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	141	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

(See Instructions on reverse side) Form AD-1006 (10-83)

This form was electronically produced by National Production Services Staff

Part V - Relative Value is based on a visual Average of Prime Farmland Soil Types

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 4/12/06
Name Of Project TH 41 New Minnesota River Crossing	Federal Agency Involved MnDOT
Proposed Land Use A new river crossing – Trunk Highway	County And State Carver County/ Minnesota
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 08/09/06

Does the site contain prime, unique, statewide or local important farmland? Yes ☒ No ☐ (If no, the FPPA does not apply – do not complete additional parts of this form). Acres Irrigated: Average Farm Size: 197

Major Crop(s)	Farmable Land In Govt. Jurisdiction	Amount Of Farmland As Defined In FPPA
Corn & Soybeans	Acres: 202,750 93 %	Acres: 189,535 87 %
Name Of Land Evaluation System Used	Name Of Local Site Assessment System	Date Land Evaluation Returned By NRCS

PART III *(To be completed by Federal Agency)*	Alternative Site Rating: Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	48.5	51.4		
B. Total Acres To Be Converted Indirectly	9.4	10.7		
C. Total Acres In Site	0.0 57.9	0.0 62.1	0.0	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	189,535	189,535		
B. Total Acres Statewide And Local Important Farmland	202,750	202,750		
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	48%	48%		
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	.03%	.03%		
PART V *(To be completed by NRCS)* Land Evaluation Criterion: Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	0 66	0 64	0	0

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points	Site A	Site B	Site C	Site D
1. Area In Nonurban Use	15	12	12		
2. Perimeter In Nonurban Use	10	8	9		
3. Percent Of Site Being Farmed	20	10	10		
4. Protection Provided By State And Local Government	20	0	0		
5. Distance From Urban Builtup Area	0	0	0		
6. Distance To Urban Support Services	0	0	0		
7. Size Of Present Farm Unit Compared To Average	10	0	0		
8. Creation Of Nonfarmable Farmland	25	25	25		
9. Availability Of Farm Support Services	5	5	5		
10. On-Farm Investments	20	1	0		
11. Effects Of Conversion On Farm Support Services	25	0	0		
12. Compatibility With Existing Agricultural Use	10	1	1		
TOTAL SITE ASSESSMENT POINTS	160	62	62	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	66	64	0	0
Total Site Assessment *(From Part VI above or a local site assessment)*	160	62	62	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	124	126	0	0

Site Selected: Date Of Selection: Was A Local Site Assessment Used? Yes ☐ No ☒

Reason For Selection:

(See *Instructions on reverse side*) Form AD-1006 (10-83)

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U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 4/12/06
Name Of Project TH 41 New Minnesota River Crossing	Federal Agency Involved MnDOT
Proposed Land Use A new river crossing – Trunk Highway	County And State Carver County/ Minnesota
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 8/09/06

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply – do not complete additional parts of this form).* Yes ☒ No ☐ | Acres Irrigated | Average Farm Size 197

Major Crop(s) Corn & Soybeans	Farmable Land In Govt. Jurisdiction Acres: 202750 93 %	Amount Of Farmland As Defined In FPPA Acres: 189,535 87 %
Name Of Land Evaluation System Used	Name Of Local Site Assessment System	Date Land Evaluation Returned By NRCS 08/29/2006

PART III *(To be completed by Federal Agency)*	Alternative Site Rating			
	C-2 Site A	C-2A Site B	C-2 Site C	E-1 Site D
A. Total Acres To Be Converted Directly	86.8	76.7	109.8	7.1
B. Total Acres To Be Converted Indirectly	8.9	4.2	3.8	0
C. Total Acres In Site	0.0 95.7	0.0 80.9	0.0 113.6	0.0 7.1
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	189,535	189,535	189,535	189,535
B. Total Acres Statewide And Local Important Farmland	202,750	202,750	202,750	202,750
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	48%	48%	48%	48%
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	.05%	.04%	.06%	.004%
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	62	74	79	67

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use	15	15	12	13	11
2. Perimeter In Nonurban Use	10	10	10	10	5
3. Percent Of Site Being Farmed	20	8	11	7	10
4. Protection Provided By State And Local Government	20	0	0	0	0
5. Distance From Urban Builtup Area	0	0	0	0	0
6. Distance To Urban Support Services	0	0	0	0	0
7. Size Of Present Farm Unit Compared To Average	10	0	0	0	0
8. Creation Of Nonfarmable Farmland	25	25	25	25	25
9. Availability Of Farm Support Services	5	5	5	5	5
10. On-Farm Investments	20	4	2	1	0
11. Effects Of Conversion On Farm Support Services	25	0	0	0	0
12. Compatibility With Existing Agricultural Use	10	4	5	4	1
TOTAL SITE ASSESSMENT POINTS	160	71	70	65	57
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	62	74	79	67
Total Site Assessment *(From Part VI above or a local site assessment)*	160	71	70	65	57
TOTAL POINTS *(Total of above 2 lines)*	260	133	144	144	124

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☒

Reason For Selection: Minnesota River proposed crossings.

(See instructions on reverse side)

Form AD-1006 (10-83)

This form was electronically produced by National Production Services Staff

Minnesota Department of Transportation

Transportation Building
395 John Ireland Boulevard
Saint Paul, Minnesota 55155-1899

July 13, 2006

Direct Line: (651) 296-3243
Mail Stop 620

Mr. Dennis A. Gimmestad
Government Programs & Compliance Officer
State Historic Preservation Office
Minnesota Historical Society
345 Kellogg Blvd. W.
St. Paul, MN 55101

Re: S.P. 1008-60 (Trunk Highway 41 River Crossing Study, Carver and Scott Counties)
SHPO No. Pending

Dear Mr. Gimmestad:

We have reviewed the above-referenced undertaking pursuant to our FHWA-delegated responsibilities for compliance with Section 106 of the National Historic Preservation Act, as amended (36 CFR 800), and as per the terms of the FHWA-SHPO Programmatic Agreement (2005).

The proposed action is the future construction of a new Minnesota River crossing connecting TH 169 in Scott County and the proposed realigned TH 212 (New TH 212), north of the existing TH 212 corridor in Carver County in the vicinity of existing TH 41. Each of the six Build alternatives is a freeway design with an interchange at TH 169 and an interchange at New TH 212 (see enclosed alternatives map).

- Alternative W-2 is located in the western portion of the study area. This alternative intersects with TH 169 one mile west of existing TH 41/CSAH 78 and connects with New TH 212 at the New TH 212/CR 147 interchange.
- Alternative C-2 is in the central/western portion of the study area. This alternative connects to TH 169 at the planned TH 169/existing TH 41 interchange (the design assumes a realigned existing TH 41/CSAH 78) and connects to New TH 212 at the New TH 212/CR 147 interchange.
- Alternative C-2A is located in central portion of the study area. This alternative connects to TH 169 at the planned TH 169/existing TH 41 interchange (the design assumes a realigned existing TH 41/CSAH 78) and connects to New TH 212 at CSAH 10/Engler Boulevard.
- Alternative E-1 is in the eastern portion of the study area. This alternative connects to TH 169 at the planned TH 169/CSAH 69 interchange, and connects with New TH 212 at CSAH 17/Audubon Road. This alternative assumes that TH 169 is realigned south of its existing alignment in the vicinity of CSAH 69.
- Alternative E-1A is located in the eastern portion of the study area. This alternative is identical to Alternative E-1 south of the Minnesota River. This alternative connects to new TH 212 near Bluff Creek Road.
- Alternative E-2 is located in the eastern portion of the study area. It is the easternmost alignment of all the Build alternatives. This alternative connects to TH 169 at the planned TH 169/CSAH 69 interchange and connects to New TH 212 near Bluff Creek Road. This alternative assumes that TH 169 is realigned south of its existing alignment in the vicinity of CSAH 69.

Because of the high potential for archaeological sites and eligible architectural history properties, we hired the Louis Berger Group to conduct archaeological and architectural history investigations. Enclosed please find two (2) copies of the report *Phase I and II Archaeological Investigations of Alternative Route Corridors for Trunk Highway 41 Near Chaska, Carver and Scott Counties*, by the Louis Berger Group. Also enclosed please find

two (2) copies of the report *Phase I/II Architecture/History Investigations for Five Proposed Alternative Route Corridors for Trunk Highway 41 near Chaska, Carver and Scott Counties, Minnesota*, by the Louis Berger Group.

The APE for the archaeological and geomorphological work was defined as the construction limits of the proposed alternative route corridors. Each corridor was 1,000 feet wide. It should be noted that the proposed corridor locations changed after the start of the Phase I archaeological fieldwork. Berger labeled the five alternatives A through E (from southwest to northeast). The original five corridors plus the revised corridors were surveyed (please see Figure 2 in the enclosed archaeology report for the most current proposed alignments). Three additional proposed interchanges related to the corridors also were added during the course of the project (Alternatives F-H). The different corridors that were investigated as part of the archaeological investigation had a combined length of approximately 45.8 miles and included an estimated total of 5,552 acres.

Three archaeological sites were identified during the survey. Site 21CR141 was identified by Berger as a multi-component archaeological site on an alluvial fan below Hazeltine Bluff which included Oneota and non-diagnostic pre-contact materials in three buried A horizons. Given the presence of buried A horizons with the potential for intact archaeological deposits, the site was recommended for Phase II site testing. Phase II testing determined that the Oneota pottery found in Shovel Test 17 at 35 to 40 centimeters below ground surface in the 2Ab horizon appears not to be associated with other deposits and may be considered an isolated find. The flake found in Shovel Test 16 at 165 centimeters and the flake fragment recovered from Test Unit 2 at 124 centimeters below ground surface suggest a thin distribution of material in the 3Ab horizon with limited archaeological potential for the upper strata of the alluvial fan. However, the intact archaeological deposits associated with the 5Ab horizon between about 315 and 350 centimeters below ground surface have very good potential for contributing significant information about Archaic Period sites in the lower Minnesota River Valley. The consultant recommended the site as eligible for listing in the National Register of Historic Places (NRHP). The two other sites, 21CR140 and 21CR142, were recommended not eligible due to lack of integrity. It should be noted that Site 21CR140 extends to the east of the archaeology APE and may contain intact deposits. So if the project APE is altered to extend further east, additional archaeological investigation to evaluate the condition of that part of the site will be needed. Berger also recommended parcels for survey work (if they end up in the selected corridor) for which they were not granted access. These parcels appear to have a moderate to high potential for archaeological deposits and have not been subject to previous archaeological investigation (Parcels C-51, E-69, E-73, E-75, E-79, A-102, B-108, C-115, D-119, D-122A, D-122B, D-123, D-126, D-127, and W2-141). We agree with all of the consultant's recommendations regarding archaeological resources.

The APE for architectural resources was defined based on the original 5 corridor routes (Alternatives A-E). Because of the project's potential direct and indirect impacts to historic properties and the potential for the project corridor locations to be adjusted (which did occur), Mn/DOT CRU, in consultation with your office in 2004, delineated an architectural APE that encompassed a large region around the five proposed alternatives (please see Figure 1 in enclosed architectural history report). This originally defined APE adequately covered the areas of the refined corridor locations for Alternatives A-E, as well as the added interchange locations.

There are 12 previously determined eligible properties or properties listed on the National Register within the study area. These include CR-CKC-0002 (DuToit House), CR-CKC-0004 (Eder-Baer House), CR-CKC-0005 (Lewis House), CR-CKC-0011 (Brinkhaus Saloon Livery Barn), CR-CKC-0012 (Courthouse Saloon), CR-CKC-0015 (Herald Block), CR-CKC-0022 (Greiner House), CR-CKC-0055 (Walnut Street Historic District), CR-CKC-0057 (Chaska Historical Marker), CR-CKC-0059 (Fink House), CR-CKC-0516 (Scott House), and CR-CVC-104 (Carver Historic District). The consultant surveyed over 600 properties, and recommended the following as eligible. We agree with these recommendations.

- CR-CKC-174 (H. Oesterreich House) recommended eligible under Criteria C as a significant example of a Chaska brick residence constructed in the Queen Anne style.

- CR-CKC-009 (Riedele House) recommended eligible under Criteria B for its association with Andrew Riedele, prominent Chaska brick manufacture, and under Criteria C as a significant example of the cross-wing type of Chaska brick residence.
- CR-CKC-293 (Crystal Sugar Beet Factory Office) recommended eligible under Criteria A for its association with the sugar beet industry in Chaska and under Criteria C as a significant example of a commercial Chaska brick building.
- CR-CKC-007 (George A. DuToit House) recommended eligible under Criteria C as a significant example of a Queen Anne style Chaska brick house.
- CR-CKC-006 (Guardian Angels Catholic Church and Rectory) recommended eligible under Criteria C a significant example of a Gothic Revival church built with Chaska brick. In addition, it is the determination of this office that the school (1912-1918) associated with the Guardian Angels should be considered a contributing element of the Guardian Angles Church, Rectory, and School District, also eligible under Criteria A.
- CR-CKC-021 (Lyman W. Noble/John Sutheimer House) recommended eligible under Criteria C as an early, significant example of a Chaska brick residence constructed in 1858 in Chaska, Minnesota.
- CR-CVC-146, CR-CKC-623, CR-CHC-035 (Minneapolis & St. Louis Railroad) recommended eligible under Criteria A for its association with the development of several key industries in Chaska including the Carver County Sugar Beet Factory, the numerous Chaska brick yards and manufacturers, and the Chaska Flour Mill. In addition, it is the determination of this office that the Chaska Depot is a contributing element to the Minneapolis & St. Louis Railroad property and is eligible under Criteria A.

Our office consulted with the Carver Historic Preservation Commission (HPC) and the Chaska HPC regarding historic properties in the area. Both HPCs are consulting parties on the project. The Carver HPC contacted us to request that we consider four properties as eligible. These were CR-CVC-0116 (212 4th Street East), CR-CVC-0144 (216 Fourth Street East), CR-CVC-0117 (220 Fourth Street East), and CR-CVC-0126 (430 Lime Street North) (please see enclosed pictures for these properties). Our office determined that they did not retain sufficient integrity to be considered eligible for listing on the National Register.

The City of Chaska and Chaska HPC also presented a number of properties for additional consideration of NRHP eligibility. Staff members from your office attended a meeting in Chaska with our office and Chaska city official to conduct a field review of the properties. The recommendations from the City are presented in the report *Tour of Chaska with the Minnesota Department of Transportation & the State Historic Preservation Office: Evaluating Additional Potentially Eligible Historic Properties for the Section 106 Study/EIS of the TH 41 New River Crossing* (June 20, 2006). Based on our review of the properties presented by the city, properties 14, 15, 16, and 17 are outside of the project APE. CR-CKC-041 (100 East 2nd Street, #2), CR-CKC-040 (102-104 East 2nd Street, #3), CR-CKC-0042 (109 East 2nd Street, #4) and CR-CKC-0051 (the Moravian Church, #5) are contributing elements to the existing Chaska Historic District.

It is the determination of our office that the following properties presented in the report do not retain sufficient integrity for consideration to the National Register: CR-CKC-0413 (103 West 2nd Street, #1) (please note the modern storefront windows, modern doors, and the removal of the top section of the cornice), 403 3rd Street East (E.A. Taylor House, #7), CR-CKC-0472 (113 Oak Street, #8), CR-CKC-0534 (116 Maple, Griep House, #9), 620 Willow (No SHPO number, #11), CR-CKC-0311 (906 Stoughton, #12), 1201 Valley Street (no SHPO number, Jasper/Heller/Holtz Home, #13), 300 West Sixth Street (no SHPO number, #18), CR-CKC-0451 (512 Cedar Street, #19), CR-CKC-0010 (500 Pine Street, Chaska Mill, #21), CR-CKC-0152 (403 West 1st Street, Glatzel House, #24) (see enclosed photo showing enclosed front porch), CR-CKC-0127 (622 West 1st Street, #25), CR-CKC-0334 (201 Hickory, #26), CR-CKC-0366 (205 Elm Street, #27), the clay pits (No SHPO number, #29).

There are currently four properties recommended by the Chaska HPC for further consideration that we would like to discuss in more detail with your office: CR-CKC-0572 (512 2nd Street East, #10), and CR-CKC-0381 (205

West First Street, #22), 322 West 1st Street (no SHPO number, Fink-Young House #23), and the Mount Pleasant Cemetery (no SHPO number, #30). These properties appear to retain sufficient integrity, but we would like to further discuss their possible historical significance.

Based on the current information, it does not appear that any of the proposed corridors will directly impact any of the historic properties. **It is the determination of this office that the E Alternatives (E-1, E-1A, and E-2) will have no adverse effects on historic properties. This determination is based on the condition that the archaeological site 21CR141, which is very small (5 m E-W by 30 M N-S; see Figure 13 in enclosed archaeological report), can be avoided through adjustments to the proposed E-1A or E-2 alignments if they are selected (E-1 would completely avoid the site area).** CR-CKC-293 (Crystal Sugar Beet Factory Office) is located approximately ¼ mile to the west of the E-1 and E-1A alignments, and will not be impacted through visual, auditory, or setting changes.

We cannot make a final determination of effects on the other alternatives (C-2, C-2A, and W-2) and the No Build alternative at this time. It is unclear what the visual impacts of this elevated roadway will be on historic properties within Chaska and Carver, and further information on noise levels is needed. We anticipate receiving that information in the next several weeks, and will provide a determination on the remaining alignments at that time.

We are providing you with this determination pursuant to the responsibilities given the State Historic Preservation Office (SHPO) by the regulations at 36 CFR 800 and as per the terms of the FHWA-SHPO PA (2005). We look forward to completing this review with your office.

Sincerely,

Kristen Zschomler

Kristen Zschomler, RPA
Historian/Archaeologist
Cultural Resources Unit (CRU)

encs.

cc: Cheryl Martin, FHWA
Leonard Wabasha, Shakopee Mdewakanton Sioux (Dakota) Community (1 copy archaeology report)
Melissa Duchinsky, City of Chaska Planning Department (2 copies architectural history report)
Jim Elmquist, City of Carver (1 copy architectural history report)
Cindy Olness, Collaborative Planning Process (1 copy architectural history report)
Dennis Roof (1 copy archaeology report)
Dr. Scott Anfinson, State Archaeologist
Lisa Freese, Mn/DOT Metro
Lynn Clarkowski, Mn/DOT Metro (2 copies each report + CDs of electronic files)
Diane Langenbach, Mn/DOT Metro
Nancy Frick, SRF Consulting (2 copies each report + CDs of electronic files)
Legislative Library (1 copy each report)
Joe Hudak, Mn/DOT CRU
Mn/DOT CO File
Mn/DOT CRU Project File

Minnesota Department of Transportation

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August 24, 2006

Direct Line: (651) 296-3243
Mail Stop 620

Mr. Dennis A. Gimmestad
Government Programs & Compliance Officer
State Historic Preservation Office
Minnesota Historical Society
345 Kellogg Blvd. W.
St. Paul, MN 55101

Re: S.P. 1008-60 (Trunk Highway 41 River Crossing Study, Carver and Scott Counties)
SHPO No. Pending

Dear Mr. Gimmestad:

We have reviewed the above-referenced undertaking pursuant to our FHWA-delegated responsibilities for compliance with Section 106 of the National Historic Preservation Act, as amended (36 CFR 800), and as per the terms of the FHWA-SHPO Programmatic Agreement (2005).

We previously wrote to your office on July 13, 2006 with our initial determinations of eligibility and an effects determination of E Alternatives. In that letter, we identified four properties that we wanted to discuss further with your office in order to determine eligibility. In a conversation with Susan Roth, National Register Historian with your office, we determined that three of the four properties are eligible for the purpose of this review: CR-CKC-0572 (512 2nd Street East, #10), CR-CKC-0381 (205 West First Street, #22), and 322 West 1st Street (CR-CKC-545; Fink-Young House #23). The Mount Pleasant Cemetery (CR-CKC-077, #30) was recommended by our consultant as not eligible, and based on further review by our office and in consultation with Ms. Roth, we have determined that it is not eligible.

One additional property was identified during a meeting with the Chaska HPC on August 15, 2006: the Chaska Ball Field (a.k.a. Chaska Athletic Park). The Chaska Cubs were founded in 1929 and played in the Class A league of the Association of Minnesota Amateur Baseball Leagues (now the Minnesota Baseball Association) (the Cubs are now in the Class B league). The role of town ball in the years immediately following World War II is summed up by Armand Peterson and Tom Tomashek in the recently published book, *Town Ball: The Glory Days of Minnesota Amateur Baseball* (University of Minnesota Press, 2006).

> [The fans] loved major league baseball despite living several hundred miles from Chicago, the closest big-league city, and they rooted for the state's minor league teams competing in the American Association and Northern League, but the backbone of Minnesota baseball was town team ball. The amateur game was upfront and personal. It offered townspeople the opportunity to embrace a team that included their family and friends, Main Street's professionals, tradesman and merchants, high school teachers and their student-athletes, and farmers from the surrounding countryside.
>
> By the turn of the 20th century, town team baseball was already a part of Minnesota's community fabric and continued to grow through World War I and the Great Depression. Participation plummeted during the four years of World War II, with Minnesota Baseball Association membership slipping from an all-time high of four hundred teams in 1940 to 150 in 1945. Once the war ended in the late summer of 1945 and the soldiers began marching home, the groundswell of interest in hometown baseball began to build. From 1945 through 1960, Minnesota experienced a magical era of amateur ball, setting records in town participation and attendance that have not been matched since. ...

With little competition for the entertainment dollar immediately following the war, town team ball became a summer staple for both hardcore baseball fans and entire families. Town participation made a giant leap from 1945 to 1950, when 800 teams began the season in three different divisions.

The property type that best illustrates the town ball phenomena in post-World War II Minnesota is the town ball field. Town ball fields from this era are characterized by a wood and cinderblock grandstand, with wood bleachers, chicken-wire screen, announcer's booth, and concession stand; wooden or cinderblock dug outs; a grassy infield (unlike a softball infield that has no grass); and large flood lights that allowed for evening games. The Chaska Cub Ball Field (Athletic Park) is locally significant under Criterion A in the areas of recreational and social history, and retains the key features of a 1950s ball field as listed above (see attached pictures).

E ALTERNATIVES (E-1, E-1A, AND E-2)

We previously determined that they will have **no adverse effects** on historic properties, based on the condition that the archaeological site 21CR141 be avoided through adjustments to the proposed E-1A or E-2 alignments if they are selected (E-1 would completely avoid the site area). This determination remains appropriate as there have been no changes to the proposed alignments and no additional historic properties identified in the area of these alternatives.

ALTERNATIVE C-2

It is also the determination of this office that the C-2 Alternative as currently planned would have **no adverse effects** on the **Chaska Historic District**. There are no direct impacts to properties in the district, and the proposed elevated roadway would not visually affect the district since the only place where the roadway would be visible is from the southeastern corner at TH 41 and 2nd Avenue. In the Chaska Historic District, noise levels under the No Build Alternative would go up 3 decibel levels, which is not a perceptible change. Under both the W2 and C Alternatives (both C-2 and C-2A) the noise level in the historic district would stay the same as current conditions.

Our office requested additional noise information in order to get a better idea as to the potential changes in noise levels for 6 historic properties in the area of Elm Street and 1st Street in Chaska. Noise modeling indicates a possible 2 to 3 decibel level increase in this area between the 2040 No Build levels and the C-2 and C-2A alternatives. The noise model, however, did not have programmed into it the local roadway network and traffic volumes (existing and future), and it was noted by the consultant that this would need to be done in order to accurately describe the existing and future noise environment in the Elm and 1st Street areas (please see attached noise information).

It is the determination of this office that the C-2 Alternative would have **an adverse effect** on the **Chaska Cubs Ball Field** since it will directly impact the property. Also, it is unknown at this time if the C-2 Alternative will have an adverse effect on the following historic properties due to potential visual and auditory impacts: **CR-CKC-0002 (Fredrick DuTroit House, 121 Hickory Avenue); CR-CKC-0004 (Eder/Baur House, 105 Elm); CR-CKC-0005 (E.H. Lewis House; 321 2nd Street West); CR-CKC-0059 (Conrad Fink House, 322 1st Street West); CR-CKC-0381 (Liprisk House; 205 1st Street West); CR-CKC-0174 (H. Oeterreich House, 115 Elm Street); CR-CKC-0006 (Guardian Angels Church and School).** If this alternative is selected, additional noise studies may be needed in order to determine if there will be an impact to these properties from increased noise levels. Also, since design elements of the elevated roadway cannot be known at this time, it is not possible to make a determination of effects regarding potential visual impacts.

ALTERNATIVE C-2A

It is the determination of this office that the C-2A Alternative would have **no visual impacts** on the identified historic properties, **but may have potential auditory impacts**. Since local roadway networks and traffic data were not programmed into the current noise models, more noise analysis would be needed to determine if there will be an adverse effect on the **Chaska Ball Field, CR-CKC-0002 (Fredrick DuTroit House, 121 Hickory Avenue); CR-CKC-0004 (Eder/Baur House, 105 Elm); CR-CKC-0005 (E.H. Lewis House; 321 2nd Street West); CR-CKC-0059 (Conrad Fink House, 322 1st Street West); and CR-CKC-0174 (H. Oeterreich House, 115 Elm Street)**

from increased noise levels. If this alternative is selected, additional noise studies may be needed in order to determine if there will be an impact to these properties from increased noise levels.

ALTERNATIVE W-2

It is unknown at this time if the W-2 Alternative will have an adverse effect on the **Carver Historic District**. While the roadway is located 3000 feet to the east of the historic district, since the design elements of the elevated roadway cannot be known at this time, no determination can be made at this point. The current noise analysis indicates that there would be only a 2 decibel increase between the future No Build and Build alternative, but it is with the understanding that local roadway networks and traffic data are missing from the model. Since more refined noise analysis may indicate a higher noise level, again no determination can be made at this point. If this alternative is selected, additional noise studies may be needed in order to determine if there will be an impact to these properties from increased noise levels.

NO BUILD ALTERNATIVE

It is the determination of this office that the No Build Alternative would have **an adverse effect the Chaska Historic District**. Noise and traffic levels along the current T.H. 41 through Chaska are very disruptive to the feeling and setting, and with projected traffic increase this situation will continue into 2040.

Because the effects of Alternatives C-2, C-2A, and W-2 cannot be determined based on the data available, we feel it would be appropriate to develop a Programmatic Agreement (PA) between the FHWA and your office. The PA would layout a review process by which additional information regarding noise and visual impacts can be reviewed and hopefully modified in order to avoid or minimize any potential adverse effects.

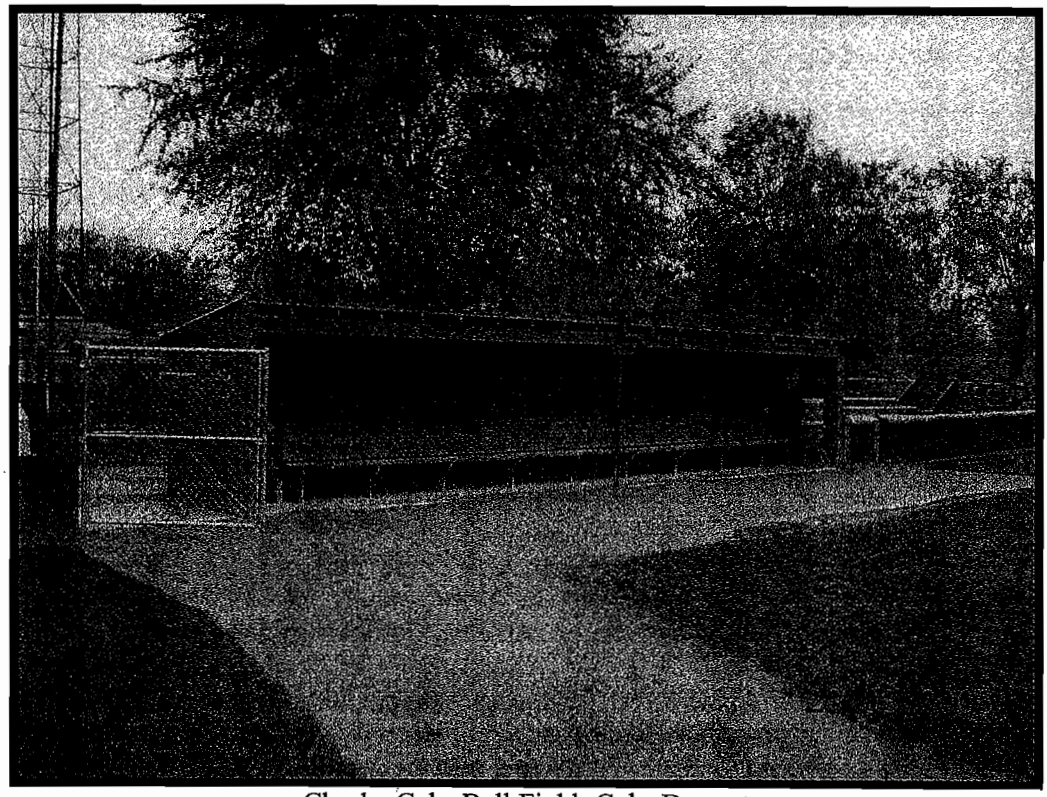
Sincerely,

Kristen Zschomler

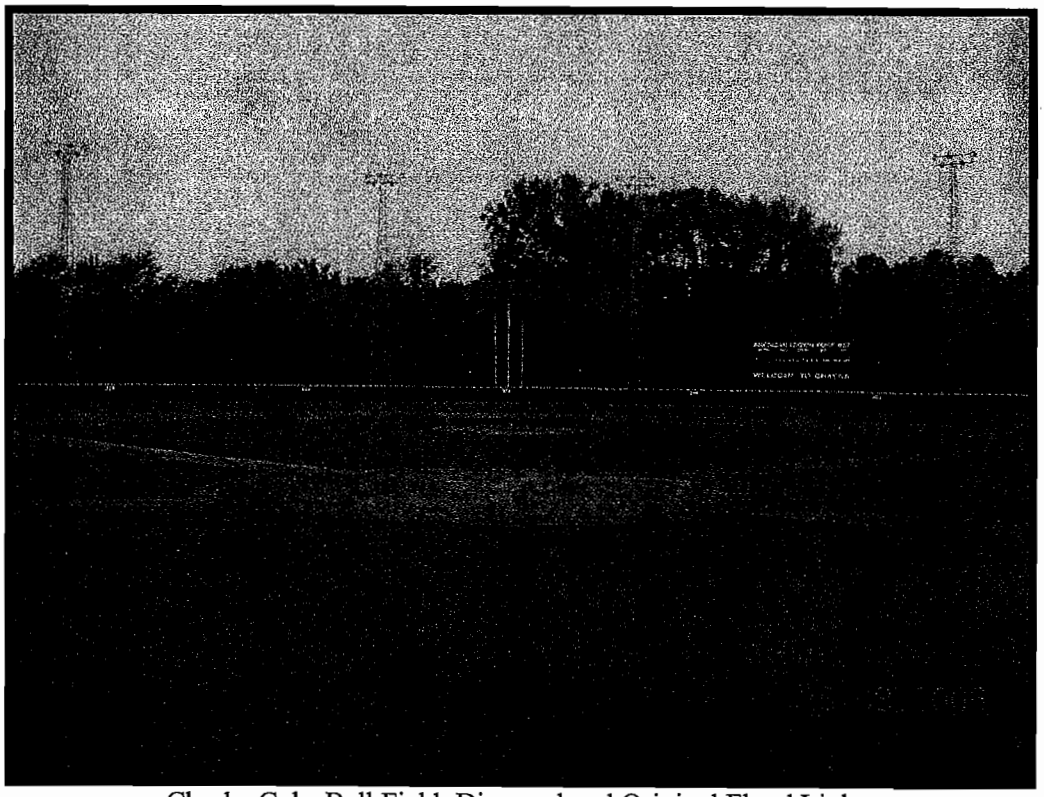
Kristen Zschomler, RPA
Historian/Archaeologist
Cultural Resources Unit (CRU)

encs.

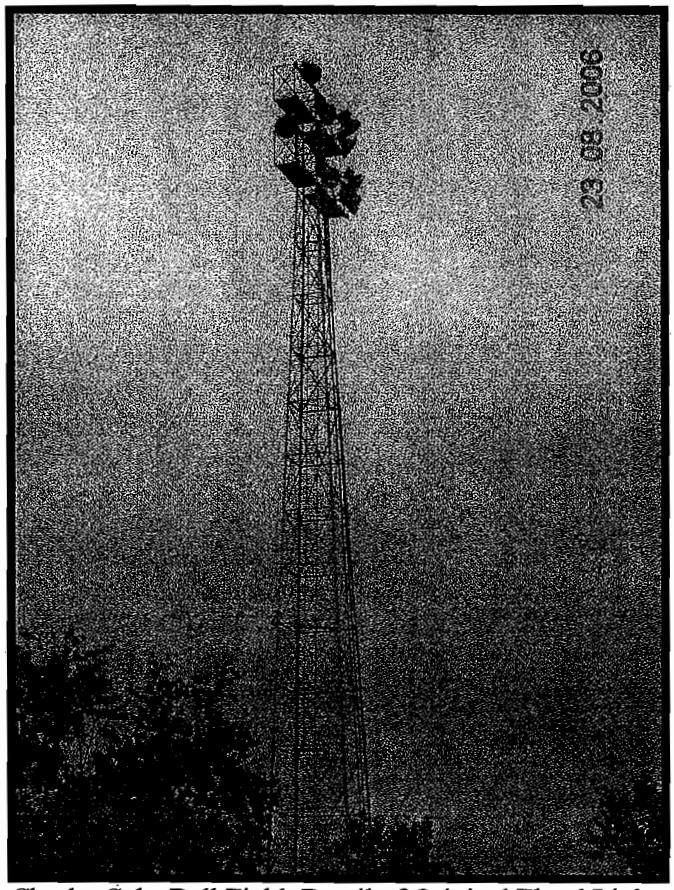
cc: Cheryl Martin, FHWA
Leonard Wabasha, Shakopee Mdewakanton Sioux (Dakota) Community
Melissa Duchinsky, City of Chaska Planning Department
Jim Elmquist, City of Carver
Dr. Scott Anfinson, State Archaeologist
John Dobrovolny, Fish and Wildlife Service
Jeanette Leete, DNR
Hannah Texler, DNR
Julie Ekman, DNR
Joe Yanta, COE
Steve Eggers, COE
Virginia Laszewski, EPA
Lisa Freese, Mn/DOT Metro
Lynn Clarkowski, Mn/DOT Metro
Diane Langenbach, Mn/DOT Metro
Nancy Frick, SRF Consulting
Joe Hudak, Mn/DOT CRU
Mn/DOT CO /CRU Project File



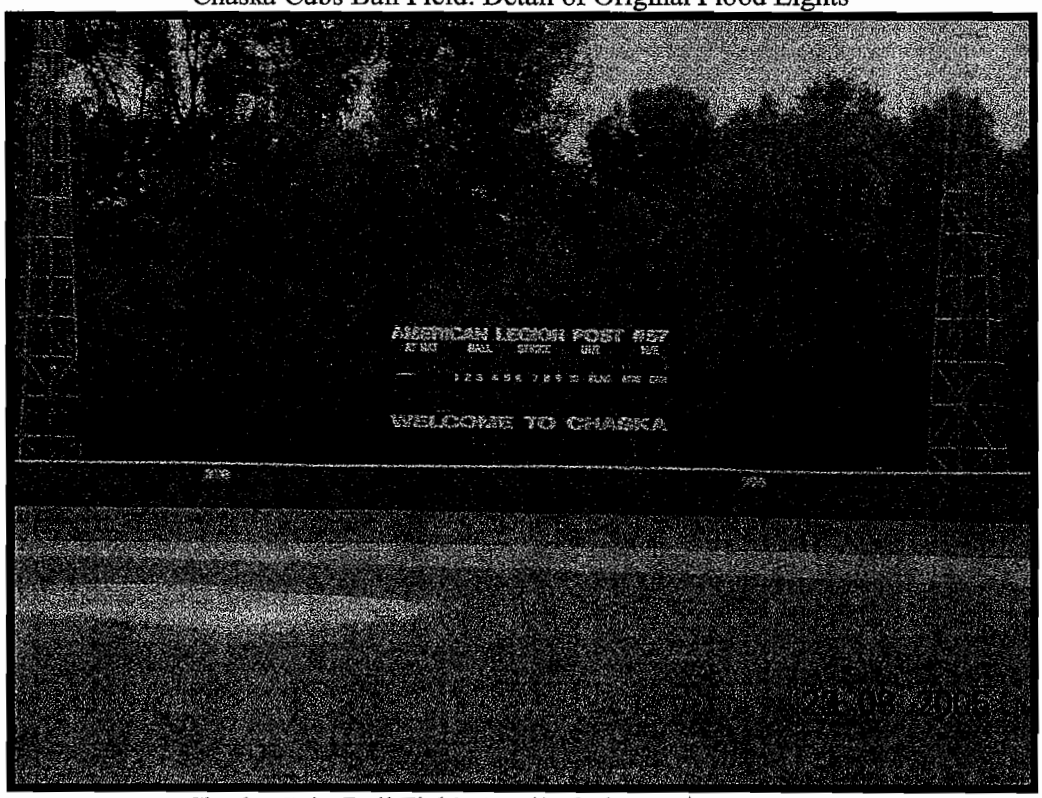
Chaska Cubs Ball Field: Cubs Dugout



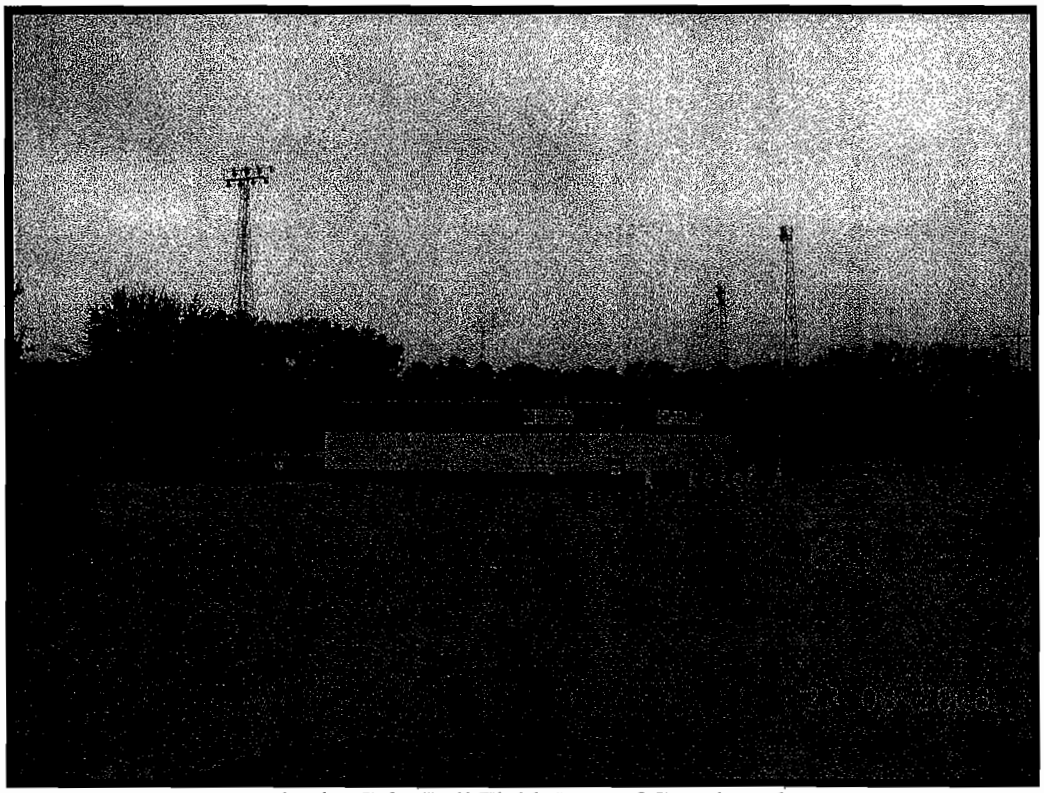
Chaska Cubs Ball Field: Diamond and Original Flood Lights



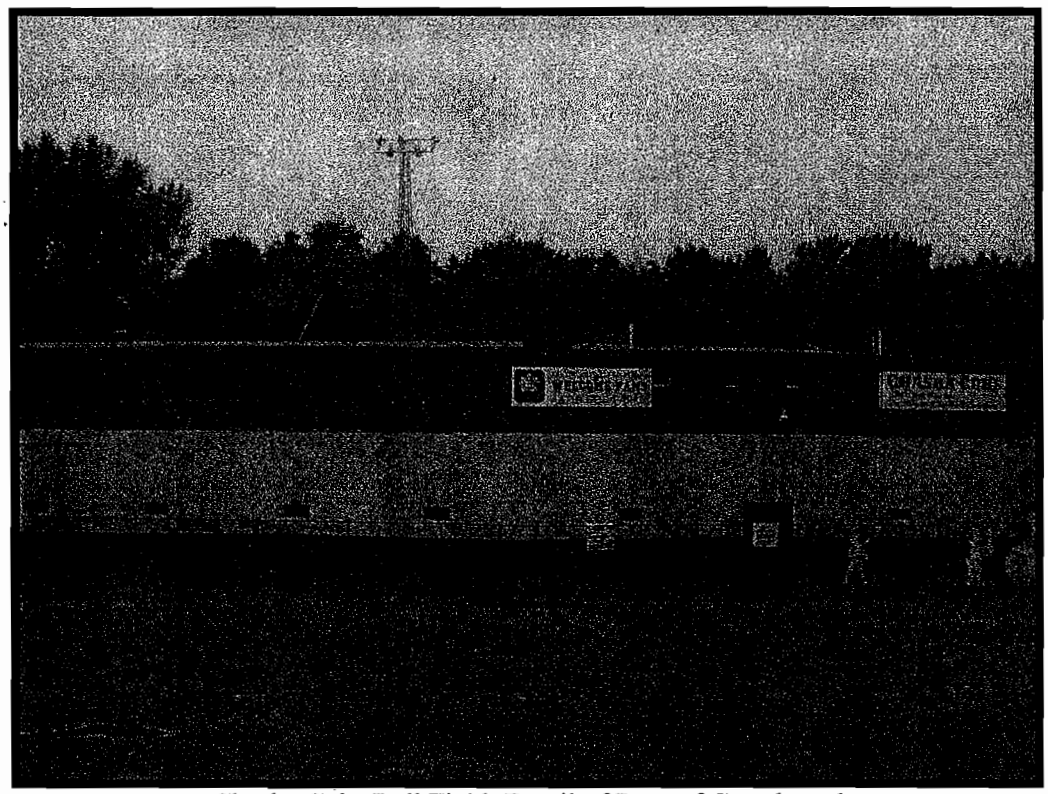
Chaska Cubs Ball Field: Detail of Original Flood Lights



Chaska Cubs Ball Field: Detail of Electronic Score Board



Chaska Cubs Ball Field: Rear of Grandstand



Chaska Cubs Ball Field: Detail of Rear of Grandstand

MINNESOTA HISTORICAL SOCIETY

State Historic Preservation Office

OCT 2006
Received
SRF, Inc.

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OCT - 3 2006
CULTURAL RESOURCES UNIT

September 27, 2006

Ms. Kristen Zschomler
Cultural Resources Unit
MN Dept. of Transportation
Transportation Building, MS 620
395 John Ireland Boulevard
St. Paul, MN 55155-1899

Re: S.P. 1008-60, T.H. 41 River Crossing
Carver & Scott Counties
SHPO Number: 2005-1474

Dear Ms. Zschomler:

Thank you for the opportunity to review and comment on the above project. It has been reviewed pursuant to the responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and the Procedures of the Advisory Council on Historic Preservation (36CFR800), and to the responsibilities given the Minnesota Historical Society by the Minnesota Historic Sites Act and the Minnesota Field Archaeology Act.

We have reviewed the results of the archaeology survey and the history/architecture survey of the alternate route corridors for this project. Our comments are as follows:

1. Twelve properties within the study area are listed on or have been previously determined eligible for the National Register. These are: Frederick DuToit House, Eder-Baer House, E. H. Lewis House, Brinkhous Saloon Livery Barn, Courthouse Saloon, Herald Block, Frederick Greiner House, Walnut Street Historic District, Chaska Historical Marker, Fink House, Scott House, and the Carver Historic District.

2. One National Register eligible archaeological property was identified during the survey: 21CR0141. We concur with the determination that the site meets National Register criteria. Should a project alternative that potentially affects this site be chosen, we would recommend survey/assessment to clarify site boundaries and to ensure that the evaluation is adequate to serve as a basis for management decisions, including mitigation, if needed. We also note that archaeological survey was not completed for some areas where access permission was not granted; it is important to track these parcels so that they are surveyed as early as possible as the Section 106 review process moves forward.

3. Eleven National Register eligible history/architecture properties were identified during the survey: Oesterreich House, Riedele House, Crystal Sugar Beet Factory Office, George A. DuToit House, Guardian Angels Catholic Church Rectory and School District, Lyman W. Noble/John Sutheimer House, Minneapolis & St. Louis Railroad, House at

512 2nd Street East, House at 205 West 1st Street, House at 322 West 1st Street, and the Chaska Ball Field.

4. Your letter includes a determination that the E Alternatives will have no adverse effect on historic properties; that Alternate C-2 has an adverse effect, with some effects not known; that the effects of Alternate C-2A are not known; that the effects of Alternative W-2 are not known, and that the no-build alternative has an adverse effect on historic properties. In general, it would seem to us that Alternate C-2 has the greatest potential for effects on historic properties (including direct effects), and that this issue should be closely considered as part of the alternate selection process.

5. You propose to develop a programmatic agreement to outline the completion of the Section 106 process as the planning for this project proceeds. Since the detailed design and construction of the project may be many years away, such a programmatic should include provisions for review and update of survey data and updated effects analysis at the time of the Tier Two EIS or at another appropriate point in the planning process.

We appreciate your efforts in providing cultural resource data at the corridor selection stage, and look forward to working with your office as this project continues to move through the planning process. Contact Dennis Gimmestad at 651-205-4205 with questions or concerns.

Sincerely,

Britta L. Bloomberg
Deputy State Historic Preservation Officer

U.S. Department
of Transportation

**Federal Highway
Administration**

Minnesota Division

380 Jackson Street
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March 15, 2007

MAR 2007
Received
SRF, Inc.

Ms. Shannon Blue
President
Lower Sioux Indian Community
P. O. Box 308
Morton, MN 56270

Re: Section 106 Consultation
TH 41, Connecting TH 169 and New TH 212
Including a New Minnesota River Crossing
Carver and Scott Counties, Minnesota

Dear President Blue:

The Federal Highway Administration (FHWA), in cooperation with the Minnesota Department of Transportation (Mn/DOT), is preparing a Tier I Environmental Impact Statement (EIS) to address capacity improvements to Trunk Highway (TH) 41, including a crossing of the Minnesota River, in Carver and Scott Counties, Minnesota. The study area for the proposed project is located between proposed TH 212 and TH 169 (the north-south limits) and between TH 101 at the Chanhassen/Shakopee border and County Road (CR) 45 just west of Carver (the east-west limits) in the vicinity of existing TH 41 (see enclosed map of the project area). The Tier I EIS will include the analysis needed for a location decision.

In addition to the No-Build Alternative, six Build Alternatives are being studied in the Tier I EIS. Each of the six Build Alternatives is a freeway design with an interchange at TH 169 and an interchange at New TH 212 (see enclosed alternatives map).

- Alternative W-2 is located in the western portion of the study area. This alternative intersects with TH 169 one mile west of existing TH 41/County State Aid Highway (CSAH) 78 and connects with New TH 212 at the New TH 212/CR 147 interchange.
- Alternative C-2 is in the central/western portion of the study area. This alternative connects to TH 169 at the planned TH 169/existing TH 41 interchange (the design assumes a realigned existing TH 41/CSAH 78) and connects to New TH 212 at the New TH 212/CR 147 interchange.

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Minnesota
Federal Highway Administration

- Alternative C-2A is located in the central portion of the study area. This alternative connects to TH 169 at the planned TH 169/existing TH 41 interchange (the design assumes a realigned existing TH 41/CSAH 78) and connects to New TH 212 at CSAH 10/Engler Boulevard.

- Alternative E-1 is in the eastern portion of the study area. This alternative connects to TH 169 at the planned TH 169/CSAH 69 interchange, and connects with New TH 212 at CSAH 17/Audubon Road. This alternative assumes that TH 169 is realigned south of its existing alignment in the vicinity of CSAH 69.
- Alternative E-1A is located in the eastern portion of the study area. This alternative is identical to Alternative E-1 south of the Minnesota River. This alternative connects to new TH 212 near Bluff Creek Road.
- Alternative E-2 is located in the eastern portion of the study area. It is the easternmost alignment of all the Build alternatives. This alternative connects to TH 169 at the planned TH 169/CSAH 69 interchange and connects to New TH 212 near Bluff Creek Road. This alternative assumes that TH 169 is realigned south of its existing alignment in the vicinity of CSAH 69.

The Mn/DOT Cultural Resources Unit (CRU) has reviewed the above-referenced undertaking pursuant to their FHWA-delegated responsibilities for compliance with Section 106 of the National Historic Preservation Act, as amended (36 CFR 800), and as per the terms of the FHWA-State Historic Preservation Office (SHPO) Programmatic Agreement (2005).

Because of the high potential for archaeological sites and eligible architectural history properties, a consultant was hired to conduct archaeological and architectural history investigations. They completed two reports, *Phase I and II Archaeological Investigations of Alternative Route Corridors for Trunk Highway 41 Near Chaska, Carver and Scott Counties* and *Phase I/II Architecture/History Investigations for Five Proposed Alternative Route Corridors for Trunk Highway 41 near Chaska, Carver and Scott Counties, Minnesota.*

The Area of Potential Effect (APE) for the archaeological and geomorphological work was defined as the construction limits of the proposed alternative route corridors. Each corridor was 1,000 feet wide. It should be noted that the proposed corridor locations changed after the start of the Phase I archaeological fieldwork. The original five corridors plus the revised corridors were surveyed. Three additional proposed interchanges related to the corridors were also added during the course of the project. The different corridors that were investigated as part of the archaeological investigation had a combined length of approximately 45.8 miles and included an estimated total of 5,552 acres.

Three archaeological sites were identified during the survey. However, only Site 21CR141 was determined eligible for the National Register of Historic Places (NRHP). This multi-component pre-contact site is determined eligible for its deeply buried archaeological deposits that were found to have integrity and potential for contributing significant information about the occupation of the lower Minnesota River valley during the Archaic Period. The other two sites, 21CR140 and 21CR142, were determined not eligible due to lack of integrity.

The APE for architectural resources was defined based on the original 5 corridor routes. Because of the project's potential direct and indirect impacts to historic properties and the potential for the project corridor locations to be adjusted (which did occur), Mn/DOT's CRU, in consultation with the Minnesota SHPO in 2004, delineated an architectural APE that encompassed a large region around the five proposed alternatives. This originally defined APE adequately covered the areas of the refined corridor locations, as well as the added interchange locations.

There are 12 previously determined eligible properties or properties listed on the NRHP within the study area. These include CR-CKC-0002 (DuToit House), CR-CKC-0004 (Eder-Baer House), CR-CKC-0005 (Lewis House), CR-CKC-0011 (Brinkhaus Saloon Livery Barn), CR-CKC-0012 (Courthouse Saloon), CR-CKC-0015 (Herald Block), CR-CKC-0022 (Greiner House), CR-CKC-0055 (Walnut Street Historic District), CR-CKC-0057 (Chaska Historical Marker), CR-CKC-0059 (Fink House), CR-CKC-0516 (Scott House), and CR-CVC-104 (Carver Historic District). After surveying over 600 additional properties, the following seven properties were also determined to be eligible for the NRHP:

- CR-CKC-174 (H. Oesterreich House) recommended eligible under Criteria C as a significant example of a Chaska brick residence constructed in the Queen Anne style.
- CR-CKC-009 (Riedele House) recommended eligible under Criteria B for its association with Andrew Riedele, prominent Chaska brick manufacturer, and under Criteria C as a significant example of the cross-wing type of Chaska brick residence.
- CR-CKC-293 (Crystal Sugar Beet Factory Office) recommended eligible under Criteria A for its association with the sugar beet industry in Chaska and under Criteria C as a significant example of a commercial Chaska brick building.
- CR-CKC-007 (George A. DuToit House) recommended eligible under Criteria C as a significant example of a Queen Anne style Chaska brick house.
- CR-CKC-006 (Guardian Angels Catholic Church and Rectory) recommended eligible under Criteria C as a significant example of a Gothic Revival church built with Chaska brick. In addition, it was determined that the school (1912-1918) associated with the Guardian Angels should be considered a contributing element of the Guardian Angels Church, Rectory, and School District, also eligible under Criteria A.
- CR-CKC-021 (Lyman W. Noble/John Sutheimer House) recommended eligible under Criteria C as an early, significant example of a Chaska brick residence constructed in 1858 in Chaska, Minnesota.
- CR-CVC-146, CR-CKC-623, CR-CHC-035 (Minneapolis & St. Louis Railroad) recommended eligible under Criteria A for its association with the development of several key industries in Chaska including the Carver County Sugar Beet Factory, the numerous Chaska brick yards and manufacturers, and the Chaska Flour Mill. In addition, it was determined that the Chaska Depot is a contributing element to the Minneapolis & St. Louis Railroad property and is eligible under Criteria A.

Mn/DOT's CRU consulted with the Carver Historic Preservation Commission (HPC) and the Chaska HPC regarding historic properties in the area. Based on this consultation, four properties, CR-CKC-041 (100 East 2nd Street), CR-CKC-040 (102-104 East 2nd Street), CR-CKC-0042 (109 East 2nd Street) and CR-CKC-0051 (the Moravian Church) have been determined to be contributing elements to the existing Chaska Historic District. And three properties, CR-CKC-0572 (512 2nd Street

0572 (512 2nd Street East), CR-CKC-0381 (205 West First Street), and 322 West 1st Street (no SHPO number, Fink-Young House) have been determined to be eligible for the NRHP (see enclosed matrix of listed or eligible properties).

Based on the current information, it does not appear that any of the proposed corridors will directly impact any of the historic properties. **It is the determination of Mn/DOT's CRU that the E Alternatives (E-1, E-1A, and E-2) will have no adverse effects on historic properties. This determination is based on the condition that the archaeological site 21CR141, which is very small (5 meters east-west by 30 meters north-south), can be avoided through adjustments to the proposed E-1A or E-2 alignments if they are selected (E-1 would completely avoid the site area).** CR-CKC-293 (Crystal Sugar Beet Factory Office) is located approximately ¼ mile to the west of the E-1 and E-1A alignments, and will not be impacted through visual, auditory, or setting changes.

Mn/DOT's CRU cannot make a final determination of effects on the other alternatives (C-2, C-2A, and W-2) and the No Build alternative at this time. It is unclear how the elevated roadway will visually impact the historic properties within Chaska and Carver, and further information on noise levels is needed.

In accordance with 36 CFR Part 800 which describes the Section 106 Process of the NHPA, as amended, we are requesting your assistance in identifying historic properties to which your tribe attaches religious and cultural significance in the project area. If such properties are identified in the area of potential effect, we will invite your tribe to be a consulting party in the Section 106 process.

Our office is working with the Minnesota MnSHPO and Mn/DOT to ensure that projects funded with Federal-aid highway funds conform to the NHPA. We are continuing to meet with each tribe, which has historical ties to the State of Minnesota, to discuss consultation on future projects. Besides the eleven federally recognized tribes which are currently located in the State, our list of tribal contacts was derived from the Native American Consultation Database which is maintained by the National Park Service.

If you have any questions or information regarding the proposed project, please contact Kristen Zschomler, Mn/DOT Historian at (651) 366-3633; Diane Langenbach, Mn/DOT Project Manager at (651) 582-1468; or me at (651) 291-6120. We would appreciate receiving your comments on the proposed project by April 20, 2007.

Cheryl B. Martin

Cheryl B. Martin
Environmental Engineer

Enclosure

APPENDIX B

DRAFT SECTION 4(F)/SECTION 6(F) EVALUATION

DRAFT TIER I SECTION 4(f) EVALUATION
TH 41 MINNESOTA RIVER CROSSING
FROM US 169 TO NEW US 212
CITIES OF CARVER, CHASKA, AND CHANHASSEN, DAHLGREN TOWNSHIP
CARVER COUNTY
LOUISVILLE AND JACKSON TOWNSHIP
SCOTT COUNTY,
MINNESOTA

I. INTRODUCTION

This Draft Section 4(f)/6(f) Evaluation provides information on the proposed action and potentially affected Section 4(f) park and historic resources.

Section 4(f) and Section 6(f) Impacts

The Section 4(f) legislation as established under the Department of Transportation Act of 1966 (49 USC 303, 23 USC 138) provides protection for publicly owned parks, recreation areas, historic sites (regardless of ownership), wildlife and/or waterfowl refuges from conversion to a transportation use. The Federal Highway Administration (FHWA) may not approve the use of land from a significant publicly owned park, recreation area, or wildlife and waterfowl refuge, or any significant historic site unless a determination is made that:

- There is no feasible and prudent alternative to the use of the land from the property; and
- The action includes all possible planning to minimize harm to the property resulting from such use (23 CFR 771.135).

Additional protection is provided for outdoor recreational lands under the Section 6(f) legislation (16 USC 4602-8(f)(3)) where Land and Water Conservation (LAWCON) funds were used for the planning, acquisition or development of the property. These properties may be converted to a non-outdoor recreational use only if replacement land of at least the same fair market values and reasonable equivalent usefulness and location is assured.

II. PROPOSED ACTION

A. PROJECT BACKGROUND, NEED AND ALTERNATIVES CONSIDERED

The proposed action is the construction of a new river crossing connecting United States Highway (US) 169 in Scott County with New US 212, now under construction in Carver County, in the vicinity of existing Trunk Highway (TH) 41. The new river crossing would be constructed above the 100-year floodplain and would be a freeway-type facility. The Draft Environmental Impact Statement (DEIS) for the proposed project of which this Draft Section 4(f)/Section 6(f) Evaluation is an appendix, describes the project background (Chapter 1), need (Chapter 2), and alternatives considered (Chapter 3), and provides figures locating the project within the Twin Cities metropolitan area.

B. DEIS ALTERNATIVES

The DEIS evaluates a No-Build and six Build alternatives. See Figure B-1. Figures for individual Build alternatives are presented in Chapter 3 of the DEIS.

III. EVALUATION

A. SUMMARY

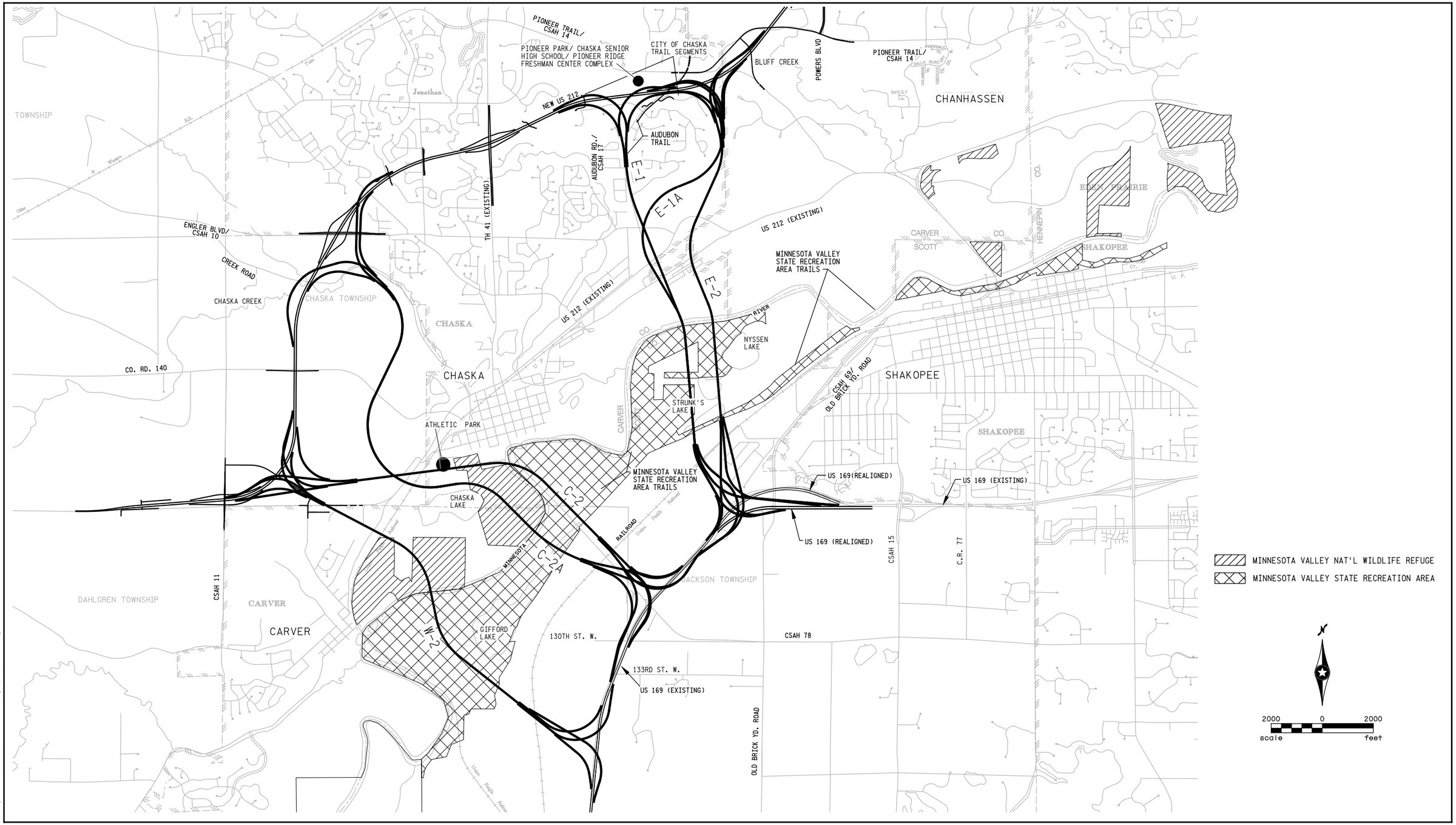
There are five Section 4(f) resources that are directly affected by one or more of the DEIS alternatives. The five resources and evaluation of impacts on each are described in Section III.B-III.E below. Table B-1 summarizes the impacts on resources.

(For purposes of this evaluation, the Minnesota Valley State Recreation Area and the Minnesota Valley State Trail are combined because the trail is contained within the recreation area; the Chaska Senior High School, Pioneer Park and Pioneer Ridge Freshman Center are also combined because they operate as a complex. Note that the Minnesota River itself is a recreational resource, but in the project area is contained within the Minnesota Valley National Wildlife Refuge and/or Minnesota Valley State Recreation Area and therefore is considered an attribute of each of those resources, not assessed separately.)

TABLE B-1
IMPACT ON SECTION 4(F) RESOURCES (IN ACRES)

Section 4(f) Resource	ALTERNATIVES					
	W-2	C-2	C-2A	E-1	E-1A	E-2
Minnesota Valley National Wildlife Refuge (MVNWR)	20.4 ac.	8.5 ac.	36.1 ac.	0.0 ac.	0.0 ac.	0.0 ac.
Minnesota Valley State Recreation Area (MVSRA)/Minnesota Valley State Trail (MV Trail)	30.6 ac.	22.3 ac.	5.4 ac.	12.0 ac.	12.0 ac.	4.2 ac.
Athletic Park (Chaska Cubs Ball Field)	0.0 ac.	3.5 ac.	0.0 ac.	0.0 ac.	0.0 ac.	0.0 ac.
Audubon Trail	0.0 ac.	0.0 ac.	0.0 ac.	1.32 ac.	0.18 ac. (1,000 ft.)	0.18 ac. (1,000 ft.)
City of Chaska Trail Segments	0.0 ac.	0.0 ac.	0.0 ac.	0.77 ac.	0.15 ac.	0.15 ac.
Pioneer Park/Chaska Senior High School/Pioneer Ridge Freshman Center complex	0.0 ac.	0.0 ac.	0.0 ac.	10.4 ac.	2.7 ac.	1.1 ac.

There are also 21 properties and two historic districts in the study area that are listed on or eligible for the National Register of Historic Places (NRHP). These are discussed in Chapter 10 of the DEIS. One of these resources is Athletic Park (a.k.a. Chaska Cubs Ball Field) and is described in Section III.D. Eight of the other NRHP-eligible or listed resources have been identified as being potentially affected under the provisions of Section 106, however the effect has not been determined at this time due to uncertainties about noise and visual impacts. These uncertainties also affect the potential for Section 4(f) to apply due to



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SECTION 4(f) RESOURCES

Figure B-1

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Draft Section 4(f)/6(f) Evaluation
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"constructive use," i.e., whether proximity impact(s) will substantially impair the features or attributes that contribute to the NRHP-eligibility of the resource. However, the definition of "constructive use "under Section 4(f) is not the same as "adverse effect" Section 106; it is usually a very high threshold, rarely applied, and is not likely to apply to the historic resources in question. These properties for which the Section 106 effect determination is pending are included on Figure 10-1 in the DEIS and listed (with the relevant Build Alternative(s) below:

1. Carver Historic District, (W-2)
2. Frederick DuTroit House, 121 Hickory Avenue, Chaska (C-2, C-2A)
3. Eder/Baur House, 105 Elm Street, Chaska (C-2, C-2A)
4. E.H. Lewis House, 321 2nd Street West, Chaska (C-2, C-2A)
5. Conrad Fink House, 322 1st Street West, Chaska (C-2, C-2A)
6. Liprisk House, 205 1st Street West, Chaska (C-2, C-2A)
7. H. Oeterreich House, 115 Elm Street, Chaska (C-2, C-2A)
8. Guardian Angels Church and School, Chaska (C-2, C-2A)

B. MINNESOTA VALLEY NATIONAL WILDLIFE REFUGE – CHASKA UNIT

Description of Section 4(f) Resource

The Section 4(f) resource that could be affected by the proposed action is the Minnesota Valley National Wildlife Refuge (MVNWR) – Chaska Unit.

Detailed Map

Figure B-2 shows the relationship of the applicable Build alternatives to MVNWR – Chaska Unit.

Size and Location

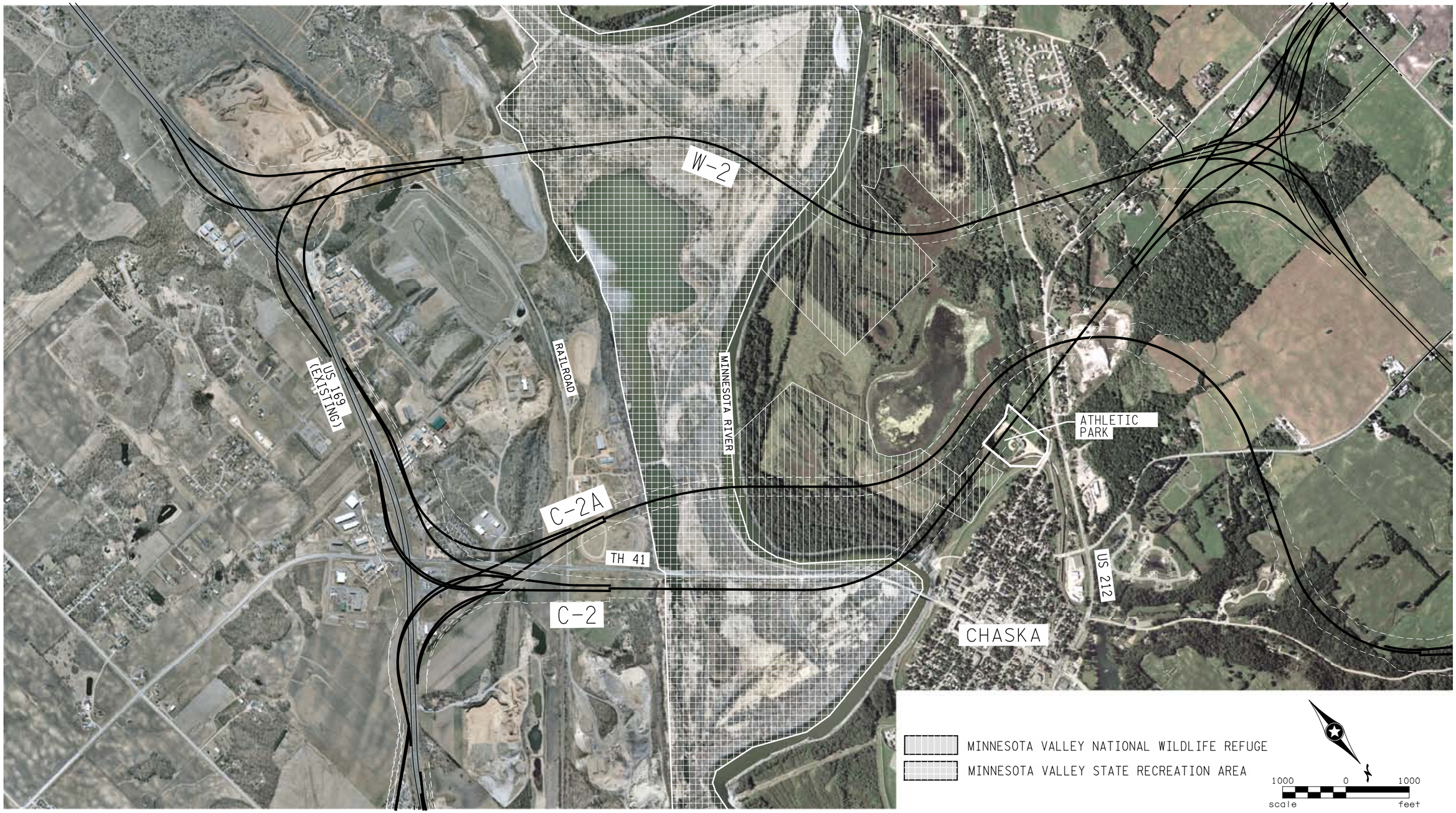
The MVNWR – Chaska Unit is located in the northeastern part of the City of Carver and the extreme southwest part of the City of Chaska and is about 600 acres in size.

Ownership and Type

The MVNWR is owned by the U.S. Department of the Interior; the U.S. Fish and Wildlife Service (USFWS) is responsible for its management. The site was designated as a National Wildlife Refuge in 1976 and includes 14,000 authorized acres (Chaska Unit is 600 acres).

Function of and/or Available Activities/Activities and Use

The MVNWR – Chaska Unit is used for a variety of activities; these range from hiking and biking to wildlife observation and birdwatching.



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SECTION 4(f) RESOURCES- MVNWR, MVSRA, ATHLETIC PARK

Figure B-2

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Draft Section 4(f)/6(f) Evaluation
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Description of Existing and Planned Uses

According to its website, the Minnesota Valley National Wildlife Refuge (MVNWR) is one of four urban wildlife refuges in the nation. It was established in 1976 to preserve and protect wildlife and wildlife habitat and to provide opportunities for wildlife-oriented recreation and education. The Refuge is home to many animals such as the bald eagle and is a crucial corridor for migrating birds. The MVNWR consists of eight non-contiguous units that stretch 34 miles from Fort Snelling to the City of Jordan. The 600-acre Chaska Unit consists of marsh-edged lake surrounded by farmland and floodplain forest.

The MVNWR is a largely undeveloped natural area with sites developed for hiking, biking and parking (USFWS staff indicate they are considering allowing bow-hunting in the Refuge within the next five years). A gravel hiking and biking trail runs through the Refuge, with a trailhead in Riverside Park in the City of Carver; the trail receives moderate use, according to City of Carver staff. A trailhead is planned at Athletic Park in the City of Chaska in the next few years, according to City of Chaska staff.

Access and Usage

Vehicle access and parking for the Chaska Unit of the MVNWR are provided at two locations: north gate entrance is at the southern edge of Athletic Park in the City of Chaska; south gate entrance and trailhead is at Riverview Park in the City of Carver. Riverview Park also provides boat launching facilities. There is a gravel service road that also serves as a trail. The Refuge receives about 275,000 visitors annually.

Relationship to Similar Resources in the Area

Minnesota Valley State Recreation Area (MVSRA) and Minnesota Valley State Trail (MV Trail) are adjacent to the MVNWR to the south, east and west. These resources are described in Section III-C.

Riverside Park is an 18-acre park owned by the City of Carver and managed by the USFWS. Its primary use is for boat launching; it provides a trailhead for the MVNWR trail system. The City is considering offering primitive camping. No potable water, picnic or restroom facilities are present. Athletic Park, an 8-acre community park in the City of Chaska is immediately west of a portion of the MVNWR and is described in Section III-D. The MVNWR is visible from Riverside Park in Carver and from Hickory, Winkel, Fireman's, and Schalow parks in the City of Chaska.

Applicable Clauses Affecting Ownership

MVNWR has received funding from the Land and Water Conservation Act of 1965 (LAWCON). Therefore, Section 6(f) is applicable to this resource.

Unusual Characteristics

The USFWS has begun the long process of returning the farmland in the Chaska Unit to the native floodplain forest, creating one large area of forest. The Refuge is located along the Mississippi Flyway; over 200 species of birds have been seen on the Refuge. Many species of waterfowl, songbirds, and raptors use the Refuge as a stop-over on their migrations to and from

breeding grounds. Restoring the floodplain forest will benefit habitat for these species. In addition, the Refuge is home to about 50 mammals, from the red squirrel to the coyote. Common sightings include white-tailed deer, red fox, muskrat, beaver, wood chuck and raccoon. Thirty species of reptiles and amphibians make their home on the Refuge, including the leopard frog, green frog, painted and snapping turtles, and the bull snake.

Impacts on the Section 4(f) Resource

Below is a discussion of each Build alternative and its impact on MVNWR. Complete descriptions of the Build alternatives are found in the DEIS, Chapter 3.

Alternative W-2

Alternative W-2 would cross directly through the MVNWR, requiring 20.4 acres through partial acquisition or an easement. The bridge crossing would be approximately 60 feet above the river and would be visible from the MVNWR. USFWS staff indicate that the fragmentation of the emergent marsh resource in the refuge by the Alternative W-2 corridor would seriously damage the habitat function of the Chaska Unit.

Alternative C-2

Alternative C-2 would cross directly through the edge of the MVNWR, requiring 8.5 acres through partial acquisition or an easement. The bridge crossing would be approximately 60 feet above the river and would be visible from the MVNWR. USFWS staff indicate that the Alternative C-2 corridor impacts floodplain forest, but that the location minimizes the fragmentation of this habitat and also avoids fragmentation of the emergent marsh habitat located further west in the unit.

Alternative C-2A

Alternative C-2A would cross directly through the MVNWR, requiring 36.1 acres through partial acquisition or an easement. The bridge crossing would be approximately 75 feet above the river and would be visible from the MVNWR. USFWS staff indicate that the impacts to the emergent marsh and floodplain forest resources in the refuge by the Alternative C-2A corridor would seriously damage the habitat function of the Chaska Unit.

Alternative E-1

Alternative E-1 is about one-half mile from the MVNWR at its closest point and would therefore not have a direct impact on it. The bridge crossing would be approximately 65 feet above the river and would not be immediately visible from the MVNWR.

Alternative E-1A

Alternative E-1A is about one-half mile from the MVNWR at its closest point and would therefore not have a direct impact on it. The bridge crossing would be approximately 60 feet above the river and would not be immediately visible from the MVNWR.

Alternative E-2

Alternative E-2 is more than one-half mile from the MVNWR at its closest point and would therefore not have a direct impact on it. The bridge crossing would be approximately 60 feet above the river and would not be immediately visible from the MVNWR.

C. MINNESOTA VALLEY STATE RECREATION AREA/MINNESOTA VALLEY STATE TRAIL

Description of Section 4(f) Resource

The Section 4(f) resource that could be affected by the proposed action is the Minnesota Valley State Recreation Area (MVSRA), together with the Minnesota Valley State Trail (MV Trail) which is located within the MVSRA.

Detailed Map

Figures B-2 and B-3 show the relationship of the applicable Build alternatives to MVSRA.

Size and Location

The portion of the MVSRA in the study area is in the Minnesota River valley and runs from the City of Carver on the south end through the City of Chanhassen on the north end, about four miles. The entire MVSRA is 5,490 acres. The MV Trail is located therein. Existing TH 41 crosses over the MVSRA connecting the City of Shakopee with downtown Chaska.

Ownership and Type

The MVSRA is owned by the Minnesota Department of Natural Resources (MnDNR). The site was designated as a recreation area as was the trail in the late 1960s.

Function of and/or Available Activities/Activities and Use

The portion of the MVSRA in the study area is used for a variety of activities; these range from boating and canoeing to hiking, biking, horseback riding and snowmobiling, to wildlife observation and birdwatching. Outside of the study area the MVSRA also provides a variety of camping opportunities including equestrian, watercraft, walk-in and primitive. The MV Trail is used for a variety of activities ranging from hiking and biking, to horseback riding and snowmobiling, to wildlife observation and birdwatching.

Description of Existing and Planned Uses

The MVSRA preserves part of the Minnesota River valley. The area is used for hiking, biking, cross-country skiing, mountain biking, and snowmobiling. The Minnesota River valley is a rich mosaic of plant and animal communities. The valley holds floodplain marshes, wet meadows, fens, and lakes. These wetlands are maintained by the river and by the spring-fed streams draining from the base of the bluffs. The hillsides and bluffs support oak forest and oak savanna remnants. They offer scenic overlooks.

The portion of the MVSRA in the study area runs from the City of Carver on the south end through the City of Chanhassen on the north end. Set in the Minnesota River valley, it is an

important resource to residents of the Twin Cites metropolitan area. The Nyssen's Lake Area offers trail access for snowmobiling, horseback riding, mountain biking, and hiking. The Gifford Lake Area offers fishing and trail access.

This well-used recreation area is a largely undeveloped natural area with sites developed for more active use including paths, picnic areas, boat launches, vehicle access and parking.

The MV Trail in the MVSRA runs through the study area and offers recreational opportunities for biking, hiking, snowmobiling, and horseback riding as well as wildlife observation and birdwatching. The five-mile paved trail in the study area, referred to as the Chaska/Shakopee Bike Trail, runs from the former Milwaukee Railroad right of way near the Carver County Courthouse area in Chaska to Murphy's Landing in Shakopee. When reconstruction of the existing TH 41 river bridge is complete in 2007 it will restore the MV Trail connection between the City of Chaska and Murphy's Landing in the City of Shakopee. This trail river crossing is being restored after a deteriorated bridge crossing was removed by the MnDNR in 1997.

The north end of the MV Trail Carver Rapids Wayside recreation area is located directly south of Chaska across the Minnesota River. The MnDNR has developed a horse, mountain bike, and snowmobile trail from Chaska upriver to Belle Plaine. The northerly trailhead is located on the east side of existing TH 41 about one-half mile south of the Minnesota River/Chaska city limits. These trails are grass or sand.

Access and Usage

Vehicle access to the MVSRA and the MV Trail is provided from Trunk Highway 41 in the City of Chaska and from Highway 101 in the City of Shakopee; three parking lots are available. The MVSRA is easily accessed by pedestrians and bicyclists via these routes as well. There are three boat launching facilities in the MVSRA within the study area. Over 170,000 people visit the MVSRA annually.

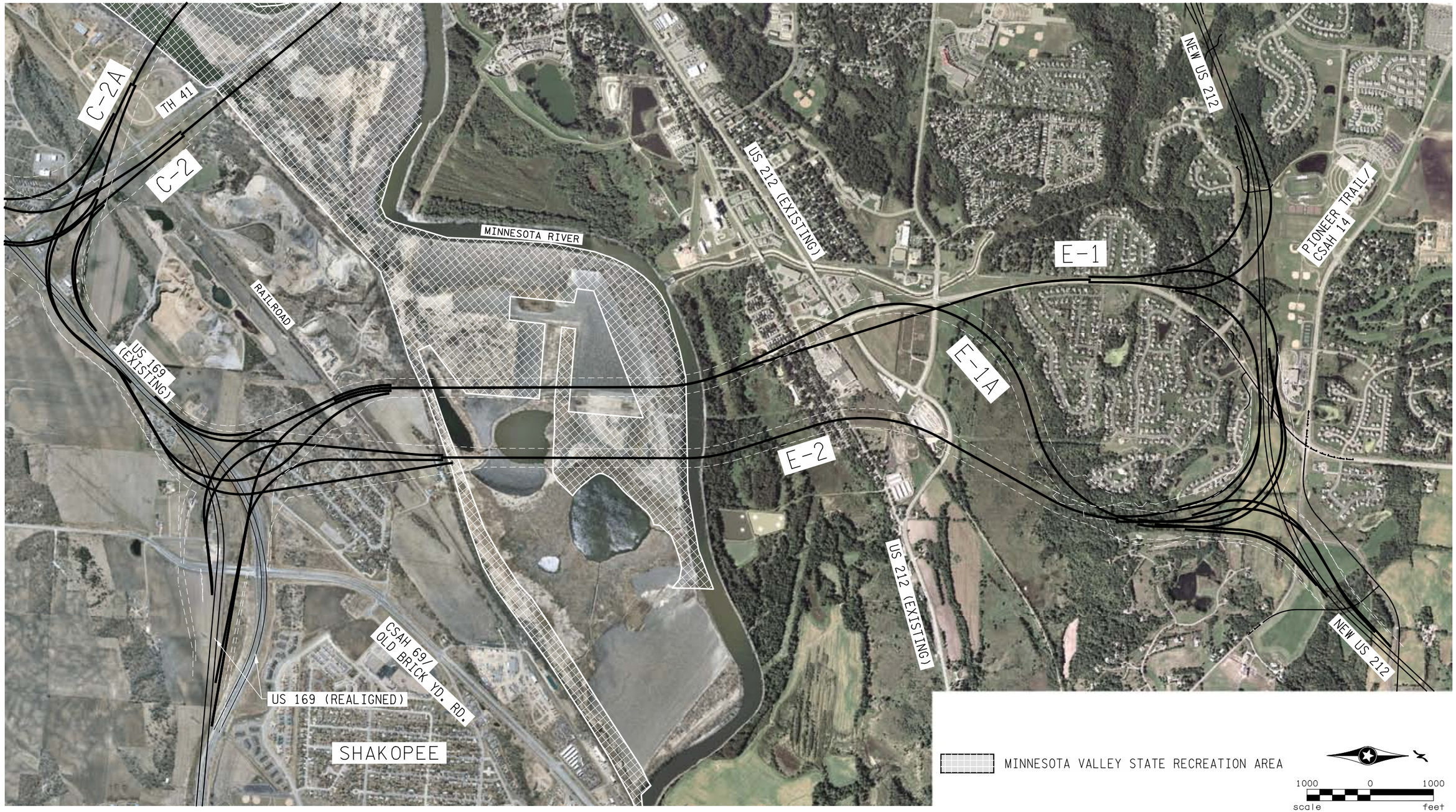
Relationship to Similar Resources in the Area

The Minnesota Valley National Wildlife Refuge (MVNWR) is adjacent to the MVSRA to the southwest and northeast in the river valley. The MVNWR is described in Section III.B.

There are several city-owned parks along the river adjacent to the MVSRA; they include Riverside Park in the City of Carver, and Hickory, Winkle, Fireman's II, Schalow and Riverview parks in the City of Chaska.

The City of Chaska owns and operates a network of trails. The network consists of greenway trails (leisure and recreation trails which primarily parallel the watershed system of East Chaska Creek leading to the University of Minnesota Arboretum) and roadway trails (destination trails that interconnect most of Chaska's major public facilities and service centers).

Creek Road in Chaska is scheduled to be converted to a City-owned trail in conjunction with the Heights of Chaska development (described in Chapter 5 of the DEIS). The Metropolitan Council has plans to connect this trail with a proposed Victoria-to-Chaska Regional Trail (Carver Regional Park to Minnesota Valley State Trail – generally located on existing CR 11). Conversion is planned to occur when CR 11 is upgraded, sometime in the next five to ten years, according to City of Chaska staff.



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SECTION 4(f) RESOURCES- MVSRA

Figure B-3

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
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Applicable Clauses Affecting Ownership

The MVSRA and the MV Trail have received funding from the Land and Water Conservation Act of 1965 (LAWCON). Therefore, Section 6(f) is applicable to these resources.

Unusual Characteristics

There are no notably unusual characteristics.

Impacts on the Section 4(f) Resource

Below is a discussion of each Build alternative and its impact on MVSRA and MV Trail.

Alternative W-2

Alternative W-2 would cross directly through the MVSRA and the MV Trail, requiring 30.6 acres through partial acquisition or an easement. The bridge crossing would be approximately 60 feet above the river and would be visible from the MVSRA and MV Trail.

Alternative C-2

Alternative C-2 would cross directly through the MVSRA and the MV Trail, requiring 22.3 acres through partial acquisition or an easement. The bridge crossing would be approximately 60 feet above the river and would be visible from the MVSRA and MV Trail.

Alternative C-2A

Alternative C-2A would cross directly through the MVSRA and the MV Trail, requiring 5.4 acres through partial acquisition or an easement. The bridge crossing would be approximately 75 feet above the river and would be visible from the MVSRA and the MV Trail.

Alternative E-1

Alternative E-1 would cross directly through the MVSRA and the MV Trail, requiring 12.0 acres through partial acquisition or an easement. The bridge crossing would be approximately 65 feet above the river and would be visible from the MVSRA and MV Trail.

Alternative E-1A

Alternative E-1A would cross directly through the MVSRA and the MV Trail, requiring 12.0 acres through partial acquisition or an easement. The bridge crossing would be approximately 60 feet above the river and would be visible from the MVSRA and the MV Trail.

Alternative E-2

The alignment of Alternative E-2 would cross directly through the MVSRA and the MV Trail, requiring 4.2 acres through partial acquisition or an easement. The bridge crossing would be approximately 60 feet above the river and would be visible from the MVSRA and the MV Trail.

D. ATHLETIC PARK

Description of Section 4(F) Resource

The Section 4(f) resource that could be affected by the proposed action is Athletic Park. In addition to being a park resources, Athletic Park (Chaska Cubs Ball Field) has been determined to be eligible for the National Register of the Historic Places (NRHP).

Detailed Map

Figure B-2 shows the relationship of the six Build alternatives to Athletic Park.

Size and Location

Athletic Park, 725 West First Street in the City of Chaska, is eight acres in size. The park is located north of Chaska Lake and west of the Minnesota Valley National Wildlife Refuge (MVNWR).

Ownership and Type

Athletic Park is a community park owned by the City of Chaska. The site was designated as a park in the early 1950s.

Function of and/or Available Activities/Activities and Use

Athletic Park is used primarily for baseball and softball games. Facilities at the park include a grandstand with a capacity of 1,000, concession stand, lighting, restrooms and off-street parking.

Description of Existing and Planned Uses

The park is heavily used by high school and adult municipal ball teams including the Chaska Cubs, a Class B baseball team. The park hosts four or five tournaments each year and the state Class B baseball tournament every ten years.

The *Chaska Comprehensive Plan* states that very little development is contemplated other than a trail between Chaska and Carver, primarily for nature interpretive purposes. It states a trailhead is planned at Athletic Park and another near downtown Carver. The trailhead in Carver has been created; the trailhead at Athletic Park has not been created. In addition, City staff states there are plans to pave the existing gravel parking lot and provide and additional ball field in the next five to ten years.

Access and Usage

Vehicle access to the park is provided via First Street near existing US 212. The park includes a paved roadway that leads to off-street parking on a gravel surface for about 500 cars. The park is used heavily by high school ball teams and adult municipal ball teams.

Relationship to Similar Resources in the Area

Hickory and Winkel parks are owned by the City of Chaska and are in the vicinity of Athletic Park; both are neighborhood parks. Hickory Park is used primarily for play and picnicking; level of use is light. Winkel Park is used primarily as a trailhead and boat launch; level of use is moderate. Hickory and Winkel parks are not visible from Athletic Park.

Chaska has plans to build a new sports facility about three miles to the north once construction of US 212 is complete. The new park will provide ball fields, concession stand, lighting and off-street parking. Anticipated future use is heavy.

Immediately to the east is the Minnesota Valley National Wildlife Refuge (MVNWR) and to south is the Minnesota Valley State Recreation Area (MVSRA), as described in Section III-C. These resources are quite large in size (hundreds of acres) occupying most of the Minnesota River floodplain in the study area. Both the MVNWR and the MVSRA are visible from the Athletic Park.

Applicable Clauses Affecting Ownership

Athletic Park has not received funding from the Land and Water Conservation Act of 1965 (LAWCON). Therefore, Section 6(f) is not applicable to this resource.

Unusual Characteristics

Given its proximity to the Minnesota River floodplain, Athletic Park is subject to periodic flooding in the spring. As noted, the park is also know as Chaska Cubs Ball Field and has been determined to be eligible for the NRHP.

Impacts on the Section 4(f) Resource

Below is a discussion of each Build alternative and its impact on Athletic Park.

Alternative W-2

Alternative W-2 is about 2,500 feet from Athletic Park at its closest point. Therefore, no direct impact to Athletic Park is anticipated. Given the distance between Athletic Park and Alternative W-2, visual and noise impacts are not likely.

Alternative C-2

Alternative C-2 would cross directly through Athletic Park requiring 3.5 acres. This represents over half of the size of the park and effectively includes all facilities at the park. The remaining land could no longer be used as a ballfield. It is possible that the entire 8-acre site would need to be acquired if the remaining portion is not usable for park purposes.

Alternative C-2A

Alternative C-2A is about 400 feet from Athletic Park at its closest point. Therefore, no direct impact to Athletic Park is anticipated. The level of visual and noise impacts is uncertain.

Alternative E-1

Alternative E-1 is more than one mile from Athletic Park at its closest point. Therefore, no direct impact to Athletic Park is anticipated. Given the distance between Athletic Park and Alternative E-1, visual and noise impacts are not likely.

Alternative E-1A

Alternative E-1A is more than one mile from Athletic Park at its closest point. Therefore, no direct impact to Athletic Park is anticipated. Given the distance between Athletic Park and Alternative E-1A, visual and noise impacts are not likely.

Alternative E-2

Alternative E-2 is more than one mile from Athletic Park at its closest point. Therefore, no direct impact to Athletic Park is anticipated. Given the distance between Athletic Park and Alternative E-2, visual and noise impacts are not likely.

E. AUDUBON TRAIL

Description of Section 4(f) Resource

The Section 4(f) resource that could be affected by the proposed action is Audubon Trail.

Detailed Map

Figure B-4 shows the relationship of the applicable Build alternatives to Audubon Trail.

Size and Location

Audubon Trail, about three miles in length, is located on the eastern side of the City of Chaska connecting the City from the south to the north. It is parallel to Audubon Road, running south-north near the border with the City of Chanhassen between Engler Boulevard/CSAH 10 on the south and Lyman Boulevard/CSAH 18 on the north.

Ownership and Type

Audubon Trail is a trail owned by the City of Chaska. The trail was created in the early 1980s and upgraded in the early 1990s.

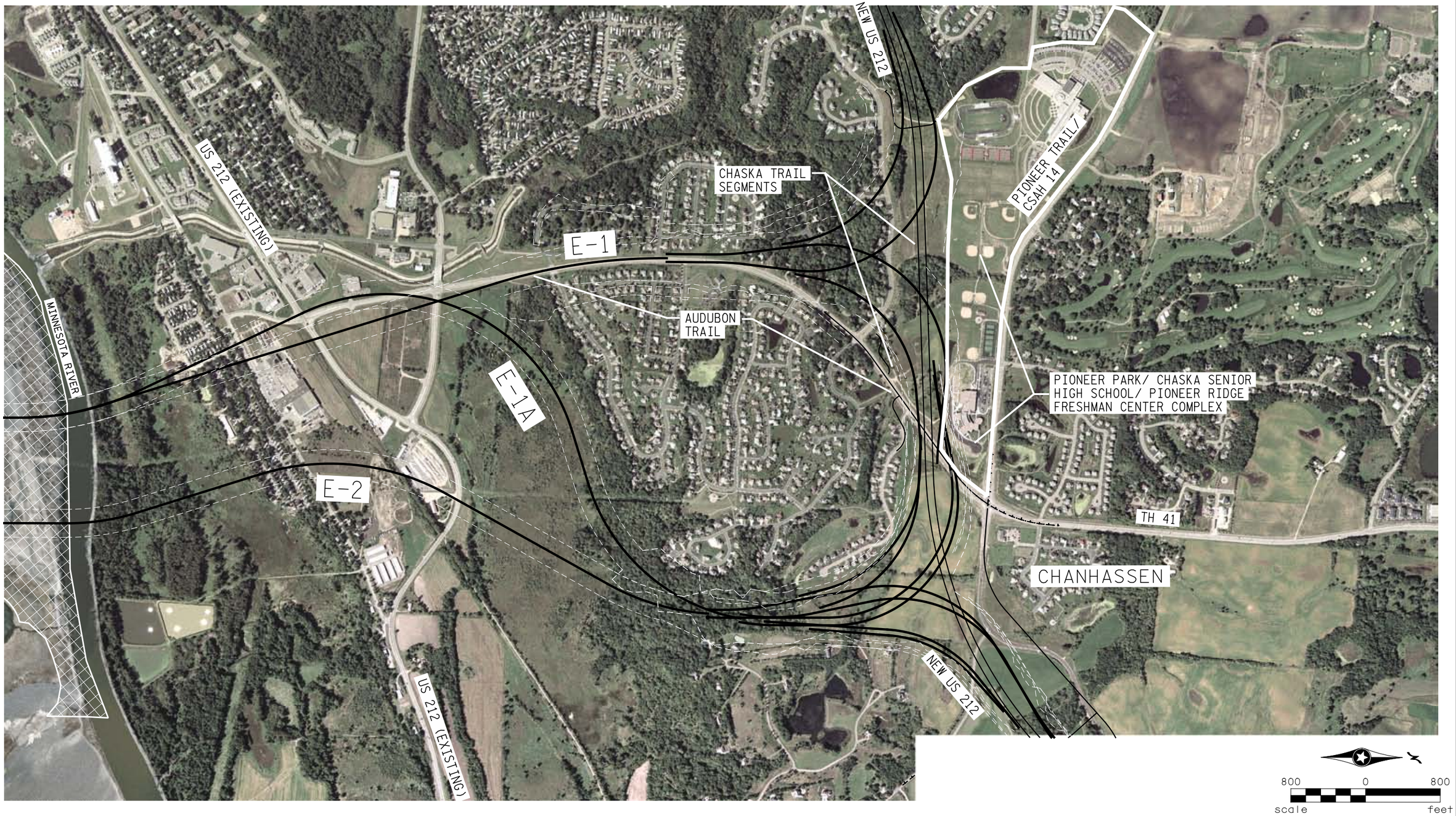
Function of and/or Available Activities/Activities and Use

Audubon Trail is used for walking and biking.

Description of Existing and Planned Uses

Audubon Trail is an eight foot wide pedestrian and bike trail and provides connections to the main east-west trails in the City. It parallels Audubon Road and serves residents in the neighborhoods to the east and west. Students at the Pioneer Ridge Freshman Center, and users of the outdoor recreational facilities at the school and Pioneer Park, use the trail to walk to school.

Construction of New US 212 will require a new bridge for Audubon Road, including Audubon Trail, to cross over New US 212.



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SECTION 4(f) RESOURCES- AUDUBON TRAIL, CHASKA TRAIL SEGMENTS, PIONEER PARK/ HIGH SCHOOL/ FRESHMAN CENTER COMPLEX

Figure B-4

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Draft Section 4(f)/6(f) Evaluation
S.P. #1008-60
Minnesota Department of Transportation

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Access and Usage

The trail is accessible along its entirety and provides connections to the main east-west trails in the City. The trail is moderately to heavily used.

Relationship to Similar Resources in the Area

The City of Chaska owns and operates a network of trails. The network consists of greenway trails (leisure and recreation trails which primarily parallel the watershed system of East Chaska Creek leading to the University of Minnesota Arboretum) and roadway trails (destination trails that interconnect most of Chaska's major public facilities and service centers).

The Minnesota Valley State Trail (MV Trail) in the Minnesota Valley State Recreation Area (MVSRA) runs through the study area and is described in Section III-C. The five-mile section of paved trail, referred to as the Chaska/Shakopee Bike Trail, runs from the former Milwaukee Railroad right of way near the Carver County Courthouse area in Chaska to Murphy's Landing in Shakopee. When reconstruction of the existing TH 41 river bridge is complete in 2007 it will restore the MV Trail connection between the City of Chaska and Murphy's Landing in the City of Shakopee.

Applicable Clauses Affecting Ownership

Audubon Trail has not received funding from the Land and Water Conservation Act of 1965 (LAWCON). Therefore, Section 6(f) is not applicable to this resource.

Unusual Characteristics

There are no notably unusual characteristics of the resource.

Impacts on the Section 4(f) Resource

Below is a discussion of each Build alternative and its impact on Audubon Trail.

Alternative W-2

Alternative W-2 is several miles from Audubon Trail at its closest point. Therefore, no direct impact to Audubon Trail is anticipated.

Alternative C-2

Alternative C-2 is several miles from Audubon Trail at its closest point. Therefore, no direct impact to Audubon Trail is anticipated.

Alternative C-2A

Alternative C-2A is several miles from Audubon Trail at its closest point. Therefore, no direct impact to Audubon Trail is anticipated.

Alternative E-1

Alternative E-1 would directly impact Audubon Trail by requiring removal of a portion of it (approximately 7,200 linear feet or 1.3 acres) and a portion of Audubon Road that parallels it. Audubon Trail would be realigned/reconstructed with Audubon Road before construction of New TH 41 begins to maintain access and minimize disruption to residents in the neighborhoods at the northern end of the alternative.

Alternative E-1A

Alternative E-1A would directly impact Audubon Trail by requiring removal of a portion of it (approximately 1,000 linear feet or 0.2 acres) and a portion of Audubon Road that parallels it. Audubon Trail would be realigned/reconstructed with Audubon Road before construction of New TH 41 begins to maintain access and minimize disruption to residents in the neighborhoods at the northern end of the alternative.

Alternative E-2

Alternative E-2 would directly impact Audubon Trail by requiring removal of a portion of it (approximately 1,000 linear feet or 0.2 acres) and a portion of Audubon Road that parallels it. Audubon Trail would be realigned/reconstructed with Audubon Road before construction of New TH 41 begins to maintain access and minimize disruption to residents in the neighborhoods at the northern end of the alternative.

F. CHASKA TRAIL SYSTEM

Description of Section 4(f) Resource

The Section 4(f) resource that could be affected by the proposed action is a portion of the Community Trail System in the City of Chaska.

Detailed Map

Figure B-4 shows the relationship of the six Build alternatives to the trail segments.

Size and Location

Two segments of the Chaska owned and operated greenway trail system are under discussion here. One segment originates at Pioneer Ridge Freshman Center, and runs parallel to Audubon Trail for about one-half mile and then continues to the southwest along side a ravine for another one-half mile where it connects to other trail segments in the system. This trail segment is slightly less than one mile in length (approximately 4,500 feet). The other segment originates at the southwestern edge of Chaska Senior High School property and runs south to New US 212 where it meanders southwest and southeast along side a ravine and eventually connects to the trail mentioned above. This trail segment is about one-half mile in length (approximately 3,000 feet).

Ownership and Type

The trails are owned by the City of Chaska. The trails were created in the 1980s.

Function of and/or Available Activities/Activities and Use

The trails are used for walking and biking.

Description of existing and planned uses

The trails are eight foot wide pedestrian and bike paths that provide connections to other trail segments in the City system. They serve residents in the neighborhoods to the south. Students at Chaska Senior High School and Pioneer Ridge Freshman Center use the trails to get to and from school as do and users of the outdoor recreational facilities at the schools and Pioneer Park.

Construction of New US 212 will require new bridges for the trails to cross over New US 212.

Access and Usage

The trails are accessible along their entirety and provide connections to other trails in the City system. The trail is moderately to heavily used.

Relationship to Similar Resources in the Area

The City of Chaska owns and operates a network of trails. The network consists of greenway trails (leisure and recreation trails which primarily parallel the watershed system of East Chaska Creek leading to the University of Minnesota Arboretum) and roadway trails (destination trails that interconnect most of Chaska's major public facilities and service centers).

The Minnesota Valley State Trail (MV Trail) in the Minnesota Valley State Recreation Area (MVSRA) runs through the study area and offers recreational opportunities for biking, hiking, snowmobiling, and horseback riding. The five-mile paved trail, referred to as the Chaska/Shakopee Bike Trail, runs from the former Milwaukee Railroad right of way near the Carver County Courthouse area in Chaska to Murphy's Landing in Shakopee. When reconstruction of the existing TH 41 river bridge is complete in 2007 it will restore the MV Trail connection between the City of Chaska and Murphy's Landing in the City of Shakopee.

Applicable Clauses Affecting Ownership

These segments of the trail system in the City of Chaska have not received funding from the Land and Water Conservation Act of 1965 (LAWCON). Therefore, Section 6(f) is not applicable to this resource.

Unusual Characteristics

There are no notably unusual characteristics of the resource.

Impacts on the Section 4(f) Resource

Below is a discussion of each Build Alternative and its impact on the trail segments.

Alternative W-2

Alternative W-2 is several miles from the trail segments at its closest point. Therefore, no direct impact to the trails is anticipated.

Alternative C-2

Alternative C-2 is several miles from the trail segments at its closest point. Therefore, no direct impact to the trails is anticipated.

Alternative C-2A

Alternative C-2A is several miles from the trail segments at its closest point. Therefore, no direct impact to the trails is anticipated.

Alternative E-1

Alternative E-1 would directly impact the trail segments by requiring acquisition of property (approximately 3,000 feet of the easterly trail and 1,200 feet of the westerly trail) for construction of the interchange with New US 212. Box culverts would be installed to maintain the easterly trail. The westerly trail is being impacted and restored with a pedestrian overpass by the New US 212 project now under construction. The impact of the proposed project would require that the pedestrian overpass be replaced with a longer overpass.

Alternative E-1A

Alternative E-1A would directly impact the one of the trail segments by requiring acquisition of property (approximately 800 feet of the easterly trail) for construction of the interchange with New US 212. A box culvert would be installed to maintain the easterly trail. The westerly trail is being impacted and restored with a pedestrian overpass by the New US 212 project now under construction. The impact of the proposed project would require that the pedestrian overpass be replaced with a longer overpass.

Alternative E-2

Alternative E-2 would directly impact one of the trail segments by requiring acquisition of property (approximately 800 feet of the easterly trail) for construction of the interchange with New US 212. A box culvert would be installed to maintain the easterly trail. The westerly trail is being impacted and restored with a pedestrian overpass by the New US 212 project now under construction. The impact of the proposed project would require that the pedestrian overpass be replaced with a longer overpass.

G. PIONEER PARK/CHASKA SENIOR HIGH SCHOOL/PIONEER RIDGE FRESHMAN CENTER COMPLEX

Description of Section 4(f) Resource

The Section 4(f) resource that could be affected by the proposed action is the outdoor recreation facilities complex comprising Pioneer Park, Chaska Senior High School, and Pioneer Ridge Freshman Center sports fields and facilities.

Detailed Map

Figure B-4 shows the relationship of the applicable Build alternatives to Pioneer Park/Chaska Senior High School/Pioneer Ridge Freshman Center complex.

Size and Location

Pioneer Park, Chaska Senior High School, and Pioneer Ridge Freshman Center form a school/community recreation complex in the vicinity of New US 212/Audubon Road/Pioneer Trail in Chaska. Together these facilities are 12.1 acres in size.

Ownership and Type

Pioneer Park is made up of outdoor recreation facilities at Chaska Senior High School, Pioneer Park and Pioneer Ridge Freshman Center. The City of Chaska owns about ten acres of the park; the remainder is owned by School District 112. The site was designated a park in the early 1990s. The City of Chaska maintains a small portion of the park including a picnic shelter and play structure; School District 112 maintains the rest of Pioneer Park. Chaska Senior High School and the Pioneer Ridge Freshman Center are owned and maintained by School District 112. Chaska Senior High School was built in 1966. Pioneer Ridge Freshman Center was built in 2002.

Function of and/or Available Activities/Activities and Use

The outdoor recreational facilities at Pioneer Park are used for play, picnicking, soccer, baseball and softball. Portable restrooms are available. No permanent restrooms facilities are present. The outdoor facilities at Chaska Senior High School and Pioneer Ridge Freshman Center are used for tennis, soccer, baseball and softball. The track and football field are not open to the public for recreational purposes. Portable restrooms are available. No permanent restrooms facilities are present.

Description of Existing and Planned Uses

The outdoor recreational facilities at Pioneer Park are used primarily for play, picnicking, and sporting activities on the fields. Park facilities include six multi-purpose/ball fields, a picnic shelter, and play structure. Portable restroom facilities are present. The majority of what is called “Pioneer Park” is owned and maintained by School District 112. About 10 acres of the park are owned by the City of Chaska – two acres west of the high school building and eight

acres east of the school. The fields are in high demand after school hours and are fully scheduled, April through October, by various athletic groups during the weekday evening hours and Saturday mornings. The fields are available for unscheduled use on Saturday afternoons and all day Sunday.

Pioneer Park is part of a larger educational and recreational complex that includes Chaska Senior High School and Pioneer Ridge Freshman Center, immediately adjacent to the park to the west and east respectively. Outdoor recreational facilities (ball fields, multi-purpose fields, and tennis courts) open to the public at Chaska Senior High School are used primarily for outdoor sporting activities by students at the adjacent schools and by municipal athletic groups in the evenings and on weekends. Outdoor recreational facilities open to the public at Pioneer Ridge Freshman Center include ball fields, multi-purpose fields and tennis courts. The fields are scheduled similar to Pioneer Park.

City of Chaska staff state there are plans to upgrade the dugouts and backstops and install an irrigation system in the next five years. According to the *Chaska Comprehensive Plan* Chaska Senior High School was built with three wings that accommodate 500 students each. The site can accommodate a fourth wing for future expansion. As of Fall 2006, enrollment at Chaska Senior High School and Pioneer Ridge Freshman Center is 1,831 and 593, respectively.

Access and Usage

Vehicle access to the complex is provided by Pioneer Trail/CSAH 14. There are paved roadways providing access and off-street parking for visitors. An existing City of Chaska trail also serves the complex. The park and school facilities are heavily used. The fields are fully scheduled April through October, by various athletic groups during the weekday evening hours and Saturday mornings. The fields are available for unscheduled use on Saturday afternoons and all day Sunday.

Relationship to Similar Resources in the Area

The Chaska elementary and middle school complex, about one mile to the southwest, offers similar public outdoor recreational opportunities as Pioneer Park including eight multi-purpose fields, five ball fields, running track and playground structure. One soccer field is fenced and not open to the public for recreational use.

Applicable Clauses Affecting Ownership

There are/no known restrictions on property ownership relevant to Section 4(f) considerations.

Unusual Characteristics

There are no notably usual characteristics.

Impacts on the Section 4(F) Resource

Below is a discussion of each Build alternative and its impact on the Pioneer Park/Chaska Senior High School/Pioneer Ridge Freshman Center complex.

Alternative W-2

Alternative W-2 is several miles from the complex at its closest point; therefore, no direct impact is anticipated. Given the distance between the complex and Alternative W-2, noise and visual impacts are not likely.

Alternative C-2

Alternative C-2 is several miles from the complex at its closest point; therefore, no direct impact on Pioneer Park is anticipated. Given the distance between the complex and Alternative C-2, noise and visual impacts are not likely.

Alternative C-2A

Alternative C-2A is about one mile from the complex at its closest point; therefore, no direct impact on Pioneer Park is anticipated. Given the distance between the complex and Alternative C-2A, noise and visual impacts are not likely.

Alternative E-1

Alternative E-1 encroaches on the Pioneer Park/Chaska Senior High School/Pioneer Ridge Freshman Center complex property requiring 10.4 acres of land, a partial acquisition. The ramp connecting Alternative E-1 with New US 212 would require right of way from a portion of the park property and would affect the southern portion of the ball fields. Alternative E-1 would be visible from the complex. Given Alternative E-1's close proximity to Pioneer Park noise could be a factor for users of its outdoor recreational facilities.

Alternative E-1A

Alternative E-1A encroaches on the Pioneer Park/Chaska Senior High School/Pioneer Ridge Freshman Center complex property requiring 2.7 acres of land, a partial acquisition. The ramp connecting Alternative E-1A with New US 212 would require right of way from a portion of the park property and would affect the vehicle access road to the park. Alternative E-1A would be visible from the park. Given its close proximity to Pioneer Park noise could be a factor for users of its outdoor recreational facilities.

Alternative E-2

Alternative E-2 encroaches on the Pioneer Park/Chaska Senior High School/Pioneer Ridge Freshman Center complex property requiring 1.1 acres of land, a partial acquisition. The ramp connecting Alternative E-2 with New US 212 would require right of way from the park property and would affect the vehicle access road to the park. Alternative E-2 would be visible from the park. Given its close proximity to Pioneer Park noise could be a factor for users of its outdoor recreational facilities.

IV. AVOIDANCE ALTERNATIVES

Each of the six Build alternatives impacts more than one Section 4(f) resource. Avoidance of the MVNWR involves impacts to the Pioneer Park/Chaska Senior High School/Pioneer Ridge Freshman Center complex, as well as other social, economic and environmental impacts. Impacts to the MVSRA or MV Trail are not avoided by any of the alternatives; these resources are essentially unavoidable in the study area. Avoidance of Athletic Park is achieved by selection of a corridor other than Alternative C-2; some of these other alternatives result in greater impact to the MVNWR and/or the MVSRA; other alternatives impact the Pioneer Park/Chaska Senior High School/Pioneer Ridge Freshman Center complex and have further social, economic and environmental impacts. Alternatives that were studied during the project scoping process and eliminated from further consideration are discussed in Chapter 3 of the DEIS.

V. MEASURES TO MINIMIZE HARM

With the potential exception of the impact of Alternative C-2 on Athletic Park, the proposed project would not require total use of the resources and would allow for continued use and enjoyment of the recreational facilities at the affected resources after construction; efforts would be made to maintain access to, and use of, the facilities during construction. To the extent possible, changes to the visual setting of any of the affected resources caused by the construction of the Build alternative would be minimized through roadway and/or bridge design.

VI. COORDINATION

Extensive agency coordination has occurred throughout the DEIS process, as discussed in the DEIS, Chapter 15. Coordination related to the discussion of impacts has occurred with federal, state, and local government agencies and non-governmental groups. Further coordination will continue with the USFWS (MVNWR), the MnDNR (MVSRA and MV Trail), the City of Chaska (Athletic Park, Audubon Trail, Pioneer Park), and the School District (Chaska Senior High School, Pioneer Ridge Freshman Center).

APPENDIX C

LIST OF ACRONYMS

ADT	Average Daily Traffic
BG	(Census) Block Group
BMPs	Best Management Practices
BOD	Biochemical Oxygen Demand
BWSR	Board of Water and Soil Resources
CO	Carbon Monoxide
CEQ	Council on Environmental Quality
CFC	Calcareous Fen Components
CMP	Corridor Management Plan
COE	Corps of Engineers (U.S. Army)
CR	County Road
CSAH	County State Aid Highway
dB(A)	Decibels (A-weighted)
DE	Diesel Exhaust
D/(F)EIS	Draft /(Final)Environmental Impact Statement
DOI	Department of the Interior
EIS	Environmental Impact Statement
EMS	Emergency Medical Service
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
FCAs	Fish Consumption Advisories
FHWA	Federal Highway Administration
FPPA	Farmland Protection and Policy Act
HCRRA	Hennepin County Regional Rail Authority
IBI	Index of Biotic Integrity
IRC	Interregional Corridor
IRIS	Integrated Risk Information System
LAWCON	Land and Water Conservation Fund
LMRWD	Lower Minnesota River Watershed District
LGU	Local Governmental Unit
LOS	Level of Service
LRT	Light Rail Transit
MCBS	Minnesota County Biological Survey
MCES	Metropolitan Council Environmental Services
MEPA	Minnesota Environmental Policy Act
MLCCS	Minnesota Land Cover Classification System
MMUTCD	Minnesota Manual on Uniform Traffic Control Devices
Mn/DOT	MN Department of Transportation
MnDNR	MN Department of Natural Resources
MNRAM	Minnesota Routine Assessment Method
MPCA	Minnesota Pollution Control Agency
MSAT	Mobile Source Air Toxic
MV(M)	Million Vehicle (Miles)
MVNWR	Minnesota Valley National Wildlife Refuge
MVSRA	Minnesota Valley State Recreation Area
MV Trail	Minnesota Valley State Trail
NAAQS	National Ambient Air Quality Standards
NAC	Noise Area Classification
NAC	Noise Abatement Criteria
NATA	National Air Toxics Assessment
NEPA	National Environmental Policy Act
NHP	Natural Heritage Program
NHS	National Highway System
NLEV	National Low Emission Vehicle
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resource Conservation Services
NRI	Nationwide Rivers Inventory
NWI	National Wetlands Inventory
PAC	Policy Advisory Committee
PCB	Polychlorinated Biphenyls
PMT	Project Management Team
PM	Particulate Matter
RFG	Reformulated Gasoline
RGU	Responsible Governmental Unit
SAC	Study Advisory Committee
SD/SDD	Scoping Document/Scoping Decision Document
SDS	State Disposal System
SIP	State Implementation Plan
SFWC-CFC	Seminary Fen Wetland Complex - Calcareous Fen Components
TDM	Travel Demand Management
TSM	Transportation System Management
TSP	Transportation System Plan
TAZ	Traffic Analysis Zone
TH	Trunk Highway
TMDL	Total Maximum Daily Load
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VHT	Vehicle Hours Traveled
VMT	Vehicles Miles Traveled
VOCs	Volatile Organic Compounds
WCA	Wetland Conservation Act
WHEP	Wetland Health Evaluation Program
WPA	Wellhead Protection Area

TH 41 MINNESOTA RIVER CROSSING:

A Future US169/US 212 Regional Freeway Connection

MINNESOTA DEPARTMENT OF TRANSPORTATION

State Project Number: S.P. 1008-60
Trunk Highway Number: TH 41

Draft Tier I Environmental Impact Statement
and Draft Section 4(f)/6(f) Evaluation

June 2007

VOLUME II: TECHNICAL MEMORANDA

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2. TRAFFIC STUDY — MARCH 12, 2003

3. TRAFFIC STUDY UPDATE — APRIL 5, 2006

4. SHIPPER & CARRIER SURVEY RESULTS — JULY 2003

5. FREEWAY ALTERNATIVES REVIEW — APRIL 26, 2006

6. BENEFIT-COST ANALYSIS ASSUMPTIONS AND RESULTS — AUGUST 23, 2006
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10. WATER RESOURCES TECHNICAL MEMORANDUM — AUGUST 21, 2006

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    JUNE 2006

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    JUNE 2006

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING:

A FUTURE US 169/US 212 REGIONAL FREEWAY CONNECTION

TECHNICAL MEMORANDUM

FOR

TRAVEL DEMAND FORECASTING

MAY 1, 2006

PREPARED BY
SRF CONSULTING GROUP, INC.

SRF NO: 0024590

SRF CONSULTING GROUP, INC.

Transportation • Civil • Structural • Environmental • Planning • Traffic • Landscape Architecture • Parking • Right of Way

SRF No. 0024590

MEMORANDUM

TO: Lynn Clarkowski, Mn/DOT

FROM: Jonathan Ehrlich, P.E., Senior Engineer

DATE: May 1, 2006

SUBJECT: TH 41 EIS: TECHNICAL MEMORANDUM ON TRAVEL DEMAND FORECASTING
MINNESOTA DEPARTMENT OF TRANSPORTATION

The purpose of this memorandum is to document the travel demand forecasts for the TH 41 DEIS. This memorandum includes a discussion of the forecast modeling process, model validation information, transportation facility and socio-economic data assumptions, and forecast results.

I. THE PURPOSE OF TRAVEL DEMAND FORECASTS

Travel demand models estimate the amount of travel on transportation facilities given sets of development and transportation system development. The forecast provide basic descriptors of facility use (such as roadway volumes or transit ridership) and generalized travel impacts such as vehicle miles of travel and vehicle hours of travel. Travel demand forecasts are also used as inputs to other areas of analysis such as benefit-cost, noise, and air quality impacts.

This technical memorandum summarizes the travel demand forecast methodology and results for the TH 41 Draft EIS in the southwest Twin Cities. The Twin Cities regional travel demand model, developed by the Metropolitan Council in 2004, was used to develop forecasts in the Twin Cities Metropolitan Area.

Travel demand models are based on mathematical relationships and assumptions regarding future conditions. Models provide a representation of the future, but lack of certainty regarding future-year conditions dictates that model results should not be considered as having unwarranted precision. Their best use is as a comparison among alternatives for relative differences and impacts. Decision-makers and designers should be aware of the uncertainty in long-range forecasts and whether that uncertainty would affect outcomes related to forecast volumes.

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II. MAJOR FINDINGS AND CONCLUSIONS

- The southeastern edge of the urbanizing development in the Twin Cities will encompass the TH 41 travelshed. Population in the study area will nearly triple between 2000 and 2040, increasing from 60,000 to 179,000. Employment will increase by 130 percent in the same period, from 30,000 to 71,000.

- Demand to travel across the Minnesota River will increase substantially by 2040, both on existing TH 41 and on adjacent river crossings. Demand on the existing TH 41 crossing will double by 2040, from 18,500 to 36,500. Demand on all crossings from CSAH 9/45 to TH 169 will increase by 135 percent in the same period, from 100,000 to 237,000 per day.

- As demand increases, congestion will increase on existing TH 41 from two hours per day in 2000 to ten hours per day in 2040.

- Forecast traffic for the New TH 41 river crossing ranges from 45,000 to 59,000 per day, with the eastern Build alternatives generally carrying more traffic than the western and central alternatives.

- Because all Build alternatives provide capacity exceeding 60,000 vehicles per day, and daily volumes on these crossings are forecast to be less than 60,000, the Build alternatives represent largely unconstrained demand on the new river crossings.

- The Build alternatives all divert a substantial amount of traffic (11,400-14,500 vehicles per day) from the existing TH 41 river crossing.

- Alternatives W-2, C-2, and C-2A divert 4000 vehicles per day from the Highway 101 river crossing. Alternatives E-1, E-1A, and E-2 divert 10,000 vehicles per day.

- The Build alternatives all enable approximately 18,000 additional trips per day to cross the Minnesota River between CSAH 9/45 and TH 169.

- All Build alternatives all relieve congestion from existing TH 41 from ten hours per day under the No-Build alternative to fewer than four.

- All Build alternatives increase the amount of highway travel in the study area (represented by a two percent increase in vehicle miles traveled) and increase the average speed of travel (represented by 1 one percent decrease in vehicle hours traveled)

III. TRAVEL DEMAND MODELING PROCESS

Travel forecasts were prepared using a modified version of the travel demand models developed and approved by the Metropolitan Council and the Minnesota Department of Transportation. These models are computerized procedures for systematically predicting travel demand changes in response to development and transportation facility changes.

These models, used primarily for major project planning efforts, are calibrated and validated at a level of accuracy sufficient for planning regional facilities such as freeways and major arterials. This provides sufficient accuracy for most regional and corridor-level planning. The models were completed in 2004 using data from an extensive regional Travel Behavior Inventory (TBI) conducted by the Metropolitan Council and Mn/DOT in 2001. These forecasts include modifications made by the Metropolitan Council as of November, 2005.

The procedure used to simulate and forecast travel patterns is a complex battery of input data and computer processes that transform data into representations of travel. The process uses the standard "four-step" approach to travel forecasting with sequential generation, distribution, mode choice, and assignment models. The models use stand-alone FORTRAN-language modules developed for the Twin Cities as well as the Cube Voyager travel forecasting software.

The main components of the travel forecasting process are shown in Figure 1 and are described below. Detailed documentation of the model parameters is available from the Metropolitan Council.

Highway Network Representation

All of the freeways, expressways, and major arterial roadways in the Twin Cities area are compiled into a computer representation of the region's highway system. In addition, most minor arterials and many collector roads and other local streets are included. The attributes of the roadways are described in terms of area type, facility type, distance, free-flow speed, number of lanes, and capacity.

The regional network was prepared using values for speed and capacity by area type and facility type based, in part, on speed studies conducted as part of the 2001 regional Travel Behavior Inventory. These values are shown in Table 1.

Transit Network Representation

All regional transit routes are included in a computer representation of the transit system. The transit network defines the transit system in terms of links (which represent the highway system) and lines (which define a transit route's frequency and path). Data in the transit network include link speed, link distance, route frequency, and route type.

Zonal Data Representation

The regional models divide the seven-county Twin Cities Metropolitan area into 1,201 geographic transportation analysis zones (or TAZs). The thirteen ring counties are divided into 365 TAZs. Various demographic and socioeconomic data are allocated into these zones for the purposes of the forecast models. The main exogenous data are population, household, retail employment, and non-retail employment. The zones also serve as the beginning and end locations of travel in the region. In addition to the 1,566 zones, the 35 most important interface points between the seven-county core and the thirteen county ring are identified and included as "external" zones. The 31 most important points of entry into the twenty county regions are identifies and included as "perimeter" zones. The zonal system was determined primarily on the basis of physical boundaries and major roadways.

Socioeconomic inputs for the regional model are currently developed outside the travel demand forecasting process. Documentation on the methodology used to generate these inputs is available from the Metropolitan Council. Modifications to the base zonal data are discussed in a subsequent section.

Trip Generation

Trip generation is the process by which the number of trips attributed to a zone is estimated based on the amount and type of activity in that zone. Trips are either "produced" by or "attracted" to a zone, depending on the type of trip. Each trip has two ends. Trips either beginning at a household or ending at a household are considered to be produced by that household. Trips are attracted to non-residential activities such as universities, workplaces, or shopping areas.

The end result of trip generation estimation is a total number of trips produced by and attracted to each zone. The trips at this point are called "person-trips" and do not have any association with a given mode of travel.

The determinants of household trip production are household size, household income, the number of automobiles owned, and location. Several factors contribute to trip attractions, depending on the trip purpose. The main factors are retail employment, non-retail employment, and the amount of activity within a given proximity and area type.

The trip generation phase of the forecasting process uses trip rates (i.e., number of trips per person, household, or employee) based on the 2001 regional TBI applied to each zone to calculate the number of trips taken, by purpose (home-based work, shopping, grade school, work-related, and other, and non home-based work and other). Trip generation in the ring counties employs only three trip purposes (home-based work, home-based other, and non home-based).

Within the trip generation model are two socio-economic sub-models: an employment density-based parking model, and in income/household size related auto ownership model.

Destination Choice

The destination choice process coverts the person-trips estimated in the generation step to movements between pairs of zones based on the amount of travel activity in a zone and the generalized travel time proximity of the producing zone to other zones. The resulting trip tables provide the number of trips between zones. Trip tables are calculated for each trip purpose (stratified by auto-ownership and also by income for home-based work trips) for both peak and off-peak travel.

A discrete choice model is the backbone of the destination choice process. This process distributes trips from each production zone to attraction zones based on the relative utility, or attractiveness of each attraction zone. Attractiveness is a function of the number of attractions in the zone, level of service (distance, travel time by different modes, travel cost of different modes, parking cost), and location (area type).

The generic destination choice model does not fully account for all trip distribution patterns. Other factors factor into destination selection such as reluctance to cross a geographic barrier, tax-favorable residential area, or a "prestigious" shopping district. The Twin Cities destination choice model is calibrated to include adjustment coefficients, or "K-factors" to account for these other factors among forty-three internal districts in the seven-county area.

Certain major destinations (such as universities colleges, major airports, and regional malls) have different distribution patterns than other internal trips. Trips are distributed to these "special generator" locations first in the trip generation step, and the productions associated with these trips are removed from their respective zones before trip distribution.

Mode Choice

The mode choice phase of the regional model uses a nested discrete choice model to identify the number of person-trips between each pair of zones and determine whether the trips are made by single-occupant vehicles, carpools, or transit riders. The model is further used to determine if a trip is a candidate for a high-occupancy vehicle lane.

External Station Choice

The external-station choice model connects trips between the core seven-county area and the ring county area. It uses a discrete choice model to identify an external station for each trip that enters, exits, or passes through the seven-county area. It then splits each trip into a ring county trip (between the external station and either a ring county TAZ or a perimeter station) and a core county trip (between the external station and a core county TAZ).

Temporal Distribution

The time-of-day or temporal distribution model takes the estimated daily vehicle trips and distributes them across periods of time in order to more accurately reflect peaking conditions on the roadway system. The basis for the temporal distribution is the 2001 regional TBI. 24 time periods ranging in length from 30 to 120 minutes are differentiated. Differentiation among peak hours enables better estimates of congested conditions on an hourly basis and better-assigned highway volumes (discussed in the next section).

Highway Assignment

The highway assignment model chooses the route between zones for any given trip. The process chooses routes based on travel times that reflect the appropriate traffic volume, roadway capacity, and speed relationship. It is an equilibrium model, which uses multiple iterations to balance demand with capacity, thereby reflecting capacity constraint.

The model will permit a demand in excess of capacity. Capacity in the Twin Cities area is generally defined at Level of Service D, therefore assignment of demand above capacity indicates Level of Service E or F. The delay functions in the model are link-based, meaning the effect of intersection delays and long backup queues are not fully represented.

Trips for each of the 24 previously mentioned time periods were assigned separately, and later combined to produce a daily highway assignment.

Transit Assignment

The transit assignment process selects routes based on walk time, automobile access (park/ride), waiting time, and transferring time. Transit assignment was not used in this study since route-level transit analysis was not an issue.

Model Iterations

The regional model is run on an iterative process. Congested highway travel times are estimated by the highway assignment process, and then cycles back through the steps of the model. Congested travel times affect trip generation, destination choice, and mode choice. The end result is a set of travel demand forecasts that reflect the effects of congestion on travel choices.

The method of successive averages technique was used to estimate congested travel times for each iteration. This technique involved taking the weighted volumes from previous iterations for each link, calculating a new weighted average including the current iteration, recalculating congested travel times, then using those times in the subsequent iteration. The model is run until sufficient convergence is reached, which for the purpose of this study, was four iterations.

FIGURE 1
TRAVEL DEMAND FORECASTING PROCESS

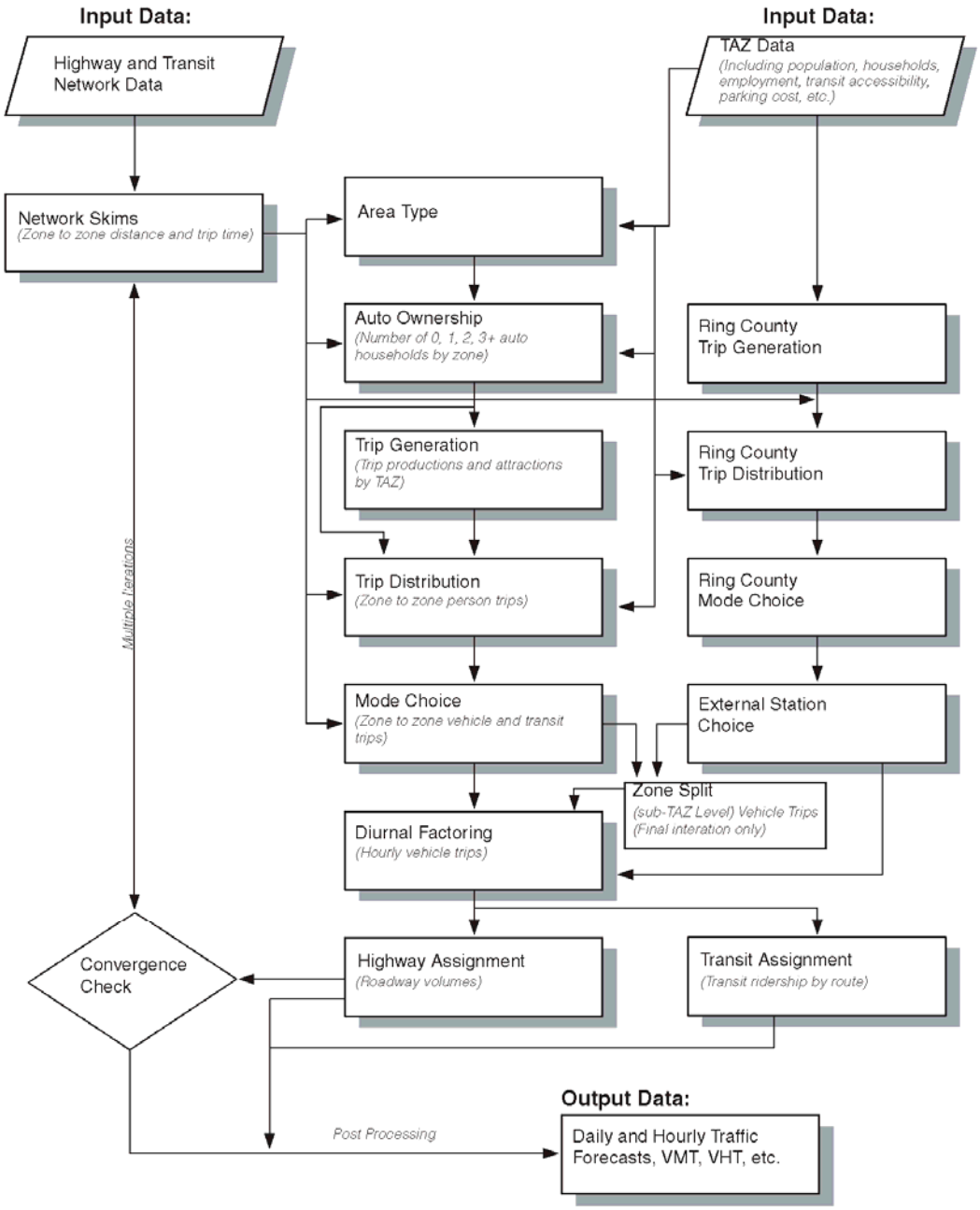


TABLE 1
REGIONAL MODEL DEFAULT SPEEDS AND PER-LANE CAPACITIES

Facility Type		Area Type					
		Rural	**Developing**	**Developed**	**Residential Core**	**Business Core**	**Outlying Business District**
Metered Freeway	Capacity	1950	1950	1950	1950	1950	1950
	Speed	110 Percent of Posted Speed					
Unmetered Freeway	Capacity	1750	1750	1750	1750	1750	1750
	Speed	110 Percent of Posted Speed					
Metered Ramp	Capacity	750	725	675	625	600	600
	Speed	37	37	36	35	35	39
Unmetered Ramp	Capacity	1500	1450	1350	1250	1200	1200
	Speed	37	37	36	35	35	39
Divided Arterial	Capacity	1000	950	850	750	700	700
	Speed	59	42	33	27	23	31
Undivided Arterial	Capacity	900	850	750	650	600	600
	Speed	55	39	31	24	22	30
Collector	Capacity	600	550	500	450	400	400
	Speed	51	34	30	23	22	28
HOV Lane	Capacity	1400	1400	1400	1400	1400	1400
	Speed	110 Percent of Posted Speed					
HOV Ramp	Capacity	NA	1450	1350	1250	1250	1250
	Speed	37	37	36	35	35	39
Centroid Connector	Capacity	NA	NA	NA	NA	NA	NA
	Speed	23	23	23	23	23	23

IV. MODEL MODIFICATIONS

A few model modifications were made as part of developing and running the model. These modifications are discussed below.

Transportation Analysis Zone (TAZ) Splits

Metropolitan Council TAZs were subdivided in the vicinity of the TH 41 study area to better characterize trip patterns. Zonal boundaries were drawn in accordance with previous studies in the area or by municipal direction. TAZ boundaries in Eden Prairie were based on municipal TAZs in the *Eden Prairie Transportation Plan*. TAZ boundaries in Carver were based on direction from city staff. TAZ boundaries in Chaska were based on the 2003 *Pioneer Trail Traffic Analysis.* TAZ splits in the rest of eastern Carver County were based on the *Carver County Transportation Plan.* TAZ boundaries in the City of Shakopee (including future annexation areas) were based on the *Shakopee Transportation Plan*. The TAZ refinement process converted the 75 zones in the study area to 238 zones, increasing the total number of zones in the seven county area from 1201 to 1364.

Highway Network

The roadway network was modified to include more detail in the study area, including Eden Prairie, Chanhassen, Chaska, Carver, Victoria, and Shakopee. This detail was necessitated both as a result of the refinement of TAZs and the desire to include lower volume roadways in the model to better estimate travel patterns. All arterials in northern Scott County and eastern Carver County were included.

Several adjustments were made to model default uncongested highway speeds (Table 1) to better reflect topography, actual speed limits, and traffic control on these facilities:

- TH 5 from TH 212 to Victoria: Decreased free-flow speed
- TH 41 from Pioneer Trail to TH 5: Decreased free-flow speed
- Pioneer Trail from TH 41 to Flying Cloud Drive: Decreased free-flow speed
- CSAH 43 from CSAH 10 to TH 212: Decreased free-flow speed
- CSAH 16 (Shakopee) from CSAH 69 to CSAH 17: Decreased free-flow speed
- CSAH 143 from CSAH 43 to CR 147: Decreased free-flow speed
- CSAH 11 from CSAH 10 to CSAH 143:Decreased free-flow speed

Highway Assignment Process

The default regional highway assignment process uses a 0.5 percent “gap” closure, wherein the model is assumed to reach equilibrium if the difference in link cost (travel time) from one iteration to the weighted composite of the previous iterations is less than 0.5 percent. This typically occurs within ten iterations. For the purpose of this study, the number of iterations during the peak period was increased to 60 to reduce the gap and thereby increase the stability of individual link volumes.

V. MODEL VALIDATION

Model calibration refers to the adjustment of parameters used in models to improve the goodness of model fit to observed data. Validation refers to the process of comparing the applied model to external data to corroborate the fit of the model. The TH 41 over the Minnesota River Crossing travel demand forecasting model generally used existing model parameters, calibrating new parameters where necessary and appropriate, and using a variety of available data sourced, including Year 2000 census data, the Metropolitan Council's 2001 Travel Behavior Inventory datasets, and validating the results against traffic counts.

Screenline Validation

The most critical element of the validation of the TH 41 over the Minnesota River Crossing travel demand forecasting model is the ability of the model to replicate the traffic volume and distribution across the Minnesota River. Table 2 shows the model fit against ADT counts obtained from Mn/DOT. The overall screenline validation was seven percent. The only two crossings that did not validate well are TH 25 and TH 169. TH 25 is a low volume roadway at the edge of the model area serving a travelshed far from the project area. The regional model traditionally has difficulty replicating the signal-based delay on the TH 169 expressway. As the expressway condition is not relevant for future year forecasts (which all occur after the upgrade to a freeway) this error is not of concern. The rest of the river crossings are within fifteen percent of ground counts, which is considered a good fit.

TABLE 2
MINNESOTA RIVER CROSSING DAILY SCREENLINE

Crossing	2000 Count	2000 Model	Percent Difference
TH 25	4,600	11,200	143%
CSAH 9/45	6,400	6,400	0%
TH 41	18,500	19,500	5%
Highway 101	21,400	23,800	11%
TH 169	54,000	66,000	22%
I-35W	102,000	106,000	4%
TH 77	98,000	100,000	2%
I-494	101,000	102,000	1%
TH 55	40,000	43,000	8%
Total	**445,900**	**477,900**	**7%**

A second screenline was used to determine the model's ability to replicate east-west traffic across Carver County. This is important in assessing the reliability of forecasts on new TH 212. Table 3 shows the model fit against Mn/DOT ADT counts. There is an imbalance between traffic on TH 7 and TH 5 which does not affect the differences between alternatives. The assigned volume on CSAH 1 is 11 percent too high, which is acceptable for a low volume roadway. The overall screenline validation was within one percent.

TABLE 3
HENNEPIN-CARVER DAILY SCREENLINE

Crossing	2000 Count	2000 Model	Percent Difference
TH 7	37,000	31,000	-16%
TH 5	43,000	49,000	14%
CSAH 1	7,500	8,300	11%
TH 212 (Flying Cloud Drive)	17,000	16,600	-2%
Total	**104,500**	**104,900**	**0%**

Study Area Traffic Volume Validation

The TH 41 River Crossing travel demand forecasting model daily traffic volumes were validated against daily traffic counts (ADT) obtained from Mn/DOT for 2000 (or adjacent years). These years were selected for validation because they are consistent with the socioeconomic data available for model input. The resulting model assignment good-ness-of-fit is shown in Figure 2. The model validates overall with an overall root mean squared error (RMSE) of 40 percent for an average link volume of 13,200 vehicles and error generally distributed both high and low; low volume roadways tend to be above-count because the roadway network does not include local streets that are used for traffic circulation. A higher percentage of error can be tolerated on lower volume roadways where the numeric difference is lower. A good fit was achieved for study-critical freeways and expressways with a RMSE of 30 percent on roadways with current ADT values exceeding 10,000 vehicles per day. 81 percent of counts in the study area fall within the FHWA percent difference targets[1] shown as the black lines in Figure 2.

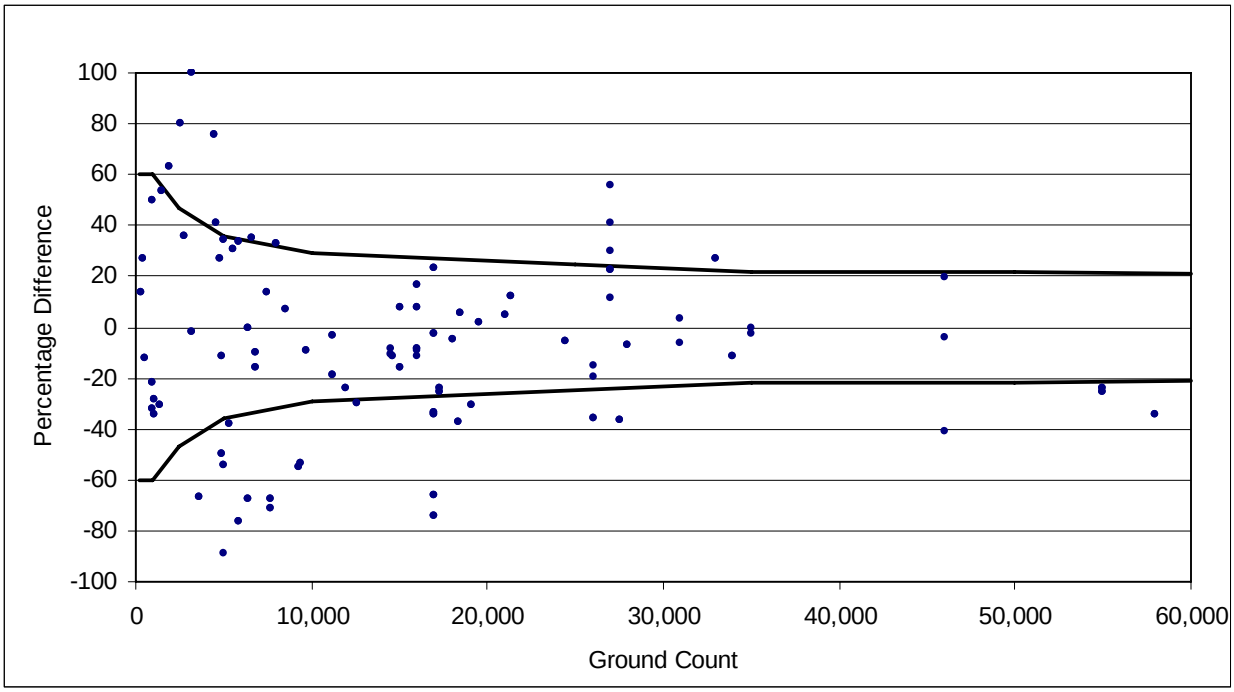
Figure 3 shows the existing average daily traffic volumes for selected roadway segments; these values represent most recent published information and may differ from the model calibration year, which was 2000.

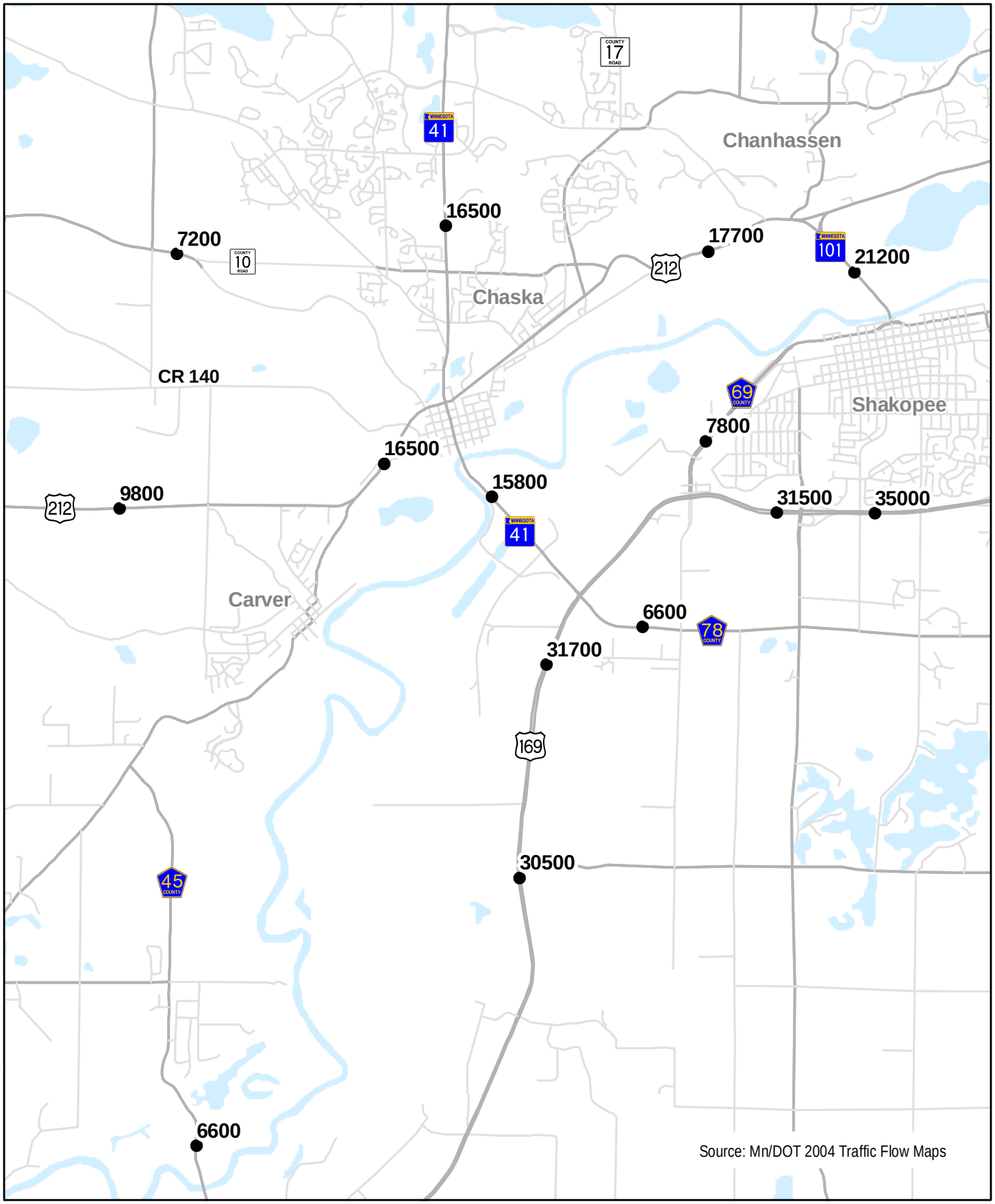
Model Closure

Four model iterations provided adequate and consistent results among alternatives. The root mean squared error (RMSE) differences for final model iterations range from one to four percent.

[1] FHWA-EP-01-023 *Model Validation and Reasonableness Checking Manual*

FIGURE 2
COMPARISON OF MODEL ERROR TO GROUND COUNTS





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SRF Consulting Group, Inc.

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2004 DAILY TRAFFIC VOLUMES

TH 41 RIVER CROSSING EIS

Mn/DOT

Figure 3

VI. FUTURE YEAR TRANSPORTATION FACILITY ASSUPTIONS

In a 40-year forecast horizon, specific transportation improvements are difficult to guarantee or even to predict. Twenty and twenty-five year policy plans are the best reliable estimate. The 2004 Metropolitan Council Transportation Policy Plan and the most current local transportation plans form the base of the 2030 and 2040 highway networks.

On the local level, roadway improvements and functional classification were informed by Carver and Scott County comprehensive plans and communications with county staff (April 2005). All arterial roadways and most collectors are included in the highway network.

Speeds and capacities for all roadways are derived from the 2001 Travel Behavior Inventory, which sets default network values by area type (rural, developing, developed, residential core, business core, and outlying business concentration) and facility type (freeway, ramp, divided arterial, undivided arterial, and collector).

Regional and Trunk Highway Assumptions

All improvements listed in the 2004 Metropolitan Council Transportation Policy Plan are assumed for 2030, including those listed in Table 4 in the vicinity of the project. Additionally, the improvements listed in Table 5 are assumed for the year 2040.

TABLE 4
ASSUMED 2030 REGIONAL AND TRUNK HIGHWAY IMPROVEMENTS

ROADWAY	IMPROVEMENT/ADDITION
TH 169	Four-Lane freeway from I-494 to CSAH 69, four-lane expressway to county line with interchanges at I-494, Anderson Lakes Parkway, Pioneer Trail, Old Shakopee Road, TH 13, CSAH 18, CSAH 83, CSAH 17, CSAH 15, CSAH 69, Current TH 41, TH 282, and CSAH 64.
New TH 212	Four-lane freeway to CR 147 with interchanges at Prairie Center Drive, Mitchell Road, TH 5, Eden Prairie Road, Dell Road, Highway 101, CSAH 17, TH 41, CSAH 10, and CR 147.
I-494	Consistent with Final EIS
TH 12	4-lane Freeway: Long Lake Bypass

TABLE 5
ASSUMED 2040 REGIONAL AND TRUNK HIGHWAY IMPROVEMENTS

ROADWAY	IMPROVEMENT/ADDITION
TH 5	4 Lane from TH 212 to Victoria
TH 12	4 Lane from CSAH 17 to Prior Lake and from Prior Lake to CSAH 42
TH 41	4 Lane north of old TH 212
HIGHWAY 101	4 Lane from old TH 212 to new TH 212
TH 169	A six lane alternative (in Hennepin County) was tested with two of the Build alternatives

Transit System

The 2030 transit network includes all transit corridor improvements in the 2004 Metropolitan Council Transportation Policy Plan. This includes the Southwest Transit Corridor. No changes in the transit network are assumed between 2030 and 2040.

Aviation

The Minneapolis-St. Paul International airport is assumed to carry 32,366 passengers per day in 2030 and 35,680 passengers a day in 2040.

Local Assumptions

Tables 6 and 7 list local improvements by roadway. Minor realignments and intersection upgrades are not included because the regional model is not sensitive to changes at that level.

TABLE 6:
CARVER COUNTY 2030/2040 ASSUMED ARTERIAL AND COLLECTOR IMPROVEMENTS

ROADWAY	FROM	TO	IMPROVEMENT/ADDITION	Year
CSAH 10	TH 284	CSAH 30	New Connection (4-Lanes)	2030
CSAH 10	CSAH 11	Old TH 212	Engler Blvd Extension (4-Lanes)	2030
CSAH 11	TH 212	CSAH 10	Realignment	2030
CSAH 11	CSAH 10	CSAH 18	4-Lanes	2030
CSAH 14	CSAH 11	Bavaria Road	New Connection	2030
CSAH 14	Bavaria Road	TH 41	4-Lanes	2030
CSAH 15	Old TH 212	CSAH 10	4-Lanes	2030
CSAH 17	CSAH 14	78th Street	4-Lanes	2030
CSAH 18	CSAH 13	TH 41	New Connection	2030
CSAH 30 West	TH 5	CSAH 10	New Connection (4-Lanes)	2030
CSAH 30 East	TH 212	102nd Street	New Connection	2030
CSAH 30 East	102nd Street	TH 5	New Connection (4-Lanes)	2030
Old TH 212	TH 41	CSAH 15	4-Lanes	2030
TH 212	CR 147	West Limits	4-Lane Expressway	2040
CSAH 10	CSAH 30	CSAH 11	4-Lanes	2040
CSAH 14	TH 41	East Limits	4-Lanes	2040
CSAH 40	CSAH 45	CSAH 11	4-Lanes	2040
CSAH 41	CSAH 50	TH 212	New Csah 41 Extension	2040
CSAH 41	CSAH 40	CSAH 52	New Csah 41 Extension	2040
CSAH 41	TH 212	TH 5	New Csah 41 Extension	2040
CSAH 43	TH 212	CR 140	Realignment	2040
CSAH 45	South Limits	CSAH 40	4-Lanes	2040
New CSAH	CSAH 53	CSAH 11	East-West Arterial South of TH 212	2040

TABLE 7
SCOTT COUNTY 2030/2040 ASSUMED ARTERIAL AND COLLECTOR IMPROVEMENTS

ROADWAY	FROM	TO	IMPROVEMENT/ADDITION
CSAH 16	CSAH 18	CSAH 83	4 Lane Divided
CSAH 17	Vierling Drive	CSAH 101	4 Lane Divided
CSAH 17	St. Francis Ave.	TH 13	4 Lane Divided
CSAH 21	CSAH 82	County Border	4 Lane Undivided
CSAH 27	CSAH 68	CSAH 44	4 Lane Divided
CSAH 42	CSAH 18	County Border	6 Lane Divided
CSAH 68	CSAH 23	TH 13	4 Lane Divided
CSAH 68	CSAH 21	CSAH 27	4 Lane Divided
CSAH 78	TH 169	CSAH 17	4 Lane Divided
CSAH 82	CSAH 17	CSAH 21	4 Lane Divided
CSAH 83	TH 169	CSAH 82	4 Lane Divided
CSAH 101	CSAH 69	CSAH 17	4 Lane Undivided
CSAH 2	CR 61	TH 169	2 Lane Undivided
CSAH 8	CSAH 23	CSAH 23	2 Lane Undivided
CSAH 8	TH 21	CSAH 59	2 Lane Undivided
CSAH 15	270th Street	Alton Avenue	2 Lane Undivided
CSAH 15	CSAH 10	TH 282	2 Lane Undivided
CSAH 16	CSAH 83	CSAH 68	4 Lane Divided
CSAH 21	CSAH 42	CSAH 18	4 Lane Divided, 6 lane at CSAH 18
CSAH 27	CSAH 16	TH 13	4 Lane Divided- Quentin Alignment
CR 64	CSAH 11	CR 61	2 Lane Undivided
CR 64	CSAH 59	Galena Ave.	2 Lane Undivided
CR 70	CSAH 17	TH 169	2 Lane Undivided
CR 87	CSAH 2	CR 56	2 Lane Undivided
190th Street	CR 81	Vergus Avenue	2 Lane Undivided

VII. FUTURE YEAR SOCIOECONOMIC ASSUMPTIONS

As noted previously, the forecast of future-year development in the model area is a primary determinant of the amount and characteristics of travel.

Base Year Estimates

The travel demand model uses a base year of 2000 for model calibration, which coincides with the 2000 U.S. Census. Data for the entire region was provided by the Metropolitan Council. Employment data are derived from the Metropolitan Council from the Minnesota Department of Economic Development. For TAZs in the project area that were subdivided for the purpose of the study, the allocation was made based on existing transportation plans and direction of county and city staff.

Future Year Estimates

The official year 2030 forecast socioeconomic data for the entire region was provided by the Metropolitan Council based on the *Regional Development Framework.* Official regional socioeconomic forecasts for 2040 have not yet been prepared by the Metropolitan Council. For the purposes of this study, the Metropolitan Council provided preliminary socioeconomic data based on sewer planning projections.

Within the project area, socioeconomic data was prepared with each community for the subdivided TAZ structure as described below. 2030 and 2040 socioeconomic data was provided by community and was allocated to subdivided model TAZs.

Project area community level socioeconomic projections are listed in Table 8 and 9. The listed municipalities include projected annexations.

Municipal and County Estimates

2030 and 2040 socioeconomic data was forecast with consultation from city and county staff. Municipal control totals were based on Metropolitan Council projections. TAZ allocation was based on the *Carver County Transportation Plan,* the *Shakopee Transportation Plan,* the *Eden Prairie Major Center Study,* and the *Pioneer Trail Traffic Analysis* (portions of Chaska).

In the City of Carver, municipal control totals are based on city “Low” growth estimates and on unofficial Metropolitan Council illustrative sewer planning forecasts. TAZ allocations were based on direction from city staff.

TABLE 8
COMMUNITY-LEVEL FORECASTS OF POPULATION AND HOUSEHOLDS

Community	Population			Households		
	2000	2030	2040	2000	2030	2040
Carver County	70,205	161,690	184,910	24,356	64,120	72,050
Scott County	89,498	220,090	247,378	30,692	87,250	96,714
Eden Prairie	54,901	70,572	71,706	20,457	29,497	30,243
Carver	1,266	14,100	20,000	459	5,800	8,320
Chanhassen	20,321	38,000	45,900	6,914	15,000	17,500
Chaska	17,603	35,700	42,036	6,169	14,500	16,575
Shakopee	20,568	52,000	71,185	7,540	21,500	28,820

TABLE 9
COMMUNITY-LEVEL FORECASTS OF EMPLOYMENT

Community	Employment		
	2000	2030	2040
Carver County	26,657	52,430	63,650
Scott County	32,009	60,890	75,006
Eden Prairie	49,392	67,654	86,463
Carver	156	600	2,325
Chanhassen	7,571	13,900	17,860
Chaska	10,251	16,600	20,400
Shakopee	12,476	22,800	30,149

VI. TRAVEL DEMAND FORECAST RESULTS

Forecast Traffic Volumes

Table 11 shows the results of the 2040 travel demand forecasts for each alternative at six Minnesota River crossing locations (including the new river crossing at TH 41).

TABLE 10
DAILY RIVER CROSSING VOLUMES

Crossing	2000	2040						
		No-Build	W-2	C-2	C-2A	E-1A	E-1	E-2
CSAH 9/45	*6,400*	25,100	19,200	21,600	21,300	21,300	20,800	21,300
TH 41	*18,500*	36,500	24,700	22,000	24,800	25,100	23,800	24,200
New TH 41			45,000	48,000	43,000	56,000	56,000	59,000
Highway 101	*21,400*	34,000	30,400	30,000	29,900	24,300	24,800	23,300
TH 169	*54,000*	141,000	135,000	135,000	135,000	129,000	131,000	129,000
I-35W	*102,000*	133,000	133,000	133,000	133,000	132,000	132,000	132,000
Total	*202,300*	369,600	387,300	389,600	387,000	387,700	388,400	388,800

Forecast traffic for the new TH 41 river crossing ranges from 45,000 to 59,000 per day, with the eastern alternatives generally carrying more traffic than the western and central alternatives. Because the Build alternatives all provide increased river crossing capacity exceeding 60,000 vehicles per day, these alternatives represent largely unconstrained demand. These trips come largely from five sources:

Diversion from existing TH 41

Under the No-Build condition, the existing TH 41 crossing is predicted to have a demand exceeding practical capacity (ten hours of congestion). Each alternative diverts a substantial amount of the No-Build traffic from the existing crossing, bringing the volume down to no more than 7,000 above current levels.

Diversion from CSAH 9/45

Under the No-Build condition, CSAH 9/45 is predicted to have a volume nearing practical capacity in the peak period (five hours of congestion). All of the alternatives divert at least 3,500 vehicles per day from this crossing. Alternative W-2 diverts the most traffic, 5,900 vehicles per day.

Diversion from Highway 101

The eastern alternatives divert the most traffic from Highway 101, reducing its volume by 10,000 vehicles per day. Alternatives W-2, C-2, and C-2A divert 4,000 vehicles per day.

Diversion from TH 169

The eastern alternatives divert the most traffic from TH 169, reducing its volume by 10,000 - 12,000 vehicles per day. Alternatives W-2, C-2, and C-2A divert 6,000 vehicles per day.

Trips which do not cross the river under the No-Build:

18,000 to 20,000 trips per day, which would have chosen a different destination under the No-Build, cross the river under the Build alternatives. While the total number of these trips is essentially the same across all alternatives, it makes up higher percentage of total traffic under alternatives W-2, C-2, and C-2A than under alternatives E-1A, E-2, and E-2.

The year 2040 traffic forecasts for other roadways in the study area can be found in Figures 4-10 for all of the EIS alternatives.

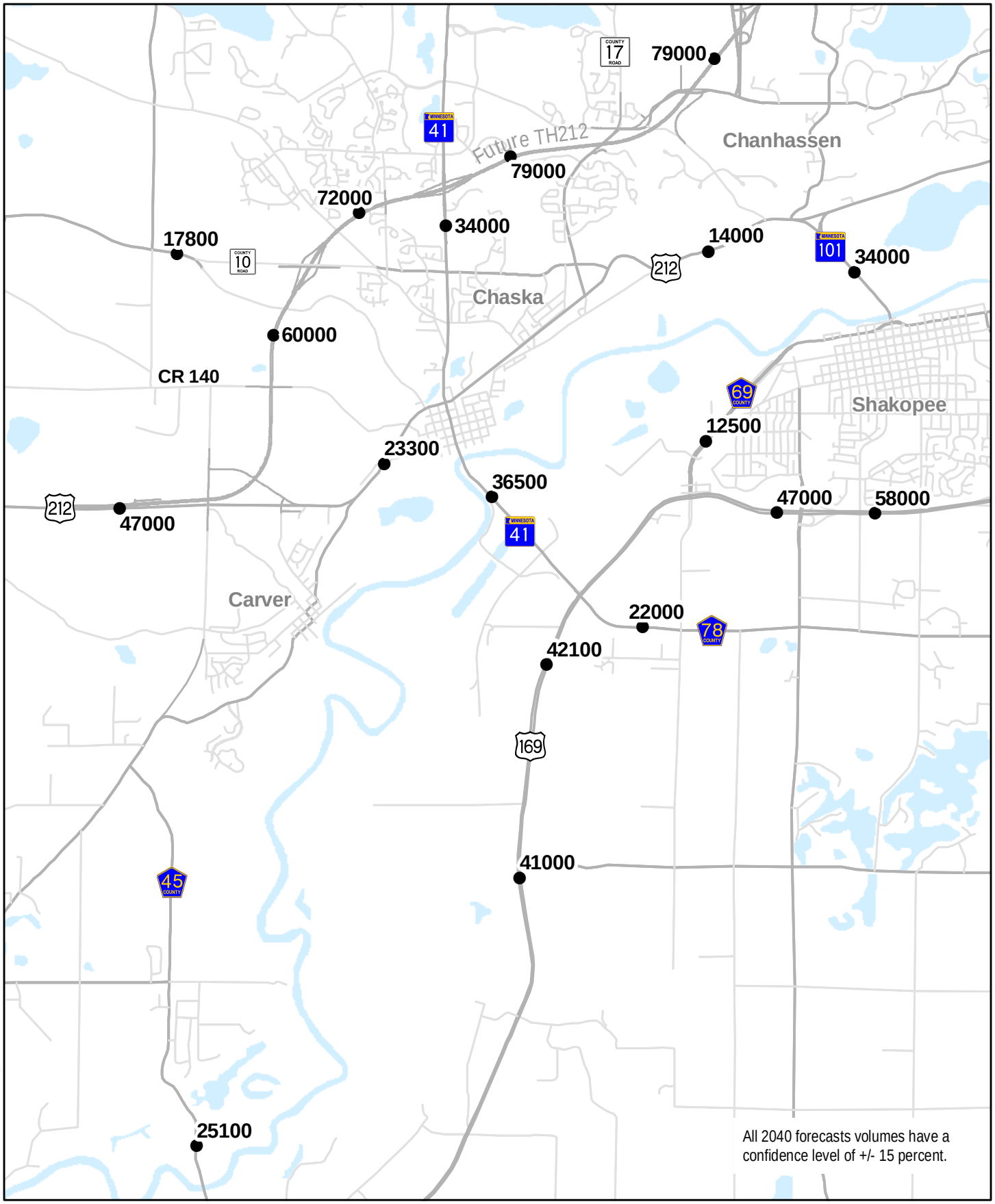
Travelshed Analysis

In addition to serving different amounts of traffic, and diverting traffic from different crossings, the various alternatives, because of their location and orientation, serve overlapping but distinct travel markets. To illustrate this, Figures 11 and 12 display the results of a "selected link" [1]analysis on the existing and new TH 41 crossings for each alternative. Each plot displays the travelshed which uses the selected link. This allows graphical comparison of trip lengths and trip markets.

Under the No-Build condition, existing TH 41 carries a significant amount of long distance traffic north of the Minnesota River. Under all of the Build alternatives, this long distance traffic on existing TH 41 is substantially reduced. Under Alternative W-2, some traffic serving Chanhassen and northern Chaska remains on existing TH 41 since the new crossing passes far west of there. The eastern alignments carry more north-south trips than the western and central alignments, which carry more traffic from western Carver County.

Access restrictions can have a significant effect on the travelshed for different alignments. South of the Minnesota River, some long distance traffic remains on existing TH 41 under all alternatives as existing TH 41 still provides better access to all of Scott County from Chaska than the Build alternatives, which serve TH 212. As alternative C-2A doesn't allow any access from CSAH 10, it carries fewer trips from western Chaska and southern Victoria.

[1] A selected link analysis collects all of the trip origins and destinations which use a specified link, in this case existing and New TH 41.



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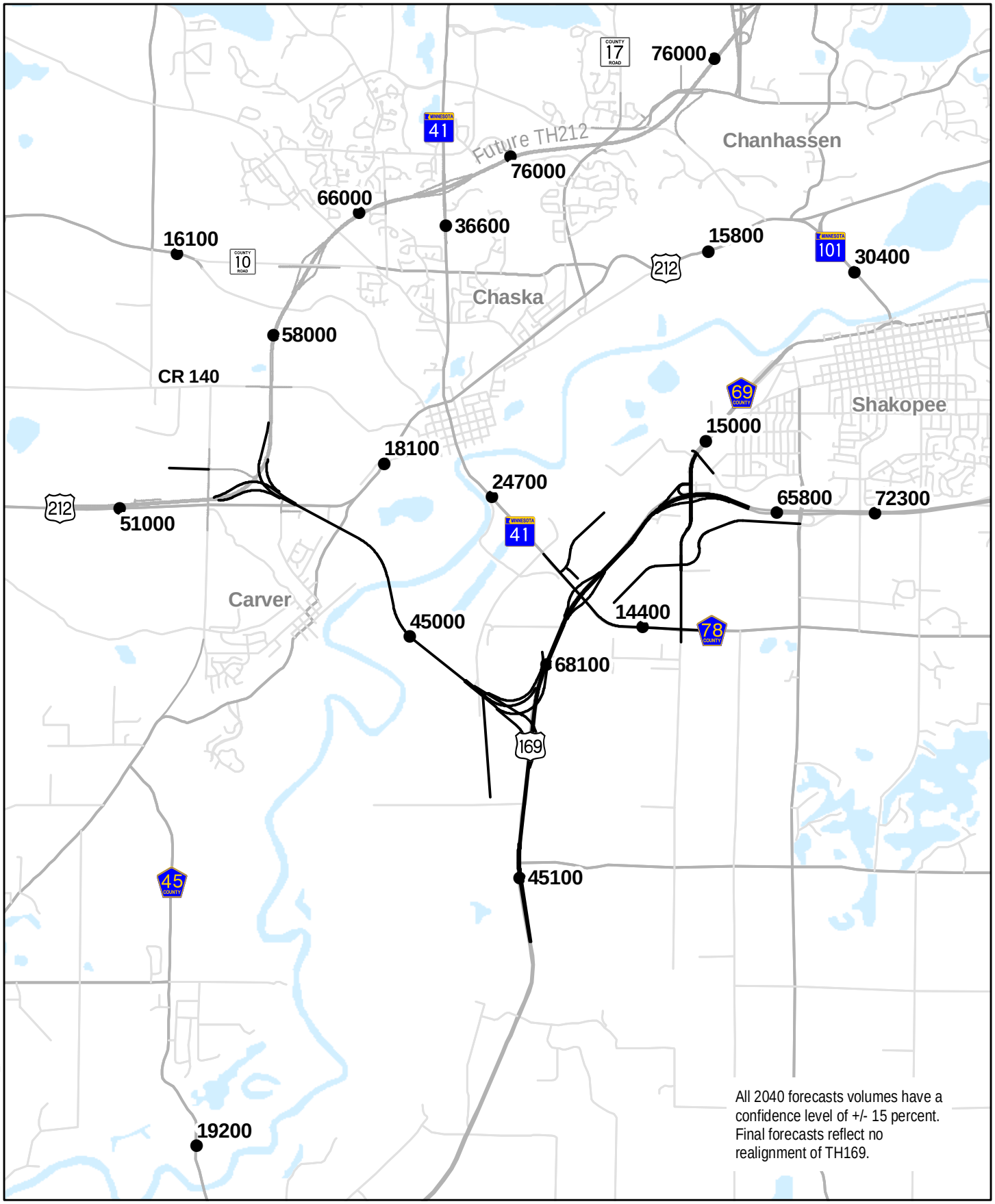
NO BUILD DAILY TRAFFIC VOLUMES (2040)

TH 41 RIVER CROSSING EIS

Mn/DOT

Figure 4



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ALTERNATIVE W2 DAILY TRAFFIC VOLUMES (2040)

Figure 5

TH 41 RIVER CROSSING EIS

Mn/DOT

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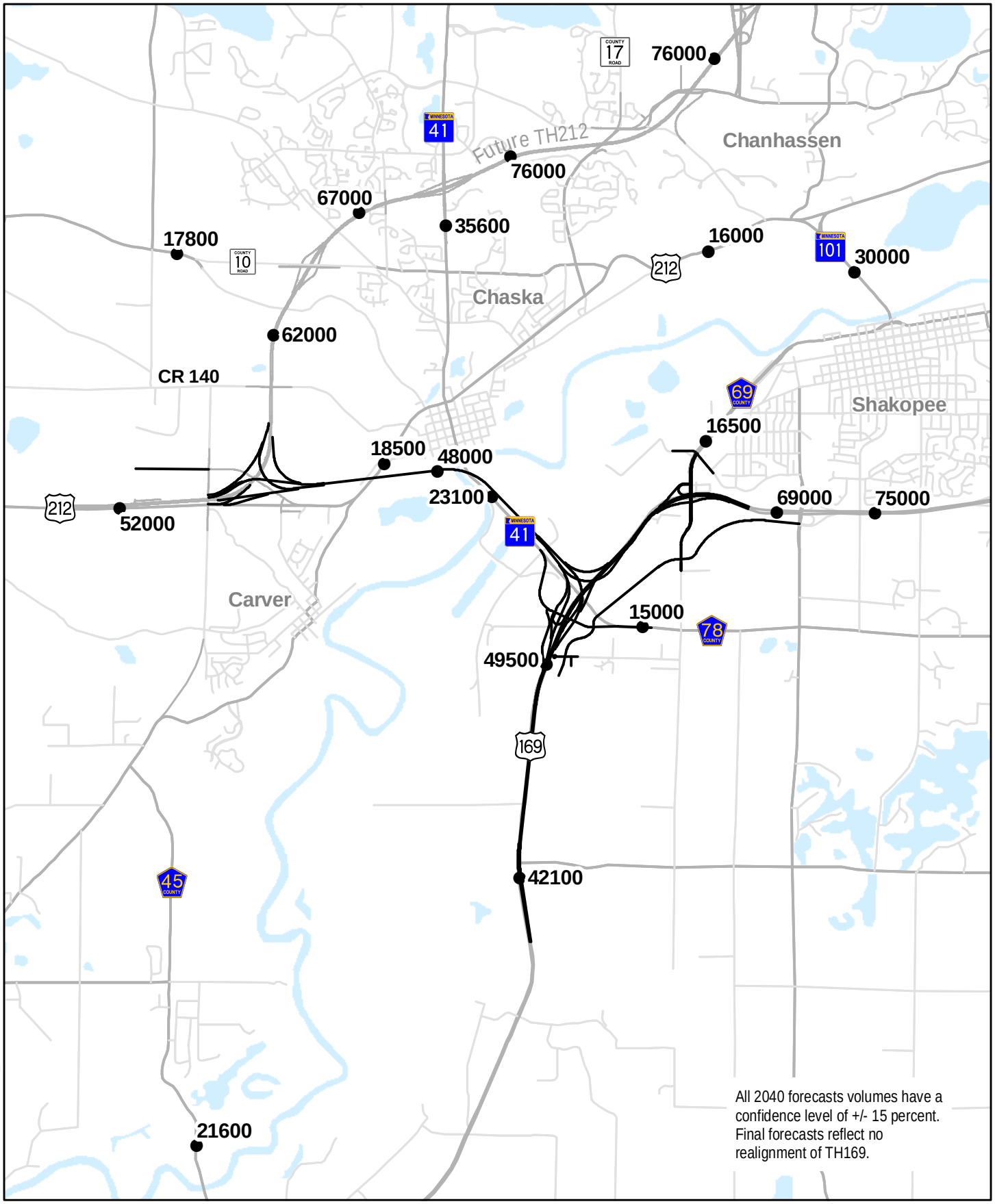

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ALTERNATIVE C2 DAILY TRAFFIC VOLUMES (2040)

Figure 6

TH 41 RIVER CROSSING EIS

Mn/DOT

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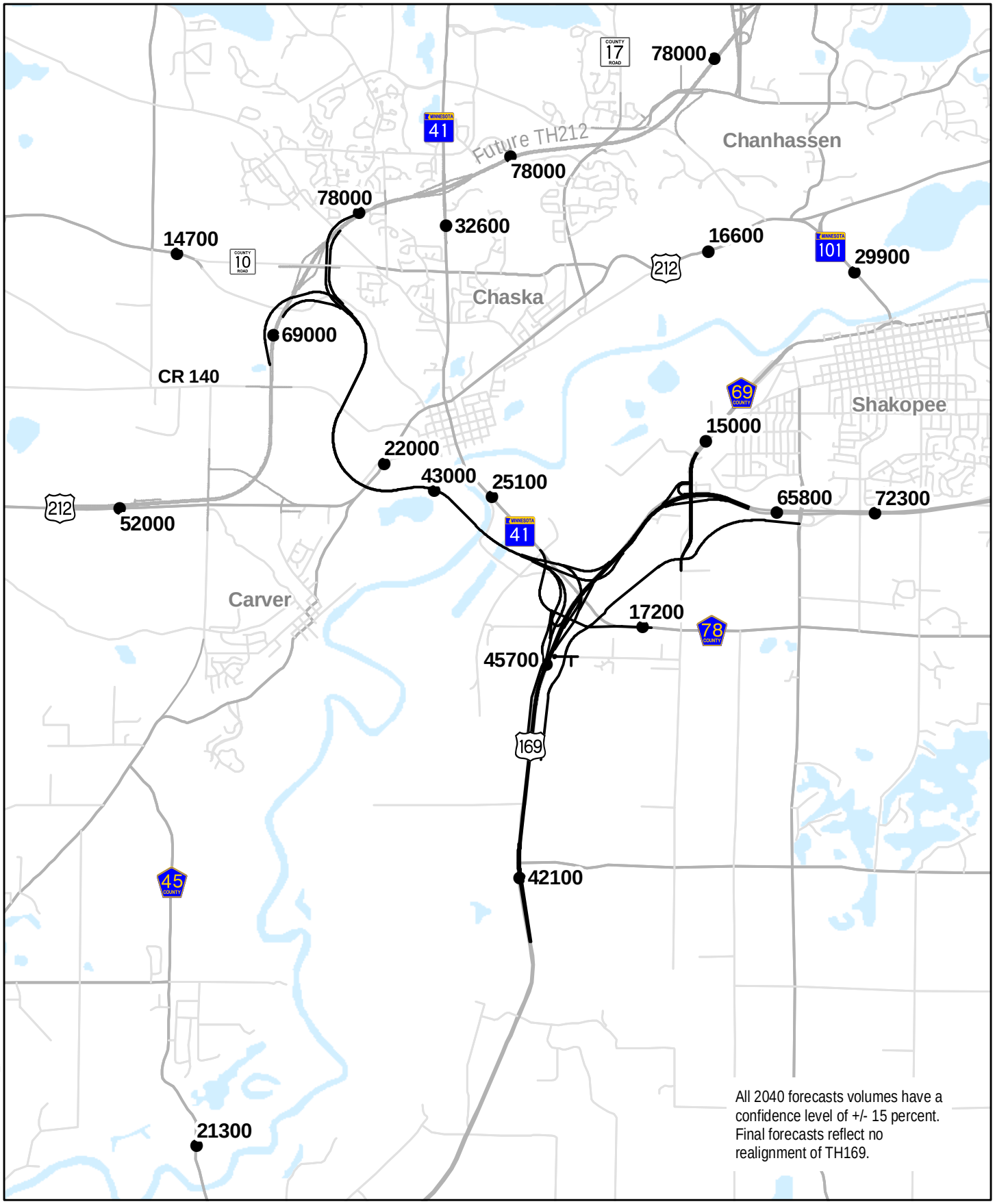

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ALTERNATIVE C2A DAILY TRAFFIC VOLUMES (2040)

Figure 7

TH 41 RIVER CROSSING EIS

Mn/DOT

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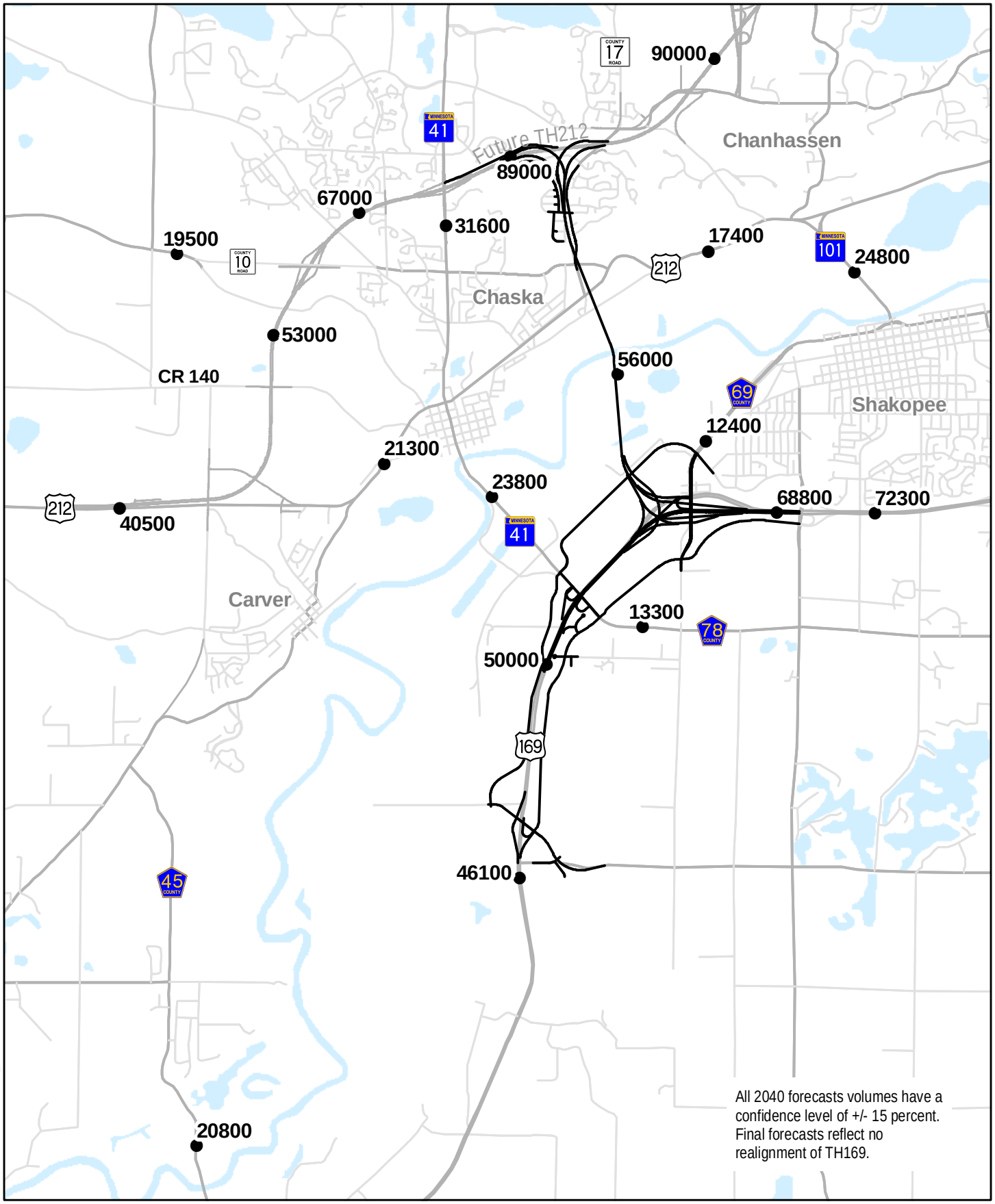

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ALTERNATIVE E1 DAILY TRAFFIC VOLUMES (2040)

Figure 8

TH 41 RIVER CROSSING EIS

Mn/DOT

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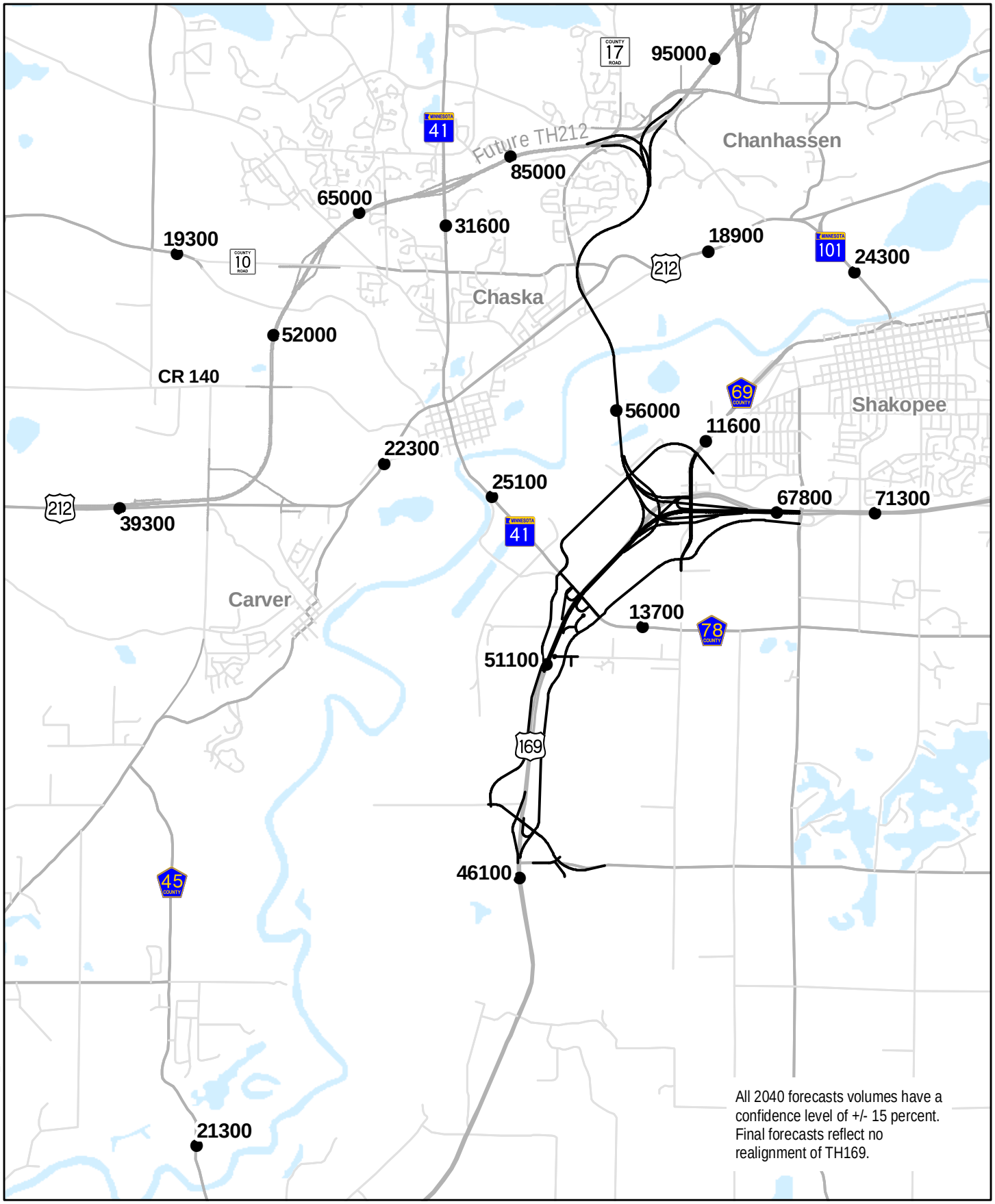

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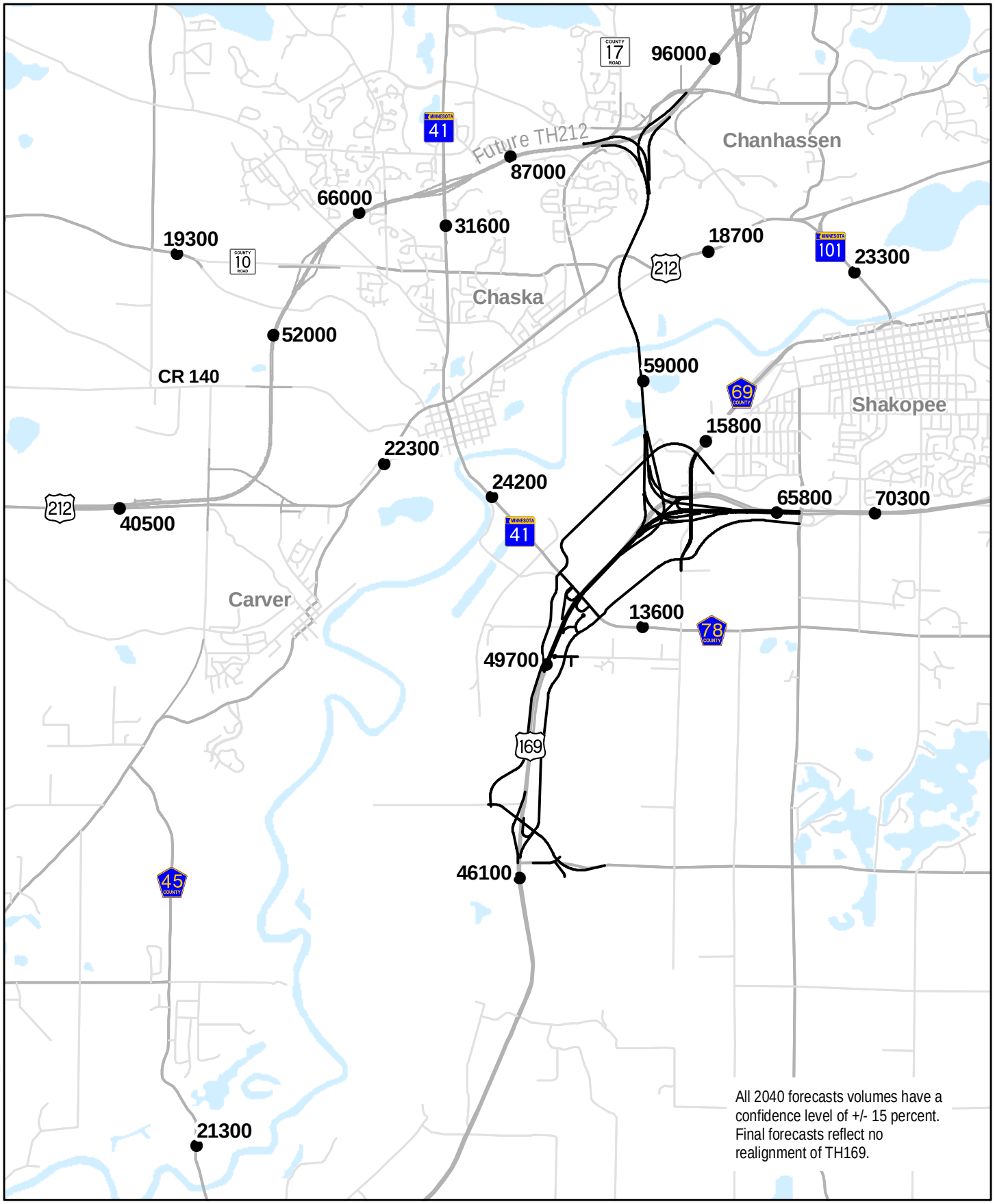
ALTERNATIVE E1A DAILY TRAFFIC VOLUMES (2040)

Figure 9

TH 41 RIVER CROSSING EIS

Mn/DOT

031106 4590



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ALTERNATIVE E2 DAILY TRAFFIC VOLUMES (2040)

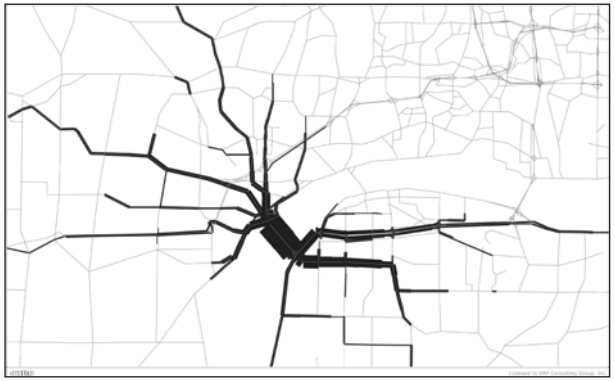
TH 41 RIVER CROSSING EIS

Mn/DOT

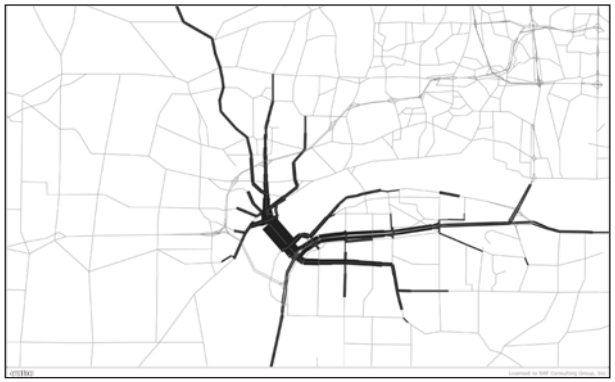
Figure 10

031106 4590

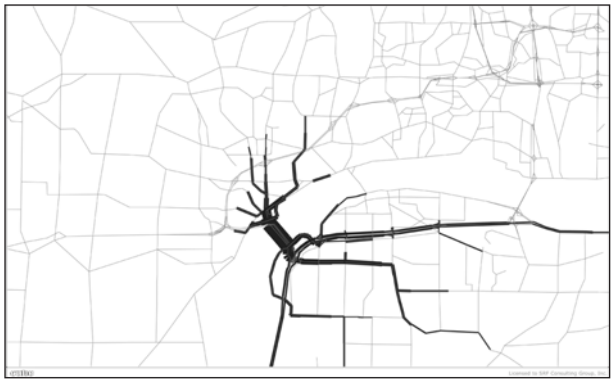
Alternative No Build: Old TH 41 Travelshed



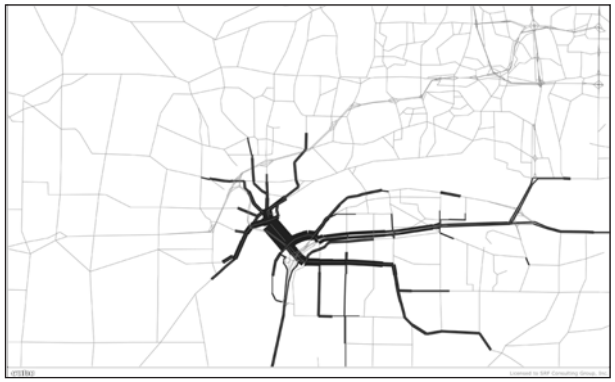
Alternative W2: Old TH 41 Travelshed



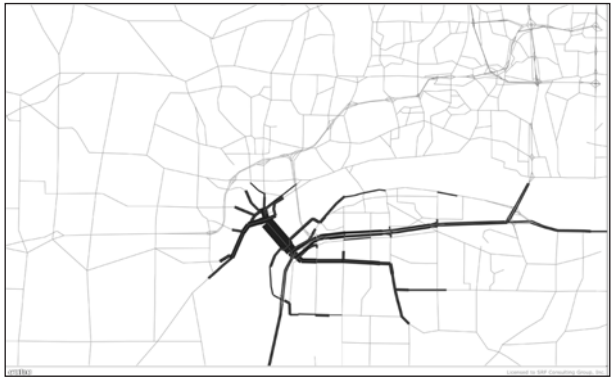
Alternative C2: Old TH 41 Travelshed



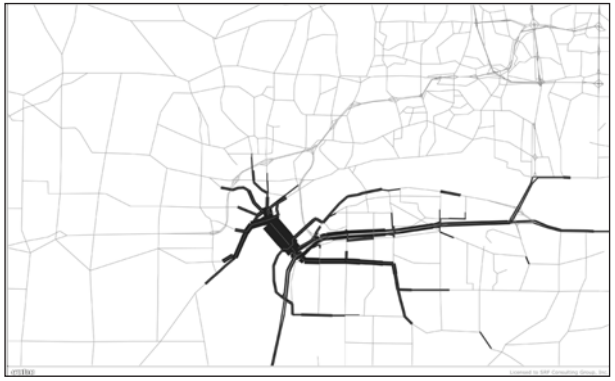
Alternative C2A: Old TH 41 Travelshed



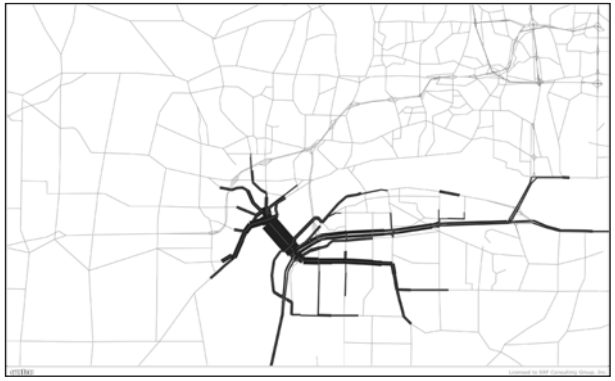
Alternative E1: Old TH 41 Travelshed



Alternative E1A: Old TH 41 Travelshed



Alternative E2: Old TH 41 Travelshed



Graphics/Support/4590/EIS Figures

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2040 TRAVELSHED — OLD TH 41

TH 41 RIVER CROSSING EIS

Mn/DOT

Figure 11

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2/23/06

Alternative W2: New TH 41 Travelshed

Alternative C2: New TH 41 Travelshed

Alternative C2A: New TH 41 Travelshed

Alternative E1: New TH 41 Travelshed

Alternative E1A: New TH 41 Travelshed

Alternative E2: New TH 41 Travelshed

Graphics/Support/4590/EIS Figures

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2040 TRAVELSHED — NEW TH 41

TH 41 RIVER CROSSING EIS

Mn/DOT

Figure 12

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Congestion

The regional model produces traffic volume forecasts for 24 time periods. Most (20 of 24) of these time periods are one hour in length; for the purpose of determining congestion duration, each time period was counted an "hour"

Congestion in the regional model is based on link capacity. While link capacity on arterials reflects the existence of signalized intersections, it does not account of individual intersection operations. Factors such as opposing traffic may produce congestion that is unrecognized by the regional model. This congestion duration analysis should be used as a comparative tool.

Directional hours of congestion at selected locations are displayed in Table 11. This measure counts the hours of congestion in each direction and adds them. One concurrent hour of congestion in both directions is counted as two directional hours of congestion. One hour of congestion in each direction at different times of the day is also counted as two hours of congestion.

A time period is considered congested if the volume in that time period exceeds a specific congestion threshold. The difference between time periods near that threshold being congested or uncongested may be within the acceptable variation of the model. Therefore, differences in congestion duration of one hour may not be significant.

The results in Table 11 show that Build alternatives would substantially reduce the number of hours of congestion on existing TH 41 and Highway 101.

TABLE 11
DIRECTIONAL HOURS OF CONGESTION

Alternative *Link Capacity*[1]	**Existing TH 41 N of Existing TH 212** *(900 vplph*[2]*)*	**Existing TH 41 Crossing** *(1200 vplph)*	**Highway 101 Crossing** *(1200 vplph)*
No Build	0	10	10
W-2	0	3	7
C-2	0	2	7
C-2A	0	3	7
E-1	0	2	6
E-1A	0	3	6
E-2	0	2	5

[1] Average link capacity, not directly considering intersection delay
[2] Vehicles-per-lane-per-hour

Regional Travel Effects

In addition to traffic volumes, travel demand models also forecast daily vehicle hours traveled (VHT) and daily vehicle miles traveled (VMT). These two elements provide indications of the overall system efficiency of alternatives.

The VMT/VHT analysis is limited to a smaller area where the background fluctuations in the regional model are small compared to the direct effects of the project. Reasons for background fluctuations include heavy congestion throughout the region, particularly in the 2040 network, lack of peak-spreading capabilities, and other structural characteristic of the regional model.

The study area for which results are reported consists of all of Carver and Scott Counties, and the portion of Hennepin County bounded by the Minnesota River, TH 169, and TH 7. This study area was selected to account for the majority of the travel shed of the TH 41 crossing and all river crossings whose volumes are affected by differing TH 41 alternatives.

TABLE 12
VEHICLE MILES/HOURS TRAVELED

Year	Alternative	Vehicle Miles Traveled		Vehicle Hours Traveled	
		Total VMT	*Increase/ (Decrease) over No-Build*	Total VHT	*Increase/ (Decrease) over No-Build*
2000	Existing	7,350,700		198,000	
2030	No-Build	14,051,000		410,100	
	W-2	14,177,000	*126,000*	400,400	*(9,700)*
	C-2	14,170,000	*119,000*	400,200	*(9,900)*
	C-2A	14,202,000	*151,000*	400,600	*(9,500)*
	E-1A	14,174,000	*123,000*	400,400	*(9,700)*
	E-1	14,160,000	*109,000*	399,900	*(10,200)*
	E-2	14,164,000	*113,000*	400,000	*(10,100)*
2040	No-Build	15,688,000		476,600	
	W-2	15,998,000	*310,000*	472,700	*(3,900)*
	C-2	16,002,000	*314,000*	473,100	*(3,500)*
	C-2A	16,042,000	*354,000*	473,500	*(3,100)*
	E-1A	15,997,000	*309,000*	473,000	*(3,600)*
	E-1	15,973,000	*285,000*	472,600	*(4,000)*
	E-2	15,980,000	*292,000*	472,600	*(4,000)*

All alternatives create a net increase of VMT and a net decrease in VHT compared to the No-Build. This is consistent with a project which creates a fundamental new link in the freeway system, improving overall system efficiency while encouraging longer trips across the Minnesota River.

Truck Volumes

Existing truck volumes on the TH 41 crossing are currently very high, in excess of 10 percent. This is a result of many factors, including the crossing's location at the urban fringe, and the relative isolation of the crossing.

Several factors are expected to cause truck percentages to decline in the future. As the developing fringe of the metropolitan area moves outward, agricultural transport, gravel mining and residential construction can be expected to decline in the Chaska area. Commuting trips would be expected to grow faster than truck traffic

The Metropolitan Council regional freight model was used to forecast truck traffic across the Minnesota River. This model is based on the *FHWA Quick Response Freight Manual*. The model was used to estimate the relative differences between alternatives and the total Minnesota River crossing truck traffic.

The primary inputs to the regional freight model include TAZ-level projections of employment by four classifications[1]. These projections were not available for this study; the existing classification of employment was assumed. As a result, the precision associated with these freight forecasts is less than that for auto travel demand forecasts.

The truck forecast results are listed in Table 13. Truck volumes on existing TH 41 remain stable between 2000 and 2040, but their portion of daily traffic falls from 14 percent to 7 percent. Under the Build alternatives, two thirds of the truck traffic is diverted to the new regional crossing. The new TH 41 crossing, with its higher volume, carries an unremarkable 5 percent of total traffic as trucks. Truck volumes on TH 169 and Highway 101 are not significantly different among either the No-Build or Build alternatives.

[1] (1)Agriculture, Mining, and Contruction, (2) Manufacturing, Transportation, Communication, Utilites, and Wholesale Trade , (3) Office and Services, (4) Retail Trade

TABLE 13
MINNESOTA RIVER CROSSING 2040 TRUCK FORECASTS

Alternative			TH 41	New TH 41	Highway 101[1]	TH 169	Total
2000	Existing	Trucks	2,500			3,640	6,000
		Pct. of ADT	14%			7%	6%
2040	No-Build	Trucks	2,700		1,400	8,900	13,000
		Pct. of ADT	7%		4%	6%	6%
	W-2	Trucks	900	2,360	1,500	8,700	13,000
		Pct. of ADT	4%	5%	5%	6%	6%
	C-2	Trucks	700	2,350	1,500	8,700	13,000
		Pct. of ADT	3%	5%	5%	6%	6%
	C-2A	Trucks	800	2,210	1,300	9,100	13,000
		Pct. of ADT	3%	5%	4%	7%	6%
	E-1	Trucks	700	3,650	1,300	8,300	14,000
		Pct. of ADT	3%	7%	5%	6%	6%
	E-1A	Trucks	700	4,130	1,300	8,200	14,000
		Pct. of ADT	3%	7%	5%	6%	6%
	E-2	Trucks	700	4,040	1,000	8,100	14,000
		Pct. of ADT	3%	7%	4%	6%	6%

Sensitivity Tests

A sensitivity test was conducted to determine whether congestion in downtown Chaska and on existing TH 41 would be significantly relieved if an interchange was constructed between Alternative E-1 and existing TH 212. The test showed that an additional 8,000 vehicles per day would use the new TH 41 river crossing and that half of that traffic would be diversion from the existing TH 41 river crossing, reducing volume to 19,500 per day (similar to existing levels). Additionally, the interchange would provide an additional pathway for traffic to access new TH 212 from the downtown Chaska area; Alternative E-1 would carry an additional 10,000 vehicles per day north of the existing TH 212 interchange that would not be river crossing trips.

A second sensitivity test was performed on Alternative E-1A and the No-Build to determine what the effect on the project area would be if TH 169 from Old Shakopee Road to I-494[2] were expanded to six lanes. These two alternatives were selected to evaluate the need for a new TH 41 crossing with the TH 169 expansion (No-Build) and the need for a TH 169 expansion with the construction of the alternative located closest to TH 169 (E-1A). The results of this test are listed in Table 14. Additional capacity on TH 169 has no effect on demand for existing TH 41 on

[1] No commercial vehicle counts at the HIGHWAY 101 crossing were available for this study. No validation was possible for HIGHWAY 101.
[2] This test only considers expansion of TH 169 north of Old Shakopee Road. The TH 169 river crossing is currently six lanes and is assumed in that configuration under all alternatives.

either alternative. Demand on the TH 169 crossing is raised by 10,000 under the No-Build and 16,000 under Alternative A. Demand on the new TH 41 crossing is similar, with 3,000 fewer trips per day with additional capacity on TH 169. It appears that six lanes on TH 169 will not relieve TH 41 or Highway 101 significantly, and while the volume on Alternative E-1A is lower with six lanes on TH 169, it does not lower the volume to the level of alternatives W-2, C-2, or C-2A.

TABLE 14
TH 169 SIX LANE SENSITIVITY TEST

Crossing	2000	2040			
		TH 169: Four Lanes		TH 169: Six Lanes	
		No-Build	E-1A	No-Build	E-1A
CSAH 9/45	6,400	25,100	21,300	24,900	21,200
TH 41	18,500	36,500	25,100	37,100	25,000
New TH 41			56,000		53,000
Highway 101	21,400	34,000	24,300	35,000	23,600
TH 169	54,000	141,000	129,000	151,000	145,000
I-35W	102,000	133,000	132,000	130,000	130,000
Total	202,300	369,600	387,700	378,000	397,000
TH 169 between Pioneer Trail and Anderson Lakes Parkway	56,000	111,000	108,000	131,000	128,000
TH 169 between Old Shakopee Road and Pioneer Trail	55,000	127,000	120,000	146,000	139,000

A third sensitivity test was performed on the No-Build alternative, Alternative W-2 and Alternative E-2 to assess regional travel efficiency under flood conditions. These alternatives are located farthest to the east and west and can be used to set a reasonable range for all Build alternatives for the change in daily VMT/VHT under flood conditions. To model flood conditions, the river crossings at CSAH 9/45, existing TH 41, and Highway 101 were removed. Trip redistribution was not assumed to occur, as flood events are temporary conditions that have a limited effect on travelers' destination choice options. Table 15 summarizes VMT and VHT data for the modeled alternatives under normal weekday conditions and flood conditions.

Compared to normal weekday conditions, VMT increases 6 percent and VHT increases 8 percent for the No-Build alternative during a flood event. Travelers are forced to drive farther and longer during a flood under No-Build conditions. For the Build alternatives, VMT increases 2 percent and VHT increases 2 to 3 percent during a flood event as compared to a normal weekday. Floods would continue to effect travel on the highway network under Build conditions, but the effect would be substantially less than under No-Build conditions.

Among alternatives under flood conditions, Table 15 also shows the Build alternatives reduce both the vehicle-miles and vehicle-hours traveled as compared to No-Build. This is noteworthy because under normal weekday conditions, the opposite is true for VMT (see Table 12, VMT is higher for Build alternatives as compared to No-Build for normal weekdays). In addition, VHT savings for Build alternatives as compared to No-Build are eight times larger for flood conditions as compared to normal weekday conditions. Differences among Build alternatives under flood conditions are one-half percent or less.

TABLE 15
COMPARISON OF 2040 DAILY VEHICLE MILES AND VEHICLE HOURS TRAVELED DURING NORMAL WEEKDAY AND FLOOD EVENT CONDITIONS

Alternative		Normal Weekday	Flood Event	*Increase/ (Decrease) over Normal Weekday*	*Increase/ (Decrease) over No-Build*
VMT	**No-Build**	15,688,000	16,633,000	*945,000*	
	W-2	15,998,000	16,346,600	*348,600*	*(286,400)*
	E-2	15,980,000	16,261,300	*281,300*	*(371,700)*
VHT	**No-Build**	476,600	516,700	*40,100*	
	W-2	472,700	485,400	*12,700*	*(31,300)*
	E-2	472,600	483,800	*11,200*	*(32,900)*

cc: Brian Isaacson, Mn/DOT
Brian Vollum. Mn/DOT
Lisa Freese, Mn/DOT
Mark Filipi, Metropolitan Council

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING:
A FUTURE US 169/US 212 REGIONAL FREEWAY CONNECTION

TECHNICAL MEMORANDUM

TH 41 TRAFFIC STUDY

MARCH 12, 2003

PREPARED BY
SRF CONSULTING GROUP, INC.

SRF NO: 0024590

SRF No. 0024590

DRAFT MEMORANDUM

TO: Brian Isaacson
MINNESOTA DEPARTMENT OF TRANSPORTATION

FROM: Dave Montebello, P.E., Principal
Renae Cornelius, Engineer

DATE: March 12, 2003

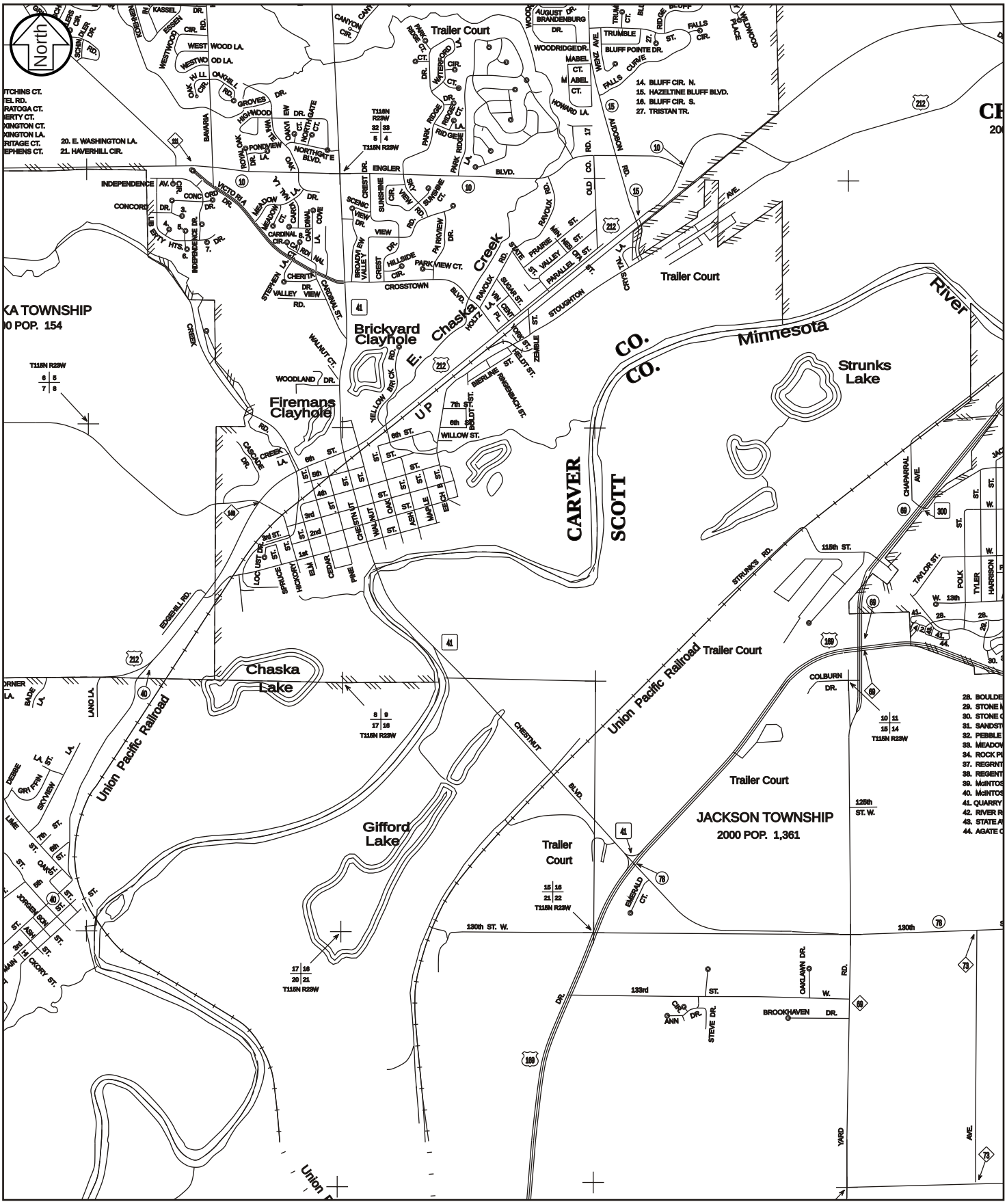
SUBJECT: TH 41 TRAFFIC STUDY

Introduction

The Minnesota Department of Transportation requested a review of traffic operation issues on TH 41 from US Highway 212 in the City of Chaska to US Highway 169 (see Figure 1:Project Location). An operations analysis was conducted for the six key intersections along TH 41 in downtown Chaska, as well as the intersection of TH 41/US Highway 169 in Scott County. The primary concern along this corridor is queuing at the intersections of TH 41/US Highway 212 and TH 41/US Highway 169. The following memorandum includes an evaluation of existing volumes on the two major river crossings at TH 41 and Highway 101, a traffic operations analysis for TH 41 during the a.m. and p.m. peak hours for existing conditions and during the p.m. peak hour for future year 2030 conditions, and a three-year crash analysis.

Existing Volumes

Daily and peak hour traffic volumes were collected for TH 41 and Highway 101 in October, 2002. As shown in Table 1, the directional peak hour splits were reviewed and results show that the a.m. peak hour distribution favored the northbound traffic for both TH 41 and Highway 101. The peak hour distribution for the p.m. peak hour favored the northbound traffic at TH 41; however it favored the southbound traffic at Highway 101.



SRF Consulting Group, Inc.

0024590
March 2003

PROJECT LOCATION

TH 41 TRAFFIC STUDY
Minnesota Department of Transportation

Figure 1

Table 1
Directional Splits/Percent Peak Hour

Location	Directional Splits		Percent Peak Hour	
	AM	PM	AM	PM
TH 41	61/39	55/45	7.7	8.3
Highway 101	66/34	32/68	9.3	10.0

XX/XX = northbound traffic/southbound traffic

Twenty-four hour volume profiles were developed for Highway 41 and Highway 101 to compare total volumes and peaking as well as to compare northbound to southbound traffic (Figures 2 and 3). While each of the roadways has a commuter pattern, the peaks are significantly greater on Highway 101 versus TH 41. For example, noon volumes on TH 41 are near 700 vehicles per hour as compared to a peak hour volume of 1,350 vehicles per hour (a 68 percent change). On Highway 101 values range from approximately 1,000 vehicles per hour at noon to over 2,000 vehicles per hour in the p.m. peak hour (a 100 percent change).

Figure 2
TH 41 Volume Profile

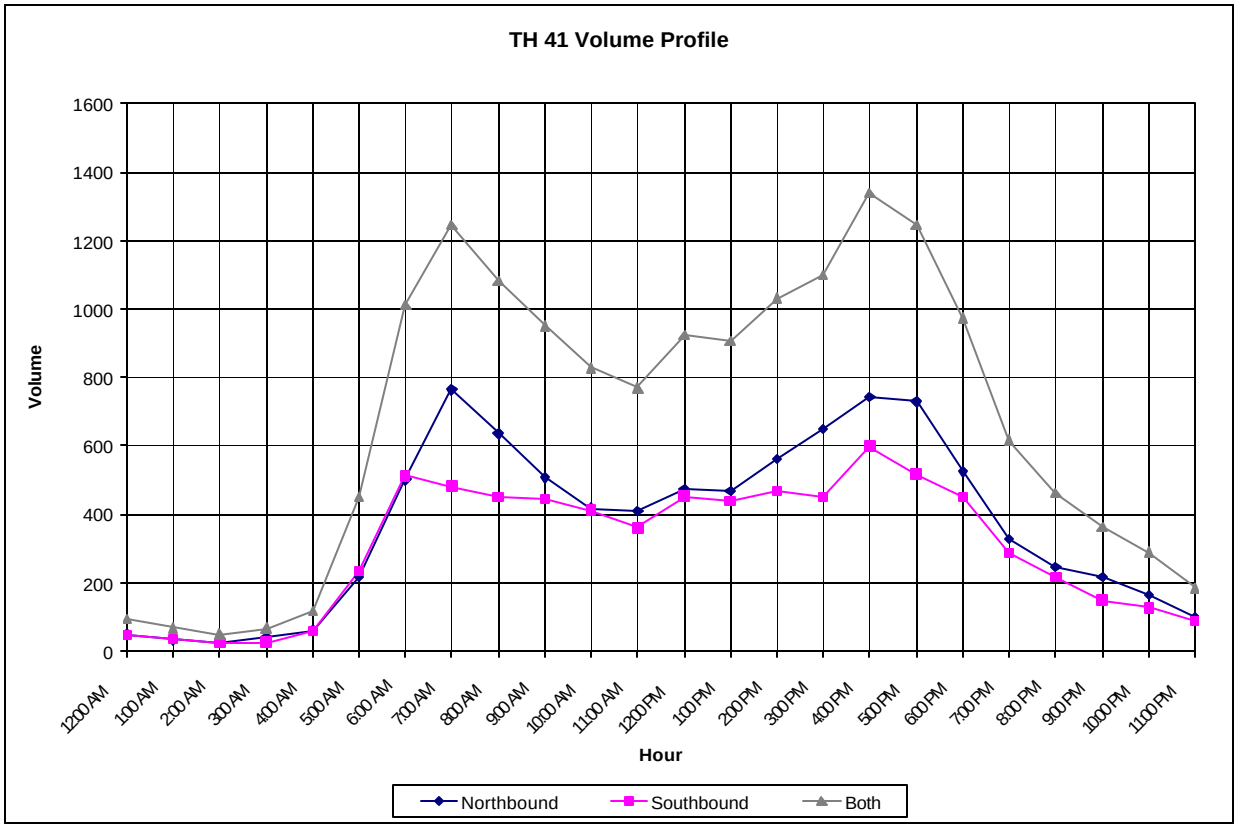
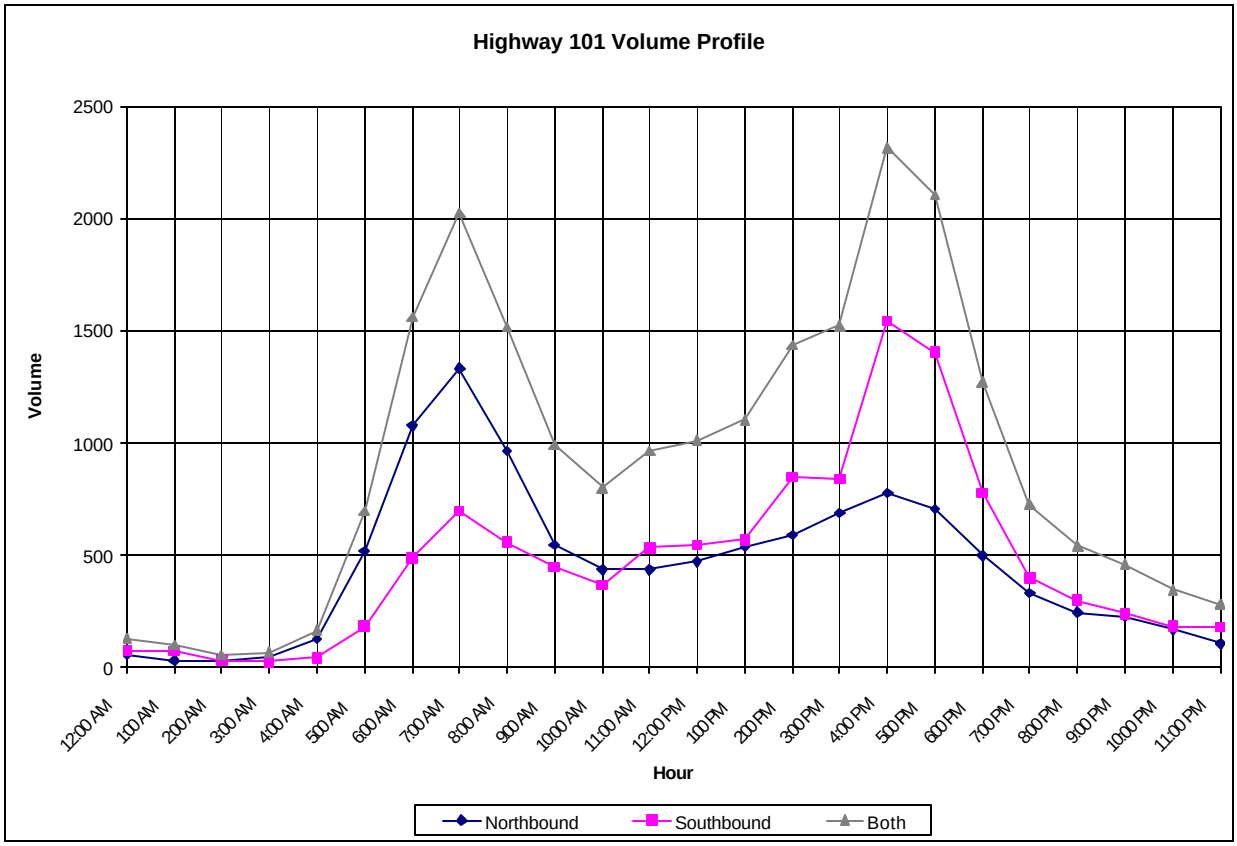


Figure 3
Highway 101 Volume Profile



Truck Volumes

Truck counts were conducted for the a.m. and p.m. peak hours by SRF staff in October at the intersections of Highway 101/US Highway 212, Highway 101/CSAH 69, TH 41/US Highway 212 and TH 41/US Highway 169. The area surrounding the river crossings at TH 41 and Highway 101 has many businesses that utilize heavy trucks. As a result, the percent of trucks on the major roadways in the area is much higher than the average of a typical trunk highway. Nineteen percent of the 16,000 vehicles that travel TH 41 on a daily basis are trucks. A typical trunk highway has an average of eight to 12 percent trucks. Table 1 in the Appendix shows the percent of heavy vehicles that travel along TH 41 and Highway 101, as well as their major cross streets during the peak hours.

Existing Conditions

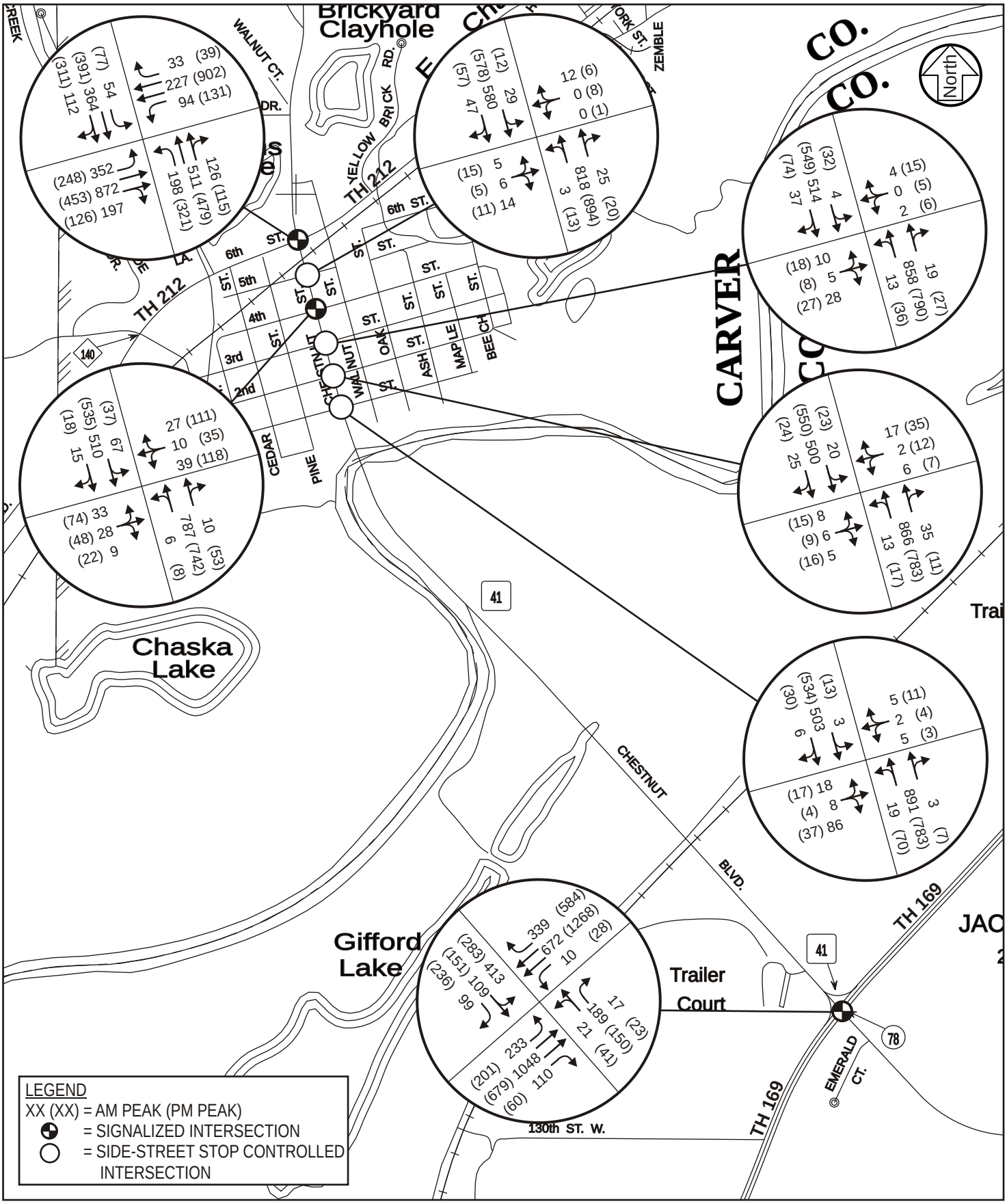
A traffic operations analysis was included for TH 41 from US Highway 212 to US Highway 169 to analyze existing traffic operations in the downtown Chaska area. This analysis will be used to help assess the geometry of the TH 41 bridge which is scheduled for replacement in 2005. As part of this analysis, existing conditions were analyzed at the following key intersections:

- TH 41 and US Highway 212
- TH 41 and 5th Street
- TH 41 and 4th Street
- TH 41 and 3rd Street
- TH 41 and 2nd Street
- TH 41 and 1st Street
- TH 41 and US Highway 169

Peak hour turning movement counts were collected by SRF Consulting Group, Inc. in October 2002, at all key intersections, except for the intersection of TH 41/US Highway 169. This intersection was counted by MnDOT in July 2001. Existing geometrics and peak hour traffic volumes for the key intersections are shown in Figure 4. Current traffic controls include signalization at the intersections of TH 41/US Highway 212, TH 41/4th Street and TH 41/US Highway 169; and side-street stop control at the intersections of TH 41/5th Street, TH 41/3rd Street, TH 41/2nd Street and TH 41/1st Street.

A traffic operations analysis was conducted for the a.m. and p.m. peak hours at each of the key intersections to determine how traffic currently operates within the project area. All signalized intersections were analyzed using Synchro, with SimTraffic simulation software. The unsignalized intersections were analyzed using Highway Capacity Software. Capacity analysis results identify a Level of Service (LOS), which indicates the quality of traffic flow through an intersection. Intersections are given a ranking from LOS A through LOS F. LOS A indicates the best traffic operation, with vehicles experiencing minimal delays. LOS F indicates an intersection where demand exceeds capacity, or a breakdown of traffic flow. LOS A through D are generally considered acceptable by drivers. LOS E indicates that an intersection is operating at, or very near its capacity and that vehicles experience substantial delays.

Traffic operations at an unsignalized intersection with side-street stop control are analyzed in two different ways. First, consideration is given to the overall intersection level of service. This takes into account the total volume of the intersection and the capability of the intersection to support that volume. Second, consideration is given to the level of service on the side-street approach. Since the mainline does not stop at an intersection that has side-street stop control, a majority of intersection delay can be attributed to the side-street approaches. It is typical of intersections with high mainline traffic volumes to experience significant levels of delay on the side-street approaches (poor levels of service),



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EXISTING PEAK HOUR TRAFFIC VOLUMES

TH 41 TRAFFIC STUDY
Minnesota Department of Transportation

Figure 4

but an acceptable overall intersection level of service during the peak periods. However, as the side-street delay increases, motorists tend to accept smaller gaps and/or take greater risks. Aggressive actions taken by drivers experiencing long delays can lead to safety problems.

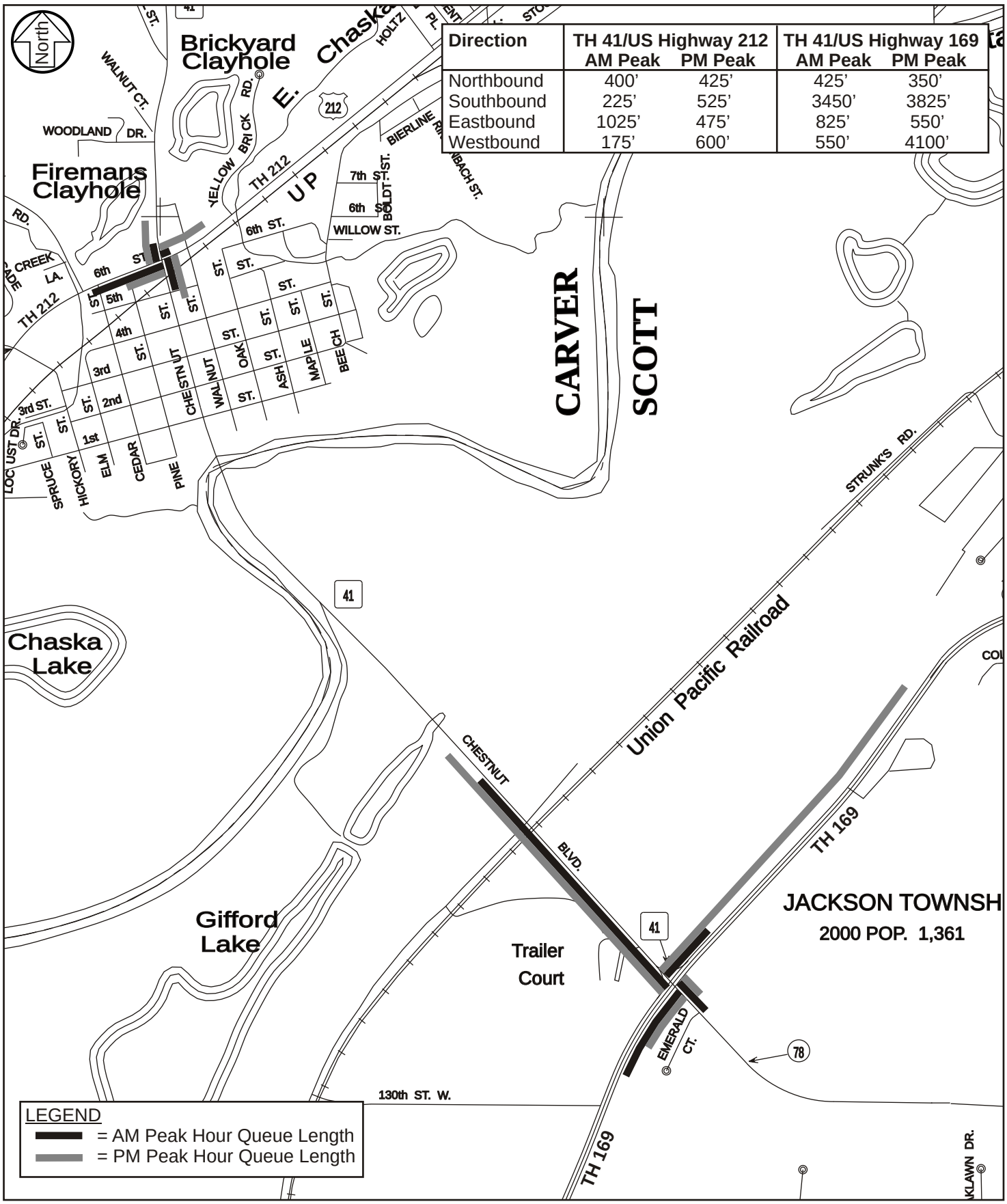
To complete the operations analysis, a traffic model was developed using existing signal timing, volumes and geometrics for the a.m. and p.m. peak hours. It is important to replicate existing field conditions in the traffic model to assess the changes that will be produced with proposed improvements. Field observations concluded that pedestrian activity was light for both peak hours, and as a result it has little impact on the operation of TH 41. On-street parking exists on the east side of TH 41 between 1st Street and 5th Street in downtown Chaska. Observations concluded that parking maneuvers on TH 41 are minimal and have little impact on operations. Truck percents were determined by movement and used in the model to accurately replicate the distribution of trucks and their impacts to specific movements.

Results of the analysis shown in Table 3 indicate that all key intersections currently operate at an acceptable LOS D or better during the a.m. and p.m. peak hours, with existing traffic controls and geometric layout, except for the intersections of TH 41/US Highway 212 and TH 41/US Highway 169. TH 41/US Highway 212 currently operates at LOS E during the p.m. peak hour. The intersection of TH 41/US Highway 169 currently operates at LOS F for both peak hours. The poor level of service at these intersections is due to the high volume demand and a high percent of trucks utilizing these intersections. The start-up time for a stopped truck is much greater then that of a passenger vehicle which creates a greater amount of lost green time at the intersections. This in turn creates queuing for the approaches with high demand. Queuing was observed in the field and was closely replicated in the model. The approximate queue lengths determined by the model are shown Table 4 as well as in Figure 5.

Table 3
Existing Capacity Analysis
Level of Service Results

Intersection – TH 41 and	**Level of Service**	
	A.M. Peak	**P.M. Peak**
US Highway 212	D	E
5th Street*	A/C	A/E
4th Street	A	B
3rd Street*	A/C	A/C
2nd Street*	A/C	A/C
1st Street*	A/C	A/C
US Highway 169	F	F

* Indicates an unsignalized intersection. The overall LOS is shown followed by the worst approach LOS.



Direction	TH 41/US Highway 212		TH 41/US Highway 169	
	AM Peak	PM Peak	AM Peak	PM Peak
Northbound	400’	425’	425’	350’
Southbound	225’	525’	3450’	3825’
Eastbound	1025’	475’	825’	550’
Westbound	175’	600’	550’	4100’

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EXISTING P.M. PEAK HOUR QUEUE LENGTHS

TH 41 TRAFFIC STUDY
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Figure 5

Future Traffic Operations Analysis

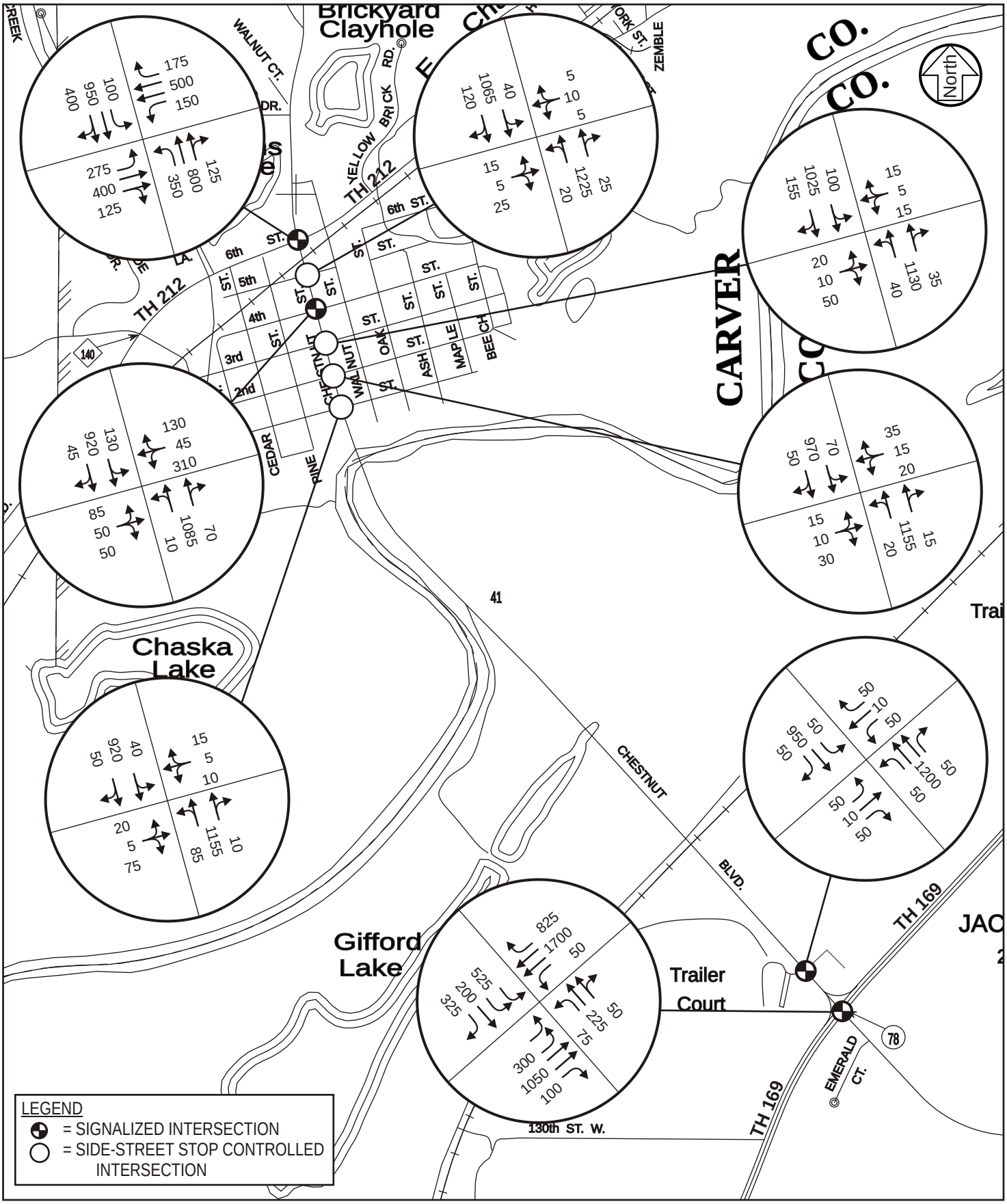
To determine how well the existing roadway system will accommodate future traffic volumes under the no-build condition, an intersection operations analysis was completed for year 2030. The purpose of this analysis is to determine if the two-lane bridge south of 1st Street on TH 41 will need to be expanded to four-lanes for future conditions. All key intersections were analyzed with existing geometrics and traffic control, except for the intersection of TH 41/US Highway 169. Improvements at this intersection are programmed for 2004. These improvements are shown in Figure 6. For purposes of this analysis, it was assumed that signal timing at existing signalized intersections would be updated before year 2030. All intersections were analyzed using Synchro, with SimTraffic traffic simulation software to model the intersection operations. The 2030 no-build level of service results are shown in Table 4. Year 2030 no-build geometrics and p.m. peak hour traffic volumes for the key intersections are shown in Figure 6.

Table 4
Year 2030 No-Build Capacity Analysis
Level of Service Results

Intersection – TH 41 and	Level of Service P.M. Peak
US Highway 212	F
5th Street*	F/F(1)
4th Street	F(1)
3rd Street*	C/F(1)
2nd Street*	C/F(1)
1st Street*	A/D
North Service Road	A
US Highway 169	F

* Indicates an unsignalized intersection. The overall LOS is shown followed by the worst approach LOS.
(1) Poor level of service at these intersections is due to queuing at the intersection of TH 41/US Highway 212 which extends through downtown Chaska on TH 41 and does not provide gaps for vehicles on the side streets.

Results from this analysis indicate that most intersections will operate at an unacceptable LOS E or worse during the p.m. peak hour, with the exception of the intersections of TH 41/3rd Street, TH 41/2nd Street and TH 41/1st Street, which will operate at an overall LOS C or better. The poor level of service at the intersection of TH 41/US Highway 212 is due to extensive queuing that occurs for northbound and southbound vehicles. The northbound queue extends through downtown Chaska to 2nd Street and does not provide gaps for vehicles trying to access TH 41 from the side streets. The long queues result in an unacceptable LOS F for the side streets. In addition, southbound



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YEAR 2030 NO BUILD PM PEAK HOUR TRAFFIC VOLUMES

TH 41 TRAFFIC STUDY
Minnesota Department of Transportation

Figure 6

traffic at TH 41/4th Street has problems once a vehicle tries to make a left turn onto 4th Street across the northbound queuing traffic. The through and left-turning vehicles share a lane at this intersection which causes queuing for the through traffic on TH 41 to the north and backs up into the intersection of TH 41/US Highway 212. The intersection of TH 41/ US Highway 169 operates at a LOS F due to the high volume of westbound vehicles.

In addition to evaluating future operations at the major intersections along TH 41, an analysis was also conducted to determine operational issues at the bridge in downtown Chaska. In 2006, Mn/DOT will replace the existing bridge due to its poor physical condition; and the Department is seeking guidance on the number of lanes that the future bridge should be. Operationally, a two-lane bridge will be sufficient because traffic is prevented from getting to the bridge by the bottleneck at the intersection of TH 41 and US Highway 212. If more traffic were able to get through the TH 41 and US Highway 212 intersection, a two-lane bridge would start to have operational problems once southbound traffic volumes reached 1,500 during the peak hour. Future volumes in 2030 are currently estimated at 1,000 vehicles during the peak hour due to the constraints at TH 41 and US Highway 212. Although operational issues are not as significant as anticipated, there are valid reasons for constructing a four-lane bridge. The rational for a four-lane bridge includes the following:

- For continuity reasons, it makes sense to continue the four-lane all the way through Chaska. The downtown area has four lanes of traffic and the backwater bridge further to the south also accommodates four lanes of traffic. Proposed improvements at the TH 41 and US Highway 169 will also accommodate more than four lanes of traffic.

- Construction for replacing the existing bridge will be significantly easier to stage (drivers can continue to use TH 41) if a four-lane bridge built. During construction of a four-lane bridge the roadway will be able to remain open; traffic can be shifted to one-lane in each direction while the construction is occurring. Construction of a two-lane bridge does not allow for this shifting of traffic. Under this scenario, drivers are forced to divert to a different roadway during construction.

- Construction of a four-lane bridge facility allows for better pedestrian and bicycle accommodations and connections to regional trails. It should be noted that an entrance to part of the state's regional trail system is just south of the bridge.

Crash Analysis

In conjunction with level of service analysis, a crash analysis was conducted to determine how many crashes occurred along the TH 41 corridor for a three-year period between January 1, 1999 and December 31, 2001. A segment crash analysis was conducted for TH 41 from US Highway 212 to the Minnesota River bridge, and also from the Minnesota River bridge to US Highway 169. In addition, an

intersection analysis was conducted for the intersections of TH 41/US Highway 212 and TH 41/US Highway 169. Due to extended queues, it was assumed, that all crashes within 1,000 feet of the intersection were a result of operations at the intersection and were included in the intersection crash analysis. The intersection of TH 41/US Highway 169 experiences significant queuing that extends beyond 1,000 feet on southbound TH 41 and westbound US Highway 169, during the peak hours. A significant number of rear-end crashes occurred outside this 1,000-foot influence area for both of these approaches (approximately 3,000 feet). It was assumed that many of the crashes in this segment are due to the queuing, and therefore were assumed to be a result of the operations from the intersection. As a result, crashes within the 1,000-foot influence area as well as rear-end crashes beyond the 1,000-foot influence area were analyzed. The results that include the additional crashes are shown in parenthesis in Table 4.

Table 4 shows a comparison of the calculated crash and severity rates to the Hennepin County average segment and intersection rates for the West Metro area. All calculated crash and severity rates are higher then the Hennepin County average rates. It should be noted that the average severity rate is typically twice the average crash rate, assuming that there is an even distribution of all crashes severities. Since the calculated severity rate is less then twice the calculated crash rate, it can be concluded that the crash severities are not evenly distributed and a high percent of the crashes are property damage crashes. The high percent of property damage crashes is most likely due to rear-end crashes caused by slow moving vehicles in the queues.

As shown in Table 5, additional analysis was conducted for the previously analyzed intersections and segments based on crash severity. The results indicate that property damage crashes account for approximately 73 percent of all segment crashes, approximately 85 percent of the crashes at the intersection of TH 41/US Highway 212, and approximately 71 percent of the crashes at the intersection of TH 41/US Highway 169. The remaining crashes were injury type crashes. No fatalities occurred within the analyzed segments or intersections.

Additional analysis was conducted for the previously analyzed intersections and segments based on crash type. As shown in Table 6, the majority of crashes that occurred at the intersections and within the segment from the Minnesota River bridge to US Highway 169 were rear end crashes. The segment from US Highway 212 to the Minnesota River bridge is a downtown area that has many side streets that create conflict points, and therefore create a wider range of crash types.

Table 4
Crash and Severity Rates Comparison (1999-2001)
TH 41

Facility Type	Crash Rate[2]	Severity Rate
Segment Crashes (including intersections)		
TH 41: US Highway 212 to Minnesota River Bridge (4-Lane)	8.5	15.3
Urban 4-Lane Undivided (West Metro)	7.0	13.7
TH 41: Minnesota River Bridge to US Highway 169 (2-Lane)	2.6	4.5
Rural 2-Lane ADT>8000 (West Metro)	1.6	3.3
Intersections Crashes		
TH 41/US Highway 212	1.5	2.1
Signalized with high volume; low speed (West Metro)	0.6	1.2
TH 41/US Highway 169[1]	2.4 (3.1)	4.4 (5.7)
Signalized with high volume; high speed (West Metro)	0.6	1.3

[1]SB and WB queues at TH 41/US Highway 169 extend past the assumed 1,000' influence area. Values in parentheses include rear end crashes that occurred outside the influence area, but were a result of queuing from the intersection.

[2]Crash rate reported per Million Vehicle Miles (MVM) for segment crashes and per Million Vehicles (MV) for the intersection crashes.

Table 5
Crash Severity Summary (1999-2001)
TH 41

	Segment Crashes on TH 41			
	US Highway 212 to Downtown Chaska		Downtown Chaska to US Highway 169	
Crash Severity Codes	**Frequency**	**Percent**	**Frequency**	**Percent**
Fatal	0	0.0	0	0.0
Incapacitating Injury	1	1.3	0	0.0
Non-incapacitating Injury	3	4.0	6	7.1
Possible Injury	16	21.3	16	19.0
Property Damage	55	73.3	62	73.8
Unknown	0	0.0	0	0.0
Total	**75**	**100**	**84**	**100**

	Intersection Crashes – TH 41 and			
	US Highway 212		US Highway 169*	
Crash Severity Codes	**Frequency**	**Percent**	**Frequency**	**Percent**
Fatal	0	0.0	0 (0)	0 (0)
Incapacitating Injury	0	0.0	1 (1)	1 (1)
Non-incapacitating Injury	2	3.6	6 (7)	6 (5)
Possible Injury	6	10.9	24 (32)	22 (23)
Property Damage	47	85.5	76 (101)	71 (71)
Unknown	0	0.0	0 (0)	0 (0)
Total	**55**	**100**	**107 (141)**	**100 (100)**

* SB and WB queues at TH 41/US Highway 169 extend past the assumed 1,000' influence area. Values in parentheses include rear end crashes that occurred outside the influence area, but were a result of queuing from the intersection.

Table 6
Crash Type Summary (1999-2001)
TH 41

	Segment Crashes on TH 41			
	US Highway 212 to Downtown Chaska		Downtown Chaska to US Highway 169	
Crash Diagram Codes	**Frequency**	**Percent**	**Frequency**	**Percent**
Read End	16	21.3	37	44.0
Sideswipe - Same Direction	6	8.0	5	6.0
Left Turn onto Oncoming Traffic	11	14.7	11	13.1
Ran off Road - Left Side	0	0.0	1	1.2
Right Angle	27	36.0	13	15.5
Right Turn into Cross-Street Traffic	0	0.0	0	0.0
Ran off Road - Right Side	0	0.0	2	2.4
Head On	0	0.0	4	4.8
Sideswipe - Opposite Direction	3	4.0	3	3.6
Other	2	2.7	2	2.4
Unknown	8	10.7	1	1.2
Not Applicable	2	2.7	5	6.0
Total	**75**	**100**	**84**	**100**

	Intersection Crashes at TH 41 and			
	US Highway 212		US Highway 169*	
Crash Diagram Codes	**Frequency**	**Percent**	**Frequency**	**Percent**
Read End	23	41.8	52 (86)	48 (61)
Sideswipe - Same Direction	3	5.5	15 (15)	14 (11)
Left Turn onto Oncoming Traffic	15	27.3	13 (13)	12 (9)
Ran off Road - Left Side	1	1.8	3 (3)	3 (2)
Right Angle	2	3.6	12 (12)	11 (9)
Right Turn into Cross-Street Traffic	1	1.8	2 (2)	2 (1)
Ran off Road - Right Side	1	1.8	2 (2)	2 (1)
Head On	1	1.8	0 (0)	0 (0)
Sideswipe - Opposite Direction	0	0.0	0 (0)	0 (0)
Other	0	0.0	1 (1)	1 (1)
Unknown	5	9.1	4 (4)	4 (3)
Not Applicable	3	5.5	3 (3)	3 (2)
Total	**55**	**100**	**107 (141)**	**100 (100)**

* SB and WB queues at TH 41/US Highway 169 extend past the assumed 1,000' influence area. Values in parentheses include rear end crashes that occurred outside the influence area, but were a result of queuing from the intersection.

Appendix

Table 1
Trucks as a Percent of Peak Hour Traffic

Location	Northbound/Southbound Percent AM Peak	Northbound/Southbound Percent PM Peak
TH 41		
North of US Highway 212	10	5
Between US Highway 212 and US Highway 169	16	9
South of US Highway 169 (CSAH 78)	23	21
Highway 101		
Between US Highway 212 and US Highway 69	8	7

Location	Eastbound/Westbound Percent AM Peak	Eastbound/Westbound Percent PM Peak
US Highway 212		
West of TH 41	13	6
Between TH 41 and Highway 101	17	6
US Highway 169		
West of TH 41	15	18
East of TH 41	15	14
TH 69		
West of Highway 101	9	2
East of Highway 101	3	2

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING:
A FUTURE US 169/US 212 REGIONAL FREEWAY CONNECTION

TECHNICAL MEMORANDUM

TH 41 TRAFFIC STUDY UPDATE

APRIL 5, 2006

PREPARED BY
SRF CONSULTING GROUP, INC.

SRF NO: 0024590

SRF No. 0024590

MEMORANDUM

TO: Lisa Freese, Area Manager
Lynn Clarkowski, P.E., Project Engineer
MINNESOTA DEPARTMENT OF TRANSPORTATION

FROM: Dave Montebello, P.E., Principal
Renae Cornelius, P.E., Senior Engineer

DATE: April 5, 2006

SUBJECT: TH 41 TRAFFIC STUDY UPDATE

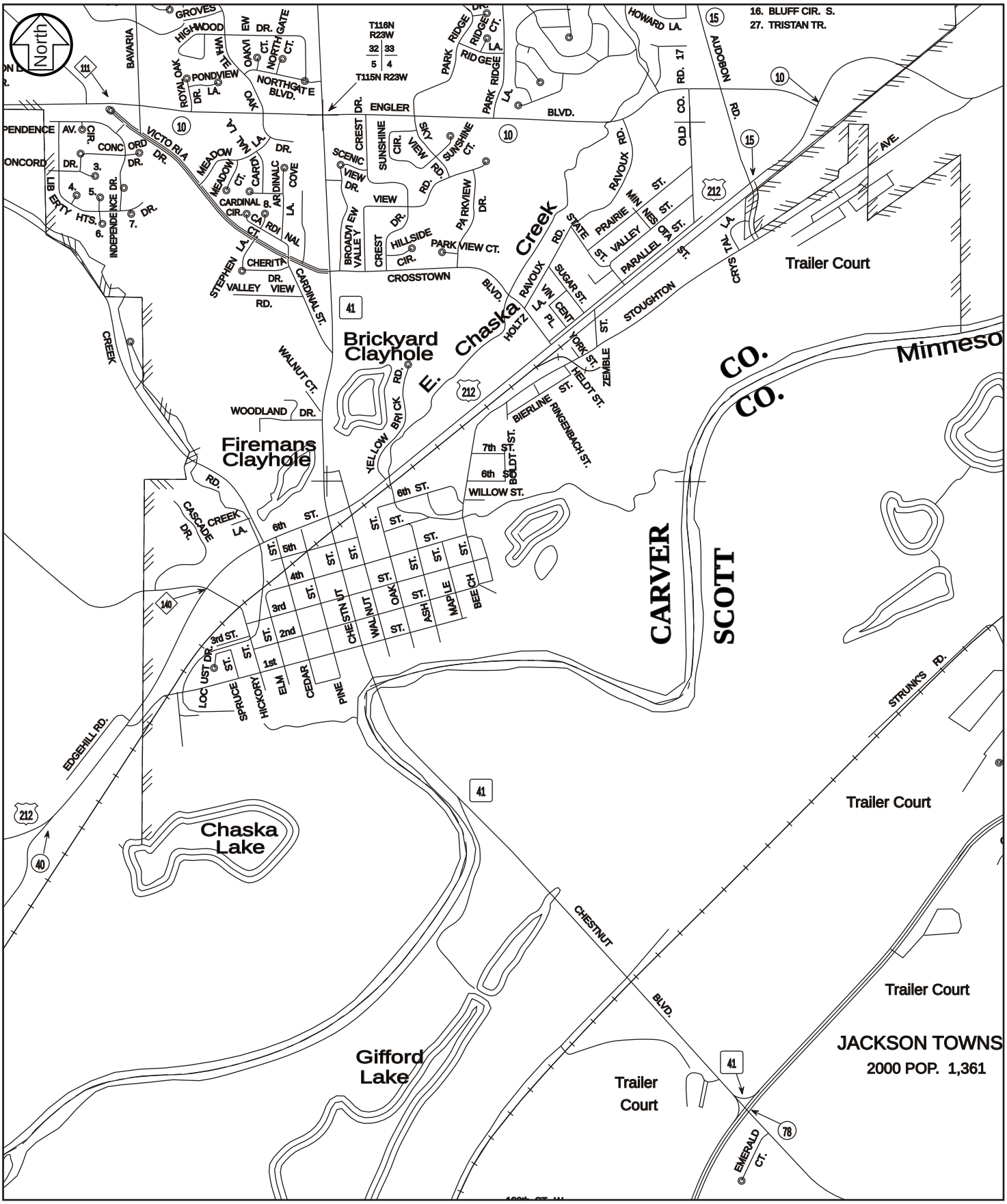
Introduction

The Minnesota Department of Transportation has requested a review of traffic operations issues on existing TH 41 from Engler Boulevard to the river crossing in the City of Chaska (see Figure 1:Project Location). The main concern is how the proposed TH 41 river crossing will impact traffic at the local intersections in downtown Chaska. This study includes an evaluation of existing volumes on existing TH 41, a traffic operations analysis for existing TH 41 during the a.m. and p.m. peak hours for existing conditions and a future evaluation of impacts of the proposed TH 41 river crossing.

Existing Conditions

A traffic operations analysis was included for TH 41 from Engler Boulevard to the river crossing, to analyze existing traffic operations in the downtown Chaska area. As part of this analysis, existing conditions were analyzed at the following key intersections:

- TH 41 and Engler Boulevard
- TH 41 and Victoria Drive
- TH 41 and existing TH 212
- TH 41 and 5th Street
- TH 41 and 4th Street
- TH 41 and 3rd Street
- TH 41 and 2nd Street
- TH 41 and 1st Street
- TH 41 and TH 169



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April 2006

PROJECT LOCATION

TH 41 TRAFFIC STUDY
Minnesota Department of Transportation

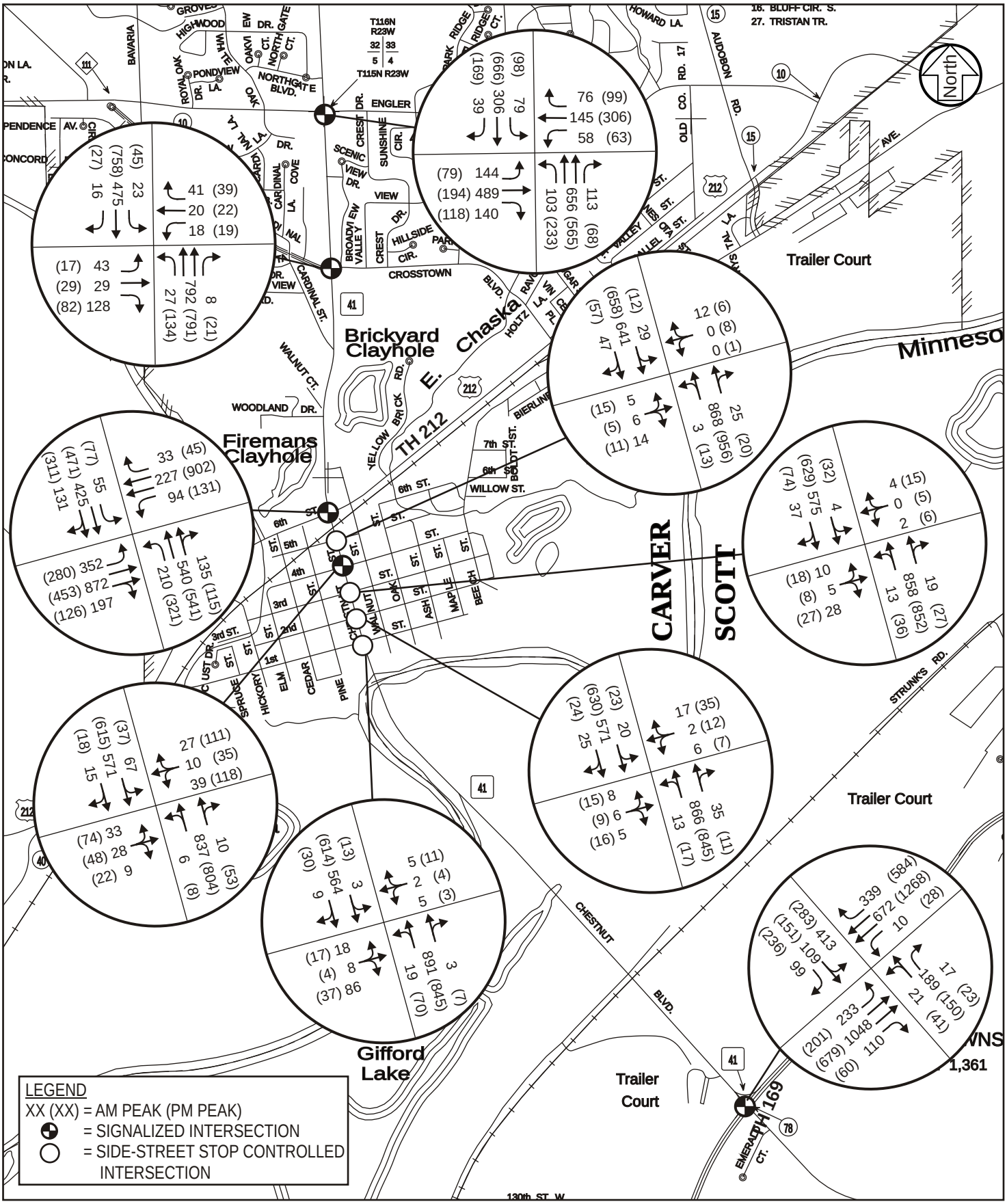
Figure 1

Current traffic controls include signalization at the intersections of TH 41/Engler Boulevard, TH 41/Victoria Drive, TH 41/existing TH 212, TH 41/4th Street and TH 41/TH 169; and side-street stop control at the intersections of TH 41/5th Street, TH 41/3rd Street, TH 41/2nd Street and TH 41/1st Street. SRF Consulting Group collected a.m. and p.m. peak hour turning movement counts in October 2002 for the *TH 41 Traffic Study* by SRF Consulting Group dated March 12, 2003, for all key intersections, with the exception of TH 41/Engler Boulevard and TH 41/Victoria Drive. New counts were collected by SRF Consulting Group for the intersections of TH 41/Engler Boulevard and TH 41/Victoria Drive in October 2005. Mn/DOT provided approach counts at all intersections on TH 41 from TH 212 to 2nd street, from June 2005. Traffic volumes on TH 41 through the downtown intersections were balanced and adjusted based on the new approach counts. Existing geometrics, traffic controls and peak hour traffic volumes for the key intersections are shown in Figure 2. Existing signal timing obtained from Mn/DOT is used for all signalized intersections.

A traffic operations analysis was conducted for the a.m. and p.m. peak hours at each of the key intersections to determine how traffic currently operates within the project area. All signalized intersections were analyzed using Synchro, with the SimTraffic simulation software. The unsignalized intersections were also analyzed using the Highway Capacity Software. Capacity analysis results identify a Level of Service (LOS), which indicates the quality of traffic flow through an intersection. Intersections are given a ranking from LOS A through LOS F. LOS A indicates the best traffic operation, with vehicles experiencing minimal delays. LOS F indicates an intersection where demand exceeds capacity, or a breakdown of traffic flow. LOS A through D are generally considered acceptable by drivers. LOS E indicates that an intersection is operating at, or very near its capacity and that vehicles experience substantial delays.

The traffic operations at an unsignalized intersection with side-street stop control can be described in two ways. First, consideration is given to the overall intersection level of service. This takes into account the total entering volume into the intersection and the capability of the intersection to accommodate these volumes. Second, it is also important to consider the level of service on the side-street approach. Since the mainline does not have to stop at an unsignalized intersection that has side-street stop control, the majority of intersection delay can be attributed to the side-street approaches. It is typical of intersections with higher mainline traffic volumes to experience high levels of delay on the side-street approaches (poor levels of service), but an acceptable overall intersection level of service during the peak hour periods. However, as the side-street delay increases, motorists tend to accept smaller gaps and/or take greater risks. These eventually could lead to safety problems.

Results of the analysis shown in Table 1 indicate that all key intersections currently operate at an acceptable LOS D or better during the a.m. peak hour, with existing traffic controls and geometric layout. All key intersections operate at an unacceptable LOS E or worse during the p.m. peak hour, except for the intersections of TH 41/Victoria Drive and TH 41/TH 169. The poor level of service during the p.m. peak hour is due to the high volume demand and a high percentage of trucks utilizing these intersections. The side-streets approaches to TH 41 in the downtown area have extensive delays (LOS F). This is due to the high volume of traffic and queuing of vehicles on TH 41 from the



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EXISTING PEAK HOUR TRAFFIC VOLUMES

TH 41 TRAFFIC STUDY
Minnesota Department of Transportation

Figure 2

intersection of TH 41/existing TH 212. These slow moving vehicles are not conducive in creating sufficient gaps for side-street vehicles to enter TH 41. It is important to note that the intersection of TH 41/TH 169 operates at an acceptable LOS D during both time periods. The level of service has improved from the previous study conducted in 2002 (reported LOS F). The improved operation is due to recent improvements that have been made to this intersection.

Table 1
Existing Capacity Analysis
Level of Service Results

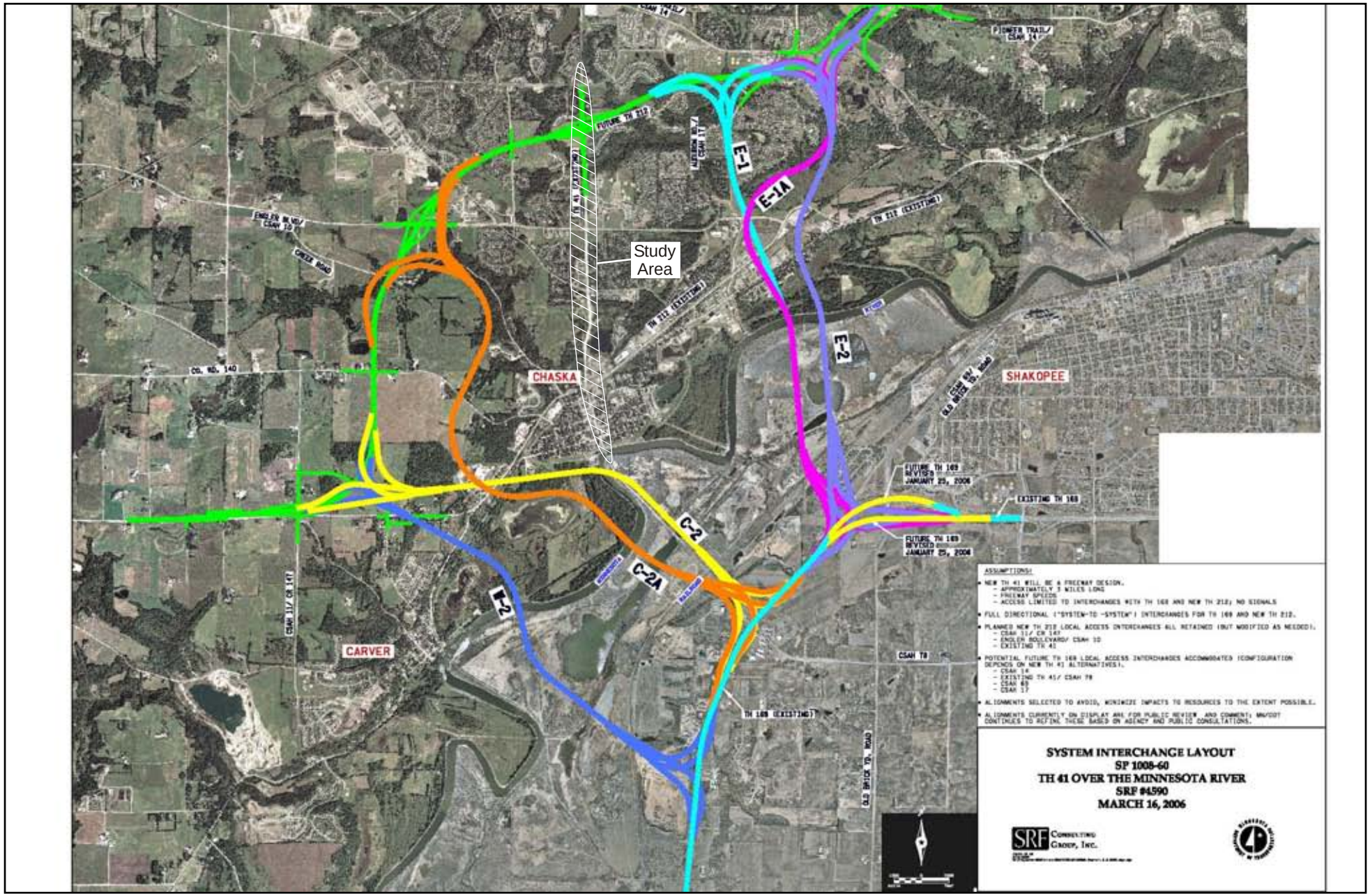
Intersection	Level of Service	
	A.M. Peak	P.M. Peak
TH 41/Engler Boulevard	D	E
TH 41/Victoria Drive	B	C
TH 41/Existing TH 212	D	F
TH 41/5th Street*	B/F (1)	F/F (1)
TH 41/4th Street	A	E (1)
TH 41/3rd Street*	A/C	F/F (1)
TH 41/2nd Street*	A/C	E/F (1)
TH 41/1st Street*	A/D	C/F (1)
TH 41/TH 169	D	D

* Indicates an unsignalized intersection. The overall LOS is shown followed by the worst approach LOS.

(1) Poor level of service is due to queuing from the intersection of TH 41/TH 212 which extends through downtown Chaska on TH 41 and does not provide gaps for vehicles on the side-streets.

2040 Future Conditions

The purpose of this study is to determine if and how each of the proposed TH 41 river crossings will impact existing TH 41 and the downtown Chaska area under year 2040 future conditions. Currently, there are six alternative corridors for the proposed river crossing under study (see Figure 3), all producing slightly different traffic volumes within the study area. Forecasts for each alternative, as well as for No-Build conditions, assume that New TH 212 will be completed and open to traffic and that existing TH 41 will remain in place. The only difference between the scenarios is the location of the proposed TH 41 river crossing. The previous traffic study completed for this area analyzed the p.m. peak hour for year 2030 No-Build conditions, without a new river crossing. These peak hour forecasts are lower than those for the 2040 No-Build and 2040 Build alternatives. As a result, we have concluded that most of the intersections within the study area will operate similar to the 2030 analysis



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PROPOSED TH 41 ALIGNMENTS

TH 41 TRAFFIC STUDY
Minnesota Department of Transportation

Figure 3

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previously completed (LOS F) during the p.m. peak hour. The 2030 No-Build level of service results from the previous study are shown in Table 2, along with results from new analysis conducted for the intersections of TH 41/Engler Boulevard and TH 41/Victoria Drive. It was assumed that by Year 2030, TH 41 north of existing TH 212 will be a four-lane section (currently there are two-lanes northbound and one-lane southbound). Year 2030 analysis does not include the intersection on TH 41/TH 169 because it is assumed that this intersection will be an interchange in the future. Year 2030 No-Build geometrics and p.m. peak hour traffic volumes for the key intersections are shown in Figure 4.

Table 2
Year 2030 No-Build Capacity Analysis
Level of Service Results

Intersection	**Level of Service P.M. Peak**
TH 41/Engler Boulevard	F
TH 41/Victoria Drive	C
TH 41/Existing TH 212	F
TH 41/5th Street*	F/F (1)
TH 41/4th Street	F (1)
TH 41/3rd Street*	C/F (1)
TH 41/2nd Street*	C/F (1)
TH 41/1st Street*	A/D
TH 41/TH 169	n/a (2)

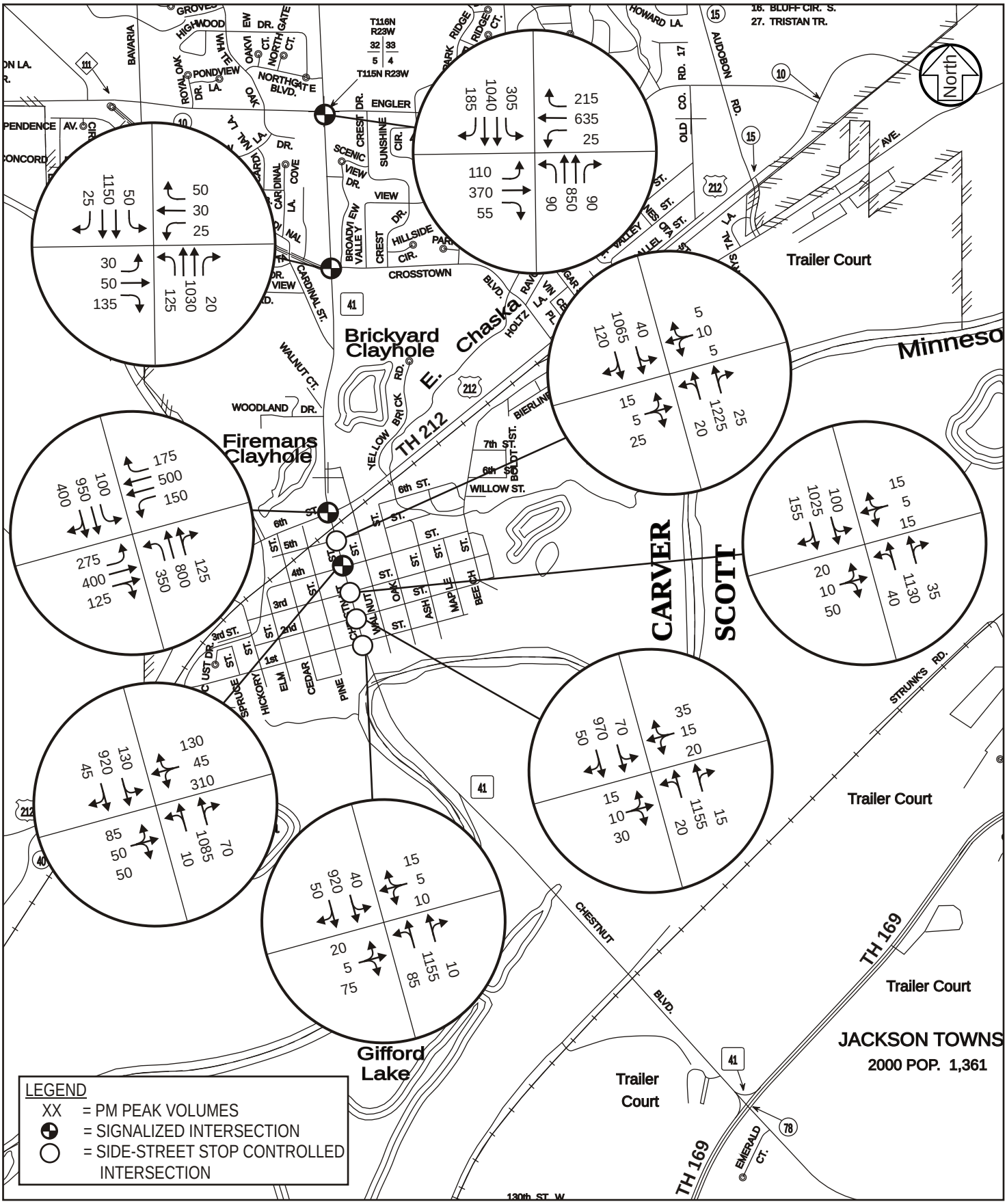
Note: Analysis results shown above, with the exception of the intersections of TH 41/Engler Boulevard and TH 41/Victoria Drive, are from the *TH 41 Traffic Study* completed by SRF Consulting Group, dated March 12, 2003.

* Indicates an unsignalized intersection. The overall LOS is shown followed by the worst approach LOS.

(1) Poor level of service is due to queuing from the intersection of TH 41/ existing TH 212.

(2) Year 2030 analysis does not include the intersection on TH 41/TH 169 because it is assumed that this intersection will be an interchange in the future.

Analysis results above show that the intersections on TH 41 at Engler Boulevard, existing TH 212, 5th Street and 4th Street operate at an overall unacceptable LOS F, with worst approach LOS F at 3rd Street and 2nd Street. When compared to existing p.m. peak hour results, the 2030 No-Build conditions operate at better overall levels of service at the intersections of TH 41/3rd Street, TH 41/2nd Street and TH 41/1st Street. Improved operations are due to the construction of New TH 212 which reduces the volume of traffic for eastbound and westbound traffic on existing TH 212. This allows for more green time for northbound TH 41 at the intersection of TH 41/existing TH 212. This improvement in traffic flow reduces the extent of the northbound queuing on TH 41 and improving



SRF Consulting Group, Inc.

0024590
April 2006

2030 NO-BUILD PM PEAK HOUR TRAFFIC VOLUMES

TH 41 TRAFFIC STUDY
Minnesota Department of Transportation

Figure 4

operations at the southern-most intersections. It should be noted that although the queuing on northbound TH 41 is reduced under year 2030 No-Build conditions, the delay at the intersection of TH 41/existing TH 212 is worse than existing conditions, with the overall delay affecting all approaches, rather than just the northbound approach.

As stated above, the traffic volumes for the 2040 No-Build and six Build alternatives during the p.m. peak hour are higher than those of the 2030 No-Build analysis and as a result, the intersection operations are expected to yield similar results (LOS F). The reason for this is that even though river crossing capacity is being added under the Build alternatives, future land use changes are adding more trips in the peak hour than the new capacity that is constructed. While this analysis demonstrates that peak hour operations will not necessarily change much, the duration of congestion on existing TH 41 is expected to be significantly reduced. An additional analysis was conducted to determine the expected number of hours of congestion during a typical day for 2040 No-Build and Build conditions. Congestion hours were determined based on the capacity of each lane for TH 41 north and south of existing TH 212, as well as the adjacent Highway 101 river crossing. Results from this analysis are shown in Table 3.

Table 3
Year 2040 Directional Hours of Congestion Analysis
Analysis Results

Alternative	Location		
	TH 41 North of Existing TH 212 (north of downtown Chaska)	**Existing TH 41 river crossing (south of downtown Chaska)***	**Existing Highway 101 river crossing**
Capacity	750 vplph	1200 vplph	1200 vplph
No Build	0	10	10
W2	0	**3**	7
C2	0	**2**	7
C2A	0	**3**	7
E1	0	**2**	6
E1A	0	**3**	6
E2	0	**2**	5

Note: Directional hours of congestion are based on 48 hours, 24 hours for each direction.
BOLD indicates locations where the hours of congestion are reduced by 70 percent or more.
* Hours are discrete; the difference between two and three hours of congestion may not be significant.

Results of the analysis above show that the addition of a new river crossing will greatly reduce the number of hours of congestion on existing TH 41 and Highway 101 for the majority of the alternatives. Conclusions for each of the locations above are discussed in detail below.

Existing TH 41 North of Existing TH 212

- Based on lane capacity alone, this section will not experience congestion in the future. However, in should be noted that based on the Level of Service analysis, the intersection of existing TH 41/Engler Boulevard operates at a LOS F during the p.m. peak hour for 2030 No-Build conditions. Capacity for existing TH 41 is reduced at this intersection due to opposing traffic on Engler Boulevard. While there is delay for vehicles on existing TH 41 at this intersection, it is not significant enough to create hours of congestion.

Existing TH 41 River Crossing

- The daily hours of congestion and gridlock, from year 2040 No-Build to Build conditions, are reduced by 70 to 80-percent for all alternatives.
- There is limited ability to add capacity on TH 41 through downtown Chaska in the future due to historic existing buildings.

Existing Highway 101 River Crossing

- The daily hours of congestion and gridlock, from year 2040 No-Build to Build conditions, are reduced by 30-percent for the western Alternatives W2, C2, and C2A.
- The daily hours of congestion and gridlock, from year 2040 No-Build to Build conditions, are reduced by 40 to 50-percent for the eastern Alternatives E1, E1A and E2.
- Highway 101 has the ability to add capacity in the future.

It is important to note that with any of the proposed TH 41 river crossing alternatives, the truck traffic on existing TH 41 through the downtown Chaska area will be reduced by approximately 65-percent.

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING:
A FUTURE US 169/US 212 REGIONAL FREEWAY CONNECTION

TECHNICAL MEMORANDUM

FOR

SHIPPER AND CARRIER SURVEY

PREPARED FOR
SRF CONSULTING GROUP, INC.

JULY 2003

PREPARED BY
CJ PETERSEN ASSOCIATES

SRF NO: 0024590

Shipper & Carrier Survey Results
TH 41 over Minnesota River

Prepared by
C J Petersen & Associates
July 2003

Prepared for
SRF Consulting Group, Inc.

Acknowledgements

This research could not have been possible without the cooperation of the many firms and their employees who responded to the survey. Thank you for your willingness to share your insights about the TH 41 Highway System that is a vital link for commerce in and through Minnesota.

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SHIPPER & CARRIER SURVEY RESULTS

PURPOSE

In July 2002 the Minnesota Department of Transportation (Mn/DOT) requested proposals for the purpose of identifying a preferred corridor/river crossing alignment between TH 169 and new TH 212. The study addresses the recognized need for a new regional river crossing connecting Carver and Scott Counties. The existing river crossing travels through downtown Chaska, effectively dividing the community. Between 1990 and 2000, there was significant growth in traffic, both auto and truck. Traffic on TH 41 has increased from 10,300 vehicles per day in 1990 to 18,500 in 2000. The traffic volumes are exacerbated by other factors including springtime flooding of the TH 41 river crossing and seasonal increases in truck traffic in the spring and fall of each year. The truck traffic is generated by a variety of businesses that service rural agriculture producers and the metropolitan area's construction industry.

C J Petersen & Associates' role in the project was to provide a better understanding of heavy commercial vehicle flow on TH 41 and other river crossings in the study area. There were two parts to studying and understanding the traffic patterns. First, a roadside truck count was conducted in October 2002 by SRF Consulting Group. Information on the number and type of commercial vehicles along with their turning movements was documented. Second, a phone survey of motor carriers and shippers was conducted. This phone survey was designed to capture detailed information that would complement SRF's counts at intersections and highway segments. The survey collected information on the following:

1. Origin and destination areas for trucks moving along TH 41
2. Adequacy of TH 41 and other river crossings
3. Commodities moved
4. Seasonal peaks of truck movements and routes they typically use
5. Foreseeable expansion plans (i.e., increases in truck use in the future)

SCOPE

There were three databases from which survey participants were drawn; they were:

- Mn/DOT's Freight Facilities Database based on the Harris InfoSource 2000 Database sorted for firms in the TH 41 Study Area,
- Mn/DOT District 8 Sand and Gravel Operator Listing combined with the Mn/DOT Freight Facility designated Sand, Gravel and Landfill Operators,
- SRF Consulting Group, Inc.'s October 2002 Truck Count and Motor Carrier Listing.

The databases were sorted to eliminate duplicate entries, as well as firms who had previously provided detailed data regarding the volumes shipping to and from their facilities along TH 41 and other river crossings in the study area as a part of previous studies. The survey team then called all of the firms on the sorted lists to verify and update the company name, address, phone numbers, fax numbers, contact names and titles. The total number of firms that responded was 47, which included one firm that did not respond to the survey but provided extensive information about their receiving and shipping. This provided detailed information about the volume of trucks traveling to and from their facility, but would not respond to the survey itself regarding the adequacy of the bridges or routes. This firm stated that the truckers chose their routes to their facility, and he did not have records of the routes they chose.

The following table shows the iteration of the database verification process for each of the three lists by count of company names on the lists.

Table 1
Survey Participant Database

Database	1. Original Count	2. Sorted Count	3. Final Count	4. Total
Mn/DOT Freight Facilities	144	62	48	38
Mn/DOT District 8 Sand & Gravel Operator Listing combined with the Mn/DOT Freight Facility designated haulers of Sand, Gravel, Landfill Haulers	41	9	7	3
SRF Consulting Group, Inc.'s October 2002 Motor Carrier Physical Count Listing combined with Mn/DOT's Freight Facility Listing	19	12	9	6
Totals	**204**	**83**	**64**	**47**

1. Original Count = All firms on the list.
2. Sorted Count = Eliminates duplicate firms, firms that would typically not be considered shippers, such as retail establishments and postal facilities.
3. Final Count = Updated with current addresses, phone numbers and contact information; eliminates those that no longer have an address in the study area or are no longer listed in an area directory or with directory assistance.
4. Total=Number of firms that responded to the survey.

METHODOLOGY

Through discussions with SRF and advice given by the TH 41 Project Management Team, a process was developed for conducting the survey. The process was accomplished through a series of steps, which included:

1. developing a list of unanswered questions relative to TH 41 truck traffic,
2. creation of a survey instrument,
3. reviewing the survey with the Project Management Team,
4. obtaining the database,
5. updating the database with shipper and motor carrier contact names, company, addresses, phone numbers and fax numbers,
6. testing the survey with 5 shippers and motor carriers in the TH 41 study area,
7. revising the cover letter and survey,
8. faxing the survey to the TH 41 shippers and motor carriers,
9. calling shippers and motor carriers to complete the survey by appointment or at the time of the initial phone call; it was the respondent's choice, and
10. recording responses in an Excel database.

The database was updated and verified in December 2002. Also in December, test surveys were completed by three shippers and two carriers to assure that the questions were clearly understood by the respondents. Revisions were made to the order in which the questions were asked not to the content of the questions being asked. After revisions were made, a cover letter and the survey were faxed to the contact name in the database. Each firm was contacted by phone to set an appointment to complete the survey.

There were between three to five follow-up phone calls made to each potential respondent to attain phone appointments. There were seven shippers and two motor carriers who mailed or faxed their responses and were contacted for follow-up phone interviews by phone. The survey was administered between January and March 2003.

The supporting documentation for this project is included in the Appendix to the report and includes the:

1. Screener,
2. Cover Letter and Shipper Survey, and
3. Cover Letter and Motor Carrier Survey.

Respondent Profile
Forty-two percent of the participants represented firms of less than 100 employees and fifty-eight percent represented firms of 100 or more employees. See Table 2.

Table 2
Participating Companies by Number of Employees - 2002

Company Type	Number of Employees				
	1 TO 49	50 TO 99	100 TO 499	500 OR MORE	Total
Motor Carriers including Garbage, Sand & Gravel Haulers	1	1	2	1	5
Manufacturers or Processors as Shippers	13	3	21	1	38
Total	14	4	23	2	43
%	33%	9%	53%	5%	

Study respondents have a different employee count profile from typical Minnesota employers and the U. S. national distribution of employers. According to the publication "Compare Minnesota Economic Diversity," this is the breakout for Minnesota by count of employees for firms in 1999:[1]

- 1 to 99 employees for all employers: 97.2%
- 100 to 499 employees for all employers: 2.5%
- 500 + employees for all employers: 0.3%

Table 2 indicates that this study captured information from the largest firms and potentially the largest shippers in the study area. This is significant, since larger firms generate the greatest volumes of truck traffic, as shippers, receivers or both. However, there is a caveat, traffic, distribution, warehousing, and logistics respondents generally do not have a record of the truck volumes arriving or departing from their facilities. The majority of the respondents were only able to provide an estimate of their truck volumes traveling through, to, or from the study area.

The manufacturer, processor or distribution center have a different role from the motor carrier in the supply chain. These firms in the supply chain generate who ship commodities, semi-finished or finished goods or receivers of supplies cause the motor carrier to generate a trip to or from their facility. Truck traffic does not occur in isolation, it occurs because there one of their customers has instructed them pick-up or

[1] Distribution of Minnesota Employment by Industry and Establishment Size, 1999, "Compare Minnesota Economic Diversity," Minnesota Department of Trade and Economic Development, p. 2.4.

deliver a product or by-product of a transaction. In the remainder of this report, the word "shipper" will refer to a firm that is a manufacturer, processor, or distribution center that is generating a trip to their facility in the study area. The designation of "motor carrier" will refer to truckers and garbage haulers with trips to, from and through the study area.

Table 3 profiles the types of products being hauled in, through and out of the study area along with an estimated count of trucks. There is an imbalance between the numbers reported for inbound and outbound truck moves. There are several reasons that this reporting difference occurred:

- Some responding firms are located on the edge of the study area and will maximize their logistical capabilities by routing them to destinations outside the study area,
- There were inaccuracies in the verbal reporting of truck volumes inbound and outbound,
- Seasonal variations in truck traffic were averaged, which would skew the inbound and outbound truck volumes, and
- There is an inland waterway port that receives truckloads of agricultural products, but may not generate as much outbound traffic into the area, which could distort the balance reported.

Table 3 provides the detail needed to arrive at the bullet points above; it reports first; the respondents estimated daily truck count by type of product shipped. The primary products shipped as reported by these respondents include sand and gravel, grain and feed generate the most truck trips. Second, it reports truck volumes that were prorated to arrive at a daily truck count. Some of the respondents did not have daily truck deliveries or pick-ups at their facilities; instead they might have three trucks moving goods to and from their facility in a week. In those cases, the truck count was prorated to a partial truck then aggregated with other shipper counts.

The motor carriers indicated that they routed nearly 150 trucks through this area on any given day hauling in rank order petroleum, agricultural products, such as grain, seed and feed, sand and gravel, and garbage.

Table 3
Typical Products Reported as Shipped by Respondents - 2002

Outbound			*Inbound*		
Products	**Average Number Trucks per Day**	**Percent**	**Products**	**Average Number Trucks per Day**	**Percent**
ag & farm equipment	0	0.0%	ag & farm equipment	0	0.0%
ag products: grain, seed, fertilizer, feed	590	29.9%	ag products: grain, seed, fertilizer, feed	1,363	60.5%
building materials	262	13.3%	building materials	17	0.8%
consumer items	0	0.0%	consumer items	0	0.0%
distilled spirits	0	0.0%	distilled spirits	0	0.0%
electronics, electric & communications equipment	58	2.9%	electric & communications equipment	43	1.9%
food & food products	25	1.2%	food & food products	60	2.7%
metal	20	1.0%	metal	91	4.1%
miscellaneous	431	21.9%	miscellaneous	393	17.4%
paper & paper products	110	5.6%	paper & paper products	172	7.6%
petroleum	8	0.4%	petroleum	40	1.8%
sand & gravel	469	23.8%	sand & gravel	73	3.3%
textiles	0	0.0%	textiles	0	0.0%
transportation equipment & vehicles	0	0.0%	transportation equipment & vehicles	0	0.0%
Estimated Truck Count Outbound	**1,972**	**100.0%**	**Estimated Truck Count Inbound**	**2,253**	**100.0%**

KEY FINDINGS

Discussion with the survey participants identified five areas of interest for this study. These five areas included:

- Business Growth
- Safety
- Adequacy of Existing River Crossings
- Local Heavy Truck Hauling: Gravel, Sand, Garbage
- Agriculture and Seasonal peaks

Business Growth

During the time frame that the phone survey was conducted, economic news was not positive and the United States was on the brink of war. In spite of conditions that many viewed as negative, business people in the study area were at worse anticipating a stable or flat business projection and at in some cases increases in business volume.

Table 4 reports the shippers' projections based on existing trends and a potentially optimistic view of the economy from a small group of firms that will be affected by the economy of the nation and region. Twelve firms, each with more than 100 employees, projected an increase in volumes being shipped to and from this study area in the next five years.

Table 4
Shippers' Expected Change in Truck Volumes – 2002

Firms by Number of Employees	NO Change in 5 Years	1-10 % Increase in 5 Years	11-25 % Increase in 5 Years	>25 % Increase in 5 Years	1-10 % Decrease in 5 Years	>10 % Decrease in 5 Years	Total
1-49	6	3	4	0	0	0	
50-99	2	1	0	0	0	0	
100-499	10	7	3	1	0	0	
500+	0	0	1	0	0	0	
Firms Reporting	**18**	**11**	**8**	**1**	**0**	**0**	**38**
Percentage	*47%*	*29%*	*21%*	*3%*	*0*	*0*	*100%*

The motor carriers reported that they expected either no growth in their volumes or some grown. Two carriers responded that they do not expect any change in their business volumes in the next five years and the remaining three respondents indicating that they would experience growth in their business in the next five years.

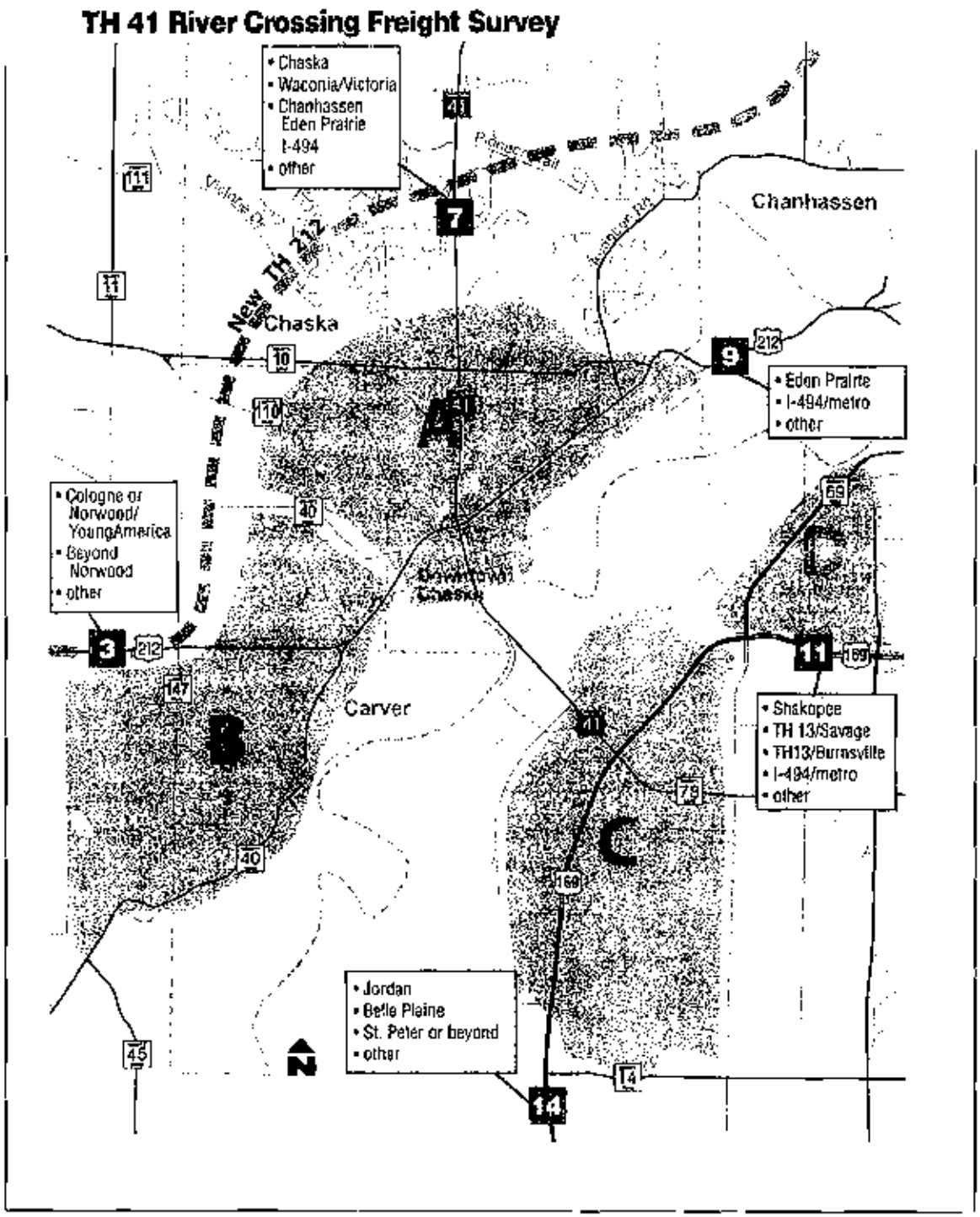
Table 5 provides an estimate of the daily volume of trucks that are routed in, out and through the study area by respondent firms. It is important to remember that this is a snapshot of traffic volumes based on verbal estimates provided in a series of phone interviews with logistics, transportation or a firm's management team. Based on Table 4, Table 5 and the respondents' comments, the numbers of trucks traveling in the study area are expected to increase in the next five years. (See Map for "Areas" or Origins and Destinations.)

Table 5
Shipper Estimated Volume of Trucks per Day – 2002

Destination Area	Truck Count per Day	Percent	Firms per Area	Average Truck Count Per Day Per Firm	Origin Area	Truck Count per Day	Percent	Firms per Area	Average Truck Count Per Day Per Firm	*Estimated Outbound and Inbound Per Day*
Area A - Chaska	31	1.6%	8	4	Area A - Chaska	42	1.9%	8	5	*73*
Area B - West Chaska/Carver	22	1.1%	7	3	Area B - West Chaska/Carver	26	1.1%	5	5	*48*
Area C - TH41/169	48	2.4%	14	3	Area C - TH41/169	125	5.5%	10	12	*173*
Area D - Downtown Shakopee	40	2.0%	11	4	Area D - Downtown Shakopee	24	1.0%	8	3	*63*
Area 3 - TH212 West	147	7.4%	11	13	Area 3 - TH212 West	223	9.9%	7	32	*370*
Area 7 - TH41 North	328	16.6%	12	27	Area 7 - TH41 North	104	4.6%	9	12	*432*
Area 9 - TH212 East	38	1.9%	11	3	Area 9 - TH212 East	34	1.5%	9	4	*72*
Area 11 - TH169 North/East	402	20.4%	14	29	Area 11 - TH169 North/East	184	8.2%	11	17	*585*
Area 14 - TH169 South	323	16.4%	16	20	Area 14 - TH169 South	256	11.4%	10	26	*578*
Other Areas	594	30.1%	23	26	Other Areas	1,237	54.9%	23	54	*1,831*
Total	***1,972***	***100%***	***127***	***16***	***Total***	***2,253***	***100%***	***100***	***23***	***4,225***

Shippers and truckers were asked to reference a map in allocating their truck traffic in, out and through the study area, which is included on the following page.

Figure 1
Map Depicting Origins and Destinations



Motor carriers and shippers have two separate perspectives about the highway system, in this case, TH 41 and the bridge system that connects its various segments.

Motor carriers reflect the opinions of the truck drivers who are contending with the geometrics of the system, the rules and regulations that specifically apply to them and their use of the system, and the day-to-day requirements imposed on them by their customers, the shippers and receivers.

Shippers, unless they have their own private fleet of trucks, are concerned about their ability to meet their customer's demands; none of the shippers participating in this study own their own fleet of trucks. Whether they are acting as shippers or receivers of goods, they must ship on-time, deliver the product in the condition promised the customer at the time promised. Shippers do not select the routes that the carriers use, although they often have opinions about the adequacy of the roads and the carriers' ability to access their particular facility.

Comments from both groups are included here with little or no editing; these are quotes from the respondents.

Carrier Comments
TH 169 River Crossing:

- The expansion of new businesses and residential sprawling to South and Southwest, for example, if there was snow like February 5, 2003 then the commute will be one hour for a 13 mile commute the traffic is that heavy and weather related now. But in five years it will be traffic related; not because of the crossing, but because of the lights north of the crossing and the lights on the ramps.

Shipper Comments
TH 41 River Crossing

- We're growing; getting a lot bigger this year and it won't be adequate. It won't be adequate just for the volume that this area is growing. For example, we are in the middle of a $35 million expansion. Right now we are seasonal since our product is applied primarily in warmer weather, but the construction industry is moving to year round construction and so are we. With our expansion, it has to be year-round volumes.

Safety

Discussions with the businesses in the study area indicated that there was concern for the current adequacy of the transportation system for trucks and general traffic. Both shippers and carriers stated that safety was a concern for themselves, their trucks and drivers and for pedestrians. Some provided very specific examples; others were generally concerned about the volume of traffic through a downtown area and at specific intersections. These comments are representative of those made by other respondents.

Carrier Comments

TH 169 River Crossing:

- Terrible road, I don't know what kind of idiot would put stoplights on a freeway.

TH 41 River Crossing:

- It floods out every spring. It will need to be a 4-lane to TH 169.
- If a new crossing is built for TH 41, then it should not dump into Downtown Chaska; it would be better if it would feed east or west of Chaska.

Shipper Comments

TH 41 River Crossing:

- We are concerned about TH 41 through downtown Chaska. Because of the (high volume of) grain trucks in the fall, we don't let out our kids on bikes or to walk the streets alone.
- There should be real easy access off of TH 41 for the industrial park including the new one being planned on the other side of Chaska. We will need ramps that are truck friendly; the 15 mile per hour ramps are a problem. Our oversize product stands 8' tall with 80% of the weight in the top 3'; it puts product shipped at risk. The straps are the only thing holding the equipment and the truckers try to avoid tight corners, but the ramps are a problem.

Adequacy

Respondents made general comments that the system is not adequate to meet their needs, especially the bridges. Yet, they did not pinpoint which bridges were inadequate. This may be explained by the fact that the overwhelming majority of shippers do not own trucks and do not determine the routes that the trucks will use. It is the driver's and carrier's responsibility to choose the route.

Carriers must meet deadlines imposed by their customers and other carrier partners, such as railroads, airlines or courier companies such as UPS or DHL. They were consistent in what they said in general comments and in responding to survey questions about bridge adequacy. The carrier pays attention to the delays on roads and bridges, since it is the carrier who bears the financial burden of using a driver and truck efficiently. In addition, the carrier may also pay financial penalties to their customers if they miss the delivery time promised.

Tables 6, 7, 8 and 9 provide a snapshot of shipper and carrier estimated truck volumes and their viewpoints about adequacy of the bridges. It also identifies which bridges are more frequently traveled.

Table 6
2002 Shipper Opinion of Bridges for Daily Truck Moves Outbound from the Study Area

BRIDGES USED FOR OUTBOUND MOVES	Average No. Trucks / Day	Adequate 2002	NOT Adequate 2002	Number of Respondents	Adequate in 5 years	NOT Adequate in 5 years	Number of Respondents
TH 101	93	20	4	*24*	22	4	*26*
TH 169	460	20	4	*24*	15	9	*24*
TH 41	110	18	4	*22*	14	9	*23*
TH 13 to I-35	25	0	1	*1*	0	1	*1*
I-35W	25	1	0	*1*	1	0	*1*
TH 41 No.	8	1	0	*1*	1	0	*1*
TH 212	55	1	0	*1*	1	0	*1*

Table 7
2002 Carrier Opinion of Bridges for Daily Truck Moves Outbound from the Study Area

BRIDGES USED FOR OUTBOUND MOVES	Average No. Trucks / Day	Adequate 2002	NOT Adequate 2002	Number of Respondents	Adequate in 5 Years	NOT Adequate in 5 Years	Number of Respondents
TH 101	48	2	2	*4*	1	3	*4*
TH 169	105	4	1	*5*	1	4	*5*
TH 41	45	2	3	*5*	1	4	*5*

Table 8
2002 Shipper Opinion of Bridges for Daily Truck Moves Inbound to the Study Area

BRIDGES USED FOR INBOUND MOVES	Average No. Trucks / Day This Road Segment	Adequate 2002	NOT Adequate 2002	Number of Respondents	Adequate in 5 years	NOT Adequate in 5 years	Number of Respondents
TH 101	94	22	4	26	18	8	26
TH 169	401	20	4	24	16	8	24
TH 41	170	19	4	23	14	9	23
TH 13 to I-35	5	0	1	1	0	1	1
I-35W	0	0	0	0	0	0	0
TH 41 No.	8	1	0	1	1	0	1
TH 212	55	1	0	1	1	0	1

Table 9
2002 Carrier Opinion of Bridges for Daily Truck Moves Inbound to the Study Area

BRIDGES USED FOR INBOUND MOVES	Average No. Trucks / Day	Adequate 2002	NOT Adequate 2002	Number of Respondents	Adequate in 5 years	NOT Adequate in 5 Years	Number of Respondents
TH 101	48	2	2	2	1	3	4
TH 169	95	3	1	3	1	3	4
TH 41	40	2	2	4	1	3	4

Carrier Comments

TH 169

- People have "taken" to using the TH 169 crossing from the south side of Chaska. Bloomington & Minneapolis residents use TH 169 to avoid I-494.
- TH 169 can be very congested, we are a large trucking company and there are complaints about transit times from our customers due to the congestion. A new way to get through Shakopee is not such a bad idea.

Shipper Comments

TH 169 River Crossing

- Every year it's getting worse to get onto TH 169 as compared to 5 or 10 years ago. It won't get better in the next 2 to 5 to 10 years, instead it will be worse.

TH 41 River Crossing

- Never seen it so bad as last year, it was 20 minutes from Chaska to our quarry 1/2 mile south of TH 41. Lived in Chaska for 10 years, now have to wait for traffic at 6:40 a.m. for 10 minutes; there wasn't any waiting 10 years ago. (Comment made by someone who lives by Mn/DOT's Truck Station.)
- Major flood issues: TH 101 and 41 go under water every spring for 4 to 6 weeks. This causes us major drive-around time. TH 212 traffic is 'crazy'. We have to get all our trucks out by 7:00 a.m. or else it takes 15 to 20 minutes to go 2 miles.

Local Hauling Issues: Sand, Gravel and Garbage Haulers

Sand and Gravel

The construction of housing, retail space, office and industrial buildings have fueled the construction industry's use of sand and gravel. Within the study, construction related traffic is generated by the gravel pits. Some of the sand and gravel pits are anticipated to last over 40 years. Generally, traffic related to construction is seasonal and peaks during the summer months, during the same period as the peak traffic for compost and waste shipping, and agriculture and related product shipments. (See section on Seasonal Peaks.)

Garbage Hauler

The garbage haulers expect that their volume of traffic will continue to grow with housing developments and population growth in this area. Carver and Scott Counties have been identified by the Metropolitan Council as containing "Developing Suburbs with Substantial Area for Development."[2] One of the area's larger garbage haulers stated that as housing developments are built, it will correlate with population growth and trucks operating on area streets.

Chaska and Chanhassen Residential and Commercial Areas:

- As a waste hauler we follow routes through the residential areas, the peak season is from April through November when compost and brush or yard waste is collected. Summer truck volumes are 40 to 50 per day as compared to the lower volume winter routes at 8 to 10 per day (See Tables 6, 7, 8 and 9). This hauler's shipping patterns "run" on a weekly cyclical basis. The primary pick-up days are Monday to Friday; which is the same number of trucks each day. Saturday and

[2] Metropolitan Council Work Map, Map 1-35: Developing Suburbs with Substantial Area for Development, "The Economic Component of the Metro Freight Study," Minnesota Department of Transportation, p. 1-20.

Sunday they run one truck. They don't run during rush hour on major routes which are heavily traveled, but during working hours or off-peak. Roll-off Trucks run on the major highways at all times-like a dump-truck, i.e. for commercial compacted trash or construction.

Agriculture and Seasonal Peaks

This section is divided into two parts; the first covers the inland waterway ports that generate high volumes of truck traffic related to agriculture. The second peak in truck traffic follows the seasons for planting and harvesting crops. According to shippers in this study area there is harvest traffic from April to August, and then in October.

Agriculture

Combined, the ports of St. Paul, Winona and Savage (the lone port on the Minnesota River) handle the majority of the district's river trade at more than 11 million tons. Waterborne transport remains a very competitive mode compared with intermodal highway and rail. In fact, it is the most efficient way to move dry or liquid commodities like grain and petroleum or general cargo such as fertilizer or coal that isn't time sensitive or of extremely high value. According to a 2000 state report, in Minnesota 21 percent of all freight tonnage, but only 3 percent of the freight value, went by water---indicative of the commodity freight handled in ports. Water transport via inland ports is estimated to be at least five times more efficient than rail and trucks at delivering similar cargo on a fuel cost-per-gallon basis. U.S. inland waterways move about 15 percent of interstate commerce for bulk commodities at only 2 percent of the cost.[3]

There is a larger volume of grain coming into the port facilities by way of rail due to an agreement between Bunge, Harvest States and the Twin Cities & Western RR effective in September 2001. Western MN shippers can now use this connection for delivery direct by railcar to these port facilities.[4] This means that rather than increasing truck volumes, the truck traffic will remain static at significant levels at the Ports of Savage. One firm indicated that they had 59,000 trucks dumping (loads in and empty out) at their facility in 2002 that resulted in dumping a total of 68 million bushels. The volumes of grain are affected by trade agreements, flooding of the Minnesota River and other market pressures. For example, in 2001 they handled 10,000 fewer trucks or 51 million bushels due to flooding of the Minnesota River.

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[3] Jedd, Marcia, The shipping news & forecast, "District ports face many competitive challenges, but whether they sink or swim over the long term will likely depend on infrastructure improvements." The Federal Reserve Bank of Minneapolis, January 2003, http://minneapolisfed.org/pubs/fedgaz/03-01/shipping.cfm.

[4] http://www8.cpr.ca/cms/

Due to reasons of confidentiality and lack of specific knowledge about the routes that the truckers follow to their port facilities, the port shippers are reluctant to specify which routes their vendors use to deliver grain or pick-up fertilizers or chemicals. In a prior study regarding the Interregional Corridor System, TH 212 rural shippers stated in a focus group that their truck follows a route from western Minnesota along TH 212 to TH 41 to TH 169 to TH 13 into the Ports of Savage.

There are a wide range of carriers coming into the port facilities. There can be up to 150 trucks in the port yard at one time during peak season. The port facilities anticipate using transponders and tags with the truckers by the end of 2003 replacing the existing paper exchange, which will allow processing of a truck every 1.5 minutes.

Agricultural products are not "scheduled" for delivery and pickup at any time, including peak season. It is driven by the purchase of grain at the market level. When the co-op is buying grain, then the trucks deliver the product without any notice as to the volume and timing of incoming freight.

It is difficult to anticipate volumes in five years, 10 years, or 15 years according to those familiar with agricultural commodities. Volumes are completely market driven and cannot be predicted at the port level. Factors affecting the volumes include market demand, farm productivity, requirements for Genetically Modified Organisms and the processor's ability to tag the product and retain identity of the product through the supply chain. In addition, viability of the river and the corresponding locks and dams and access to regional rail delivery systems all have an impact on the volumes that will be generated.

Shipper Comments
TH 41 River Crossing

- The TH 41 and 169 intersection is backed up all the way to Chaska when coming in to unload during peak season and even sometimes in off-season. There is a long turn light on that road affecting 2,500 different individuals, including farmers, elevators and truckers.

Seasonal Peaks
The seasonal peaks are generated by agriculture, garbage haulers, and sand and gravel industries. This correlates with the opening of the inland waterway ports for barge traffic from April through November each year. The receivers and generators of freight traffic over the highway system are able to identify the number of tons shipped, which translate into trucks that move from their facility.

Carrier Comments

Seasonal Trucking

- We haul a lot of sugar out of Chaska and it is seasonal. We also haul out of Shakopee and Savage that is canned business and it is seasonal in fall; it lightens up after harvest, however cans are year-around including empty cans for corn pack, etc.

TH 41 River crossing

- We move goods short distances on TH 41 constantly between April and November or December; under 20 miles each direction.
- A large waste hauler stated that TH 41 is less traveled during the winter, between April and November traffic increases for compost and yard waste disposal. He predicted that TH 41 between TH 212 and TH 169 will need to be four lanes in five years.

TH 212

- As a trucker, we move thousands of loads of gas year-round through the study area on TH 212. From March 15th to November 15th each year it is asphalt season when 5,000 loads are hauled through this (study) area. We move them (from refineries such as those in Savage through the study area) primarily on TH 212 for final delivery in Granite Falls to Marshall. We ship 58,000 loads in a year out of which the majority (49,300) is in Minnesota; specifically in the seven-county metro where 40,000 loads are routed.

Shipper Comments

- This company has seasonal business from April to November when the barge season opens up; December to March is low with limited volumes. It peaks on the front end and then again at harvest season from October to November, but not quite the numbers as in the summer. Total number of loads coming in / out each year is 50,000 - the numbers of the loads between 80-82,000 lbs gross weight, empty 24-26,000 lbs on a tare.

SUMMARY

Shippers and carriers using the bridges and routes within the study area are concerned about:

- Safety
- Increasing the capacity of the roads and bridges now
- The growing volumes of truck and car traffic that occur during business hours, especially through downtown Chaska

The shippers and carriers predict growth, but the range and exact volume of truck traffic on the study area roads is not an exact science. Instead, they said that:

- Volumes are unpredictable
- Routes are not fixed
- Market forces will dictate the geographic area where agricultural commodities are sourced and the destination points for commercial cargo
- Smooth, efficient delivery of goods is critical to firms' economic viability

Conclusions

Trucks can either be viewed as impediments to transportation planning or they can be viewed as the reflection of a vibrant economy.

Conclusions that can be made based on responses from those who participated in this study include:

- TH 41 crossings will become increasingly congested due to growth in population and business activity in this suburban area of Minneapolis-St. Paul. The wait times at lights will lengthen, delays will occur in the delivery and pick-up of goods at the ports, at retail facilities and at area manufacturers.
- When possible, shippers and motor carriers modify their business practices to avoid costs associated with congestion. Some of those costs include labor, fuel, wear and tear on the vehicle, and the cost of lost business opportunities since their assets are tied up in traffic. Motor carriers advised researchers in a previous study that they send their drivers in or out of the Twin Cites as early as 4:30 or 5:00 a.m. to avoid "rush hour" driving and to meet customer demands.[5]
- The river will remain a draw for truck traffic for shipment and receipt of commodities by barge; the truck volumes may flatten, but are not likely to decrease even if rail service expands.
- Motor carriers and shippers list traffic safety as a major concern; especially during late spring and early fall when there is a peak in auto and truck traffic through Chaska along TH 41.
- Most motor carriers traveling the TH 41 study area do not have their offices inside the study area. As a consequence, when the carriers were contacted for information about the TH 41 study area, they had general comments rather than specific opinions about intersections and highway conditions or chose not dto respond. Engaging these motor carriers in a discussion about the TH 41 study area will be an on-going challenge.

[5] "Inter-Regional Corridor Shipper Focus Group Results," July 2001, Prepared for The Office of Freight, Rail and Waterways, Minnesota Department of Transportation

Appendix

A. Screener

Hello, may I please speak with someone in human resources (or someone else familiar with the roles of your managers.)

Hello, this is _____ from C J Petersen & Associates. We are working with the Minnesota Department of Transportation or Mn/DOT to conduct a study with those involved in shipping or receiving of products for your firm.

We are calling to verify contact information for a survey to be conducted on behalf of Mn/DOT in the next month. Is your company still located at?

(Read from list, make changes to company name, address, phone numbers, fax number, in the applicable column.)

Who at a manager level in your organization has primary responsibility for the areas that handle logistics or transportation of products or supplies?
Name:

What is this person's title?

Is their address the same as the one we just noted?

Yes _____

No _____ **if no, then please add their address here for update in the database:**

We will be sending them a survey during the next 2 weeks. The information gathered in the survey will be very important in helping to improve and maintain highways. Responses will be ANONYMOUS and **NOT** ASSOCIATED WITH A PARTICULAR Firm. Information generated is **only** for research purposes.

Please end all of your conversations with: "Thank you for your time and the information you have just verified. This information is confidential and will only be used for the purposes of the survey."

B. Cover Letter and Survey for Shippers

January 2003

Contact Name
Company
Address
Shakopee, MN55379

Re: Trunk Highway 41 Over the Minnesota River Crossing Study

Dear Contact Name,

We invite you to participate in a study on TH 41 Over the Minnesota River Crossing being conducted by the Minnesota Department of Transportation (Mn/DOT). In preparing for long-term transportation needs, Mn/DOT is evaluating a new river crossing in the Chaska/Shakopee area. As part of the study, Mn/DOT is trying to determine truck traffic needs in terms of bridge location and bridge orientation.

We are asking for your help in understanding the movement of truck traffic along existing river crossings located at Trunk Highway 41, Highway 101 and Trunk Highway 169. This information will add to the knowledge that Mn/DOT has gathered through counting trucks on various roadways in the study area. As a representative of a business or a motor carrier located or operating in the study area, we need your help in providing us with information and guidance about your transportation needs and concerns. We invite you to participate by:

1. Reviewing the attached survey and
2. Responding to a brief phone call from us to complete the survey.

All information received will be aggregated to maintain confidentiality for individual firms.

Study results will be used to help make decisions on the design and location of a new river crossing between TH 169 and TH 212 in the Chaska/Shakopee area. This survey focuses on freight movements in order to identify:

- Origins and destinations of truck movements,
- Trends in truck movements within the study area,
- Types of cargo being shipped, and
- Problems now experienced by trucks using the highways in the study area.

Please contact Catherine Petersen, C J Petersen & Associates, at 651-690-4324 if you have questions or if you require any additional information. You may also contact your local Mn/DOT representative on the project Brian Isaacson at 651-582-1659. Thank you for your assistance in advance.

Sincerely,
C J Petersen & Associates

Catherine Petersen

Catherine Petersen

Shippers' or Receivers' Survey – 2003

Thank you for taking time to participate in this survey regarding a new river crossing in the Chaska/Shakopee area. Please provide your "best" estimate of information requested. Findings from this study will be presented for the total group; no one company or its information will be identified. *Questions related to this questionnaire may be directed to C J Petersen & Associates at 651-690-4324, e-mail cjpassoc@earthlink.net, or fax at 651-699-8453.*

1. Please state your job title:

2. How many employees are there at this facility? (Please "X" one.)
   ____ 1-49 ____ 100-499
   ____50-99 ____ 500 or more

3. What types of products do you ship from your facility? Please list top 3.
   a. _____ _____
   b. _____
   c. _____

4. What types of products do you receive at your facility? Please list top 3.
   a. _____
   b. _____
   c. _____

5. Does your firm have barge access on-site at any facilities along the TH 41 or TH 101 corridor?
   _ No
   ___ Yes If yes, which roadway: __

6. Please check the type of vehicles (company owned or other) that deliver and pick-up goods at your facility (ies) within the Study Area. **Please *check all that* apply.**
   a. ____ Two or Three Axle Straight Truck
   b. ____ Five Axle Tractor Trailer Combination
   c. ____ Step Van Delivery Truck (for example UPS, DHL or FedEx)
   d. ____ *Other type of vehicle, please identify:*_____

7. Please refer to the attached map to assist in answering the following questions:

a. Is your business or facility located in one of the lettered or numbered (numbered areas indicate roadway facilities and cities outside the study area) areas on the map? ____ No ____ Yes

If yes, circle the letter or number representing your facility location(s):

A B C D 7 9 11 14

City:_____

b. Identify the percent and number of trucks bringing raw materials or product to your business from the following areas.

Area A - Chaska:	Percent _____	Number _____
Area B - West Chaska/Carver:	Percent _____	Number _____
Area C - TH 41/169:	Percent _____	Number _____
Area D - Downtown Shakopee:	Percent _____	Number _____
Area 3 - TH212 West:	Percent _____	Number _____
Area 7 - TH 41 North:	Percent _____	Number _____
Area 9 - TH212 East:	Percent _____	Number _____
Area 11 - TH169 North/East	Percent _____	Number _____
Area 14 - TH169 South	Percent _____	Number _____
Other, please specify:	Percent _____	Number _____

c. Identify the percent and number of trucks shipping out materials or products from your business to the following map areas:

Area A - Chaska:	Percent _____	Number _____
Area B - West Chaska/Carver:	Percent _____	Number _____
Area C - TH 41/169:	Percent _____	Number _____
Area D - Downtown Shakopee:	Percent _____	Number _____
Area 3 - TH212 West:	Percent _____	Number _____
Area 7 - TH 41 North:	Percent _____	Number _____
Area 9 - TH212 East:	Percent _____	Number _____
Area 11 - TH169 North/East	Percent _____	Number _____
Area 14 - TH169 South	Percent _____	Number _____
Other, please specify:	Percent _____	Number _____

8. The following question relates to actual truck use of TH 41, TH 169 and Highway 101 river crossings. I will read off the river crossing routes then ask you to provide an ESTIMATE of the number of trucks that might use this river crossing to gain access to your manufacturing, warehousing or intermodal facilities.

	(1) Bridges used for outbound moves	(2) Average No. of vehicles per day on this river crossing	Adequate Now ? Yes/No	Adequate In 5 years? Yes/No	(3) Bridges used for inbound moves	(4) Average No. of vehicles per day on this river crossing	Adequate Now? Yes/No	Adequate In 5 years? Yes/No
a	TH 101				TH 101			
b	TH 41				TH 41			
c	TH 169				TH 169			
d	Other				Other			

9. Does your firm expect to expand or decrease the volume of trucks shipped from or to this facility during the next 5 years?
   _ *% Expand*
   _ *% Decrease*
   __ *Stay the Same* (no % change)

10. Is there anything else you would like us to know about your shipping patterns? For example, is there heavy seasonality in the shipping of goods/products to and from your facility (ies) in these areas?

    _____

11. Additional suggestions, comments or improvements would you like to submit to Mn/DOT in planning improvements to the TH 41/Highway 101 segments discussed today?

    _____

Thank you for agreeing to participate in this confidential survey.

C. Cover Letter and Survey for Motor Carriers

January 2003

Contact Name
Company
Address

Re: Trunk Highway 41 Over the Minnesota River Crossing Study

Dear Contact Name:

We invite you to participate in a study on TH 41 Over the Minnesota River Crossing being conducted by the Minnesota Department of Transportation (Mn/DOT). In preparing for long-term transportation needs, Mn/DOT is evaluating a new river crossing in the Chaska/Shakopee area. As part of the study, Mn/DOT is trying to determine truck traffic needs in terms of bridge location and bridge orientation.

We are asking for your help in understanding the movement of truck traffic along existing river crossings located at Trunk Highway 41, Highway 101 and Trunk Highway 169. This information will add to the knowledge that Mn/DOT has gathered through counting trucks on various roadways in the study area. As a representative of a business or a motor carrier located or operating in the study area, we need your help in providing us with information and guidance about your transportation needs and concerns. We invite you to participate by:

1. Reviewing the attached survey and
2. Responding to a brief phone call from us to complete the survey.

All information received will be aggregated to maintain confidentiality for individual firms.

Study results will be used to help make decisions on the design and location of a new river crossing between TH 169 and TH 212 in the Chaska/Shakopee area. This survey focuses on freight movements in order to identify:

- Origins and destinations of truck movements,
- Trends in truck movements within the study area.
- Types of cargo being shipped, and
- Problems now experienced by trucks using the highways in the study area.

Please contact Catherine Petersen, C J Petersen & Associates, at 651-690-4324 if you have questions or if you require any additional information. You may also contact your local Mn/DOT representative on the project Brian Isaacson at 651-582-1659. Thank you for your assistance in advance.

Sincerely,
C J Petersen & Associates

Catherine Petersen

Catherine Petersen

Motor Carriers' Survey – 2003

Thank you for taking time to participate in this survey regarding a new river crossing in the Chaska/Shakopee area. Please provide your "best" estimate of information requested. Findings from this study will be presented for the total group; no one company or its information will be identified.

Questions related to this questionnaire may be directed to C J Petersen & Associates at 651-690-4324, e-mail cjpassoc@earthlink.net, or fax at 651-699-8453.

1. Please state your job title:

2. How many employees are there at this facility? (Please "X" one.)
   ___ 1-49 ____ 100-499
   ___50-99 ____ 500 or more

3. What types of products do you carry on trucks routed through Chaska/Shakopee? Please list top 3.
   a. _____
   b. _____
   c. _____
   d. ____ Unknown

4. Please check the type of vehicles that deliver and pick-up goods at facilities in the Chaska/Shakopee area. **Please *check all that* apply.**
   a. ___ Two or Three Axle Straight Truck
   b. ____ Five Axle Tractor Trailer Combination
   c. ____ Step Van Delivery Truck
   d. ____ *Other type of vehicle, please identify:*_____

5. The following question relates to actual truck use of TH 41, TH 169 and Highway 101 river crossings. I will read off the river crossing routes then ask you to provide an ESTIMATE of the number of trucks that might use this river crossing to gain access to manufacturing, warehousing or intermodal facilities.

	(1) BRIDGES USED FOR OUTBOUND MOVES	(2) Average No. Of Vehicles / Day On This Road Segment	Adequate Now ? Yes/No	Adequate In 5 years? Yes/No	(3) BRIDGES USED FOR INBOUND MOVES	(4) Average No. Of Vehicles / Day On This Road Segment	Adequate Now? Yes/No	Adequate In 5 years? Yes/No
a	TH 101				TH 101			
b	TH 169				TH 169			
c	TH 41				TH 41			
d	Other				Other			

6. Does your firm expect to expand or decrease the volumes of trucks traffic in the areas mentioned above during the next 5 years? PLEASE IDENTIFY THE AMOUNT OF CHANGE EXPECTED.

__ % *Expand*
__ % *Decrease*
__ *Stay the Same* (no % change)

7. Please refer to the attached map for answers to the following questions:

Which area on the map is your business located in? Circle one of the following letters representing areas:

A B C D E not shown

8. Please refer to the attached map for answers to the following questions:

a. Is your business or facility located in one of the lettered or numbered (numbered areas indicate roadway facilities and cities outside the study area) areas on the map? ____ No ____ Yes

If yes, circle the letter or number representing your facility location(s):

A B C D 7 9 11 14 not shown

b. Identify the percent and number of trucks bringing raw materials or product to your business from the following areas.

Area A - Chaska:	Percent _____	Number _____
Area B - West Chaska/Carver:	Percent _____	Number _____
Area C - TH 41/169:	Percent _____	Number _____
Area D - Downtown Shakopee:	Percent _____	Number _____
Area 3 - TH212 West:	Percent _____	Number _____
Area 7 - TH 41 North:	Percent _____	Number _____
Area 9 - TH212 East:	Percent _____	Number _____
Area 11 - TH169 North/East	Percent _____	Number _____
Area 14 - TH169 South	Percent _____	Number _____
Other, please specify:	Percent _____	Number _____

9. Continued - Please refer to the attached map for the following questions:

a. Identify the percent and number of trucks shipping out materials or products from your business to the following map areas:

Area A - Chaska:	Percent _____	Number _____
Area B - West Chaska/Carver:	Percent _____	Number _____
Area C - TH 41/169:	Percent _____	Number _____
Area D - Downtown Shakopee:	Percent _____	Number _____
Area 3 - TH212 West:	Percent _____	Number _____
Area 7 - TH 41 North:	Percent _____	Number _____
Area 9 - TH212 East:	Percent _____	Number _____
Area 11 - TH169 North/East	Percent _____	Number _____
Area 14 - TH169 South	Percent _____	Number _____
Other, please specify:	Percent _____	Number _____

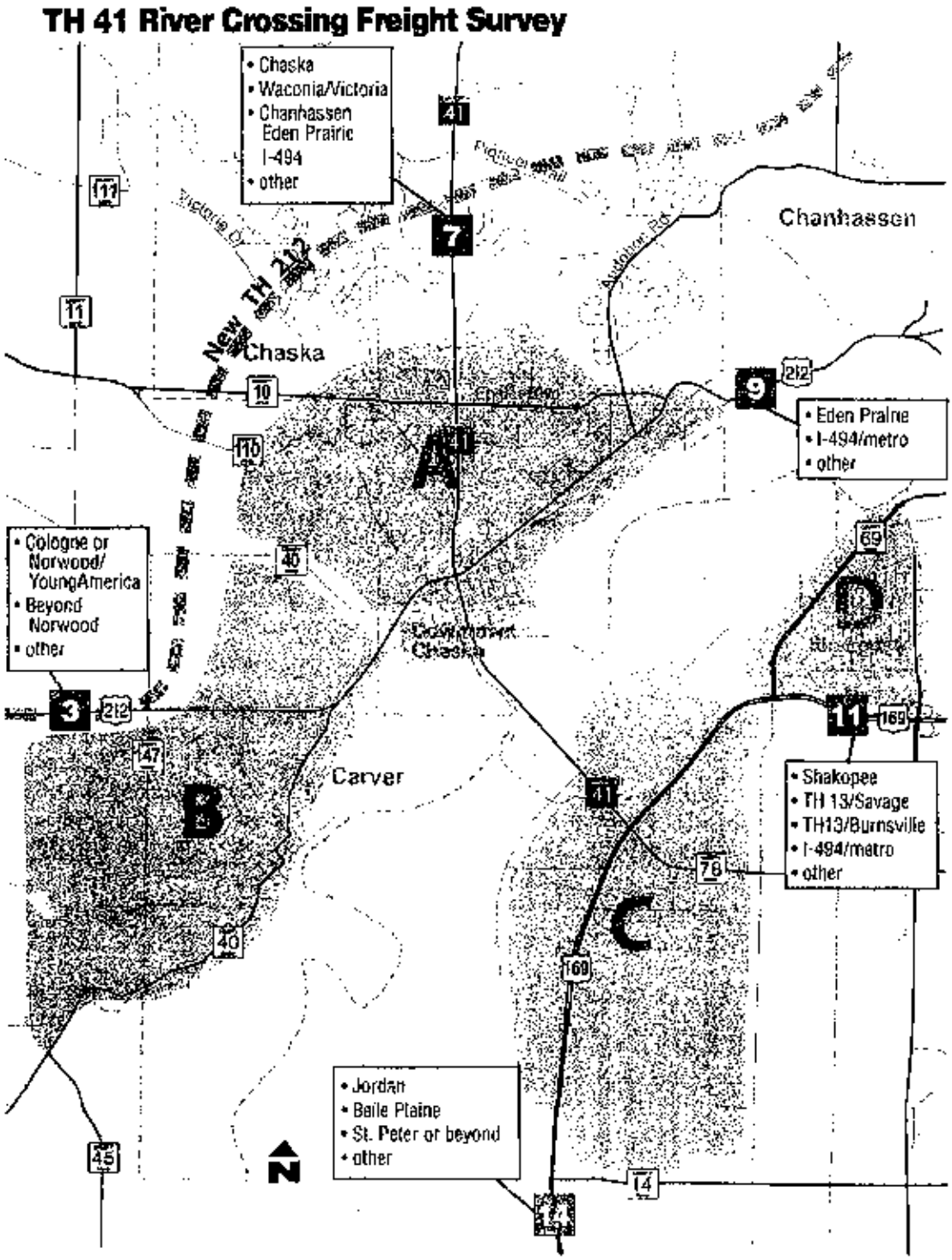
10. Is there anything else you would like us to know about your shipping patterns? For example, is there heavy seasonality in the shipping of goods/products to and from your facility (ies) in these areas?

11. Additional suggestions, comments or improvements would you like to submit to Mn/DOT in planning improvements to the TH 41/TH101 segments discussed today?

_____

Thank you for agreeing to participate in this confidential survey.

D. Map Sent with Both Motor Carrier and Shipper Surveys



TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING:
A FUTURE US 169/US 212 REGIONAL FREEWAY CONNECTION

TECHNICAL MEMORANDUM

TH 41 FREEWAY ALTERNATIVES REVIEW

APRIL 26, 2006

PREPARED BY
SRF CONSULTING GROUP, INC.

SRF NO: 0024590

SRF No. 0024590

MEMORANDUM

TO: Nancy Frick, Senior Associate

FROM: Todd Polum, P.E., PTOE, Associate

DATE: April 26, 2006

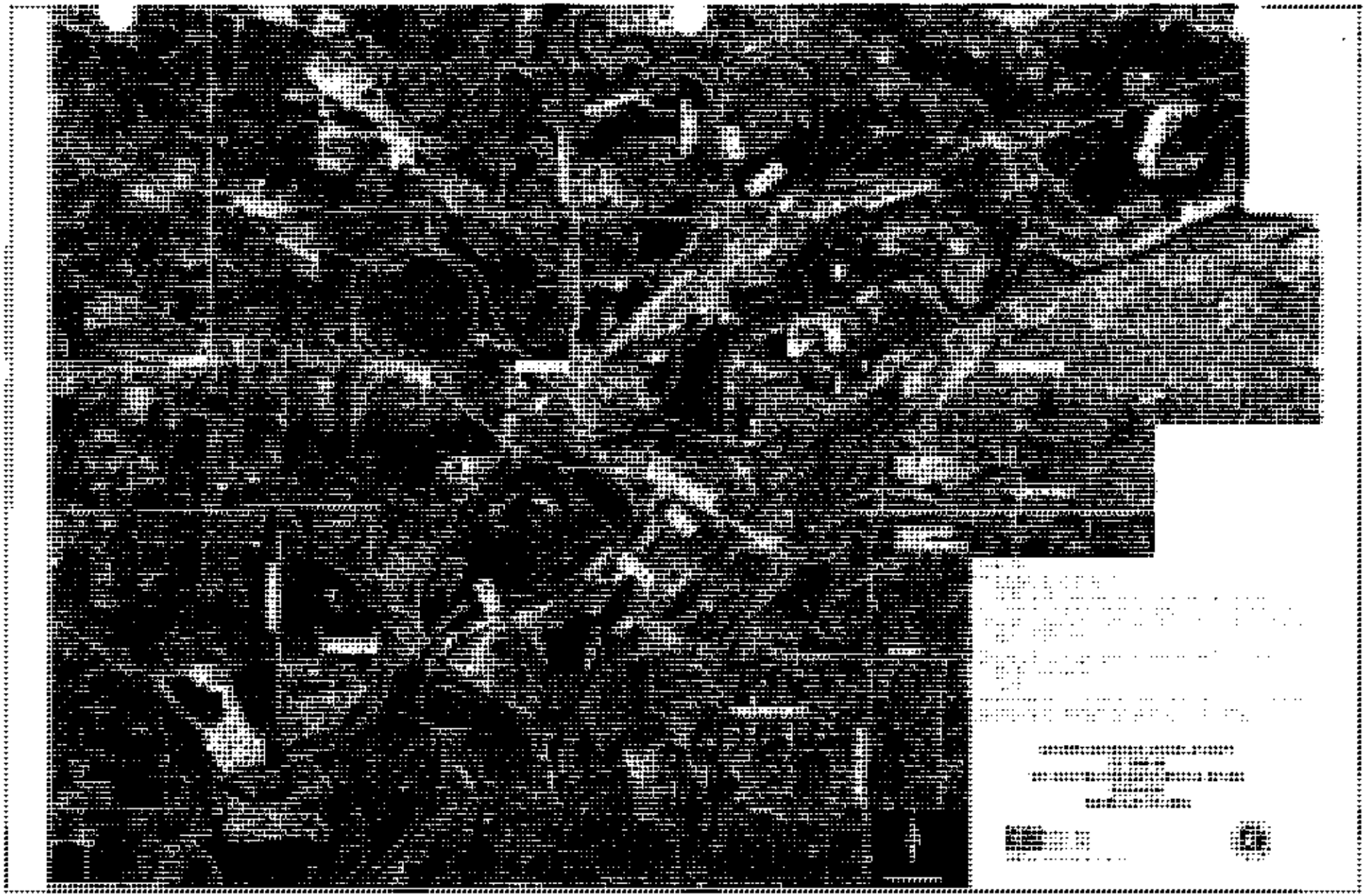
SUBJECT: TH 41 FREEWAY ALTERNATIVES REVIEW

Introduction

Mn/DOT and its local planning partners have identified a need for a new river crossing between TH 169 in Scott County and the proposed realignment of TH 212 ("New TH 212") in Carver County. As part of identifying solutions to this important transportation problem, Mn/DOT is preparing an Environmental Impact Statement (EIS). Figure 1 shows the six proposed river crossing alternatives being considered. This memorandum documents the recommended roadway geometry (basic number of lanes and auxiliary lanes) for each alternative. The roadway geometry identified has been incorporated into the geometric layouts, cost estimates, and the footprint for determining the potential project impacts.

Methodology

Preliminary concepts were developed for each of the six alternatives assuming a four-lane section within study area for TH 169, TH 212 and the "new river crossing", as well as single-lane ramps for all regional movements. Year 2040 a.m. and p.m. peak hour traffic forecast were developed for each of the six alternatives using the Metropolitan Council Twin Cities regional forecasting travel demand model. Traffic forecasts for each alternative assumed that New TH 212 will be completed and open to traffic and that existing TH 41 will remain in place. A planning-level analysis was then performed to determine the need for any additional lanes or other geometric features. This analysis considered the following volume-per-lane thresholds: 2,000 vehicles-per-hour-per-lane (vphpl) for normal roadway sections, and 1,600 vphpl in weaving sections. In certain locations, the physical distance between ramps necessitated the need for auxiliary lanes. A more detailed analysis of ramp merge areas was performed using CORSIM software where ramp volumes exceeded 1,500 vphpl. This was done to determine the need for geometric modifications (e.g. additional auxiliary lanes).



SRF
Consulting Group, Inc.

PROPOSED TH 41 ALIGNMENTS

TH 41 FREEWAY ALTERNATIVES REVIEW
Minnesota Department of Transportation

Figure 1

0024590
March 2006

Year 2040 Build Analysis

The following are the results of the traffic analysis for each of the alignment alternatives. The alternatives are presented from the western river crossing alternative, W2, to the most eastern alternative, E-2.

W-2 Alignment

Alternative W-2 involves the construction of a new east-west freeway connection between TH 169 and New TH 212. Alternative W-2 is the westernmost Build alternative. This alternative includes the following:

- New interchange connections at TH 169 and new TH 212
- A four-lane freeway section (approximately 3.1 miles)
- A new bridge crossing the Minnesota River
- A grade separation connecting existing TH 212 to a local street in the City of Carver
- A ramp connecting existing TH 212 to CSAH 11/CR 147
- A new ramp connecting New TH 212 to CSAH 11/CR 147

Based on the analysis, several operational areas of concern were identified where future traffic demand exceeded the identified capacity thresholds (see Figure 2). Table 1 shows where auxiliary lanes or other geometric features were added or modified.

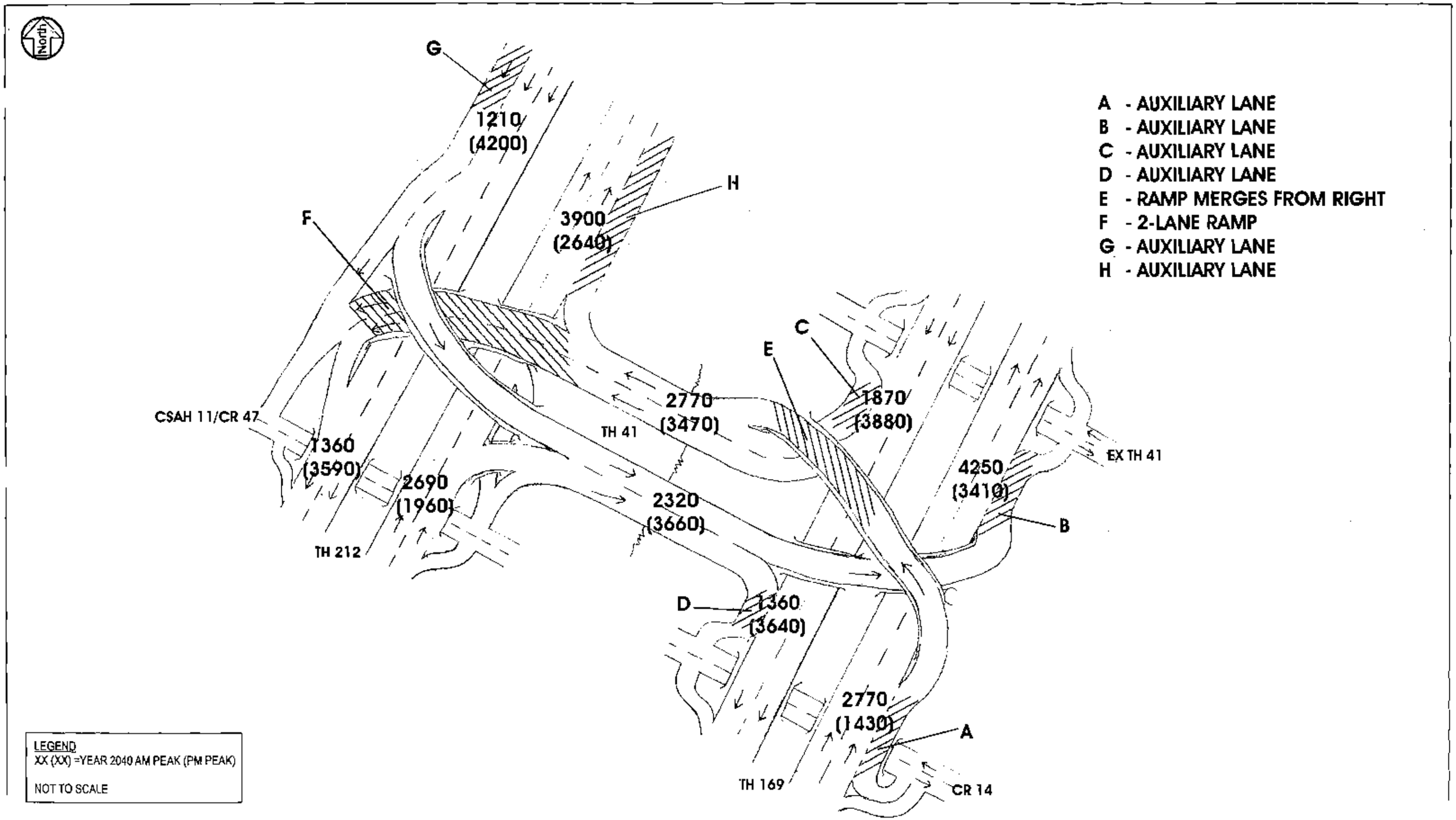
Table 1
Year 2040 Build – Alternative W-2
Freeway Analysis Results

Area	2040 Volume		Volume Threshold	Identified Improvement
	A.M. Peak	P.M. Peak		
A	2770 vhp	1430 vph	3600 vph	Auxiliary Lane
B	**4250 vph**	3410 vph	3600 vph	Auxiliary Lane
C	1870 vph	**3880 vph**	3600 vph	Auxiliary Lane
D	1360 vph	**3640 vph**	3600 vph	Auxiliary Lane
E	N-A	N-A	N-A	Ramp Merges from the right
F	1380 vph	**2000 vph**	2000 vph	2-Lane Ramp
G	1210 vph	**4200 vph**	3600 vph	Auxiliary Lane
H	**3900 vph**	2640 vph	3600 vph	Auxiliary Lane

BOLD indicates locations where additional lanes are needed to accommodate future 2040 build volumes.

For segment A, although the traffic volumes do not exceed the capacity threshold, an auxiliary lane is recommended because there is less than 3,000 feet between ramps.

For segment E, the recommendation to be merged from the right is due high local ramp volumes.



SRF Consulting Group, Inc.

0024590
March 2006

PROPOSED W-2 ALIGNMENT

TH 41 FREEWAY ALTERNATIVES REVIEW
Minnesota Department of Transportation

Figure 2

C-2A Alignment

Alternative C-2A involves the construction of a new freeway connection between TH 169 and New TH 212. The alignment runs from TH 169 to the current alignment of TH 212. The location of the proposed alignment is in the center portion of the study area, located along the western edge of downtown Chaska. This alternative includes the following:

- New interchange connections at TH 169 and new TH 212
- A four-lane freeway section (approximately 3 miles)
- A new bridge crossing the Minnesota River
- A grade separation at CR 140

Based on the analysis, several operational areas of concern were identified where future traffic demand exceeded the identified capacity thresholds (see Figure 3). Table 2 shows where auxiliary lanes or other geometric features were added or modified.

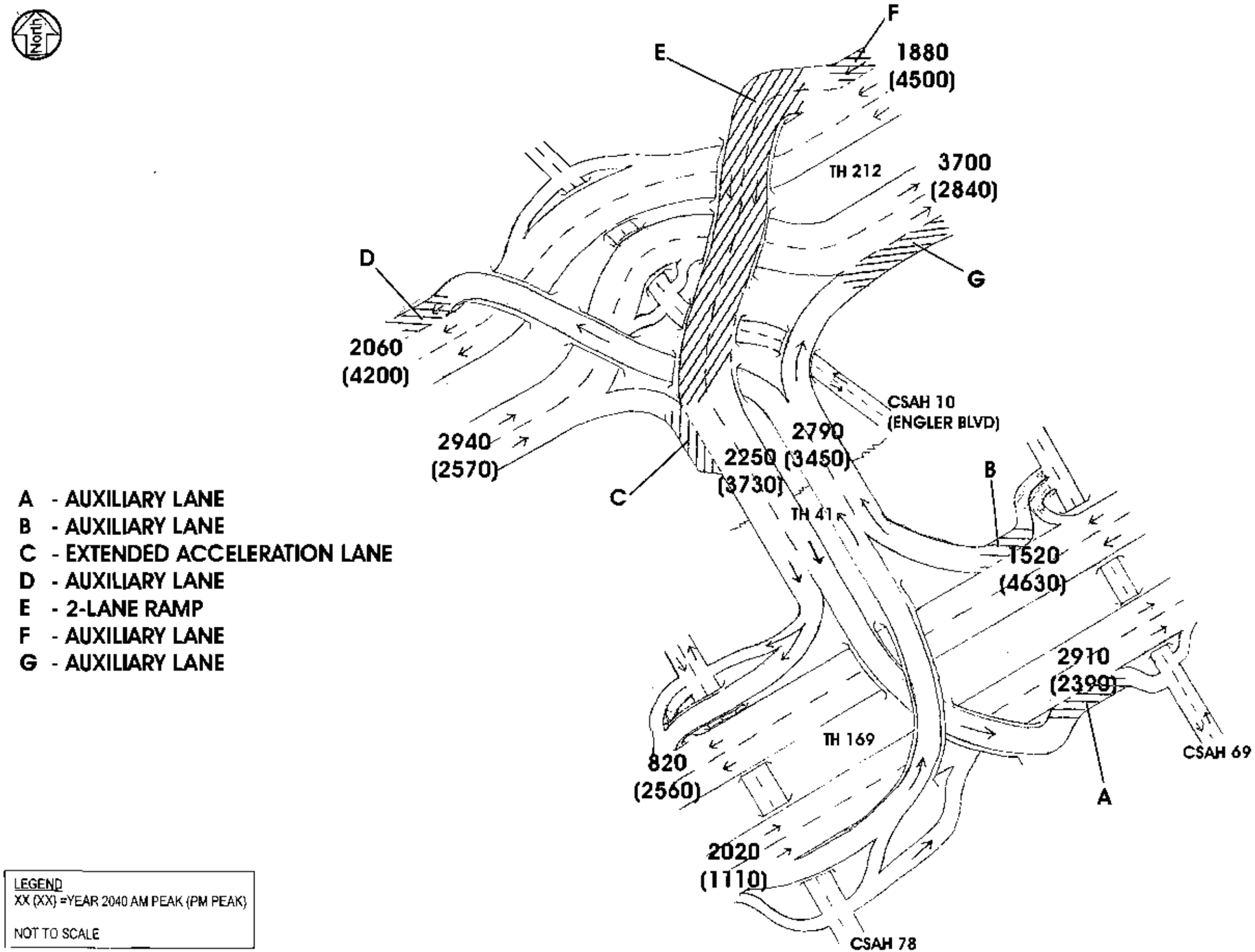
Table 2
Year 2040 Build – Alternative C-2A
Freeway Analysis Results

Area	2040 Volume		Volume Threshold	Identified Improvement
	A.M. Peak	P.M. Peak		
A	2910 vph	2390 vph	3600 vph	Auxiliary Lane
B	1520 vph	**4630 vph**	3600 vph	Auxiliary Lane
C	1500 vph	**1680 vph**	1500 vph	Parallel Acceleration Lane
D	2060 vph	**4200 vph**	3600 vph	Auxiliary Lane
E	750 vph	**2050 vph**	2000 vph	2-Lane Ramp
F	1880 vph	**4500 vph**	3600 vph	Auxiliary Lane
G	**3700 vph**	2840 vph	3600 vph	Auxiliary Lane

BOLD indicates locations where additional lanes are needed to accommodate future 2040 build volumes.

For segment A, although the traffic volumes do not exceed the capacity threshold, an auxiliary lane is recommended because there is less than 3,000 feet between ramps.

For segment C, due to the ramp volume exceeding 1,500 vph, a detailed merge analysis was completed using CORSIM to determine the need for a parallel acceleration lane.



A - AUXILIARY LANE
B - AUXILIARY LANE
C - EXTENDED ACCELERATION LANE
D - AUXILIARY LANE
E - 2-LANE RAMP
F - AUXILIARY LANE
G - AUXILIARY LANE

LEGEND
XX (XX) =YEAR 2040 AM PEAK (PM PEAK)

NOT TO SCALE

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PROPOSED C-2A ALIGNMENT

TH 41 FREEWAY ALTERNATIVES REVIEW
Minnesota Department of Transportation

Figure 3

024590
March 2006

C-2 Alignment

Alternative C-2 involves the construction of a new freeway connection between TH 169 and New TH 212. The location of the proposed alignment is in the center portion of the study area, located along the western edge of downtown Chaska. This alternative includes the following:

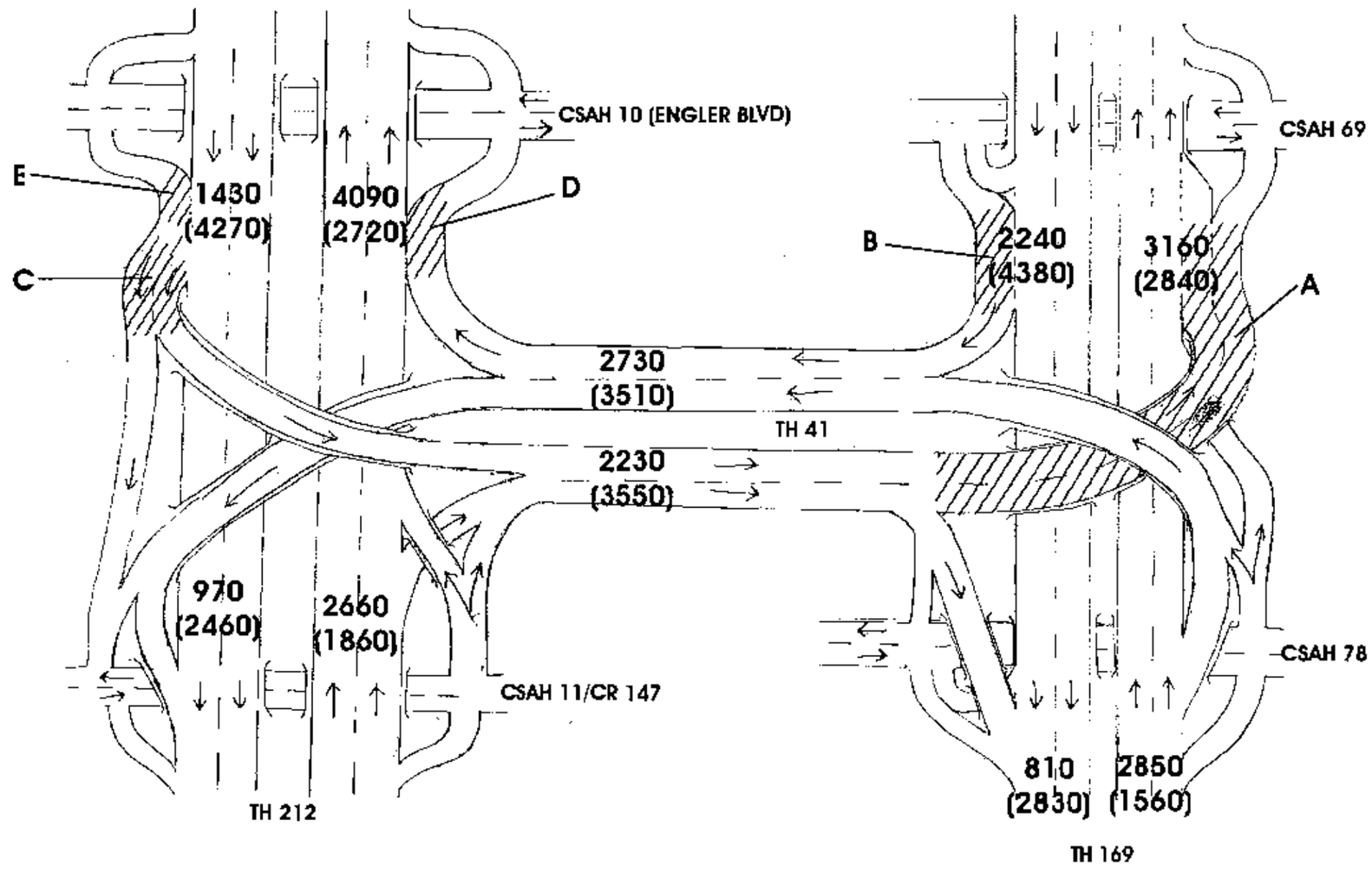
- New interchange connections at TH 169 and new TH 212
- A four-lane freeway section
- A new bridge crossing the Minnesota River
- A new ramp connecting New TH 212 to CSAH 11/CR 147

Based on the analysis, several operational areas of concern were identified where future traffic demand exceeded the identified capacity thresholds (see Figure 4). Table 3 shows where auxiliary lanes or other geometric features were added or modified.

Table 3
Year 2040 Build – Alternative C-2
Freeway Analysis Results

Area	2040 Volume		Volume Threshold	Identified Improvement
	A.M. Peak	P.M. Peak		
A	**2320 vph**	1950 vph	2000 vph	2-Lane Ramp
B	2240 vph	**4380 vph**	3600 vph	Auxiliary Lane
C	**3010 vph**	1260 vph	2000 vph	2-Lane Ramp
D	**4090 vph**	2720 vph	3600 vph	Auxiliary Lane
E	1430 vph	**4270 vph**	3600 vph	Auxiliary Lane

BOLD indicates locations where additional lanes are needed to accommodate future 2040 build volumes.



A - 2 LANE RAMP
B - AUXILIARY LANE
C - 2 LANE RAMP
D - AUXILIARY LANE
E - AUXILIARY LANE

LEGEND
XX (XX) =YEAR 2040 AM PEAK (PM PEAK)

NOT TO SCALE

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PROPOSED C-2 ALIGNMENT

TH 41 FREEWAY ALTERNATIVES REVIEW
Minnesota Department of Transportation

Figure 4

E-1 Alignment

Alternative E-1 involves the construction of a new freeway connection between TH 169 and New TH 212. The location of the proposed alignment on the eastern portion of the study area. This alternative includes the following:

- New interchange connections at TH 169 and new TH 212
- A four-lane freeway section (approximately 3 miles)
- A new bridge crossing the Minnesota River
- Realignment of CSAH 17, with an overpass connecting two residential areas

Based on the analysis, several operational areas of concern were identified where future traffic demand exceeded the identified capacity thresholds (see Figure 5). Table 6 shows where auxiliary lanes or other geometric features were added or modified.

Table 6
Year 2040 Build – Alternative E-1
Freeway Analysis Results

Area	2040 Volume		Volume Threshold	Identified Improvement
	A.M. Peak	P.M. Peak		
A	2310 vph	**4100 vph**	3600 vph	Auxiliary Lane
B	1540 vph	**2210 vph**	2000 vph	2-Lane Ramp
C	2770 vph	1570 vph	3600 vph	Auxiliary Lane
D	1190 vph	**3610 vph**	3600 vph	Auxiliary Lane
E	1400 vph	**1990 vph**	1500 vph	Parallel Acceleration Lane
F	3200 vph	**3710 vph**	3600 vph	Auxiliary Lane
G	740 vph	**2000 vph**	2000 vph	2-Lane Ramp
H	**2100 vph**	1670 vph	2000 vph	2-Lane Ramp
I	1840 vph	**4180 vph**	3600 vph	Auxiliary Lane
J	N-A	N-A	N-A	Ramp Merges from Right

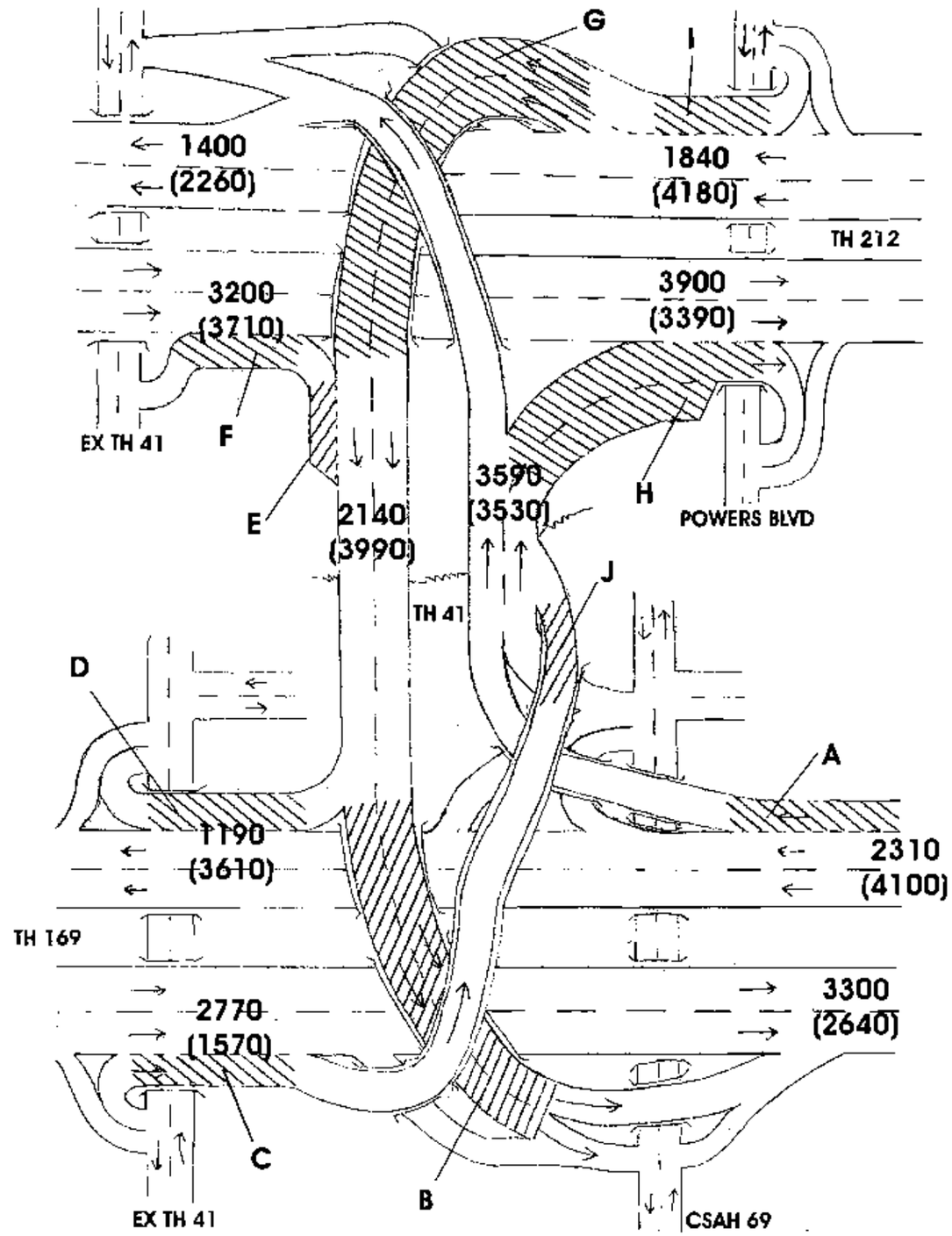
BOLD indicates locations where additional lanes are needed to accommodate future 2040 build volumes.

For segment C, although the traffic volumes do not exceed the capacity threshold, an auxiliary lane is recommended because there is less than 3,000 feet between ramps.

For segment E, due to the ramp volume exceeding 1,500 vph, a detailed merge analysis was completed using CORSIM to determine the need for a parallel acceleration lane.

For segment J, the recommendation to be merged from the right is due high local ramp volumes.

A - AUXILIARY LANE
B - 2-LANE RAMP
C - AUXILIARY LANE
D - AUXILIARY LANE
E - EXTENDED ACCELERATION LANE
F - AUXILIARY LANE
G - 2-LANE RAMP
H - 2-LANE RAMP
I - AUXILIARY LANE
J - RAMP MERGER FROM RIGHT



LEGEND
XX (XX) =YEAR 2040 AM PEAK (PM PEAK)

NOT TO SCALE

PROPOSED E-1 ALIGNMENT

TH 41 FREEWAY ALTERNATIVES REVIEW
Minnesota Department of Transportation

Figure 5

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E-1A Alignment

Alternative E-1A involves the construction of a new freeway connection between TH 169 and New TH 212. Alternative E-1A follows the same alignment as Alternative E-1 from TH 169 to approximately Engler Boulevard. North of Engler Boulevard, the connection of Alternative E-1A to New TH 212 is shifted to the east (located east of Audubon Road/CSAH 17) with connection to new TH 212 near Bluff Creek Drive. Alternative E-1A includes the following:

- New interchange connections at TH 169 and new TH 212
- A four-lane freeway section (approximately 3.6 miles)
- A new bridge crossing the Minnesota River

Based on the analysis, several operational areas of concern were identified where future traffic demand exceeded the identified capacity thresholds (see Figure 6). Table 7 shows where auxiliary lanes or other geometric features were added or modified.

Table 7
Year 2040 Build – Alternative E-1A
Freeway Analysis Results

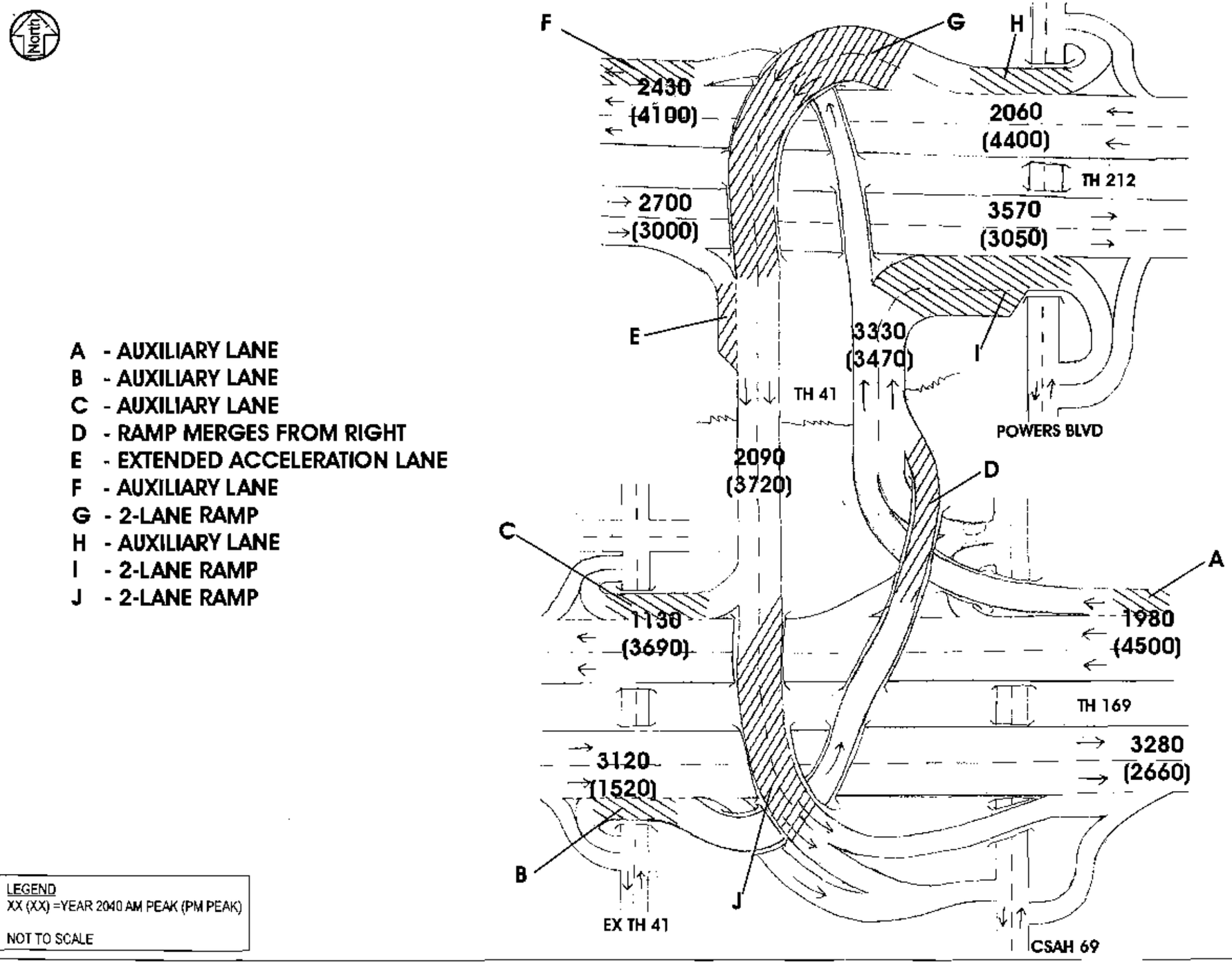
Area	2040 Volume		Volume Threshold	Identified Improvement
	A.M. Peak	P.M. Peak		
A	1980 vph	**4500 vph**	3600 vph	Auxiliary Lane
B	3120 vph	1520 vph	3600 vph	Auxiliary Lane
C	1130 vph	**3690 vph**	3600 vph	Auxiliary Lane
D	N-A	N-A	N-A	Ramp Merges from Right
E	1130 vph	**1770 vph**	1500 vph	Parallel Acceleration Lane
F	2430 vph	**4100 vph**	3600 vph	Auxiliary Lane
G	960 vph	**1950 vph**	2000 vph	2-Lane Ramp
H	2060 vph	**4400 vph**	3600 vph	Auxiliary Lane
J	**2000 vph**	1820 vph	2000 vph	2-Lane Ramp
J	1510 vph	**2300 vph**	2000 vph	2-Lane Ramp

BOLD indicates locations where additional lanes are needed to accommodate future 2040 build volumes.

For segment B, although the traffic volumes do not exceed the capacity threshold, an auxiliary lane is recommended because there is less than 3,000 feet between ramps.

For segment D, the recommendation to be merged from the right is due high local ramp volumes.

For segment E, due to the ramp volume exceeding 1,500 vph, a detailed merge analysis was completed using CORSIM to determine the need for a parallel acceleration lane.



A - AUXILIARY LANE
B - AUXILIARY LANE
C - AUXILIARY LANE
D - RAMP MERGES FROM RIGHT
E - EXTENDED ACCELERATION LANE
F - AUXILIARY LANE
G - 2-LANE RAMP
H - AUXILIARY LANE
I - 2-LANE RAMP
J - 2-LANE RAMP

LEGEND
XX (XX) =YEAR 2040 AM PEAK (PM PEAK)

NOT TO SCALE

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PROPOSED E-1A ALIGNMENT

TH 41 FREEWAY ALTERNATIVES REVIEW
Minnesota Department of Transportation

Figure 6

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING:
A FUTURE US 169/US 212 REGIONAL FREEWAY CONNECTION

TECHNICAL MEMORANDUM

TH 41 RIVER CROSSING BENEFIT-COST ANALYSIS
ASSUMPTIONS AND RESULTS

AUGUST 23, 2006
UPDATED NOVEMBER 13, 2006

PREPARED BY
SRF CONSULTING GROUP, INC.

SRF NO: 0024590

SRF CONSULTING GROUP, INC.

Transportation • Civil • Structural • Environmental • Planning • Traffic • Landscape Architecture • Parking • Right of Way

SRF No. 0024590

MEMORANDUM

TO: Rabinder Bains
Mn/DOT OIM

FROM: Dave Montebello, P.E. – Principal
Mary Karlsson, Engineer

DATE: November 13, 2006

SUBJECT: TRUNK HIGHWAY 41 (TH 41) RIVER CROSSING
BENEFIT-COST ANALYSIS
TECHNICAL MEMORANDUM UPDATE

This memorandum provides an update to the August 23, 2006 technical memorandum that presented the benefit-cost analysis performed for the TH 41 River Crossing alternatives being evaluated as part of the TH 41 River Crossing Tier 1 Draft Environmental Impact Statement (DEIS). This update was prepared because the cost estimates for the proposal project alternatives were revised from the time that the original benefit-cost analysis was performed. The cost estimates were revised in response to their review under the new Mn/DOT cost risk assessment process.

Note that the net benefits did not change, nor did maintenance costs. The most substantial revision was in assumed right of way cost. The attached appendix presents updated itemized cost summaries, calculations of capital cost and remaining capital value, and benefit cost ratios comparing each of the six Build alternatives to the No-Build alternative.

Table 1 below compares the benefit cost ratios with the preliminary costs (August 2006) and those resulting from the analysis done with the revised costs (November 2006). As shown, each alternative exceeds the benefit-cost target of 1.0, therefore each is acceptably cost-effective as compared to the No-Build alternative. Also note that, under either cost estimate, the range of benefit-cost ratios among Build alternatives is relatively limited. In terms of ranking of alternatives according to benefit-cost performance, note that under the preliminary cost estimate, Alternative C-2 has the highest benefit-cost ratio (slightly higher than the ratio for Alternative W-2), but that under the revised cost estimate, Alternative W-2 has a very slightly higher ratio than Alternative C-2. This is because the net cost of Alternative C-2 changed more than the net cost of Alternative W-2.

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Table 1
Comparison of Benefit Cost Analysis Results
Preliminary Cost Estimates (August 2006) and Revised Cost Estimates (November 2006)
TH 41 River Crossing EIS

Month of Analysis	Base vs. Build Alternative	Net Benefit (mil.$)	Net Cost (mil.$)	B/C Ratio	Net Present Value (mil.$)
Aug 06	W-2	497.74	111.25	4.48	386.52
	C-2	486.87	105.75	4.60	381.11
	C-2A	513.8	115.15	4.46	398.64
	E-1	478.84	149.06	3.40	329.78
	E-1A	486.95	143.3	3.40	343.65
	E-2	484.25	133.18	3.64	351.11
Nov 06	W-2	497.74	145.30	3.43	352.44
	C-2	486.87	143.50	3.39	343.37
	C-2A	513.8	156.08	3.29	357.72
	E-1	478.84	205.76	2.33	273.08
	E-1A	486.95	178.86	2.72	308.08
	E-2	484.25	170.49	2.84	313.76

All other assumptions, methodology descriptions, and findings presented in the August 23, 2006 memo remain the same.

DK/MK

Attachment: Appendix

cc: Diane Langenbach, Mn/DOT
Lise Freese, Mn/DOT
Nancy Frick, SRF

APPENDIX

TABLE B/C: BENEFIT-COST SUMMARY
TH 41 River Crossing - Alternative W-2

SRF PROJECT NUMBER:	4590
PROJECT NAME:	TH 41 River Crossing - Alternative W-2
B/C ANALYSIS FIRST YEAR OF BENEFIT:	2031
B/C ANALYSIS FINAL YEAR OF ANALYSIS:	2050

BENEFIT-COST ANALYSIS
SUMMARY RESULTS [a]

PRESENT VALUE OF ITEMIZED BENEFITS (mil. $)	
Vehicle Operating Savings	$4.85
Travel Time Savings	$458.02
Crash Reduction Benefits	$34.87
PRESENT VALUE OF TOTAL BENEFITS (mil. $)	**$497.74**

PRESENT VALUE OF ITEMIZED COSTS (mil. $)	
Capital Cost Differential	$214.18
Maintenance Cost Differential	$0.41
Remaining Capital Value Differential [a]	$69.29
PRESENT VALUE OF TOTAL COSTS (mil. $)	**$145.30**

Net Cost of Project (mil. $)	$145.30
Present Value of Benefits (mil. $)	$497.74
Net Present Value (mil. $)	**$352.44**
BENEFIT/COST RATIO:	**3.43**

NOTES:
(a) Remaining capital value was considered a reduction of cost in this analysis and was subtracted from construction and maintenance costs to obtain a net cost

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TABLE C1: ITEMIZED COST SUMMARY - ALTERNATIVE VS. BASE CASE

TH 41 River Crossing - Alternative W-2

	Year	PRESENT VALUE OF COSTS [a]						Present Value of Net Annual Costs [e]
		Capital Cost		Maintenance Cost [c]		Remaining Capital Value [d]		
		Base Case	Alternative [b]	Base Case	Alternative	Base Case	Alternative	
2027	-	$0	$56,259,083			Not Applicable	Not Applicable	$56,259,083
2028	-	$0	$54,409,171			Not Applicable	Not Applicable	$54,409,171
2029	-	$0	$52,620,088			Not Applicable	Not Applicable	$52,620,088
2030	-	$0	$50,889,834			Not Applicable	Not Applicable	$50,889,834
2031	1	$0	$0	$3,320	$30,965	Not Applicable	Not Applicable	$27,645
2032	2	$0	$0	$3,211	$29,947	Not Applicable	Not Applicable	$26,736
2033	3	$0	$0	$3,106	$28,962	Not Applicable	Not Applicable	$25,857
2034	4	$0	$0	$3,004	$28,010	Not Applicable	Not Applicable	$25,007
2035	5	$0	$0	$2,905	$27,089	Not Applicable	Not Applicable	$24,184
2036	6	$0	$0	$2,809	$26,198	Not Applicable	Not Applicable	$23,389
2037	7	$0	$0	$2,717	$25,337	Not Applicable	Not Applicable	$22,620
2038	8	$0	$0	$2,628	$24,504	Not Applicable	Not Applicable	$21,876
2039	9	$0	$0	$2,541	$23,698	Not Applicable	Not Applicable	$21,157
2040	10	$0	$0	$2,458	$22,919	Not Applicable	Not Applicable	$20,461
2041	11	$0	$0	$2,377	$22,165	Not Applicable	Not Applicable	$19,788
2042	12	$0	$0	$2,299	$21,436	Not Applicable	Not Applicable	$19,138
2043	13	$0	$0	$2,223	$20,731	Not Applicable	Not Applicable	$18,508
2044	14	$0	$0	$2,150	$20,050	Not Applicable	Not Applicable	$17,900
2045	15	$0	$0	$2,079	$19,390	Not Applicable	Not Applicable	$17,311
2046	16	$0	$0	$2,011	$18,753	Not Applicable	Not Applicable	$16,742
2047	17	$0	$0	$1,945	$18,136	Not Applicable	Not Applicable	$16,191
2048	18	$0	$0	$1,881	$17,540	Not Applicable	Not Applicable	$15,659
2049	19	$0	$0	$1,819	$16,963	Not Applicable	Not Applicable	$15,144
2050	20	$0	$0	$1,759	$16,405	$0	$69,290,185	-$69,275,549
Total for Project Life	2031-2050	$0	$214,178,177	$49,240	$459,200	$0	$69,290,185	$ 145,297,942
Net Cost Differentials	2031-2050	$214,178,177		$409,960		$69,290,185		

NOTES:

(a) Present value of costs in terms of 2006 dollars

(b) Assumes initial capital construction costs distributed evenly for 2027 - 2030. Initial capital costs were brought back to 2006 to determine present value.

(c) Annual cost of routine maintenance, e.g., plowing, striping, etc.

(d) Assumes base year for remaining capital value as 2050. Remaining value in constant dollars was brought back from 2050 to 2006 to determine present value.

(e) Remaining capital value was considered a reduction of cost in this analysis and was subtracted from construction and maintenance costs to obtain a net cost.

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TABLE C2: CALCULATION OF CAPITAL COST AND REMAINING CAPITAL VALUE - ALTERNATIVE [a]
TH 41 River Crossing - Alternative W-2

Alternative

Cost Category	Initial Capital Costs in Constant Dollars
Miscellaneous Costs [b]	$ 60,005,600
Right of Way - Land	$ 54,000,000
Right of Way - Building and Relocate	$ 28,000,000
Major Structures	$ 260,499,900
Drainage and Grading	$ 27,507,321
Sub-base and Base	$ 9,574,732
Surface [c]	$ 28,582,736
Total	$ 469,574,490

Final Year of Construction: 2027
Duration of Construction (years): 4

Cost Category	Initial Capital Costs in Constant Dollars	Factor [d]	Remaining Capital Value in Constant Dollars
Miscellaneous Costs [b]	$ 60,005,600	0.00	$ -
Right of Way - Land	$ 54,000,000	0.97	$ 52,380,000
Right of Way - Building and Relocate	$ 28,000,000	0.00	$ -
Major Structures	$ 260,499,900	0.86	$ 223,974,915
Drainage and Grading	$ 27,507,321	0.78	$ 21,456,711
Sub-base and Base	$ 9,574,732	0.86	$ 8,321,853
Surface [c]	$ 28,582,736	0.27	$ 7,675,358
Total Remaining Capital Value in Constant Dollars			$ 311,957,838

Year of Remaining Capital Value: 2050 [g]

	Year	CAPITAL COST TOTALS: Alternative Capital Cost in Constant Dollars [e]	CAPITAL COST TOTALS: Present Value of Capital Cost (dollars) [f]	REMAINING CAPITAL VALUE (RCV) TOTALS: Alternative RCV in Constant Dollars [g]	REMAINING CAPITAL VALUE (RCV) TOTALS: Present Value of RCV (dollars) [f]
2027	-	$117,393,623	$56,253,082	Not Applicable	Not Applicable
2028	-	$117,393,623	$54,409,171	Not Applicable	Not Applicable
2029	-	$117,393,623	$52,630,088	Not Applicable	Not Applicable
2030	-	$117,393,623	$50,909,634	Not Applicable	Not Applicable
2031	1	$0	$0	Not Applicable	Not Applicable
2032	2	$0	$0	Not Applicable	Not Applicable
2033	3	$0	$0	Not Applicable	Not Applicable
2034	4	$0	$0	Not Applicable	Not Applicable
2035	5	$0	$0	Not Applicable	Not Applicable
2036	6	$0	$0	Not Applicable	Not Applicable
2037	7	$0	$0	Not Applicable	Not Applicable
2038	8	$0	$0	Not Applicable	Not Applicable
2039	9	$0	$0	Not Applicable	Not Applicable
2040	10	$0	$0	Not Applicable	Not Applicable
2041	11	$0	$0	Not Applicable	Not Applicable
2042	12	$0	$0	Not Applicable	Not Applicable
2043	13	$0	$0	Not Applicable	Not Applicable
2044	14	$0	$0	Not Applicable	Not Applicable
2045	15	$0	$0	Not Applicable	Not Applicable
2046	16	$0	$0	Not Applicable	Not Applicable
2047	17	$0	$0	Not Applicable	Not Applicable
2048	18	$0	$0	Not Applicable	Not Applicable
2049	19	$0	$0	Not Applicable	Not Applicable
2050	20	$0	$0	$311,957,838	$69,290,198
	Total for Project Life (2021 - 2050)		$214,178,177		$69,290,198

NOTES

(a) Right of way and construction costs developed by SRF Consulting Group, Inc. Costs do not include risk or project delivery.

(b) Miscellaneous costs include mobilization, contingencies, and moving systems, temporary pavement and drainage, and traffic control during construction.

(c) Surface costs include pavement, lighting, signals, and signing.

(d) Factors based on the "Recommended standard values for use in economic analysis", MnDOT Office of Investment Management, July 2005.

(e) Assumes initial capital construction costs distributed evenly for 2027 - 2030. Initial capital costs were brought back to 2005 to determine present value.

(f) Present value of costs in terms of 2005 dollars.

(g) Assumes base year for remaining capital value as 2050. Remaining value in constant dollars was brought back from 2050 to 2005 to determine present value.

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TABLE B/C: BENEFIT-COST SUMMARY
TH 41 River Crossing - Alternative C-2

SRF Consulting Group, Inc

SRF PROJECT NUMBER:	4590
PROJECT NAME:	TH 41 River Crossing - Alternative C-2
B/C ANALYSIS FIRST YEAR OF BENEFIT:	2031
B/C ANALYSIS FINAL YEAR OF ANALYSIS:	2050

BENEFIT-COST ANALYSIS
SUMMARY RESULTS [a]

PRESENT VALUE OF ITEMIZED BENEFITS (mil. $)	
Vehicle Operating Savings	$5.17
Travel Time Savings	$451.60
Crash Reduction Benefits	$30.10
PRESENT VALUE OF TOTAL BENEFITS (mil. $)	**$486.87**

PRESENT VALUE OF ITEMIZED COSTS (mil. $)	
Capital Cost Differential	$209.19
Maintenance Cost Differential	$0.37
Remaining Capital Value Differential [a]	$66.06
PRESENT VALUE OF TOTAL COSTS (mil. $)	**$143.50**

Net Cost of Project (mil. $)	$143.50
Present Value of Benefits (mil. $)	$486.87
Net Present Value (mil. $)	**$343.37**
BENEFIT/COST RATIO:	**3.39**

NOTES:
(a) Remaining capital value was considered a reduction of cost in this analysis and was subtracted from construction and maintenance costs to obtain a net cost.

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SRF Consulting Group, Inc.

TABLE C1: ITEMIZED COST SUMMARY - ALTERNATIVE VS. BASE CASE

TH 41 River Crossing - Alternative C-2

	Year	PRESENT VALUE OF COSTS [a]						Present Value of Net Annual Costs [e]
		Capital Cost		Maintenance Cost [c]		Remaining Capital Value [d]		
		Base Case	Alternative [b]	Base Case	Alternative	Base Case	Alternative	
2027	-	$0	$54,947,767			Not Applicable	Not Applicable	$54,947,767
2028	-	$0	$53,140,974			Not Applicable	Not Applicable	$53,140,974
2029	-	$0	$51,393,592			Not Applicable	Not Applicable	$51,393,592
2030	-	$0	$49,703,667			Not Applicable	Not Applicable	$49,703,667
2031	1	$0	$0	$3,320	$28,047	Not Applicable	Not Applicable	$24,727
2032	2	$0	$0	$3,211	$27,125	Not Applicable	Not Applicable	$23,914
2033	3	$0	$0	$3,106	$26,233	Not Applicable	Not Applicable	$23,128
2034	4	$0	$0	$3,004	$25,371	Not Applicable	Not Applicable	$22,367
2035	5	$0	$0	$2,905	$24,536	Not Applicable	Not Applicable	$21,632
2036	6	$0	$0	$2,809	$23,730	Not Applicable	Not Applicable	$20,920
2037	7	$0	$0	$2,717	$22,949	Not Applicable	Not Applicable	$20,232
2038	8	$0	$0	$2,628	$22,195	Not Applicable	Not Applicable	$19,567
2039	9	$0	$0	$2,541	$21,465	Not Applicable	Not Applicable	$18,924
2040	10	$0	$0	$2,458	$20,759	Not Applicable	Not Applicable	$18,301
2041	11	$0	$0	$2,377	$20,076	Not Applicable	Not Applicable	$17,700
2042	12	$0	$0	$2,299	$19,416	Not Applicable	Not Applicable	$17,118
2043	13	$0	$0	$2,223	$18,778	Not Applicable	Not Applicable	$16,555
2044	14	$0	$0	$2,150	$18,160	Not Applicable	Not Applicable	$16,010
2045	15	$0	$0	$2,079	$17,563	Not Applicable	Not Applicable	$15,484
2046	16	$0	$0	$2,011	$16,986	Not Applicable	Not Applicable	$14,975
2047	17	$0	$0	$1,945	$16,427	Not Applicable	Not Applicable	$14,482
2048	18	$0	$0	$1,881	$15,887	Not Applicable	Not Applicable	$14,006
2049	19	$0	$0	$1,819	$15,365	Not Applicable	Not Applicable	$13,546
2050	20	$0	$0	$1,759	$14,859	Not Applicable	$66,057,531	-$66,044,430
Total for Project Life	2031-2050	$0	$209,185,999	$49,240	$415,928	$0	$66,057,531	$ 143,495,157
Net Cost Differentials	2031-2050	$209,185,999		$366,688		$66,057,531		

NOTES:

(a) Present value of costs in terms of 2006 dollars.

(b) Assumes initial capital construction costs distributed evenly for 2027 - 2030. Initial capital costs were brought back to 2006 to determine present value.

(c) Annual cost of routine maintenance, e.g., plowing, striping, etc.

(d) Assumes base year for remaining capital value as 2050. Remaining value in constant dollars was brought back from 2050 to 2006 to determine present value.

(e) Remaining capital value was considered a reduction of cost in this analysis and was subtracted from construction and maintenance costs to obtain a net cost

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TABLE C2: CALCULATION OF CAPITAL COST AND REMAINING CAPITAL VALUE - ALTERNATIVE [a]

TH 41 River Crossing - Alternative C-2

Alternative

Cost Category	Initial Capital Costs in Constant Dollars
Miscellaneous Costs [b]	$ 54,238,860
Right of Way - Land	$ 82,000,000
Right of Way - Building & Relocation	$ 42,000,000
Major Structures	$ 246,861,340
Drainage and Grading	$ 18,856,389
Sub-base and Base	$ 8,820,677
Surface [c]	$ 26,052,134
Total	$ 458,829,400

First Year of Construction: 2027
Duration of Construction (years): 4

Cost Category	Initial Capital Costs in Constant Dollars	Factor [d]	Remaining Capital Value in Constant Dollars
Miscellaneous Costs [b]	$ 54,238,860	0.00	$ -
Right of Way - Land	$ 82,000,000	0.97	$ 80,140,000
Right of Way - Building & Relocation	$ 42,000,000	0.00	-
Major Structures	$ 246,861,340	0.85	$ 209,832,139
Drainage and Grading	$ 18,856,389	0.78	$ 14,737,933
Sub-base and Base	$ 8,820,677	0.66	$ 5,829,647
Surface [c]	$ 26,052,134	0.27	$ 7,034,076
Total Remaining Capital Value in Constant Dollars			$ 297,403,646

Year of Remaining Capital Value: 2050 [g]

Year		CAPITAL COST TOTALS: Alternative Capital Cost in Constant Dollars [e]	CAPITAL COST TOTALS: Present Value of Capital Cost [dollars] [f]	REMAINING CAPITAL VALUE (RCV) TOTALS: Alternative RCV in Constant Dollars [g]	REMAINING CAPITAL VALUE (RCV) TOTALS: Present Value of RCV [dollars] [f]
2027	-	$114,657,350	$54,947,757	Not Applicable	Not Applicable
2028	-	$114,657,350	$53,140,974	Not Applicable	Not Applicable
2029	-	$114,657,350	$51,393,592	Not Applicable	Not Applicable
2030	-	$114,657,350	$49,703,087	Not Applicable	Not Applicable
2031	1	$0	$0	Not Applicable	Not Applicable
2032	2	$0	$0	Not Applicable	Not Applicable
2033	3	$0	$0	Not Applicable	Not Applicable
2034	4	$0	$0	Not Applicable	Not Applicable
2035	5	$0	$0	Not Applicable	Not Applicable
2036	6	$0	$0	Not Applicable	Not Applicable
2037	7	$0	$0	Not Applicable	Not Applicable
2038	8	$0	$0	Not Applicable	Not Applicable
2039	9	$0	$0	Not Applicable	Not Applicable
2040	10	$0	$0	Not Applicable	Not Applicable
2041	11	$0	$0	Not Applicable	Not Applicable
2042	12	$0	$0	Not Applicable	Not Applicable
2043	13	$0	$0	Not Applicable	Not Applicable
2044	14	$0	$0	Not Applicable	Not Applicable
2045	15	$0	$0	Not Applicable	Not Applicable
2046	16	$0	$0	Not Applicable	Not Applicable
2047	17	$0	$0	Not Applicable	Not Applicable
2048	18	$0	$0	Not Applicable	Not Applicable
2049	19	$0	$0	Not Applicable	Not Applicable
2050	20	$0	$0	$297,403,646	$80,607,531
Total for Project Life (2031 - 2050)			$209,185,999		$80,607,531

NOTES

(a) Right of way and construction costs developed by SRF Consulting Group, Inc. Costs do not include risk or project delivery

(b) Miscellaneous costs include mobilization, contingencies, ITS/Lighting systems, temporary pavement and drainage, and traffic control during construction.

(c) Surface costs include pavement, lighting, signals, and signing.

(d) Factors based on the "Recommended standard values for use in economic analysis", MnDOT Office of Investment Management, July 2005.

(e) Assumes initial capital construction costs distributed evenly for 2027 - 2030. Initial capital costs were brought back to 2006 to determine present value

(f) Present value of costs in terms of 2006 dollars.

(g) Assumes base year for remaining capital value as 2050. Remaining value in constant dollars was brought back from 2050 to 2006 to determine present value.

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TABLE B/C: BENEFIT-COST SUMMARY
TH 41 River Crossing - Alternative C-2A

SRF PROJECT NUMBER: 4590
PROJECT NAME: TH 41 River Crossing - Alternative C-2A
B/C ANALYSIS FIRST YEAR OF BENEFIT: 2031
B/C ANALYSIS FINAL YEAR OF ANALYSIS: 2050

BENEFIT-COST ANALYSIS
SUMMARY RESULTS [a]

PRESENT VALUE OF ITEMIZED BENEFITS (mil. $)	
Vehicle Operating Savings	$5.31
Travel Time Savings	$475.83
Crash Reduction Benefits	$32.66
PRESENT VALUE OF TOTAL BENEFITS (mil. $)	$513.79

PRESENT VALUE OF ITEMIZED COSTS (mil. $)	
Capital Cost Differential	$224.84
Maintenance Cost Differential	$0.45
Remaining Capital Value Differential [a]	$69.21
PRESENT VALUE OF TOTAL COSTS (mil. $)	$156.08

Net Cost of Project (mil. $)	$156.08
Present Value of Benefits (mil. $)	$513.79
Net Present Value (mil. $)	$357.72
BENEFIT/COST RATIO:	3.29

NOTES
(a) Remaining capital value was considered a reduction of cost in this analysis and was subtracted from construction and maintenance costs to obtain a net cost

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TABLE C1: ITEMIZED COST SUMMARY - ALTERNATIVE VS. BASE CASE
TH 41 River Crossing - Alternative C-2A

	Year	PRESENT VALUE OF COSTS [a]						Present Value of Net Annual Costs [e]
		Capital Cost		Maintenance Cost [c]		Remaining Capital Value [d]		
		Base Case	Alternative [b]	Base Case	Alternative	Base Case	Alternative	
2027	-	$0	$59,058,587			Not Applicable	Not Applicable	$59,058,587
2028	-	$0	$57,116,622			Not Applicable	Not Applicable	$57,116,622
2029	-	$0	$55,238,513			Not Applicable	Not Applicable	$55,238,513
2030	-	$0	$53,422,159			Not Applicable	Not Applicable	$53,422,159
2031	1	$0	$0	$3,320	$33,355	Not Applicable	Not Applicable	$30,035
2032	2	$0	$0	$3,211	$32,258	Not Applicable	Not Applicable	$29,047
2033	3	$0	$0	$3,106	$31,197	Not Applicable	Not Applicable	$28,092
2034	4	$0	$0	$3,004	$30,172	Not Applicable	Not Applicable	$27,168
2035	5	$0	$0	$2,905	$29,180	Not Applicable	Not Applicable	$26,275
2036	6	$0	$0	$2,809	$28,220	Not Applicable	Not Applicable	$25,411
2037	7	$0	$0	$2,717	$27,292	Not Applicable	Not Applicable	$24,575
2038	8	$0	$0	$2,628	$26,395	Not Applicable	Not Applicable	$23,767
2039	9	$0	$0	$2,541	$25,527	Not Applicable	Not Applicable	$22,986
2040	10	$0	$0	$2,458	$24,687	Not Applicable	Not Applicable	$22,230
2041	11	$0	$0	$2,377	$23,876	Not Applicable	Not Applicable	$21,499
2042	12	$0	$0	$2,299	$23,091	Not Applicable	Not Applicable	$20,792
2043	13	$0	$0	$2,223	$22,331	Not Applicable	Not Applicable	$20,108
2044	14	$0	$0	$2,150	$21,597	Not Applicable	Not Applicable	$19,447
2045	15	$0	$0	$2,079	$20,887	Not Applicable	Not Applicable	$18,808
2046	16	$0	$0	$2,011	$20,200	Not Applicable	Not Applicable	$18,189
2047	17	$0	$0	$1,945	$19,536	Not Applicable	Not Applicable	$17,591
2048	18	$0	$0	$1,881	$18,893	Not Applicable	Not Applicable	$17,013
2049	19	$0	$0	$1,819	$18,272	Not Applicable	Not Applicable	$16,453
2050	20	$0	$0	$1,759	$17,671	Not Applicable	$69,205,613	-$69,189,700
Total for Project Life	2031-2050	$0	$224,835,881	$49,240	$494,637	$0	$69,205,613	$ 156,075,665
Net Cost Differentials	2031-2050		$224,835,881		$445,398		$69,205,613	

NOTES:

(a) Present value of costs in terms of 2006 dollars.

(b) Assumes initial capital construction costs distributed evenly for 2027 - 2030. Initial capital costs were brought back to 2006 to determine present value

(c) Annual cost of routine maintenance, e.g., plowing, striping, etc.

(d) Assumes base year for remaining capital value as 2050. Remaining value in constant dollars was brought back from 2050 to 2006 to determine present value.

(e) Remaining capital value was considered a reduction of cost in this analysis and was subtracted from construction and maintenance costs to obtain a net cost.

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TABLE C2: CALCULATION OF CAPITAL COST AND REMAINING CAPITAL VALUE - ALTERNATIVE [a]

TH 41 River Crossing - Alternative C-ZA

Alternative

Cost Category		Initial Capital Costs in Constant Dollars
Miscellaneous Costs [b]	$	69,317,980
Right of Way - Land	$	44,500,000
Right of Way - Building & Relocation	$	44,500,000
Major Structures	$	274,710,680
Drainage and Grading	$	25,753,119
Sub-base and Base	$	10,189,050
Surface [c]	$	29,960,141
Total	$	522,940,950

First Year of Construction 2027
Duration of Construction (years) 4

Cost Category		Initial Capital Costs in Constant Dollars	Factor [d]		Remaining Capital Value in Constant Dollars
Miscellaneous Costs [b]	$	69,317,980	0.00	$	-
Right of Way - Land	$	44,500,000	0.97	$	43,165,000
Right of Way - Building & Relocation	$	44,500,000	0.00		
Major Structures	$	274,710,680	0.85	$	233,504,078
Drainage and Grading	$	25,753,119	0.78	$	20,087,433
Sub-base and Base	$	10,189,050	0.66	$	6,791,373
Surface [c]	$	29,960,141	0.27	$	8,089,238
Total Remaining Capital Value in Constant Dollars				$	311,577,122

Year of Remaining Capital Value: 2050 (g)

	Year	CAPITAL COST TOTALS: Alternative Capital Cost in Constant Dollars [e]	CAPITAL COST TOTALS: Present Value of Capital Cost (dollars) [f]	REMAINING CAPITAL VALUE (RCV) TOTALS: Alternative RCV in Constant Dollars [g]	REMAINING CAPITAL VALUE (RCV) TOTALS: Present Value of RCV (dollars) [h]
2027	-	$123,235,238	$89,058,687	Not Applicable	Not Applicable
2028	-	$123,235,238	$87,318,824	Not Applicable	Not Applicable
2029	-	$123,235,238	$85,208,612	Not Applicable	Not Applicable
2030	-	$123,235,238	$83,422,156	Not Applicable	Not Applicable
2031	1	$0	$0	Not Applicable	Not Applicable
2032	2	$0	$0	Not Applicable	Not Applicable
2033	3	$0	$0	Not Applicable	Not Applicable
2034	4	$0	$0	Not Applicable	Not Applicable
2035	5	$0	$0	Not Applicable	Not Applicable
2036	6	$0	$0	Not Applicable	Not Applicable
2037	7	$0	$0	Not Applicable	Not Applicable
2038	8	$0	$0	Not Applicable	Not Applicable
2039	9	$0	$0	Not Applicable	Not Applicable
2040	10	$0	$0	Not Applicable	Not Applicable
2041	11	$0	$0	Not Applicable	Not Applicable
2042	12	$0	$0	Not Applicable	Not Applicable
2043	13	$0	$0	Not Applicable	Not Applicable
2044	14	$0	$0	Not Applicable	Not Applicable
2045	15	$0	$0	Not Applicable	Not Applicable
2046	16	$0	$0	Not Applicable	Not Applicable
2047	17	$0	$0	Not Applicable	Not Applicable
2048	18	$0	$0	Not Applicable	Not Applicable
2049	19	$0	$0	Not Applicable	Not Applicable
2050	20	$0	$0	$311,577,122	$89,205,813
Total for Project Life (2021 - 2050)			$224,835,881		$89,205,813

NOTES

(a) Right of way and construction costs developed by SRF Consulting Group, Inc. Costs do not include risk or project delivery

(b) Miscellaneous costs include mobilization, contingencies, anti-icing systems, temporary pavement and drainage, and traffic control during construction

(c) Surface costs include pavement, lighting, signals, and signing

(d) Factors based on the "Recommended standard values for use in economic analysis", MnDOT Office of Investment Management, July 2005

(e) Assumes initial capital construction costs distributed evenly for 2027 - 2030. Initial capital costs were brought back to 2006 to determine present value

(f) Present value of costs in terms of 2006 dollars

(g) Assumes base year for remaining capital value as 2050. Remaining value in constant dollars was brought back from 2050 to 2006 to determine present value

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TABLE B/C: BENEFIT-COST SUMMARY
TH 41 River Crossing - Alternative E-1

SRF PROJECT NUMBER: 4590
PROJECT NAME: TH 41 River Crossing - Alternative E-1
B/C ANALYSIS FIRST YEAR OF BENEFIT: 2031
B/C ANALYSIS FINAL YEAR OF ANALYSIS: 2050

BENEFIT-COST ANALYSIS
SUMMARY RESULTS [a]

PRESENT VALUE OF ITEMIZED BENEFITS (mil. $)	
Vehicle Operating Savings	$4.69
Travel Time Savings	$442.27
Crash Reduction Benefits	$31.87
PRESENT VALUE OF TOTAL BENEFITS (mil. $)	**$478.84**

PRESENT VALUE OF ITEMIZED COSTS (mil. $)	
Capital Cost Differential	$282.79
Maintenance Cost Differential	$0.46
Remaining Capital Value Differential [a]	$77.50
PRESENT VALUE OF TOTAL COSTS (mil. $)	**$205.76**

Net Cost of Project (mil. $)	$205.76
Present Value of Benefits (mil. $)	$478.84
Net Present Value (mil. $)	**$273.08**
BENEFIT/COST RATIO:	**2.33**

NOTES:
(a) Remaining capital value was considered a reduction of cost in this analysis and was subtracted from construction and maintenance costs to obtain a net cost

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TABLE C1: ITEMIZED COST SUMMARY - ALTERNATIVE VS. BASE CASE

TH 41 River Crossing - Alternative E-1

	Year	PRESENT VALUE OF COSTS [a]						Present Value of Net Annual Costs [e]
		Capital Cost		Maintenance Cost [c]		Remaining Capital Value [d]		
		Base Case	Alternative [b]	Base Case	Alternative	Base Case	Alternative	
2027	-	$0	$74,282,309			Not Applicable	Not Applicable	$74,282,309
2028	-	$0	$71,839,757			Not Applicable	Not Applicable	$71,839,757
2029	-	$0	$69,477,521			Not Applicable	Not Applicable	$69,477,521
2030	-	$0	$67,192,961			Not Applicable	Not Applicable	$67,192,961
2031	**1**	**$0**	**$0**	**$3,320**	**$34,487**	**Not Applicable**	**Not Applicable**	**$31,167**
2032	2	$0	$0	$3,211	$33,353	Not Applicable	Not Applicable	$30,142
2033	3	$0	$0	$3,106	$32,258	Not Applicable	Not Applicable	$29,151
2034	4	$0	$0	$3,004	$31,196	Not Applicable	Not Applicable	$28,192
2035	5	$0	$0	$2,905	$30,170	Not Applicable	Not Applicable	$27,265
2036	6	$0	$0	$2,809	$29,178	Not Applicable	Not Applicable	$26,369
2037	7	$0	$0	$2,717	$28,218	Not Applicable	Not Applicable	$25,501
2038	8	$0	$0	$2,628	$27,290	Not Applicable	Not Applicable	$24,663
2039	9	$0	$0	$2,541	$26,393	Not Applicable	Not Applicable	$23,852
2040	10	$0	$0	$2,458	$25,525	Not Applicable	Not Applicable	$23,068
2041	11	$0	$0	$2,377	$24,686	Not Applicable	Not Applicable	$22,309
2042	12	$0	$0	$2,299	$23,874	Not Applicable	Not Applicable	$21,576
2043	13	$0	$0	$2,223	$23,089	Not Applicable	Not Applicable	$20,866
2044	14	$0	$0	$2,150	$22,330	Not Applicable	Not Applicable	$20,180
2045	15	$0	$0	$2,079	$21,596	Not Applicable	Not Applicable	$19,516
2046	16	$0	$0	$2,011	$20,886	Not Applicable	Not Applicable	$18,875
2047	17	$0	$0	$1,945	$20,199	Not Applicable	Not Applicable	$18,254
2048	18	$0	$0	$1,881	$19,535	Not Applicable	Not Applicable	$17,654
2049	19	$0	$0	$1,819	$18,892	Not Applicable	Not Applicable	$17,073
2050	**20**	**$0**	**$0**	**$1,759**	**$18,271**	**Not Applicable**	**$77,497,884**	**-$77,481,372**
Total for Project Life	2031-2050	$0	$282,792,548	$49,240	$511,424	$0	$77,497,884	$ 205,756,847
Net Cost Differentials	2031-2050	$282,792,548		$462,184		$77,497,884		

NOTES:

(a) Present value of costs in terms of 2006 dollars.

(b) Assumes initial capital construction costs distributed evenly for 2027 - 2030. Initial capital costs were brought back to 2006 to determine present value.

(c) Annual cost of routine maintenance, e.g., plowing, striping, etc.

(d) Assumes base year for remaining capital value as 2050. Remaining value in constant dollars was brought back from 2050 to 2006 to determine present value.

(e) Remaining capital value was considered a reduction of cost in this analysis and was subtracted from construction and maintenance costs to obtain a net cost.

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TABLE C2: CALCULATION OF CAPITAL COST AND REMAINING CAPITAL VALUE - ALTERNATIVE [a]

TH 41 River Crossing - Alternative E-1

Alternative

Cost Category	Initial Capital Costs in Constant Dollars
Miscellaneous Costs [b]	$ 83,767,000
Right of Way - Land	$ 35,000,000
Right of Way - Building & Relocation	$ 102,000,000
Major Structures	$ 314,395,440
Drainage and Grading	$ 40,627,282
Sub-base and Base	$ 10,480,598
Surface [c]	$ 30,726,602
Total	$ 626,007,920

First Year of Construction: 2027

Duration of Construction (years): 4

Cost Category	Initial Capital Costs in Constant Dollars	Factor [d]	Remaining Capital Value in Constant Dollars
Miscellaneous Costs [b]	$ 83,767,000	0.00	$ -
Right of Way - Land	$ 35,000,000	0.97	$ 33,950,000
Right of Way - Building & Relocation	$ 102,000,000	0.00	
Major Structures	$ 314,395,440	0.85	$ 267,236,124
Drainage and Grading	$ 40,627,282	0.78	$ 31,697,080
Sub-base and Base	$ 10,480,598	0.66	$ 6,924,153
Surface [c]	$ 30,726,602	0.27	$ 9,136,182
Total Remaining Capital Value in Constant Dollars			$ 348,910,540

Year of Remaining Capital Value: 2050 [g]

	Year	CAPITAL COST TOTALS: Alternative Capital Cost in Constant Dollars [e]	CAPITAL COST TOTALS: Present Value of Capital Cost (dollars) [f]	REMAINING CAPITAL VALUE (RCV) TOTALS: Alternative RCV in Constant Dollars [g]	REMAINING CAPITAL VALUE (RCV) TOTALS: Present Value of RCV (dollars) [h]
2027	-	$155,901,980	$74,282,309	Not Applicable	Not Applicable
2028	-	$155,901,980	$71,829,757	Not Applicable	Not Applicable
2029	-	$155,901,980	$69,477,671	Not Applicable	Not Applicable
2030	-	$155,901,980	$67,107,981	Not Applicable	Not Applicable
2031	1	$0	$0	Not Applicable	Not Applicable
2032	2	$0	$0	Not Applicable	Not Applicable
2033	3	$0	$0	Not Applicable	Not Applicable
2034	4	$0	$0	Not Applicable	Not Applicable
2035	5	$0	$0	Not Applicable	Not Applicable
2036	6	$0	$0	Not Applicable	Not Applicable
2037	7	$0	$0	Not Applicable	Not Applicable
2038	8	$0	$0	Not Applicable	Not Applicable
2039	9	$0	$0	Not Applicable	Not Applicable
2040	10	$0	$0	Not Applicable	Not Applicable
2041	11	$0	$0	Not Applicable	Not Applicable
2042	12	$0	$0	Not Applicable	Not Applicable
2043	13	$0	$0	Not Applicable	Not Applicable
2044	14	$0	$0	Not Applicable	Not Applicable
2045	15	$0	$0	Not Applicable	Not Applicable
2046	16	$0	$0	Not Applicable	Not Applicable
2047	17	$0	$0	Not Applicable	Not Applicable
2048	18	$0	$0	Not Applicable	Not Applicable
2049	19	$0	$0	Not Applicable	Not Applicable
2050	20	$0	$0	$348,910,540	$77,497,884
	Total for Project Life (2031 - 2050)		$292,732,569		$77,497,884

NOTES

(a) Right-of-way and construction costs developed by SRF Consulting Group, Inc. Costs do not include risk or project delivery.

(b) Miscellaneous costs include mobilization, contingencies, anti-icing systems, temporary pavement and drainage, and traffic control during construction.

(c) Surface costs include pavement, lighting, signals, and signing.

(d) Factors based on the "Recommended standard values for use in economic analysis", MnDOT Office of Investment Management, July 2005.

(e) Assumes total capital construction costs distributed evenly for 2027 - 2030. Total capital costs were brought back to 2006 to determine present value.

(f) Present value of costs in terms of 2006 dollars.

(g) Assumes base year for remaining capital value as 2050. Remaining value in constant dollars was brought back from 2050 to 2006 to determine present value.

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TABLE B/C: BENEFIT-COST SUMMARY
TH 41 River Crossing - Alternative E-1A

SRF PROJECT NUMBER:	4590
PROJECT NAME:	TH 41 River Crossing - Alternative E-1A
B/C ANALYSIS FIRST YEAR OF BENEFIT:	2031
B/C ANALYSIS FINAL YEAR OF ANALYSIS:	2050

BENEFIT-COST ANALYSIS
SUMMARY RESULTS [a]

PRESENT VALUE OF ITEMIZED BENEFITS (mil. $)	
Vehicle Operating Savings	$4.93
Travel Time Savings	$449.14
Crash Reduction Benefits	$32.88
PRESENT VALUE OF TOTAL BENEFITS (mil. $)	**$486.94**

PRESENT VALUE OF ITEMIZED COSTS (mil. $)	
Capital Cost Differential	$257.63
Maintenance Cost Differential	$0.42
Remaining Capital Value Differential [a]	$79.19
PRESENT VALUE OF TOTAL COSTS (mil. $)	**$178.86**

Net Cost of Project (mil. $)	$178.86
Present Value of Benefits (mil. $)	$486.94
Net Present Value (mil. $)	**$308.08**
BENEFIT/COST RATIO:	**2.72**

NOTES:
(a) Remaining capital value was considered a reduction of cost in this analysis and was subtracted from construction and maintenance costs to obtain a net cost.

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TABLE C1: ITEMIZED COST SUMMARY - ALTERNATIVE VS. BASE CASE
TH 41 River Crossing - Alternative E-1A

	Year	PRESENT VALUE OF COSTS [a]						Present Value of Net Annual Costs [e]
		Capital Cost		Maintenance Cost [c]		Remaining Capital Value [d]		
		Base Case	Alternative [b]	Base Case	Alternative	Base Case	Alternative	
2027	-	$0	$67,674,063			Not Applicable	Not Applicable	$67,674,063
2028	-	$0	$65,448,804			Not Applicable	Not Applicable	$65,448,804
2029	-	$0	$63,296,716			Not Applicable	Not Applicable	$63,296,716
2030	-	$0	$61,215,392			Not Applicable	Not Applicable	$61,215,392
2031	1	$0	$0	$3,320	$31,443	Not Applicable	Not Applicable	$28,123
2032	2	$0	$0	$3,211	$30,409	Not Applicable	Not Applicable	$27,198
2033	3	$0	$0	$3,106	$29,409	Not Applicable	Not Applicable	$26,304
2034	4	$0	$0	$3,004	$28,442	Not Applicable	Not Applicable	$25,439
2035	5	$0	$0	$2,906	$27,507	Not Applicable	Not Applicable	$24,602
2036	6	$0	$0	$2,809	$26,603	Not Applicable	Not Applicable	$23,793
2037	7	$0	$0	$2,717	$25,728	Not Applicable	Not Applicable	$23,011
2038	8	$0	$0	$2,628	$24,882	Not Applicable	Not Applicable	$22,254
2039	9	$0	$0	$2,541	$24,064	Not Applicable	Not Applicable	$21,523
2040	10	$0	$0	$2,458	$23,272	Not Applicable	Not Applicable	$20,815
2041	11	$0	$0	$2,377	$22,507	Not Applicable	Not Applicable	$20,130
2042	12	$0	$0	$2,299	$21,767	Not Applicable	Not Applicable	$19,469
2043	13	$0	$0	$2,223	$21,051	Not Applicable	Not Applicable	$18,828
2044	14	$0	$0	$2,150	$20,359	Not Applicable	Not Applicable	$18,209
2045	15	$0	$0	$2,079	$19,690	Not Applicable	Not Applicable	$17,610
2046	16	$0	$0	$2,011	$19,042	Not Applicable	Not Applicable	$17,031
2047	17	$0	$0	$1,945	$18,416	Not Applicable	Not Applicable	$16,471
2048	18	$0	$0	$1,881	$17,811	Not Applicable	Not Applicable	$15,930
2049	19	$0	$0	$1,819	$17,225	Not Applicable	Not Applicable	$15,406
2050	20	$0	$0	$1,759	$16,659	Not Applicable	$79,194,827	-$79,179,927
Total for Project Life	2031-2050	$0	$257,634,976	$49,240	$456,287	$0	$79,194,827	$ 178,857,195
Net Cost Differentials	2031-2050		$257,634,976	$407,047		$79,194,827		

NOTES.

(a) Present value of costs in terms of 2006 dollars.

(b) Assumes initial capital construction costs distributed evenly for 2027 - 2030. Initial capital costs were brought back to 2006 to determine present value.

(c) Annual cost of routine maintenance, e.g., plowing, striping, etc.

(d) Assumes base year for remaining capital value as 2050. Remaining value in constant dollars was brought back from 2050 to 2006 to determine present value.

(e) Remaining capital value was considered a reduction of cost in this analysis and was subtracted from construction and maintenance costs to obtain a net cost.

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TABLE C2: CALCULATION OF CAPITAL COST AND REMAINING CAPITAL VALUE - ALTERNATIVE [a]

TH 41 River Crossing - Alternative E-1A

Alternative

Cost Category	Initial Capital Costs in Constant Dollars
Miscellaneous Costs [b]	$ 78,877,785
Right of Way - Land	$ 25,000,000
Right of Way - Building and Relocate	$ 48,000,000
Major Structures	$ 350,024,220
Drainage and Grading	$ 28,491,047
Sub-base and Base	$ 8,419,864
Surface [c]	$ 26,098,244
Total	$ 564,851,255

Fiscal Year of Construction 2027
Duration of Construction (years) 4

Cost Category	Initial Capital Costs in Constant Dollars	Factor [d]	Remaining Capital Value in Constant Dollars
Miscellaneous Costs [b]	$ 78,877,785	0.00	$ -
Right of Way - Land	$ 25,000,000	0.97	$ 24,250,000
Right of Way - Building and Relocate	$ 48,000,000	0.00	
Major Structures	$ 350,024,220	0.85	$ 297,520,587
Drainage and Grading	$ 28,491,047	0.78	$ 22,178,217
Sub base and Base	$ 8,419,864	0.66	$ 5,557,170
Surface [c]	$ 26,098,244	0.27	$ 7,046,526
Total Remaining Capital Value in Constant Dollars			$ 356,550,506

Year of Remaining Capital Value 2050 [g]

	Year	CAPITAL COST TOTALS: Alternative Capital Cost in Constant Dollars [e]	CAPITAL COST TOTALS: Present Value of Capital Cost (dollars) [f]	REMAINING CAPITAL VALUE (RCV) TOTALS: Alternative RCV in Constant Dollars [g]	REMAINING CAPITAL VALUE (RCV) TOTALS: Present Value of RCV (dollars) [f]
2027	-	$141,212,814	$87,874,083	Not Applicable	Not Applicable
2028	-	$141,212,814	$86,446,804	Not Applicable	Not Applicable
2029	-	$141,212,814	$83,296,716	Not Applicable	Not Applicable
2030	-	$141,212,814	$81,215,392	Not Applicable	Not Applicable
2031	1	$0	$0	Not Applicable	Not Applicable
2032	2	$0	$0	Not Applicable	Not Applicable
2033	3	$0	$0	Not Applicable	Not Applicable
2034	4	$0	$0	Not Applicable	Not Applicable
2035	5	$0	$0	Not Applicable	Not Applicable
2036	6	$0	$0	Not Applicable	Not Applicable
2037	7	$0	$0	Not Applicable	Not Applicable
2038	8	$0	$0	Not Applicable	Not Applicable
2039	9	$0	$0	Not Applicable	Not Applicable
2040	10	$0	$0	Not Applicable	Not Applicable
2041	11	$0	$0	Not Applicable	Not Applicable
2042	12	$0	$0	Not Applicable	Not Applicable
2043	13	$0	$0	Not Applicable	Not Applicable
2044	14	$0	$0	Not Applicable	Not Applicable
2045	15	$0	$0	Not Applicable	Not Applicable
2046	16	$0	$0	Not Applicable	Not Applicable
2047	17	$0	$0	Not Applicable	Not Applicable
2048	18	$0	$0	Not Applicable	Not Applicable
2049	19	$0	$0	Not Applicable	Not Applicable
2050	20	$0	$0	$356,550,506	$79,194,827
	Total for Project Life (2031 - 2050)		$257,634,976		$79,194,827

NOTES

(a) Right of way and construction costs developed by SRF Consulting Group, Inc. Costs do not include risk or project delivery.

(b) Miscellaneous costs include mobilization, contingencies, antivoing systems, temporary pavement and drainage, and traffic control during construction.

(c) Surface costs include pavement, lighting, signals, and signing

(d) Factors based on the "Recommended standard values for use in economic analysis", MnDOT Office of Investment Management, July 2005

(e) Assumes initial capital construction costs distributed evenly for 2027 - 2030. Initial capital costs were brought back to 2006 to determine present value.

(f) Present value of costs in terms of 2006 dollars

(g) Assumes base year for remaining capital value as 2050. Remaining value in constant dollars was brought back from 2050 to 2006 to determine present value.

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TABLE B/C: BENEFIT-COST SUMMARY
TH 41 River Crossing - Alternative E-2

SRF Consulting Group, Inc.

SRF PROJECT NUMBER: 4590
PROJECT NAME: TH 41 River Crossing - Alternative E-2
B/C ANALYSIS FIRSY YEAR OF BENEFIT: 2031
B/C ANALYSIS FINAL YEAR OF ANALYSIS: 2050

BENEFIT-COST ANALYSIS
SUMMARY RESULTS [a]

PRESENT VALUE OF ITEMIZED BENEFITS (mil. $)	
Vehicle Operating Savings	$4.76
Travel Time Savings	$447.42
Crash Reduction Benefits	$32.07
PRESENT VALUE OF TOTAL BENEFITS (mil. $)	**$484.25**

PRESENT VALUE OF ITEMIZED COSTS (mil. $)	
Capital Cost Differential	$242.37
Maintenance Cost Differential	$0.38
Remaining Capital Value Differential [a]	$72.27
PRESENT VALUE OF TOTAL COSTS (mil. $)	**$170.49**

Net Cost of Project (mil. $)	$170.49
Present Value of Benefits (mil. $)	$484.25
Net Present Value (mil. $)	$313.76
BENEFIT/COST RATIO:	**2.84**

NOTES:
(a) Remaining capital value was considered a reduction of cost in this analysis and was subtracted from construction and maintenance costs to obtain a net cost.

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SRF Consulting Group, Inc.

TABLE C1: ITEMIZED COST SUMMARY - ALTERNATIVE VS. BASE CASE

TH 41 River Crossing - Alternative E-2

	Year	PRESENT VALUE OF COSTS [a]						Present Value of Net Annual Costs [e]
		Capital Cost		Maintenance Cost [c]		Remaining Capital Value [d]		
		Base Case	Alternative [b]	Base Case	Alternative	Base Case	Alternative	
2027	-	$0	$63,665,109			Not Applicable	Not Applicable	$63,665,109
2028	-	$0	$61,571,672			Not Applicable	Not Applicable	$61,571,672
2029	-	$0	$59,547,072			Not Applicable	Not Applicable	$59,547,072
2030	-	$0	$57,589,044			Not Applicable	Not Applicable	$57,589,044
2031	1	$0	$0	$3,320	$29,179	Not Applicable	Not Applicable	$25,859
2032	2	$0	$0	$3,211	$28,220	Not Applicable	Not Applicable	$25,009
2033	3	$0	$0	$3,106	$27,292	Not Applicable	Not Applicable	$24,186
2034	4	$0	$0	$3,004	$26,395	Not Applicable	Not Applicable	$23,391
2035	5	$0	$0	$2,905	$25,527	Not Applicable	Not Applicable	$22,622
2036	6	$0	$0	$2,809	$24,687	Not Applicable	Not Applicable	$21,878
2037	7	$0	$0	$2,717	$23,875	Not Applicable	Not Applicable	$21,159
2038	8	$0	$0	$2,628	$23,090	Not Applicable	Not Applicable	$20,463
2039	9	$0	$0	$2,541	$22,331	Not Applicable	Not Applicable	$19,790
2040	10	$0	$0	$2,458	$21,597	Not Applicable	Not Applicable	$19,139
2041	11	$0	$0	$2,377	$20,887	Not Applicable	Not Applicable	$18,510
2042	12	$0	$0	$2,299	$20,200	Not Applicable	Not Applicable	$17,901
2043	13	$0	$0	$2,223	$19,536	Not Applicable	Not Applicable	$17,313
2044	14	$0	$0	$2,150	$18,893	Not Applicable	Not Applicable	$16,743
2045	15	$0	$0	$2,079	$18,272	Not Applicable	Not Applicable	$16,193
2046	16	$0	$0	$2,011	$17,671	Not Applicable	Not Applicable	$15,660
2047	17	$0	$0	$1,945	$17,090	Not Applicable	Not Applicable	$15,145
2048	18	$0	$0	$1,881	$16,528	Not Applicable	Not Applicable	$14,647
2049	19	$0	$0	$1,819	$15,985	Not Applicable	Not Applicable	$14,166
2050	20	$0	$0	$1,759	$15,459	Not Applicable	$72,265,633	-$72,251,933
Total for Project Life	2031-2050	$0	$242,372,898	$49,240	$432,715	$0	$72,265,633	$ 170,490,739
Net Cost Differentials	2031-2050	$242,372,898		$383,475		$72,265,633		

NOTES

(a) *Present value of costs in terms of 2006 dollars*

(b) *Assumes initial capital construction costs distributed evenly for 2027 - 2030. Initial capital costs were brought back to 2006 to determine present value.*

(c) *Annual cost of routine maintenance, e.g., plowing, striping, etc.*

(d) *Assumes base year for remaining capital value as 2050. Remaining value in constant dollars was brought back from 2050 to 2006 to determine present value.*

(e) *Remaining capital value was considered a reduction of cost in this analysis and was subtracted from construction and maintenance costs to obtain a net cost*

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TABLE C2: CALCULATION OF CAPITAL COST AND REMAINING CAPITAL VALUE - ALTERNATIVE [a]

TH 41 River Crossing - Alternative E-2

Alternative

Cost Category	Initial Capital Costs in Constant Dollars
Miscellaneous Costs [b]	$ 73,756,270
Right of Way	$ 24,000,000
Right of Way - Building & Relocation	$ 56,000,000
Major Structures	$ 314,051,000
Drainage and Grading	$ 28,591,653
Sub-base and Base	$ 8,671,276
Surface [c]	$ 26,315,837
Total	$ 531,386,945

First Year of Construction: 2027
Duration of Construction (years): 4

Cost Category	Initial Capital Costs in Constant Dollars	Factor [d]	Remaining Capital Value in Constant Dollars
Miscellaneous Costs [b]	$ 73,756,270	0.00	$ -
Right of Way	$ 24,000,000	0.97	$ 23,280,000
Right of Way - Building & Relocation	$ 56,000,000	0.00	
Major Structures	$ 314,051,000	0.85	$ 266,944,115
Drainage and Grading	$ 28,591,653	0.78	$ 22,301,497
Sub-base and Base	$ 8,671,276	0.66	$ 5,723,042
Surface [c]	$ 26,315,837	0.27	$ 7,105,276
Total Remaining Capital Value in Constant Dollars			$ 325,353,930

Year of Remaining Capital Value: 2050 [g]

	Year	CAPITAL COST TOTALS: Alternative Capital Cost in Constant Dollars [e]	CAPITAL COST TOTALS: Present Value of Capital Cost (dollars) [f]	REMAINING CAPITAL VALUE (RCV) TOTALS: Alternative RCV in Constant Dollars [g]	REMAINING CAPITAL VALUE (RCV) TOTALS: Present Value of RCV (dollars) [f]
2027	-	$132,847,486	$40,885,106	Not Applicable	Not Applicable
2028	-	$132,847,486	$61,671,672	Not Applicable	Not Applicable
2029	-	$132,847,486	$69,547,070	Not Applicable	Not Applicable
2030	-	$132,847,486	$67,539,644	Not Applicable	Not Applicable
2031	1	$0	$0	Not Applicable	Not Applicable
2032	2	$0	$0	Not Applicable	Not Applicable
2033	3	$0	$0	Not Applicable	Not Applicable
2034	4	$0	$0	Not Applicable	Not Applicable
2035	5	$0	$0	Not Applicable	Not Applicable
2036	6	$0	$0	Not Applicable	Not Applicable
2037	7	$0	$0	Not Applicable	Not Applicable
2038	8	$0	$0	Not Applicable	Not Applicable
2039	9	$0	$0	Not Applicable	Not Applicable
2040	10	$0	$0	Not Applicable	Not Applicable
2041	11	$0	$0	Not Applicable	Not Applicable
2042	12	$0	$0	Not Applicable	Not Applicable
2043	13	$0	$0	Not Applicable	Not Applicable
2044	14	$0	$0	Not Applicable	Not Applicable
2045	15	$0	$0	Not Applicable	Not Applicable
2046	16	$0	$0	Not Applicable	Not Applicable
2047	17	$0	$0	Not Applicable	Not Applicable
2048	18	$0	$0	Not Applicable	Not Applicable
2049	19	$0	$0	Not Applicable	Not Applicable
2050	20	$0	$0	$325,353,930	$72,205,635
	Total for Project Life (2031 - 2050)		$242,372,858		$72,205,635

NOTES

(a) Right of way and construction costs developed by SRF Consulting Group, Inc. Costs do not include risk or project delivery

(b) Miscellaneous costs include mobilization, contingencies, antiwing systems, temporary pavement and drainage, and traffic control during construction

(c) Surface costs include pavement, lighting, signals, and signing.

(d) Factors based on the "Recommended standard values for use in economic analysis", MnDOT Office of Investment Management, July 2005

(e) Assumes initial capital construction costs distributed evenly for 2027 - 2030. Initial capital costs were brought back to 2005 to determine present value

(f) Present value of costs in terms of 2005 dollars

(g) Assumes base year for remaining capital value as 2050. Remaining value in constant dollars was brought back from 2050 to 2005 to determine present value.

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SRF CONSULTING GROUP, INC.

Transportation • Civil • Structural • Environmental • Planning • Traffic • Landscape Architecture • Parking • Right of Way

SRF No. 0024590

MEMORANDUM

TO: Rabinder Bains, Mn/DOT OIM

FROM: Dave Montebello, P.E. – Principal
Mary Karlsson, Engineer
SRF Consulting Group, Inc.

DATE: August 23, 2006

SUBJECT: TRUNK HIGHWAY 41 (TH 41) RIVER CROSSING
BENEFIT-COST ANALYSIS ASSUMPTIONS AND RESULTS

This memorandum summarizes the benefit-cost analysis performed for the TH 41 River Crossing alternatives being evaluated as part of the TH 41 River Crossing Tier 1 Draft Environmental Impact Statement (DEIS). The purpose of the Tier I DEIS is to identify and evaluate social, economic, and environmental issues associated with alternative corridor locations for a new TH 41 river crossing as the basis for identifying a preferred alignment corridor that can be preserved for future use. Specific alignment design alternatives will be identified and evaluated later in a Tier II EIS.

The objective of a benefit-cost analysis is to bring all of the direct effects of a transportation investment into a common measure (dollars), and to allow for the fact that benefits accrue over a long period of time while costs are incurred primarily in the initial years. The primary elements that can be monetized are travel time, changes in vehicle operating costs, vehicle crashes, and remaining capital value. The benefit-cost analysis can provide an indication of the economic desirability of an alternative, but decision-makers must weigh the results against other considerations, effects, and impacts of the project.

As shown in Figure 1, the project is located in the Minnesota River valley near Chaska and Shakopee, Minnesota. Figure 2 shows the study area is bordered on the north by New TH 212 and on the south by TH 169. To the east, the study area is bordered by Highway 101. The western study border is west of County State Aid Highway (CSAH) 14 in Scott County and just west of the City of Carver in Carver County. The major roadways impacted by the project

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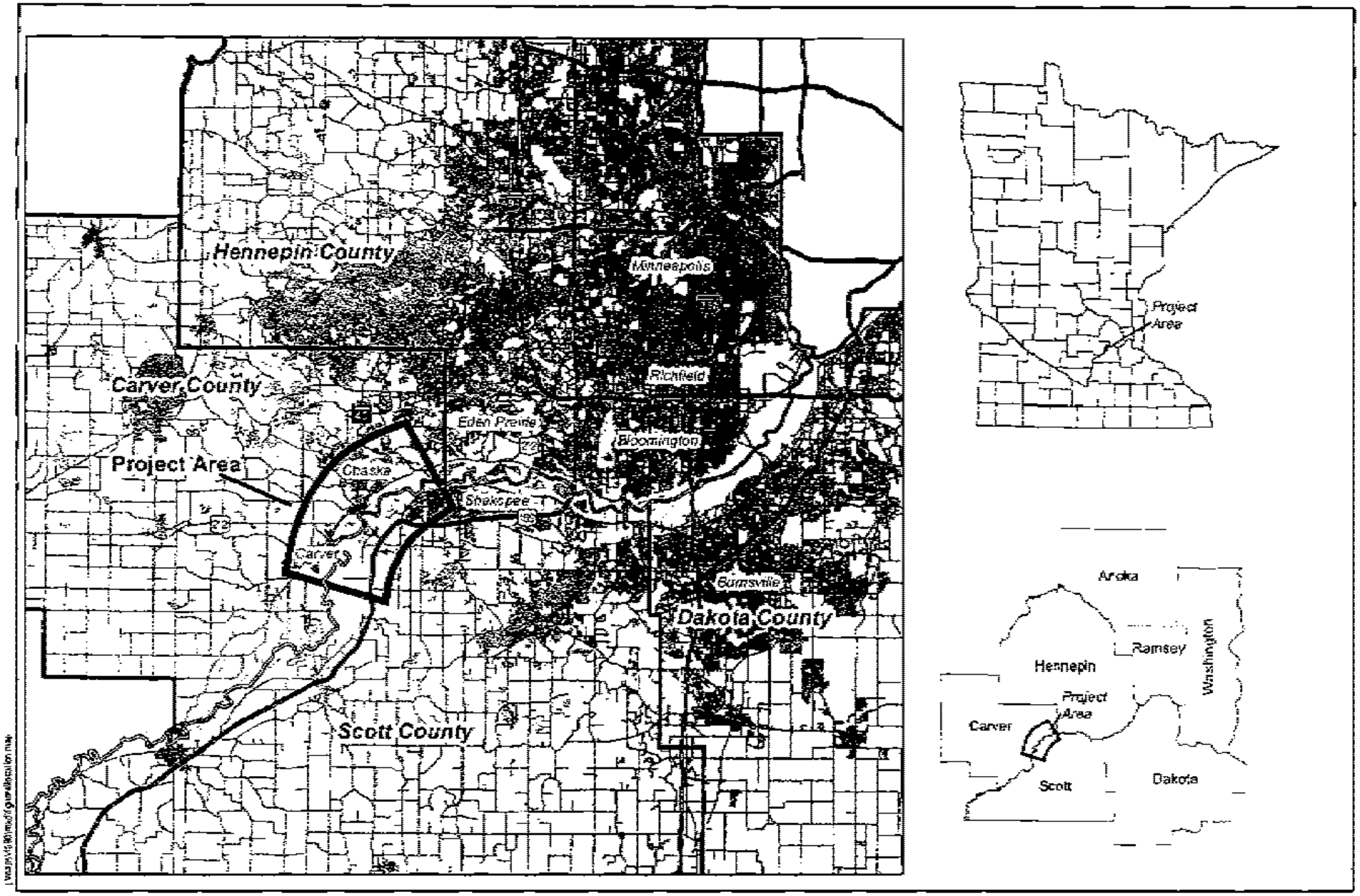
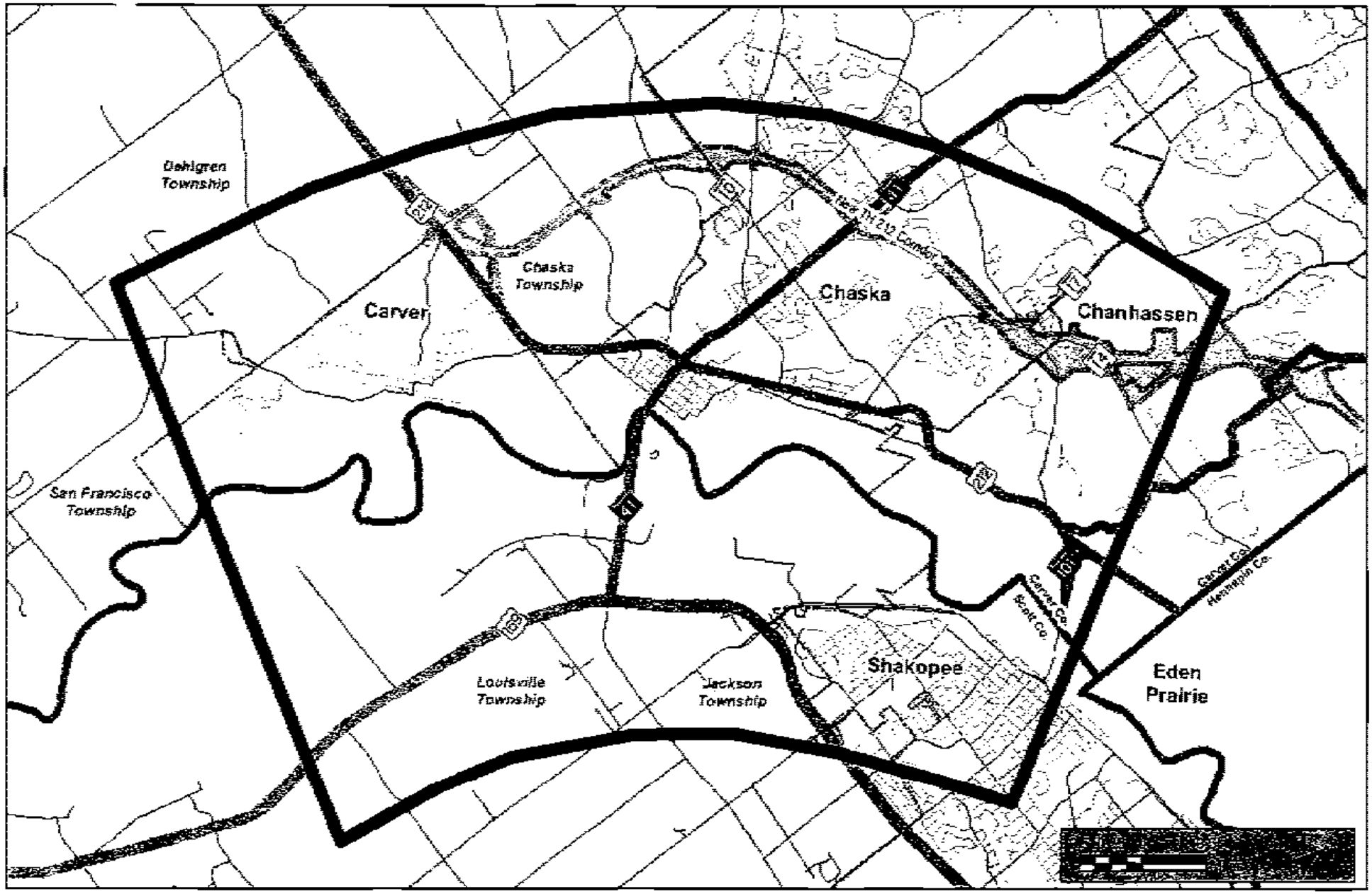


STATE / COUNTY LOCATION MAP

Figure 1

TRUNK HIGHWAY 41 RIVER CROSSING EIS
MnDOT
Benefit - Cost Analysis Technical Memorandum



STUDY AREA MAP

Figure 2

TRUNK HIGHWAY 41 RIVER CROSSING EIS
Mn/DOT
Benefit - Cost Analysis Technical Memorandum

include existing TH 41, existing and New TH 212, TH 169, Highway 101, Scott CSAH 9/Carver CSAH 45, TH 25, Scott CSAH 78, Scott CSAH/CR 69, and local routes in the City of Chaska.

The primary issues to be addressed by the project are the operational, safety, and capacity issues associated with river crossing trips moving reliably across the Minnesota River floodplain, between TH 169 and New TH 212, and through the Chaska and Shakopee areas. Capacity and reliability are key issues for the existing TH 41 river crossing. Existing TH 41 travels directly through historic downtown Chaska. Historic structures, traffic signals, and an at-grade railroad crossing limit the amount of available highway capacity. The existing TH 41 river crossing is also located within the 100-year flood plain and on average floods five days per year[1]. The closest river crossings built above the 100-year flood plain are the Bloomington-Ferry Bridge (TH 169) in the Shakopee-Bloomington/Eden Prairie area (located approximately 10 miles to the north and east of existing TH 41), and TH 25 in Belle Plain (approximately 14 miles to the south and west of existing TH 41).

DESCRIPTION OF ALTERNATIVES

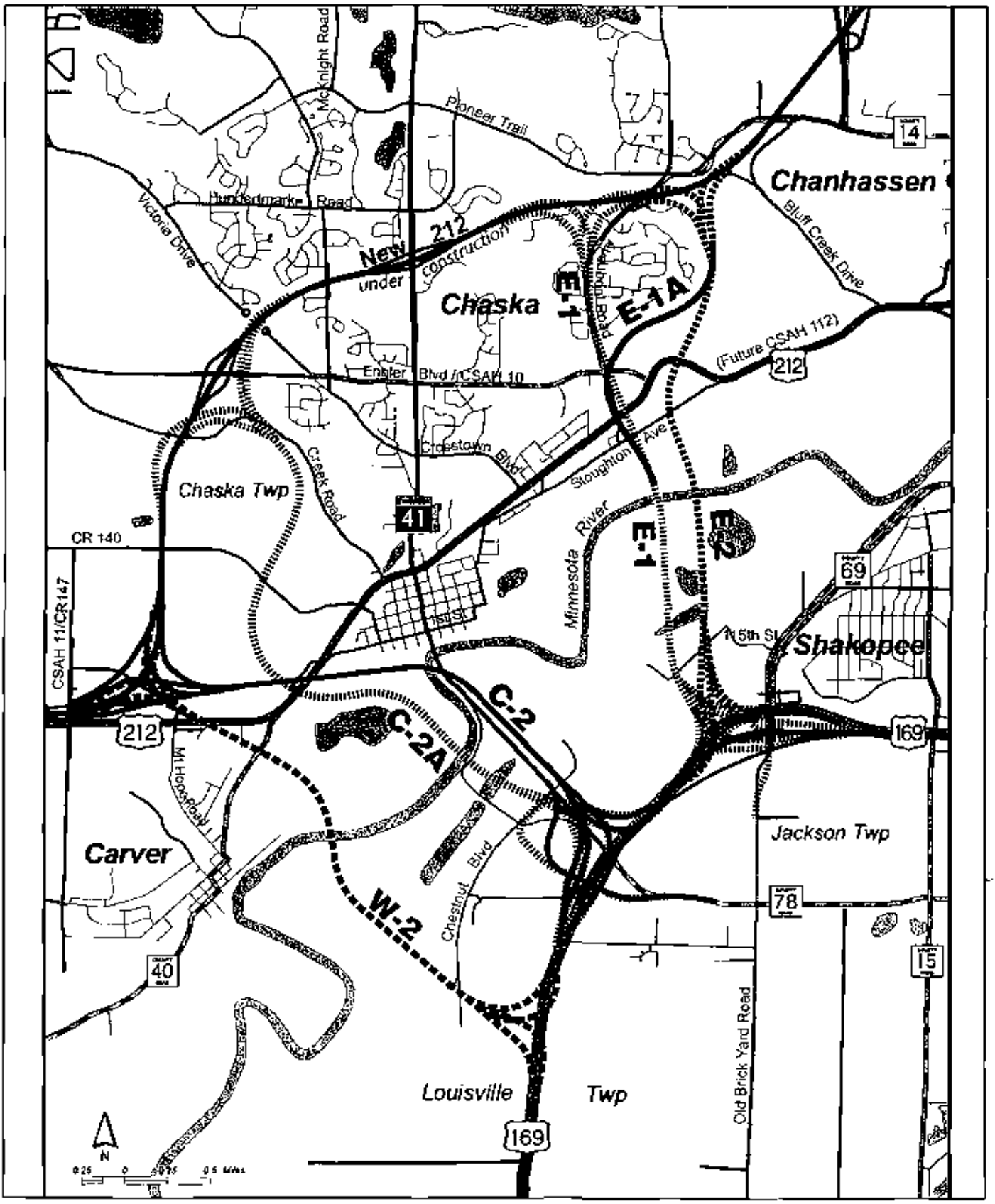
The EIS analyzes two general types of alternatives – No Build and Build. Both types are discussed in more detail below. Note that the Build Alternatives assume a new bridge crossing over the Minnesota River built above the 100-year flood plain. The Build Alternative alignments represent efforts to identify corridors that would provide high-capacity connections between TH 169 and New TH 212 that optimize interchange spacing on those roadways, and that attempt to minimize social, economic, environmental, and transportation system impacts based on known constraints in the study area. All Build Alternatives are proposed as freeway corridors with no interchanges along new TH 41 between TH 169 and New TH 212. The eastern Build Alternatives (E-1, E-1A, and E-2) also assume TH 169 is realigned south of its existing alignment. Figure 3 shows the alignments of all alternatives.

Base Condition – No Build Alternative

The Base Condition, or "No Build" Alternative, is defined as future conditions that include programmed improvements to the regional transportation system and routine maintenance and/or other major maintenance that would preserve the present functional integrity of the system. This alternative does not include construction of a new TH 41 river crossing nor any non-maintenance improvements to the existing TH 41 or other area roadways that are not currently programmed. Currently programmed improvements within the study area include the following:

- Construction of a New TH 212 freeway on a new alignment – The new alignment is located north of the existing TH 212 alignment. Construction completion is anticipated by Fall 2008.
- TH 169 conversion to a limited access expressway on the existing alignment - The conversion would include replacing existing, at-grade TH 169 intersections with interchanges at existing TH 41, CSAH 14, and CSAH/CR 69.

[1] According to data from Mn/DOT and the local jurisdictions for 1993 through 2001, the TH 41 river crossing does not flood every year. When it does flood, it is closed for a number of days at a time (from 1993 to 2001 closures ranged from 10 to 25 days). This averages out to five days per year.



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TH 41 Alternatives

Figure 3

TH 41 RIVER CROSSING EIS
Mn/DOT
Benefit-Cost Analysis Technical Memorandum

Build Alternative W-2

Alternative W-2 is proposed for the western portion of the study area. It connects to TH 169 one mile west of existing TH 41 and connects to New TH 212 through an interchange at the junction of the existing and New TH 212 alignments (near the existing intersection of TH 212 and CSAH 11/CR 147).

Build Alternative C-2

Alternative C-2 is proposed for the central portion of the study area and includes elements from Alternatives W-2 and C-2A. Alternative C-2 includes a junction with TH 169 near the existing TH 41/TH 169 at-grade intersection (like Alternative C-2A) and a western junction with New TH 212 through an interchange at the junction of the existing and New TH 212 alignments (near the existing intersection of TH 212 and CSAH 11/CR 147, like Alternative W-2).

Build Alternative C-2A

Alternative C-2A is also proposed for the central portion of the study area. Initially, this alternative was a sub-alternative of C-2, but as its alignment and termini have shifted, it has evolved into a separate alternative. Figure 3 shows the alignment of Alternative C-2A; it includes a western junction with TH 169 at the existing TH 41/TH 169 intersection and an eastern junction with New TH 212 near the CSAH 10 interchange.

Build Alternative E-1

Alternative E-1 is proposed for the eastern portion of the study area. This alternative is similar to Alternative E-1A (see next description); they differ based on the location of their junctions with New TH 212. Both alternatives connect to TH 169 in the CSAH/CR 69 area and have concurrent alignments from TH 169 to CSAH 11 (Engler Boulevard). The alignments diverge north of CSAH 11. Alternative E-1 includes a western junction with New TH 212 near CSAH 17 (Audubon Road).

Build Alternative E-1A

Alternative E-1A is the second alternative proposed for the eastern portion of the study area. Like Alternative E-1, this alternative connects to TH 169 in the CSAH/CR 69 area and shares the Alternative E-1 alignment from TH 169 to CSAH 11. North of CSAH 11 it includes an eastern junction with New TH 212 at Bluff Creek Drive.

Build Alternative E-2

Alternative E-2 is the third alternative proposed for the eastern portion of the study area. It connects to TH 169 near CSAH/CR 69 and connects to New TH 212 at Bluff Creek Drive. Alternative E-2 uses the greatest amount of land reserved by the City of Chaska for a new TH 41 river crossing.

PROPOSED BCA METHODOLOGY

The following methodology and assumptions are proposed for the benefit-cost analysis:

1. The main components analyzed include:
   - Travel time/delay (vehicle hours traveled - VHT - changes)
   - Operating costs (vehicle miles traveled - VMT – changes, caused by traffic using the new TH 41 river crossing and also by the realignment of TH 169 in the eastern Build Alternatives)
   - Safety
   - Annual maintenance costs
   - Major maintenance costs
   - Remaining Capital Value: The remaining capital value (value of improvement beyond the analysis period) will be considered as a reduction in cost and will be subtracted from total cost to obtain a net cost.
   - Initial capital costs will be broken into different categories in accordance with service life (consistent with the recommendations of OIM) and applied evenly over the duration of the construction period.

2. The analysis compared the different build alternatives to the "Base Condition" using a sub-area of the regional traffic forecasting model. The regional model assumptions are included in Attachment A.

   The sub-area consisted of all of Carver and Scott Counties and the portion of Hennepin County bounded by the Minnesota River, TH 169, and TH 7. This study area was selected to account for the majority of the travelshed of the TH 41 crossing.

3. This analysis assumes that the Build Alternatives will be constructed over four years, starting in 2026 with completion in 2030. Therefore, 2031 will be assumed to be the first full year that benefits will be realized from the project. The analysis focused on the estimated benefits for the twenty-year period from 2031 to 2050. We estimated the benefits for the entire year, 365 days, as compared to focusing on weekday benefits only. The present value of all benefits and all costs were calculated considering 2006 as the year of current dollars.

   The value of time, operating costs for vehicles, and remaining capital value assumptions are consistent with values published in July 2005 by Mn/DOT Office of Investment Management (OIM, see Attachment B for values).

4. The assumed discount rate is 3.4 percent. This rate is consistent with the rate published by OIM as of July 2005.

5. Year 2030 and 2040 VMT and VHT was determined using the Twin Cities regional model. VMT and VHT data for the years between 2030 and 2040 was projected using a compound growth rate. From 2040 to 2050, the analysis assumed that that VMT and VHT data remained constant, based on the assumption that miles traveled and delay do not increase infinitely for a given network. Instead, a threshold exists for each network. SRF assumed that the 2040 VMT and VHT forecasts represent the maximum practical threshold for the modeled network.

For the purpose of this analysis, all trips from the sub-area of the regional model were counted. Savings due to reduction of VMT and VHT were calculated using costs per mile and per hour that account for vehicle occupancy and different vehicle types.

6. Truck percent is a key factor for the TH 41 river crossing as trucks presently make up 20 percent of the daily traffic stream[2]. However, this proportion is likely to change (i.e., as commuter volume increases, it becomes a larger proportion of the daily traffic stream) and may not be representative of actual VMT/VHT in the study area.

   As a result, SRF developed a representative truck percentage for the project area using both the regional freight forecast model and a factored truck count. The following bullets describe the two approaches.

   - The freight model method developed a truck percent by comparing truck volumes from the regional freight model with total forecast daily traffic volumes (autos and trucks) from the general regional model.
   - The factored truck count method started with the existing number of trucks and then factored them by a modest growth rate to develop a future truck volume. This method then assumed a majority of trucks (75 percent) would shift from the existing river crossing to the new freeflow route (new bridge). A truck percent was computed by comparing the factored truck volume to the total forecast volume (autos and trucks).

   Table 1 summarizes the results of the two methods. The analyses used the truck percentage from the regional model in the benefit-cost analysis (6 percent) because this value yields the most conservative travel time benefits (which typically comprise a majority of the user benefit).

Table 1
Comparison of Truck Volume Estimates

Estimation Method	Estimated Truck Percent
Regional Freight Model	6
Factored Traffic Count	6 to 8 (1)

Notes
(1) Percent varies based on alternative. Range reflects proportion of highest and lowest 2040 ADT forecasts.

The composite cost per mile used in the benefit-cost analysis takes into account the percentage split of autos and trucks traveling in the area. The composite cost per hour takes into account peak and non-peak vehicle occupancy ratios[3], the number of hours of congested (peak) operation, and the percent split of autos and trucks traveling in the area.

[2] Twenty percent truck flow is based on results from a freight survey completed in October 2002 by SRF Consulting Group, Inc. as part of the TH 41 scoping study.

[3] The benefit-cost analysis will use peak and off-peak vehicle occupancy produced by the Twin Cities regional model.

7. Safety benefits were estimated based on the forecasted change in VMT by facility type for the scenarios. VMT data segmented by facility type (freeway and non-freeway) was estimated using the Twin Cities regional model. Alternatives that shift trips to safer, lower crash cost facilities generated safety benefits. In this case, a shift to freeway facilities would generate safety benefits. Crash data for different facility types was gathered from Mn/DOT statistics for a three-year period (2000, 2001, and 2002[4]) and this information was used to find a crash rate per million vehicles miles and comparisons made to statewide averages[5]. The same method was used to estimate a crash distribution. Once a crash distribution was established, the study quantified a safety benefit using crash cost assumptions that are consistent with values published by the OIM.

8. An improved TH 41 Minnesota River crossing will reduce user delay and therefore reduce user costs for both:

   - Base travel – travel done in both the Base Condition and Build Alternative. The origin, destination, and mode of travel for each trip stays the same for both road network alternatives.

   - Added travel the user was traveling on the network in the Base Condition, but changes mode, destination, or route in the Build Alternative scenario[6]. A portion of these trips (the added travel) results in an increase in vehicle-miles traveled.

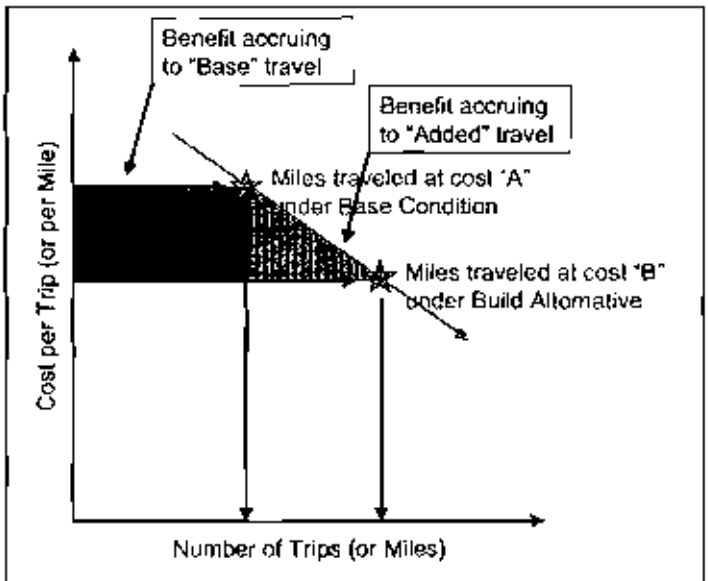

Figure 4 Illustration of User Benefit

In a benefit-cost analysis, the benefit attributable to the Build Alternative is defined as the difference in user cost between the Base Condition and the Build Alternative. This user benefit, accrues to the two travel types: base and added. The differentiation between the two travel types is important. Economists and the industry agree that

[4] 2003 and 2004 crash statistics are not yet available from Mn/DOT.

[5] Statewide crash data for rural freeways will be used to estimate freeway facility crashes. A weighted average of statewide crash data for rural four-lane expressways, urban two-lane roadways with average daily traffic of 5,000 to 8,000 and urban two-lane roadways with average daily traffic of 1,500 to 5,000 will be used to estimate non-freeway facility crashes.

[6] Twin Cities Metropolitan Area Travel Demand Forecast Model does *not* generate entirely new trips or allow trips to shift the time of day that it is made.

benefit accrued by added travel is less valuable to users than benefit accrued by base travel because the added travel is the travel that people are most willing to forego. To calculate the benefit to added travel, the *Rule of Half* is used, where the benefits of additional travel are valued at half the per-trip saving that is allocated to base trips. Figure 4 illustrates this concept where the benefit to base trips is shown by the area of the shaded rectangle and the benefit to added trips is shown as the area of the shaded triangle.

The following points summarize the detail of how benefit is calculated:

A. For each alternative studied, SRF used the travel demand forecast model to generate vehicle-miles traveled (VMT) and vehicle-hours traveled (VHT) for the years 2030 and 2040.

B. The 2030 and 2040 VMT data was used along with Mn/DOT crash rates (2000-2002) to generate number of crashes by severity for each year.

C. SRF used the 2030 and 2040 data (note that VMT and VHT data will be held constant for each year from 2040 to 2050, see assumption 5) to extrapolate VMT, VHT, and crash data for each year in the 20-year benefit-cost analysis and calculate a total annual user cost (operating costs, travel time, and crash costs) for each alternative.

D. SRF found the present value of the alternative's annual user cost and summed each year together to yield a 20-year user cost.

E. SRF calculated a cost per mile for each alternative by dividing the 20-year user cost by the 20-year sum of vehicle-miles traveled.

F. SRF defines benefit as follows:

$$\text{Benefit} = \Delta\text{Cost} * \text{VMT}_{\text{Base}} + 0.5 * \Delta\text{Cost} * (\text{VMT}_{\text{Alt}} - \text{VMT}_{\text{Base}})$$

Where:

ΔCost	=	Change in 20-year (cumulative) cost; Cost per mile in Base Condition (Base Travel) minus Cost per mile in Alternative
VMT_{Base}	=	20-Year (cumulative) VMT in Base Condition
VMT_{Alt}	=	20-Year (cumulative) VMT in Alternative

This approach values benefit accruing to base travel (VMT_{Base}) at 100 percent and, consistent with the *Rule of Half*, values benefit accruing to the added travel (the difference between VMT_{Base} and VMT_{Alt}, i.e., the additional travel stimulated by improvements made in the Alternative) at 50 percent. Additional information on this approach is available in Attachment C.

9. Roadway maintenance costs were approximated using an annual maintenance cost per lane-mile per estimates provided by Mn/DOT.

10. Because many components of the initial capital costs have service lives well beyond the 20-year analysis period, the remaining capital value was calculated for each alternative. This value was then be subtracted from the initial capital cost to determine the net capital cost and the final value expressed in terms of 2005 dollars. In determining remaining capital value, we separated the initial costs of the proposed alternatives into the following categories:
    - Right of Way
    - Structural Elements (bridges, retaining wall, etc.)
    - Roadway/Pavement
    - Lighting, striping and signing
11. Due to its location within the 100-year flood plain, the existing TH 41 river crossing is occasionally closed during flood events. Based on historical data for bridge closures due to flooding from 1993 to 2001, SRF estimates an annual closure rate of five days[7]. SRF accounted for bridge closure by quantifying the attributable, annual increase in VMT/VHT using results from the Twin Cities regional model. SRF assumed that the VMT/VHT changes due to flooding differs little among Build Alternatives. For that reason, SRF used overall, general VMT/VHT results to identify the alternative most representative of all alternatives and model the effects of flooding using the representative alternative. We used the results from the representative alternative for all Build Alternatives. These costs and miles are included in the calculation of overall user costs per mile (see number 8).
12. Operational benefits related to reductions in speed cycling (e.g., vehicles on a free-flow facility versus traveling through signals on existing TH 41) were not quantified as part of the analysis. This evaluation, if done, would provide additional benefit for all of the Build Alternatives.

The results of the analysis are as follows:

[7] Historical data on bridge closures due to flooding is not well documented. Closures are based on review of limited data from Mn/DOT and the local jurisdictions. Five-day estimate is documented in an SRF Consulting Group, Inc. technical memo for Mn/DOT, Trunk Highway 41 over the Minnesota River from Trunk Highway 169 to Trunk Highway 212, July 2003.

BUILD ALTERNATIVE W-2 VERSUS NO BUILD

BENEFIT CALCULATIONS

VMT benefits [8] (million $)	$ 4.85	
VHT benefits [8]	$ 458.02	
Safety benefits [8]	$ 34.87	
Total benefits	$ 497.74	(Present Value)

COST CALCULATIONS

Costs for both No Build (the Base Condition) and the Build Alternative were organized into the following categories:

Base Condition		
Maintenance Costs [8]	$ .05	
Net Cost	$ .05	(Present Value)
Build Alternative W-2		
Miscellaneous Costs (million $)	$ 65.6	
Right-of-Way Costs - Land	$ 4.9	
Right-of-Way Costs -- Buildings	$ 2.4	
Major Structures	$ 250.5	
Grading and Drainage	$ 14.4	
Sub-Base and Base	$ 5.0	
Surface	$ 15.2	
Total Initial Capital Costs	$ 358.0	(In Constant Dollars)
Total Initial Capital Costs [8] (million)	$ 163.3	(Present Value)
Maintenance Costs [8]	$ .50	(Present Value)
Remaining Cap. Value [8]	$ -52.5	(Present Value)
6-Lane Alternative Net Cost	$ 111.3	(Present Value)

Cost Exclusive to Alt. W-2 = Alt. W-2 Net Cost - Base Condition Net Cost

= $111.3 - $.05 = $111.25

BENEFIT-COST CALCULATION

Benefit-Cost Ratio = $497.74 / 111.25 = 4.48 [9]

NET PRESENT VALUE CALCULATION

Net Present Value = $497.74 - 111.25 = $386.52 [9]

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[8] See Attachment C for assumptions and calculations.

[9] Costs developed by SRF and do not include risk or project development costs for Build Alternatives.

BUILD ALTERNATIVE C-2 VERSUS NO BUILD

BENEFIT CALCULATIONS

VMT benefits [10] (million $)	$ 5.17	
VHT benefits [8]	$ 451.60	
Safety benefits [8]	$ 30.10	
Total benefits	$ 486.87	(Present Value)

COST CALCULATIONS

Costs for both No Build (the Base Condition) and the Build Alternative were organized into the following categories:

Base Condition		
Maintenance Costs [8]	$ .05	
Net Cost	$ .05	(Present Value)
Build Alternative C-2		
Miscellaneous Costs (million $)	$ 60.4	
Right-of-Way Costs - Land	$ 9.8	
Right-of-Way Costs - Buildings	$ 6.6	
Major Structures	$ 229.8	
Grading and Drainage	$ 11.4	
Sub-Base and Base	$ 5.2	
Surface	$ 15.8	
Total Initial Capital Costs	$ 339.0	(In Constant Dollars)
Total Initial Capital Costs [8] (million)	$ 154.6	(Present Value)
Maintenance Costs [8]	$ .42	(Present Value)
Remaining Cap. Value [8]	$ - 49.2	(Present Value)
6-Lane Alternative Net Cost	$ 105.8	(Present Value)

Cost Exclusive to Alt. C-2 = Alt. C-2 Net Cost - Base Condition Net Cost

= $105.8 - $.05 = $105.75

BENEFIT-COST CALCULATION

Benefit-Cost Ratio = $486.87 / 105.75 = 4.60 [11]

NET PRESENT VALUE CALCULATION

Net Present Value = $486.87 - 105.75 = $381.11 [11]

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[10] See Attachment D for assumptions and calculations.

[11] Costs developed by SRF and do not include risk or project development costs for Build Alternatives.

BUILD ALTERNATIVE C-2A VERSUS NO BUILD

BENEFIT CALCULATIONS

VMT benefits [12] (million $)	$ 5.31	
VHT benefits [8]	$ 475.83	
Safety benefits [8]	$ 32.66	
Total benefits	$ 513.80	(Present Value)

COST CALCULATIONS

Costs for both No Build (the Base Condition) and the Build Alternative were organized into the following categories:

Base Condition		
Maintenance Costs [8] (million $)	$ .05	
Net Cost	$ .05	(Present Value)
Build Alternative C-2A		
Miscellaneous Costs (million $)	$ 64.8	
Right-of-Way Costs - Land	$ 10.2	
Right-of-Way Costs -- Buildings	$ 10.2	
Major Structures	$ 243.5	
Grading and Drainage	$ 14.9	
Sub-Base and Base	$ 5.9	
Surface	$ 17.4	
Total Initial Capital Costs	$ 366.9	(In Constant Dollars)
Total Initial Capital Costs [8] (million)	$ 167.3	(Present Value)
Maintenance Costs [8]	$ .50	(Present Value)
Remaining Cap. Value [8]	$ -52.6	(Present Value)
6-Lane Alternative Net Cost	$ 115.2	(Present Value)

Cost Exclusive to Alt. C-2A -- Alt. C-2A Net Cost - Base Condition Net Cost

= $115.2 - $.05 = $115.15

BENEFIT-COST CALCULATION

Benefit-Cost Ratio = $513.80 / 115.15 = 4.46 [13]

NET PRESENT VALUE CALCULATION

Net Present Value = $513.80 - 115.15 = $398.64 [13]

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[12] See Attachment E for assumptions and calculations.

[13] Costs developed by SRF and do not include risk or project development costs for Build Alternatives.

BUILD ALTERNATIVE E-1 VERSUS NO BUILD

BENEFIT CALCULATIONS

VMT benefits [14] (million $)	$ 4.69	
VHT benefits [8]	$ 442.27	
Safety benefits [8]	$ 31.87	
Total benefits	$ 478.84	(Present Value)

COST CALCULATIONS

Costs for both No Build (the Base Condition) and the Build Alternative were organized into the following categories:

Base Condition		
Maintenance Costs [8] (million $)	$ .05	
Net Cost	$ .05	(Present Value)
Build Alternative E-1		
Miscellaneous Costs (million $)	$ 77.3	
Right-of-Way Costs - Land	$ 13.2	
Right-of-Way Costs – Buildings	$ 38.7	
Major Structures	$ 292.7	
Grading and Drainage	$ 20.6	
Sub-Base and Base	$ 5.3	
Surface	$ 17.1	
Total Initial Capital Costs	$ 464.9	(In Constant Dollars)
Total Initial Capital Costs [8] (million)	$ 212.1	(Present Value)
Maintenance Costs [8]	$ .5	(Present Value)
Remaining Cap. Value [8]	$ -63.5	(Present Value)
6-Lane Alternative Net Cost	$ 149.1	(Present Value)

Cost Exclusive to Alt. E-1 = Alt. E-1 Net Cost - Base Condition Net Cost
= $149.1 - $.05 = $149.06

BENEFIT-COST CALCULATION

Benefit-Cost Ratio = $478.84 / 149.06 = 3.21 [15]

NET PRESENT VALUE CALCULATION

Net Present Value = $478.84 - 149.06 = $329.78 [15]

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[14] See Attachment F for assumptions and calculations.
[15] Costs developed by SRF and do not include risk or project development costs for Build Alternatives.

BUILD ALTERNATIVE E-1A VERSUS NO BUILD

BENEFIT CALCULATIONS

VMT benefits [16] (million $)	$ 4.93	
VHT benefits [8]	$ 449.14	
Safety benefits [8]	$ 32.88	
Total benefits	$ 486.95	(Present Value)

COST CALCULATIONS

Costs for both No Build (the Base Condition) and the Build Alternative were organized into the following categories:

Base Condition		
Maintenance Costs [8] (million $)	$ .05	
Net Cost	$ .05	(Present Value)
Build Alternative E-1A		
Project Development (million $)	$ 82.9	
Right-of-Way Costs - Land	$ 6.0	
Right-of-Way Costs -- Buildings	$ 11.1	
Major Structures	$ 327.7	
Grading and Drainage	$ 14.8	
Sub-Base and Base	$ 4.4	
Surface	$ 13.6	
Total Initial Capital Costs	$ 460.5	(In Constant Dollars)
Total Initial Capital Costs [8] (million)	$ 210.1	(Present Value)
Maintenance Costs [8]	$ .5	(Present Value)
Remaining Cap. Value [8]	$ -67.2	(Present Value)
6-Lane Alternative Net Cost	$ 143.4	(Present Value)

Cost Exclusive to Alt. E-1A = Alt. E-1A Net Cost - Base Condition Net Cost

= $143.4 - $.05 = $143.30

BENEFIT-COST CALCULATION

Benefit-Cost Ratio = $486.95 / 143.30 = 3.40 [17]

NET PRESENT VALUE CALCULATION

Net Present Value = $486.95 - 143.30 = $343.65 [17]

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[16] See Attachment G for assumptions and calculations.

[17] Costs developed by SRF and do not include risk or project development costs for Build Alternatives.

BUILD ALTERNATIVE E-2 VERSUS NO BUILD

BENEFIT CALCULATIONS

VMT benefits [18] (million $)	$ 4.76	
VHT benefits [8]	$ 447.42	
Safety benefits [8]	$ 32.07	
Total benefits	$ 484.25	(Present Value)

COST CALCULATIONS

Costs for both No Build (the Base Condition) and the Build Alternative were organized into the following categories:

Base Condition		
Maintenance Costs [8] (million $)	$ .05	
Net Cost	$ .05	(Present Value)
Build Alternative E-2		
Project Development (million $)	$ 76.3	
Right-of-Way Costs - Land	$ 5.6	
Right-of-Way Costs - Buildings	$ 13.0	
Major Structures	$ 300.4	
Grading and Drainage	$ 14.0	
Sub-Base and Base	$ 4.2	
Surface	$ 12.9	
Total Initial Capital Costs	$ 426.4	(In Constant Dollars)
Total Initial Capital Costs [8] (million)	$ 194.5	(Present Value)
Maintenance Costs [8]	$ .43	(Present Value)
Remaining Cap. Value [8]	$ -61.7	(Present Value)
6-Lane Alternative Net Cost	$ 133.23	(Present Value)

Cost Exclusive to Alt. E-2 = Alt. E-2 Net Cost - Base Condition Net Cost

= $133.23 - $.05 = $133.18

BENEFIT-COST CALCULATION

Benefit-Cost Ratio = $484.25 / 133.18 = 3.64 [19]

NET PRESENT VALUE CALCULATION

Net Present Value = $484.25 - 133.18 = $351.11 [19]

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[18] See Attachment H for assumptions and calculations.

[19] Costs developed by SRF and do not include risk or project development costs for Build Alternatives.

SUMMARY OF BENEFIT-COST ANALYSIS RESULTS

A summary of the analysis results are shown in Table 2. The following conclusions can be drawn from these results:

- All Build Alternatives are beneficial from the economic perspective as compared to the No Build Alternative (Base Condition).
- Alternative C-2 has the highest benefit-cost ratio and lowest net cost.
- Alternative C-2A has the highest net present value and highest net benefit.
- The benefit-cost ratios and net present values for Alternatives W-2, C-2, and C-2A are higher than those for Alternatives E-1, E-1A, and E-2. The eastern alternatives (E-1, E-1A, and E-2) have higher net costs than Alternatives W-2, C-2, and C-2A.

Table 2
Summary of Benefit-Cost Analysis Results

Base vs. Build Alternative	Net Benefit (mil.$)	Net Cost (mil.$)	B/C Ratio [20]	Net Present Value [20] (mil.$)
W-2	497.74	111.25	4.48	386.52
C-2	486.87	105.75	4.60	381.11
C-2A	513.80	115.15	4.46	398.64
E-1	478.84	149.06	3.40	329.78
E-1A	486.95	143.30	3.40	343.65
E-2	484.25	133.18	3.64	351.11

Results from the benefit-cost analysis are only one piece of information being used in the selection of an alternative. Because all Build Alternatives are beneficial from the economic perspective, this analysis leaves the selection of an alternative open in recognition that decision-makers must select the Preferred Alternative based on the goals of the project and Mn/DOT.

CC: Lynn Clarkowski, Mn/DOT
Lisa Freese, Mn/DOT
Nancy Frick, SRF

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[20] Costs developed by SRF and do not include risk or project development costs for Build Alternatives.

ATTACHMENTS TO THE BENEFIT-COST ANALYSIS TECHNICAL MEMORANDUM ARE AVAILABLE FROM MN/DOT

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING:
A FUTURE US 169/US 212 REGIONAL FREEWAY CONNECTION

EXECUTIVE SUMMARIES

PHASE I ENVIRONMENTAL SITE ASSESSMENTS
PROPOSED TH 41 RIVER CROSSING

PREPARED FOR
SRF CONSULTING GROUP, INC.

FEBRUARY 2, 2006

PREPARED BY
BRAUN INTERTEC CORPORATION

SRF NO: 0024590

Executive Summaries

Phase I Environmental Site Assessments (ESAs)
Proposed TH 41 River Crossing
Alternatives W-2, C-2 (includes C-2A), E-1 (includes E-1A), and E-2
Braun Intertec Corporation
February 2, 2006

and

Letter Addendum to Phase I ESA
for Alternative C-2
Braun Intertec Corporation
May 16, 2006

Phase I Environmental Site Assessment

Proposed TH 41 W-2 Alternative
Scott and Carver Counties
Carver and Louisville Township, Minnesota

Prepared For

SRF Consulting Group, Inc.

Volume 1 of 2

Project BL-04-05681
February 2, 2006

Braun Intertec Corporation

Executive Summary

Braun Intertec Corporation performed a Phase I environmental site assessment of the proposed W-2 TH 41 Alternative located in Carver and Louisville Township in Scott and Carver Counties, Minnesota (Corridor) in general conformance with the scope and limitations of ASTM Practice E 1527-00.

The Corridor is located within Sections 7, 17, 18, 20, and 21; Township 115 North; Range 23 West in Carver and Louisville Township, Carver and Scott Counties, Minnesota. The Corridor extends from slightly beyond Highway 212 to the north to slightly beyond Highway 169 on the south and traverses the Minnesota River in a northwest-southeast direction. This assessment included approximately 250 feet on either side of the approximately 3.1-mile-long Corridor.

The Corridor traverses the Minnesota River with the City of Carver near the western boundary. The Chaska Lake Area of the Minnesota Valley Federal Wildlife Refuge and the Gifford Lake Area of the Minnesota Valley State Recreation Area are located northwest and southeast of the Minnesota River, respectively in the central portion of the Corridor. Properties within the Corridor consisted of residential, commercial, and industrial. The surrounding area includes a mix of residential, commercial, and industrial properties.

This assessment has revealed no indications of recognized environmental conditions in connection with the Corridor, with the exception of the following:

- According to the FirstSearch report, one facility was listed on the underground storage tank (UST) database that is located within the Corridor (Bryan Rock Products, Inc.).

- On the 1928 Sanborn map, Minnesota Valley Oil, Co. was located between Third and Fourth Streets near the western Corridor boundary in the City of Carver.

- A gasoline station (Carver Depot) was located near the western boundary of the Corridor at 300 County Road 40 East in the City of Carver.

- According to the Scott County Environmental Health Department (SCEHD) file review, Hollander Auto Salvage, located within and adjacent to the southeast end of the Corridor, operated at 13901 Johnson Memorial Drive in Louisville Township until the mid-1980s.

- A gravel pit was located at 13580 Johnson Memorial Drive and 13900 Johnson Memorial Drive in Louisville Township within the Corridor. According to the Scott County web page, the properties are owned by Bryan Rock Products and Valley Mining and Development, respectively.

Although not considered a recognized environmental condition, seven wells and possibly septic systems are located within the Corridor. If the wells will no longer be used, the wells must be properly sealed by a licensed water well contractor in accordance with Minnesota Department of Health regulations or a maintenance permit must be obtained. If a septic system is encountered during future Corridor development activities, we recommend that the septic system be properly abandoned in accordance with local city, county, and state regulations.

Although not considered a recognized environmental condition, historically, houses and buildings were likely demolished within the Corridor. It is unknown if the demolition debris was buried on the respective properties or hauled away for disposal. The potential exists that buried materials are present within the Corridor that require management as solid or hazardous waste.

Braun Intertec ranked properties on or adjacent to the Corridor as to their potential to impact the Corridor using the ranking criteria provided by Minnesota Department of Transportation (Mn/DOT) as high, medium, low, or unlikely risk sites.

A majority of the Corridor consists of residential properties, vacant land, roads, and other commercial facilities that do not meet the conditions of a high, medium, or low risk site set forth in the ranking criteria provided by Mn/DOT. It is our opinion that these areas and facilities have the unlikely potential for contamination.

Low Environmental Risk sites were defined as properties with known or inferred small or very small quantities of chemicals used or stored on-site. *Low Environmental Risk* sites also show indications of good housekeeping practices. The following facilities listed on the RCRA-GEN database were ranked as *Low Environmental Risk* sites during this assessment:

- Westin Marine Shakopee, 13727 Johnson Memorial Drive; located within the Corridor
- Bryan Rock Products, Inc., 13580 Johnson Memorial Drive; located within the Corridor
- Butch's Auto, Inc., 220 East 3rd Street; located approximately 0.03 mile southwest of the Corridor

Aboveground storage tanks were observed at the following facilities during our Corridor reconnaissance and were ranked as *Low Environmental Risk* sites during this assessment:

- Jimmy's Classic Cars on the southeast end of the Corridor along Johnson Memorial Drive
- City of Carver Water Treatment Facility City Well #2, 1765 Mount Hope Road; located near the northwestern end of the Corridor

Braun Intertec recommends that care be taken to educate the contractors and Mn/DOT construction managers to identify conditions at *Low Environmental Risk* sites that may indicate adverse environmental impact to the soil or groundwater within the construction area. These conditions may include stained soils, unusual odors or debris disposal (i.e., building material, pipes, tanks or drums). Braun Intertec recommends that a contingency plan be in place to allow quick response to minimize construction delays, if indication of potential adverse environmental impacts are observed.

Medium Environmental Risk sites included properties located a short distance (<1/8 mile) from the Corridor, which have had documented releases, as well as properties located immediately adjacent to the Corridor with only the potential for environmental impacts due to current or historical uses.

The following facilities listed on the UST database were ranked as *Medium Environmental Risk* sites during this assessment:

- Bryan Rock Products, Inc., 13500 Johnson Memorial Drive; located within the Corridor. This facility is also considered a *High Environmental Risk* site due to the past and current land use as a gravel pit.

- Butch's Auto, Inc., 220 East 3rd Street; located approximately 0.03 mile southwest of the Corridor.

On the 1928 Sanborn map, Minnesota Valley Oil, Co. was located between Third and Fourth Streets near the western boundary in the City of Carver. Two of the three storage tanks were labeled, "capacity 15,000 gallons each" and the third was labeled "capacity 2,000 gallons." Based on the ranking criteria provided by Mn/DOT, it is our opinion that the Minnesota Valley Oil, Co. is considered a *Medium Environmental Risk* site.

A gasoline station (Carver Depot) was located near the western boundary of the Corridor at 300 County Road 40 East in the City of Carver. The facility was not listed on the FirstSearch report as a UST or LUST facility. No groundwater monitoring wells were observed at the time of our Corridor reconnaissance. Based on the ranking criteria provided by Mn/DOT, it is our opinion that the gasoline station (Carver Depot) was located near the western boundary of the Corridor is considered a *Medium Environmental Risk* site.

Braun Intertec recommends additional environmental evaluation of *Medium Environmental Risk* sites on a case-by-case basis depending on the type of site historical activity and corridor construction details. The additional environmental evaluation of these sites may be limited to additional information source review, but may also include subsurface assessment.

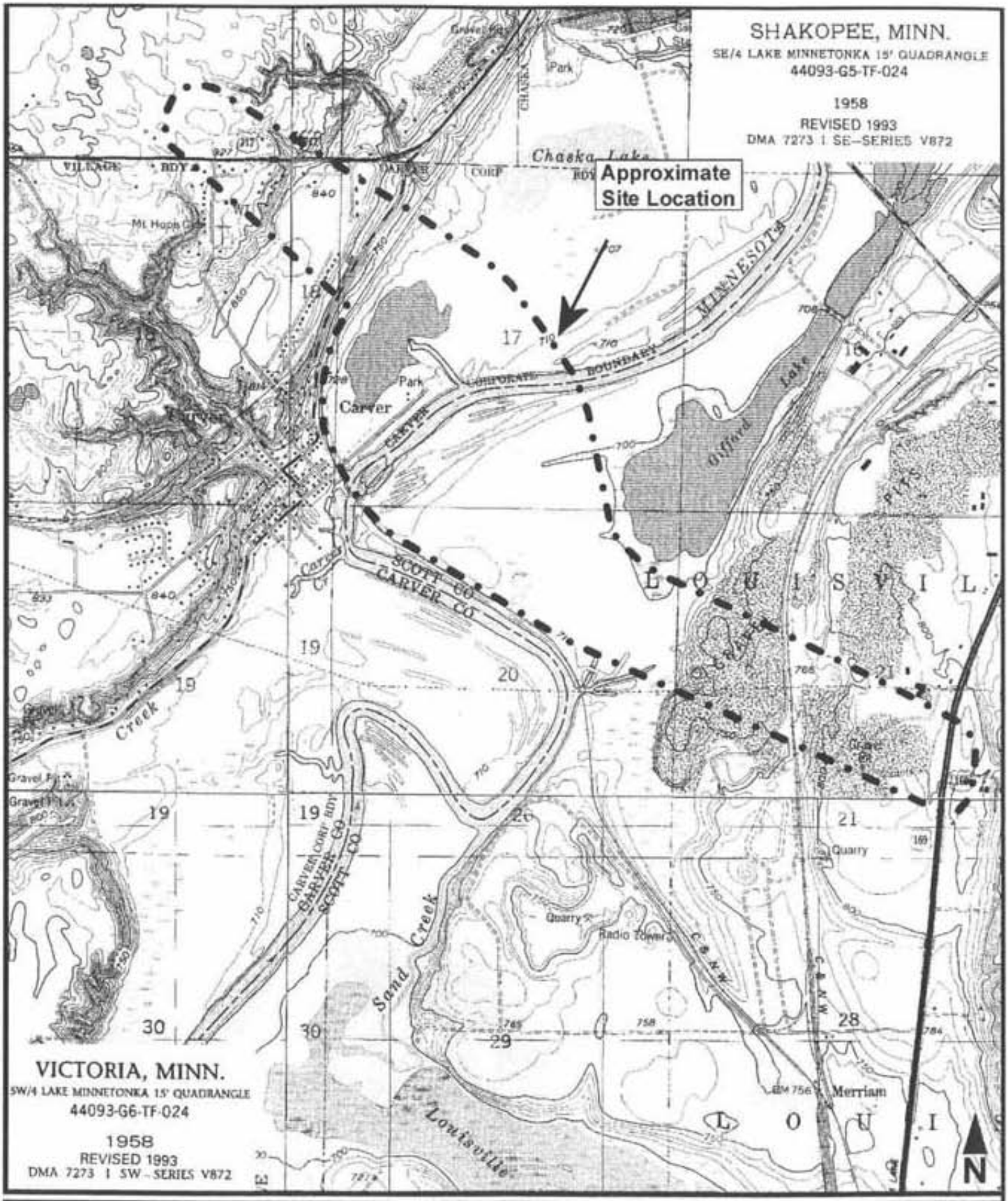
High Environmental Risk sites included properties located within the Corridor or adjacent to the Corridor and either presented strong indications suggesting environmental impacts or was reported to have documented releases. Based on the ranking criteria provided by Mn/DOT, it is our opinion that the following facilities are considered *High Environmental Risk* sites:

- Former Hollander Auto Salvage, 13901 Johnson Memorial Drive; located within and adjacent to the southeast end of the Corridor.

- Bryan Rock Products, 13580 Johnson Memorial Drive; located within the Corridor. This facility is also considered a *Medium Environmental Risk* site due to the facilities listing on the UST database.

- Valley Mining and Development, 13900 Johnson Memorial Drive; located within the Corridor.

Braun Intertec recommends conducting additional environmental assessment of the *High Environmental Risk* sites. The assessment should include additional information source review. Subsurface assessment of the *High Environmental Risk* sites may be required to evaluate suspected environmental impacts.



BRAUN INTERTEC

Site Location Map
Phase I Environmental Site Assessment
TH 41 W-2 Alternative
Scott and Carver Counties
Carver and Chaska, Minnesota

USGS TOPOGRAPHIC MAP		
Victoria and Shakopee, MN		
DATE:	10/13/2005	
JOB NO:	BL-04-05681	
SCALE:	1 : 24,000	FIGURE NO:
DRAWN BY:	FER	1

Phase I Environmental Site Assessment

Proposed TH 41 C-2 Alternative
Scott and Carver Counties
Jackson Township and Chaska, Minnesota

Prepared For

SRF Consulting Group, Inc.

Volume 1 of 2

Project BL-04-05681
February 2, 2006

Braun Intertec Corporation

Executive Summary

Braun Intertec Corporation performed a Phase I environmental site assessment of the proposed TH 41 C-2 Alternative located in Jackson Township and Chaska in Scott and Carver Counties, Minnesota (Corridor) in general conformance with the scope and limitations of ASTM Practice E 1527-00.

The Corridor is located within Sections 5, 6, 7, 8, 9, 10, 15, 16, and 17, Township 115 North, Range 23 West; in Chaska and Shakopee, Carver and Scott Counties, Minnesota. The Corridor extends to Engler Boulevard to the north with another extension that follows Country Road 140 to the west. The northeastern boundary of the Corridor traverses the southwestern corner of the City of Chaska and continues around the City. The Corridor boundary line continues to the east, crossing the Minnesota River and continuing on to Highway 169 southwest of the City of Shakopee. The southeastern boundary of the Corridor extends slightly beyond Highway 169. The southwestern boundary of the Corridor extends to the northwest across the Minnesota River to Chaska Lake where the boundary turns to the west and continues to the north at the intersection of Highway 212 and County Road 40 to County Road 140. This assessment included approximately 500 feet on either side of the approximately 5.5-mile-long Corridor.

The Corridor traverses the Minnesota River with the City of Chaska along the northeastern boundary. The Chaska Lake Area of the Minnesota Valley Federal Wildlife Refuge and the Gifford Lake Area of the Minnesota Valley State Recreation Area are located northwest and southeast of the Minnesota River, respectively in the central portion of the Corridor. Properties within the Corridor consisted of agricultural, residential, commercial, and industrial. The surrounding area includes a mix of agricultural, residential, commercial, and industrial properties.

This assessment has revealed no indications of recognized environmental conditions in connection with the Corridor, with the exception of the following:

- According to the FirstSearch report, a UST facility (Dueco, 12716 Chestnut Boulevard) was located on the southwestern corner of the Corridor.

- According to the information provided by FirstSearch, one facility (MNDOT Theis Auto) located within the Corridor was listed twice on the State Site (MPCA-VIC) database.

- At the time of our reconnaissance, three active gravel pits were observed located within the Corridor.

This assessment has revealed no indications of historical recognized environmental conditions in connection with the Corridor, with the exception of the following:

- According to the information provided by FirstSearch, six facilities located within the Corridor were listed seven times on the LUST database. One of the facilities was listed twice for a total of seven listings. All seven of the listings on the LUST database were "closed" by the MPCA.

Although not considered a recognized environmental condition, seven wells and possibly septic systems are located at within the Corridor. If the wells will no longer be used, the wells must be properly sealed by a licensed water well contractor in accordance with Minnesota Department of Health regulations or a maintenance permit must be obtained. If a septic system is encountered during future Corridor development activities, we recommend that the septic system be properly abandoned in accordance with local city, county, and state regulations.

Although not considered a recognized environmental condition, historically, houses and buildings were likely demolished at the Corridor. It is unknown if the demolition debris was buried on the property or hauled away for disposal. The potential exists that buried materials are present at the Corridor that require management as solid or hazardous waste.

Braun Intertec ranked properties on or adjacent to the Corridor as to their potential to impact the Corridor using the ranking criteria provided by Mn/DOT as high, medium, low, or unlikely risk sites.

A majority of the Corridor consists of residential properties, vacant land, roads, and other commercial facilities that no not meet the conditions of a high, medium, or low risk site set forth in the ranking criteria provided by Mn/DOT. It is our opinion that these areas and facilities have the unlikely potential for contamination.

Low Environmental Risk sites were defined as properties with known or inferred small or very small quantities of chemicals used or stored on-site. *Low Environmental Risk* sites also show indications of good housekeeping practices. Fourteen facilities located within the Corridor and eight facilities located adjacent to the Corridor were listed on the RCRA-GEN database. Based on the ranking criteria provided by Mn/DOT, it is our opinion that the RCRA-GEN facilities are considered a *Low Environmental Risk* and do not constitute recognized environmental conditions.

Braun Intertec recommends that care be taken to educate the contractors and Mn/DOT construction managers to identify conditions at *Low Environmental Risk* properties that may indicate adverse environmental impact to the soil or groundwater within the construction area. These conditions may include stained soils, unusual odors or debris disposal (i.e., building material, pipes, tanks or drums).

Braun Intertec recommends that a contingency plan be in place to allow quick response to minimize construction delays, if indication of potential adverse environmental impacts is observed.

Medium Environmental Risk properties included properties located a short distance (<1/8 mile) from the Corridor, which have had documented releases, as well as properties located immediately adjacent to the Corridor with only the potential for environmental impacts due to current or historical uses. According to the FirstSearch report, a UST facility (Dueco, 12716 Chestnut Boulevard) was located on the southwestern corner of the Corridor. Based on the ranking criteria provided by Mn/DOT, it is our opinion that the UST facility with no documented release located within the Corridor is considered a *Medium Environmental Risk* and a recognized environmental condition.

According to the FirstSearch report, one UST facility (R&R Marine, 12827 Chestnut Boulevard) was listed within 500 feet of the Corridor. Based on the ranking criteria provided by Mn/DOT, it is our opinion that R&R Marine located near the southwestern boundary of the Corridor is considered a *Medium Environmental Risk* and not a recognized environmental condition.

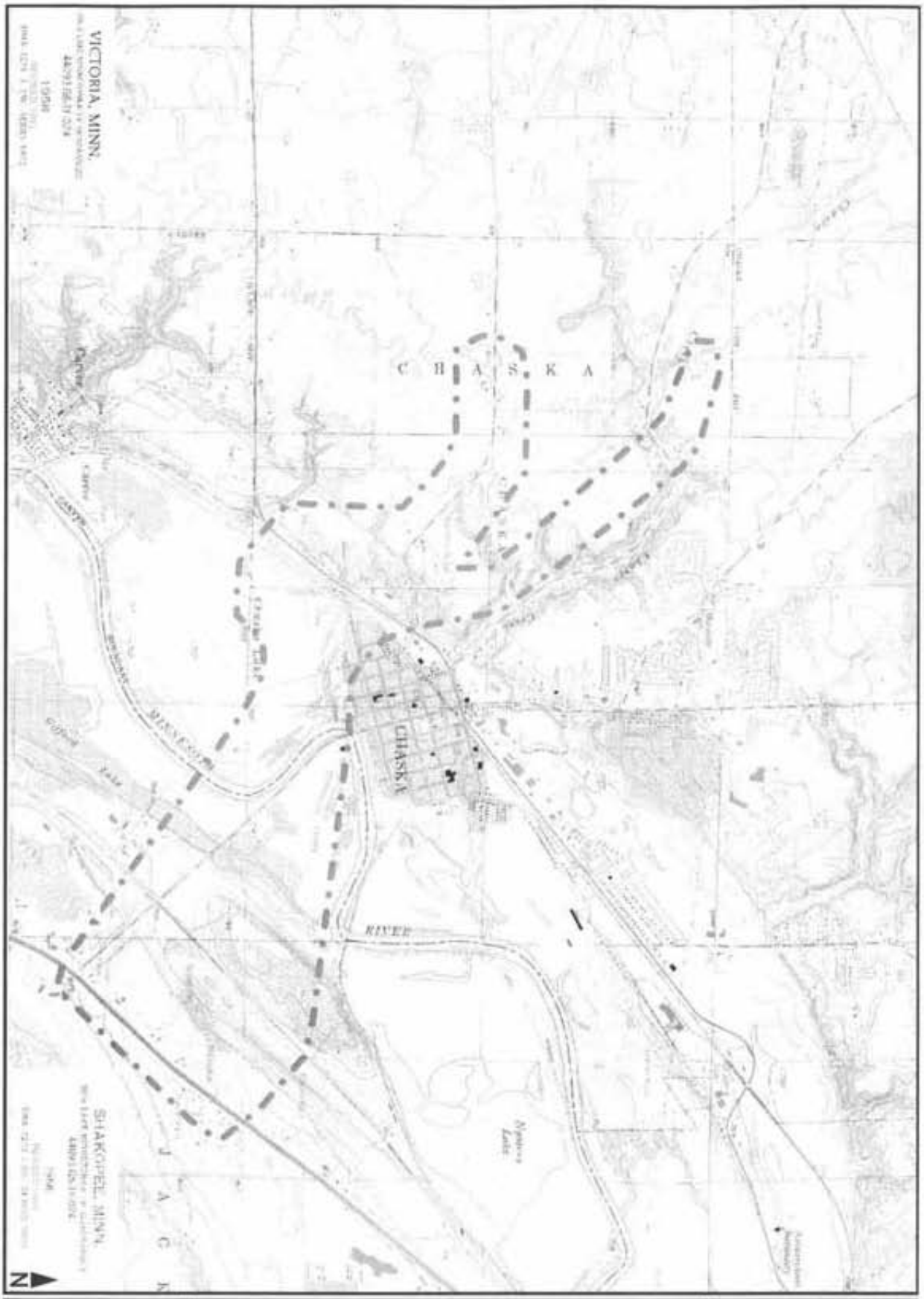
Braun Intertec recommends additional environmental evaluation of *Medium Environmental Risk* sites on a case-by-case basis depending on the type of site historical activity and corridor construction details. The additional environmental evaluation of these sites may be limited to additional information source review, but may also include subsurface assessment.

High Environmental Risk properties included properties located within the Corridor or adjacent to the Corridor and either presented strong indications suggesting environmental impacts or were reported to have documented releases. The following facilities located within the Corridor were considered to be *High Environmental Risk* properties:

- MNDOT Theis Auto, 12706 Chestnut Boulevard; listed on the State Site (MPCA-VIC) database.
- Holiday Stationstore-Store Number 246, 12681 Chestnut Boulevard; located on the southwestern corner of the Corridor (LUST database)
- Malkerson Farm, 12351 Chestnut Boulevard; located on the southwestern portion of the Corridor (LUST database).
- Patriot Auto Sales, 12810 Chestnut Boulevard; located on the southwestern corner of the Corridor (LUST database).
- Shakopee Truck Station, 12550 Chestnut Boulevard; located on the southwestern portion of the Corridor (LUST database).
- Superamerica Store #4439, 12835 Ventura Court; located on the southwestern corner of the Corridor (LUST database).

- Theis Auto Repair, 12706 Chestnut Boulevard; located on the southwestern corner of the Corridor (LUST database).
- Lano Sand and Gravel, located on Highway 212 between Chaska and Carver.
- Commercial Asphalt, located between the Minnesota River and railroad tracks northeast of Highway 41 (Chestnut Boulevard) in Scott County.
- Gravel pit located southwest of the Commercial Asphalt gravel pit between the railroad tracks and Highway 169.

Braun Intertec recommends conducting additional environmental assessment of the *High Environmental Risk* sites. The assessment should include additional information source review. Subsurface assessment of the *High Environmental Risk* sites may be required to evaluate suspected environmental impacts.



BRAUN INTERTEC

Site Location Map
Phase I Environmental Site Assessment
TH 41 C-2 Alternative
Scott and Carver Counties
Carver and Chaska, Minnesota

USGS TOPOGRAPHIC MAP		
Shakopee and Victoria, MN		
DATE	10/20/05	
JOB NO.	BL-04-05681	
SCALE	1 : 24,000	FIGURE NO.
DRAWN BY	FER	1

Phase I Environmental Site Assessment

Proposed TH 41 E-1 Alternative
Scott and Carver Counties
Carver and Louisville Township, Minnesota

Prepared For

SRF Consulting Group, Inc.

Volume 1 of 2

Project BL-04-05681
February 2, 2006

Braun Intertec Corporation

Executive Summary

Braun Intertec Corporation performed a Phase I environmental site assessment of the proposed E-1 TH 41 Alternative located in Shakopee and Chaska in Scott and Carver Counties, Minnesota (Corridor) in general conformance with the scope and limitations of ASTM Practice E 1527-00.

The Corridor is located within Sections 3, 10, and 15; Township 115 North; Range 23 West and Sections 27, 33, and 34; Township 116 North; Range 23 West in Shakopee and Chaska, Scott and Carver Counties, Minnesota. The Corridor consists of a Y-shape. The western fork of the Corridor extends from slightly beyond the intersection of Pioneer Trail and Audubon Road on the north and follows Audubon Road to the south. The eastern fork of the Corridor extends from West Farm Road, south of Pioneer Trail, on the north and continues to the southwest where it meets with the western fork in the vicinity of Engler Boulevard and Audubon Road. The Corridor continues to the south and ends just southeast of Highway 169. This assessment included approximately 500 feet on either side of the approximately 5-mile-long Corridor.

At the time of this assessment, the Corridor consisted of approximately 5 miles. The Corridor traverses the Minnesota River with downtown Chaska to the southwest. The Nyssen's Lake Area of the Minnesota Valley State Recreation Area is located south of the Minnesota River within the south-central portion of the Corridor. Properties within the Corridor consisted of residential, commercial, and industrial. The surrounding area includes a mix of residential, commercial, and industrial properties.

This assessment has revealed no indications of recognized environmental conditions in connection with the Corridor, with the exception of the following:

- According to the FirstSearch report, a facility (SuperAmerica #4519, 1400 Crystal Lane) within the Corridor was listed on the UST database.

- According to the SCHED file review, septage from the Bonnevista Mobile Home Park had been spread repeatedly at the farm site of Charlie Wellens, 2200 Strunks Road in Jackson Township located within the Corridor.

- Two facilities adjacent to the Corridor (Minnesota Valley Gas, 1155 Highway 212 East and All Steel Products, 1165 Highway 212 East) were identified in the city directories as environmental concerns.

- Beginning on the 1957 aerial photograph and continuing the remaining aerial photographs, an area of disturbed soil that appears to be associated with an adjacent gravel pit was apparent between the railroad tracks on the southwestern portion of the Corridor.

- Based on aerial photographs, a lime pond associated with a sugar beet facility was located on the west-central portion of the Corridor along the Minnesota River.

- The Chaska Laundry Center was located in a strip mall located on the north side of Highway 212 west of the intersection of Audubon Road and Highway 212. A dry-cleaning sign was observed at the Chaska Laundry Center at the time of our reconnaissance.

- An auto/truck service facility was observed in a strip mall located on the north side of Highway 212 west of the intersection of Audubon Road and Highway 212.

- A Tires Plus facility was observed south of the SuperAmerica gas station at the intersection of Crystal Lane and Audubon Road.

- The United Sugars facility was observed near the western boundary of the Corridor, south of Stoughton Avenue.

- According to the information provided by FirstSearch, a facility (Spuhl Anderson Machine Company, 1610 Parallel Street) within the Corridor was listed on the State Site (MPCA-VIC) database.

This assessment has revealed no indications of historical recognized environmental conditions in connection with the Corridor, except for the following:

- According to the FirstSearch report, a facility (M.A. Gedney) located within the Corridor was listed twice as a "closed" LUST facility.

Although not considered a recognized environmental condition, three wells and possibly septic systems are located within the Corridor. If the wells will no longer be used, the wells must be properly sealed by a licensed water well contractor in accordance with Minnesota Department of Health regulations or a maintenance permit must be obtained. If a septic system is encountered during future Corridor development activities, we recommend that the septic system be properly abandoned in accordance with local city, county, and state regulations.

Although not considered a recognized environmental condition, historically, buildings located within the Corridor were demolished. It is unknown if the demolition debris was buried on the specific properties or hauled away for disposal. The potential exists that buried materials are present within the Corridor that require management as solid or hazardous waste.

Braun Intertec ranked properties on or adjacent to the Corridor as to their potential to impact the Corridor using the ranking criteria provided by Mn/DOT as high, medium, low, or unlikely risk sites.

A majority of the Corridor consists of residential properties, vacant land, roads, and other commercial facilities that no not meet the conditions of a high, medium, or low risk site set forth in the ranking criteria provided by Mn/DOT. It is our opinion that these areas and facilities have the unlikely potential for contamination.

Low Environmental Risk sites were defined as properties with known or inferred small or very small quantities of chemicals used or stored on-site. *Low Environmental Risk* sites also show indications of good housekeeping practices. Based on the ranking criteria provided by Mn/DOT, it is our opinion that the nine facilities located within the Corridor and one facility located adjacent to the Corridor listed on the RCRA-GEN database are considered a *Low Environmental Risk*.

Braun Intertec recommends that care be taken to educate the contractors and Mn/DOT construction managers to identify conditions at *Low Environmental Risk* properties that may indicate adverse environmental impact to the soil or groundwater within the construction area. These conditions may include stained soils, unusual odors or debris disposal (i.e., building material, pipes, tanks or drums). Braun Intertec recommends that a contingency plan be in place to allow quick response to minimize construction delays, if indication of potential adverse environmental impacts are observed.

Medium Environmental Risk properties included properties located a short distance (<1/8 mile) from the Corridor, which have had documented releases, as well as properties located immediately adjacent to the Corridor with only the potential for environmental impacts due to current or historical uses. The following facilities located within the Corridor were considered to be *Medium Environmental Risk* properties:

- SuperAmerica #4519, 1400 Crystal Lane.
- Charlie Wellens' Property, 2200 Strunks Road in Jackson Township. Septage from the Bonnevista Mobile Home Park had been spread repeatedly at the farm site.
- Minnesota Valley Gas, 1155 Highway 212 East; located within the Corridor (past land use at the facility).

- All Steel Products, 1165 Highway 212 East; located within the Corridor (past land use at the facility).

- Chaska Laundry Center located in a strip mall on the north side of Highway 212 west of the intersection of Audubon Road and Highway 212.

- An auto/truck service facility observed in a strip mall located on the north side of Highway 212 west of the intersection of Audubon Road and Highway 212.

- A Tires Plus facility observed south of the SuperAmerica gas station at the intersection of Crystal Lane and Audubon Road.

- The United Sugars facility observed near the western boundary of the Corridor, south of Stoughton Avenue.

Braun Intertec recommends additional environmental evaluation of *Medium Environmental Risk* sites on a case-by-case basis depending on the type of site historical activity and corridor construction details. The additional environmental evaluation of these sites may be limited to additional information source review, but also may include subsurface assessment.

High Environmental Risk properties included properties located within the Corridor or adjacent to the Corridor and either presented strong indications suggesting environmental impacts or were reported to have documented releases. The following facilities located within the Corridor were considered to be a *High Environmental Risk* property:

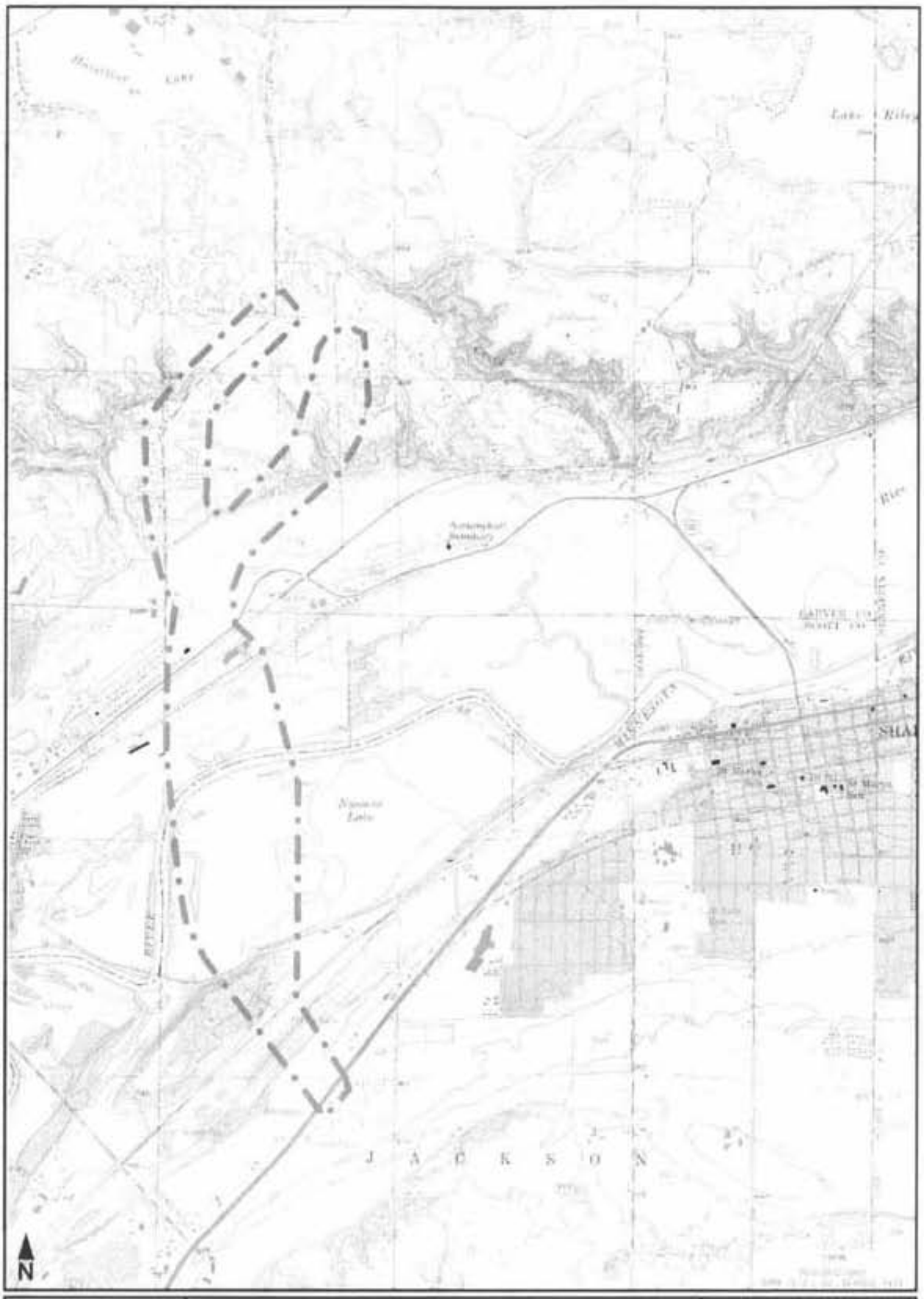
- Spuhl Anderson Machine Company, 1610 Parallel Street; listed on the State Site (MPCA-VIC) database.

- M.A. Gedney, 2100 Stoughton Avenue; listed twice as a "closed" LUST facility on the LUST database.

- Disturbed soil associated with an adjacent gravel pit, located between the railroad tracks on the southwestern portion of the Corridor.

- Based on aerial photographs, a lime pond associated with a sugar beet facility was located on the west-central portion of the Corridor along the Minnesota River.

Braun Intertec recommends conducting additional environmental assessment of the *High Environmental Risk* sites. The assessment should include additional information source review. Subsurface assessment of the *High Environmental Risk* sites may be required to evaluate suspected environmental impacts.



BRAUN INTERTEC

Site Location Map
Phase I Environmental Site Assessment
TH 41 E-1 Alternative
Scott and Carver Counties
Carver and Chaska, Minnesota

USGS TOPOGRAPHIC MAP		
Shakopee, Minn.		
DATE	10/1/2005	
JOB NO.	BL 04-05281	
SCALE	1 : 24,000	FIGURE NO.
DRAWN BY	FER	1

Phase I Environmental Site Assessment

Proposed TH 41 E-2 Alternative
Scott and Carver Counties
Carver and Louisville Township, Minnesota

Prepared For

SRF Consulting Group, Inc.

Volume 1 of 2

Project BL-04-05681
February 2, 2006

Braun Intertec Corporation

Executive Summary

Braun Intertec Corporation performed a Phase I environmental site assessment of the proposed E-2 TH 41 Alternative located in Shakopee and Chaska in Scott and Carver Counties, Minnesota (Corridor) in general conformance with the scope and limitations of ASTM Practice E 1527-00.

The Corridor is located within Sections 3, 10, and 15, Township 115 North; Range 23 West and Sections 27 and 34; Township 116 North; Range 23 West in Shakopee and Chaska, Scott and Carver Counties, Minnesota. The northern end of the Corridor extends from the intersection of Pioneer Trail and Bluff Creek Drive in Chaska to the south beyond Highway 169 in Shakopee. Highway 212, Stoughton Avenue, Strunks Road, and Highway 169 cross the Corridor. This assessment included approximately 500 feet on either side of the approximately 3.5-mile-long Corridor.

At the time of this assessment, the Corridor consisted of approximately 3.5 miles. The Corridor traverses the Minnesota River with downtown Chaska to the southwest. The Nyssen's Lake Area of the Minnesota Valley State Recreation Area is located south of the Minnesota River within the central portion of the Corridor. Properties within the Corridor consisted of residential, commercial, and industrial. The surrounding area includes a mix of residential, commercial, and industrial properties.

This assessment has revealed no indications of recognized environmental conditions in connection with the Corridor, with the except for the following:

- According to the SCHED file review, septage from the Bonnevista Mobile Home Park had been spread repeatedly at the farm site of Charlie Wellens, 2200 Strunks Road in Jackson Township located within the Corridor.

- Two facilities (Minnesota Valley Gas, 1155 Highway 212 East and All Steel Products, 1165 Highway 212 East) were identified in the city directories as environmental concerns.

- Beginning on the 1957 aerial photograph and continuing the remaining aerial photographs, an area of disturbed soil that appears to be associated with an adjacent gravel pit was apparent between the railroad tracks on the southwestern portion of the Corridor.

- Aboveground storage tanks (ASTs) were observed at three parcels located within or adjacent to the Corridor. The parcels within the Corridor where the ASTs were observed included a small construction company located at 1910 Stoughton Avenue in Chaska and at the Wellens' farmstead at 2200 Strunks Road in Shakopee. The parcel located adjacent to the Corridor where ASTs were observed was Ron's Mechanical at 12010 Old Brick Yard Road in Shakopee.

- Based on aerial photographs, three wastewater treatment ponds associated with the Gedney Pickle facility were located near the east-central boundary of the Corridor, just north of the Minnesota River.

This assessment has revealed no indications of historical recognized environmental conditions in connection with the Corridor, except for the following:

- According to the FirstSearch report, a facility (M.A. Gedney) located adjacent to the Corridor was listed twice as a "closed" LUST facility.

Although not considered a recognized environmental condition, thirteen wells and possibly septic systems are located within the Corridor. If the wells will no longer be used, the wells must be properly sealed by a licensed water well contractor in accordance with Minnesota Department of Health regulations or a maintenance permit must be obtained. If a septic system is encountered during future Corridor development activities, we recommend that the septic system be properly abandoned in accordance with local city, county, and state regulations.

Although not considered a recognized environmental condition, historically, buildings located within the Corridor have been demolished. It is unknown if the demolition debris was buried on the specific properties or hauled away for disposal. The potential exists that buried materials are present within the Corridor that require management as solid or hazardous waste.

Braun Intertec ranked properties on or adjacent to the Corridor as to their potential to impact the Corridor using the ranking criteria provided by Mn/DOT as high, medium, low, or unlikely risk sites.

A majority of the Corridor consists of residential properties, vacant land, roads, and other commercial facilities that no not meet the conditions of a high, medium, or low risk site set forth in the ranking criteria provided by Mn/DOT. It is our opinion that these areas and facilities have the unlikely potential for contamination.

Low Environmental Risk sites were defined as properties with known or inferred small or very small quantities of chemicals used or stored on-site. *Low Environmental Risk* sites also show indications of good housekeeping practices. Based on the ranking criteria provided by Mn/DOT, it is our opinion that the three facilities located within the Corridor and two facilities located adjacent to the Corridor listed on the RCRA-GEN database are considered a *Low Environmental Risk*.

Braun Intertec recommends that care be taken to educate the contractors and Mn/DOT construction managers to identify conditions at *Low Environmental Risk* properties that may indicate adverse environmental impact to the soil or groundwater within the construction area. These conditions may include stained soils, unusual odors or debris disposal (i.e., building material, pipes, tanks or drums). Braun Intertec recommends that a contingency plan be in place to allow quick response to minimize construction delays, if indication of potential adverse environmental impacts is observed.

Medium Environmental Risk properties included properties located a short distance (<1/8 mile) from the Corridor, which have had documented releases, as well as properties located immediately adjacent to the Corridor with only the potential for environmental impacts due to current or historical uses. The following facilities located within the Corridor were considered to be *Medium Environmental Risk* properties:

- Minnesota Valley Gas, 1155 Highway 212 East; located within the Corridor (past land use at the facility).
- All Steel Products, 1165 Highway 212 East; located within the Corridor (past land use at the facility).
- Small construction company, 1910 Stoughton Avenue in Chaska; located within the Corridor (ASTs were observed during our reconnaissance).
- Charlie Wellens' farmstead, 2200 Strunks Road in Shakopee; located within the Corridor (ASTs were observed during our reconnaissance and, according to the SCHED, septage from the Bonnevista Mobile Home Park had been spread repeatedly at the farm site).
- Ron's Mechanical, 12010 Old Brick Yard Road in Shakopee; located adjacent to the Corridor (ASTs were observed during our reconnaissance).

Braun Intertec recommends additional environmental evaluation of *Medium Environmental Risk* sites on a case-by-case basis depending on the type of site historical activity and corridor construction details. The additional environmental evaluation of these sites may be limited to additional information source review, but also may include subsurface assessment.

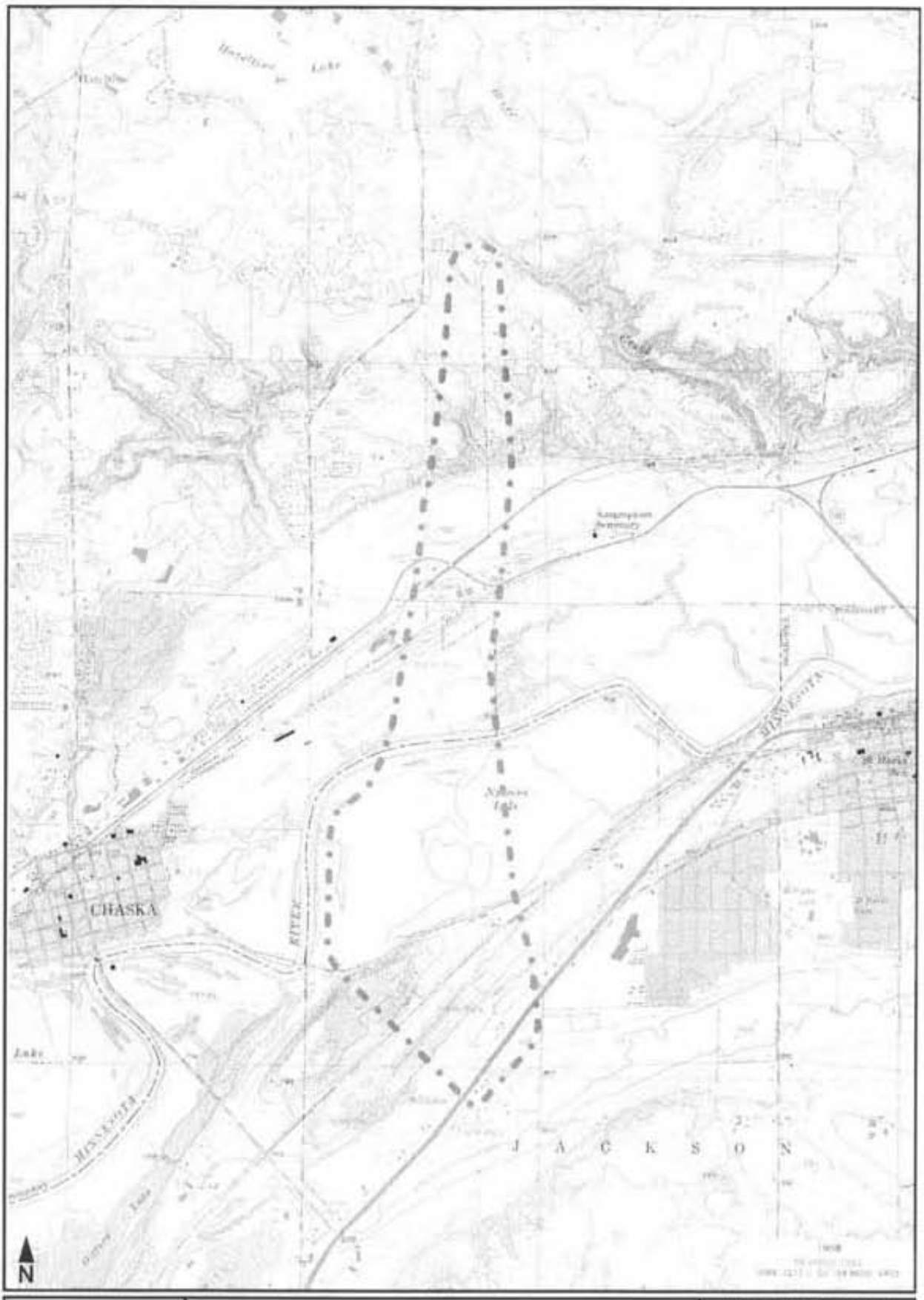
High Environmental Risk properties included properties located within the Corridor or adjacent to the Corridor and either presented strong indications suggesting environmental impacts or was reported to have documented releases. The following facilities located within the Corridor were considered to be a *High Environmental Risk* property:

- M.A. Gedney, 2100 Stoughton Avenue (two "closed" LUST incidents were reported at the facility).

- Based on aerial photographs, three wastewater treatment ponds associated with the Gedney Pickle facility were located near the east-central boundary of the Corridor, just north of the Minnesota River.

- Disturbed soil associated with an adjacent gravel pit, located between the railroad tracks on the southwestern portion of the Corridor.

Braun Intertec recommends conducting additional environmental assessment of the *High Environmental Risk* sites. The assessment should include additional information source review. Subsurface assessment of the *High Environmental Risk* sites may be required to evaluate suspected environmental impacts.



BRAUN INTERTEC

Site Location Map
Phase I Environmental Site Assessment
TH 41 E-2 Alternative
Scott and Carver Counties
Shakopee and Chaska, Minnesota

USGS TOPOGRAPHIC MAP		
Shakopee, MN		
DATE	12/28/2005	
JOB NO	BL-04-05881	
SCALE	1 : 24,000	FIGURE NO.
DRAWN BY	FER	1

BRAUN
INTERTEC

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11001 Hampshire Avenue S.
Minneapolis, MN 55438

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Web: braunintertec.com

May 16, 2006

Project BL-04-05681.A

Ms. Barbara Walther
SRF Consulting Group, Inc.
One Carlson Parkway North, Suite 150
Minneapolis, MN 55447

Dear Ms. Walther:

Re: Addendum to the Phase I Environmental Site Assessment
Proposed TH 41 C-2 Alternative
Scott and Carver Counties
Jackson Township and Chaska, Minnesota

In February 2006, Braun Intertec Corporation (Braun Intertec) completed a Phase I environmental site assessment (Phase I ESA) of the referenced property (Corridor). The Phase I ESA had been prepared on behalf of and for use by SRF Consulting Group, Inc. (SRF). No other party has a right to rely on the contents of this Phase I ESA without the written authorization of Braun Intertec Corporation. Our report (dated February 2, 2006), which was titled *Phase I Environmental Site Assessment, Proposed TH 41 C-2 Alternative, Scott and Carver Counties, Jackson Township and Chaska, Minnesota* (Project BL-04-05681), describes the scope, methods and conclusions of our Phase I ESA. Since the time the Phase I ESA report was completed, SRF indicated that the proposed C-2 Corridor has expanded and an additional area not covered in the Phase I ESA was added. SRF authorized us to conduct a visual reconnaissance of the area not included in the original Corridor boundary (amended Corridor boundary) for the Phase I ESA. This letter summarizes our findings, amends, and should become a part of the Phase I ESA report.

Summary

According to Ms. Barbara Walther, SRF Consulting Group, Inc., the amended Corridor boundary was located on parcel number 6 and parcel 14 (parcel numbers assigned by SRF). In the Phase I ESA, it was our opinion that the occupant of parcel 6 (Lano Sand and Gravel) was considered a high environmental risk site set forth in the ranking criteria provided by Mn/DOT. We observed aboveground storage tanks near a shop for Lano Sand and Gravel located adjacent to and south of the amended Corridor boundary. The area of parcel 6 that consisted of the amended Corridor boundary was located on the western portion of the parcel west of the gravel pit through a wooded area that consisted of a ravine. At the time of our visual reconnaissance of parcel 6, old machinery and farming implements were observed along the tree line on the western portion of the parcel. A ravine, approximately 75 feet deep, was observed within wooded area. No debris was observed in the ravine within the amended Corridor boundary.

The area of parcel 14 that consisted of the amended Corridor boundary was located on the northern portion of the parcel through an undeveloped area. At the time of our visual reconnaissance of the amended Corridor boundary on parcel 14, debris was observed along a tree line near the eastern boundary. Debris that was observed included old farming implements and equipment, an old car, furniture cushions, rubber intertubes, tires, wood posts, and wood boards. The debris on the amended Corridor boundary of parcel 6 and parcel 14 that was visually observed appeared to be surficial in nature and not considered recognized environmental conditions.

General

If you have questions concerning the contents of this letter or the Phase I ESA report, please call Kevin Hoffman at 952.995.2458 or Mike Bratrud at 952.995.2430.

Sincerely,

Kevin J. Hoffman
Project Manager

Michael L. Bratrud, PG
Principal Scientist

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING:
A FUTURE US 169/US 212 REGIONAL FREEWAY CONNECTION

EXECUTIVE SUMMARY

PHASE 1 CHARACTERIZATION SEMINARY FEN WETLAND COMPLEX

PREPARED FOR
SRF CONSULTING GROUP, INC.

MARCH 2006

PREPARED BY
PETERSON ENVIRONMENTAL CONSULTING, INC.

SRF NO: 0024590

1 Executive Summary

Peterson Environmental Consulting, Inc. (PEC) was retained by the SRF Consulting Group, Inc. (SRF) to perform a Phase 1 characterization of the Seminary Calcareous Fen in support of a Tier 1 EIS being prepared to evaluate alternatives proposed for a new river crossing at Trunk Highway 41 (TH 41). For the purposes of the Phase 1 characterization, the "Seminary Fen Wetland Complex" (SFWC), which consists of two units of extensive peatland spread across four sections of the Minnesota River Valley in Carver County, was distinguished from the five calcareous fen components (CFC) of the SFWC (CFC-SFWC) as mapped under the Minnesota Land Cover Classification System (MLCCS). The study focused on the MLCCS calcareous fen components but also addressed characteristics of the entire SFWC.

This Phase 1 characterization of the Seminary Calcareous Fen:

- Provides essential background information on calcareous fen regulation in Minnesota and on the hydrology, soil, water chemistry, and vegetation characteristics used to identify calcareous fens in Minnesota,
- Discusses impacts known to adversely affect calcareous fens, focusing on those impacts associated with bridge construction,
- Places the Seminary Fen in a local and regional hydrogeological context necessary to understand calcareous fen function and characteristics,
- Assesses historic land use impacts to the Seminary Fen,
- Quantifies hydrology, soils, water chemistry, and vegetation calcareous fen criteria in the mapped calcareous fen components of the SFWC, and
- Provides recommendations for a Phase 2 assessment of potential impacts of Alternative Alignments E-1A and E-2, which will include discussion of potential impacts of TH 41 Alternative Alignments E-1A and E-2 to the calcareous fen components of the SFWC and to the SFWC itself.

Calcareous Fen Regulation and Definition

Calcareous fens are peat-accumulating wetlands dominated by distinct groundwater inflows and having specific chemical characteristics. Discharging groundwater is characterized as circum-neutral to alkaline with high concentrations of calcium and low dissolved oxygen content. The chemistry provides environments for specific and often rare hydrophytic plants (MR 8420.1020). Calcareous fens are protected and potential impacts regulated under Minnesota Statutes and Rules 103G.223, 8420.1010 to 8420.1070 and MPCA Rule 7050. Calcareous fens are formally defined and delineated based on the presence of specific hydrology, water chemistry, soils, and vegetation indicator criteria (Berglund 1995; revisions proposed in Leete et al., 2005). The primary differences between the 1995 and proposed 2005 criteria relate to vegetation. Both sets of vegetation criteria were used in this study. The "Seminary Fen" is formally listed as a calcareous fen under Minnesota Rule 7050.0180 Sub. 6b, B Carver County, Seminary Fen. It is currently listed as the only calcareous fen in Carver County.

Hydrogeologic Setting of the SFWC

The SFWC exists as a large North Unit adjacent to the north bluff of the Minnesota River and a South Unit that lies south of existing TH 212. The two units are separated by an upland terrace consisting of coarse textured glacial outwash. Several bluff top wetlands exist north of the SFWC at elevations approximately 200 to300 feet higher than the SFWC that could provide the hydraulic gradient driving groundwater discharge to the areas on the valley floor that are adjacent to the bluff. CFC Areas 1 and 2 are associated with groundwater discharge focused at the base of the bluff. Groundwater discharge to CFC Areas 1 and 2 can be through quaternary sediments (e.g. sand stringers in the till) and/or discharge from bedrock subcrops near the bottom of the bluff. During our investigation of CFC Area 2 a distinctive plant community outside of the MLCCS-designated fen was observed that would meet all calcareous fen criteria. This zone extended from the north-central boundary of the MLCCS unit north to near the base of the bluff. This area was added to CFC Area 2 based on the presence of all of the calcareous fen criteria, and is indicated in the figures that apply to CFC Area 2 in this report.

CFC Areas 3, 4, and 5 in the South Unit of the SFWC are approximately 15-to-20 feet lower in elevation than the southern portions of the North Unit of the SFWC. The presence of extensive spring heads and spring runs associated with the toeslope positions of the terrace and their distance from the base of the Minnesota River bluff suggest that the source of the discharging groundwater originates as recharge from losing reaches of the portion of Assumption Creek that flows on the terrace and groundwater recharge occurring at the northern edge of the terrace feature. The location and elevation of the discharge areas suggests a complex hydrology where groundwater discharges at and near the bottom of the bluff, becomes channeled surface flow in spring runs, diffuse surface flows and subsurface throughflow across and within the sloping peat aprons in the North Unit SFWC, recharges the groundwater system underlying the coarse textured terrace feature, and then discharges again as spring heads and spring runs in the Southern Unit of the SFWC.

The postglacial hydrogeology of the SFWC is complicated. Diffuse and focused groundwater discharge has resulted in paludification (peat accretion), and the formation of a large peatland that has a gradual slope to the south from the toe-of-slope positions at the bluff edge to the terrace feature that separates the North Unit of the SFWC from the South Unit of the SFWC. Similarly, peatlands to the south of the terrace feature also present a gradual slope from the south of the terrace feature to the active floodplain of the Minnesota River.

It is possible that a shallow post-glacial lake existed in the area for a period following glaciation. Natural drainage of this shallow lake resulting from downcutting of Assumption Creek providing an outlet to the east would have initiated the paludification process over much of the area. The result is a complex stratigraphy of thin-to-thick peat deposits accreting over fine-to-coarse textured calcareous marl, fine textured lacustrine sediment in low areas of the shallow lake, and coarse textured outwash sediments in elevated areas of the undulating lake bottom as indicated by an analysis of peat depths in the CFC-SFWC. The presence of a pre-glacial shallow lake characterized by the general presence of calcareous marl deposits and calcareous peat would result in virtually the entire wetland system being saturated with respect to calcium carbonate. Groundwater discharge would be more intense nearer the toe-of-slope positions at the base of the bluff and the terrace feature, and in areas where peat and lacustrine deposits

are thin to the underlying sand. Groundwater discharge would be less intense in areas of thick peat over fine-textured lacustrine deposits. The distribution of the CFC-SFWC as highly calcareous fen features embedded in a surrounding carbonated wetland system could explain many of the calcareous fen features found in the SFWC.

Historic Land Use Impacts

Historic impacts to the SFWC were examined in aerial photos that date back to 1937. Because of their size and location in and near urbanizing areas, Minnesota Valley wetlands are particularly subject to various disturbances. While the CFC-SFWC are considered to be relatively pristine, the immediate area of the wetland and the adjacent bluffs have been impacted by fragmentation, municipal well withdrawals, bluff top urbanization and stormwater management, ditch and tile drainage, hydrologic alteration and surface water diversions, potential peat and/or mining of the underlying sediments, and limited industrial development. The Seminary Fen may, in fact, be maintained in the face of existing and historic disturbance by the sheer size of the wetland complex within which it is embedded, combined with the calcareous nature of the underlying sediments. Drainage impacts especially have affected the hydrology and plant community associated with a large, historic, calcareous-fen peat mound n CFC Area 1.

Groundwater Hydrology

The hydrology of the CFC SFWC was assessed through an interpretation of surface water features characteristic of groundwater discharge combined with an assessment of hydrologic gradients in nested water table wells and piezometers established in representative areas of the CFC SFWC. Based on our observations and well nest data, virtually all of the SFWC both within and outside of the CFC SFWC would meet the hydrology criterion for calcareous fens that requires evidence of stable, upward groundwater flow and the presence of peat soils (Histosols) or mineral soils with peat surfaces. Small to substantial upward groundwater flow was observed in all areas examined. However, the highest upward gradients (approximately 4 feet of difference between the water table well and the nested piezometer) were observed associated with a component of high-quality calcareous fen in the northern part of CFC Area 1 (Well Nest 1A). Other well nests exhibited upward gradients to lesser degrees. A well nest installed in the terrace portion of Assumption Creek exhibited strong downward gradient, indicating the losing nature of Assumption Creek in the terrace reach and confirming the hypothesis that the terrace feature is the source of water discharging to CFC Areas 3, 4, and 5 that are south of the terrace and TH 212.

Field observations and interpretations of hydrographs in nested water table well and piezometers provide a general working hypothesis of groundwater flow in and around the SFWC that explains many of the important hydrologic features of the area. Salient features of the SFWC groundwater-flow model include the following:

1. Groundwater recharge occurs on bluff-top wetlands and uplands north of the bluff escarpment. Head gradients are large and can drive downward groundwater movement through unconsolidated glacial sediment as well as the underlying bedrock. Recharge could also occur in distant areas to the north of the SFWC. The SFWC lies at the mouth of a buried pre-glacial bedrock valley that extends north under both lakes Waconia and Minnetonka. Exact groundwater recharge areas and locations are not

known at this time, and will be examined under a Phase 2 investigation of potential impacts of bridge construction.

2. Groundwater discharge is primarily associated with spring heads and diffuse seepage areas at toe-of-slope positions at the base of the bluff and associated alluvial fans. The majority of the spring heads and seepage areas at toe-of-slope position are the result of high hydraulic gradients at these locations. Hydraulic gradients would decrease further south into the relatively flat, sloping peatland of the North Unit SFWC.
3. Localized zones of groundwater discharge are also associated with areas further from the base of the bluff that are shallow to sand or that do not contain fine textured substrates. The sandy substrate under the peat likely has undulating relief. It is also possible that fine-textured lacustrine sediments overlie areas in the sandy outwash. Peat in the area of the SFWC varies in thickness and substrate type. Seepage areas are more likely where peat is thin and fine-textured substrates are absent.
4. Groundwater throughflow dominates in the middle portions of the SFWC that are sloping peatlands with a gradient to the south. However, at any given point upward gradients are also observed. Groundwater flow occurs in three dimensions. In sloping peatlands with topographic gradients to the south, both lateral (throughflow) and upward (discharge) components to the flow directions were observed.
5. Groundwater recharge likely occurs at the northern edge of the terrace feature and in losing reaches of Assumption Creek. Assumption Creek has very complex hydrology and has been substantially affected by historic diversions and channelization. In its current configuration Assumption Creek headwaters lie within the north unit of the SFWC, where it has two main tributaries originating to the west and to the east of CFC Area 2, respectively. North of the railroad embankment the tributaries were observed to be perennial throughout the field season. However, once the tributaries join and flow under the railroad embankment, the streams becomes intermittent and loses water to the groundwater system. The data and field observations suggest that most of the water recharged on and flowing through the terrace feature resurfaces as groundwater seeps and spring heads at the toe-of-slope positions at the terraces southern edge, including CFC Areas 3, 4, and 5.

Water Chemistry

Our hypothesis of general calcareous groundwater discharge to the entire SFWC is confirmed by the chemical analyses of groundwater and surface water collected from water table wells, piezometers, spring heads, and spring runs. Virtually all surface water and groundwater samples satisfy the calcareous fen chemical criteria, and all of the SFWC water samples are saturated with respect to solid calcite. All samples are calcium-magnesium-bicarbonate dominated waters with neutral to alkaline pH values that are uniformly above pH 6.7. Total dissolved solids content is high ranging from 200 to 1200 mg/L, with the majority of the samples ranging from 500 to 1000 mg/L (Figure 4.16).

The data suggest that the discharging groundwater and surface flows originating as seeps, spring heads, and spring runs are saturated with respect to calcium carbonate, and remain saturated with respect to calcium carbonate as the water flows south through the system to the Minnesota River. As a result, the groundwater and surface water flows within the SFWC fulfill the water chemistry criteria for calcareous fens, and facilitate the presence of diverse, calciphile-dominated plant communities near points of focused groundwater discharge, and thinly distributed populations of calciphile plant communities in areas dominated by weak discharge and throughflow of calcareous groundwater.

A comparison of water chemistry between well nests indicates that the high-quality sloping fen adjacent to and south of he railroad embankment represented by Well Nest 1A had significantly different groundwater discharge chemistry when compared to all other sampling locations. The water collected from spring heads, spring runs, water table wells and piezometers associated with Well Nest 1A was higher in dissolved solids and had far greater concentrations of chloride, suggesting that the aquifer discharging to this location is different than the aquifers feeding the other CFC SFWC. The nature of this aquifer is unknown at this time, but may be the Franconia shale. Surface water and groundwater chemistry in the other areas examined were similar to each other in chemical constituents and carbonate chemistry and likely represent groundwater discharge from a different aquifer than that which discharges to the Well Nest 1A location.

Soils

The calcareous fen soil criteria were examined by describing representative soils within the CFC-SFWC and performing a loss-on-ignition laboratory analysis of the distribution of organic matter, calcium carbonate, and mineral material in samples collected incrementally from these representative soil profiles.

All of the soils collected within the CFC SFWC as well as all wetland soil profiles examined during walkover assessments of the SFWC would meet the calcareous fen soil criteria. All of the soils are histosols or have histic epipedons. Several profiles contain large quantities of marl (limnic sediments dominated by precipitated calcium carbonate) that represent calcite precipitation in spring heads and spring runs, and calcareous marl likely deposited during shallow-lake phases that may have occupied the area of the SFWC during early post-glaciation periods.

The majority of the SFWC soils were incorrectly mapped into the Blue Earth soil series (fine-silty, mixed, superactive, calcareous mesic Mollic Fluvaquents). Most of the soils examined would fall into the Houghton and Edwards soils series (euic, mesic Typic Haplosaprists and marly, euic, mesic Limnic Haplosaprists, respectively). Strongly expressed areas of calcareous fen consisting of dense and diverse populations of calciphiles were associated with Edwards soils that have strata of virtually pure calcium carbonate marl deposits interbedded with organic layers. Houghton soils consist of thick peat deposits that are neutral in pH and can have substantial amounts of calcium carbonate disseminated within the peat matrix, but lack marl/organic layer stratification. Calciphiles were observed in areas of Houghton soils, but were thinly distributed amongst the wetland plant communities.

A dynamic groundwater discharge/surface flow hydrologic system is indicated in areas with stratified marl/organic deposits (Edwards soils) that would be characterized by successive development and abandonment of spring heads, spring runs and flarks (broad, terrace-like surface flow features commonly associated with the flanks of sloping and mound-type calcareous fens). The Edwards soils associated with the high-quality calcareous fen plant communities in CFC Area 1 especially exhibit peat surfaces combined with complex stratification of marl and organic sediments in the sub-soil. An examination of the soils along a raised peat mound that is a significant physical feature of the entire SFWC indicated that the mound was historically high-quality calcareous fen that has been adversely affected by drainage. Edwards soils were observed along the flanks, with Houghton soils occupying the apex of the mound. The Houghton soils exhibited carbonate leaching in the soil surface that was likely the result of drainage

observed as drain tile discharge on the flanks of the mound. Surface water well hydrographs (Well Nest 1B) indicate water-table fluctuation suggestive of tile drainage.

With two exceptions, soils present in CFC Areas 2, 3, 4, and 5 were Houghton soils that are thought to be more representative of mixed throughflow and discharge with calcareous groundwater. Some profiles contained substantial amounts of calcium carbonate disseminated within the peat matrix, but generally lacked the stratification associated with the high-quality calcareous fen areas. One profile in CFC Area 3 and one profile in CFC Area 5 exhibited marl/organic horizon stratification in the subsoil. However, the presence of thick overlying peat deposits suggests that the hydrology that resulted in the stratification is no longer active.

Moreover, soils in CFC Areas 4 and 5 exhibited alluvial strata and high mineral content in the peat that represent periodic inundation by Minnesota River floodwater. Both areas are well within the 100-year floodplain of the Minnesota River. Periodic flooding retards or prevents calcareous fen development and maintenance by disturbance, sediment burial, and the introduction of elevated nutrient levels in the sediments that favor plant species adapted to disturbance and high nutrient levels. These areas were dominated by rank, high-stature vegetation and lacked sufficient quantities of calciphiles to met the calcareous fen vegetation criteria. These areas, while being high quality fen wetlands, are not calcareous fens and were likely miss-mapped, with mapping based on evidence of groundwater discharge and the presence of peat soils.

Vegetation

Descriptions of vegetation were prepared from qualitative and quantitative surveys of the SFWC. Several rare and protected plant species, and species with a high affinity for calcareous fens have been previously documented. During the present study, the following species were observed: *Carex sterilis*, *Cladium mariscoides*, *Cypripedium candidum*, *Eleocharis rostellata*, *Scleria verticillata*, and *Triglochin palustris*.

Numerous locations of calcareous fen were found in Area 1. That area supports a diversity of different plant communities, many of which represent the variation possible in calcareous fen vegetation. Notably, short sedge calcareous fen communities on tufa (thin to thick deposits of calcium carbonate precipitated at the soil surface) and tall sedge calcareous fen communities on peat are both significantly present. Despite the presence of calcareous fen plant communities, the area has suffered extensive ecological disturbance. Without proper management, the unique fen habitats and associated species may be further degraded or lost. However, this disturbance presents many opportunities for restoration of calcareous fen habitats. Area 1 satisfied 1995 and proposed 2005 vegetation criteria using vascular plants and bryophytes. Invasive species such as *Phalaris arundinacea*, *Phragmites australis*, *Rhamnus cathartica*, and *Rhamnus frangula* all pose biotic threats to the fen communities. Erosion and past drainage post abiotic threats.

Area 2 satisfied calcareous fen criteria for both vascular plants and bryophytes. This area, however, does not support the diversity of calcareous fen plant species or communities as seen in Area 1. Tall sedge calcareous fen communities are found that intergrade into other wetland communities such as emergent marsh, shrub carr, and wet meadow. *Phragmites australis* and unchecked shrub growth poses an ecological threat in this area.

Area 3 is similar to Area 2 in satisfying vascular plant criteria for calcareous fens and supporting tall sedge fen communities. Short sedge fen communities are lacking as with Area 2. The area failed to meet the proposed bryophyte criteria for calcareous fens. Invasive species, shrub growth and anthropogenic disturbance (in the form of a radio tower and associate facilities) pose ongoing threats to the integrity of the plant communities.

Areas 4 and 5 failed to meet vascular plant criteria for calcareous fens. The plant communities resembled riparian forest and emergent marsh ecosystems more than calcareous fens. The sites are apparently subject to periodic flooding from the Minnesota River, and deposition of sediments and nutrients may prevent development of calcareous fen characteristics. Areas 4 and 5, in combination, did meet the proposed bryophyte criterion for calcareous fens, in contrast to the vascular plant results.

Potential Impacts of TH 41 Alternative Alignments E-1A and E-2

Both alternative alignments E-1A and E-2 are located to the west of the SFWC CFC Area 1, which is hydrologically separated from the alternatives by the railroad embankment. Because of the hydrologic separation produced by the railroad embankment, proximity of the calcareous fen to the bluff base that would be the focus of groundwater discharge, and the distance from both of the alternative alignments, it is our opinion that Phase 1 information indicates that it is unlikely that either alternative would have a substantial impact on CFC Area 1.

However, there is the potential for substantial direct impacts to CFC Area 2, and potential indirect impacts to CFC Areas 3, 4, and 5. CFC Area 2 is within 100 feet of alignment E-2. Alternative alignment E-1A is located within the western portion of the north unit of the SFWC and follows the bluff line where groundwater discharge results in spring heads and spring runs that flow to a confluence with the westerly flowing tributary of Assumption Creek to the north of the railroad embankment. Surface flows join to form Assumption Creek that subsequently flows across the terrace feature. The Assumption Creek piezometer data indicate that the losing portion of Assumption Creek provides much of the groundwater feeding CFC Area 3, 4, and 5.

Recommendations for Phase 2 Assessment of Potential Impacts

The Phase 2 assessment should concentrate on the overall regional hydrology of the SFWC to investigate potential impacts on all of the areas that meet the calcareous fen criteria in Leete et al. (2005). However, the Phase 1 assessment suggests that CFC Area 1 will not likely be affected by either alternative alignment E-1A or E-2.

1. A more detailed review of the western portion of the north unit SFWC needs to be performed to ensure that no outliers of calcareous fen exist in the area.

2. A detailed plant community inventory of ecotopes within a specific distance of the E-1A and E-2 alignments should be performed under Phase 2 (e.g. 500 feet either side of the applicable alternative).

3. Impacts need to be assessed in the context of specific construction procedures and proposed features of the alignments, including span width, length, construction methods, timing for specific procedures and total length of time expected for completion, location of staging areas, fill pads, pier placement and dewatering requirements, and erosion control methods.

4. An assessment of the location and environmental characteristics of the areas directly impacted that would need to be mitigated should be performed.

5. An assessment of temporary impacts will need to be evaluated in the context of the proposed construction methods.

6. The direct, long-term impacts of shading and winter salting need to be determined for post-construction road operation, especially on the portions of CFC Area 2 that are adjacent to proposed alignment E-2.

7. The potential for salt movement and impacts to plant communities should be assessed in a hydrogeologic context for the entire SFWC. Particular attention should be paid to potential effects on calciphile communities by road salt-contaminated groundwater that resurfaces at the numerous spring heads in Areas 3-5.

The direction the Phase 2 assessment takes will be dependent upon the availability of appropriate literature that can be applied to the specific setting of the SFWC and the proposed alternative alignments. The Phase 2 assessment should evaluate potential impacts based on the existing literature refined with additional field work applicable to the specific alignment alternative.

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING:
A FUTURE US 169/US 212 REGIONAL FREEWAY CONNECTION

TECHNICAL MEMORANDUM

FOR

WATER RESOURCES

AUGUST 21, 2006

PREPARED BY
SRF CONSULTING GROUP, INC.

SRF NO: 0024590

SRF Comm. No. 0024590

MEMORANDUM

TO: Nancy Frick, Senior Associate
SRF Consulting Group, Inc.

FROM: Ryan Jones, P.E., Senior Engineer
Eric Roerish, P.E., Senior Engineer

DATE: August 21, 2006

SUBJECT: TH 41 CROSSING OVER THE MINNESOTA RIVER AT CHASKA, MN – WATER RESOURCES

Purpose/Background

The Minnesota Department of Transportation (Mn/DOT) is investigating alternatives to replace the existing Trunk Highway (TH) 41 Minnesota River crossing at Chaska. The new TH 41 Over the Minnesota River would connect TH 169 in Scott County and proposed TH 212 in Carver County, and bypass downtown Chaska.

Six alternative alignments are currently being considered by Mn/DOT. SRF Consulting Group, Inc. (SRF) has conducted a preliminary analysis of the effects of the six alternatives on water resources. Three of the six alternatives contain both high and low profiles. Because the drainage patterns differ between the high and low option, analysis was required for both. This memorandum summarizes the approach and results of the water resources analysis, including:

- stormwater treatment volume requirements;
- viable sites, adverse site characteristics, and additional right of way required for stormwater treatment ponds;
- impacts to existing development due to pond placement; and
- impacts to the Minnesota River floodplain due to pond placement.

Water Quality

The main treatment area is designed to provide an area for settling of the fine to medium-size particles. The water quality volume is defined in terms of the effectiveness of the treatment on

an average annual basis. The effectiveness of particle removal is largely dependent on residence time in the pond. For this reason placement of treatment ponds in the floodway was avoided to the greatest extent possible, as the effectiveness of the ponds treatment is reduced as soon as inundation occurs.

Water Quality Analysis Methodology

A standardized water quality investigation technique was used to review each of the alignment alternatives. The following inputs and considerations were employed for pond sizing and site location.

Pond Locations

Pond locations and associated drainage areas were delineated for each alternative using available alignment profiles and project area topography. Gravitational flow was assumed for routing to all pond locations. In general, stormwater treatment ponds were placed at profile low points, up gradient of the Minnesota River bridge abutments, and at the edge of the Minnesota River's 100-year floodway. Ponds were placed within proposed rights-of-way where possible. Aerial photos and topographic survey information were used to determine the viability of pond locations outside proposed rights-of-way. Efforts were made to avoid placing ponds in existing developed areas; near wetlands, wooded areas, or steep grades; and in the floodway. Each of the alternatives included a low point on the Minnesota River Bridge, making it necessary to place at minimum one pond in the floodway. It was assumed for all pond locations that pond discharges could be routed to a suitable conveyance system.

Drainage Areas

Drainage areas and impervious fractions were computed by applying one of five typical cross-sections to each alignment. The five typical sections used were:

- Mainline 204 ft wide, 40% impervious
- Bridge 95 ft wide, 100% impervious
- Ramp 105 ft wide, 28% impervious
- Two-lane Ramp 117 ft wide, 35% impervious
- Auxiliary Lane 16 ft wide, 100% impervious

In computing drainage areas, it was assumed that water from both sides of the road would be routed to a single pond. Table 1 summarizes the treatment areas for each alternative.

Pond Sizing

There are two components to ponds sizing. The first is the dead pool, or permanent storage, sizing. The NURP guidelines were utilized for this project with a 2.5-inch rainfall event for the dead pool sizing. A 10-foot bench is included above the normal water level (NWL). Ponds are assumed to be 6' deep and have 3:1 sideslopes below the NWL. The NWL is assumed to be at existing ground level.

The second step in pond sizing involves rate control and the required active storage to achieve the desire discharge rates. The SRF active pool sizing worksheet was utilized for this task. The worksheet is intended to provide approximate active storage requirements needed to limit discharges from a site. It performs the following calculations:

a. Rational Method Coefficients. The total volume of runoff is equivalent to the drainage area, runoff coefficient, and design rainfall amount

b. Discharge Volumes. The total discharge from the site is equal to the allowable discharge rate determined from existing conditions for the design storm duration.

c. Required Storage Volume. The required storage volume is the difference between the runoff and discharge volumes. Note it looks at different storm durations to determine the worst case.

d. Time to Empty. Time to empty takes the required volume and divides it by the allowable discharge rate.

The proposed drainage area that was utilized to calculate the dead storage was also used to determine the existing conditions runoff rate. The proposed active storage needed to be designed so that the proposed runoff rates do not exceed the existing rates. By using the proposed drainage areas we assumed that the existing drainage patterns are the same as the proposed. Although this in not always a correct assumption, it will ensure that the overall proposed project discharge rates do not exceed the existing conditions.

The active pool storage is graded in at a 4:1 with a 10-foot width at the top of the berm, and is graded back to existing ground elevation at a 4:1 grade. An additional 1 foot of freeboard is also included in the pond area. On average, the upland ponds have 4 feet of bounce above the NWL, and the floodplain ponds have 5 feet of bounce above the NWL.

Water Quality Analysis Results

Results of the water quality analysis are summarized in the attached tables. Table 1 summarizes treatment areas and required pond treatment volumes for each alignment and profile. Table 2 lists pond locations as compared to proposed rights-of-way, and potential impacts for ponds located outside the right of way.

Alternative W-2

Alternative W-2, shown in Figure 1, is located in the western portion of the study area, northeast of the City of Carver. This alternative has a roadway alignment with a northwest-southeast orientation that would run between TH 169 approximately one mile southwest of existing TH 41, and TH 212 at the interchange with existing TH 212. This alignment corridor is the most undeveloped of any of the alternatives.

Nine potential pond treatment locations were identified for this alternative, of which four are situated within the right of way. As listed in Table 2, the five ponds located outside of the right

of way could be situated to avoid impacts to existing development, wetlands, and forested areas. One pond, with an approximate treatment volume of 3.5 ac-ft, would need to be located in the floodplain near the bridge sag point. This pond would be located inside the Minnesota Valley National Wildlife Refuge.

Alternative C-2

Alternative C-2, shown in Figure 2, is located in the central portion of the study area, southwest of downtown Chaska. This alternative has a roadway alignment with a northwest-southeast orientation that would run between TH 169 at existing TH 41, and TH 212 at the interchange with Existing TH 212. The alignment corridor generally avoids existing housing developments. The proposed interchange at TH 169 runs through an existing commercial area.

Twelve potential pond treatment locations were identified for this alternative, of which five are situated within the right of way. Of the seven ponds located outside the right of way, two would impact adjacent residential development. Because the TH 41 Bridge sag point for this alternative is located immediately above the Minnesota River, three stormwater treatment ponds would be required in the floodplain in order to minimize the amount of runoff collecting over the river. The approximate total treatment volume in the floodplain would be 4.4 ac-ft.

Alternative C-2A

Alternative C-2A, shown in Figure 3, is located in the central portion of the study area, southwest of downtown Chaska. This alternative has a roadway alignment with a northwest-southeast orientation that would run between TH 169 at existing TH 41, and new TH 212 at CSAH 10. The alignment corridor avoids existing housing developments, but would run through an existing commercial area at the proposed TH 169 interchange.

Eleven potential pond treatment locations were identified for this alternative, of which four are situated within the right of way. None of the ponds outside of the right of way would likely impact existing development. One pond near the TH 212 interchange would be located in a wetland area, due to the location of a ramp low point. One pond, with an approximate treatment volume of 4.1 ac-ft, would be located in the floodplain. The floodplain pond is required near the bridge sag point near Chaska Lake, inside the Minnesota Valley national Wildlife Refuge.

Alternative E-1

Alternative E-1 is located in the eastern portion of the study area, northeast of downtown Chaska. This alternative has a roadway alignment with a north-south orientation that would run between TH 169 at CSAH 69, and new TH 212 at CSAH 17. The alignment corridor runs through existing developed areas along CSAH 17, north of the Minnesota River.

Two sub-alternatives are being considered for the proposed alignment: E-1 High and E-1 Low, in which ramps from TH 41 travel over or under new TH 212, respectively.

E-1 High

As shown in Figure 4, eight potential pond treatment locations were identified for this sub-alternative, of which one is situated within the right of way. One pond located outside of the right of way (Pond E1H-6) would likely impact an existing residential property. Pond E1H-7, which treats runoff from an area between the TH 212 interchange and the northern bridge abutment, was placed adjacent to the bridge beyond the abutment. It was assumed that the relatively shallow grade running down the bluff along CSAH 17 would allow runoff to flow to the pond in ditches or storm sewer. One pond, with an approximate treatment volume of 5.0 ac-ft, would be located in the floodplain.

E-1 Low

Figure 5 shows the eight potential pond treatment locations that were identified for this sub-alternative, of which three are situated within the right of way. None of the ponds outside of the right of way would likely impact existing development. Pond E1L-7 was placed in a manner similar to E1H-7, with runoff routed along existing CSAH 17 to a location adjacent to the bridge. One pond, with an approximate treatment volume of 5.0 ac-ft, would be located in the floodplain.

Alternative E-1 (Ponds E1H-7 and E1L-7) are placed in an undeveloped area alongside the bridge, several hundred feet south of the abutment. The alignment corridor for E-1 has a more gradual slope, and it was assumed that stormwater could be routed to this location through ditches or culverts.

<u>Alternative E-1A</u>

Alternative E-1A is located in the eastern portion of the study area, northeast of downtown Chaska. This alternative has a roadway alignment with a north-south orientation that would run between TH 169 at CSAH 69, and new TH 212 east of CSAH 17. The alignment corridor runs through existing developed areas between the Minnesota River and the new TH 212 interchange, veering east from CSAH 17 to avoid existing residential developments.
Two sub-alternatives are being considered for the proposed alignment: E-1A High and E-1A Low, in which ramps from TH 41 travel over or under new TH 212, respectively.

E-1A High

Figure 6 shows the ten potential pond treatment locations that were identified for this sub-alternative, of which one is situated within the right of way. One pond located outside of the right of way would likely impact an existing residential property. One pond, with an approximate treatment volume of 3.9 ac-ft, would be located in the floodplain. The ponds near the north abutment would be located in an adjacent existing residential area, prior to the steep bluff that leads to the river valley.

E-1A Low

Figure 7 shows the ten potential pond treatment locations that were identified for this sub-alternative, of which two are situated within the right of way. One pond located outside of the right of way would likely impact an existing residential property. One pond, with an approximate treatment volume of 3.9 ac-ft, would be located in the floodplain. The ponds near the north abutment would be located in an adjacent existing residential area, prior to the steep bluff that leads to the river valley.

Alternative E-2

Alternative E-2 is located in the eastern portion of the study area, northeast of downtown Chaska. This alternative has a roadway alignment with a north-south orientation that would run between TH 169 at CSAH 69, and TH 212 east of CSAH 17. The alignment corridor runs through existing developed areas at the proposed TH 169 interchange, and immediately north of the Minnesota River. The alignment veers east to avoid residential developments along CSAH 17.

Two sub-alternatives are being considered for the roadway alignment: E-2 High and E-2 Low, in which ramps from TH 41 travel over or under new TH 212, respectively.

E-2 High

Figure 8 shows the eleven potential pond treatment locations that were identified for this sub-alternative, of which two are situated within the right of way. One pond located outside of the right of way would likely impact an existing residential property. One pond, with an approximate treatment volume of 4.4 ac-ft, would be located in the floodplain. The ponds near the north abutment would be located in an adjacent existing residential area, prior to the steep bluff that leads to the river valley.

E-2 Low

As shown in Figure 9, eleven potential pond treatment locations were identified for this sub-alternative, of which three are situated within the right of way. Three ponds located outside of the right of way would likely impact existing residential properties. One pond, with an approximate treatment volume of 4.4 ac-ft, would be located in the floodplain. The ponds near the north abutment would be located in an adjacent existing residential area, prior to the steep bluff that leads to the river valley.

Water Quality Analysis Summary

All of the alternatives will require a stormwater treatment pond in the Minnesota River floodplain, due to the sag point on the proposed bridge. The preliminary required pond treatment volumes in the floodplain range from 3.5 ac-ft for Alternative W-2, to 5.0 ac-ft for Alternative E-1. Floodplain treatment volume could be reduced for Alternatives C-2A, E-1,

E-1A and E-2 by adding a pond between the southern TH 41 bridge abutment and the southern floodplain boundary.

In most instances, ponds in the floodplain could be situated to avoid impacts to wetlands or forested areas. The exception is Alternative C-2, where two of the three ponds in the floodplain would impact forested areas, and another would encroach upon an existing developed area. Placing stormwater treatment ponds beneath the proposed Minnesota River Bridge would reduce the need for additional right of way, and lessen impacts to the floodplain.

All alternatives will require stormwater treatment ponds located outside the proposed right of way. In many cases, ponds could be situated between interchange ramps and proposed frontage roads, avoiding impacts to existing development. Alternatives E-1, E-1A and E-2 travel through developed areas on the east side of Chaska, increasing the likelihood that ponds located outside the right of way would impact existing residential or commercial properties. For these three corridors, the "low" sub-alternatives would allow for better placement of ponds within the right of way at the TH 41/TH 212 interchange, as compared to the "high" sub-alternatives.

Ponds were placed near the abutments for the proposed TH 41 Bridge. For Alternatives E-1A and E-2, the ponds near the north abutment would be located in an adjacent existing residential area, prior to the steep bluff that leads to the river valley. In contrast, the north bridge abutment ponds for Alternative E-1 (Ponds E1H-7 and E1L-7) are placed in an undeveloped area alongside the bridge, several hundred feet south of the abutment. The alignment corridor for E-1 has a more gradual slope, and it was assumed that stormwater could be routed to this location through ditches or culverts.

The water quality analysis did not consider the feasibility of conveying water from the proposed pond locations to potential receiving waters. It was assumed for all pond locations that pond discharges could be routed to a suitable conveyance system. The number of ponds could be reduced if storm sewers were used to convey runoff against grade to more advantageous locations.

Hydraulic/Floodway Impacts

Hydraulic floodplain/floodway impact analysis was limited to the Minnesota River. It was assumed that bridges crossing Chaska Creek, Bluff Creek, or East Creek would be designed to span the entire floodplain.

Floodplain/Floodway

The Minnesota River floodplain is comprised of close to 100 percent floodway throughout the reach containing the six alignments. Per FEMA regulations, fill in floodways is prohibited. Any potential ponding locations in the floodway will consist of excavated volume only. Pond embankments and fill materials above the existing ground line are not allowed.

The bridges for each of the alignments span the entire Minnesota floodway. The western abutment is typically up on the bluff and the eastern abutment is generally located behind the

Union Pacific Railroad. The only structural features for the preliminary alignments that are required in the floodway are the piers. The sag points for the bridge decks are generally in the area of 25 feet to 30 feet above the 100-year flood elevation.

Hydraulic Modeling

One dimensional hydraulic analysis was completed for the alternatives using a HEC-RAS model received from the DNR that was completed in 2004 for Scott County. The model was created with the intention of Scott County incorporating the results into their mapping in 2006.

The six bridge alternatives were incorporated individually into unique models. Pier spacing was modeled at 300 feet on center for each alternative and was comprised of seven foot wide piers. The longitudinal length of the bridge piers (length along the flow path) was modeled as 137 feet. Pier spacing was adjusted in some instances to account for the bridge skew to the river, however, the pier widths were left constant. Skew consideration resulted in tighter pier spacing. Pier placement in the main channel was avoided.

Hydraulic Modeling Results

Hydraulically, the impacts in the base flood (100-year) water surface elevation caused by the alignment alternatives are in the range of 0.00 feet to 0.02 feet. Refinement of pier shape, pier alignment, and pier spacing may be able to eliminate the 0.02 feet increase. The lack of impact is primarily due to the expansive floodplain width, the high flow capacity, and the extremely low flow velocities. The preliminary hydraulic impacts of the alternatives are as follows:

W-2 = 0.00 feet	E-1 = 0.02 feet
C-2A = 0.01 feet	E-1A = 0.02 feet
C-2 = 0.01 feet	E-2 = 0.00 feet

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TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING:
A FUTURE US 169/US 212 REGIONAL FREEWAY CONNECTION

MANAGEMENT SUMMARY

PHASE I AND II ARCHAEOLOGICAL INVESTIGATIONS

PREPARED FOR
MN/DOT

JUNE 2006

PREPARED BY
THE LOUIS BERGER GROUP, INC.

SRF NO: 0024590

PHASE I AND II ARCHAEOLOGICAL INVESTIGATIONS OF ALTERNAIVE ROUTE CORRIDORS FOR TRUNK HIGHWAY 41 NEAR CHASKA

CARVER AND SCOTT COUNTIES, MINNESOTA

MnDOT Agreement No. 86982
S.P. No. 1008-60
OSA License No. 04-066 and 06-010

Authorized and Sponsored by:

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June 2006

MANAGEMENT SUMMARY

The Louis Berger Group, Inc. (Berger) has completed Phase I geomorphological assessment and Phase I and II archaeological investigations within eleven route alternative corridors for proposed improvements to Trunk Highway (TH) 41 across the Minnesota River near Chaska in Carver and Scott Counties, Minnesota. This work was performed under contract with the Minnesota Department of Transportation (Mn/DOT), St. Paul, Minnesota as part of S.P. 1006-60. The work was done to for Mn/DOT and the Federal Highway Administration (FHWA) to comply with the Section 106 process. The Phase I archaeological field work was completed in three segments (October 25 to November 19, 2004; June 7 to 17, 2005; and October 17 to 28, 2005). Phase II National Register evaluation of Site 21CR141 was performed May 1 to 15, 2006. All of the archaeological work was completed under the direction of Senior Archaeologist Christopher Schoen, Principal Investigator. The geomorphological assessment was performed by Dr. Michael Kolb, Strata Morph Geoexploration, Inc., between November 4 and December 10, 2004 and March 1 to 3, 2005. An architectural survey of structures erected before 1964 within the broader Area of Potential Effect (APE), which included the City of Carver, the City of Chaska, and the adjacent Minnesota River Valley west of Shakopee, also was completed by Berger and is described in a separate report (Deiber 2006).

The APE for the archaeological and geomorphological work was confined to fourteen alternative route corridors. Each corridor was 1,000 feet wide. The five original alternative corridors were labeled A through E from southwest to northeast by Berger. The proposed alternative corridors were refined, resulting in six other alternative corridors, which were labeled C-2, C-2A, E-1, E-1A, E-2, and W-2 (SRF 2005). Associated with these corridors were three additional interchange corridors near TH 169, which Berger labeled F, G, and H. The alternative corridors had a combined length of approximately 45.8 miles and included an estimated total of 5,552 acres.

The geomorphological assessment within the original five corridors by Strata Morph Geoexploration, Inc. was made to identify areas of high, moderate, and low potential for archaeological deposits. The archaeological survey examined areas of high and moderate potential for archaeological deposits as identified by Mn/Model and the results of the geomorphological assessment and also sampled areas considered to have low archaeological potential to test the accuracy of this identification.

Three archaeological sites were identified by Berger during the course of the Phase I investigation. Site 21CR140 is composed of a small area (approximately 30 meters in diameter) of historic artifacts in the plowzone and top of the B horizon at the north end of Alternative E in Parcel E-62, which is located near the intersection of Pioneer Trail and Bluff Creek Road. Site 21CR142 consists of a scatter of chipped stone and fire-cracked rock in the plowzone at the north end of Alternative A in Parcel A-57, which is situated west of the intersection of current TH 212 and CR 40. Site 21CR142 encompasses an area measuring approximately 40 meters north to south by 80 meters east to west. Neither Site 21CR140 nor Site21CR142 are eligible for listing in the National Register of Historic Places.

Site 21CR141 is a multi-component pre-contact site on an alluvial fan in Alternative E in Parcel E-67. Mn/DOT contracted with Berger to perform a Phase II site evaluation. Berger found that the deeply buried archaeological deposits near the base of the fan in the 5Ab horizon have integrity and potential to yield significant information regarding the occupation of the area during the Archaic Period. Thus, the site is eligible for listing in the National Register based on Criterion D. No other archaeological resources were identified in the project area. Berger recommends no additional archaeological investigations within the fourteen proposed alternative route corridors as they are currently delineated, for which Berger was able to obtain access. Should access be obtained for unsurveyed parcels, Berger recommends survey to identify archaeological sites. This recommendation does not necessarily reflect the determination of the Mn/DOT Cultural Resources Unit (CRU).

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING:
A FUTURE US 169/US 212 REGIONAL FREEWAY CONNECTION

MANAGEMENT SUMMARY

PHASE I/II ARCHITECTURE/HISTORY INVESTIGATION

PREPARED FOR
MN/DOT

JUNE 2006

PREPARED BY
THE LOUIS BERGER GROUP, INC.

SRF NO: 0024590

PHASE I/II ARCHITECTURE/HISTORY INVESTIGATION FOR FIVE PROPOSED ALTERNATIVE ROUTE CORRIDORS FOR TRUNK HIGHWAY 41 NEAR CHASKA CARVER AND SCOTT COUNTIES, MINNESOTA

S.P. No. 1008-60
Mn/DOT Agreement No. 86982

Authorized and Sponsored by:
Minnesota Department of Transportation
and the Federal Highway Administration

Prepared by:

Camilla R. Deiber, Principal Investigator
The Louis Berger Group, Inc.
950 50th Street
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June 2006

I. MANAGEMENT SUMMARY

The Louis Berger Group, Inc. completed a combined Phase I/II architecture/history survey for five route alternative corridors to Trunk Highway 41 across the Minnesota River near Chaska in Carver and Scott Counties, Minnesota. This work was performed under contract with the Minnesota Department of Transportation (Mn/DOT), St. Paul, Minnesota as part of S.P. 1008-60. The road construction project will receive funding from the Federal Highway Administration (FHWA); therefore, the project must be in compliance with Section 106 of the National Historic Preservation Act (P.L. 89-665; 80 Stat. 915; 16 U.S.C. 470f). The Area of Potential Effect (APE) is located within and adjacent to the Minnesota River Valley at Carver and Chaska in eastern Carver County and western Scott County, Minnesota (Figure 1). In July 2005, new alternatives were added; however, no additional architectural survey was conducted as those areas had been previously investigated (Schoen 2006).

The Phase I survey was completed between November 29 and December 3, 2004 under the direction of Architectural Historian Camilla Deiber, Principal Investigator, with assistance from Architectural Historian Phillip Pendleton. The survey identified 619 properties constructed before 1964. Berger recommended that Phase II evaluations be completed for nine properties. Another seventeen properties located on Oak Street between Second and Fourth Streets in Chaska adjacent to the Walnut Street Historic District were identified as being potentially eligible under NRHP under Criterion B and were also recommended for Phase II evaluation. Upon examination of the list of properties in Carver Historic District, it was found that both the Carver School and Carver Water Tower were included within the boundaries of the Carver Historic District. Several properties on the boundary delineation map were located incorrectly and a school (assumed to be the Carver School) was shown on the map just north of the district boundary.

The Phase II survey was conducted by Architectural Historian Camilla Deiber March 6-17, 2006. Berger concluded that seven (7) properties were eligible for inclusion in the National Register of Historic Places (NRHP) (Table 1). All of the other properties within the APE are not eligible for inclusion the NRHP.

TABLE 1
PROPERTIES LISTED OR ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER

SITE NO.	PROPERTY NAME	NREG STATUS/CRITERIA	BRIEF SIGNIFICANCE STATEMENT
CR-CKC-174	H. Oesterreich House	C	The Oesterreich House is recommended eligible for inclusion in the NRHP as a significant example of a Chaska brick residence constructed in the Queen Anne style.
CR-CKC-009	Riedele House	B, C	The Riedele House is recommended eligible under Criterion B for its association with Andreas [Andrew] Riedele, one of Chaska's prominent brick manufacturers and under Criterion C as a significant example of the cross-wing type of Chaska brick residence utilized in an urban area.

SITE NO.	PROPERTY NAME	NREG STATUS/CRITERIA	BRIEF SIGNIFICANCE STATEMENT
CR-CKC-293	Crystal Sugar Beet Factory Office	A, C	The Crystal Sugar Beet Factory Office is recommended eligible under Criteria A for its association with the sugar beet industry in Chaska and under Criteria C as a significant example of a commercial Chaska brick building.
CR-CKC-007	George A. DuToit House	C	The George A. DuToit house is recommended eligible under Criteria C as a significant example of a Queen Anne style Chaska brick house.
CR-CKC-006	Guardian Angels Catholic Church and Rectory	C	The Guardian Angels Catholic Church and Rectory is recommended eligible under Criteria C as it is a significant example of a Gothic Revival church built with Chaska brick.
CR-CKC-021	Lyman W. Noble/John Sutheimer House	C	The Noble/Sutheimer House is recommended eligible under Criterion C as an early, significant example of a Chaska brick residence constructed in 1858 in Chaska, Minnesota.
CR-CKC-002	Frederick E. DuToit House	NRHP-Listed	Victorian vernacular, c 1870
CR-CKC-004	Eder-Baer House	NRHP-Listed	Queen Anne, c 1900
CR-CKC-005	E. H. Lewis House	NRHP-Listed	Victorian vernacular, c 1870
CR-CKC-011	Brinkhaus Saloon Livery Barn	NRHP-Listed	Livery barn, c 1872
CR-CKC-012	Courthouse Saloon	NRHP-Listed	Commercial building & livery barn, 1888
CR-CKC-015	Herald Block	NRHP-Listed	Commercial building, 1871
CR-CKC-022	Frederick Greiner House	NRHP-Listed	Victorian vernacular, c 1870
CR-CKC-055	Walnut Street Historic District	NRHP-Listed	Includes 200-500th Block of Walnut Street, the Public Square, and E. 2nd Street between Walnut and Chestnut Sts. Twenty-nine properties total are in the district; twenty-one of which are contributing. A prehistoric burial ground (21-CR-2) is located in the Public Square.
CR-CKC-057	Chaska Historical Marker	Eligible (DOE)	Commemorative roadside marker, 1938
CR-CKC-059	Conrad Fink House	Eligible (CEF)	Victorian vernacular, c 1900
CR-CVC-104	Carver Historic District	NRHP-Listed	Roughly bounded by Fifth Street, County Highway 40, Hickory Street, and the levee. Ninety-seven properties are in the district; eighty-six of which are contributing.
CR-CVC-146 CR-CKC-623 CR-CHC-035	Minneapolis & St. Louis Railroad	A	The Minneapolis and St. Louis Railroad in Carver County is recommended eligible under Criterion A for its association with the development of several key industries in Chaska including the Carver County Sugar Beet Factory, the numerous Chaska brick yards and manufacturers, and the Chaska Flour Mill.

APPENDIX A-1

Framework and Guidance Excerpted for TH 41 EIS:
River Crossing Implementation Collaborative Process and Outcomes Report
April 2013

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Minnesota Trunk Highway 41: River Crossing Implementation Collaborative Report: Public Involvement Process and Outcomes

April 2013

As part of the Minnesota Department of Transportation's Trunk Highway 41 Tier I Environmental Impact Statement process, this report was prepared on behalf of the River Crossing Implementation Collaborative by public engagement consultant Anne Carroll of Carroll, Franck & Associates

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Acknowledgements

The following key stakeholders and organizations participated in the River Crossing Implementation Collaborative (RCIC) between January 2009 and early 2013. Together, they contributed thousands of hours of dedicated work to these deeply challenging issues. Their sincere commitment to an inclusive, respectful, transparent, and deeply collaborative process is what allowed this work to be completed so successfully. An asterisk (*) indicates RCIC members and staff who participated in the majority of the RCIC's work over this time period.

City of Chaska
* Matt Podhradsky, City Administrator
* Kevin Ringwald, City Planner
* Bill Monk, City Engineer
* Bart Fischer, Assistant City Administrator
Gary Van Eyll, Mayor (2009)

City of Shakopee
* Michael Leek, Community Development Director

City of Chanhassen
* Bob Generous, City Planner
Paul Oehme, City Engineer

City of Carver
* Cindy Nash, City Planner
Jim Weygand
Jim Elmquist

Scott County
* Michael Sobota, Community Development Director
* Craig Jenson, Transportation Planner
Lezlie Vermillion, Public Works Director
Lisa Freese, Transportation Program Manager

Carver County
Bill Weckman, Assistant County Engineer
Gayle Degler, Commissioner
Lyndon Robjent, County Engineer

Minnesota Department of Transportation
* Diane Langenbach, Project Manager
* Lynn Clarkowski, South Area Manager (2009-2011)
* Kristen Zschomler, Cultural Resources
* Jennie Ross, Environmental Services
Sheila Kauppi, South Area Manager (2012-13)
Pete Wasko, Noise Specialist
Tina Markeson, Roadside Vegetation Management
David Larson, Landscape Architecture

Minnesota Department of Natural Resources
* Mark Cleveland
Wayne Barstad
Michele Hanson

Minnesota State Historical Preservation Office
* Dennis Gimmestad
Mary Ann Heidemann

Metropolitan Council
Connie Kozlac
Ann Braden

Jackson Heights Residents * (see complete list in Appendix)

United States Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge
* Charlie Blair, Superintendent
* Gerry Shimek
Vicki Sherry
Jeanne Holler

Federal Highway Administration
* Cheryl Martin (2009-2010)
* Phil Forst (2011-2013)

United States Army Corps of Engineers
Joe Yanta

Engineering Consultant: SRF
* Nancy Frick, SRF Project Manager
Don Demers
Brett Danner

Public Engagement Consultant: Carroll, Franck & Associates
* Anne Carroll

Major Milestones and Key Conclusions

From January 2009 through spring 2013, the 12 public stakeholders central to a discussion of the proposed TH 41 river crossing worked collaboratively to identify the most challenging issues and impacts for the C2 corridor, and then explore how they could maximize the benefits and minimize the risks for all of them. Supported by a neutral facilitator, participants included the following, who within a few months named themselves the River Crossing Implementation Collaborative:

- Carver County
- City of Carver
- City of Chanhassen
- City of Chaska
- City of Shakopee
- Federal Highway Administration
- Scott County
- Metropolitan Council
- Minnesota Department of Natural Resources
- Minnesota Department of Transportation
- Minnesota State Historic Preservation Office
- U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge

- **Starting point – the "big uglies":** The group began this effort with a healthy combination of deep knowledge, sincerity, commitment, and a healthy sense of humor. Dubbing the fundamental issues dividing their communities and fracturing relationships the "big uglies," they set about carefully and respectfully unpacking them and other key issues, and then understanding them *from each stakeholder's unique perspective.* Those many hours of dialogue and deliberation not only created a common understanding of the real issues and impacts, but gave them time to build the substantive and trusting relationships necessary to successfully tackle these very complex issues.

- **Commitment to collaboration:** Early in their work together these key stakeholders developed a partnership agreement to create the River Crossing Implementation Collaborative (RCIC) with this mission: "This group is responsible for ensuring the successful implementation of the TH 41 River Crossing in accordance with the agreements reached by key stakeholders." Note two key elements that drove all future work:

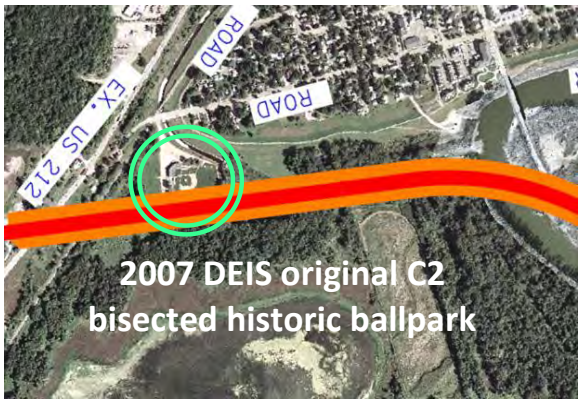
  - In spite of significant frustration and impasse since this EIS began in 2003, as a group they chose to focus on working together to ensure a successful implementation
  - They decided to seek common ground and find solutions that would be best for *all* of them, rather than creating winners and losers among themselves

- **Common goals and strategies:** Of critical importance as the effort moved forward was a set of 10 agreed-upon goals and supporting strategies that the RCIC developed over several lengthy work sessions. The goals focused on impacts, concerns, and priorities related to the proposed future river crossing, and reflected perspectives from all RCIC members. Addressing noise, safety, and environmental issues, they ran the gamut from historical structures to federally and state-protected lands as well as populations protected under federal environmental justice regulations.

- **Threading the needle:** With the big issues unpacked, the collaborative partnership in place, and commitment to a set of common goals, RCIC members went after one of the biggest challenges facing them: The C2 corridor defined in

the 2007 Draft EIS cut directly through Chaska's ballpark, which is eligible for listing on the National Register of Historic Places. Located southwest of downtown, the ballpark abuts the USFWS Minnesota Valley National Wildlife Refuge with its federally protected lands, flora, and fauna.

Per the RCIC's agreements, everyone participated in multiple discussions and presentations delving into complex technical issues around noise and visual impacts, sight lines, biodiversity and ecosystems, soil types, existing and future trails, and so on. After several months of work, the RCIC reached consensus on a "refined" C2 corridor that avoided the historic ballpark and intruded only minimally on the Refuge. They also continued their deep work examining *all* impacts along this corridor from each stakeholder's perspective.



- **Visual and noise impacts:** Intimately connected to the discussions around "threading the needle," a key issue for RCIC members was how to avoid, minimize, or mitigate the substantial noise and visual impacts from the proposed bridge. Several presentations, baseline noise monitoring and results, and substantial discussion addressed the challenges, including the central tradeoff between a higher bridge being quieter for people and animals, but having a much more serious visual impact.

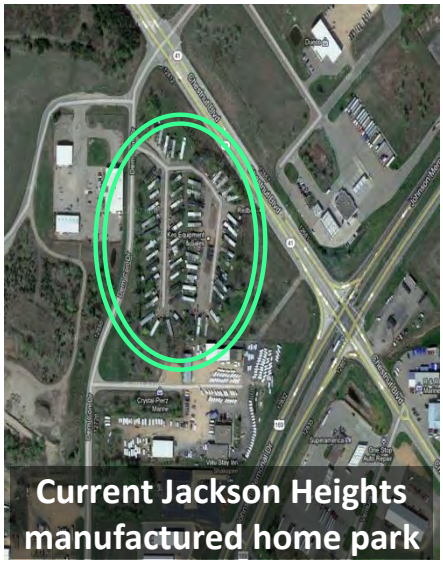
The RCIC also brought forth diverse perspectives from the community and agency stakeholders they represented, all while struggling with everyone's desire to make design and technical decisions that are only possible in the Tier II EIS, likely 15-20 years in the future. With baseline noise monitoring completed for long-term reference and a clearer understanding of noise regulations as well as design and construction options, the RCIC reached consensus among themselves and with those they represented to support the most restrictive applicable noise standards in place at the time of design and construction.

Concerns about visual impacts then evolved into a deep and multifaceted conversation about impacts on Refuge users and fauna, and Chaska residents and ballpark visitors. With the RCIC's mission-level commitment to collaborate and focus on implementation, the RCIS used simple visual tools to understand potential visual impacts and then explore

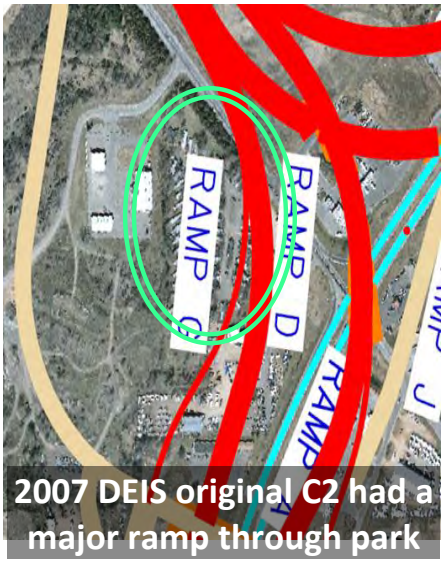
landscaping, berms, and similar options that could *pre-mitigate* those impacts. Significant research and support from various agency technical experts provided a variety of interesting and reasonable opportunities for plantings, space reconfigurations, and Refuge/trail improvements that over the next 20+ years could reduce visual impacts from the bridge while also supporting ballpark use and Refuge/trail access.

- **Environmental justice:** The Jackson Heights manufactured home park is at the intersection of Hwy 169 and current TH 41 (just west of Shakopee in Jackson Township). Per the maps below, the 2007 DEIS original C2 corridor showed a major ramp eliminating over 60% of Jackson Heights, thus effectively shutting down this decades-old primarily immigrant community. The RCIC's common goals explicitly included environmental justice, and FHWA's guidelines focus on disproportionately high and adverse effects on minority populations and low-income populations, and ensuring full and fair participation by all potentially affected communities.

Jackson Heights representatives worked with MnDOT staff to identify impacts and potential solutions



Current Jackson Heights manufactured home park



2007 DEIS original C2 had a major ramp through park

Refined C2 moved ramp east to avoid the park

Although MnDOT had met with some Jackson Heights residents several years before, their relationship in 2009 was cool, and residents were quite distressed with the DEIS corridor layout.

The RCIC's first step was proactive: They asked for alternative corridor layouts at this location. Two were prepared, one that shifted the off-ramp the other that shifted the entire intersection. With those drawings in hand, MnDOT and Scott County represented the RCIC and coordinated with advocacy groups and Jackson Heights residents to hold three comprehensive workshops between June and November 2009.

Jackson Heights residents discussed impacts and options at the resident-led community meeting

While moving the ramp technically preserved the park

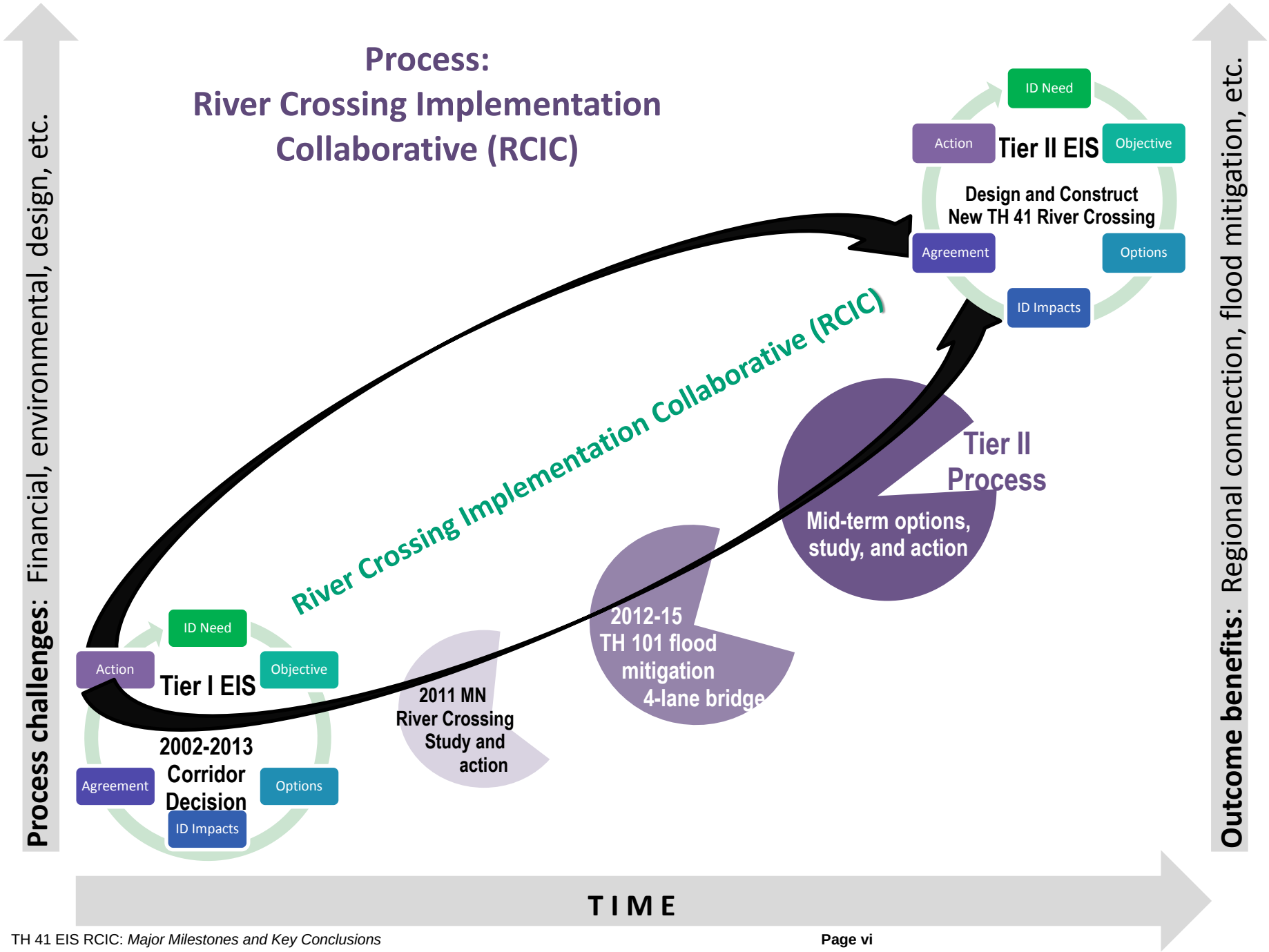
itself, that needed to be discussed with Jackson Heights community members. The RCIC also needed to understand the full range of potential impacts of this proposed river crossing, and then work with residents to identify possible ways to avoid, minimize, or mitigate those.

In the first two sessions, residents identified impacts including excess noise, pollution, and visual harm; their children's safety in and around their homes; access for cars and school buses; and so on. Residents, advocates, and the RCIC then agreed that the residents would present the revised C2 corridor and the list of impacts and possible solutions to the broader Jackson Heights community. At this resident-led meeting residents decided to take a vote to determine their position on the identified impacts and solutions/approaches; there was unanimous concurrence.

- **Outstanding issues:** Of primary importance is the RCIC's commitment to continue working together on this proposed bridge *and other regional issues of common interest*. As a result, as this Tier I EIS process comes to an end the key stakeholders' work will not. This allows RCIC members ample time to consider and help shape known and emerging challenges, opportunities, and options.

  Below are some of the issues on which the RCIC will continue collaboratively working:
  - The need to balance the area's needs for regional connections with reducing traffic volume and improving safety in downtown Chaska, and with maintaining easy access to ensure a strong downtown
  - Implications of additional investments to floodproof and expand capacity on *other* southwest Metro regional roadways, that could reduce the pressure to fund this TH 41 bridge project
  - Official local mapping and potential right-of-way acquisition potentially with help from the Revolving Acquisition Loan Fund (RALF) administered by the Metropolitan Council
  - Land use and acquisition issues around a potential interchange for this project in Carver
  - Pre-mitigation plantings for visual screening from Chaska, and a potential "gateway" to the Refuge and DNR trail system near the historic ballpark
  - Unknowns about the future of Jackson Heights along current TH 41 at Hwy 169, given that this is a private manufactured home park on land that was subsequently zoned commercial

- **Long-term EIS process and RCIC role:** The next page illustrates the RCIC's work related to the EIS process over the long term, through short- and mid-term activities, to the Tier II process and eventual construction of the new TH 41 river crossing.


Process:
River Crossing Implementation Collaborative (RCIC)
Process challenges: Financial, environmental, design, etc.
Outcome benefits: Regional connection, flood mitigation, etc.
ID Need
Action
Tier II EIS
Objective
Design and Construct
New TH 41 River Crossing
Agreement
Options
ID Impacts
River Crossing Implementation Collaborative (RCIC)
Tier II
Process
Mid-term options,
study, and action
2012-15
TH 101 flood
mitigation
4-lane bridge
2011 MN
River Crossing
Study and
action
ID Need
Action
Tier I EIS
Objective
2002-2013
Corridor
Decision
Agreement
Options
ID Impacts
TIME

1 Introduction

This report documents the work of the River Crossing Implementation Collaborative (RCIC) between the Draft and the Final Environmental Impact Statements from January 2009 into early 2013. The RCIC included all the key stakeholder organizations for the C2 alternative.

The report begins with a brief description of the purpose and need underlying the Environmental Impact Statement (EIS) for the Trunk Highway 41 river crossing, followed by a summary description of the EIS development process.

The main report begins in the next section. It is generally chronological, with key topics addressed by subject. The detailed Appendices contain all details and backup materials for the RCIC's entire body of work.

1.1 Purpose and Needs

The purpose of the proposed new Trunk Highway 41 regional bridge is to address the following current and future needs:

Provide Regional Connection: US Highways 169 and the new 212 serve regional traffic in the southwest portion of the Twin Cities Metropolitan Area, as well as connecting with Greater Minnesota. There is a need for an effective north-south regional highway connection between these two important regional highways. Commuters, residents, businesses, and planners have recognized for decades the need for a high volume, reliable Minnesota River Crossing that connects Highways 169 and new Highway 212.

Reduce Traffic Congestion: The existing Highway 41 river crossing is one of the most heavily traveled two-lane roads in Minnesota (18,000 vehicles per day). The result: Traffic congestion, noise, and vibration that pose quality-of-life concerns for downtown Chaska and delays for regional commuters and goods. Traffic volume and associated congestion is projected to increase as the area develops.

Reduce Flood Impacts: Flooding is a frequent problem for river crossings in this area. For example, from 1993 through spring 2011, Minnesota River flooding closed these two highways a number of times – from a few days to several weeks – totaling 80 days for Highway 41 and 133 days for Highway 101. These road closures due to flooding have significant time and cost impacts on commuters, residents, and businesses in the region, and will only be compounded with future population and traffic growth. Detours caused by these road closures also affect other roads and river crossings; this includes US 169, which does not have sufficient capacity to efficiently handle the additional traffic.

In order to preserve this corridor for future use, MnDOT and FHWA needed to complete an Environmental Impact Statement.

1.2 EIS Development Process Overview

1.2.1 Tiered EIS Process

The National Environmental Policy Act (NEPA) in combination with the Minnesota Environmental Policy Act require that social, economic, and environmental considerations be included when planning projects that receive federal and state funding, and the extent of the proposed Trunk Highway 41 project improvements requires an Environmental Impact Statement (EIS).

Under current regulations the EIS may be "tiered" in a two-step process. That approach was chosen for this project because even though the construction may not occur for 20 or more years, the project area is developing rapidly and future development will likely encroach on potential corridor locations. Protecting a corridor alignment through a Tier I process reduces potential future social and economic impacts.

The formal Tier I EIS process that began in early 2003 identified and evaluated the social, economic, and environmental issues associated with alternative corridor locations. It forms the basis for identifying a preferred alignment corridor (300-foot width) to be preserved for future use. A Tier II EIS process will be initiated in the future as the project moves forward for implementation. The Tier II process will include preferred alignment design alternatives, an updated assessment of environmental impacts to address the more detailed design, and measures identified for mitigation.

The EIS process is documented in two parts, a draft and a final Environmental Impact Statement. The draft EIS (DEIS) completed in June 2007 was prepared in order to:

- Discuss the purpose of and need for the proposed project
- Consider alternatives
- Evaluate environmental effects of alternatives
- Explore methods for avoiding and minimizing adverse impacts
- Obtain public and agency input

The DEIS helped identify a preferred alternative for further study in the Final EIS (FEIS).

The FEIS is intended to:

- Summarize public involvement
- Respond to substantive comments received on the DEIS
- Identify the preferred alternative
- If necessary, provide more detail on the environmental impacts of the preferred alternative and describe potential mitigation measures to the extent that is appropriate for a "tiered" process (as discussed above)

This report is included as part of the public involvement documentation for the FEIS.

1.2.2 Agencies and Organizations Developing the DEIS: 2003-2007

The following groups were involved in producing the DEIS (June 2007) and follow-up work through 2008.

From the beginning of the project in 2003, the **Project Management Team** consisted of staff from the following agencies. Its role was to advance the study to key milestones in the development of the

Scoping Decision Document and the Tier I EIS. In addition, the PMT reviewed recommendations provided by the Study Advisory Committee and the Policy Advisory Committee. It was superseded in January 2009.

Minnesota Department of Transportation	Scott County
Carver County	City of Shakopee
City of Carver	City of Chaska
City of Chanhassen	Metropolitan Council
Federal Highway Administration (FHWA)	

The **Study Advisory Committee** listed below was in place through 2008 and represented all of the local government units in the study area, key state and federal environmental agencies, regional agencies, environmental Organizations, associations, and other interested parties. The SAC reviewed and provided comments on the overall study and communicated project information to the represented agencies. It was superseded in January 2009.

MnDOT	Scott County
Carver County	City of Shakopee
City of Carver	City of Chaska
City of Chanhassen	Metropolitan Council
FHWA	Jackson Township
Louisville Township	U.S. Fish and Wildlife Service (USFWS)
U.S. Army Corps of Engineers (COE)	Lower Minnesota River Watershed District (LMRWD)
Shakopee Mdewakanton Sioux Community	Riley-Purgatory-Bluff Creek Watershed District
Scott Watershed Management Organization	Minnesota Department of Natural Resources
Minnesota Pollution Control Agency (MPCA)	U.S. Environmental Protection Agency (USEPA)
Audubon Society	Southwest Corridor Coalition
Shakopee Chamber of Commerce	Minnesota Center for Environmental Advocacy
Carver Watershed Management Organization	Minnesota Board of Water and Soil Resources (BWSR)
Friends of the Minnesota Valley	Sierra Club
East Chaska Neighborhood Group	Chaska Heritage Preservation Commission (HPC)
Carver Downtown and HPC	

The **Policy Advisory Committee** was in place through 2008 and included elected or appointed officials from local and regional agencies as listed below. They met at key points in the process to review information and provide recommendations. It was superseded in January 2009.

MnDOT	Scott County
Carver County	City of Shakopee
City of Carver	City of Chaska
City of Chanhassen	Metropolitan Council
Jackson Township	Louisville Township
Shakopee Mdewakanton Sioux Community	Southwest Corridor Coalition

1.2.3 DEIS Public Review and Comment: 2007 and 2008

Beginning in August 2007 there was a 30-day public review, two public meetings, and comment letters and responses. Following this process it was clear there was no stakeholder agreement on the recommended C2 alternative as the "preferred alternative." Throughout 2008 MnDOT met individually with key stakeholders to find common ground.

The Study Advisory Committee reconvened on 9 December 2008 and MnDOT again discussed why

Alternative C2 had emerged as the preferred alternative. At that meeting Study Advisory Committee members asked to work further on the alternatives and to bring in a neutral facilitator to better surface and address critical issues and concerns.

1.2.4 Shift to a Collaborative FEIS-development Process: January 2009-2013

The process and outcomes of work *with* stakeholders to identify a preferred alternative is the focus of this report and all the content that follows.

Broadly speaking, the group that evolved into the River Crossing Implementation Collaborative began work in January 2009. The RCIC paused its collective work later in 2010 while the City of Chaska explored options related to downtown access. Then in early spring 2011, the RCIC met for a comprehensive writing workshop to draft text defining the issues and impacts that they needed addressed in the Tier I Final Environmental Impact Statement (FEIS), and recommendations for post-Tier I activities.

The RCIC's work and timeline was again shifted in summer 2011 in response to unanticipated funding from the Minnesota Legislature. This redirected the RCIC's attention to studying flood mitigation options for Highways 101 and 41. The RCIC met again in fall 2011 to update everyone on changes in the area and progress on the flood mitigation study. Based on the flood mitigation study results, in 2012 MnDOT secured funding for flood mitigation improvements on Highway 101 and those began that spring.

In fall 2012, FHWA and MnDOT urged completion of the FEIS and Record of Decision (ROD) so the conclusions in this Tier I EIS would be formally documented for future decision making. The RCIC reconvened in late 2012 and continued into early 2013 to complete its work related to the FEIS.

2 Process and Initial Outcomes

2.1 Introduction and Overview of This Section

This section covers the following topics that occurred early in the RCIC's work:

- Stakeholder Identification, Engagement, and Issue Identification
- Formal RCIC Formation and Partnership Agreement
- RCIC Common Framework, Goals, and Strategies
- Initial FEIS Recommendations (October 2009)
- Engaging Underrepresented Stakeholders

2.2 Stakeholder Identification, Engagement, and Issue Identification

The purpose of this work was to ensure that all stakeholders relevant to creating the Final Environmental Impact Statement (FEIS) were identified and engaged, and that all issues critical to stakeholders were clearly identified and then addressed.

2.2.1 Stakeholder Identification and Analysis

The process of identifying and analyzing key stakeholders for this project began in January 2009 and occurred in various steps over time. The first identified group of key stakeholders was essentially a carryover of the DEIS Study Advisory Committee and Policy Advisory Committee members who remained stakeholders following C2 being identified as the potentially preferred corridor. Until July 2009 they were officially the Trunk Highway 41 Design Refinement Group, after which they renamed themselves the River Crossing Implementation Collaborative, known generally as the RCIC. For simplicity, RCIC is used throughout this document.

A subset of the RCIC met on 27 May 2009 and completed a more formal stakeholder identification and analysis exercise where they listed and then arrayed potential stakeholders relative to their stake in and power over this particular TH 41 effort at this time. They then further identified stakeholders who are not currently high stake and high power but needed to be more engaged, and thus specifically reached out to. See Appendix for details.

The RCIC agreed they would engage most of the high-stake, high-power stakeholders as direct members of the RCIC, and the rest mostly via communications with those RCIC members – as opposed to creating new methods and structures outside of or separate from the RCIC. The stakeholders who emerged and remained key RCIC members going forward are listed below alphabetically. In all cases, one or more of the key staff members represented the organization on the RCIC, and on some occasions one or more local elected officials joined the meetings. The RCIC generally met monthly, with periodic breaks when various subsets were working on more detailed issues to bring back to the RCIC.

- Carver County
- City of Carver
- City of Chanhassen
- City of Chaska
- City of Shakopee
- Federal Highway Administration
- Scott County
- Metropolitan Council
- Minnesota Department of Natural Resources
- Minnesota Department of Transportation
- State Historic Preservation Office
- U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge

2.2.2 Stakeholder Identification of Critical Issues

Starting as early as January 2009, RCIC members identified critical issues, nicknamed "Big Uglies," that were essential to address within the RCIC and in the community as the process moved forward.

- "Big Ugly" #1: The perception that the various regulatory rules, laws, constraints, and authority have the power to drive the route decision without consideration of community concerns and priorities.
- "Big Ugly" #2: Participants at the meeting and community members were not clear why these particular six routes were selected (from which C2 was chosen).
- "Big Ugly" #3: Local participants noted that the common perception is that C2 was selected because it had the fewest environmental regulatory problems, and that it was the easiest to push through because it had the least opposition of other kinds. In addition, the perception is that C2 is "good for the Refuge."

See additional details in the January 2009 RCIC meeting notes in the Appendix: Preliminary list of issues meriting further discussion.

The next month the group began making the shift from key issues to stakeholder needs and priorities, and used a workshop format to jointly develop a comprehensive list that was subsequently organized into the following categories:

- **History, Culture:** Primarily the designated historic Chaska buildings and ballpark; this later included historic structures in all affected communities
- **Community:** Quality of life, opportunity to thrive, and stability in all communities including the Jackson Heights manufactured home park in Jackson Township
- **Resource Access:** For people visiting the Wildlife Refuge as well as state lands and trails
- **Housing, Affordability:** Affordable housing in Jackson Heights and in neighboring communities
- **Natural Resources:** Fauna and flora, habitat, pollution and contamination, and resource management
- **Transportation:** Regional and local needs
- **Land Use:** Uncertainties, acquisition
- **Collaborative Process, Laws and Regulations:** Consensus, stakeholder engagement, cost-effectiveness

See all details from the February 2009 RCIC meeting in the Appendix: Preliminary Needs and Priorities, by Category.

The RCIC's early work articulating and exploring the most critical issues laid two essential foundations for the RCIC's work over time:

- **Process**: Establishing a commitment to transparency, openness, and collaboration among members over both the short and long terms
- **Content**: Framing what eventually became a set of common goals and strategies as the RCIC's work proceeded

2.3 Formal RCIC Formation and Partnership Agreement

By July 2009 the participants decided to formally constitute and name themselves the River Crossing Implementation Collaborative or RCIC for short. This act was substantially more than a simple shift from the long but informal "Trunk Highway 41 Tier I Design Refinement Group." It signaled a formal commitment by these organizations to *collaborate* over decades, with a focus on *implementation* – ensuring that a river crossing actually happened.

Although the document is reproduced in the Appendix as the RCIC Partnership Agreement, there is value in drawing attention to the rich content (as finalized in October 2009):

Mission: This group is responsible for ensuring the successful implementation of the TH 41 River Crossing in accordance with the agreements reached by key stakeholders.

Purpose: Agree on TH 41 river crossing alignment, reach agreement on common purposes, and actively carry these forward over time.

Composition: The Collaborative is composed of public entities that are either required or legally empowered to commit to this effort over the life of this project. These include the following:

- Carver County
- City of Carver
- City of Chanhassen
- City of Chaska
- City of Shakopee
- Federal Highway Administration
- Scott County
- Metropolitan Council
- Minnesota Department of Natural Resources
- Minnesota Department of Transportation
- Minnesota State Historic Preservation Office
- U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge

Responsibilities

- Work collaboratively and transparently
- Steward the process from start to finish
- Oversee the progress of this project, ensuring that key stakeholders are engaged and decisions remain aligned with agreements
- Authentically engage other stakeholders, including regulatory entities, throughout the process in both formal and informal settings, groups, and activities
- Keep the public informed and engaged throughout the process
- Continually update underlying data and information that may affect this project
- Continually update project tasks, timeline, and responsibilities
- Routinely update agencies and elected officials
- Support timely and appropriate funding
- Maintain formal representation on and actively participate in the Collaborative's work over time
- Support and assist other members of the Collaborative as needed

Relationship among Team Members: Members work under the guidance of a Memorandum of Understanding that outlines roles and responsibilities. MnDOT agrees to be the administrator for this Collaborative.

Governance: The Collaborative will establish any necessary structures for leadership, structure, decision making, logistics, and anything else required to ensure long-term organizational vitality.

While always subject to the support of each RCIC member's respective governing or supervisory entities – all of which concurred at some point over the next two years – the primary value was in the agreement itself to work together over time to find a way to implement a river crossing.

2.4 RCIC Common Framework, Goals, and Strategies

Beginning with the RCIC's work in January 2009 to identify critical issues, over the next several months the RCIC worked exceptionally hard to understand the full depth and dimensionality of *all* of the issues that challenged each of them as stakeholders. Many were unique to one organization, many others overlapped, a number conflicted with equally important issues and concerns from other RCIC members, and some were shared by most or all. What became increasingly important was their growing respect for and trust in each other. That was formalized in the RCIC Partnership Agreement, but the most profound result of these evolving relationships was the emergence of jointly agreed-upon needs and priorities that over time became a comprehensive and defensible common framework, goals, and strategies.

For over a dozen critical and high-profile stakeholder organizations to be able to even agree on meeting times and dates is sometimes a huge challenge. For these participants to have the frank and difficult conversations necessary to truly understand and respect each other's key priorities is rare and absolutely worthy of applause.

Along the way to the common framework and for many months thereafter, the RCIC dug into complex technical, political, and community issues that were critical to their moving forward on implementing a river crossing.

The common framework, goals, and strategies document is included below, and the sections that follow address key issues and impacts within that.

The framework, goals, and strategies were crafted by RCIC members in 2009 to represent their commitment to a *common* direction and to working collaboratively over the next 20-25 years to meet the needs of all RCIC members – not just their own. While the complexity and challenges of this river crossing may have eventually required such an approach in order to come to fruition, the RCIC's clear understanding of the context of this effort and their sincere, authentic, and open approach to reaching these commitments to a common direction serves as a model for others in similarly challenging circumstances.

Note in particular the Framework section at the top. It was important to RCIC members to place their work within the context of these larger regional issues, doing their best to force ongoing attention to these in order for the river crossing project to be successful.

Common Framework	
• ***In addition to supporting the TH 41 C2 route, actively support improvements that meet current and future transportation needs across the Minnesota River between I-35 and CR 9.*** • ***Avoid or minimize negative permanent and temporary/construction impacts on all stakeholders, and support mitigation as part of a comprehensive solution.***	
Common Goals	**Suggested Strategies**
1. <u>Noise and visual impacts on neighborhoods</u>: Address noise and visual impacts on adjacent neighborhoods	a. Begin from the baseline state and federal noise standards b. Collectively define qualitative and quantitative objectives and values around how people should be able to experience their communities, such as homes, ballfields, parks and recreation areas, districts, and neighborhoods c. Develop methodologies for measuring the extent to which various alternatives meet defined objectives, and for evaluating tradeoffs d. Prepare clear recommendations to guide future decision making
2. <u>Noise and visual impacts on historic properties:</u> Avoid negative visual, atmospheric, auditory, and use effects on historic properties/districts in all communities	a. Work with key stakeholders and the public to identify and evaluate project effects on historic properties b. Ensure that transportation outcomes support Chaska's commitment to a pedestrian-friendly, business-friendly, historic commercial district
3. <u>Impacts on historic ballpark</u>: Ensure ability of Chaska ballpark to operate; preserve the overall ballpark experience and its character as a small-town ballpark eligible for listing on the National Register of Historic Places	a. Seek ways to avoid impacts to the ballpark b. Use the best management practices for design and construction to support this goal
4. <u>Safety issues in downtown Chaska</u>: Resolve safety issues along existing Highway 41 in downtown Chaska	a. Reduce vehicle speed on Chestnut Street through downtown Chaska b. Create safer pedestrian crossings c. Connect east and west downtown Chaska (reduce barrier posed by current Highway 41) d. Reduce through car and truck traffic on existing Chestnut Street through downtown Chaska e. Re-route truck/traffic from downtown to reclaim downtown/pedestrian access/local users f. Mitigate visual and noise impacts on downtown residents and businesses, including businesses with outdoor amenities
5. <u>Environmental justice:</u> Proactively work with stakeholders to understand and	a. Better understand beneficial and adverse impacts b. Further explore interchange and ramp locations that pose least potential adverse impact to neighborhoods c. Recognize and respect local and regional affordable

responsibly address environmental justice impacts	housing goals; maintain stable affordable housing d. Support no net loss of low-income housing due to the project e. Support connectedness between Jackson Heights neighborhood and the broader community (prevent isolation)
6. <u>Local access</u>: Provide appropriate access to local and county roadways that will facilitate land use developments guided by counties and cities	a. Review development constraints and confirm adopted land use guidance by the counties and cities in and near the preferred corridor b. Review the preferred corridor and "touch-down points" on both sides of the Minnesota River, and make recommendations regarding whether their location aligns with guided land uses and is feasible; identify alternatives for addressing any concerns c. Specifically address the desire for local and direct access from Highway 169 and new 41 to downtown Chaska and downtown Shakopee, consistent with local plans d. Identify the potential areas needed for ROW, long-term impacts of ROW preservation, and alternatives, including funding sources to acquire ROW or allowing appropriate interim or long-term development within defined corridor
7. <u>Ecosystem impacts</u>: Minimize impacts on aquatic and terrestrial ecosystems including animals and plants	a. Manage/contain contamination from vehicles and people on TH 41 (vehicles and hauled equipment on roadway, and roadway maintenance activities and products inadvertently bring contaminants or invasive species that move through waterways and other natural pathways) b. Prevent additional habitat fragmentation and use best management practices to connect habitats c. Encourage multi-use (transportation, utilities, etc.) of river crossing corridor to reduce additional habitat fragmentation d. Use best technologies to keep noise at acceptable levels for wildlife e. Maintain ability of wildlife to use natural land and water movement and migration corridors f. Prevent disruption to wetland hydrology
8. <u>Public access:</u> Ensure reasonable and usable public access to the outdoor recreational opportunities in the river valley (Refuge, state trail, and other public lands) **9. <u>User impacts:</u> Minimize impacts, including noise and visual, to people using the Refuge, state trail, and other public lands**	a. Maintain trail connections and access points for current and future outdoor recreational opportunities within the Minnesota River Valley b. Ensure a quality experience for wildlife observation, wildlife photography, hiking, biking, environmental education and interpretation and other related activities (understanding that the various public lands have their own use restrictions) c. Maintain a feeling of solitude by minimizing noise and visual intrusions

10. <u>Land management capabilities</u>: Maintain natural resource management capability on public lands	a. Ensure that TH 41 does not interfere with land management activities in the following ways: • Preventing or limiting heavy equipment access both during and after construction • Creating impediments for prescribed burning • Disrupting water management programs • Interfering with forest management practices

2.5 Initial FEIS Recommendations (October 2009)

In the summer of 2009, RCIC members successfully "threaded the needle" – they agreed in principle to make several adjustments in C2 to create a "refined C2" corridor as the preferred alternative. The changes moved the bridge slightly south to keep it out of the historic ballpark, but the least amount possible into the Refuge. It also moved a ramp on the south side of the river to avoid a direct impact on the Jackson Heights manufactured home park (see discussion in Section 2.6 below and detailed notes in the Appendix for meetings in June, October, and November).

Then in October 2009, RCIC members participated in a full-day workshop to develop recommendations on the items below related to the refined C2 corridor so that the Final Environmental Impact Statement could start being prepared. They also agreed to use their time together to further understand the next steps in the FEIS process and the RCIC's role in its development. The complete results are in the Appendix under the RCIC 8 October 2009 workshop notes.

Summary notes on major impact-related topics from this October RCIC workshop are below, along with a visual illustrating how the RCIC moved from point to point along the corridor addressing issues at each location.

Visual Context and Implications: Using simple photo-illustrations prepared by Chaska and Refuge staff, RCIC members were able to visualize what users of the historic ballpark and Wildlife Refuge would see if the bridge were sited as was planned at that time, "threading the needle" between the ballpark and Refuge and approximately 70 feet high.

Workshop participants could see that it would be at about the height of the mature trees, and that the farther away the bridge was from the ballpark, the easier it would be to screen it from view. They also recognized the benefit of preserving as many trees as possible during construction, as well as the possibility of planning decades ahead for plantings that would provide significant screening by the time

the bridge is actually constructed. From Chaska's perspective, these visual issues are among the most tangible and of concern to a wide variety of local stakeholders.

Noise, Monitoring: In a previous session (see full discussion of this topic under Goal 2 below), RCIC members had explored in depth the various noise standards, studies, and results related to this project. They needed to better understand current noise conditions in key locations, however, so agreed on additional MnDOT noise monitoring at selected locations at the ballpark, Chaska neighborhoods, and in the Refuge.

Point-by-point examination of corridor impacts: As illustrated in the photos below, the RCIC took several hours moving along the corridor examining and documenting with letter codes and detailed narrative specific questions and issues. These explorations drove much of the RCIC's subsequent work.

2.6 Engaging Underrepresented Stakeholders

The RCIC and particularly MnDOT made a concerted effort to ensure the perspectives of Jackson Heights manufactured home park residents were authentically gathered and formally factored into the RCIC's work. This particular group was important for a number of reasons: They were not directly represented by any of the agencies that were members of the RCIC; a ramp in the initial C2 route would have eliminated a significant number of homes in Jackson Heights; the RCIC considered this group of non-native English speaking residents particularly vulnerable; and such groups of stakeholders are specifically protected under the environmental justice regulations included in an EIS process.

MnDOT had begun meeting with Jackson Heights residents several years earlier but this collaborative process needed to be restarted as the RCIC gained traction and began addressing specific issues in 2009.

Beginning in June 2009, RCIC representatives from MnDOT and Scott County met with self-identified representative of the Jackson Heights community, along with individuals from several advocacy groups selected by Jackson Heights. In the words of the Jackson Heights residents, the purpose of the meeting was as described below (further illustrated by resident-provided photos [reprinted with permission] reminding us all that this project is all about ensuing a future for their children).

- Dialogue with MnDOT
- Benefit both Jackson Heights and MnDOT
- MnDOT's previous map showed Hwy 41 route, which affected Jackson Heights
- Jackson Heights agrees that Hwy 41 needs to be built and project needs to be carried out, but is concerned about impact on homes
- Discuss future of Jackson Heights
- If beneficial for both parties, that means Jackson Heights residents are OK in their homes and MnDOT is OK for its project
- Want to keep doors open to continued discussion

This June 2009 meeting advanced relationships between Jackson Heights and the RCIC/ MnDOT/ Scott County, and yielded a rich list of questions, potential impacts, and concerns as documented in

the meeting notes and also under Goal 5, Environmental Justice below.

In that way it provided the groundwork for a workshop with Jackson Heights Resident Association representatives in October 2009 to further detail key concerns, and then a presentation and workshop in November 2009 *hosted by Jackson Heights representatives for their neighbors* to validate the initial list of concerns.

3 Recommendations for Common Goals and Strategies: Issues, Strategies, Tier II, Intermediate Activities

3.1 Introduction and Overview of this Section

Following initial outcomes in 2009, RCIC members and various Task Forces met as needed to further explore special impact and process issues and options. The RCIC's work on these special activities is noted below, and the overall effort culminated in this report that was finalized by early 2013.

- Funding options available under the regional Right-of-Way Acquisition Loan Fund (RALF); see RCIC notes from January 2010, RCIC notes from December 2012, and RCIC notes from January 2013
- Ideas for keeping the RCIC process moving forward *and* in the public's consciousness over several decades, including the role the RCIC and other agencies and groups; see RCIC Implementation Schedule for 2009-2029 documented as part of the January 2010 RCIC meeting; this will be further explored following completion of the FEIS
- The RCIC Landscaping Task Force worked extensively on pre-mitigation options in 2009 and 2010, with some comprehensive documentation prepared following RCIC Landscaping Task Force meetings in February and March and follow-up discussions at the RCIC meeting in April 2010
- Another complex issue was around an interchange in Carver; this was examined in detail by an RCIC Task Force as documented in a February 2010 Interchange Task Force meeting, with follow-up discussion at the RCIC meeting in April 2010, March 2013 Interchange Task Force meeting, and March 2013 RCIC meeting.
- The RCIC also completed a significant benefit/impact analysis of the various combinations of flood and traffic flow management alternatives; see documentation from the April 2010 RCIC meeting
- That April 2010 RCIC meeting also included a discussion about context-sensitive solutions, which provides a critical backdrop for MnDOT's *entire* approach to design within the context of their adopted Strategic Vision; see documentation on Context Sensitive Solutions attached to those meeting notes
- For much of the rest of 2010, the RCIC paused its collective work and supported Chaska's efforts to explore options for downtown access; the City was concerned that the proposed bridge provided no direct access to downtown Chaska, potentially resulting in significant economic harm; they conducted a high-level analysis of this and discussed their findings at the RCIC's February 2011 meeting; this is also discussed later in this section
- In 2012 and into early 2013 the RCIC continued working through a variety of issues with the changing context of additional investments in Highway 101 and current TH 41 to reduce flooding impacts and increase traffic volume

In early spring 2011 RCIC members met for a comprehensive writing workshop to draft text defining the issues and impacts to be addressed in the Final Environmental Impact Statement (FEIS) documentation. These are described in detail below, with the full understanding that the RCIC will continue to serve in this collaborative role to jointly tackle the many ongoing future challenges, and shape future decisions as needs, conditions, priorities, and options evolve over time.

The issues elaborated upon in the remainder of this section are organized around the RCIC's agreed-upon Common Goals from October 2009, as summarized below.

Common Framework

- In addition to supporting the TH 41 C2 route, actively support improvements that meet current and future transportation needs across the Minnesota River between I-35 and CR 9.
- Avoid or minimize negative permanent and temporary/construction impacts on all stakeholders, and support mitigation as part of a comprehensive solution.

Goal 1, Noise and visual impacts on neighborhoods: Address noise and visual impacts on adjacent neighborhoods

Goal 2, Noise and visual impacts on historic properties: Avoid negative visual, atmospheric, auditory, and use effects on historic properties/districts in all communities

Goal 3, Impacts on Historic Ballpark: Ensure ability of Chaska ballpark to operate; preserve the overall ballpark experience and its character as a small-town ballpark eligible for listing on the National Register of Historic Places

Goal 4, Safety Issues in Downtown Chaska: Resolve safety issues along existing Highway 41 in downtown Chaska

Goal 5, Environmental Justice: Proactively work with stakeholders to understand and responsibly address environmental justice impacts

Goal 6, Local Access: Provide appropriate access to local and county roadways that will facilitate land use developments guided by counties and cities

Goal 7, Ecosystem Impacts: Minimize impacts on aquatic and terrestrial ecosystems including animals and plants

Goal 8, Public Access: Ensure reasonable and usable public access to the outdoor recreational opportunities in the river valley (Refuge, state trail, and other public lands)

Goal 9, User Impacts: Minimize impacts, including noise and visual, to people using the Refuge, state trail, and other public lands

Goal 10, Land Management Capabilities: Maintain natural resource management capability on public lands

Each goal forms its own subsection, under which RCIC members addressed the following topics:

- Issue description
- Suggested strategies to avoid, minimize, mitigate impacts
- Guidance for Tier II
- Intermediate activities (between now and Tier II)

3.2 Goal 1, Noise and Visual Impacts on Neighborhoods: Address noise and visual impacts on adjacent neighborhoods

3.2.1 Issue Description

With the future river crossing in close proximity to existing neighborhoods both north and south of the Minnesota River, there may be negative noise and visual impacts on nearly residential neighborhoods

both during construction of the river crossing and over the long term. It is understood that the level of noise and visual impact will vary based on the final bridge design.

There are significant challenges to finding the "appropriate" balance of impacts around noise, visual, and physical location of the river crossing on both sides of the river.

The RCIC's work to adjust the ramp location on the south side preserved all Jackson Heights residences but still poses a significant noise impact. On the north side, the RCIC's work to move the roadway slightly out into the Refuge helps with both noise and visual impacts to Chaska neighborhoods, and lowering the bridge height further reduces the visual impacts *but* increases noise.

Noise baseline studies were done on the north side of the river and various mitigation options were explored, including the possibility of planting trees on the north side decades before bridge construction so they will provide visual screening almost immediately rather than only 20+ years later.

3.2.2 Suggested Strategies to Avoid, Minimize, Mitigate Impacts

Note that these are from the July 2009 Goals and Strategies developed by the RCIC. It is understood that the strategies will evolve over time, and some of that information is included in the sections below on Guidance for Tier II and Intermediate Activities.

a. Begin from the baseline state and federal noise standards
b. Collectively define qualitative and quantitative objectives and values around how people should be able to experience their communities, such as homes, ballfields, parks and recreation areas, districts, and neighborhoods
c. Develop methodologies for measuring the extent to which various alternatives meet defined objectives, and for evaluating tradeoffs
d. Prepare clear recommendations to guide future decision making

3.2.3 Guidance for Tier II

a. **General**
   - Use a "context sensitive" bridge design to fit into the unique environment and be a positive architectural feature in the river valley. See information in the Appendix from the April 2010 RCIC meeting on MnDOT's approach to context-sensitive solutions.
   - Find an appropriate balance between noise and visual impacts on both sides of the river by examining alternative heights, specific routing, bridge materials and noise reduction options, and visual screening.
   - Adjust design and construction processes to minimize flora impact losses, with special emphasis on plants that help minimize visual impacts.

b. **Noise/visual:**
   - Conduct a specific study to examine the tradeoffs between the visual and noise impacts (i.e., lowering the bridge to reduce visual impacts vs. raising the bridge to decrease noise impacts).
   - The SRF Chaska Interchange Study presented at the RCIC's February 2011 meeting also referred to the bridge height, and what minimum heights could conceivably be achieved to minimize visual impacts to adjacent properties. This noise-height balance needs to also factor in the impact on the Refuge and other natural areas, Chaska's historic ballpark, and downtown Chaska.
   - Coordinate with work around Goal 2 and Goal 3 related to impacts on historic properties and

the historic ballpark in order to optimize outcomes for both.

c. **Visual:**
   - Complete a full visual quality analysis to help ensure that the most visually critical areas are identified, prioritized, and protected.
   - Preserve pre-construction landscaping implemented to mitigate visual impacts; remove only if alternatives identified address visual mitigation issues or otherwise significantly enhance the project from the perspective of stakeholders affected by visual impacts.

d. **Noise:**
   - In the baseline bridge design, use the most restrictive state and federal noise standards that are applicable to local conditions at that time.
   - Consider the pre-river crossing noise levels in adjacent neighborhoods, as well as the qualitative character of the noises in these neighborhoods to design a bridge that protects community quality of life. The noise information in the Appendix and RCIC notes from 26 June and 8 October 2009 provide additional information including preliminary noise projections.
   - Identify and evaluate all then-current construction techniques, materials, and other technologies available to help meet those restrictive noise standards, including pavement materials, noise walls, speed limits, and other options.

3.2.4 Intermediate Activities

a. **Viewsheds:** (RCIC) Identify the most critical viewsheds to protect throughout the corridor.
b. **Landscaping:**
   - Consider beginning landscaping as much as decades in advance of construction to have maximum benefit; examine landscaping options at all points in the planning process.
   - (MnDOT) Complete the pre-mitigation landscaping strategies identified by the RCIC Landscaping Task Force in February 2010 and March 2010 (see notes in Appendix) that allowed for landscaping to be installed in the short term to have long-term effects on the visual elements of the bridge when it is constructed. Work with Chaska and the Refuge to develop and implement a multiyear vegetation plan and planting timeline.
c. **Development plans:** (RCIC members) Ensure that local development plans the corridor identify and implement additional strategies to mitigate future visual and noise impacts of the bridge.
d. **Ongoing collaboration and education:**
   - (RCIC) Keep educational information pieces in front of constituents and electeds to better manage expectations around visual and noise impacts of the future river crossing.
   - (RCIC) As part of ongoing role and key work, continue collaborating with other groups working on various regional issues.

3.3 Goal 2, Noise and Visual Impacts on Historic Properties: Avoid negative visual, atmospheric, auditory, and use effects on historic properties/districts in all communities

3.3.1 Issue Description

The proposed TH 41 on the C2 route will likely have negative visual, atmospheric, noise, and use impacts on historic properties in the area. Because the river crossing design will not be determined until

Tier II, it is not possible to identify all the impacts until that time. (For more information see the comprehensive report completed in June 2006 as part of this process: *Phase I/II Architecture/History Investigation for Five Proposed Alternative Route Corridors for Trunk Highway 41 Near Chaska, Carver and Scott Counties, Minnesota.* A complete archaeological analysis was also conducted in 2006; there were no significant findings for the C2 route; for more information see *Phase I and II Archaeological Investigations of Alternatives Route Corridors for Trunk Highway 41 Near Chaska, Carver and Scott Counties.)*

An additional concern is that the uncertainty about the project – when/if it will occur, what will it look like, etc. – could result in people disinvesting in historic properties.

3.3.2 Suggested Strategies to Avoid, Minimize, Mitigate Impacts

Note that these are from the July 2009 Goals and Strategies developed by the RCIC. It is understood that the strategies will evolve over time, and some of that information is included in the sections below on Guidance for Tier II and Intermediate Activities.

a. Work with key stakeholders and the public to identify and evaluate project effects on historic properties, then identify and implement appropriate strategies to address them.
b. Ensure that transportation outcomes support Chaska's commitment to a pedestrian-friendly, business-friendly, historic commercial district.

3.3.3 Guidance for Tier II

a. Examine historic properties to determine if they still retain sufficient integrity.
b. Examine the area of potential effect in order to determine if there are properties that have become historic in the intervening years.
c. Complete a detailed noise and visual analysis for each historic property (e.g., the noise levels at each property, the viewshed from each property toward the bridge structure, etc.).
d. Involve local stakeholders in the historic review process and analysis, specifically including the owners of the historic properties.
e. Identify and evaluate the feasibility of construction materials and techniques that would minimize impacts on historic properties.
f. Coordinate with work around Goal 1 related to noise and visual impacts on neighborhoods and Goal 3 for the historic ballpark in order to optimize outcomes for both.

3.3.4 Intermediate Activities

a. RCIC, especially Chaska and State Historic Preservation Office (SHPO): Identify and implement any intermediate mitigation to help minimize potential effects. An example is pre-mitigation landscaping adjacent to the corridor that could grow over the decades to provide some visual screening of the roadway from properties. See pre-mitigation landscaping strategies identified by the RCIC Landscaping Task Force in February 2010 and March 2010 that allowed for landscaping to be installed in the short term to have long-term effects on the visual elements of the bridge when it is constructed. Also see further discussion under Goal 3 relative to impacts on the historic Chaska ballpark.
b. RCIC: Support the City's master plan for the ballpark and the downtown master plan; the master plan includes a nature study area and potential dog park as well as alternative access areas.
c. Chaska and SHPO: Work with local historic preservation groups and jurisdictions to identify measures to protect against disinvestment in historic properties, and concurrently encourage

investment in historic properties.

d. Chaska and SHPO: Work with local jurisdictions to update historic property inventories periodically to maintain a current list of eligible or listed properties.

3.4 Goal 3, Impacts on Historic Ballpark: Ensure ability of Chaska ballpark to operate; preserve the overall ballpark experience and its character as a small-town ballpark eligible for listing on the National Register of Historic Places

3.4.1 Issue Description

The original C2 alternative took the roadway right through the ballpark's right field. Through the RCIC's collaborative planning and negotiation with the Wildlife Refuge, a balance was struck that yielded a revised corridor shifted outside the ballpark boundaries without causing substantial additional harm to the Refuge.

Even with that change, however, preferred alternative (refined C2) will likely have negative visual, atmospheric, auditory, and use effects on the historic Chaska ballpark. Because the design of the crossing will not be determined until Tier II, it is not possible to identify all the effects at this time.

Noise concerns were discussed at length in 2009 and 2010, and at the RCIC's request MnDOT preformed additional noise monitoring at specified locations to establish baseline data. Detailed information on noise standards and monitoring is included in a presentation made to the RCIC by MnDOT noise experts (see RCIC notes from June 2009). For information on noise standards relative to historic properties the RCIC relied on the member from the State Historic Preservation Office as well as follow-up conversations with the Minnesota Pollution Control Agency and the Federal Highway Administration. These discussions made clear that it is not appropriate to apply more stringent noise standards to historical structures; state standards for residential properties govern (see June 2009 RCIC meeting notes). The RCIC also specifically understood that the relevant state noise standards at the time of the Tier II EIS would prevail for this project. Their baseline noise monitoring data would certainly be useful at that time, but they agreed that extensive further discussion of noise expectations or standards was unnecessary 20+ years prior to the project's realization.

Relative to this goal, it was clear to the RCIC that visual impacts of the bridge on Chaska ballpark users are the most important, and they further explored these issues as part of a daylong workshop. Chaska city planner Kevin Ringwald used the city's bucket truck to take panoramic photos from the north and south sides of ballpark. He then used a simple red line to illustrate where the anticipated bridge deck would be. Assuming a bridge deck approximately 70 feet high, it would be at about the height of mature trees. USFWS staff member Gerry Shimek also took panoramic photos from the Refuge and ballpark, estimating tree heights based on species types. He highlighted the fact that the bridge is easier to screen from the ballpark the farther away it is, and to screen from the Refuge if it is behind mature trees. (See more information in the October 2009 RCIC meeting notes in the Appendix.)

Over the course of the RCIC's work they reached critical understanding about several fundamental issues related to potential impacts on the historic ballpark:

a. The visual impact can be effectively mitigated by lowering the bridge; doing so, however, would significantly increase noise impacts not only for ballpark users but also on the Refuge users and fauna; they could also be mitigated by moving the roadway far into the Refuge. These and other options reminded the RCIC of their commitment to seek solutions that balanced the needs and priorities of all members.
b. Trees can serve as very effective visual screens given the viewing angle from the ballpark, but only if they exist – meaning they would need to be preserved during construction and any new trees would need to be planted decades ahead of construction and continue to be planted over time in order to have any value. This realization raised further questions around technical landscaping issues along with project timing, responsibility for such pre-mitigation options, and costs.
c. The RCIC also realized most clearly for this goal that while they are responsible for addressing these issues in this Tier I EIS, between now and 20+ years later when this project may be built so many things will be different. As they cannot either predict or control the future, the RCIC is committed to providing guidance both through the FEIS, the Tier II EIS, and beyond to be best positioned to guide future decision making on the behalf of all key stakeholders.

3.4.2 Suggested Strategies to Avoid, Minimize, Mitigate Impacts

Note that these are from the July 2009 Goals and Strategies developed by the RCIC. It is understood that the strategies will evolve over time, and some of that information is included in the sections below on Guidance for Tier II and Intermediate Activities.

a. Seek ways to avoid impacts of the project on the historic ballpark
b. Use the best management practices for design and construction to support this goal

3.4.3 Guidance for Tier II

a. Examine the ballpark to determine if it still retains sufficient historic integrity.
b. Evaluate construction techniques that will minimize impacts (such as vibration) on historic properties.
c. Minimize the footprint of the bridge and construction area to maintain as much of the existing screening/vegetation as possible.
d. Maintain visitor and maintenance access to the Minnesota Valley National Wildlife Refuge from the area around the ballpark.
e. Complete detailed noise and visual analyses for the ballpark; examples include noise levels at the ballpark, viewshed from the ballpark toward the structure, and so on.
f. Coordinate with work around Goal 1 related to noise and visual impacts on neighborhoods and Goal 2 for historic neighborhoods in order to optimize outcomes for both.

3.4.4 Intermediate Activities

Between now and Tier II efforts, the RCIC should address the following:

a. Continue pursuing pre-mitigation options to avoid or minimize impacts. This includes

landscaping adjacent to the corridor that could grow over the decades to screen the roadway from the ballpark.

b. Support the City's listing of the ballpark on the National Register of Historic Places.
c. Support the City's master plan for the ballpark and the downtown master plan; the master plan includes a nature study area and potential dog park as well as alternative access areas.

3.5 Goal 4, Safety in Downtown Chaska: Resolve safety issues along existing Highway 41 in historic downtown Chaska

3.5.1 Issue Description

Over Chaska's 150 years, Chestnut Street has been the heart, business, and community center of town. Much more recently, it became state Trunk Highway 41, serving as a regional highway and bridge crossing and is now carrying thousands of cars and trucks daily. The City of Chaska remains passionately committed to preserving the historic character of downtown Chaska with its classic small-town atmosphere, which is critical to achieving the city's mission of being the "Best Small Town in Minnesota." Thus, future changes to this roadway should always use a context-sensitive design solution that adequately addresses the dual roles of this roadway.

3.5.2 Suggested Strategies to Avoid, Minimize, Mitigate Impacts

Note that these are from the July 2009 Goals and Strategies developed by the RCIC. It is understood that the strategies will evolve over time, and some of that information is included in the sections below on Guidance for Tier II and Intermediate Activities.

a. Reduce vehicle speed on Chestnut Street through downtown Chaska
b. Create safer pedestrian crossings
c. Connect east and west downtown Chaska (reduce barrier posed by current Hwy 41)
d. Reduce through car and truck traffic on existing Chestnut Street through downtown Chaska
e. Re-route truck/traffic from downtown to reclaim downtown/pedestrian access/local users
f. Mitigate visual and noise impacts on downtown residents and businesses, including businesses with outdoor amenities

3.5.3 Guidance for Tier II

The RCIC supports a context-sensitive approach to the Tier II design. The future TH 41 bridge should help shift traffic along Chestnut Street from regional to local and thus contribute to a safer, more vibrant, and pedestrian-friendly downtown with a strong retail environment; this also assumes that the design will retain sufficient vehicle access to the downtown commercial district. More specifically, Chaska's long-term plan for the Chestnut Street section of TH 41 is a three-lane design that includes two travel lanes (one in each direction), a center turn lane, and parking/sidewalks on both sides of the road. It is understood that these preferences are contingent upon many factors, including MnDOT approval and projected traffic counts that would support this Chestnut Street design (~18,000-20,000 ADT).

The following design factors should be considered for the future Chestnut Street/TH 41:

a. Historic character, scale, and materials
b. Travel lane width at minimum required to meet design standards
c. Pedestrian zones: Wider to support/enhance appeal and safety; brick or concrete pavers
d. Streetscaping: Enhanced landscaping, raised planters, seating; signage at intersections; street trees for shade; trash receptacles; convenient bicycle parking; building signage on awnings and

shop windows; pedestrian-scaled light pole fixtures

e. Parallel on-street parking on both sides to support retail and community uses; bumpouts at intersections to decrease distance of pedestrian crossings and delineate limits of on-street parking
f. Minimal building setbacks
g. Small, informal plazas

3.5.4 Intermediate Activities

a. Support MnDOT to study and improve existing river crossings, in particular floodproofing Highway 101 (Shakopee to Chanhassen) or adding travel lanes to Highway 169 in Scott County.
b. Ensure that interim roadway improvements do not increase regional traffic on the corridor.
c. The Minnesota River Flood Mitigation Study (MnDOT - September of 2011) states that the traffic levels in downtown Chaska (2009) are at a volume of 12,500 ADT and that the 2030 volumes are projected to be 20,200 ADT, which would indicate that advancing the discussion on the desired future condition for Chestnut Street (TH 41) should take place as part of MnDOT's planned improvements to TH 41 (2015).

3.6 Goal 5, Environmental Justice: Proactively work with stakeholders to understand and responsibly address environmental justice impacts

3.6.1 Issue Description

3.6.1.1 Background on Environmental Justice

The TH 41 EIS process follows federal regulatory guidelines; the background information on environmental justice below is from the Federal Highway Administration's extensive website on this topic available at http://www.fhwa.dot.gov/environment/ejustice/facts/index.htm.

The FHWA cites three fundamental environmental justice principles:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

The FHWA website also clarifies impacts: The reasonably foreseeable adverse social, economic, and environmental effects on minority populations and low-income populations must be identified and addressed. As defined federally (see regulatory information in the box below), adverse effects include but are not limited to the following:

- Bodily impairment, infirmity, illness, or death
- Air, noise, and water pollution and soil contamination
- Destruction or disruption of man-made or natural resources
- Destruction or diminution of aesthetic values
- Destruction or disruption of community cohesion or a community's economic vitality
- Destruction or disruption of the availability of public and private facilities and services
- Vibration

- Adverse employment effects
- Displacement of persons, businesses, farms, or nonprofit organizations
- Increased traffic congestion, isolation, exclusion, or separation of minority or low-income individuals within a given community or from the broader community
- The denial of, reduction in, or significant delay in the receipt of, benefits of DOT programs, policies, or activities

FHWA also provides clear guidance on stakeholder engagement as follows:

- Public involvement is an integral part of transportation planning and project development decision making. The DOT Order (5610.2) on Environmental Justice directs the Department to provide minority populations and low-income populations greater access to information on, and opportunities for public participation in matters that may impact human health and the environment. TEA-21 also emphasizes the meaningful involvement by all the public in transportation decision making.
- Effective public involvement in the planning process and the project-development process can alert state and local agencies about environmental justice concerns so that they do not result in surprises during the project-development stage. Continuous interaction between community members and transportation professionals is critical to successfully identify and resolve potential Environmental Justice concerns.
- State, regional, local, and tribal agencies should all have public-involvement procedures established that provide for consideration of Environmental Justice. These procedures should provide an inclusive, representative, and equal opportunity for two-way communication resulting in appropriate action that reflects this public involvement. Environmental Justice should be considered in all aspects of planning and project decision making, including the design of both the public-involvement plan and the proposed facility.

FHWA: Regulatory basis for environmental justice efforts

In 1994, President Clinton issued Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The Executive Order focused attention on Title VI by providing that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." In support of Executive Order 12898, the United States Department of Transportation (DOT) issued an Order on Environmental Justice (DOT Order 5610.2) in 1997, followed by a Federal Highway Administration (FHWA) Order on Environmental Justice (FHWA Order 6640.23) in 1998.

Over the years, U.S. DOT and FHWA have encouraged a proactive approach to the implementation of Title VI, aimed at preventing discrimination in its programs, policies, and activities. This proactive approach can reduce conflicts and also reinforce compliance with other related requirements; such as, the National Environmental Policy Act (NEPA) of 1969, 23 U.S.C. 109(h) (which addresses social and economic impacts), and public involvement in statewide and metropolitan planning and project development. By being proactive, Federal, State, local, and tribal agencies can better serve all of the public, who rely on transportation systems and services to enhance their quality of life.

Source: http://www.fhwa.dot.gov/environment/ejustice/facts/index.htm

3.6.1.2 Environmental Justice Process Related to Corridor Selection

MnDOT has addressed environmental justice issues through all phases of this TH 41 Tier I EIS effort: 2002-2004 Scoping Study, the 2004-2007 EIS Engineering Study, and the work beginning in 2007 looking at preferred alternatives. The work of the Study Advisory Committee through 2008 to identify the preferred corridor also found environmental justice issues important to their decision to eliminate several corridor options in part because of their very serious environmental justice impacts.

One of the reasons C2 was selected as the preferred corridor in December 2008 was that it had among the fewest environmental justice issues. The RCIC committed early in their work to proactively engage these stakeholders to understand and responsibly address potential impacts to their homes and communities.
In 2009 FHWA's RCIC member was Cheryl Martin, who in February 2009 made a short presentation to the RCIC about the environmental justice process (http://www.youtube.com/watch?v=pLZAOGM25vo).

The key points in her process description and connection to the TH 41 project were as follows:

a. Identify low-income or minority populations in project area
b. Look at the project's impacts on those populations
c. Determine whether those impacts are disproportionally high and adverse – whether they are disproportionately borne by low-income or minority populations
d. If so, identify ways to avoid, minimize, or mitigate those impacts
e. A key element is to directly involve those populations; ask them about the impacts and whether those are disproportional; understand whether those populations are part of a community; that must be done by going straight to that community
f. The issues go beyond right-of-way and relocation; determine whether the project is disrupting the community; look for implications that aren't necessarily visible; include issues such as major noise impacts
g. If the impacts are disproportionally high or adverse, first seek ways to avoid them, then to minimize, and only then to mitigate
h. Earlier in this project major environmental justice populations were identified especially for the eastern corridor options
i. On the preferred C2 alignment, the environmental impacts are less than the eastern corridors but still significant, so the RCIC must first look at ways first to avoid impacts, and then to minimize and mitigate as necessary
j. Key environmental justice issues for C2 exist for residents of the Jackson Heights manufactured home community

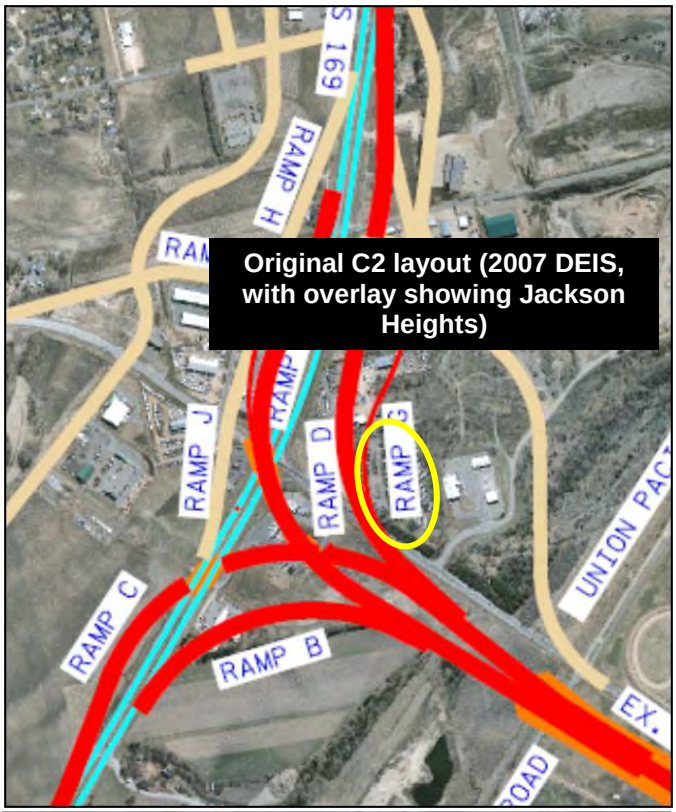
For the C2 alternative, the Jackson Heights manufactured home community on the south side of the Minnesota River was identified under environmental justice definitions. In fact the original C2 layout in the DEIS (see excerpt from 2007 DEIS map) showed ramps cutting directly through the community.

Beginning in 2008, MnDOT project manager Diane Langenbach had a series of conversations with Yesica Martinez of the Jackson Heights Resident Association, and Krystal Klein, then a staff member from All Parks Alliance for Change (APAC), which was a supporting ally of the Jackson Heights Resident Association. The purpose of these conversations was to create an opportunity for MnDOT to hear from residents about their questions, concerns, and priorities about impacts on their homes from the anticipated Highway 41 river crossing, projected for 2030 or later.

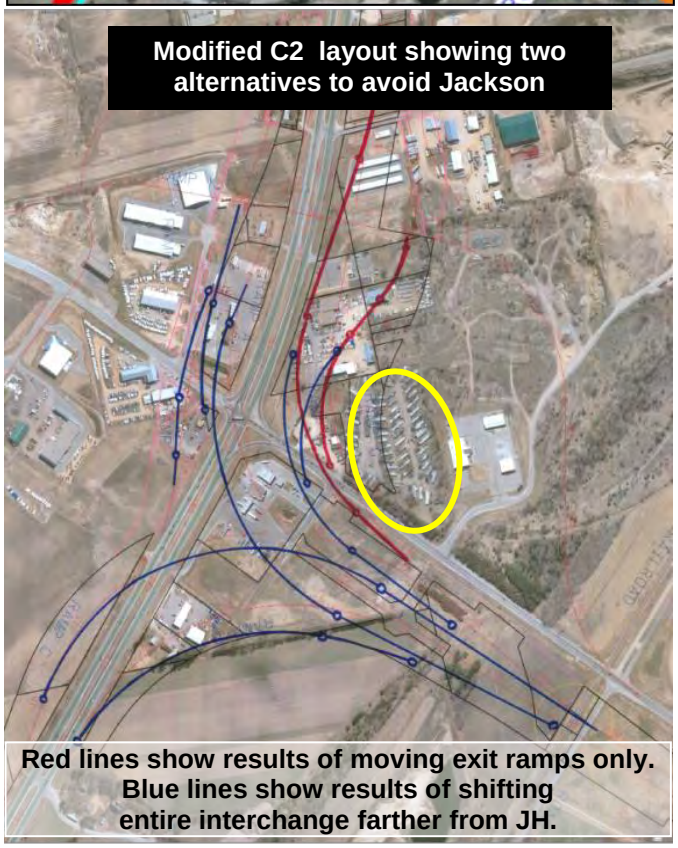
When the RCIC was formed in early 2009, they explicitly committed to addressing the needs of this stakeholder group with the same rigor as they did for other land use conflicts including the Refuge and historic ballpark.

In June 2009 the Jackson Heights Residents Association and their allies invited MnDOT and public engagement consultant Anne Carroll to a meeting in Chaska to hear residents' perspectives, priorities, and concerns that will directly shape MnDOT's decisions about the future Highway 41.

In preparation for that June 2009 meeting, the RCIC asked for alternatives to the original C2 roadway alignments in order to avoid direct impacts on Jackson Heights; see map with clarifying information overlaid. This was presented at the June meeting as part of the RCIC's and MnDOT's demonstration of their commitment to addressing the needs of Jackson Heights' residents.



Original C2 layout (2007 DEIS, with overlay showing Jackson Heights)


Modified C2 layout showing two alternatives to avoid Jackson

Red lines show results of moving exit ramps only. Blue lines show results of shifting entire interchange farther from JH.

The June 2009 meeting was driven by the residents and advocates who attended, and focused on respectfully and clearly establishing their priorities and concerns, including the following:

a. Protecting their hopes and dreams for their future, including their hard-earned investments in their homes and neighborhood
b. Protecting their children's futures and important community connections
c. Ensuring they weren't victims of racial / ethnic profiling or socioeconomic discrimination
d. Ensuring that their children will be safe to play and get around the neighborhood in the future
e. Insisting that if the government needs to buy them out in the future, that it puts a monetary value on their homes that accounts for investments they've made, and factors in the impacts of moving on them as families and as a community

There was also extensive discussion primarily by allies and advocates of the role that manufactured housing plays in a continuum of affordable housing and the ability of communities to meet their goals, as well as about future growth projections, land use and zoning, the overall EIS process and timing, and

roles. MnDOT presented the alternatives noted above, but the primary outcome of that first major meeting was to agree to meet again to review the alternative further and detail community concerns.

The October 2009 meeting with representatives of the Jackson Heights Residents Association was an active session (see photo of workshop above) looking at the C2 alternative and talking through tangible impacts on this community and how they could be avoided, minimized, or mitigated.

Participants identified key issues and then with MnDOT's concurrence developed a list of agreed-upon expectations around this project. These are detailed in the meeting notes and included safety, especially for children; noise and air quality; vehicular and pedestrian access; construction concerns; utility service during and after construction; and potentially a Community Benefits Agreement.

3.6.2 Suggested Strategies to Avoid, Minimize, Mitigate Impacts

After reaching preliminary agreement on those, the group spent significant time planning a community meeting in November 2009 for these representatives of the Residents Association to present their recommendations and seek concurrence from the residents.

As detailed in the notes and shown in the photos below, the November meeting was well attended and as with all meetings with the residents, MnDOT paid for a contract interpreter who interpreted from either English to Spanish or from Spanish to English depending on the need.

The Residents Association representatives presented the history of conversations with MnDOT, the very long decision-making timeline, and the key issues and their proposed solutions. After fielding questions the Residents Association members asked for the group's decision on the recommendations.

1. **C2 route:**
   a. Problem: The C2 route from the 2007 DEIS had the road running through the manufactured home Park, eliminating at least 18 of the Jackson Heights homes; the rest would be too close to the highway or underneath ramps, which could be dangerous and too noisy for our families.
   b. Recommendation: In conjunction with MnDOT, we agreed that the road should be moved so it goes around our neighborhood.
2. **Noise:**
   a. Problem: We already experience a lot of noise from Highway 169 and 41. We also easily hear the loudspeakers from the gas station east across TH 41.
   b. Recommendation: The new road must meet strict state noise standards in place at that time.
3. **Safety (children, at-grade)**
   a. Problem: We understand and accept it will not be possible to cross TH 41 at ground level
   b. Recommendation: Children must be prevented from getting onto any of the major roadways; a barrier of some kind may be necessary to do that
4. **Air quality**
   a. Problem: Pollution from new roadways so close to homes
   b. Recommendation: The new road must meet strict residential air quality standards in place at that time
5. **Access**
   a. Problem: Access to homes must be provided during and after construction
   b. Recommendation: During and after construction, there must be reasonable access to the Park,

including by the school bus

6. **Utilities**
   a. Problem: Functioning utilities during and after construction
   b. Recommendation: Ensure that Park residents retain safe drinking water, sewer, power, and cell phone service during and after construction

7. **Community Benefits Agreement**
   a. Problem: Ensuring attention to our needs in the future
   b. Recommendation: Consider entering into a Community Benefits Agreement to protect the community during and after construction

Following the presentation and questions, the Residents Association representatives asked the residents to take a vote to determine their position on the proposed problems and solutions/ approaches. Residents responded with unanimous concurrence.

3.6.3 Guidance for Tier II

There are several important environmental justice questions and considerations for Tier II, as outlined below.

a. **New populations:** While at the time of this Tier I work the only people identified under environmental justice rules are residents of the Jackson Heights manufactured home park on the south side of the Minnesota River, other populations may be present when Tier II work begins. This must be carefully evaluated at that time.
b. **Changes in currently identified population:** It is not known whether the Jackson Heights community in the future will be composed of residents identified under environmental justice regulations, so that must be examined in the future.

c. **Changes in land use, ownership, zoning:** The Jackson Heights manufactured home park is owned by a private party, not by the residents. Any number of changes could occur prior to Tier II, including but not limited to the current owner selling the property or closing the park. As the land is currently located in the unincorporated area of Scott County and is zoned for commercial use, such a change in ownership would require that the land use comply with then-current zoning and approved planning guidelines. Any issues relevant to environmental justice determinations would have to be considered at that time.

3.6.4 Intermediate Activities

There are no anticipated intermediate activities relative to the environmental justice aspects of the TH 41 project. There will, however, be a number of other infrastructure efforts between now and Tier II that may have potential impacts on existing or future populations identified under environmental justice regulations. Each of those projects will address their own environmental justice issues, but their individual and/or cumulative effects must be considered when TH 41 proceeds.

3.7 Goal 6, Local Access: Provide appropriate access to local and county roadways that will facilitate land use developments guided by counties and cities

Note that this goal has four components, each of which is addressed separately:

- Downtown Chaska access
- Regional access
- Scott County access
- Downtown Shakopee access
- Interchange of TH 41/CSAH 11/TH 212

3.7.1 *Downtown Chaska*: Issue Description

As the RCIC continued to explore all issues and impacts through the lens of their common goals, a concern emerged that C2 would so effectively facilitate year-round river crossing and direct access to the regional roadway system that too many drivers would completely bypass Chaska's downtown economic center.

To further explore downtown Chaska access issues, midway through 2010 the RCIC paused its efforts while Chaska independently contracted with SRF Consulting Group to analyze whether there were options that could meet both local and regional needs (see RCIC meeting notes from February 2011):

a. Maintain the flood-proof river crossing
b. Provide direct connections to regional roadways especially for heavy truck traffic
c. Provide local access to historic downtown Chaska
d. Yield future traffic levels on (existing) Highway 41/Chestnut Avenue through downtown Chaska that would support recreating a pedestrian-friendly "main street" (moving from the existing four-lane to two driving lanes, one turning lane, and parking on both sides)

The SRF Chaska Interchange Study reviewed the following three options:

- Option 1: Partial interchange at existing Highway 41 bridge and full interchange at County Road 61 (removes existing Highway 41)
- Option 2: No interchange at existing Highway 41 bridge with full interchange at County Road 61 (keeps existing Highway 41)

- Option 3: Full interchange at existing Highway 41 bridge with no interchange at County Road 61 (removes existing Highway 41)

Options 1 and 3 of Chaska's 2010 independent Interchange Study dramatically increased traffic levels on existing Highway 41. Only Option 2 met Chaska's main objectives of creating local access into downtown while sufficiently reducing traffic levels to create a Main Street. Per the study, adding a full interchange at County Road 61 while maintaining existing Highway 41 for local traffic would relieve pressure on County Road 11 where the new river crossing bridge would intersect with Highway 212.

3.7.2 *Downtown Chaska*: Suggested Strategies to Avoid, Minimize, Mitigate Impacts

a. Review development constraints and confirm adopted land use guidance by the counties and cities in and near the preferred corridor
b. Review the preferred corridor and "touch-down points" on both sides of the Minnesota River, and make recommendations regarding whether their location aligns with guided land uses and is feasible; identify alternatives for addressing any concerns
c. Specifically address the desire for local and direct access from 169 and new 41 to downtown Chaska and downtown Shakopee, consistent with local plans
d. Identify the potential areas needed for ROW, long-term impacts of ROW preservation, and alternatives, including funding sources to acquire ROW or allowing appropriate interim or long-term development within defined corridor

3.7.3 *Downtown Chaska*: Guidance for Tier II

Examine local needs, priorities, and use and traffic patterns based on development and changes to the regional corridor in the interim to determine how to best meet objectives around a floodproof crossing, regional connections, local access for Chaska and Shakopee, and reasonable traffic levels in downtown Chaska.

See also the February 2011 letter from MnDOT and FHWA to Chaska about local access issues as part of the Tier II process.

3.7.4 *Downtown Chaska*: Intermediate Activities

Between now and Tier II efforts, the RCIC should address the following:

a. Ensure that any interim steps to address existing river crossings – such as flood mitigation on Highways 41– do not delay the implementation of a new river crossing; specifically, interim activities should not focus mainly on capacity building of existing roads. Carefully examine each action for its long-term impact in order to not use up all the resources necessary to build this new river crossing to meet the full set of RCIC objectives.
b. Coordinate with Southwest Transportation Coalition and 169 Corridor Coalition (and others that emerge over time) to push for faster progress on this new river crossing
c. Continue to evaluate downtown Chaska's downtown economics, traffic volume, priorities, etc.
d. Specifically continue exploring the conditions and assumptions included in the Chaska local access study and options to reduce economic harm to downtown Chaska; include the critical needs, objectives, assumptions, analyses, and conclusions in the Chaska local access study, including any updates,/changes, new options that may have emerged, additional concerns, etc.
e. Identify the potential areas needed for right-of-way, long-term impacts of right-of-way preservation, and alternatives, including funding sources to acquire right-of-way or allowing appropriate interim or long-term development within defined corridor

3.7.5 *Regional Access*: Issue Description

The primary regional need is to construct a floodproof crossing of the Minnesota River connecting TH 169 and TH 212. Current river crossings are subject to annual flooding resulting in numerous and lengthy road closings. The only floodproof river crossing between I-35W and the southern Scott County boundary is TH 169 in Shakopee, a distance of approximately 30 miles. For the future, there is insufficient capacity on the regional system to meet local growth and development needs in the southwestern portion of the Twin Cities region. In addition, there is a need to identify a corridor and preserve right-of-way for the new TH 41 river crossing corridor. Without these steps, a flood-proof regional connection across the Minnesota River will not be able to be constructed.

An EIS during the 1970s was never completed, thus the right-of-way needed to construct a river crossing was not preserved, protected, or acquired, except for a portion of a corridor that was purchased through the Right-of-Way Acquisition Loan Fund (RALF) program on the Chaska/Chanhassen border. As a result, the current TH 41 EIS process had to start from scratch – making clear how important it is to finalize this Tier I EIS and take the interim steps necessary to support future construction.

3.7.6 *Regional Access*: Suggested Strategies to Avoid, Minimize, Mitigate Impacts

a. The RCIC will support completion of the FEIS to a Record of Decision.
b. The RCIC members will stay up-to-date on local plans, studies, and decisions that affect the development of the river crossing, and support those interim steps identified in those plans, studies, etc., that support the implementation of the river crossing.
c. Recognizing the balance between local and regional access represented in this document, the RCIC will advocate for changes in the regional plan that reflect that balance.
d. The RCIC will implement a succession plan for participation in the RCIC as set forth in the partnership agreement.

3.7.7 *Regional Access*: Guidance for Tier II

Recognize the important balance between local and regional needs and address both in Tier II.

3.7.8 *Regional Access*: Intermediate Activities

Between now and Tier II efforts, the RCIC should address the following:

a. Advocate for inclusion of the regional river crossing in the regional transportation policy plan.
b. Advocate for use of Right-of-Way Acquisition Loan Fund (RALF) and other funds to acquire right-of-way for the river crossing and related interchanges and connecting roadways.

3.7.9 *Scott County Access*: Issue Description

There are approximately 1,000 acres of developable land between the bluff and the river. This acreage is one of the primary areas for Scot County development, thus the issue is to provide efficient and safe access to those development areas while preserving regional system function and effective connections to local roadway networks.

The existing Highway 169 corridor is constrained by the bluff line, the river, associated natural resources, and the railroad.

3.7.10 *Scott County Access*: Suggested Strategies to Avoid, Minimize, Mitigate Impacts

a. Review development constraints and confirm adopted land use guidance by the counties and cities in and near the preferred corridor
b. Review the road location within the preferred corridor, and "touch-down points" on both sides of the Minnesota River, and make recommendations regarding whether their location aligns with guided land uses and is feasible; identify alternatives for addressing concerns raised by the review and analysis

3.7.11 *Scott County Access*: Guidance for Tier II

a. Review then-current local comprehensive plans for land use and transportation
b. Review TH 169 Interregional Corridor Study and subsequent frontage road study (adopted 2002), TH 169/CR 69 Interchange Study (2011), CSAH 16 Extension Study (unpublished – Scott County Public Works 2007, Louisville Township Frontage Road, 2010), and any other studies that occur subsequent to the FEIS.

3.7.12 *Scott County Access*: Intermediate Activities

a. RCIC member local governments: Amend local plans and make future decisions based on the outcomes of this FEIS
b. RCIC: Participate in future activities or studies related to creating an interchange at existing TH 41/169 prior to the construction of the TH 41 river crossing.
c. RCIC: Take a substantive role in interim studies and projects that relate to the RCIC's agreed-upon framework and common goals and strategies
d. RCIC: Review and comment on comprehensive plan updates as they are being prepared prior to Tier II.
e. Local units of government and MnDOT: Review and collaboratively implement land use and transportation decisions based on guidance from studies on to local road networks in this corridor.
f. Identify the potential areas needed for right-of-way, long-term impacts of right-of-way preservation, and alternatives, including funding sources to acquire right-of-way or allowing appropriate interim or long-term development within defined corridor

3.7.13 *Downtown Shakopee Access*: Issue Description

The intersection of TH 169 and CR 69 provides the only direct access to historic downtown Shakopee and the CR 101 river crossing to Chanhassen. Maintaining access from the regional system directly to Shakopee's downtown and the regional river crossing at CR 101 are critical for continued economic growth and development of the area. Specific issues to be addressed include:

a. Access to the downtown Shakopee/CR 101 business district and potential negative impacts from projected traffic levels; see Shakopee's CR 101 reconstruction project traffic analysis for more information
b. The historic properties within Shakopee's downtown area at the time Tier II begins; see Shakopee Historic Preservation Advisory Committee historic property document and downtown maps

3.7.14 *Downtown Shakopee Access*: Suggested Strategies to Avoid, Minimize, Mitigate Impacts

In addition to supporting the TH 41 refined C2 route, actively support improvements that meet current and future transportation needs across the Minnesota River between I-35 and CR 9.

3.7.15 *Downtown Shakopee Access*: Guidance for Tier II

a. Review then-current local comprehensive plans for land use and transportation
b. Review TH 169 Interregional Corridor Study and subsequent frontage road study (adopted 2002), TH 169/CR 69 Interchange Study (to be completed 2011), CSAH 16 Extension Study (unpublished – Scott County Public Works 2007), Louisville Township Frontage Road study (2010), and any other studies that occur subsequent to the FEIS
c. Consider the traffic impacts of the 41 river crossing on traffic loading to CR 69 and CR 101 in Shakopee to assure that businesses in that corridor are not adversely affected

3.7.16 *Downtown Shakopee Access*: Intermediate Activities

Between now and Tier II efforts, the RCIC should address the following:

a. RCIC: Participate in future activities or studies related to creating an interchange at existing TH 41/169 prior to the construction of the TH 41 river crossing.
b. Support the outcome of the 2011 river crossing/flood mitigation study and the implementation of the study's recommendations that reduce flood impacts between now and Tier II.

3.7.17 *Interchange of TH 41/CSAH 11/TH 212*: Issue Description

Over 5,000 acres of land included in the city of Carver's Comprehensive Plan have direct access to the regional transportation system *only* at the CSAH 11/TH212 interchange. The preferred corridor would merge a touchdown with TH 41 into this interchange. CSAH 11 is also a corridor to the Jordan river crossing, which effectively makes this area the confluence of two river crossings. This acreage constitutes the city of Carver's principal development area, thus the issue is to provide efficient and safe access to those development areas while preserving regional system function and effective connections to local roadway networks. Access to other connections to the regional system is constrained by various bluff lines, the river, and associated natural resources.

3.7.18 *Interchange of TH 41/CSAH 11/TH 212*: Suggested Strategies to Avoid, Minimize, Mitigate Impacts

a. Review development constraints and adopted land use guidance by Carver County and the cities of Carver and Chaska in and near the preferred corridor
b. Review the road location within the preferred corridor, and "touch-down points" on both sides of the Minnesota River, and make recommendations regarding whether their location aligns with guided land uses and is feasible; ensure that connections between Hwy 212, CSAH 11, and the new TH 41 maintain land-based access

3.7.19 *Interchange of TH 41/CSAH 11/TH 212:* Guidance for Tier II

a. Review then-current local comprehensive plans for land use and transportation
b. Review TH 212 studies and subsequent studies
c. Ensure safe and efficient connections to CSAH 11 that take into consideration existing development and future growth in the area in a manner that ensures that CSAH 11 remains viable to serve the needs of Carver, Chaska, and traffic entering the regional system at this location

3.7.20 *Interchange of TH 41/CSAH 11/TH 212*: Intermediate Activities

a. RCIC member local governments: Amend local plans and make future decisions based on the outcomes of this FEIS
b. RCIC: Take a substantive role in interim studies and projects that relate to the RCIC's agreed-upon framework and common goals and strategies
c. RCIC: Review and comment on comprehensive plan updates as they are being prepared prior to Tier II
d. Identify the potential areas needed for right-of-way, long-term impacts of right-of-way preservation, and alternatives, including funding sources to acquire right-of-way or allowing appropriate interim or long-term development within defined corridor

3.8 Goal 7, Ecosystem Impacts: Minimize impacts on aquatic and terrestrial ecosystems including animals and plants

3.8.1 Issue Description

Within and near the C2 corridor are natural communities in the Minnesota River Valley with many high-performing ecosystem functions compared to other metropolitan areas. Because of public ownership and the missions of the responsible State and Federal agencies, lands must be managed to preserve ecosystem functions into future. Project construction and operation is expected to change existing natural communities and ecological functions. Examples include the following:

a. Habitat fragmentation, reduced species mobility, and changes in habitat type, resulting in changes in species composition
b. Impacts on biodiversity; see detailed information on conservation biology with reference to the Minnesota Valley National Wildlife Refuge in a February 2009 video at http://www.youtube.com/watch?v=wKnDTwKE-QQ for part 1 and http://www.youtube.com/watch?v=gsuHhqB9FSg for part 2
c. Project construction, operation, and maintenance will alter the pre-project conditions with regard to drainage, moisture and light gradients, topography, soil chemistry, and others
d. Vehicles, hauled equipment, boats on the roadway, and roadway maintenance activities and products inadvertently bring contaminants or invasive species that move through waterways and other natural pathways
e. Trash, road salt, heavy metals, hydrocarbons from road operations will harm the ecosystem;
f. See more information in May 2009 RCIC meeting notes

3.8.2 Suggested Strategies to Avoid, Minimize, Mitigate Impacts

Note that these are from the July 2009 Goals and Strategies developed by the RCIC. It is understood that the strategies will evolve over time, and some of that information is included in the sections below on Guidance for Tier II and Intermediate Activities.

a. Use context-sensitive design to address overall impacts to ecosystem functions
b. Manage/contain contamination from vehicles and people on the new TH 41 river crossing
c. Prevent additional habitat fragmentation and use best management practices to connect habitats
d. Encourage multi-use (transportation, utilities, etc.) of river crossing corridor to reduce additional habitat fragmentation
e. Use best technologies and design to keep noise at acceptable levels for wildlife
f. Maintain ability of wildlife to use natural land and water movement, and migration corridors
g. Prevent disruption to wetland hydrology

3.8.3 Guidance for Tier II

a. Identify and address impacts of the final design roadway on the ecosystems in and near the corridor
b. Specifically evaluate the impact of noise on wildlife
c. Reference baseline noise analyses done for Tier I including data from the additional receptor locations requested by the RCIC; MnDOT has all those results

3.8.4 Intermediate Activities

Between now and Tier II efforts, the RCIC should address the following:

a. As part of the RCIC's ongoing work, resource management agencies will incorporate into their workplans ongoing monitoring of all conditions within the refined C2 corridor (increased sampling locations in immediate vicinity of corridor)
    - Monitoring will be conducted in a manner to support analysis of primary, secondary, and cumulative impacts.
    - Resource management agencies will collectively increase their focus on and document current/ongoing conditions of aquatic and terrestrial ecosystem
b. Proactively and routinely identify and pursue appropriate pre-mitigation opportunities; an example is planting trees and shrubs many years in advance so they have time to grow and provide effective visual screening; see Landscaping Task Force results for clear guidance
c. Consult land managers for maps/information on "desired future conditions"
d. Management Plan and Comprehensive Conservation Plan amendments will reflect results of this FEIS and the corridor identification
e. Resource management agencies will create and make available the graphics illustrating the extend and boundaries of various natural communities

3.9 Goal 8, Public Access: Ensure reasonable and usable public access to the outdoor recreational opportunities in the river valley (Refuge, state trail, and other public lands)

3.10 Goal 9, User Impacts: Minimize impacts, including noise and visual, to people using the Refuge, state trail, and other public lands

From the beginning the RCIC has addressed these closely related topics together, so they are handled that way here also.

3.10.1 Issue Description

Current recreational facilities are illustrated on the map below.

The key concerns for this goal are the new river crossing's likely adverse effects on existing recreational uses and activities on these public lands, so the following must be ensured:

a. Reasonable and usable public access to the outdoor recreational opportunities in the river valley
b. Minimized impacts, including noise and visual, to people accessing and using the Refuge, state trail, and other public lands
c. Safe access and use of these opportunities, such as ensuring trail corridors crossing the C2 corridor are protected from road debris
d. Attention to the aesthetics of access

e. Visitor and maintenance access to the Minnesota Valley National Wildlife Refuge from the area around the Chaska ballpark

Minnesota Valley NWR & State Recreation Area
Recreation Features

3.10.2 Suggested Strategies to Avoid, Minimize, Mitigate Impacts

Note that these are from the July 2009 Goals and Strategies developed by the RCIC. It is understood that the strategies will evolve over time, and some of that information is included in the sections below on Guidance for Tier II and Intermediate Activities.

a. Maintain trail continuity, access points, and connections for current and future outdoor recreational opportunities within the Minnesota River Valley
b. Ensure a quality experience for wildlife observation, wildlife photography, hiking, bicycling, environmental education and interpretation, and other related activities (with the understanding that the various public lands have their own use restrictions)
c. Maintain a feeling of solitude by minimizing noise and visual intrusions

3.10.3 Guidance for Tier II

For an *example* of a solution when there is no reasonable way to avoid or minimize impacts to ecosystems, flora, fauna, and users, see the case study presentation by the Refuge manager to the RCIC in April 2009. This summarized the complex and complicated negotiations and eventual resolution in the late 1990s when the Metropolitan Airports Commission needed to add a new north-south runway to the Twin Cities International Airport that would send flights directly over the Refuge. A series of offers

and counter-offers between the parties was eventually settled at the Federal level with approximately $27 million paid to the Refuge for lands/use lost. It was agreed that the funds must be used to acquire additional wild and natural lands within the Minnesota River valley and provide new recreational and educational opportunities for users.

For the TH 41 project, key guidance for Tier II includes the following:

a. Proactively engage and collaborate with key/relevant stakeholders including the US Fish and Wildlife Service and Department of Natural Resources
b. Identify, gather information on, and address roadway impacts that adversely affect recreational activities, flora, and fauna within and adjacent to roadway corridor; these will be specific to the final design. Examine lessons learned from other bridges over protected areas such as Highway 169. Examples include but are not limited to the following:
    - Noise on visitor experience using the trails and expectations for quiet refuge experience
    - Physical debris falling from the structure, as well as snow and ice
    - Air pollutants
    - Light pollution in general as well as impact on Refuge and other protected lands; also examine relationship between bridge height and the amount of rainfall and sunlight available to flora, fauna, and visitors underneath
    - Other
c. Inventory infrastructure that supports recreational activities/opportunities
d. Prepare quantitative studies and document current public recreational use by activity

3.10.4 Intermediate Activities

The RCIC should plan on collecting "baseline" information on impacts such as noise and light over time to inform Tier II activities; such periodic studies would build a database of cumulative impacts and more thoughtfully inform future decisions.

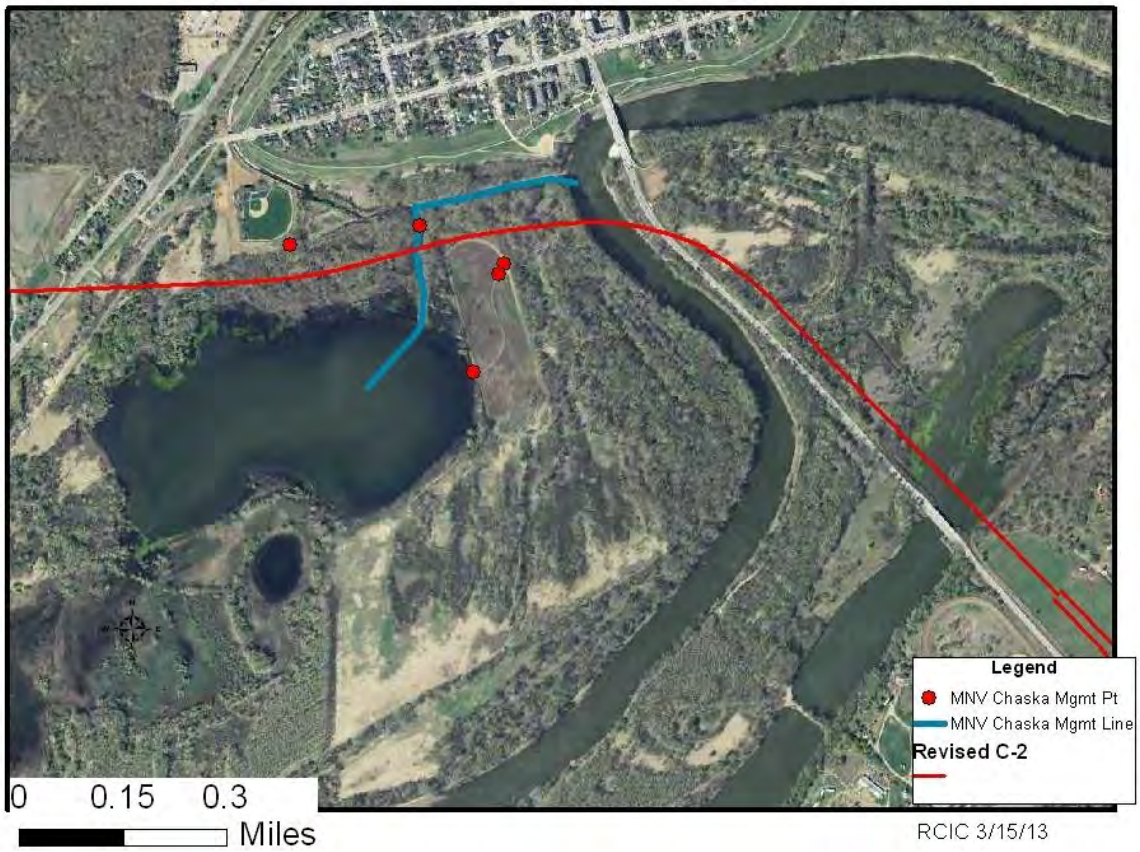
3.11 Goal 10, Land Management Capabilities: Maintain natural resource management capability on public lands

3.11.1 Issue Description

The new river crossing will bisect existing natural resource management units. See map below. The physical structure of highway is expected to adversely affect current management strategies by the following:

a. Limit or prevent access
b. increase management costs
c. Limit or change management techniques and tools
d. See supplemental information about this issue in the videotaped presentation to the RCIC about conservation biology by staff member Vicky Sherry:
    - Part 1 (http://www.youtube.com/watch?v=wKnDTwKE-QQ)
    - Part 2 (http://www.youtube.com/watch?v=gsuHhqB9FSg)

Minnesota Valley NWR & State Recreation Area
Resource Management Features



3.11.2 Suggested Strategies to Avoid, Minimize, Mitigate Impacts

Note that these are from the July 2009 Goals and Strategies developed by the RCIC. It is understood that the strategies will evolve over time, and some of that information is included in the sections below on Guidance for Tier II and Intermediate Activities.

Ensure that the new river crossing does not interfere with land management activities in any of the following ways:

a. Preventing or limiting heavy equipment access (for public land management)
b. Creating impediments for prescribed burning
c. Disrupting water management programs
d. Interfering with forest management practices
e. Maintain harvest/removal abilities for resource management (e.g., wildlife, including nuisance)

3.11.3 Guidance for Tier II

a. Produce updated graphics illustrating the boundaries of natural communities boundaries at that time, and compare to earlier information
b. Use management plans from multiple responsible entities to inform desired future conditions
c. Consult with entities responsible for natural community management regarding techniques to meet desired future conditions.

d. Ensure that management entities can cost-effectively access management units with appropriate staff and equipment

3.11.4 Activities

Between now and Tier II efforts, the RCIC should address the following:

a. Consult natural resource land managers for maps and information on desired future conditions
b. Ensure that natural resource Management Plan and Comprehensive Conservation Plan amendments reflect results of this FEIS and the corridor identification

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APPENDIX A-2

RCIC Report

- FEIS Hard Copy includes RCIC Report on CD
- FEIS on CD is accompanied by RCIC Report on CD
- FEIS electronic posting includes RCIC Report

Minnesota Trunk Highway 41: River Crossing Implementation Collaborative Report: Public Involvement Process and Outcomes

April 2013

As part of the Minnesota Department of Transportation's Trunk Highway 41 Tier I Environmental Impact Statement process, this report was prepared on behalf of the River Crossing Implementation Collaborative by public engagement consultant Anne Carroll of Carroll, Franck & Associates

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Acknowledgements

The following key stakeholders and organizations participated in the River Crossing Implementation Collaborative (RCIC) between January 2009 and early 2013. Together, they contributed thousands of hours of dedicated work to these deeply challenging issues. Their sincere commitment to an inclusive, respectful, transparent, and deeply collaborative process is what allowed this work to be completed so successfully. An asterisk (*) indicates RCIC members and staff who participated in the majority of the RCIC's work over this time period.

City of Chaska
* Matt Podhradsky, City Administrator
* Kevin Ringwald, City Planner
* Bill Monk, City Engineer
* Bart Fischer, Assistant City Administrator
Gary Van Eyll, Mayor (2009)

City of Shakopee
* Michael Leek, Community Development Director

City of Chanhassen
* Bob Generous, City Planner
Paul Oehme, City Engineer

City of Carver
* Cindy Nash, City Planner
Jim Weygand
Jim Elmquist

Scott County
* Michael Sobota, Community Development Director
* Craig Jenson, Transportation Planner
Lezlie Vermillion, Public Works Director
Lisa Freese, Transportation Program Manager

Carver County
Bill Weckman, Assistant County Engineer
Gayle Degler, Commissioner
Lyndon Robjent, County Engineer

Minnesota Department of Transportation
* Diane Langenbach, Project Manager
* Lynn Clarkowski, South Area Manager (2009-2011)
* Kristen Zschomler, Cultural Resources
* Jennie Ross, Environmental Services
Sheila Kauppi, South Area Manager (2012-13)
Pete Wasko, Noise Specialist
Tina Markeson, Roadside Vegetation Management
David Larson, Landscape Architecture

Minnesota Department of Natural Resources
* Mark Cleveland
Wayne Barstad
Michele Hanson

Minnesota State Historical Preservation Office
* Dennis Gimmestad
Mary Ann Heidemann

Metropolitan Council
Connie Kozlac
Ann Braden

Jackson Heights Residents * (see complete list in Appendix)

United States Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge
* Charlie Blair, Superintendent
* Gerry Shimek
Vicki Sherry
Jeanne Holler

Federal Highway Administration
* Cheryl Martin (2009-2010)
* Phil Forst (2011-2013)

United States Army Corps of Engineers
Joe Yanta

Engineering Consultant: SRF
* Nancy Frick, SRF Project Manager
Don Demers
Brett Danner

Public Engagement Consultant: Carroll, Franck & Associates
* Anne Carroll

Major Milestones and Key Conclusions

From January 2009 through spring 2013, the 12 public stakeholders central to a discussion of the proposed TH 41 river crossing worked collaboratively to identify the most challenging issues and impacts for the C2 corridor, and then explore how they could maximize the benefits and minimize the risks for all of them. Supported by a neutral facilitator, participants included the following, who within a few months named themselves the River Crossing Implementation Collaborative:

- Carver County
- City of Carver
- City of Chanhassen
- City of Chaska
- City of Shakopee
- Federal Highway Administration
- Scott County
- Metropolitan Council
- Minnesota Department of Natural Resources
- Minnesota Department of Transportation
- Minnesota State Historic Preservation Office
- U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge

- **Starting point – the "big uglies":** The group began this effort with a healthy combination of deep knowledge, sincerity, commitment, and a healthy sense of humor. Dubbing the fundamental issues dividing their communities and fracturing relationships the "big uglies," they set about carefully and respectfully unpacking them and other key issues, and then understanding them *from each stakeholder's unique perspective.* Those many hours of dialogue and deliberation not only created a common understanding of the real issues and impacts, but gave them time to build the substantive and trusting relationships necessary to successfully tackle these very complex issues.

- **Commitment to collaboration:** Early in their work together these key stakeholders developed a partnership agreement to create the River Crossing Implementation Collaborative (RCIC) with this mission: "This group is responsible for ensuring the successful implementation of the TH 41 River Crossing in accordance with the agreements reached by key stakeholders." Note two key elements that drove all future work:

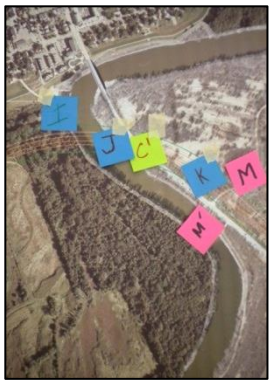
  - In spite of significant frustration and impasse since this EIS began in 2003, as a group they chose to focus on working together to ensure a successful implementation
  - They decided to seek common ground and find solutions that would be best for *all* of them, rather than creating winners and losers among themselves

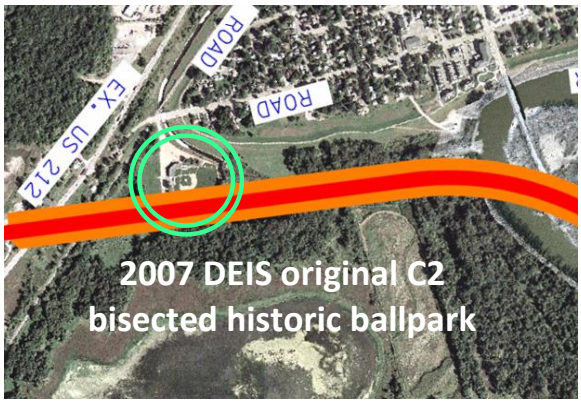
- **Common goals and strategies:** Of critical importance as the effort moved forward was a set of 10 agreed-upon goals and supporting strategies that the RCIC developed over several lengthy work sessions. The goals focused on impacts, concerns, and priorities related to the proposed future river crossing, and reflected perspectives from all RCIC members. Addressing noise, safety, and environmental issues, they ran the gamut from historical structures to federally and state-protected lands as well as populations protected under federal environmental justice regulations.

- **Threading the needle:** With the big issues unpacked, the collaborative partnership in place, and commitment to a set of common goals, RCIC members went after one of the biggest challenges facing them: The C2 corridor defined in

the 2007 Draft EIS cut directly through Chaska's ballpark, which is eligible for listing on the National Register of Historic Places. Located southwest of downtown, the ballpark abuts the USFWS Minnesota Valley National Wildlife Refuge with its federally protected lands, flora, and fauna.

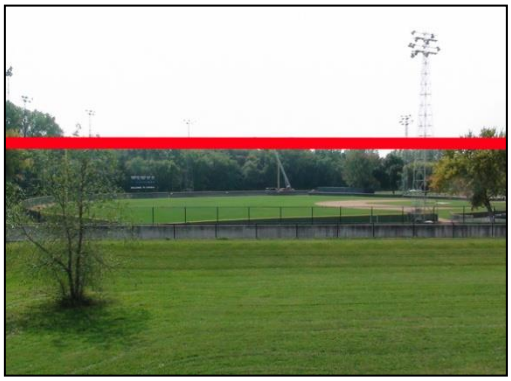
Per the RCIC's agreements, everyone participated in multiple discussions and presentations delving into complex technical issues around noise and visual impacts, sight lines, biodiversity and ecosystems, soil types, existing and future trails, and so on. After several months of work, the RCIC reached consensus on a "refined" C2 corridor that avoided the historic ballpark and intruded only minimally on the Refuge. They also continued their deep work examining *all* impacts along this corridor from each stakeholder's perspective.





- **Visual and noise impacts:** Intimately connected to the discussions around "threading the needle," a key issue for RCIC members was how to avoid, minimize, or mitigate the substantial noise and visual impacts from the proposed bridge. Several presentations, baseline noise monitoring and results, and substantial discussion addressed the challenges, including the central tradeoff between a higher bridge being quieter for people and animals, but having a much more serious visual impact.

The RCIC also brought forth diverse perspectives from the community and agency stakeholders they represented, all while struggling with everyone's desire to make design and technical decisions that are only possible in the Tier II EIS, likely 15-20 years in the future. With baseline noise monitoring completed for long-term reference and a clearer understanding of noise regulations as well as design and construction options, the RCIC reached consensus among themselves and with those they represented to support the most restrictive applicable noise standards in place at the time of design and construction.

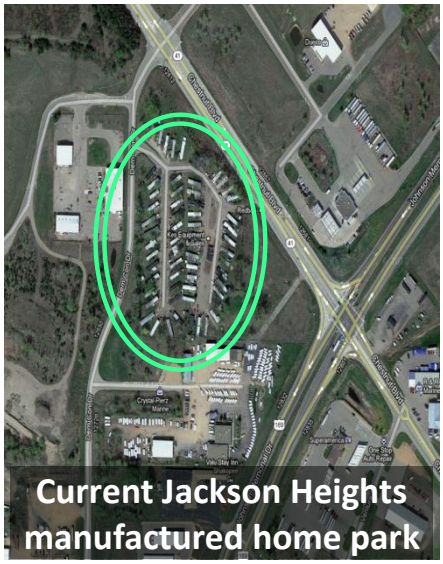


Concerns about visual impacts then evolved into a deep and multifaceted conversation about impacts on Refuge users and fauna, and Chaska residents and ballpark visitors. With the RCIC's mission-level commitment to collaborate and focus on implementation, the RCIS used simple visual tools to understand potential visual impacts and then explore

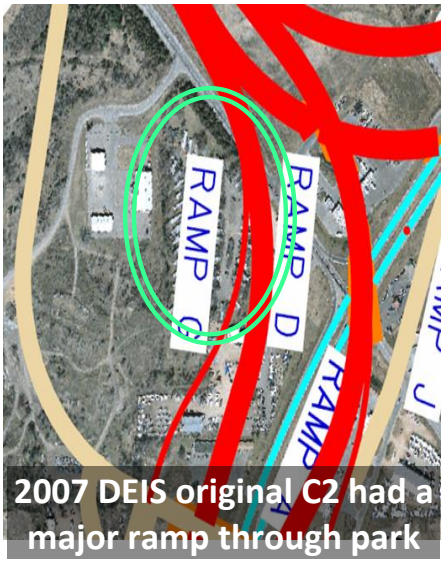
landscaping, berms, and similar options that could *pre-mitigate* those impacts. Significant research and support from various agency technical experts provided a variety of interesting and reasonable opportunities for plantings, space reconfigurations, and Refuge/trail improvements that over the next 20+ years could reduce visual impacts from the bridge while also supporting ballpark use and Refuge/trail access.

- **Environmental justice:** The Jackson Heights manufactured home park is at the intersection of Hwy 169 and current TH 41 (just west of Shakopee in Jackson Township). Per the maps below, the 2007 DEIS original C2 corridor showed a major ramp eliminating over 60% of Jackson Heights, thus effectively shutting down this decades-old primarily immigrant community. The RCIC's common goals explicitly included environmental justice, and FHWA's guidelines focus on disproportionately high and adverse effects on minority populations and low-income populations, and ensuring full and fair participation by all potentially affected communities.

Jackson Heights representatives worked with MnDOT staff to identify impacts and potential solutions



Current Jackson Heights manufactured home park



2007 DEIS original C2 had a major ramp through park

Refined C2 moved ramp east to avoid the park

Although MnDOT had met with some Jackson Heights residents several years before, their relationship in 2009 was cool, and residents were quite distressed with the DEIS corridor layout.

The RCIC's first step was proactive: They asked for alternative corridor layouts at this location. Two were prepared, one that shifted the off-ramp the other that shifted the entire intersection. With those drawings in hand, MnDOT and Scott County represented the RCIC and coordinated with advocacy groups and Jackson Heights residents to hold three comprehensive workshops between June and November 2009.

Jackson Heights residents discussed impacts and options at the resident-led community meeting

While moving the ramp technically preserved the park

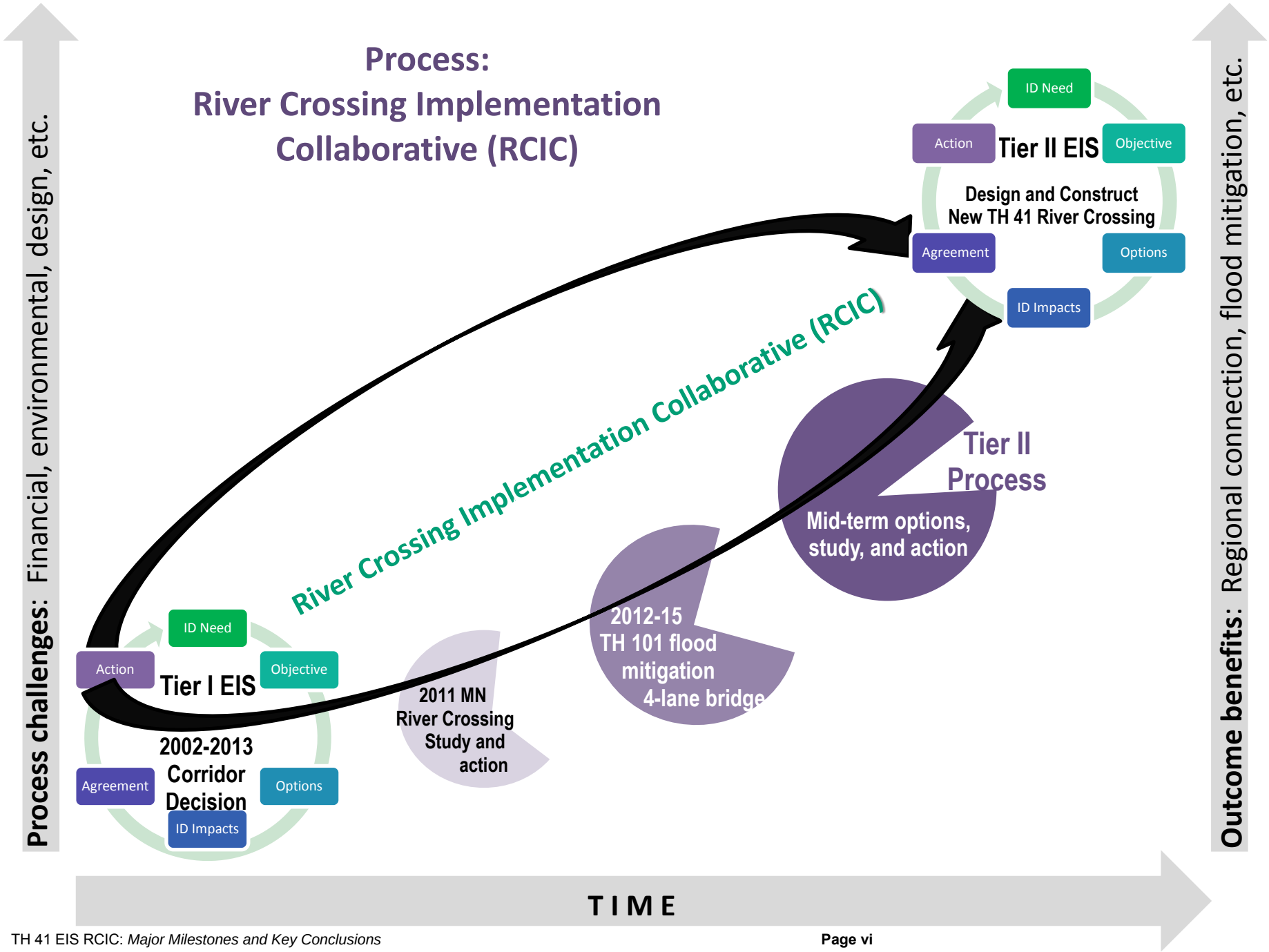
itself, that needed to be discussed with Jackson Heights community members. The RCIC also needed to understand the full range of potential impacts of this proposed river crossing, and then work with residents to identify possible ways to avoid, minimize, or mitigate those.

In the first two sessions, residents identified impacts including excess noise, pollution, and visual harm; their children's safety in and around their homes; access for cars and school buses; and so on. Residents, advocates, and the RCIC then agreed that the residents would present the revised C2 corridor and the list of impacts and possible solutions to the broader Jackson Heights community. At this resident-led meeting residents decided to take a vote to determine their position on the identified impacts and solutions/approaches; there was unanimous concurrence.

- **Outstanding issues:** Of primary importance is the RCIC's commitment to continue working together on this proposed bridge *and other regional issues of common interest*. As a result, as this Tier I EIS process comes to an end the key stakeholders' work will not. This allows RCIC members ample time to consider and help shape known and emerging challenges, opportunities, and options.

  Below are some of the issues on which the RCIC will continue collaboratively working:
  - The need to balance the area's needs for regional connections with reducing traffic volume and improving safety in downtown Chaska, and with maintaining easy access to ensure a strong downtown
  - Implications of additional investments to floodproof and expand capacity on *other* southwest Metro regional roadways, that could reduce the pressure to fund this TH 41 bridge project
  - Official local mapping and potential right-of-way acquisition potentially with help from the Revolving Acquisition Loan Fund (RALF) administered by the Metropolitan Council
  - Land use and acquisition issues around a potential interchange for this project in Carver
  - Pre-mitigation plantings for visual screening from Chaska, and a potential "gateway" to the Refuge and DNR trail system near the historic ballpark
  - Unknowns about the future of Jackson Heights along current TH 41 at Hwy 169, given that this is a private manufactured home park on land that was subsequently zoned commercial

- **Long-term EIS process and RCIC role:** The next page illustrates the RCIC's work related to the EIS process over the long term, through short- and mid-term activities, to the Tier II process and eventual construction of the new TH 41 river crossing.


Process:
River Crossing Implementation Collaborative (RCIC)
Process challenges: Financial, environmental, design, etc.
Outcome benefits: Regional connection, flood mitigation, etc.
ID Need
Action
Tier II EIS
Objective
Design and Construct
New TH 41 River Crossing
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Options
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2011 MN
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ID Impacts
TIME

1 Introduction

This report documents the work of the River Crossing Implementation Collaborative (RCIC) between the Draft and the Final Environmental Impact Statements from January 2009 into early 2013. The RCIC included all the key stakeholder organizations for the C2 alternative.

The report begins with a brief description of the purpose and need underlying the Environmental Impact Statement (EIS) for the Trunk Highway 41 river crossing, followed by a summary description of the EIS development process.

The main report begins in the next section. It is generally chronological, with key topics addressed by subject. The detailed Appendices contain all details and backup materials for the RCIC's entire body of work.

1.1 Purpose and Needs

The purpose of the proposed new Trunk Highway 41 regional bridge is to address the following current and future needs:

Provide Regional Connection: US Highways 169 and the new 212 serve regional traffic in the southwest portion of the Twin Cities Metropolitan Area, as well as connecting with Greater Minnesota. There is a need for an effective north-south regional highway connection between these two important regional highways. Commuters, residents, businesses, and planners have recognized for decades the need for a high volume, reliable Minnesota River Crossing that connects Highways 169 and new Highway 212.

Reduce Traffic Congestion: The existing Highway 41 river crossing is one of the most heavily traveled two-lane roads in Minnesota (18,000 vehicles per day). The result: Traffic congestion, noise, and vibration that pose quality-of-life concerns for downtown Chaska and delays for regional commuters and goods. Traffic volume and associated congestion is projected to increase as the area develops.

Reduce Flood Impacts: Flooding is a frequent problem for river crossings in this area. For example, from 1993 through spring 2011, Minnesota River flooding closed these two highways a number of times – from a few days to several weeks – totaling 80 days for Highway 41 and 133 days for Highway 101. These road closures due to flooding have significant time and cost impacts on commuters, residents, and businesses in the region, and will only be compounded with future population and traffic growth. Detours caused by these road closures also affect other roads and river crossings; this includes US 169, which does not have sufficient capacity to efficiently handle the additional traffic.

In order to preserve this corridor for future use, MnDOT and FHWA needed to complete an Environmental Impact Statement.

1.2 EIS Development Process Overview

1.2.1 Tiered EIS Process

The National Environmental Policy Act (NEPA) in combination with the Minnesota Environmental Policy Act require that social, economic, and environmental considerations be included when planning projects that receive federal and state funding, and the extent of the proposed Trunk Highway 41 project improvements requires an Environmental Impact Statement (EIS).

Under current regulations the EIS may be "tiered" in a two-step process. That approach was chosen for this project because even though the construction may not occur for 20 or more years, the project area is developing rapidly and future development will likely encroach on potential corridor locations. Protecting a corridor alignment through a Tier I process reduces potential future social and economic impacts.

The formal Tier I EIS process that began in early 2003 identified and evaluated the social, economic, and environmental issues associated with alternative corridor locations. It forms the basis for identifying a preferred alignment corridor (300-foot width) to be preserved for future use. A Tier II EIS process will be initiated in the future as the project moves forward for implementation. The Tier II process will include preferred alignment design alternatives, an updated assessment of environmental impacts to address the more detailed design, and measures identified for mitigation.

The EIS process is documented in two parts, a draft and a final Environmental Impact Statement. The draft EIS (DEIS) completed in June 2007 was prepared in order to:

- Discuss the purpose of and need for the proposed project
- Consider alternatives
- Evaluate environmental effects of alternatives
- Explore methods for avoiding and minimizing adverse impacts
- Obtain public and agency input

The DEIS helped identify a preferred alternative for further study in the Final EIS (FEIS).

The FEIS is intended to:

- Summarize public involvement
- Respond to substantive comments received on the DEIS
- Identify the preferred alternative
- If necessary, provide more detail on the environmental impacts of the preferred alternative and describe potential mitigation measures to the extent that is appropriate for a "tiered" process (as discussed above)

This report is included as part of the public involvement documentation for the FEIS.

1.2.2 Agencies and Organizations Developing the DEIS: 2003-2007

The following groups were involved in producing the DEIS (June 2007) and follow-up work through 2008.

From the beginning of the project in 2003, the **Project Management Team** consisted of staff from the following agencies. Its role was to advance the study to key milestones in the development of the

Scoping Decision Document and the Tier I EIS. In addition, the PMT reviewed recommendations provided by the Study Advisory Committee and the Policy Advisory Committee. It was superseded in January 2009.

Minnesota Department of Transportation	Scott County
Carver County	City of Shakopee
City of Carver	City of Chaska
City of Chanhassen	Metropolitan Council
Federal Highway Administration (FHWA)	

The **Study Advisory Committee** listed below was in place through 2008 and represented all of the local government units in the study area, key state and federal environmental agencies, regional agencies, environmental Organizations, associations, and other interested parties. The SAC reviewed and provided comments on the overall study and communicated project information to the represented agencies. It was superseded in January 2009.

MnDOT	Scott County
Carver County	City of Shakopee
City of Carver	City of Chaska
City of Chanhassen	Metropolitan Council
FHWA	Jackson Township
Louisville Township	U.S. Fish and Wildlife Service (USFWS)
U.S. Army Corps of Engineers (COE)	Lower Minnesota River Watershed District (LMRWD)
Shakopee Mdewakanton Sioux Community	Riley-Purgatory-Bluff Creek Watershed District
Scott Watershed Management Organization	Minnesota Department of Natural Resources
Minnesota Pollution Control Agency (MPCA)	U.S. Environmental Protection Agency (USEPA)
Audubon Society	Southwest Corridor Coalition
Shakopee Chamber of Commerce	Minnesota Center for Environmental Advocacy
Carver Watershed Management Organization	Minnesota Board of Water and Soil Resources (BWSR)
Friends of the Minnesota Valley	Sierra Club
East Chaska Neighborhood Group	Chaska Heritage Preservation Commission (HPC)
Carver Downtown and HPC	

The **Policy Advisory Committee** was in place through 2008 and included elected or appointed officials from local and regional agencies as listed below. They met at key points in the process to review information and provide recommendations. It was superseded in January 2009.

MnDOT	Scott County
Carver County	City of Shakopee
City of Carver	City of Chaska
City of Chanhassen	Metropolitan Council
Jackson Township	Louisville Township
Shakopee Mdewakanton Sioux Community	Southwest Corridor Coalition

1.2.3 DEIS Public Review and Comment: 2007 and 2008

Beginning in August 2007 there was a 30-day public review, two public meetings, and comment letters and responses. Following this process it was clear there was no stakeholder agreement on the recommended C2 alternative as the "preferred alternative." Throughout 2008 MnDOT met individually with key stakeholders to find common ground.

The Study Advisory Committee reconvened on 9 December 2008 and MnDOT again discussed why

Alternative C2 had emerged as the preferred alternative. At that meeting Study Advisory Committee members asked to work further on the alternatives and to bring in a neutral facilitator to better surface and address critical issues and concerns.

1.2.4 Shift to a Collaborative FEIS-development Process: January 2009-2013

The process and outcomes of work *with* stakeholders to identify a preferred alternative is the focus of this report and all the content that follows.

Broadly speaking, the group that evolved into the River Crossing Implementation Collaborative began work in January 2009. The RCIC paused its collective work later in 2010 while the City of Chaska explored options related to downtown access. Then in early spring 2011, the RCIC met for a comprehensive writing workshop to draft text defining the issues and impacts that they needed addressed in the Tier I Final Environmental Impact Statement (FEIS), and recommendations for post-Tier I activities.

The RCIC's work and timeline was again shifted in summer 2011 in response to unanticipated funding from the Minnesota Legislature. This redirected the RCIC's attention to studying flood mitigation options for Highways 101 and 41. The RCIC met again in fall 2011 to update everyone on changes in the area and progress on the flood mitigation study. Based on the flood mitigation study results, in 2012 MnDOT secured funding for flood mitigation improvements on Highway 101 and those began that spring.

In fall 2012, FHWA and MnDOT urged completion of the FEIS and Record of Decision (ROD) so the conclusions in this Tier I EIS would be formally documented for future decision making. The RCIC reconvened in late 2012 and continued into early 2013 to complete its work related to the FEIS.

2 Process and Initial Outcomes

2.1 Introduction and Overview of This Section

This section covers the following topics that occurred early in the RCIC's work:

- Stakeholder Identification, Engagement, and Issue Identification
- Formal RCIC Formation and Partnership Agreement
- RCIC Common Framework, Goals, and Strategies
- Initial FEIS Recommendations (October 2009)
- Engaging Underrepresented Stakeholders

2.2 Stakeholder Identification, Engagement, and Issue Identification

The purpose of this work was to ensure that all stakeholders relevant to creating the Final Environmental Impact Statement (FEIS) were identified and engaged, and that all issues critical to stakeholders were clearly identified and then addressed.

2.2.1 Stakeholder Identification and Analysis

The process of identifying and analyzing key stakeholders for this project began in January 2009 and occurred in various steps over time. The first identified group of key stakeholders was essentially a carryover of the DEIS Study Advisory Committee and Policy Advisory Committee members who remained stakeholders following C2 being identified as the potentially preferred corridor. Until July 2009 they were officially the Trunk Highway 41 Design Refinement Group, after which they renamed themselves the River Crossing Implementation Collaborative, known generally as the RCIC. For simplicity, RCIC is used throughout this document.

A subset of the RCIC met on 27 May 2009 and completed a more formal stakeholder identification and analysis exercise where they listed and then arrayed potential stakeholders relative to their stake in and power over this particular TH 41 effort at this time. They then further identified stakeholders who are not currently high stake and high power but needed to be more engaged, and thus specifically reached out to. See Appendix for details.

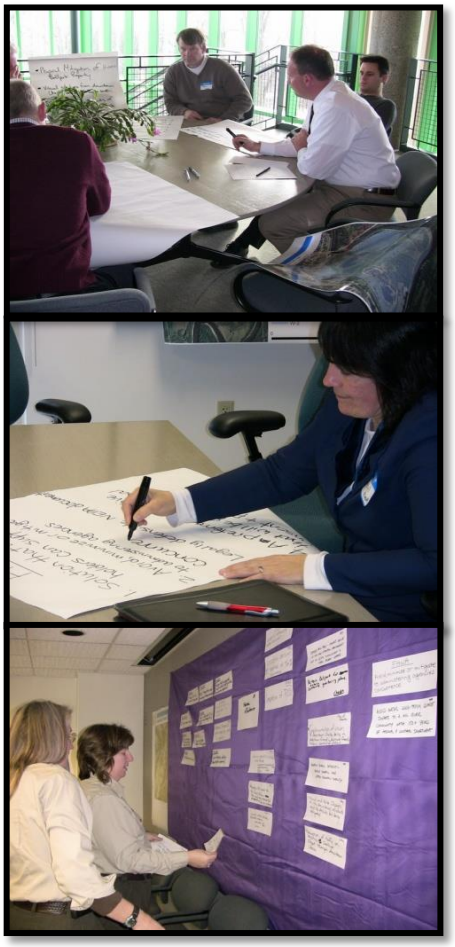
The RCIC agreed they would engage most of the high-stake, high-power stakeholders as direct members of the RCIC, and the rest mostly via communications with those RCIC members – as opposed to creating new methods and structures outside of or separate from the RCIC. The stakeholders who emerged and remained key RCIC members going forward are listed below alphabetically. In all cases, one or more of the key staff members represented the organization on the RCIC, and on some occasions one or more local elected officials joined the meetings. The RCIC generally met monthly, with periodic breaks when various subsets were working on more detailed issues to bring back to the RCIC.

- Carver County
- City of Carver
- City of Chanhassen
- City of Chaska
- City of Shakopee
- Federal Highway Administration
- Scott County
- Metropolitan Council
- Minnesota Department of Natural Resources
- Minnesota Department of Transportation
- State Historic Preservation Office
- U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge

2.2.2 Stakeholder Identification of Critical Issues

Starting as early as January 2009, RCIC members identified critical issues, nicknamed "Big Uglies," that were essential to address within the RCIC and in the community as the process moved forward.

- "Big Ugly" #1: The perception that the various regulatory rules, laws, constraints, and authority have the power to drive the route decision without consideration of community concerns and priorities.
- "Big Ugly" #2: Participants at the meeting and community members were not clear why these particular six routes were selected (from which C2 was chosen).
- "Big Ugly" #3: Local participants noted that the common perception is that C2 was selected because it had the fewest environmental regulatory problems, and that it was the easiest to push through because it had the least opposition of other kinds. In addition, the perception is that C2 is "good for the Refuge."



See additional details in the January 2009 RCIC meeting notes in the Appendix: Preliminary list of issues meriting further discussion.

The next month the group began making the shift from key issues to stakeholder needs and priorities, and used a workshop format to jointly develop a comprehensive list that was subsequently organized into the following categories:

- **History, Culture:** Primarily the designated historic Chaska buildings and ballpark; this later included historic structures in all affected communities
- **Community:** Quality of life, opportunity to thrive, and stability in all communities including the Jackson Heights manufactured home park in Jackson Township
- **Resource Access:** For people visiting the Wildlife Refuge as well as state lands and trails
- **Housing, Affordability:** Affordable housing in Jackson Heights and in neighboring communities
- **Natural Resources:** Fauna and flora, habitat, pollution and contamination, and resource management
- **Transportation:** Regional and local needs
- **Land Use:** Uncertainties, acquisition
- **Collaborative Process, Laws and Regulations:** Consensus, stakeholder engagement, cost-effectiveness

See all details from the February 2009 RCIC meeting in the Appendix: Preliminary Needs and Priorities, by Category.

The RCIC's early work articulating and exploring the most critical issues laid two essential foundations for the RCIC's work over time:

- **Process**: Establishing a commitment to transparency, openness, and collaboration among members over both the short and long terms
- **Content**: Framing what eventually became a set of common goals and strategies as the RCIC's work proceeded

2.3 Formal RCIC Formation and Partnership Agreement

By July 2009 the participants decided to formally constitute and name themselves the River Crossing Implementation Collaborative or RCIC for short. This act was substantially more than a simple shift from the long but informal "Trunk Highway 41 Tier I Design Refinement Group." It signaled a formal commitment by these organizations to *collaborate* over decades, with a focus on *implementation* – ensuring that a river crossing actually happened.

Although the document is reproduced in the Appendix as the RCIC Partnership Agreement, there is value in drawing attention to the rich content (as finalized in October 2009):

Mission: This group is responsible for ensuring the successful implementation of the TH 41 River Crossing in accordance with the agreements reached by key stakeholders.

Purpose: Agree on TH 41 river crossing alignment, reach agreement on common purposes, and actively carry these forward over time.

Composition: The Collaborative is composed of public entities that are either required or legally empowered to commit to this effort over the life of this project. These include the following:

- Carver County
- City of Carver
- City of Chanhassen
- City of Chaska
- City of Shakopee
- Federal Highway Administration
- Scott County
- Metropolitan Council
- Minnesota Department of Natural Resources
- Minnesota Department of Transportation
- Minnesota State Historic Preservation Office
- U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge

Responsibilities

- Work collaboratively and transparently
- Steward the process from start to finish
- Oversee the progress of this project, ensuring that key stakeholders are engaged and decisions remain aligned with agreements
- Authentically engage other stakeholders, including regulatory entities, throughout the process in both formal and informal settings, groups, and activities
- Keep the public informed and engaged throughout the process
- Continually update underlying data and information that may affect this project
- Continually update project tasks, timeline, and responsibilities
- Routinely update agencies and elected officials
- Support timely and appropriate funding
- Maintain formal representation on and actively participate in the Collaborative's work over time
- Support and assist other members of the Collaborative as needed

Relationship among Team Members: Members work under the guidance of a Memorandum of Understanding that outlines roles and responsibilities. MnDOT agrees to be the administrator for this Collaborative.

Governance: The Collaborative will establish any necessary structures for leadership, structure, decision making, logistics, and anything else required to ensure long-term organizational vitality.

While always subject to the support of each RCIC member's respective governing or supervisory entities – all of which concurred at some point over the next two years – the primary value was in the agreement itself to work together over time to find a way to implement a river crossing.

2.4 RCIC Common Framework, Goals, and Strategies

Beginning with the RCIC's work in January 2009 to identify critical issues, over the next several months the RCIC worked exceptionally hard to understand the full depth and dimensionality of *all* of the issues that challenged each of them as stakeholders. Many were unique to one organization, many others overlapped, a number conflicted with equally important issues and concerns from other RCIC members, and some were shared by most or all. What became increasingly important was their growing respect for and trust in each other. That was formalized in the RCIC Partnership Agreement, but the most profound result of these evolving relationships was the emergence of jointly agreed-upon needs and priorities that over time became a comprehensive and defensible common framework, goals, and strategies.

For over a dozen critical and high-profile stakeholder organizations to be able to even agree on meeting times and dates is sometimes a huge challenge. For these participants to have the frank and difficult conversations necessary to truly understand and respect each other's key priorities is rare and absolutely worthy of applause.

Along the way to the common framework and for many months thereafter, the RCIC dug into complex technical, political, and community issues that were critical to their moving forward on implementing a river crossing.

The common framework, goals, and strategies document is included below, and the sections that follow address key issues and impacts within that.

The framework, goals, and strategies were crafted by RCIC members in 2009 to represent their commitment to a *common* direction and to working collaboratively over the next 20-25 years to meet the needs of all RCIC members – not just their own. While the complexity and challenges of this river crossing may have eventually required such an approach in order to come to fruition, the RCIC's clear understanding of the context of this effort and their sincere, authentic, and open approach to reaching these commitments to a common direction serves as a model for others in similarly challenging circumstances.

Note in particular the Framework section at the top. It was important to RCIC members to place their work within the context of these larger regional issues, doing their best to force ongoing attention to these in order for the river crossing project to be successful.

Common Framework	
• ***In addition to supporting the TH 41 C2 route, actively support improvements that meet current and future transportation needs across the Minnesota River between I-35 and CR 9.*** • ***Avoid or minimize negative permanent and temporary/construction impacts on all stakeholders, and support mitigation as part of a comprehensive solution.***	
Common Goals	**Suggested Strategies**
1. <u>Noise and visual impacts on neighborhoods</u>: Address noise and visual impacts on adjacent neighborhoods	a. Begin from the baseline state and federal noise standards b. Collectively define qualitative and quantitative objectives and values around how people should be able to experience their communities, such as homes, ballfields, parks and recreation areas, districts, and neighborhoods c. Develop methodologies for measuring the extent to which various alternatives meet defined objectives, and for evaluating tradeoffs d. Prepare clear recommendations to guide future decision making
2. <u>Noise and visual impacts on historic properties:</u> Avoid negative visual, atmospheric, auditory, and use effects on historic properties/districts in all communities	a. Work with key stakeholders and the public to identify and evaluate project effects on historic properties b. Ensure that transportation outcomes support Chaska's commitment to a pedestrian-friendly, business-friendly, historic commercial district
3. <u>Impacts on historic ballpark</u>: Ensure ability of Chaska ballpark to operate; preserve the overall ballpark experience and its character as a small-town ballpark eligible for listing on the National Register of Historic Places	a. Seek ways to avoid impacts to the ballpark b. Use the best management practices for design and construction to support this goal
4. <u>Safety issues in downtown Chaska</u>: Resolve safety issues along existing Highway 41 in downtown Chaska	a. Reduce vehicle speed on Chestnut Street through downtown Chaska b. Create safer pedestrian crossings c. Connect east and west downtown Chaska (reduce barrier posed by current Highway 41) d. Reduce through car and truck traffic on existing Chestnut Street through downtown Chaska e. Re-route truck/traffic from downtown to reclaim downtown/pedestrian access/local users f. Mitigate visual and noise impacts on downtown residents and businesses, including businesses with outdoor amenities
5. <u>Environmental justice:</u> Proactively work with stakeholders to understand and	a. Better understand beneficial and adverse impacts b. Further explore interchange and ramp locations that pose least potential adverse impact to neighborhoods c. Recognize and respect local and regional affordable

responsibly address environmental justice impacts	housing goals; maintain stable affordable housing d. Support no net loss of low-income housing due to the project e. Support connectedness between Jackson Heights neighborhood and the broader community (prevent isolation)
6. <u>Local access</u>: Provide appropriate access to local and county roadways that will facilitate land use developments guided by counties and cities	a. Review development constraints and confirm adopted land use guidance by the counties and cities in and near the preferred corridor b. Review the preferred corridor and "touch-down points" on both sides of the Minnesota River, and make recommendations regarding whether their location aligns with guided land uses and is feasible; identify alternatives for addressing any concerns c. Specifically address the desire for local and direct access from Highway 169 and new 41 to downtown Chaska and downtown Shakopee, consistent with local plans d. Identify the potential areas needed for ROW, long-term impacts of ROW preservation, and alternatives, including funding sources to acquire ROW or allowing appropriate interim or long-term development within defined corridor
7. <u>Ecosystem impacts</u>: Minimize impacts on aquatic and terrestrial ecosystems including animals and plants	a. Manage/contain contamination from vehicles and people on TH 41 (vehicles and hauled equipment on roadway, and roadway maintenance activities and products inadvertently bring contaminants or invasive species that move through waterways and other natural pathways) b. Prevent additional habitat fragmentation and use best management practices to connect habitats c. Encourage multi-use (transportation, utilities, etc.) of river crossing corridor to reduce additional habitat fragmentation d. Use best technologies to keep noise at acceptable levels for wildlife e. Maintain ability of wildlife to use natural land and water movement and migration corridors f. Prevent disruption to wetland hydrology
8. <u>Public access:</u> Ensure reasonable and usable public access to the outdoor recreational opportunities in the river valley (Refuge, state trail, and other public lands) **9. <u>User impacts:</u> Minimize impacts, including noise and visual, to people using the Refuge, state trail, and other public lands**	a. Maintain trail connections and access points for current and future outdoor recreational opportunities within the Minnesota River Valley b. Ensure a quality experience for wildlife observation, wildlife photography, hiking, biking, environmental education and interpretation and other related activities (understanding that the various public lands have their own use restrictions) c. Maintain a feeling of solitude by minimizing noise and visual intrusions

10. <u>Land management capabilities</u>: Maintain natural resource management capability on public lands	a. Ensure that TH 41 does not interfere with land management activities in the following ways: • Preventing or limiting heavy equipment access both during and after construction • Creating impediments for prescribed burning • Disrupting water management programs • Interfering with forest management practices

2.5 Initial FEIS Recommendations (October 2009)

In the summer of 2009, RCIC members successfully "threaded the needle" – they agreed in principle to make several adjustments in C2 to create a "refined C2" corridor as the preferred alternative. The changes moved the bridge slightly south to keep it out of the historic ballpark, but the least amount possible into the Refuge. It also moved a ramp on the south side of the river to avoid a direct impact on the Jackson Heights manufactured home park (see discussion in Section 2.6 below and detailed notes in the Appendix for meetings in June, October, and November).

Then in October 2009, RCIC members participated in a full-day workshop to develop recommendations on the items below related to the refined C2 corridor so that the Final Environmental Impact Statement could start being prepared. They also agreed to use their time together to further understand the next steps in the FEIS process and the RCIC's role in its development. The complete results are in the Appendix under the RCIC 8 October 2009 workshop notes.

Summary notes on major impact-related topics from this October RCIC workshop are below, along with a visual illustrating how the RCIC moved from point to point along the corridor addressing issues at each location.

Visual Context and Implications: Using simple photo-illustrations prepared by Chaska and Refuge staff, RCIC members were able to visualize what users of the historic ballpark and Wildlife Refuge would see if the bridge were sited as was planned at that time, "threading the needle" between the ballpark and Refuge and approximately 70 feet high.

Workshop participants could see that it would be at about the height of the mature trees, and that the farther away the bridge was from the ballpark, the easier it would be to screen it from view. They also recognized the benefit of preserving as many trees as possible during construction, as well as the possibility of planning decades ahead for plantings that would provide significant screening by the time

the bridge is actually constructed. From Chaska's perspective, these visual issues are among the most tangible and of concern to a wide variety of local stakeholders.

Noise, Monitoring: In a previous session (see full discussion of this topic under Goal 2 below), RCIC members had explored in depth the various noise standards, studies, and results related to this project. They needed to better understand current noise conditions in key locations, however, so agreed on additional MnDOT noise monitoring at selected locations at the ballpark, Chaska neighborhoods, and in the Refuge.

Point-by-point examination of corridor impacts: As illustrated in the photos below, the RCIC took several hours moving along the corridor examining and documenting with letter codes and detailed narrative specific questions and issues. These explorations drove much of the RCIC's subsequent work.

2.6 Engaging Underrepresented Stakeholders

The RCIC and particularly MnDOT made a concerted effort to ensure the perspectives of Jackson Heights manufactured home park residents were authentically gathered and formally factored into the RCIC's work. This particular group was important for a number of reasons: They were not directly represented by any of the agencies that were members of the RCIC; a ramp in the initial C2 route would have eliminated a significant number of homes in Jackson Heights; the RCIC considered this group of non-native English speaking residents particularly vulnerable; and such groups of stakeholders are specifically protected under the environmental justice regulations included in an EIS process.

MnDOT had begun meeting with Jackson Heights residents several years earlier but this collaborative process needed to be restarted as the RCIC gained traction and began addressing specific issues in 2009.

Beginning in June 2009, RCIC representatives from MnDOT and Scott County met with self-identified representative of the Jackson Heights community, along with individuals from several advocacy groups selected by Jackson Heights. In the words of the Jackson Heights residents, the purpose of the meeting was as described below (further illustrated by resident-provided photos [reprinted with permission] reminding us all that this project is all about ensuing a future for their children).

- Dialogue with MnDOT
- Benefit both Jackson Heights and MnDOT
- MnDOT's previous map showed Hwy 41 route, which affected Jackson Heights
- Jackson Heights agrees that Hwy 41 needs to be built and project needs to be carried out, but is concerned about impact on homes
- Discuss future of Jackson Heights
- If beneficial for both parties, that means Jackson Heights residents are OK in their homes and MnDOT is OK for its project
- Want to keep doors open to continued discussion

This June 2009 meeting advanced relationships between Jackson Heights and the RCIC/ MnDOT/ Scott County, and yielded a rich list of questions, potential impacts, and concerns as documented in

the meeting notes and also under Goal 5, Environmental Justice below.

In that way it provided the groundwork for a workshop with Jackson Heights Resident Association representatives in October 2009 to further detail key concerns, and then a presentation and workshop in November 2009 *hosted by Jackson Heights representatives for their neighbors* to validate the initial list of concerns.

3 Recommendations for Common Goals and Strategies: Issues, Strategies, Tier II, Intermediate Activities

3.1 Introduction and Overview of this Section

Following initial outcomes in 2009, RCIC members and various Task Forces met as needed to further explore special impact and process issues and options. The RCIC's work on these special activities is noted below, and the overall effort culminated in this report that was finalized by early 2013.

- Funding options available under the regional Right-of-Way Acquisition Loan Fund (RALF); see RCIC notes from January 2010, RCIC notes from December 2012, and RCIC notes from January 2013
- Ideas for keeping the RCIC process moving forward *and* in the public's consciousness over several decades, including the role the RCIC and other agencies and groups; see RCIC Implementation Schedule for 2009-2029 documented as part of the January 2010 RCIC meeting; this will be further explored following completion of the FEIS
- The RCIC Landscaping Task Force worked extensively on pre-mitigation options in 2009 and 2010, with some comprehensive documentation prepared following RCIC Landscaping Task Force meetings in February and March and follow-up discussions at the RCIC meeting in April 2010
- Another complex issue was around an interchange in Carver; this was examined in detail by an RCIC Task Force as documented in a February 2010 Interchange Task Force meeting, with follow-up discussion at the RCIC meeting in April 2010, March 2013 Interchange Task Force meeting, and March 2013 RCIC meeting.
- The RCIC also completed a significant benefit/impact analysis of the various combinations of flood and traffic flow management alternatives; see documentation from the April 2010 RCIC meeting
- That April 2010 RCIC meeting also included a discussion about context-sensitive solutions, which provides a critical backdrop for MnDOT's *entire* approach to design within the context of their adopted Strategic Vision; see documentation on Context Sensitive Solutions attached to those meeting notes
- For much of the rest of 2010, the RCIC paused its collective work and supported Chaska's efforts to explore options for downtown access; the City was concerned that the proposed bridge provided no direct access to downtown Chaska, potentially resulting in significant economic harm; they conducted a high-level analysis of this and discussed their findings at the RCIC's February 2011 meeting; this is also discussed later in this section
- In 2012 and into early 2013 the RCIC continued working through a variety of issues with the changing context of additional investments in Highway 101 and current TH 41 to reduce flooding impacts and increase traffic volume

In early spring 2011 RCIC members met for a comprehensive writing workshop to draft text defining the issues and impacts to be addressed in the Final Environmental Impact Statement (FEIS) documentation. These are described in detail below, with the full understanding that the RCIC will continue to serve in this collaborative role to jointly tackle the many ongoing future challenges, and shape future decisions as needs, conditions, priorities, and options evolve over time.

The issues elaborated upon in the remainder of this section are organized around the RCIC's agreed-upon Common Goals from October 2009, as summarized below.

Common Framework

- In addition to supporting the TH 41 C2 route, actively support improvements that meet current and future transportation needs across the Minnesota River between I-35 and CR 9.
- Avoid or minimize negative permanent and temporary/construction impacts on all stakeholders, and support mitigation as part of a comprehensive solution.

Goal 1, Noise and visual impacts on neighborhoods: Address noise and visual impacts on adjacent neighborhoods

Goal 2, Noise and visual impacts on historic properties: Avoid negative visual, atmospheric, auditory, and use effects on historic properties/districts in all communities

Goal 3, Impacts on Historic Ballpark: Ensure ability of Chaska ballpark to operate; preserve the overall ballpark experience and its character as a small-town ballpark eligible for listing on the National Register of Historic Places

Goal 4, Safety Issues in Downtown Chaska: Resolve safety issues along existing Highway 41 in downtown Chaska

Goal 5, Environmental Justice: Proactively work with stakeholders to understand and responsibly address environmental justice impacts

Goal 6, Local Access: Provide appropriate access to local and county roadways that will facilitate land use developments guided by counties and cities

Goal 7, Ecosystem Impacts: Minimize impacts on aquatic and terrestrial ecosystems including animals and plants

Goal 8, Public Access: Ensure reasonable and usable public access to the outdoor recreational opportunities in the river valley (Refuge, state trail, and other public lands)

Goal 9, User Impacts: Minimize impacts, including noise and visual, to people using the Refuge, state trail, and other public lands

Goal 10, Land Management Capabilities: Maintain natural resource management capability on public lands

Each goal forms its own subsection, under which RCIC members addressed the following topics:

- Issue description
- Suggested strategies to avoid, minimize, mitigate impacts
- Guidance for Tier II
- Intermediate activities (between now and Tier II)

3.2 Goal 1, Noise and Visual Impacts on Neighborhoods: Address noise and visual impacts on adjacent neighborhoods

3.2.1 Issue Description

With the future river crossing in close proximity to existing neighborhoods both north and south of the Minnesota River, there may be negative noise and visual impacts on nearly residential neighborhoods

both during construction of the river crossing and over the long term. It is understood that the level of noise and visual impact will vary based on the final bridge design.

There are significant challenges to finding the "appropriate" balance of impacts around noise, visual, and physical location of the river crossing on both sides of the river.

The RCIC's work to adjust the ramp location on the south side preserved all Jackson Heights residences but still poses a significant noise impact. On the north side, the RCIC's work to move the roadway slightly out into the Refuge helps with both noise and visual impacts to Chaska neighborhoods, and lowering the bridge height further reduces the visual impacts *but* increases noise.

Noise baseline studies were done on the north side of the river and various mitigation options were explored, including the possibility of planting trees on the north side decades before bridge construction so they will provide visual screening almost immediately rather than only 20+ years later.

3.2.2 Suggested Strategies to Avoid, Minimize, Mitigate Impacts

Note that these are from the July 2009 Goals and Strategies developed by the RCIC. It is understood that the strategies will evolve over time, and some of that information is included in the sections below on Guidance for Tier II and Intermediate Activities.

a. Begin from the baseline state and federal noise standards
b. Collectively define qualitative and quantitative objectives and values around how people should be able to experience their communities, such as homes, ballfields, parks and recreation areas, districts, and neighborhoods
c. Develop methodologies for measuring the extent to which various alternatives meet defined objectives, and for evaluating tradeoffs
d. Prepare clear recommendations to guide future decision making

3.2.3 Guidance for Tier II

a. **General**
   - Use a "context sensitive" bridge design to fit into the unique environment and be a positive architectural feature in the river valley. See information in the Appendix from the April 2010 RCIC meeting on MnDOT's approach to context-sensitive solutions.
   - Find an appropriate balance between noise and visual impacts on both sides of the river by examining alternative heights, specific routing, bridge materials and noise reduction options, and visual screening.
   - Adjust design and construction processes to minimize flora impact losses, with special emphasis on plants that help minimize visual impacts.

b. **Noise/visual:**
   - Conduct a specific study to examine the tradeoffs between the visual and noise impacts (i.e., lowering the bridge to reduce visual impacts vs. raising the bridge to decrease noise impacts).
   - The SRF Chaska Interchange Study presented at the RCIC's February 2011 meeting also referred to the bridge height, and what minimum heights could conceivably be achieved to minimize visual impacts to adjacent properties. This noise-height balance needs to also factor in the impact on the Refuge and other natural areas, Chaska's historic ballpark, and downtown Chaska.
   - Coordinate with work around Goal 2 and Goal 3 related to impacts on historic properties and

the historic ballpark in order to optimize outcomes for both.

c. **Visual:**
   - Complete a full visual quality analysis to help ensure that the most visually critical areas are identified, prioritized, and protected.
   - Preserve pre-construction landscaping implemented to mitigate visual impacts; remove only if alternatives identified address visual mitigation issues or otherwise significantly enhance the project from the perspective of stakeholders affected by visual impacts.

d. **Noise:**
   - In the baseline bridge design, use the most restrictive state and federal noise standards that are applicable to local conditions at that time.
   - Consider the pre-river crossing noise levels in adjacent neighborhoods, as well as the qualitative character of the noises in these neighborhoods to design a bridge that protects community quality of life. The noise information in the Appendix and RCIC notes from 26 June and 8 October 2009 provide additional information including preliminary noise projections.
   - Identify and evaluate all then-current construction techniques, materials, and other technologies available to help meet those restrictive noise standards, including pavement materials, noise walls, speed limits, and other options.

3.2.4 Intermediate Activities

a. **Viewsheds:** (RCIC) Identify the most critical viewsheds to protect throughout the corridor.
b. **Landscaping:**
   - Consider beginning landscaping as much as decades in advance of construction to have maximum benefit; examine landscaping options at all points in the planning process.
   - (MnDOT) Complete the pre-mitigation landscaping strategies identified by the RCIC Landscaping Task Force in February 2010 and March 2010 (see notes in Appendix) that allowed for landscaping to be installed in the short term to have long-term effects on the visual elements of the bridge when it is constructed. Work with Chaska and the Refuge to develop and implement a multiyear vegetation plan and planting timeline.
c. **Development plans:** (RCIC members) Ensure that local development plans the corridor identify and implement additional strategies to mitigate future visual and noise impacts of the bridge.
d. **Ongoing collaboration and education:**
   - (RCIC) Keep educational information pieces in front of constituents and electeds to better manage expectations around visual and noise impacts of the future river crossing.
   - (RCIC) As part of ongoing role and key work, continue collaborating with other groups working on various regional issues.

3.3 Goal 2, Noise and Visual Impacts on Historic Properties: Avoid negative visual, atmospheric, auditory, and use effects on historic properties/districts in all communities

3.3.1 Issue Description

The proposed TH 41 on the C2 route will likely have negative visual, atmospheric, noise, and use impacts on historic properties in the area. Because the river crossing design will not be determined until

Tier II, it is not possible to identify all the impacts until that time. (For more information see the comprehensive report completed in June 2006 as part of this process: *Phase I/II Architecture/History Investigation for Five Proposed Alternative Route Corridors for Trunk Highway 41 Near Chaska, Carver and Scott Counties, Minnesota.* A complete archaeological analysis was also conducted in 2006; there were no significant findings for the C2 route; for more information see *Phase I and II Archaeological Investigations of Alternatives Route Corridors for Trunk Highway 41 Near Chaska, Carver and Scott Counties.)*

An additional concern is that the uncertainty about the project – when/if it will occur, what will it look like, etc. – could result in people disinvesting in historic properties.

3.3.2 Suggested Strategies to Avoid, Minimize, Mitigate Impacts

Note that these are from the July 2009 Goals and Strategies developed by the RCIC. It is understood that the strategies will evolve over time, and some of that information is included in the sections below on Guidance for Tier II and Intermediate Activities.

a. Work with key stakeholders and the public to identify and evaluate project effects on historic properties, then identify and implement appropriate strategies to address them.
b. Ensure that transportation outcomes support Chaska's commitment to a pedestrian-friendly, business-friendly, historic commercial district.

3.3.3 Guidance for Tier II

a. Examine historic properties to determine if they still retain sufficient integrity.
b. Examine the area of potential effect in order to determine if there are properties that have become historic in the intervening years.
c. Complete a detailed noise and visual analysis for each historic property (e.g., the noise levels at each property, the viewshed from each property toward the bridge structure, etc.).
d. Involve local stakeholders in the historic review process and analysis, specifically including the owners of the historic properties.
e. Identify and evaluate the feasibility of construction materials and techniques that would minimize impacts on historic properties.
f. Coordinate with work around Goal 1 related to noise and visual impacts on neighborhoods and Goal 3 for the historic ballpark in order to optimize outcomes for both.

3.3.4 Intermediate Activities

a. RCIC, especially Chaska and State Historic Preservation Office (SHPO): Identify and implement any intermediate mitigation to help minimize potential effects. An example is pre-mitigation landscaping adjacent to the corridor that could grow over the decades to provide some visual screening of the roadway from properties. See pre-mitigation landscaping strategies identified by the RCIC Landscaping Task Force in February 2010 and March 2010 that allowed for landscaping to be installed in the short term to have long-term effects on the visual elements of the bridge when it is constructed. Also see further discussion under Goal 3 relative to impacts on the historic Chaska ballpark.
b. RCIC: Support the City's master plan for the ballpark and the downtown master plan; the master plan includes a nature study area and potential dog park as well as alternative access areas.
c. Chaska and SHPO: Work with local historic preservation groups and jurisdictions to identify measures to protect against disinvestment in historic properties, and concurrently encourage

investment in historic properties.

d. Chaska and SHPO: Work with local jurisdictions to update historic property inventories periodically to maintain a current list of eligible or listed properties.

3.4 Goal 3, Impacts on Historic Ballpark: Ensure ability of Chaska ballpark to operate; preserve the overall ballpark experience and its character as a small-town ballpark eligible for listing on the National Register of Historic Places

3.4.1 Issue Description

The original C2 alternative took the roadway right through the ballpark's right field. Through the RCIC's collaborative planning and negotiation with the Wildlife Refuge, a balance was struck that yielded a revised corridor shifted outside the ballpark boundaries without causing substantial additional harm to the Refuge.

Even with that change, however, preferred alternative (refined C2) will likely have negative visual, atmospheric, auditory, and use effects on the historic Chaska ballpark. Because the design of the crossing will not be determined until Tier II, it is not possible to identify all the effects at this time.

Noise concerns were discussed at length in 2009 and 2010, and at the RCIC's request MnDOT preformed additional noise monitoring at specified locations to establish baseline data. Detailed information on noise standards and monitoring is included in a presentation made to the RCIC by MnDOT noise experts (see RCIC notes from June 2009). For information on noise standards relative to historic properties the RCIC relied on the member from the State Historic Preservation Office as well as follow-up conversations with the Minnesota Pollution Control Agency and the Federal Highway Administration. These discussions made clear that it is not appropriate to apply more stringent noise standards to historical structures; state standards for residential properties govern (see June 2009 RCIC meeting notes). The RCIC also specifically understood that the relevant state noise standards at the time of the Tier II EIS would prevail for this project. Their baseline noise monitoring data would certainly be useful at that time, but they agreed that extensive further discussion of noise expectations or standards was unnecessary 20+ years prior to the project's realization.

Relative to this goal, it was clear to the RCIC that visual impacts of the bridge on Chaska ballpark users are the most important, and they further explored these issues as part of a daylong workshop. Chaska city planner Kevin Ringwald used the city's bucket truck to take panoramic photos from the north and south sides of ballpark. He then used a simple red line to illustrate where the anticipated bridge deck would be. Assuming a bridge deck approximately 70 feet high, it would be at about the height of mature trees. USFWS staff member Gerry Shimek also took panoramic photos from the Refuge and ballpark, estimating tree heights based on species types. He highlighted the fact that the bridge is easier to screen from the ballpark the farther away it is, and to screen from the Refuge if it is behind mature trees. (See more information in the October 2009 RCIC meeting notes in the Appendix.)

Over the course of the RCIC's work they reached critical understanding about several fundamental issues related to potential impacts on the historic ballpark:

a. The visual impact can be effectively mitigated by lowering the bridge; doing so, however, would significantly increase noise impacts not only for ballpark users but also on the Refuge users and fauna; they could also be mitigated by moving the roadway far into the Refuge. These and other options reminded the RCIC of their commitment to seek solutions that balanced the needs and priorities of all members.
b. Trees can serve as very effective visual screens given the viewing angle from the ballpark, but only if they exist – meaning they would need to be preserved during construction and any new trees would need to be planted decades ahead of construction and continue to be planted over time in order to have any value. This realization raised further questions around technical landscaping issues along with project timing, responsibility for such pre-mitigation options, and costs.
c. The RCIC also realized most clearly for this goal that while they are responsible for addressing these issues in this Tier I EIS, between now and 20+ years later when this project may be built so many things will be different. As they cannot either predict or control the future, the RCIC is committed to providing guidance both through the FEIS, the Tier II EIS, and beyond to be best positioned to guide future decision making on the behalf of all key stakeholders.

3.4.2 Suggested Strategies to Avoid, Minimize, Mitigate Impacts

Note that these are from the July 2009 Goals and Strategies developed by the RCIC. It is understood that the strategies will evolve over time, and some of that information is included in the sections below on Guidance for Tier II and Intermediate Activities.

a. Seek ways to avoid impacts of the project on the historic ballpark
b. Use the best management practices for design and construction to support this goal

3.4.3 Guidance for Tier II

a. Examine the ballpark to determine if it still retains sufficient historic integrity.
b. Evaluate construction techniques that will minimize impacts (such as vibration) on historic properties.
c. Minimize the footprint of the bridge and construction area to maintain as much of the existing screening/vegetation as possible.
d. Maintain visitor and maintenance access to the Minnesota Valley National Wildlife Refuge from the area around the ballpark.
e. Complete detailed noise and visual analyses for the ballpark; examples include noise levels at the ballpark, viewshed from the ballpark toward the structure, and so on.
f. Coordinate with work around Goal 1 related to noise and visual impacts on neighborhoods and Goal 2 for historic neighborhoods in order to optimize outcomes for both.

3.4.4 Intermediate Activities

Between now and Tier II efforts, the RCIC should address the following:

a. Continue pursuing pre-mitigation options to avoid or minimize impacts. This includes

landscaping adjacent to the corridor that could grow over the decades to screen the roadway from the ballpark.

b. Support the City's listing of the ballpark on the National Register of Historic Places.
c. Support the City's master plan for the ballpark and the downtown master plan; the master plan includes a nature study area and potential dog park as well as alternative access areas.

3.5 Goal 4, Safety in Downtown Chaska: Resolve safety issues along existing Highway 41 in historic downtown Chaska

3.5.1 Issue Description

Over Chaska's 150 years, Chestnut Street has been the heart, business, and community center of town. Much more recently, it became state Trunk Highway 41, serving as a regional highway and bridge crossing and is now carrying thousands of cars and trucks daily. The City of Chaska remains passionately committed to preserving the historic character of downtown Chaska with its classic small-town atmosphere, which is critical to achieving the city's mission of being the "Best Small Town in Minnesota." Thus, future changes to this roadway should always use a context-sensitive design solution that adequately addresses the dual roles of this roadway.

3.5.2 Suggested Strategies to Avoid, Minimize, Mitigate Impacts

Note that these are from the July 2009 Goals and Strategies developed by the RCIC. It is understood that the strategies will evolve over time, and some of that information is included in the sections below on Guidance for Tier II and Intermediate Activities.

a. Reduce vehicle speed on Chestnut Street through downtown Chaska
b. Create safer pedestrian crossings
c. Connect east and west downtown Chaska (reduce barrier posed by current Hwy 41)
d. Reduce through car and truck traffic on existing Chestnut Street through downtown Chaska
e. Re-route truck/traffic from downtown to reclaim downtown/pedestrian access/local users
f. Mitigate visual and noise impacts on downtown residents and businesses, including businesses with outdoor amenities

3.5.3 Guidance for Tier II

The RCIC supports a context-sensitive approach to the Tier II design. The future TH 41 bridge should help shift traffic along Chestnut Street from regional to local and thus contribute to a safer, more vibrant, and pedestrian-friendly downtown with a strong retail environment; this also assumes that the design will retain sufficient vehicle access to the downtown commercial district. More specifically, Chaska's long-term plan for the Chestnut Street section of TH 41 is a three-lane design that includes two travel lanes (one in each direction), a center turn lane, and parking/sidewalks on both sides of the road. It is understood that these preferences are contingent upon many factors, including MnDOT approval and projected traffic counts that would support this Chestnut Street design (~18,000-20,000 ADT).

The following design factors should be considered for the future Chestnut Street/TH 41:

a. Historic character, scale, and materials
b. Travel lane width at minimum required to meet design standards
c. Pedestrian zones: Wider to support/enhance appeal and safety; brick or concrete pavers
d. Streetscaping: Enhanced landscaping, raised planters, seating; signage at intersections; street trees for shade; trash receptacles; convenient bicycle parking; building signage on awnings and

shop windows; pedestrian-scaled light pole fixtures

e. Parallel on-street parking on both sides to support retail and community uses; bumpouts at intersections to decrease distance of pedestrian crossings and delineate limits of on-street parking
f. Minimal building setbacks
g. Small, informal plazas

3.5.4 Intermediate Activities

a. Support MnDOT to study and improve existing river crossings, in particular floodproofing Highway 101 (Shakopee to Chanhassen) or adding travel lanes to Highway 169 in Scott County.
b. Ensure that interim roadway improvements do not increase regional traffic on the corridor.
c. The Minnesota River Flood Mitigation Study (MnDOT - September of 2011) states that the traffic levels in downtown Chaska (2009) are at a volume of 12,500 ADT and that the 2030 volumes are projected to be 20,200 ADT, which would indicate that advancing the discussion on the desired future condition for Chestnut Street (TH 41) should take place as part of MnDOT's planned improvements to TH 41 (2015).

3.6 Goal 5, Environmental Justice: Proactively work with stakeholders to understand and responsibly address environmental justice impacts

3.6.1 Issue Description

3.6.1.1 Background on Environmental Justice

The TH 41 EIS process follows federal regulatory guidelines; the background information on environmental justice below is from the Federal Highway Administration's extensive website on this topic available at http://www.fhwa.dot.gov/environment/ejustice/facts/index.htm.

The FHWA cites three fundamental environmental justice principles:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

The FHWA website also clarifies impacts: The reasonably foreseeable adverse social, economic, and environmental effects on minority populations and low-income populations must be identified and addressed. As defined federally (see regulatory information in the box below), adverse effects include but are not limited to the following:

- Bodily impairment, infirmity, illness, or death
- Air, noise, and water pollution and soil contamination
- Destruction or disruption of man-made or natural resources
- Destruction or diminution of aesthetic values
- Destruction or disruption of community cohesion or a community's economic vitality
- Destruction or disruption of the availability of public and private facilities and services
- Vibration

- Adverse employment effects
- Displacement of persons, businesses, farms, or nonprofit organizations
- Increased traffic congestion, isolation, exclusion, or separation of minority or low-income individuals within a given community or from the broader community
- The denial of, reduction in, or significant delay in the receipt of, benefits of DOT programs, policies, or activities

FHWA also provides clear guidance on stakeholder engagement as follows:

- Public involvement is an integral part of transportation planning and project development decision making. The DOT Order (5610.2) on Environmental Justice directs the Department to provide minority populations and low-income populations greater access to information on, and opportunities for public participation in matters that may impact human health and the environment. TEA-21 also emphasizes the meaningful involvement by all the public in transportation decision making.
- Effective public involvement in the planning process and the project-development process can alert state and local agencies about environmental justice concerns so that they do not result in surprises during the project-development stage. Continuous interaction between community members and transportation professionals is critical to successfully identify and resolve potential Environmental Justice concerns.
- State, regional, local, and tribal agencies should all have public-involvement procedures established that provide for consideration of Environmental Justice. These procedures should provide an inclusive, representative, and equal opportunity for two-way communication resulting in appropriate action that reflects this public involvement. Environmental Justice should be considered in all aspects of planning and project decision making, including the design of both the public-involvement plan and the proposed facility.

FHWA: Regulatory basis for environmental justice efforts

In 1994, President Clinton issued Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The Executive Order focused attention on Title VI by providing that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." In support of Executive Order 12898, the United States Department of Transportation (DOT) issued an Order on Environmental Justice (DOT Order 5610.2) in 1997, followed by a Federal Highway Administration (FHWA) Order on Environmental Justice (FHWA Order 6640.23) in 1998.

Over the years, U.S. DOT and FHWA have encouraged a proactive approach to the implementation of Title VI, aimed at preventing discrimination in its programs, policies, and activities. This proactive approach can reduce conflicts and also reinforce compliance with other related requirements; such as, the National Environmental Policy Act (NEPA) of 1969, 23 U.S.C. 109(h) (which addresses social and economic impacts), and public involvement in statewide and metropolitan planning and project development. By being proactive, Federal, State, local, and tribal agencies can better serve all of the public, who rely on transportation systems and services to enhance their quality of life.

Source: http://www.fhwa.dot.gov/environment/ejustice/facts/index.htm

3.6.1.2 Environmental Justice Process Related to Corridor Selection

MnDOT has addressed environmental justice issues through all phases of this TH 41 Tier I EIS effort: 2002-2004 Scoping Study, the 2004-2007 EIS Engineering Study, and the work beginning in 2007 looking at preferred alternatives. The work of the Study Advisory Committee through 2008 to identify the preferred corridor also found environmental justice issues important to their decision to eliminate several corridor options in part because of their very serious environmental justice impacts.

One of the reasons C2 was selected as the preferred corridor in December 2008 was that it had among the fewest environmental justice issues. The RCIC committed early in their work to proactively engage these stakeholders to understand and responsibly address potential impacts to their homes and communities.
In 2009 FHWA's RCIC member was Cheryl Martin, who in February 2009 made a short presentation to the RCIC about the environmental justice process (http://www.youtube.com/watch?v=pLZAOGM25vo).

The key points in her process description and connection to the TH 41 project were as follows:

a. Identify low-income or minority populations in project area
b. Look at the project's impacts on those populations
c. Determine whether those impacts are disproportionally high and adverse – whether they are disproportionately borne by low-income or minority populations
d. If so, identify ways to avoid, minimize, or mitigate those impacts
e. A key element is to directly involve those populations; ask them about the impacts and whether those are disproportional; understand whether those populations are part of a community; that must be done by going straight to that community
f. The issues go beyond right-of-way and relocation; determine whether the project is disrupting the community; look for implications that aren't necessarily visible; include issues such as major noise impacts
g. If the impacts are disproportionally high or adverse, first seek ways to avoid them, then to minimize, and only then to mitigate
h. Earlier in this project major environmental justice populations were identified especially for the eastern corridor options
i. On the preferred C2 alignment, the environmental impacts are less than the eastern corridors but still significant, so the RCIC must first look at ways first to avoid impacts, and then to minimize and mitigate as necessary
j. Key environmental justice issues for C2 exist for residents of the Jackson Heights manufactured home community

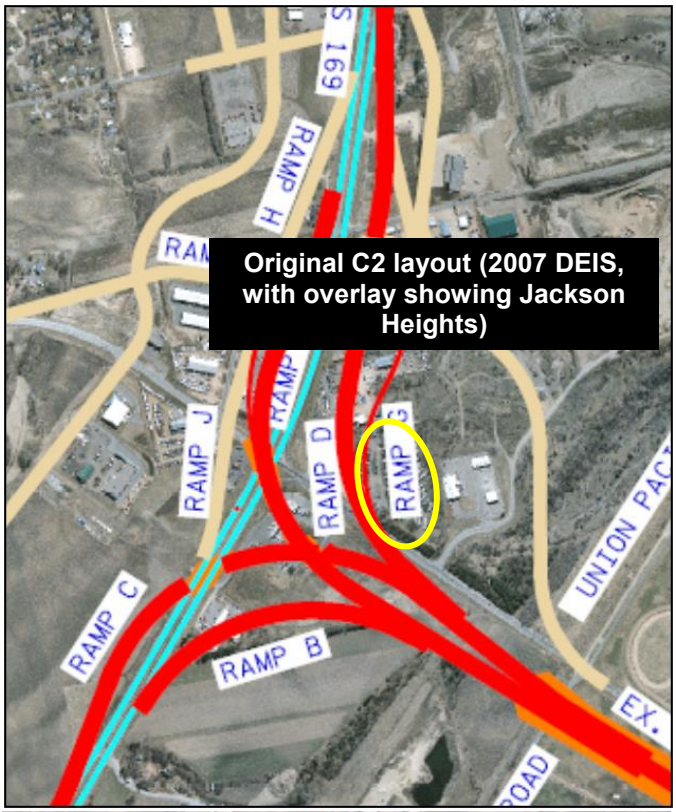
For the C2 alternative, the Jackson Heights manufactured home community on the south side of the Minnesota River was identified under environmental justice definitions. In fact the original C2 layout in the DEIS (see excerpt from 2007 DEIS map) showed ramps cutting directly through the community.

Beginning in 2008, MnDOT project manager Diane Langenbach had a series of conversations with Yesica Martinez of the Jackson Heights Resident Association, and Krystal Klein, then a staff member from All Parks Alliance for Change (APAC), which was a supporting ally of the Jackson Heights Resident Association. The purpose of these conversations was to create an opportunity for MnDOT to hear from residents about their questions, concerns, and priorities about impacts on their homes from the anticipated Highway 41 river crossing, projected for 2030 or later.

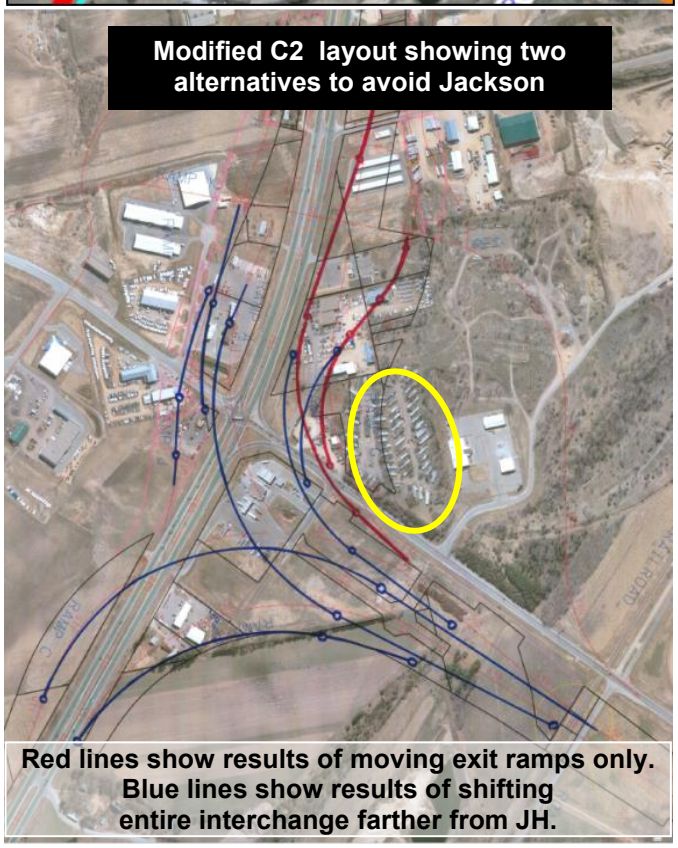
When the RCIC was formed in early 2009, they explicitly committed to addressing the needs of this stakeholder group with the same rigor as they did for other land use conflicts including the Refuge and historic ballpark.

In June 2009 the Jackson Heights Residents Association and their allies invited MnDOT and public engagement consultant Anne Carroll to a meeting in Chaska to hear residents' perspectives, priorities, and concerns that will directly shape MnDOT's decisions about the future Highway 41.

In preparation for that June 2009 meeting, the RCIC asked for alternatives to the original C2 roadway alignments in order to avoid direct impacts on Jackson Heights; see map with clarifying information overlaid. This was presented at the June meeting as part of the RCIC's and MnDOT's demonstration of their commitment to addressing the needs of Jackson Heights' residents.



Original C2 layout (2007 DEIS, with overlay showing Jackson Heights)


Modified C2 layout showing two alternatives to avoid Jackson

Red lines show results of moving exit ramps only. Blue lines show results of shifting entire interchange farther from JH.

The June 2009 meeting was driven by the residents and advocates who attended, and focused on respectfully and clearly establishing their priorities and concerns, including the following:

a. Protecting their hopes and dreams for their future, including their hard-earned investments in their homes and neighborhood
b. Protecting their children's futures and important community connections
c. Ensuring they weren't victims of racial / ethnic profiling or socioeconomic discrimination
d. Ensuring that their children will be safe to play and get around the neighborhood in the future
e. Insisting that if the government needs to buy them out in the future, that it puts a monetary value on their homes that accounts for investments they've made, and factors in the impacts of moving on them as families and as a community

There was also extensive discussion primarily by allies and advocates of the role that manufactured housing plays in a continuum of affordable housing and the ability of communities to meet their goals, as well as about future growth projections, land use and zoning, the overall EIS process and timing, and

roles. MnDOT presented the alternatives noted above, but the primary outcome of that first major meeting was to agree to meet again to review the alternative further and detail community concerns.

The October 2009 meeting with representatives of the Jackson Heights Residents Association was an active session (see photo of workshop above) looking at the C2 alternative and talking through tangible impacts on this community and how they could be avoided, minimized, or mitigated.

Participants identified key issues and then with MnDOT's concurrence developed a list of agreed-upon expectations around this project. These are detailed in the meeting notes and included safety, especially for children; noise and air quality; vehicular and pedestrian access; construction concerns; utility service during and after construction; and potentially a Community Benefits Agreement.

3.6.2 Suggested Strategies to Avoid, Minimize, Mitigate Impacts

After reaching preliminary agreement on those, the group spent significant time planning a community meeting in November 2009 for these representatives of the Residents Association to present their recommendations and seek concurrence from the residents.

As detailed in the notes and shown in the photos below, the November meeting was well attended and as with all meetings with the residents, MnDOT paid for a contract interpreter who interpreted from either English to Spanish or from Spanish to English depending on the need.

The Residents Association representatives presented the history of conversations with MnDOT, the very long decision-making timeline, and the key issues and their proposed solutions. After fielding questions the Residents Association members asked for the group's decision on the recommendations.

1. **C2 route:**
   a. Problem: The C2 route from the 2007 DEIS had the road running through the manufactured home Park, eliminating at least 18 of the Jackson Heights homes; the rest would be too close to the highway or underneath ramps, which could be dangerous and too noisy for our families.
   b. Recommendation: In conjunction with MnDOT, we agreed that the road should be moved so it goes around our neighborhood.
2. **Noise:**
   a. Problem: We already experience a lot of noise from Highway 169 and 41. We also easily hear the loudspeakers from the gas station east across TH 41.
   b. Recommendation: The new road must meet strict state noise standards in place at that time.
3. **Safety (children, at-grade)**
   a. Problem: We understand and accept it will not be possible to cross TH 41 at ground level
   b. Recommendation: Children must be prevented from getting onto any of the major roadways; a barrier of some kind may be necessary to do that
4. **Air quality**
   a. Problem: Pollution from new roadways so close to homes
   b. Recommendation: The new road must meet strict residential air quality standards in place at that time
5. **Access**
   a. Problem: Access to homes must be provided during and after construction
   b. Recommendation: During and after construction, there must be reasonable access to the Park,

including by the school bus

6. **Utilities**
   a. Problem: Functioning utilities during and after construction
   b. Recommendation: Ensure that Park residents retain safe drinking water, sewer, power, and cell phone service during and after construction

7. **Community Benefits Agreement**
   a. Problem: Ensuring attention to our needs in the future
   b. Recommendation: Consider entering into a Community Benefits Agreement to protect the community during and after construction

Following the presentation and questions, the Residents Association representatives asked the residents to take a vote to determine their position on the proposed problems and solutions/ approaches. Residents responded with unanimous concurrence.

3.6.3 Guidance for Tier II

There are several important environmental justice questions and considerations for Tier II, as outlined below.

a. **New populations:** While at the time of this Tier I work the only people identified under environmental justice rules are residents of the Jackson Heights manufactured home park on the south side of the Minnesota River, other populations may be present when Tier II work begins. This must be carefully evaluated at that time.
b. **Changes in currently identified population:** It is not known whether the Jackson Heights community in the future will be composed of residents identified under environmental justice regulations, so that must be examined in the future.

c. **Changes in land use, ownership, zoning:** The Jackson Heights manufactured home park is owned by a private party, not by the residents. Any number of changes could occur prior to Tier II, including but not limited to the current owner selling the property or closing the park. As the land is currently located in the unincorporated area of Scott County and is zoned for commercial use, such a change in ownership would require that the land use comply with then-current zoning and approved planning guidelines. Any issues relevant to environmental justice determinations would have to be considered at that time.

3.6.4 Intermediate Activities

There are no anticipated intermediate activities relative to the environmental justice aspects of the TH 41 project. There will, however, be a number of other infrastructure efforts between now and Tier II that may have potential impacts on existing or future populations identified under environmental justice regulations. Each of those projects will address their own environmental justice issues, but their individual and/or cumulative effects must be considered when TH 41 proceeds.

3.7 Goal 6, Local Access: Provide appropriate access to local and county roadways that will facilitate land use developments guided by counties and cities

Note that this goal has four components, each of which is addressed separately:

- Downtown Chaska access
- Regional access
- Scott County access
- Downtown Shakopee access
- Interchange of TH 41/CSAH 11/TH 212

3.7.1 *Downtown Chaska*: Issue Description

As the RCIC continued to explore all issues and impacts through the lens of their common goals, a concern emerged that C2 would so effectively facilitate year-round river crossing and direct access to the regional roadway system that too many drivers would completely bypass Chaska's downtown economic center.

To further explore downtown Chaska access issues, midway through 2010 the RCIC paused its efforts while Chaska independently contracted with SRF Consulting Group to analyze whether there were options that could meet both local and regional needs (see RCIC meeting notes from February 2011):

a. Maintain the flood-proof river crossing
b. Provide direct connections to regional roadways especially for heavy truck traffic
c. Provide local access to historic downtown Chaska
d. Yield future traffic levels on (existing) Highway 41/Chestnut Avenue through downtown Chaska that would support recreating a pedestrian-friendly "main street" (moving from the existing four-lane to two driving lanes, one turning lane, and parking on both sides)

The SRF Chaska Interchange Study reviewed the following three options:

- Option 1: Partial interchange at existing Highway 41 bridge and full interchange at County Road 61 (removes existing Highway 41)
- Option 2: No interchange at existing Highway 41 bridge with full interchange at County Road 61 (keeps existing Highway 41)

- Option 3: Full interchange at existing Highway 41 bridge with no interchange at County Road 61 (removes existing Highway 41)

Options 1 and 3 of Chaska's 2010 independent Interchange Study dramatically increased traffic levels on existing Highway 41. Only Option 2 met Chaska's main objectives of creating local access into downtown while sufficiently reducing traffic levels to create a Main Street. Per the study, adding a full interchange at County Road 61 while maintaining existing Highway 41 for local traffic would relieve pressure on County Road 11 where the new river crossing bridge would intersect with Highway 212.

3.7.2 *Downtown Chaska*: Suggested Strategies to Avoid, Minimize, Mitigate Impacts

a. Review development constraints and confirm adopted land use guidance by the counties and cities in and near the preferred corridor
b. Review the preferred corridor and "touch-down points" on both sides of the Minnesota River, and make recommendations regarding whether their location aligns with guided land uses and is feasible; identify alternatives for addressing any concerns
c. Specifically address the desire for local and direct access from 169 and new 41 to downtown Chaska and downtown Shakopee, consistent with local plans
d. Identify the potential areas needed for ROW, long-term impacts of ROW preservation, and alternatives, including funding sources to acquire ROW or allowing appropriate interim or long-term development within defined corridor

3.7.3 *Downtown Chaska*: Guidance for Tier II

Examine local needs, priorities, and use and traffic patterns based on development and changes to the regional corridor in the interim to determine how to best meet objectives around a floodproof crossing, regional connections, local access for Chaska and Shakopee, and reasonable traffic levels in downtown Chaska.

See also the February 2011 letter from MnDOT and FHWA to Chaska about local access issues as part of the Tier II process.

3.7.4 *Downtown Chaska*: Intermediate Activities

Between now and Tier II efforts, the RCIC should address the following:

a. Ensure that any interim steps to address existing river crossings – such as flood mitigation on Highways 41– do not delay the implementation of a new river crossing; specifically, interim activities should not focus mainly on capacity building of existing roads. Carefully examine each action for its long-term impact in order to not use up all the resources necessary to build this new river crossing to meet the full set of RCIC objectives.
b. Coordinate with Southwest Transportation Coalition and 169 Corridor Coalition (and others that emerge over time) to push for faster progress on this new river crossing
c. Continue to evaluate downtown Chaska's downtown economics, traffic volume, priorities, etc.
d. Specifically continue exploring the conditions and assumptions included in the Chaska local access study and options to reduce economic harm to downtown Chaska; include the critical needs, objectives, assumptions, analyses, and conclusions in the Chaska local access study, including any updates,/changes, new options that may have emerged, additional concerns, etc.
e. Identify the potential areas needed for right-of-way, long-term impacts of right-of-way preservation, and alternatives, including funding sources to acquire right-of-way or allowing appropriate interim or long-term development within defined corridor

3.7.5 *Regional Access*: Issue Description

The primary regional need is to construct a floodproof crossing of the Minnesota River connecting TH 169 and TH 212. Current river crossings are subject to annual flooding resulting in numerous and lengthy road closings. The only floodproof river crossing between I-35W and the southern Scott County boundary is TH 169 in Shakopee, a distance of approximately 30 miles. For the future, there is insufficient capacity on the regional system to meet local growth and development needs in the southwestern portion of the Twin Cities region. In addition, there is a need to identify a corridor and preserve right-of-way for the new TH 41 river crossing corridor. Without these steps, a flood-proof regional connection across the Minnesota River will not be able to be constructed.

An EIS during the 1970s was never completed, thus the right-of-way needed to construct a river crossing was not preserved, protected, or acquired, except for a portion of a corridor that was purchased through the Right-of-Way Acquisition Loan Fund (RALF) program on the Chaska/Chanhassen border. As a result, the current TH 41 EIS process had to start from scratch – making clear how important it is to finalize this Tier I EIS and take the interim steps necessary to support future construction.

3.7.6 *Regional Access*: Suggested Strategies to Avoid, Minimize, Mitigate Impacts

a. The RCIC will support completion of the FEIS to a Record of Decision.
b. The RCIC members will stay up-to-date on local plans, studies, and decisions that affect the development of the river crossing, and support those interim steps identified in those plans, studies, etc., that support the implementation of the river crossing.
c. Recognizing the balance between local and regional access represented in this document, the RCIC will advocate for changes in the regional plan that reflect that balance.
d. The RCIC will implement a succession plan for participation in the RCIC as set forth in the partnership agreement.

3.7.7 *Regional Access*: Guidance for Tier II

Recognize the important balance between local and regional needs and address both in Tier II.

3.7.8 *Regional Access*: Intermediate Activities

Between now and Tier II efforts, the RCIC should address the following:

a. Advocate for inclusion of the regional river crossing in the regional transportation policy plan.
b. Advocate for use of Right-of-Way Acquisition Loan Fund (RALF) and other funds to acquire right-of-way for the river crossing and related interchanges and connecting roadways.

3.7.9 *Scott County Access*: Issue Description

There are approximately 1,000 acres of developable land between the bluff and the river. This acreage is one of the primary areas for Scot County development, thus the issue is to provide efficient and safe access to those development areas while preserving regional system function and effective connections to local roadway networks.

The existing Highway 169 corridor is constrained by the bluff line, the river, associated natural resources, and the railroad.

3.7.10 *Scott County Access*: Suggested Strategies to Avoid, Minimize, Mitigate Impacts

a. Review development constraints and confirm adopted land use guidance by the counties and cities in and near the preferred corridor
b. Review the road location within the preferred corridor, and "touch-down points" on both sides of the Minnesota River, and make recommendations regarding whether their location aligns with guided land uses and is feasible; identify alternatives for addressing concerns raised by the review and analysis

3.7.11 *Scott County Access*: Guidance for Tier II

a. Review then-current local comprehensive plans for land use and transportation
b. Review TH 169 Interregional Corridor Study and subsequent frontage road study (adopted 2002), TH 169/CR 69 Interchange Study (2011), CSAH 16 Extension Study (unpublished – Scott County Public Works 2007, Louisville Township Frontage Road, 2010), and any other studies that occur subsequent to the FEIS.

3.7.12 *Scott County Access*: Intermediate Activities

a. RCIC member local governments: Amend local plans and make future decisions based on the outcomes of this FEIS
b. RCIC: Participate in future activities or studies related to creating an interchange at existing TH 41/169 prior to the construction of the TH 41 river crossing.
c. RCIC: Take a substantive role in interim studies and projects that relate to the RCIC's agreed-upon framework and common goals and strategies
d. RCIC: Review and comment on comprehensive plan updates as they are being prepared prior to Tier II.
e. Local units of government and MnDOT: Review and collaboratively implement land use and transportation decisions based on guidance from studies on to local road networks in this corridor.
f. Identify the potential areas needed for right-of-way, long-term impacts of right-of-way preservation, and alternatives, including funding sources to acquire right-of-way or allowing appropriate interim or long-term development within defined corridor

3.7.13 *Downtown Shakopee Access*: Issue Description

The intersection of TH 169 and CR 69 provides the only direct access to historic downtown Shakopee and the CR 101 river crossing to Chanhassen. Maintaining access from the regional system directly to Shakopee's downtown and the regional river crossing at CR 101 are critical for continued economic growth and development of the area. Specific issues to be addressed include:

a. Access to the downtown Shakopee/CR 101 business district and potential negative impacts from projected traffic levels; see Shakopee's CR 101 reconstruction project traffic analysis for more information
b. The historic properties within Shakopee's downtown area at the time Tier II begins; see Shakopee Historic Preservation Advisory Committee historic property document and downtown maps

3.7.14 *Downtown Shakopee Access*: Suggested Strategies to Avoid, Minimize, Mitigate Impacts

In addition to supporting the TH 41 refined C2 route, actively support improvements that meet current and future transportation needs across the Minnesota River between I-35 and CR 9.

3.7.15 *Downtown Shakopee Access*: Guidance for Tier II

a. Review then-current local comprehensive plans for land use and transportation
b. Review TH 169 Interregional Corridor Study and subsequent frontage road study (adopted 2002), TH 169/CR 69 Interchange Study (to be completed 2011), CSAH 16 Extension Study (unpublished – Scott County Public Works 2007), Louisville Township Frontage Road study (2010), and any other studies that occur subsequent to the FEIS
c. Consider the traffic impacts of the 41 river crossing on traffic loading to CR 69 and CR 101 in Shakopee to assure that businesses in that corridor are not adversely affected

3.7.16 *Downtown Shakopee Access*: Intermediate Activities

Between now and Tier II efforts, the RCIC should address the following:

a. RCIC: Participate in future activities or studies related to creating an interchange at existing TH 41/169 prior to the construction of the TH 41 river crossing.
b. Support the outcome of the 2011 river crossing/flood mitigation study and the implementation of the study's recommendations that reduce flood impacts between now and Tier II.

3.7.17 *Interchange of TH 41/CSAH 11/TH 212*: Issue Description

Over 5,000 acres of land included in the city of Carver's Comprehensive Plan have direct access to the regional transportation system *only* at the CSAH 11/TH212 interchange. The preferred corridor would merge a touchdown with TH 41 into this interchange. CSAH 11 is also a corridor to the Jordan river crossing, which effectively makes this area the confluence of two river crossings. This acreage constitutes the city of Carver's principal development area, thus the issue is to provide efficient and safe access to those development areas while preserving regional system function and effective connections to local roadway networks. Access to other connections to the regional system is constrained by various bluff lines, the river, and associated natural resources.

3.7.18 *Interchange of TH 41/CSAH 11/TH 212*: Suggested Strategies to Avoid, Minimize, Mitigate Impacts

a. Review development constraints and adopted land use guidance by Carver County and the cities of Carver and Chaska in and near the preferred corridor
b. Review the road location within the preferred corridor, and "touch-down points" on both sides of the Minnesota River, and make recommendations regarding whether their location aligns with guided land uses and is feasible; ensure that connections between Hwy 212, CSAH 11, and the new TH 41 maintain land-based access

3.7.19 *Interchange of TH 41/CSAH 11/TH 212:* Guidance for Tier II

a. Review then-current local comprehensive plans for land use and transportation
b. Review TH 212 studies and subsequent studies
c. Ensure safe and efficient connections to CSAH 11 that take into consideration existing development and future growth in the area in a manner that ensures that CSAH 11 remains viable to serve the needs of Carver, Chaska, and traffic entering the regional system at this location

3.7.20 *Interchange of TH 41/CSAH 11/TH 212*: Intermediate Activities

a. RCIC member local governments: Amend local plans and make future decisions based on the outcomes of this FEIS
b. RCIC: Take a substantive role in interim studies and projects that relate to the RCIC's agreed-upon framework and common goals and strategies
c. RCIC: Review and comment on comprehensive plan updates as they are being prepared prior to Tier II
d. Identify the potential areas needed for right-of-way, long-term impacts of right-of-way preservation, and alternatives, including funding sources to acquire right-of-way or allowing appropriate interim or long-term development within defined corridor

3.8 Goal 7, Ecosystem Impacts: Minimize impacts on aquatic and terrestrial ecosystems including animals and plants

3.8.1 Issue Description

Within and near the C2 corridor are natural communities in the Minnesota River Valley with many high-performing ecosystem functions compared to other metropolitan areas. Because of public ownership and the missions of the responsible State and Federal agencies, lands must be managed to preserve ecosystem functions into future. Project construction and operation is expected to change existing natural communities and ecological functions. Examples include the following:

a. Habitat fragmentation, reduced species mobility, and changes in habitat type, resulting in changes in species composition
b. Impacts on biodiversity; see detailed information on conservation biology with reference to the Minnesota Valley National Wildlife Refuge in a February 2009 video at http://www.youtube.com/watch?v=wKnDTwKE-QQ for part 1 and http://www.youtube.com/watch?v=gsuHhqB9FSg for part 2
c. Project construction, operation, and maintenance will alter the pre-project conditions with regard to drainage, moisture and light gradients, topography, soil chemistry, and others
d. Vehicles, hauled equipment, boats on the roadway, and roadway maintenance activities and products inadvertently bring contaminants or invasive species that move through waterways and other natural pathways
e. Trash, road salt, heavy metals, hydrocarbons from road operations will harm the ecosystem;
f. See more information in May 2009 RCIC meeting notes

3.8.2 Suggested Strategies to Avoid, Minimize, Mitigate Impacts

Note that these are from the July 2009 Goals and Strategies developed by the RCIC. It is understood that the strategies will evolve over time, and some of that information is included in the sections below on Guidance for Tier II and Intermediate Activities.

a. Use context-sensitive design to address overall impacts to ecosystem functions
b. Manage/contain contamination from vehicles and people on the new TH 41 river crossing
c. Prevent additional habitat fragmentation and use best management practices to connect habitats
d. Encourage multi-use (transportation, utilities, etc.) of river crossing corridor to reduce additional habitat fragmentation
e. Use best technologies and design to keep noise at acceptable levels for wildlife
f. Maintain ability of wildlife to use natural land and water movement, and migration corridors
g. Prevent disruption to wetland hydrology

3.8.3 Guidance for Tier II

a. Identify and address impacts of the final design roadway on the ecosystems in and near the corridor
b. Specifically evaluate the impact of noise on wildlife
c. Reference baseline noise analyses done for Tier I including data from the additional receptor locations requested by the RCIC; MnDOT has all those results

3.8.4 Intermediate Activities

Between now and Tier II efforts, the RCIC should address the following:

a. As part of the RCIC's ongoing work, resource management agencies will incorporate into their workplans ongoing monitoring of all conditions within the refined C2 corridor (increased sampling locations in immediate vicinity of corridor)
    - Monitoring will be conducted in a manner to support analysis of primary, secondary, and cumulative impacts.
    - Resource management agencies will collectively increase their focus on and document current/ongoing conditions of aquatic and terrestrial ecosystem
b. Proactively and routinely identify and pursue appropriate pre-mitigation opportunities; an example is planting trees and shrubs many years in advance so they have time to grow and provide effective visual screening; see Landscaping Task Force results for clear guidance
c. Consult land managers for maps/information on "desired future conditions"
d. Management Plan and Comprehensive Conservation Plan amendments will reflect results of this FEIS and the corridor identification
e. Resource management agencies will create and make available the graphics illustrating the extend and boundaries of various natural communities

3.9 Goal 8, Public Access: Ensure reasonable and usable public access to the outdoor recreational opportunities in the river valley (Refuge, state trail, and other public lands)

3.10 Goal 9, User Impacts: Minimize impacts, including noise and visual, to people using the Refuge, state trail, and other public lands

From the beginning the RCIC has addressed these closely related topics together, so they are handled that way here also.

3.10.1 Issue Description

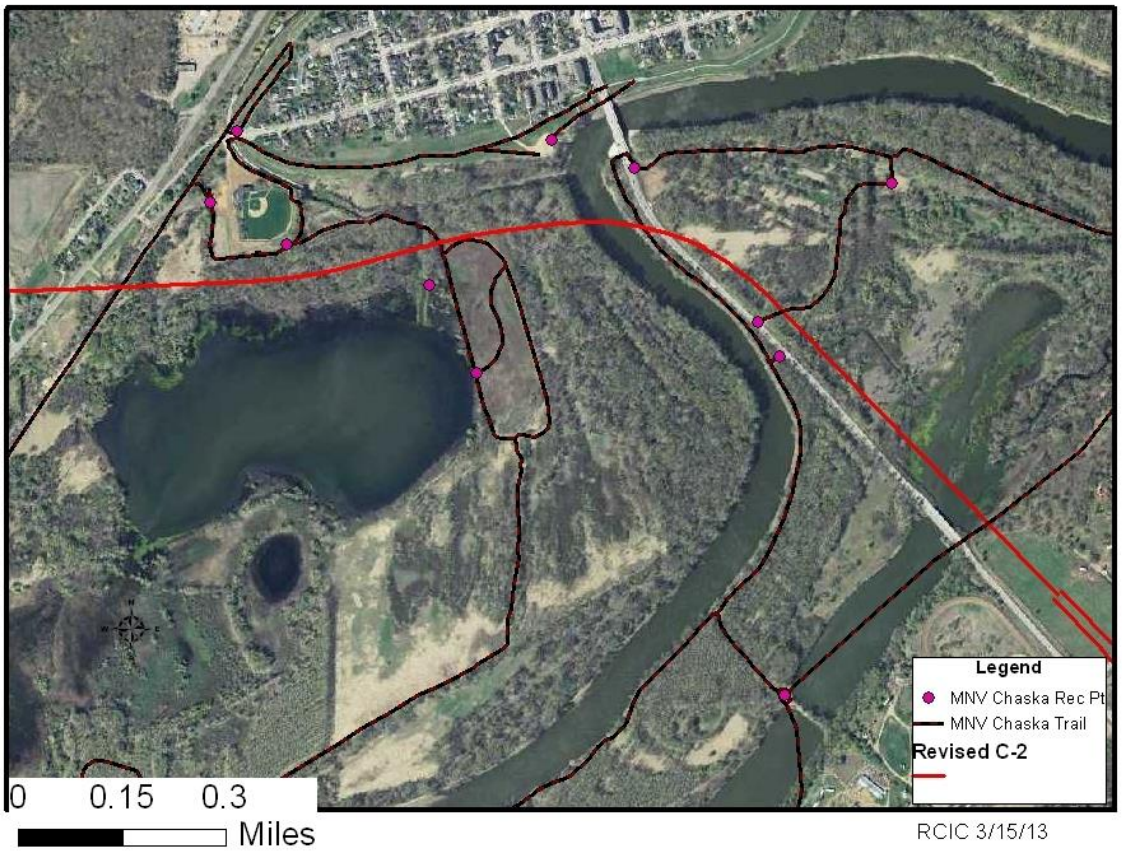
Current recreational facilities are illustrated on the map below.

The key concerns for this goal are the new river crossing's likely adverse effects on existing recreational uses and activities on these public lands, so the following must be ensured:

a. Reasonable and usable public access to the outdoor recreational opportunities in the river valley
b. Minimized impacts, including noise and visual, to people accessing and using the Refuge, state trail, and other public lands
c. Safe access and use of these opportunities, such as ensuring trail corridors crossing the C2 corridor are protected from road debris
d. Attention to the aesthetics of access

e. Visitor and maintenance access to the Minnesota Valley National Wildlife Refuge from the area around the Chaska ballpark

Minnesota Valley NWR & State Recreation Area
Recreation Features



3.10.2 Suggested Strategies to Avoid, Minimize, Mitigate Impacts

Note that these are from the July 2009 Goals and Strategies developed by the RCIC. It is understood that the strategies will evolve over time, and some of that information is included in the sections below on Guidance for Tier II and Intermediate Activities.

a. Maintain trail continuity, access points, and connections for current and future outdoor recreational opportunities within the Minnesota River Valley
b. Ensure a quality experience for wildlife observation, wildlife photography, hiking, bicycling, environmental education and interpretation, and other related activities (with the understanding that the various public lands have their own use restrictions)
c. Maintain a feeling of solitude by minimizing noise and visual intrusions

3.10.3 Guidance for Tier II

For an *example* of a solution when there is no reasonable way to avoid or minimize impacts to ecosystems, flora, fauna, and users, see the case study presentation by the Refuge manager to the RCIC in April 2009. This summarized the complex and complicated negotiations and eventual resolution in the late 1990s when the Metropolitan Airports Commission needed to add a new north-south runway to the Twin Cities International Airport that would send flights directly over the Refuge. A series of offers

and counter-offers between the parties was eventually settled at the Federal level with approximately $27 million paid to the Refuge for lands/use lost. It was agreed that the funds must be used to acquire additional wild and natural lands within the Minnesota River valley and provide new recreational and educational opportunities for users.

For the TH 41 project, key guidance for Tier II includes the following:

a. Proactively engage and collaborate with key/relevant stakeholders including the US Fish and Wildlife Service and Department of Natural Resources
b. Identify, gather information on, and address roadway impacts that adversely affect recreational activities, flora, and fauna within and adjacent to roadway corridor; these will be specific to the final design. Examine lessons learned from other bridges over protected areas such as Highway 169. Examples include but are not limited to the following:
    - Noise on visitor experience using the trails and expectations for quiet refuge experience
    - Physical debris falling from the structure, as well as snow and ice
    - Air pollutants
    - Light pollution in general as well as impact on Refuge and other protected lands; also examine relationship between bridge height and the amount of rainfall and sunlight available to flora, fauna, and visitors underneath
    - Other
c. Inventory infrastructure that supports recreational activities/opportunities
d. Prepare quantitative studies and document current public recreational use by activity

3.10.4 Intermediate Activities

The RCIC should plan on collecting "baseline" information on impacts such as noise and light over time to inform Tier II activities; such periodic studies would build a database of cumulative impacts and more thoughtfully inform future decisions.

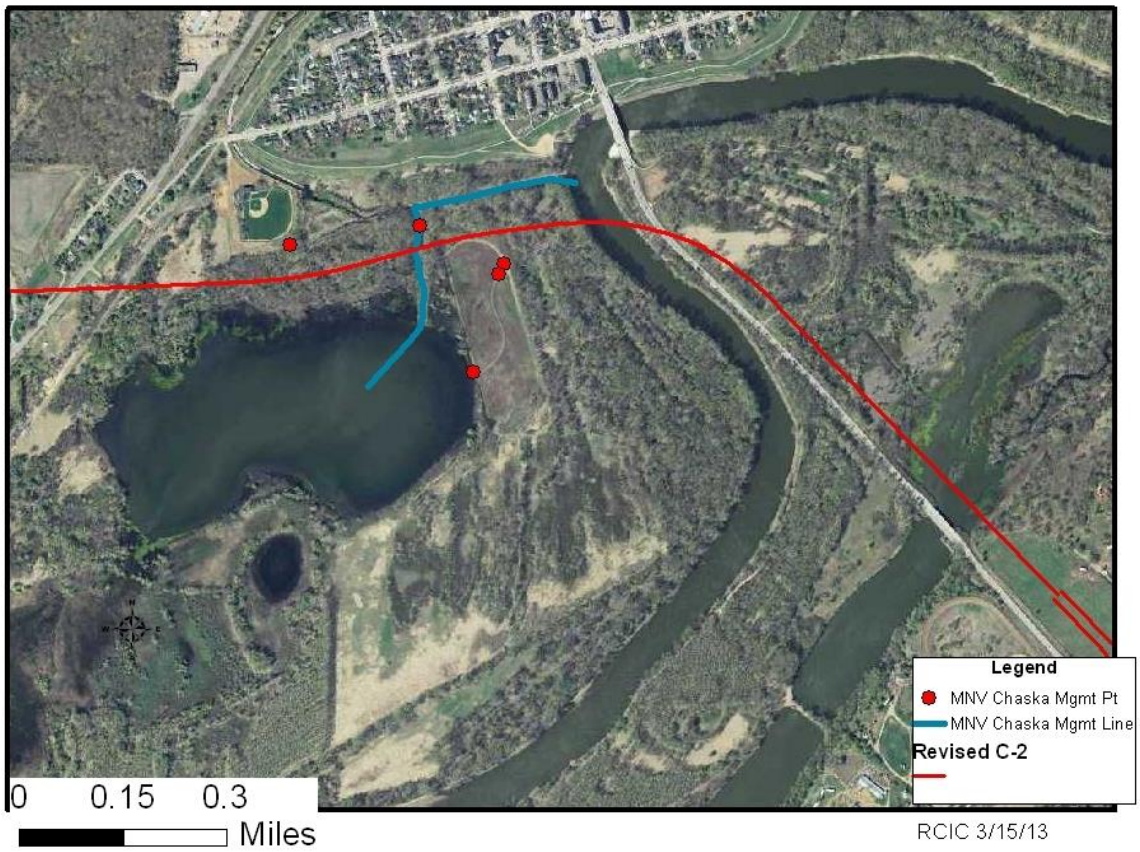
3.11 Goal 10, Land Management Capabilities: Maintain natural resource management capability on public lands

3.11.1 Issue Description

The new river crossing will bisect existing natural resource management units. See map below. The physical structure of highway is expected to adversely affect current management strategies by the following:

a. Limit or prevent access
b. increase management costs
c. Limit or change management techniques and tools
d. See supplemental information about this issue in the videotaped presentation to the RCIC about conservation biology by staff member Vicky Sherry:
    - Part 1 (http://www.youtube.com/watch?v=wKnDTwKE-QQ)
    - Part 2 (http://www.youtube.com/watch?v=gsuHhqB9FSg)

Minnesota Valley NWR & State Recreation Area
Resource Management Features



3.11.2 Suggested Strategies to Avoid, Minimize, Mitigate Impacts

Note that these are from the July 2009 Goals and Strategies developed by the RCIC. It is understood that the strategies will evolve over time, and some of that information is included in the sections below on Guidance for Tier II and Intermediate Activities.

Ensure that the new river crossing does not interfere with land management activities in any of the following ways:

a. Preventing or limiting heavy equipment access (for public land management)
b. Creating impediments for prescribed burning
c. Disrupting water management programs
d. Interfering with forest management practices
e. Maintain harvest/removal abilities for resource management (e.g., wildlife, including nuisance)

3.11.3 Guidance for Tier II

a. Produce updated graphics illustrating the boundaries of natural communities boundaries at that time, and compare to earlier information
b. Use management plans from multiple responsible entities to inform desired future conditions
c. Consult with entities responsible for natural community management regarding techniques to meet desired future conditions.

d. Ensure that management entities can cost-effectively access management units with appropriate staff and equipment

3.11.4 Activities

Between now and Tier II efforts, the RCIC should address the following:

a. Consult natural resource land managers for maps and information on desired future conditions
b. Ensure that natural resource Management Plan and Comprehensive Conservation Plan amendments reflect results of this FEIS and the corridor identification

4 Appendices

This section includes the following:

- Stakeholder Identification and Analysis
- RCIC Partnership Agreement
- RCIC Framework, Goals, and Strategies
- Tier I EIS, Study Advisory Committee, 9 December 2008 MnDOT Presentation
- Compiled Notes from RCIC, Landscaping Task Force, and Interchange Task Force Meetings, January 2009-December 2012

4.1 Stakeholder Identification and Analysis

A subset of the RCIC met on 27 May 2009 and completed a stakeholder identification and analysis exercise where they listed and then arrayed potential stakeholders relative to their interest (or stake) in, and power over, this particular TH 41 effort at this time. They then further identified stakeholders who are not currently high power and high interest but needed to be more engaged, and thus specifically reached out to.

The lists below show the results. The RCIC agreed that they would engage the bulk of these stakeholders as direct members of the RCIC, and the rest in most cases through those RCIC members – as opposed to creating new methods and structures outside of or separate from the RCIC.

Current high power over the future of this effort and high stake in the outcomes, as well as those who need to be reached out to and become more engaged.

- Carver city staff
- Carver Councilmember Webb
- Carver County Board
- Carver Mayor
- Chanhassen City Council
- Chaska City Council
- Chaska city staff
- Chaska Cubs Baseball Club: Primary user of Chaska historic ball field
- Chaska Downtown Business Council
- Chaska Historic Preservation Commission
- Chaska Mayor: Represents city most affected by TH 41
- Friends of MN Valley: Helped found Refuge
- Jackson Heights current residents
- Metropolitan Council District 5 Representative
- Metropolitan Council transportation staff
- MN-DNR Waters
- MnDOT Area Manager
- MnDOT Cultural Resource Unit
- MnDOT District Engineer
- MN State Historic Preservation Office
- MN Representatives and Senators (local)
- Scott County Association for Leadership and Efficiency (SCALE)
- Scott County Board
- Scott County Transportation Advisory Board (Chair Ulrich)
- Shakopee City Council/ Economic Development Authority
- Shakopee city staff
- Shakopee Councilmember Lehman as historic preservation advocate
- US FHWA – Minnesota Division
- USFWS MN Valley National Wildlife Refuge: Represents primary land owner

High power but lower power or stake in this particular project: As these groups have some form of governmental or regulatory role in the future of TH 41, they will be proactively kept informed and directly engaged as the project intersects with their areas of authority

- Metropolitan Council and Chair
- MnDOT Commissioner
- National Park Service
- Scott County public works
- Transportation Advisory Board
- US Army Corps of Engineers
- US Environmental Protection Agency

High interest or stake but lower power with regard to this project at this time: These groups have a significant interest or stake in the outcomes of the project. All will be routinely kept informed through specific communications methods and engaged as appropriate or relevant over the course of the project

- 169/41 business property owners
- APAC
- Carver Historic Preservation Commission
- Corridor landowners
- Developers with property or legal interest in corridor land
- Downtown Chaska churches
- Downtown Chaska safety advocates
- Fans of Chaska Cubs
- Friends of MN Valley
- Historic business or property owners
- Jackson Heights current owners
- Local users of Refuge, state trail, or other public lands
- MCEA
- MN Valley Audubon Chapter
- MN-DNR Parks and Trails
- Preservation Alliance of MN
- Refuge Friends, Inc
- Sierra Club
- SMSC

Lower power over and lower stake in this project at this time: These stakeholders have lower interest or stake and power at this time. All will be kept informed about the project through general communications methods. As stakes and power change over the course of the project, they may be more actively or formally engaged.

- Audubon Society
- Carver County Historical Society
- Carver Parks Commission
- Downtown Chaska senior housing
- Jackson Township Board
- Local Refuge birders
- Louisville Township Board
- Lower MN Watershed District
- MN Pollution Control Agency
- MN Valley Festivals
- MN Valley Trust
- Scott County Historical Society
- Scott County Parks and Trails staff
- Shakopee Downtown Partnership
- Shakopee Historic Preservation Commission
- Southwest Metro Chamber of Commerce
- SW Transportation Coalition
- TH 169 Corridor Coalition
- Truck freight haulers

4.2 RCIC Partnership Agreement

In July 2009, RCIC members drafted the following partnership agreement to guide their work together. This defined their interim working relationship and included a commitment to a more formal Memorandum of Understanding (see *Relationship among Team Members* below) to frame their longer-term work together.

Mission: This group is responsible for ensuring the successful implementation of the TH 41 River Crossing in accordance with the agreements reached by key stakeholders.

Purpose: Agree on TH 41 river crossing alignment, reach agreement on common purposes, and actively carry these forward over time.

Composition: The Collaborative is composed of public entities that are either required or legally empowered to commit to this effort over the life of this project. These include the following:

- Carver County
- City of Carver
- City of Chanhassen
- City of Chaska
- City of Shakopee
- Federal Highway Administration
- Scott County
- Metropolitan Council
- Minnesota Department of Natural Resources
- Minnesota Department of Transportation
- State Historic Preservation Office
- U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge

Responsibilities

- Work collaboratively and transparently
- Steward the process from start to finish
- Oversee the progress of this project, ensuring that key stakeholders are engaged and decisions remain aligned with agreements
- Authentically engage other stakeholders, including regulatory entities, throughout the process in both formal and informal settings, groups, and activities
- Keep the public informed and engaged throughout the process
- Continually update underlying data and information that may affect this project
- Continually update project tasks, timeline, and responsibilities
- Routinely update agencies and electeds
- Support timely and appropriate funding
- Maintain formal representation on and actively participate in the Collaborative's work over time
- Support and assist other members of the Collaborative as needed

Relationship among Team Members: Members work under the guidance of a Memorandum of Understanding that outlines roles and responsibilities. MnDOT agrees to be the administrator for this Collaborative.

Governance: The Collaborative will establish any necessary structures for leadership, structure, decision making, logistics, and anything else required to ensure long-term organizational vitality.

4.3 RCIC Framework, Goals, and Strategies

The following framework, goals, and strategies were crafted by RCIC members beginning in 2009 to represent their commitment to a *common* direction and to working collaboratively over the next 20-25 years to meet the needs of all RCIC members, not just their own. While it is true that the complexity and challenges of this river crossing essentially require such an approach to come to fruition, this group's clear understanding of the context of this effort and their sincere, authentic, and open approach to reaching these commitments to a common direction serves as a model for others in similarly challenging circumstances.

Framework

- In addition to supporting the TH 41 C2 route, actively support improvements that meet current and future transportation needs across the Minnesota River between I-35 and CR 9.
- Avoid or minimize negative permanent and temporary/ construction impacts on all stakeholders, and support mitigation as part of a comprehensive solution.

Common Goals	Suggested Strategies
1. Noise and visual impacts on neighborhoods: Address noise and visual impacts on adjacent neighborhoods	a. Begin from the baseline state and federal noise standards b. Collectively define qualitative and quantitative objectives and values around how people should be able to experience their communities, such as homes, ballfields, parks and recreation areas, districts, and neighborhoods c. Develop methodologies for measuring extent to which various alternatives meet defined objectives, and for evaluating tradeoffs d. Prepare clear recommendations to guide future decision making
2. Noise and visual impacts on historic properties: Avoid negative visual, atmospheric, auditory, and use effects on historic properties/districts in all communities	a. Work with key stakeholders and the public to identify and evaluate project effects on historic properties b. Ensure that transportation outcomes support Chaska's commitment to a pedestrian-friendly, business-friendly, historic commercial district
3. Impacts on historic ballpark: Ensure ability of Chaska ballpark to operate; preserve the overall ballpark experience and its character as a small-town ballpark eligible for listing on the National Register of Historic Places	a. Seek ways to avoid impacts to the ballpark b. Use the best management practices for design and construction to support this goal
4. Safety issues in downtown Chaska: Resolve safety issues along existing Highway 41 in downtown Chaska	a. Reduce vehicle speed on Chestnut Street through downtown Chaska b. Create safer pedestrian crossings c. Connect east and west downtown Chaska (reduce barrier posed by current Hwy 41) d. Reduce through car and truck traffic on existing

Common Goals	Suggested Strategies
	Chestnut Street through downtown Chaska e. Re-route truck/traffic from downtown to reclaim downtown/pedestrian access/local users f. Mitigate visual and noise impacts on downtown residents and businesses, including businesses with outdoor amenities
5. Environmental justice: Proactively work with stakeholders to understand and responsibly address environmental justice impacts	a. Better understand beneficial and adverse impacts b. Further explore interchange and ramp locations that pose least potential adverse impact to neighborhoods c. Recognize and respect local and regional affordable housing goals; maintain stable affordable housing d. Support no net loss of low-income housing due to the project e. Support connectedness between Jackson Heights neighborhood and the broader community (prevent isolation)
6. Local access: Provide appropriate access to local and county roadways that will facilitate land use developments guided by counties and cities	a. Review development constraints and confirm adopted land use guidance by the counties and cities in and near the preferred corridor b. Review the preferred corridor and "touch-down points" on both sides of the Minnesota River, and make recommendations regarding whether their location aligns with guided land uses and is feasible; identify alternatives for addressing any concerns c. Specifically address the desire for local and direct access from 169 and new 41 to downtown Chaska and downtown Shakopee, consistent with local plans d. Identify the potential areas needed for ROW, long-term impacts of ROW preservation, and alternatives, including funding sources to acquire ROW or allowing appropriate interim or long-term development within defined corridor
7. Ecosystem impacts: Minimize impacts on aquatic and terrestrial ecosystems including animals and plants	a. Manage/contain contamination from vehicles and people on TH 41 (vehicles and hauled equipment on roadway, and roadway maintenance activities and products inadvertently bring contaminants or invasive species that move through waterways and other natural pathways) b. Prevent additional habitat fragmentation and

Common Goals	Suggested Strategies
	use best management practices to connect habitats c. Encourage multi-use (transportation, utilities, etc.) of river crossing corridor to reduce additional habitat fragmentation d. Use best technologies to keep noise at acceptable levels for wildlife e. Maintain ability of wildlife to use natural land and water movement and migration corridors f. Prevent disruption to wetland hydrology
8. Public access: Ensure reasonable and usable public access to the outdoor recreational opportunities in the river valley (Refuge, state trail, and other public lands) **9. User impacts: Minimize impacts, including noise and visual, to people using the Refuge, state trail, and other public lands**	a. Maintain trail connections and access points for current and future outdoor recreational opportunities within the Minnesota River Valley b. Ensure a quality experience for wildlife observation, wildlife photography, hiking, biking, environmental education and interpretation and other related activities (understanding that the various public lands have their own use restrictions) c. Maintain a feeling of solitude by minimizing noise and visual intrusions
10. Land management capabilities: Maintain natural resource management capability on public lands	a. Ensure that TH 41 does not interfere with land management activities in the following ways: • Preventing or limiting heavy equipment access during or after construction • Creating impediments for prescribed burning • Disrupting water management programs • Interfering with forest management practices

4.4 Tier I EIS, Study Advisory Committee, MnDOT Presentation, 9 December 2008

EIS Trunk Highway 41 over Minnesota River

Tier I Environmental Impact Statement Process

Study Advisory Committee

December 9, 2008

Overall Timeline for a New TH 41 MN River Crossing

Activities Since Last SAC Meeting

- Field walk along C-2 near athletic field with USFWS, SHPO, and Chaska staff
- Affordable housing efforts
- Fen report review efforts
- Other options/ideas
- Resulted in work and ideas that have positive elements to build upon – didn't lead to entire new viable option
- Move forward with preferred alternative and continue to work on minimization and mitigation opportunities

December 2008 — Trunk Highway 41

Preferred Alternative - Considerations

- Each alternative addresses project need.
- Each alternative affects at least 1 of 6 resource types with special protections.
- There is an appreciable impact difference among alternatives on 4 additional resource types (i.e.,without special protections).
- Each alternative requires several permits from regulatory agencies and municipal consent from at least 2 municipalities.
- If no concurrence by stakeholders, then Mn/DOT and FHWA have ultimate responsibility to choose.

December 2008 — Trunk Highway 41

Preferred Alternative Considerations– Impacts to Protected Resources

- Resource types with special protections:
  - Section 4(f) park/refuge/historic site (federal)
  - Section 106 historic sites (federal)
  - Section 404 wetlands (federal)
  - Environmental Justice Executive Order (federal)
  - Threatened and endangered species (state)
  - Calcareous fen (Scientific & Natural Area) (state)
- Require "avoid, minimize, mitigate" sequence.
- Preferred Alternative choice considered ability to refine corridor to further avoid/minimize impacts to these protected resources.

December 2008 — Trunk Highway 41

Preferred Alternative Considerations – Additional Resource Impacts

- 4 additional resource types (without special protection) where alternatives have appreciable impact differences:
  - sensitive vegetation
  - habitat (fragmentation)
  - homes
  - businesses/employment
- Preferred Alternative choice considered how to balance/achieve the least overall impact on these resources.

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Preferred Alternative Considerations– Permitting/Approval Prospects

- Each alternative requires several permits from regulatory agencies and municipal consent from at least 2 municipalities.
- Several permitting agencies and some municipalities have expressed position supporting and/or opposing alternatives.
- Preferred Alternative choice considered likelihood of receiving permits/approvals to construct the project.

December 2008

Summary of Considerations

	ALTERNATIVE					
	W-2	C-2	C-2A	E-1	E-1A	E-2
Protected resources	Avoids fen impact Avoids calcareous fen Likely able to avoid T &E impacts Not Section 404 impacts Not indirect Section 106 impacts Highest Section 4(f) impacts	Avoids calcareous fen Likely able to avoid T &E impacts 2nd in EJ impact (may avoid/reduce?) 2nd in Section 404 impacts Direct Section 106 impact low severity Not indirect Section 106 impacts 2nd in Section 4(f) impacts	Avoids calcareous fen 4th in EJ impact (may avoid/reduce?) Likely able to avoid T &E impacts Potential indirect Sect 106 impacts 2nd in Section 4(f) impacts Highest Section 404 impacts	Avoids Section 106 impacts Likely able to avoid T &E impacts 4th in Section 4(f) impact 3rd Section 404 impact Indirect calcareous fen impact 2nd in EJ impact (may reduce?)	Avoids Section 106 impacts 4th in Section 4(f) impact High EJ impact (may reduce?) 2nd in Section 404 impact Indirect calcareous fen impact Highest resources affected	Avoids Section 106 impacts 4th in Section 4(f) impact Low EJ impact (may reduce?) 2nd in Section 404 impact High T & E impact Low resources affected
Other key resources	Moderate home acquisition Moderate business impacts Moderate to high vegetation impacts Highest resource affected	Avoides several homes Least habitat fragmentation Moderate business impacts Moderate to high vegetation impacts	4th in home acquisition Moderate business impacts Highest vegetation impacts Highest resource affected	Least vegetation impacts 5th in business impact Fragmentation further Most resources affected	3rd in home acquisition Moderate to high vegetation impacts Fragmentation further Greatest business impact	Least business impact Moderate to high vegetation impacts Fragmentation further Most homes affected
Permitting/ approval prospects	Chaska supports Carver opposes DNR opposes	DNR supports CCC supports DNR supports Carver opposes Chaska opposes	Chaska opposes DNR opposes MN opposes	Shakopee supports DNR opposes Carver opposes	Shakopee supports Chaska opposes Chanhassen opposes CCC opposes DNR opposes Carver opposes	Shakopee supports Chaska opposes Chanhassen opposes CCC opposes DNR opposes Carver opposes

Green = avoids protected resource; least impact to other key resource; permitting agency support
Yellow = lesser impact to or potential for avoidance of protected resource; lesser impact to other key resource; consent municipality support
Gold = greater impact to protected resource or potential for reduction of high impact, greater impact to key resource, consent municipality opposition
Red = high impact to protected resource, highest impact to other key resource, permitting agency opposition

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Preferred Alternative: C-2

- Avoids impacts to calcareous fen.
- May be able to avoid impacts to T & E species.
- Could be refined to avoid direct Section 106 impact; the potential for indirect Section 106 impact similar to W-2 and C-2A.
- Fewer Section 4(f) and Section 404 impacts than W-2 and C-2A.
- Fewer Environment Justice impacts than Alternatives C-2A, E-1, E-1A and E-2.
- Potential refinements could reduce or avoid EJ impacts.
- Minimizes habitat fragmentation and impacts to homes.
- Key permitting agencies support; no permitting agencies oppose.
- Some counties/cities support, potential refinements could minimize noise, visual impacts.

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C-2 Key Impact Issues

- Impact to Chaska Ballfield
  - a Section 106 and Section 4(f) protected resource
- Impact to the Chaska Historic District
  - a Section 106 protected resource
- Impact to Mn Valley National Wildlife Refuge
  - a Section 4(f) protected resource
- Impact to Jackson Heights
  - an Environmental Justice Executive Order, protected population

December 2008

FEIS Approach to Key Impact Issues

Impact Issue	Approach – Framework for Tier II	Key Stakeholders For Working Groups
Direct impact to Chaska Ballfield	•Move corridor south •Mitigation options •Establish working group to discuss design refinement details, noise, etc.	•Chaska •State Historic Preservation Office •Cultural Resources •USFWS •Etc.
Indirect impact (noise, visual) to Chaska Historic District	•Move corridor south •Additional noise study •Options to reduce noise, visual impact •Mitigation options	
Direct and indirect impacts to Refuge	•Limits on moving corridor to south •Additional noise study/options to reduce noise impact •Mitigation options	
Direct impact to Jackson Heights	•Options to avoid, minimize impact •Working group: long-term strategy to address relocation needs in community planning/affordable housing context.	•Residents/JH Owner •Shakopee/Scott County •Jackson Township •Housing agencies, etc.

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C-2 Design Refinement

Establish working group to discuss:

- Horizontal realignment
  - move it out of Chaska Ballfield and further from Chaska Historic District, while minimizing impacts to Refuge
- TH 169 interchange design
  - potential to avoid Jackson Heights
- Vertical options
  - reduce noise, visual impact
- Other design parameter options
  - reduce noise, visual impact

December 2008

Design Constraints & Opportunities

December 2008

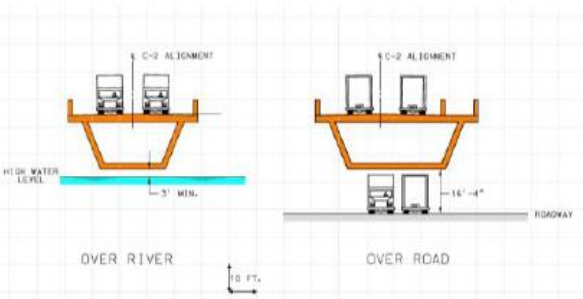
US Trunk Highway 41 Minnesota River

Design Constraints & Opportunities

December 2008

US Trunk Highway 41 Minnesota River

Design Constraints & Opportunities



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US Trunk Highway 41 Minnesota River

Regional Transportation Opportunities

- Eastern travelshed solutions
  - Study TH 101 improvements
- Other ideas?

December 2008

US Trunk Highway 41 Minnesota River

Discussion: Moving FEIS forward

- Refuge/Chaska Ballfield/Historic District area
  - move south; design options; noise study; mitigation options
  - *Chaska, SHPO, FWS*
- Jackson Heights area
  - design options to avoid; relocation strategy working group
  - *Jackson Heights residents & owner, Shakopee, Scott County, housing agencies*
- Eastern travelshed solution
  - Highway 101
  - *Chanhassen, Chaska Carver County, Shakopee, Scott County*
- Complete FEIS
  - revised impacts and mitigation options: framework for Tier II

December 2008

US Trunk Highway 41 Minnesota River

Discussion: Moving FEIS forward

- Why is it important to keep moving ahead?
  - real-estate uncertainties; ROD brings peace of mind for property owners along 5 of the 6 alignments
  - working together to develop preferred alternative protects our investment and creates synergy needed to obtain future design and construction funding
- What else do you need in this FEIS process?

December 2008

US Trunk Highway 41 Minnesota River

Next Steps

Early 2009: Hold working group meetings to discuss design refinement and affordable housing issues

Mid 2009: Build agreement on refined C-2 alignment and document in Tier I FEIS

Late 2010: Distribute Tier I FEIS that documents preferred alternative

Early 2010: FHWA Record Of Decision and State "Adequacy Determination"

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Questions?

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The Project

- Mn/DOT proposes new river crossing
  - in vicinity of existing TH 41
  - connecting TH 169 in Scott County to new TH 212 in Carver County
- Status
  - right of way preservation in Mn/DOT, Met Council plans
  - EIS process now underway for selection of corridor
  - construction not currently programmed
  - Tier II EIS needed prior to construction

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Purpose and Need

- Serve future forecast TH 41 travel demand
  - Alleviate congestion in downtown Chaska
- Provide river crossing above the 100-year floodplain
- Provide freeway connection between TH 169 and New TH 212

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Preferred Alternative: C-2

- W-2:
  - highest Section 4(f) impact
  - fragments habitat
  - opposed by FWS
- C-2A:
  - highest Section 404 impact
  - highest sensitive vegetation impact
  - fragments habitat
  - opposed by FWS
- E-1:
  - high Environmental Justice impact
  - fragments habitat
  - acquires (with E-2) most homes
  - opposed by DNR and LMRWD
- E-1A:
  - high T & E impact
  - high calcareous fen impact
  - high Section 404 impact
  - high Environmental Justice impact
  - fragments habitat
  - impacts most businesses/employees
  - opposed by COE, DNR and LMRWD
- E-2
  - high T & E impact
  - high calcareous fen impact
  - highest Section 404 impact
  - highest Environmental Justice impact
  - fragments habitat
  - acquires (with E-1) most homes
  - opposed by COE, DNR and LMRWD

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How will a decision be made?

- Receive and categorize all public comments
- Meet with Project Teams/Stakeholders to review findings and consider public comments
  - Are there alignments that can be eliminated or refined to further reduce impacts?
  - What impacts have highest levels of protection?
  - What impacts can be mitigated? Is mitigation practical?
  - Is more study needed to make an informed decision?
- Based on discussions, findings, etc. Mn/DOT and FHWA will identify a preferred alternative (could be combination of options)
- Project Teams/Stakeholders discuss preferred alternative and hopefully develop informed consent
  - Agreement on preferred alternative will allow Mn/DOT and Project Teams/Stakeholders to preserve corridor and work together towards obtaining future design/construction funding
  - If informed consent can not be reached, Mn/DOT and FHWA are ultimately responsible for decision
- Document decision-making process in FEIS

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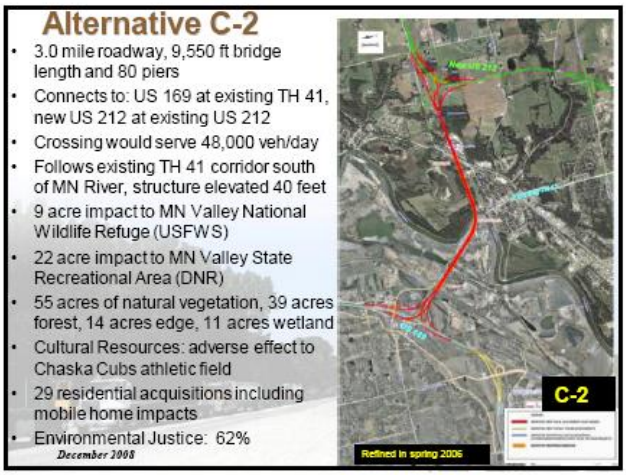
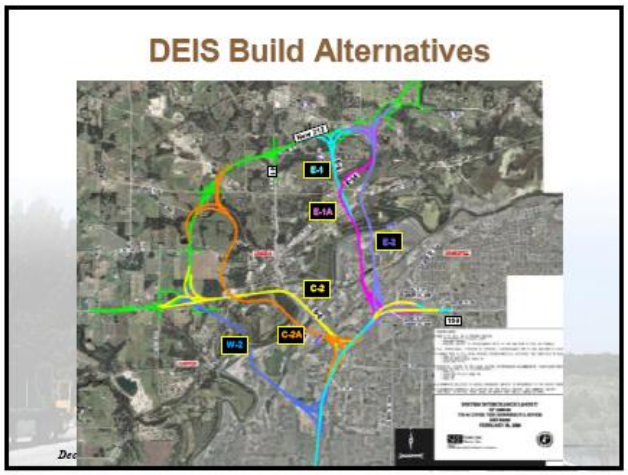

Alternative C-2
3.0 mile roadway, 9,550 ft bridge length and 80 piers
Connects to: US 169 at existing TH 41, new US 212 at existing US 212
Crossing would serve 48,000 veh/day
Follows existing TH 41 corridor south of MN River, structure elevated 40 feet
9 acre impact to MN Valley National Wildlife Refuge (USFWS)
22 acre impact to MN Valley State Recreational Area (DNR)
55 acres of natural vegetation, 39 acres forest, 14 acres edge, 11 acres wetland
Cultural Resources: adverse effect to Chaska Cubs athletic field
29 residential acquisitions including mobile home impacts
Environmental Justice: 62%
December 2008
C-2
Refined in spring 2006


DEIS Build Alternatives
E-1
E-1A
E-2
C-2
C-2A
W-2

4.5 Compiled Notes: RCIC Meetings, Landscaping Task Force, and Interchange Task Force; January 2009-February 2013

See this compilation beginning on the next page.

TH 41 Tier I EIS Design Refinement Group, 29 January 2009

Introduction

The Design Refinement Working Group is being formed to address outstanding stakeholder issues regarding the C-2 preferred alternative that was identified at the December 9, 2008 Study Advisory Committee (SAC) meeting (see complete presentation in Appendix). At that meeting, the SAC agreed that a smaller group would be appropriate to address these concerns and a suggestion was made that a neutral facilitator/public participation consultant would be helpful in guiding these discussions. In response, Anne Carroll, with Carroll, Franck and Associates, was invited to participate in this process. The intent is to build more understanding about the preferred alternative selection process as well as discussing how we might further minimize C-2 potential impacts with design refinements. These could include horizontal alignment shifts, raising or lowering the vertical profile for noise/visual impact trade-offs, and other ideas the groups suggest. For those impacts that cannot be avoided, the group will begin identifying possible conceptual mitigation options that can be planned for in more detail over time and included in the Tier II EIS.

Participants in this meeting are listed below:

Gary Van Eyll	Chaska Mayor	Dennis Gimmestad	State Historical Preservation Office
Gayle Degler	Carver County Commissioner	Cheryl Martin	FHWA Environmental Engineer
Matt Podhradsky	Chaska City Administrator	Lynn Clarkowski	MnDOT South Area Mgr
Kevin Ringwald	Chaska City Planner	Diane Langenbach	MnDOT Project Mgr
Bill Monk	Chaska City Engineer	Nancy Frick	SRF Project Mgr. (MnDOT's EIS Consultant)
Bart Fischer	Chaska Assistant City Administrator	Don Demers	SRF Engineer
Charlie Blair	USFWS – MN Valley National Wildlife Refuge Manager (MVNWR)	Anne Carroll	Carroll, Franck & Associates; public involvement, facilitator
Vicki Sherry	USFWS-MVNWR	Jeanne Holler	USFWS - MVNWR

Preliminary List of Issues Meriting Further Discussion

No detailed agenda was prepared in advance in order for participants to drive the process, so the group began by brainstorming key issues for significant further conversation. The following documentation lists not only the issue itself but a briefly elaboration based the conversation; this additional content has not been vetted by the group, however, and is intended only to help start the next conversation. The group did not discuss whether these are the only issues, nor in what order they should be addressed. They did, however, select those they wished to tackle in this meeting; those are marked with an asterisk and detailed further below.

Stakeholders:

- Who they are, how they may vary by issue and over time, how and why to engage who and when, and how to incorporate their perspectives into the deliberations

- Stakeholder values *

Variables, topics, factors: Determining what are the topics about which stakeholders have issues, establish priorities, identify impacts, find commonalities, etc.
- Stakeholder priorities *
- Stakeholder commonalities
- Impacts of the route choice on various stakeholders *

Route selection process: Need to understand…
- How much flexibility there is within the currently selected route
- The overall process, where we are in the process, and where things go from here
- Process timing
- Key players and their roles, responsibilities, and authority
- Unpacking the C-2 route choice *

Group Discussion: Unpacking the C-2 Route Choice

The group decided to begin by backing up one key step to more fully understand and be better prepared to respond to community perceptions about how and why C-2 was selected. Within that, they began tackling the "big ugly" issues they believed were causing most concern in their various communities and constituent groups.

"Big Ugly" Issue #1

The perception that the various regulatory rules, laws, constraints, and authority have the power to drive the route decision without consideration of community concerns and priorities.
- The calcareous fen discussion included the following:
    - Perception is that it was the primary reason the eastern routes were eliminated. Agency staff noted that this kind of a rare fen has the highest legal protection by both the state and federal governments, and the DNR has begun purchasing some of that land.
    - Participants wondered if it would still be a fen in 20 years, and therefore whether this was relevant. Agency staff noted that they were required to comply with current law and a key issue here is that it is not possible to minimize impacts on a calcareous fen nor could impacts be mitigated after the fact, so their only option is to avoid impacts.
    - Agency staff explained, however, that even without the fen, the eastern route choices would have significant impacts on many more community members on both sides of the river – hundreds of households. They also drew specific attention to the environmental justice issues associated with the three eastern routes. See further detail on that item below.
    - **Environmental justice:** The group noted significant community misunderstanding of this, and their need for much more clarity as well as a way for them to explain this to others. USFWS, MnDOT, and FHWA staff offered an initial summary and how it applied to route selection: This executive order requires them to determine whether decisions have high or disproportionate impacts on low-income or minority populations, and if that is the case, how those impacts can be avoided (vs. minimized or mitigated after the fact). In the case of this route selection process, the eastern three routes posed significant adverse impacts on low-income and minority populations, on both sides of the river. That was a very important consideration in the MnDOT and FHWA recommendations to drop those eastern routes from further consideration.
- Broader discussion about relative needs and priorities included the following:

- The community understands that the region needs this new river crossing to support future transportation needs/demands.
- The community also understands that the overall project will help address downtown traffic problems.
- People were not clear before today on the position of the USFWS; sometimes it felt like the environment mattered more than people <Note: Environmental justice and conservation biology issues that are specifically about people were discussed during the session to the satisfaction of participants, but documentation is needed to help especially local staff with future community conversations; see Task List below.>

"Big Ugly" Issue #2

Participants were not clear on why these particular 6 routes were selected <Note: Route selection process was discussed during the session to the satisfaction of participants, but documentation is needed to help especially local staff with future community conversations; see Task List below.>

- Participants noted that the Tier I EIS process seemed very linear, with little room to consider other topics, especially those that were of most concern to community members.
- Participants recommended that MnDOT have a better process in the future that helps people understand the implications of various decisions that are being made along the way (that may close off later options without people knowing that).
- Participants stressed that future processes must focus *explicitly* on trust issues with communities.
- USFWS made clear that the impacts on the refuge have not been central to the route selection process to date.
- SHPO indicated that although the C-2 preferred alternative decision still has significant potential impacts to the historical resources in the area, they have no plans at this time to challenge the elimination of the eastern routes.

"Big Ugly" Issue #3

Local participants noted that the common perception is that C-2 was selected because it had the fewest environmental regulatory problems, and that it was the easiest to push through because it had the least opposition of other kinds. In addition, the perception is that C-2 is "good for the refuge."

- Participants noted that the path of least resistance is not always the best solution or choice.
- FHWA staff noted that their mandate is to minimize *all* impacts.
- Several agency staff noted that mitigation options may *not* be factored into an agency's legally mandated review and evaluations; they must instead focus on ways to avoid or minimize negative impacts; they can only look at mitigation options after the fact.
- USFWS staff noted that C-2 is *not* "good for the refuge," and that their preference from the point of view of impacts is the no build option; they further explained that their charge is to minimize impacts on both wetlands and the national wildlife refuge, however, they recognize that the no build option is not good for the Chaska community, so have found C-2 is the least bad of the build routes.
- Working group identified that input from stakeholders south of the river is important, i.e. Scott County, Jackson Heights Manufactured Housing, etc.

Group Discussion: C2 Route

Participants listed a number of issues and impacts that need attention in ongoing discussions of the C-2 route choice, as follows:

- Municipal, county, and regional transportation values, regulations, and priorities

- Decision-making process from here on
- Stakeholder involvement process
- Trust
- Sound/noise
- Safety on current Hwy 41, future Hwy 41, and Chestnut
- Visual impacts
- Commuter and traveler needs
- Community livability and people's quality of life
- Historic ballfield
- Environmental issues
- Regional economics
- Local economics
- Downtown economics
- Community values
- Traffic
- Information, if relevant, of the programmatic agreement (Section 106) between SHPO and MnDOT
- Others, to be determined

Tasks

Agency staff agreed to arrange the next meeting later in February, and to immediately begin preparing the following materials to meet the needs listed.

Description	Purpose/Use	Assignment	Due Date
Environmental justice: Description of environmental justice rules and how they apply to this route selection process; both detailed and summary version. **Section 4(f):** description of rules and what this means in our process.	By local staff, electeds, and community members to help everyone understand what it means and how it was applied	Cheryl Martin? Diane/Cheryl	???
Route selection detail: Detailed description of the route selection process to date, from 20 to 6 to 3 to 1	By anyone who needs the official, detailed information	Diane Langenbach	???
Route selection summary: Summary/graphic version of the route selection process from 6 to 1, focusing explicitly on the basis for eliminating the eastern routes and all the western routes except C-2; to the extent possible, this should clarify impacts and concerns related to avoid, minimize, and mitigate	By anyone who needs a simple but clear verbal + graphic description of the key decisions that are most important to community stakeholders	Diane Langenbach	???
Conservation biology: **I**nformation on how the USFWS	By local staff, electeds, and community members to help	Charlie Blair	???

is required to evaluate impacts, the comparative impacts of the 6 routes, why C-2 is preferred, and what some of the remaining concerns are about C-2 (medium level of detail, perhaps including some summary language)	everyone understand the USFWS process and route impacts		

TH 41 Tier I EIS Design Refinement Group, 18 February 2009

Introduction

Based on the guidance from the 29 January meeting, this session at the US Fish and Wildlife Service's Visitors Center focused on identifying needs and priorities of key stakeholders. These results are both incomplete and very preliminary, and therefore should not be broadly distributed until these stakeholders have the chance to revisit

Participants are listed below:

Gary Van Eyll	Chaska Mayor	Dennis Gimmestad	State Historical Preservation Office (SHPO)
Matt Podhradsky	Chaska City Administrator	Cheryl Martin	Federal Highway Administration (FHWA) Environmental Engineer
Kevin Ringwald	Chaska City Planner	Lynn Clarkowski	MnDOT South Area Mgr
Bill Monk	Chaska City Engineer	Diane Langenbach	MnDOT Project Mgr
Bart Fischer	Chaska Assistant City Administrator	Nancy Frick	SRF Project Mgr. (MnDOT's EIS Consultant)
Charlie Blair	USFWS – MN Valley National Wildlife Refuge Manager (MVNWR)	Don Demers	SRF Engineer
Vicki Sherry Jeanne Holler Gerry Shimek	USFWS-MVNWR	Anne Carroll	Carroll, Franck & Associates; public involvement, facilitator

Activities and Raw Results

The primary task for the day was to identify needs and priorities of the various key stakeholder groups. To do this, participants formed themselves into actual stakeholder groups to generate and then present out initial ideas from stakeholders who were not able to participate that day, including the DNR, Shakopee, Scott County, and Jackson Heights. These are initial ideas only, and are not to be construed as either complete or representative, especially for stakeholders unable to attend. This list does help advance the conversation, however, by beginning to frame the range of items to be considered by this group and thus allowing us to move toward identifying points of consensus and of difference.

Preliminary Needs and Priorities, by Category

Below are the preliminary needs and priorities, organized by rough category. Note the following important caveats:

- These categories were named after the fact rather than by the group at the time
- In each case, the stakeholder groups identified their top five or six choices, and some edited them further (see below for the complete lists)
- The parenthetical organization names at the beginning of these indicate their source, *but* we did not have representatives from the DNR, Shakopee, Scott County, or Jackson Heights at this meeting, so those perspectives were assumed by stakeholders familiar with their positions solely for the purpose of this exercise; these stakeholders *will* be engaged as this process moves forward to ensure that their

needs and priorities are correctly identified
- These were briefly presented during this meeting but were not significantly refined nor further vetted

History, Culture
- (SHPO) Avoid major tong-term adverse impacts to a Minnesota River community with 150+ years of physical and cultural investment
- (SHPO) Downtown historic district; reduce traffic and retain economic viability
- (SHPO) Historic houses of neighborhood; preserve character and prevent devaluation due to noise and visual effects
- (SHPO) Chaska ball park; prevent decline in use and potential abandonment due to usual impairment and other project effects
- (Chaska) Retain ballpark for historic community gathering place

Community
- (Chaska) Implementation of vision of downtown Chaska being a pedestrian-friendly, business-friendly historic commercial district
- (Chaska) Visual and noise impacts on the downtown residents and the athletic park being mitigated
- (Chaska) Reduction of traffic on existing Chestnut Street through downtown Chaska
- (MNDOT) Leave communities whole and healthy
- (JH) Quiet neighborhood
- (JH) Opportunity to thrive
- (JH) Neighborhood stability

Resource Access
- (USFWS) Minimize impacts to people using refuge
    - Noise
    - Pollution
    - Reduced viewing opportunities
    - Quality experience
- (DNR) Minimize impacts to visitors using state land and trails
- (DNR) Minimize impacts to state trail
- (DNR) Maintain access to state trail
- (DNR) Provide recreational opportunities on state land

Housing, Affordability
- (JH) Maintain affordability
- (Scott County) Affordable housing
- (JH) No loss of housing

Natural Resources
- (USFWS) Suitable mitigation for adversely affected refuge lands
- (USFWS) Maintain management capability on refuge
    - Access for heavy equipment
    - Fire management
    - Water management
    - Invasive species control (will increase with road)
- (USFWS) Minimize overall natural resource impacts

    - Contamination (water quality, debris)
    - Corridors
- (Chaska) Maintain the access to the River Valley from an environmental perspective (maintain our greenbelt)
- (USFWS) Minimize impacts to wildlife using refuge
    - Byproducts of transportation (oils, salt, heavy metals)
    - Habitat fragmentation
    - Noise
    - Pollution
    - Collisions

Transportation
- (MNDOT) Meet transportation need; travel demand, out of floodplain, reduce congestion
- (Scott County) Timing of TH 169 corridor improvements
- (Scott County) C-2 does not address north-south transportation needs across river

Land Use
- (Scott County) Land use impacts related to tribal land acquisition
- (Scott County) Land owners uncertain about future of properties

Collaborative Process, Laws and Regulations
- (FHWA) Solution that all stakeholders can support
- (FHWA) Preferred alternative given municipal consent and permits
- (FHWA) Avoid, minimize, or mitigate to administering agencies concurrence
- (MNDOT) Solution that is supported and has ability to get permitted; also meets environmental regulations
- (MNDOT) Have a sustainable Tier I decision until/through Tier II EIS
- (FHWA) Location decision not revisited at Tier II preparation
- (FHWA) Legally defensible NEPA document
- (FHWA) Completion of ROD
- (FHWA) Solution that all stakeholders can support
- (FHWA) Preferred alternative given municipal consent and permits
- (MNDOT) Cost-effective solution; benefit/cost is positive

Preliminary Needs and Priorities; Complete List, by Source

The ideas below are the more complete lists generated by each stakeholder group, from which they selected their top five or six, then edited, posted, and grouped them as shown above.

MnDOT
- Look at communities at a higher level/bigger picture
    - Whole and healthy
    - Peace of mind
- Meet transportation need
    - Existing/future travel demand
    - Crossing out of the flood plain
    - Reduce congestion through Chaska

- Solution that is supported and permitted
- Cost-effective solution; benefit/cost is positive
- Have a sustainable Tier I decision until/through Tier II EIS

SHPO
Downtown Historic District
- Reduce truck traffic volumes which cause issues of use-preserve
- Reduce traffic and maintain environmental viability of historic downtown
- Ballpark: Maintain overall character and setting and context
- "Discrete historic core" because of geography-historic downtown recognizable-can "read" historic area separately
- For ballpark, prevent decline in use and potential abandonment due to visual degradation and other effects (auditory, other)

Scott County (as noted above, these ideas were generated by other stakeholders familiar with this group; this stakeholder will be engaged to finalize these)
- C-2 does not address their transportation needs adequately (north-south desire on Hwy 101)
- Timing of TH 169 Corridor improvements
- North-south transportation need; so what to do elsewhere to meet those
- Timing of 169 improvements; all these improvements happen over time; schedule, plans, etc.
- Future tribal lands acquisition

City of Chaska
- Physical mitigation of historic ballpark property
- Visual sight-lines from downtown Chaska/ballpark looking to south
- Noise issues for residents of downtown Chaska
- Noise for businesses with outdoor amenities
- Re-route truck/traffic from downtown to reclaim downtown/pedestrian access/local users
- Coexist with wildlife area. A solution that we can agree on
- Safety issues along 41 in downtown
    - Reduce seed
    - Safer pedestrian crossing
    - Connecting East and West Chaska
- Re-create an atmosphere in downtown to help businesses survive/thrive and residents to connect.
- Sense of community
- Traffic will increase in downtown under C-2, which has its negatives
- Implementation of Chaska's vision
- Greenbelt
- Ballpark-one of multiple draws to downtown (april-October)
- Visual/noise supports our vision of downtown
- Traffic-concerned about it going up in spite of highway

Jackson Heights (as noted above, these ideas were generated by other stakeholders familiar with this group; this stakeholder will be engaged to finalize these)
- Future-stability of neighborhood for residents
- Connectedness to "community" (isolation)
- Affordability within community

- Neighborhood stability always tenuous as they own homes but not land
- Neighborhoods always want to thrive
- Loss of housing is equivalent to loss of sense in community

USFWS
- Suitable mitigation for affected lands
- Maintain management capabilities
    - Water management
    - Fire

DNR (as noted above, these ideas were generated by other stakeholders familiar with this group; this stakeholder will be engaged to finalize these)
- Impacts to visitors using parks/trails
- DNR more recreationally based

TH 41 Tier I EIS Design Refinement Group, February 2009 Presentations on Environmental Justice, Conservation Biology, Section 4(f) Natural Resources and Historic Sites

At the February 2009 RCIC meeting participants heard detailed presentations that were taped for reference and included handouts.

Environmental Justice

Cheryl Martin of FHWA provided a presentation and handout on this topic. See the video at http://www.youtube.com/watch?v=pLZAOGM25vo and the handout below.

Environmental Justice Summary

A 1994 Presidential Executive Order directed every Federal agency to make environmental justice part of its mission by identifying and addressing the effects of all programs, policies, and activities on "minority populations and low-income populations." The U.S. DOT'S environmental justice initiatives accomplish this goal by involving the potentially affected public in developing transportations projects that fit harmoniously within their communities without sacrificing safety or mobility.

There are three fundamental environmental justice principles:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- To ensure the full and fair participation by al potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

In April 1997, the U.S. Department of Transportation (DOT) issued the DOT Order on Environmental Justice to Address Environmental Justice in Minority Populations and Low-Income Populations (DOT Order 5610.2) to summarize and expand upon the Requirements of Executive Order 12898 on Environmental Justice. The Order generally describes the process for incorporating environmental justice principles into all DOT existing programs, policies, and activities.

The U.S. DOT Order clarifies and reinforces Title VI responsibilities as well as addresses effects on low-income populations. The goal of the U.S. DOT Order is to ensure that programs, policies, and other activities do not have a disproportionately high and adverse effect on minority or low-income population. This goal is to be achieved, in part, by implementing both Title VI and NEPA during the development and implementation of transportation activities.

In December 1998, the FHWA issued FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (DOT Order 6640.23) that requires the FHWA to implement the principles of the DOT Order 5610.2 and E.O. 12898 by incorporating environmental justice principles in all FHWA programs, policies and activities.

Steps for defining environmental justice impacts (input from the affected populations is a key element in the process):

1. Identify the location of low-income and/or minority populations in the project area
2. Identify the impacts of the project upon the identified low-income and/or minority populations
3. Determine whether or not the impacts are disproportionately high and adverse
4. Seek ways to avoid, minimize or mitigate disproportionately high and adverse effects
5. Implement avoidance, minimization, and/or mitigation

For more information: http://www.fhwa.dot.gov/environment/ejustice/facts/index.htm

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Conservation Biology and Habitat Fragmentation

Minnesota Valley National Wildlife Refuge staff member Vicky Sherry provided a presentation and handout on this topic. See the video at http://www.youtube.com/watch?v=wKnDTwKE-QQ for part 1 and http://www.youtube.com/watch?v=gsuHhqB9FSg for part 2 and the handout below.

How Future Highway 41 Alignment Affects the Chaska Unit
U.S. Fish and Wildlife Service-Minnesota Valley National Wildlife Refuge

- Minnesota Valley National Wildlife Refuge is made up of eight management units located along the Minnesota River. The 601-acre Chaska Unit is a mix of floodplain forest and wetland habitats.

- Floodplain forest and wetland habitats are declining both regionally and globally. Many bird species such as warblers have declined substantially since the 1960's; this has been directly linked to forest habitat loss and degradation. Floodplain forests have a high abundance of birds compared to upland forests, and many of these bird species rely on large blocks of habitat to maintain their populations.

- Habitat fragmentation is a major factor that threatens the uninterrupted existence of a species. All proposed TH 41 alternatives contribute to habitat fragmentation.

- Habitat fragmentation occurs when a large area of habitat is broken down, or fragmented, into a collection of smaller isolated areas ("blocks" or "patches") of habitat. This results in a reduction of: 1) total habitat acres, 2) average block size, and 3) interior (core) habitat. Fragmentation also increases edge habitat.

- Edge habitat is a transition zone from one habitat to another. For example, the transition area from wetlands to mature floodplain forest is edge habitat. It will contain different plant species and have different temperature, sunlight, and moisture conditions than the interior habitat of either the wetland or the forest. The wetland interior will contain wetland specific species and the floodplain forest interior will contain forest specific species but the edge habitat will support species that tolerate wide-ranging conditions. The edge area will support different wildlife species than either interior habitat.

- The following figure shows how edge habitat is increased with fragmentation.[1]

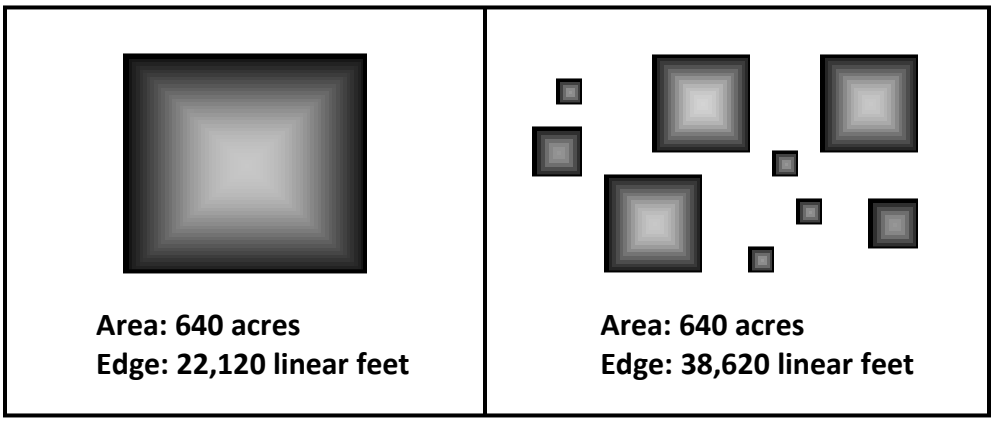


Figure 1: An ecosystem that is 640 acres (1 square mile) in size, before and after it is fragmented. Notice that following fragmentation, the habitat remnants have over 50% more edge than when the ecosystem was intact and much less interior habitat.

- Edge Effect Example: The white-breasted nuthatch (forest specialist) thrives in the forest interior. Blue-jays (generalists) do well in edge habitat and are effective nest predators of other birds. As edge habitat is increased due to fragmentation, the likelihood that blue jays will enter the territory of the nuthatch is increased. Eventually the generalists increase and the forest specialists decline. A larger area of interior habitat reduces the likelihood that generalist species will adversely affect specialist species.
- Habitat area size is important because small patches contain relatively little interior habitat and large amounts of edge. Small habitat patches are unfavorable to species that require large areas of specific core habitat and will lead to a species decline.

- Patch Size Example: [2] The red-shouldered hawk, a species of special concern in Minnesota, is most successful in large blocks (about 500 acres) of forest habitat. The large contiguous forest tracts that the species is dependent on are becoming increasingly fragmented and smaller, thus creating habitat that is more suitable for the common red-tailed hawk which is most successful in open habitats.

- Habitat area size also is important because the larger the block size the more species and the more individuals of each species an area can support.[3] For example, the white-breasted nuthatch requires about 10 acres to support one individual; the red-shouldered hawk requires about 500 acres. A 10 acre patch of habitat can support one nuthatch whereas a 500 acre block of habitat can support about 50 nuthatches and one red-shouldered hawk. In addition, the 500 acre block will support many individuals of other species that need less than 500 acres to survive. We have documented swans, osprey, bald eagles, herons, egrets and many species of waterfowl, shorebirds, and songbirds using the Chaska Unit of the Refuge.

- Size of fragments (in acres) produced by three of the proposed alignments:

	Alignment		
	W-2	**C-2A**	**C-2**
West Fragment	132	494	591

East Fragment	469	107	10

- The C-2 alignment results in the largest block (591 acres) of habitat remaining on the Chaska Unit; it also results in the smallest patch of habitat (10 acres). From a wildlife management perspective, we prefer losing this small fragment as wildlife habitat, rather than breaking up the area into 100+ and 400+ acre blocks.

- The highway also will provide a physical obstacle to birds moving to habitats that end up on either side the highway. A highway becomes a barrier because its construction and maintenance modifies the habitats through which it passes. Birds and other wildlife have a limit to what size of area they will cross to reach similar habitats. For example, the maximum width of an opening a white-breasted nuthatch will cross within their home area is 200 yards.[1] So, if food or shelter becomes unavailable in a bird's home area and there is a habitat opening of over 200 yards, the bird would not be able to reach suitable habitat and may not survive.

- Road noise will adversely affect the experience of local citizens visiting the Refuge. Many people like to experience both the sights and sounds of the Refuge. The increased traffic noise will drown out the bird songs and other enjoyable nature sounds such as wind in the trees. People, birds, and other wildlife that rely on sound to communicate will not be able to use areas near the highway as fully as they do now.

- Trash and other roadway debris will also adversely affect people and animals using the Refuge unit.

[1] Meffe, G.K., L.A. Nielsen, R.L. Knight, and D.A. Schenborn. 2002. Ecosystem Management: Adaptive, Community-based Conservation, Island Press, Washington, DC. 313pp.

[2] Coffin, B. and Lee Pfannmuller. 1988. Minnesota's Endangered Flora and Fauna. University of Minnesota Press. 473 pp.

[3] Cornelius, C., H. Cofre, and P.A. Marquet. 2000. Effects of habitat fragmentation on bird species in a relict temperate forest in semiarid Chile. Conservation Biology 14: 534 – 543.

Section 4(f) Natural Resources and Historic Sites

Cheryl Martin of FHWA made a brief presentation and provided the following handout on this topic.

The Department of Transportation Act (DOT Act) of 1966 included a special provision – Section 4(f) – which stipulated that the Federal Highway Administration ((FHWA) and other DOT agencies cannot approve the use of land from publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites unless the following conditions apply:

- There is no feasible and prudent alternative to the use of land.
- The action includes all possible planning to minimize harm to the property resulting from use.

A Five-Minute Look at Section 4(f)

<u>What is Section 4(f)?</u> Section 4(f) refers to the original section within the Department of Transportation (DOT) Act of 1966 which set the requirement for consideration of park and recreational lands, wildlife and waterfowl refuges, and historic sites in transportation project development. The law, now codified in two places (49 U.S.C. 303 and 23 U.S.C. 138), is implemented by the Federal Highway Administration

(FHWA) and Federal Transit Administration (FTA) through regulations found at 23 CFR 771.135.

When does Section 4(f) apply? 4(f) applies to all projects that receive funding from or require approval by an agency of the U.S. DOT, including FHWA. Compared to the many environmental laws that apply to FHWA actions, 4(f) is considered to have stringent approval standards by statute and court interpretation.

What does Section 4(f) require? Before approving a project that "uses" a Section 4(f) resource, FHWA must find that there is no prudent and feasible alternative AND that the selected alternative minimizes harm to the resource. If there is a prudent and feasible alternative that completely avoids 4(f) resources, it must be selected. If there is no prudent and feasible alternative that avoids 4(f) resources, FHWA has some discretion in selecting the alternative that causes the least harm to 4(f) resources.

What is a Section 4(f) resource? 4(f) resources include any publicly owned public park, recreation area, or wildlife or waterfowl refuge or any publicly or privately owned historic site.

What is a "use"? In discussing 4(f), "use" may mean either a direct use or constructive use. A direct use occurs when land is permanently incorporated into a transportation facility or when there is a temporary occupancy of land that is adverse to a 4(f) resource. Constructive use occurs when a project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are "substantially impaired."

What is feasible? An alternative is considered feasible if it can be constructed as a matter of sound engineering. Alternatives that are studied in a Draft Environmental Impact Statement or Environmental Assessment are almost always feasible; otherwise they should not be carried forward for detailed study.

What is prudent? The Supreme Court has defined an alternative as not prudent only if it involves "truly unusual factors" or "unique problems" or the cost of community disruption reaches "extraordinary magnitudes." FHWA uses a number of factors, including the project context and the severity of impacts to non-4(f) resources, in determining what is prudent.

What is least harm? FHWA must consider many factors, not just acreage of a 4(f) resource used. Does the project shave an edge off a resource as opposed to cutting through the middle? Alter an historic building versus alter surrounding land? Take an unused portion or a highly used portion of a park? FHWA must consider the net impacts of each alternative after mitigation measures have been taken into account. If two alternatives cause "substantially equal" harm to 4(f) resources, FHWA may choose either one.

Does Section 106 of the National Historic Preservation Act duplicate 4(f)? There is overlap, but they are two different types of requirements enacted by Congress on the same day in 1966. 4(f) is a substantive standard, while Section 106 is essentially a consultative procedural requirement.

Who makes the 4(f) decision for highway projects? FHWA decides whether Section 4(f) applies to a resource, reviews assessments of each alternative's impacts to 4(f) properties, and determines whether the law allows the selection of a particular alternative after consulting with the Department of Interior.

For more information: see
http://www.environment.fhwa.dot.gov/environment/guidebook/vol2/4fpolicy.asp

TH 41 Tier I EIS Design Refinement Group, 9 March 2009

Location: US Fish and Wildlife Service's Visitors Center

Introduction

Participants at this session began refining the preliminary needs and priorities identified at the February meeting. These results remain incomplete and preliminary, and therefore should not be broadly distributed until these stakeholders have finished reviewing and refining their initial ideas and are ready to begin vetting them further.

Participants are listed below:

Matt Podhradsky	Chaska City Administrator	Dennis Gimmestad	State Historical Preservation Office (SHPO)
Kevin Ringwald	Chaska City Planner	Cheryl Martin	Federal Highway Administration (FHWA) Environmental Engineer
Bill Monk	Chaska City Engineer	Lynn Clarkowski	MnDOT South Area Mgr
Bart Fischer	Chaska Assistant City Administrator	Diane Langenbach	MnDOT Project Mgr
Charlie Blair	USFWS – MN Valley National Wildlife Refuge Manager (MVNWR)	Nancy Frick	SRF Project Mgr. (MnDOT's EIS Consultant)
Wayne Barstad	MnDNR	Gerry Shimek	USFWS MN Valley NWR
Jeanne Holler	USFWS-MVNWR	Craig Jenson	Scott County Transportation Planner
Alan Wetterlin	Jackson Heights owner	Anne Carroll	Carroll, Franck & Associates; public involvement, facilitator
Mark Cleveland	MnDNR – Park and Trails		

Agenda

The agenda established by participants at the beginning of the meeting was to clarify, refine, and elaborate upon the draft needs and priorities identified at the 18 February meeting, especially as we had people from Jackson Heights, DNR, and Scott County in attendance this time. The group highlighted that it was important for everyone to continue being sincere and committed to getting "together" on these needs and priorities in order to reach sustainable decisions. They noted that such decisions required detailed documentation all along the way, an understanding that this is a 20+-year project rather than simply starting in 20 years, clarity, comprehensive stakeholder input, collaboration, and continuous stakeholder involvement over time. Finally, they asked to learn more about other long-term efforts that engaged people over time, such as TH 212 and the airport runway expansion.

Revised Needs and Priorities

Working from the raw results from the 18 February meeting, participants went line-by-line through the list, clarifying, elaborating upon, and moving toward consensus for each of them. Over the course of the meeting, participants noted their interest in reaching *common* agreement on all of these as well as

subsequent work in order to present a unified framework from which subsequent decisions about the TH 41 route could be made. It was thus of particular value to have additional stakeholders at this meeting, while recognizing that extended and ongoing stakeholder engagement is essential to the short- and long-term success of this effort.

The results below are provided with the following caveats:

- These partially refined needs and priorities are still in draft form and in fact the group has not yet finished reviewing the entire initial list, so the contents are not yet ready for further distribution
- In support of the group's intent for these to reflect joint needs and priorities and the fact that they are being refined/edited by the entire group, the list below eliminates the stakeholder identifiers included in the February 18 meeting notes
- Also included below are items that were identified by subgroups at the February meeting that were not included in their top five and thus not carried forward on the main list; those have not yet been reviewed by participants but will be considered along with the unfinished and revised items when they continue with this task at their April meeting.

In an attempt to further organize this information, the first column lists the current version of needs and priorities; the second column begins to separate out proposed solutions or approaches. Both the content and the format remain very preliminary, and are numbered solely to aid discussion.

Preliminary Needs and Priorities	Proposed Solutions or Approaches
History, Culture, Community	
• Implement vision of downtown Chaska being a pedestrian-friendly, business-friendly historic commercial district	• Look at communities at a higher level/bigger picture with regard to leaving them whole and healthy and with peace of mind
• Re-create an atmosphere in downtown to help businesses survive/thrive and residents connect with each other and create a strong sense of community.	•
• Preserve character and prevent devaluation of historic houses from noise and visual effects	•
• Protect "discrete historic core"; because of its geography, the historic downtown is recognizable and can be "read" as a separate historic area	•
• Prevent decline in use and potential abandonment of Chaska ballpark due to visual impairment, noise, and other project effects • Retain ballpark as historic community gathering place • Preserve ballpark character and the overall experience of community baseball games	•
• Avoid major tong-term adverse impacts that will degrade Chaska, with its 150+ years of physical and cultural investment	•
• Resolve safety issues along 41 in downtown	• Reduce speed • Create safer pedestrian crossings • Connect east and west Chaska
• Maintain and protect downtown historic district and	• Reduce *through* car and truck

maintain economic viability	traffic on existing Chestnut Street through downtown Chaska • Recent intersection improvements have moved queue of trucks and quieted neighborhood, and landscaping has helped • Re-route truck/traffic from downtown to reclaim downtown/pedestrian access/local users • Mitigate visual and noise impacts on downtown residents and businesses, including businesses with outdoor amenities
• Avoid environmental justice impacts on south side of river	• Further explore interchange locations
Housing, Affordability	•
• Maintain stable affordable housing	•
• Recognize and respect local and regional affordable housing goals	• Prevent loss of housing
• Ensure livability of local residents and residential communities most affected by new roadway	•
• Support connectedness of affordable housing to the broader community (prevent isolation)	•
Natural Resources	•
• Maintain and support Chaska's greenbelt	•
• Make refuge "whole" following the impacts of the roadway; take account of all potential resources and locations to replace whatever is lost	• Provide suitable mitigation for adversely affected refuge lands • Minimize overall natural resource impacts, including preventing water quality contamination and debris
• Maintain management capability on refuge, including but not limited to access for heavy equipment, fire management, water management, and controlling invasive species that will increase with the road going through the refuge	•
• Address problems with *increases* in invasive species due to vehicles inadvertently bringing them in, after which they move through waterways and other natural pathways;	• Minimize/contain contamination from vehicles and people
• Maintain ability of wildlife and visitors to use natural land and water movement and migration corridors in the refuge	•
• Maintain people's access to the environmental opportunities in the river valley; the greenbelt is part of the community's heritage and quality of life	•
• Minimize impacts to wildlife using refuge, including:	•

transportation byproducts (oil, salt, heavy metals); habitat fragmentation; noise; pollution; and collisions related to wildlife	
• <Clarify fragmentation issue relative to DNR and USFWS priorities and concerns>	•
Resource Access	•
• Minimize impacts to people using refuge, including noise, pollution, and reduced wildlife viewing opportunities	•
• Ensure quality experience, including wildlife viewing, solitude and quiet, hearing sounds of wildlife, casual and professional wildlife observation and photography, walking and hiking, outdoor education, etc.	• <Note that data on noise impacts on wildlife are available.>
• Note: DNR's key priority is to protect and maintain aquatic and terrestrial ecosystems in area, and within that, provide recreational and educational access	•
• Maintain ability to use this unit as a gateway, drawing people into outdoor experiences	•
• Maintain long-term trail connections and future opportunities within Minnesota River Valley	•
• Minimize impacts to visitors using state land and trails	•
• Minimize impacts to state trail	•
• Maintain access to state trail	•
• Provide recreational opportunities on state land	•

Participants will review the following preliminary issues and needs at their April meeting.

Transportation
- Meet transportation need; travel demand, out of floodplain, reduce congestion
- Timing of TH 169 corridor improvements
- C-2 does not address north-south transportation needs across river
- Meet transportation needs with regard to existing and future travel demands, crossing out of the flood plain, and reducing congestion through Chaska

Land Use
- Land use impacts related to tribal land acquisition
- Land owners uncertain about future of properties
- Address land use and zoning impacts at future on an off ramps; these will affect Carver, Jackson Township, and Chaska

Collaborative Process, Laws and Regulations
- Solution that all stakeholders can support
- Preferred alternative given municipal consent and permits
- Avoid, minimize, or mitigate to administering agencies' concurrence
- Solution that is supported and has ability to get permitted; also meets environmental regulations

- Have a sustainable Tier I decision until/through Tier II EIS
- Ensure that location decision is not revisited at Tier II preparation
- Legally defensible NEPA document
- Completion of ROD
- Solution that all stakeholders can support
- Preferred alternative given municipal consent and permits
- Cost-effective solution; benefit/cost is positive
- Address fact that the Jackson Heights owner has complete freedom to make any changes to property over time
- Communicate more clearly that if Jackson Heights homeowners were to be bought out they would be compensated and could be moved as a community
- Find balance between visual and noise issues using all tools available, including bridge types, surface material, roadway barriers, speed limit, land buffers, specific route, height, lighting design, aesthetic choices on and around bridge

TH 41 Tier I EIS Design Refinement Group, 6 April 2009

Location: US Fish and Wildlife Service's Visitors Center

Introduction

The aggressive agenda established when participants arrived at this meeting was driven by work begun at previous meetings, including continued work providing public information on the process to date, continued elaboration of needs and priorities, comparable experiences, and strategic issues around the long-term process.

Participants are listed below:

Matt Podhradsky	Chaska City Administrator	Dennis Gimmestad	State Historical Preservation Office (SHPO)
Kevin Ringwald	Chaska City Planner	Cheryl Martin	Federal Highway Administration (FHWA) Environmental Engineer
Bill Monk	Chaska City Engineer	Lynn Clarkowski	MnDOT South Area Mgr
Bart Fischer	Chaska Assistant City Administrator	Diane Langenbach	MnDOT Project Mgr
Charlie Blair	USFWS – MN Valley National Wildlife Refuge Manager (MVNWR)	Michael Leek	Shakopee Community Development Director
Gerry Shimek	USFWS MN Valley NWR	Michael Sobota	Scott County Community Development Director
Robert "Jake" Jacobson	USFWS MN Valley NWR	Craig Jenson	Scott County Transportation Planner
Mark Cleveland	MnDNR – Park and Trails	Nancy Frick	SRF Project Mgr. (MnDOT's EIS Consultant)
Wayne Barstad	MnDNR	Anne Carroll	Carroll, Franck & Associates; public involvement, facilitator

Agenda

Participants at this meeting heard a presentation from the USFWS on their previous experience with the international airport runway expansion and reviewed the first draft of the process-to-date documentation prepared by SRF on behalf of MnDOT that had been requested by this group at an earlier meeting. The original agenda called for continued discussion and clarification of preliminary needs and priorities identified at the February meeting, as well the beginning of a strategic process discussion, but the group decided the first two items required more time. The needs and priorities will be a major topic at the next meeting, and a task force was appointed to draft process options for the group's consideration in May.

Process Comparison and Reflections

Per the group's February request, USFWS Refuge Manager Charlie Blair presented the USFWS's perspective on their experience working with the Metropolitan Airport Commission on the international airport runway expansion over the refuge. <See below.>

The group discussed the importance of the certain elements characterizing any such complex process if

it is to be successful. Below are those that emerged in the discussion and are part of the group's larger commitment to finding – and maintaining – common ground for this lengthy process:

Ensure that all stakeholders/interests are represented and acknowledged

- Take time to understand the real impacts on all stakeholders, and be prepared to address them
- Find a balance among stakeholders
- Build and maintain trust
- Build and maintain strong relationships and active, open communications among key stakeholders to ensure long-term decision making
- Create and maintain strong partnerships
- Find common interests
- Seek and maintain alignment within agencies and organizations; find a common voice and actively communicate in order to present a consistent, aligned message across organizations with similar interests
- Pay close attention to external pressures and changing political dynamics so they are factored in appropriately but don't destroy the good work, relationships, and agreements that have been reached
- Realize that stakeholders – and data – coming in at various stages of the process over many years will have different information, perspectives, and priorities; create and maintain relationships, communications, and transparency accordingly so that the process can be appropriately responsive to changing information while keeping core commitments intact
- Realize that the EIS process is linear and includes huge gaps of time and work that are not understood or obvious to the public, and therefore require more active and formal communications to keep everyone informed and continually engaged

Process Documentation

In small groups, participants reviewed draft process documentation prepared by the MnDOT consulting team from SRF. The smaller groups then presented their recommendations for the whole group's consideration. The priority continued to be creating process documentation for staff and electeds to provide useful and relevant information to community members; ensuring clarity about what time period it covered (and what it didn't), with minimal future detail so that it could be used longer; and website information for more detailed and current information that MnDOT continues to prepare.

Case Study Presentation: USFWR and MSP Airport Expansion

See presentation beginning on next page.

CASE STUDY presented to TH 41 Planning Meeting

6 April 2009

MSP Airport Expansion and Minnesota Valley National Wildlife Refuge

1. Introduce you to Minnesota Valley National Wildlife Refuge
2. Discuss the "airport" challenge
3. A collective solution

Minnesota Valley National Wildlife Refuge

Unique and Special Place
A place where wild critters co-exist with modern development

Minnesota Valley NWR

Eight Units – 14,000 authorized acres

Refuge Establishment

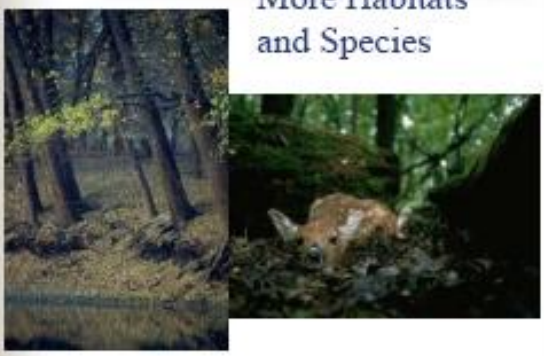
- Established by Federal Legislation - 1976
- Authorized 14,000 acres
- Act acknowledges our urban presence

Our Mission

…is to restore and manage the ecological communities of the Lower Minnesota River and its watershed while providing wildlife-dependent recreation and environmental education

Diverse Habitats Support Variety of Wildlife Species

More Habitats and Species



- 226 birds
- 50 mammals
- 37 reptiles and amphibians

Wildlife Dependent Activities

The Big Six

The Airport Expansion Challenge

- New runway is needed at MSP
- Support the local economy
- Strong political support
- Major problem: What can they do with the increased noise?

Three Major Players

- Metropolitan Airports Commission
  - State entity appointed by the Governor
  - Strong political connections
  - Well organized assemblage of engineers, attorneys, planners, public relations staff, etc.
- Federal Aviation Administration
  - Large agency that administers Nation's airspace
  - Well connected politically
  - Supported by professional consultants

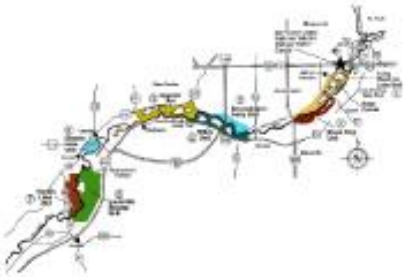
Major Players
Continued…

- Refuge Manager and U.S. Fish and Wildlife Service
  - Represents the U.S. Fish and Wildlife Service
  - Experience and education in wildlife biology, land management, outdoor recreation and administration
  - Nearly zero knowledge of noise metrics, aircraft dynamics and airport planning
  - Limited budget

The Issue and The Solution
Expand Aircraft Operations
Decrease Noise in Minneapolis

- Avoid sending air traffic over Mpls
- Build a new north-south runway
- Use the Minnesota River Valley to disperse noise

The Refuge and the Airport



The New Runway
Existing Refuge Units

Existing Refuge Overflights

Our Dilemma
"…cannot prohibit vital public services…"

- Refuge overflights are not desirable
- Strong community and municipal support
- A new runway is needed

Many Unanswered Questions

We faced a steep learning curve…

- How many flights and where?
- How 'noisy' are they?
- How do we measure the noise?
- What are impacts to wildlife and visitors?
- What options do we have?
- Will we loose management rights to Refuge?
- What is appropriate mitigation, if any?

What We Discovered

Answers are not always readily available

- Flights will occur every other minute
- Aircraft noise will interrupt normal conversation
- Noise sensitive activities will be impacted
- Impact on wildlife is inconclusive

Future Overflights

Noise Contours

Impacts to Minnesota Valley NWR

Our Collective Challenge

- Protect investment of USFWS
- Represent interests of supportive public
- Adherence to two fundamental principles
  - *No net loss of wildlife habitat*
  - *No net loss of opportunity for public to enjoy wildlife in its natural setting*

Early Discussions

Debate between Process versus Product

- Draft EIS – 1995 – no Refuge impacts
- Negotiated with FAA and MAC for 2+ years
- "Programmatic Agreement" with details to come later???
- Discussions continued through January '97

Early Offers

Moving the process forward…

- New runway = no Refuge impact
- Replace 35 acres of land immediately beneath flight path
- Acquire and donate 54 acres of land
- Acquire and donate 845 acres of land – lands beneath flight path

Our Reaction

Wait a minute…

- Impacts go far beyond lands directly beneath flight path
- Existing visitor center will be compromised
- Investments in Refuge are not being fully considered

Our Request

Summarized in May '97 letter…

- Replacement of
  - 4,090 acres
  - Trails and facilities
  - Lost public use
- Our request = $26,950,000

The Response to This Request

…virtually no immediate response…

- No official response to letter of May '97
- Finalized EIS without resolution
- Prepared to issue Record of Decision
- But…Section 4(f) considerations

Our Reaction

Engage the Public …

- Enlisted Friends support
- Engaged in public dialogue
- Coordinated efforts with state agencies
- Left door open for additional discussions

Reaching Agreement

Challenging at times…

- Due to local impasse, negotiations elevated to Washington
- MN Congressional delegation engaged and moved discussions forward

The Fine Print

Memorandum of Agreement – September '98

- USFWS grant overflights to FAA
- No less than $20 million provided for mitigation – final amount = $26,090,000
- Refuge to keep existing lands
- Refuge retains managements rights
- Funding to remain at Minnesota Valley

Major Projects

- Acquire no less than 4,090 additional acres
- Construct additional visitor and education facilities
- Replace interpretive programs and facilities
- Operations funding

Final Thoughts

Components of a Successful Challenge

- Adhere to natural resource principles
- Solid internal and external support
- Find a "win-win" solution
- Positive relations with elected officials and others
- Openness, honesty, and credibility

TH 41 Tier I EIS Design Refinement Group, 11 May 2009

Location: Scott County Conference Center

Introduction and Participants

The focus of this workshop was primarily on moving forward with issues, needs, and priorities from the March meeting, as in April the group addressed other topics. Participants in this meeting are listed below, followed by the meeting agenda and results.

Matt Podhradsky	Chaska City Administrator	Dennis Gimmestad	State Historical Preservation Office (SHPO)
Kevin Ringwald	Chaska City Planner	Cheryl Martin	Federal Highway Administration (FHWA) Environmental Engineer
Jim Elmquist	Carver City Administrator	Lynn Clarkowski	MnDOT South Area Mgr
Cindy Olness	Carver City Planner (consultant)	Diane Langenbach	MnDOT Project Mgr
Charlie Blair	USFWS – MN Valley National Wildlife Refuge Manager (MVNWR)	Michael Leek	Shakopee Community Development Director
Gerry Shimek	USFWS MN Valley NWR	Michael Sobota	Scott County Community Development Director
Mark Cleveland	MnDNR – Park and Trails	Lezlie Vermillion	Scott County Public Works Director
Nancy Frick	SRF Project Mgr. (MnDOT's EIS Consultant)	Anne Carroll	Carroll, Franck & Associates; public involvement, facilitator

Agenda and Results

1. **Briefly review and consider any substantive changes to the draft Implementation Plan and the draft River Crossing Implementation Collaborative (RCIC) charge:** Edits to the draft Implementation Plan and Charge were made (see separate documents).

2. **Discuss how to transition from the Study Advisory Committee to the emerging stakeholder group:** the group expressed concern that neither Chanhassen nor Carver County were yet involved with this group. Diane Langenbach will initiate a conversation with those administrators this week, and the city administrators from Chaska and Carver will follow up with them next week. In addition, Scott County will follow up with both of them on the common transportation issues.

   Regarding the transition itself, the group noted that this transition began in December when MnDOT presented the C-2 route preference and noted that this Design Refinement group was being created. The communications with SAC members and other electeds must include a summary of the Design Refinement group meetings to date along with a discussion of the RCIC and its charge; it should also provide information on the forthcoming "brochure" with information about the entire project to date, major upcoming milestones and schedule, and the YouTube links for the videos on habitat fragmentation and environmental justice. The group also noted the possibility of creating a video that translates the historical project information (brochure) in a more meaningful way. These documents for the SAC will be finalized at the May 27 meeting and will go out from MnDOT to the

SAC with a cover letter in early June.

3. **Set meeting dates:**
   - May 27, 9 am to 12 pm, Chaska Water Treatment Plant conference room
   - June 12, 9 am to 12 pm: location to be determined
   - June 26, 9 am to 12 pm: location to be determined
   - July 10, 9 am to 12 pm: location to be determined
   - July 24, 9 am to 12 pm: location to be determined

   They also agreed to create a subgroup to do a stakeholder mapping session. That will include one participant each from Chaska, Carver, Chanhassen, Shakopee, Scott County, MnDOT and SRF, FHWA, and USFWS, and facilitated by Anne Carroll. It will be scheduled for late May or early June and held at a location to be determined.

4. **Reframe the remaining "issues" from the March 9 meeting and combine them with the initial list of needs and priorities:** See results below; these will form the basis for the primary work of this group over the summer: reaching common agreement the agreed-upon needs and priorities, and then on outcomes. The agenda for the next meeting will be to begin working toward common agreement first on the complete list of needs and priorities, and then out outcomes; group members will have read. Members will review this information in detail prior to the meeting and come prepared with specific input.

Preliminary Needs and Priorities	Proposed Solutions or Approaches
Note: These are intended to include strategies to avoid, minimize, and mitigate impacts on stakeholders	
History, Culture, Community	
1. Implement vision of downtown Chaska being a pedestrian-friendly, business-friendly historic commercial district	Look at communities at a higher level/bigger picture with regard to leaving them whole and healthy and with peace of mind
2. Re-create an atmosphere in downtown to help businesses survive/thrive and residents connect with each other and create a strong sense of community.	
3. Preserve character and prevent devaluation of historic houses from noise and visual effects	
4. Protect "discrete historic core"; because of its geography, the historic downtown is recognizable and can be "read" as a separate historic area	
5. Prevent decline in use and potential abandonment of Chaska ballpark due to visual impairment, noise, and other project effects 6. Retain ballpark as historic community gathering place 7. Preserve ballpark character and the overall experience of	

community baseball games	
8. Avoid major tong-term adverse impacts that will degrade Chaska, with its 150+ years of physical and cultural investment	
9. Resolve safety issues along 41 in downtown	Reduce speed Create safer pedestrian crossings Connect east and west Chaska
10. Maintain and protect downtown historic district and maintain economic viability	Reduce *through* car and truck traffic on existing Chestnut Street through downtown Chaska Recent intersection improvements have moved queue of trucks and quieted neighborhood, and landscaping has helped Re-route truck/traffic from downtown to reclaim downtown/pedestrian access/local users Mitigate visual and noise impacts on downtown residents and businesses, including businesses with outdoor amenities
11. Avoid environmental justice impacts on south side of river	Further explore interchange locations
12. Address impacts to downtown Shakopee related to CR 101's increased congestion and travel demand	
Housing, Affordability	
13. Maintain stable affordable housing	
14. Recognize and respect local and regional affordable housing goals	Prevent loss of housing
15. Ensure livability of local residents and residential communities most affected by new roadway	
16. Support connectedness of affordable housing to the broader community (prevent isolation)	
Natural Resources	
17. Maintain and support Chaska's greenbelt	
18. Make refuge "whole" following the impacts of the roadway; take account of all potential resources and locations to replace whatever is lost	Provide suitable mitigation for adversely affected refuge lands Minimize overall natural resource impacts, including preventing water quality contamination and debris
19. Maintain management capability on refuge, including but not limited to access for heavy equipment, fire management, water management, and controlling invasive species that will increase with the road going through the	

refuge	
20. Address problems with increases in invasive species due to vehicles inadvertently bringing them in, after which they move through waterways and other natural pathways;	Minimize/contain contamination from vehicles and people
21. Maintain ability of wildlife and visitors to use natural land and water movement and migration corridors in the refuge	
22. Maintain people's access to the environmental opportunities in the river valley; the greenbelt is part of the community's heritage and quality of life	
23. Minimize impacts to wildlife using refuge, including: transportation byproducts (oil, salt, heavy metals); habitat fragmentation; noise; pollution; and collisions related to wildlife	
24. <Clarify fragmentation issue relative to DNR and USFWS priorities and concerns>	
Land Use	
25. Define existing and future development patterns based on developability, factoring in current and future land ownership (private, public, tribal)	
26. Identify long-term impacts of ROW preservation and alternatives, including allowing appropriate development within defined corridor	
Transportation	
27. Provide adequate transportation across Minnesota River for current and future (residents and businesses) from I-35 to CR 9	
28. Identify transportation infrastructure costs for river crossing alternatives from I-35 to CR 9	
29. Explore/coordinate multipurpose corridors for transportation and utility ROWs	
Collaborative Process; Laws and Regulations	
30. Implement TH 41 River Crossing Implementation Collaborative (RCIC)	
31. Properly engage all agencies that have a stake in the NEPA process	
32. Ensure that FHWA issues a ROD with no unresolved issues	
33. Develop design criteria that satisfactorily balance stakeholders' priorities, costs, and benefits	

Resource Access	
34. Minimize impacts to people using refuge, including noise, pollution, and reduced wildlife viewing opportunities	
35. Ensure quality experience, including wildlife viewing, solitude and quiet, hearing sounds of wildlife, casual and professional wildlife observation and photography, walking and hiking, outdoor education, etc.	<Note that data on noise impacts on wildlife are available.>
36. Note: DNR's key priority is to protect and maintain aquatic and terrestrial ecosystems in area, and within that, provide recreational and educational access	
37. Maintain ability to use this unit as a gateway, drawing people into outdoor experiences	
38. Maintain long-term trail connections and future opportunities within Minnesota River Valley	
39. Minimize impacts to visitors using state land and trails	
40. Minimize impacts to state trail	
41. Maintain access to state trail	
42. Provide recreational opportunities on state land	

TH 41 Tier I EIS Design Refinement Group, 27 May 2009

Location: Chaska Water Treatment Plant

Introduction and Participants

The focus of this workshop was continuing work on the common issues, needs, and priorities. Participants in this meeting are listed below, followed by the meeting topics and results.

Matt Podhradsky	Chaska City Administrator	Dennis Gimmestad	State Historical Preservation Office (SHPO)
Kevin Ringwald	Chaska City Planner	Cheryl Martin	Federal Highway Administration (FHWA) Environmental Engineer
Bart Fischer	Chaska Assistant City Administrator	Lynn Clarkowski	MnDOT South Area Mgr
Gary Van Eyll	Chaska Mayor	Diane Langenbach	MnDOT Project Mgr
Cindy Nash	Carver City Planner	Michael Leek	Shakopee Community Development Director
Paul Oehme	City of Chanhassen	Michael Sobota	Scott County Community Development Director
Charlie Blair	USFWS – MN Valley National Wildlife Refuge Manager (MVNWR)	Lisa Freese	Scott County
Gerry Shimek	USFWS MN Valley NWR	Nancy Frick	SRF Project Mgr. (MnDOT's EIS Consultant)
Kristen Zschomler	MnDOT CRU	Anne Carroll	Carroll, Franck & Associates; public involvement, facilitator

Agenda and Results

1. **Common issues and priorities:** The team continued work reframing the remaining "issues" from the March 9 meeting, and converted the table into three columns. The first is the original list of issues, that will eventually be deleted. The second is the agreed-upon list of common needs and priorities (similar to goals). The third is parameters, requirements, criteria, or questions (likely to become something like strategies). At the team's request, consultant Anne Carroll worked with staff and team members as necessary to further reformat and organize the contents to expedite final decisions on this at the June 12 meeting. The contents of the table below reflect the information from which participants will begin work at their next meeting on June 12.

2. **Project Overview document:** Team members also provided further guidance to Nancy Frick of SRF on this document so it can proceed to the next draft. They first confirmed that this is important to create in order to provide information on the project status, but is not intended as a definitive resource – it's just to get people started. The target audience is key stakeholders, elected officials, RCIC member successors, and in fact the general public. It is expected to cover the time period/topic only up to how C2 was selected, and must be date-stamped. They recommended it be two, double-sided 8.5x11 pages, but were flexible about the format. Finally, it must clearly reference a more detailed document (c 10-12 pages), which would in turn reference complete project documentation

	Initial Needs and Priorities	Common Needs and Priorities (similar to goals)	Parameters, Requirements, Criteria, Questions (similar to strategies)
1.	•	• In addition to supporting the TH 41 C2 route, support and advocate for meeting current and future transportation needs across the Minnesota River between I-35 and CR 9	• Support sub-regional transportation analysis of MN River crossing needs, and identifies costs and benefits for various alternatives
	Noise, Visuals		
2.		Address noise and visual impacts on adjacent neighborhoods	**What goes here?**
3.		Preserve the character and prevent the devaluation of historic properties/districts in all communities	Raise awareness and understanding among key stakeholders, and proactively involve them in identifying potential impacts and finding ways to address them Work with key stakeholders to evaluate sufficient information on noise and visual impacts in order for local communities to formally support specific route and design decisions over time Create qualitative definitions of acceptable noise and visual impacts Use "sensitivity" analysis to look at alternative alignments and bridge designs/parameters within a specified corridor to address noise and visual impacts
4.		Ensure ability of Chaska ballpark to operate; preserve the overall ballpark experience and its character as a small-town ballpark eligible for listing on Nat'l Register of Hist Places	Develop reasonable noise and visual parameters against which alternatives can be evaluated

	Initial Needs and Priorities	Common Needs and Priorities (similar to goals)	Parameters, Requirements, Criteria, Questions (similar to strategies)
5.	Resolve safety issues along 41 in downtown	**Can this be moved here?** Resolve safety issues along 41 in downtown	Reduce speed Create safer pedestrian crossings Connect east and west Chaska
6.	Maintain and protect downtown historic district and maintain economic viability	**Can this be moved here?** Maintain and protect downtown historic district and maintain economic viability	Reduce *through* car and truck traffic on existing Chestnut Street through downtown Chaska Recent intersection improvements have moved queue of trucks and quieted neighborhood, and landscaping has helped Re-route truck/traffic from downtown to reclaim downtown/pedestrian access/local users Mitigate visual and noise impacts on downtown residents and businesses, including businesses with outdoor amenities
7.	Avoid environmental justice impacts on south side of river	**Can this be moved here?** Avoid environmental justice impacts on south side of river	Better understand impacts Further explore interchange locations that pose least potential harm
8.	**Is this covered already?** Address impacts to downtown Shakopee related to CR 101's increased congestion and travel demand		
9.	**Delete; not applicable?** Look at communities at a higher level/bigger picture with regard to leaving them whole and healthy and with peace of mind		
10	**Delete; covered?** Implement vision of downtown Chaska being a pedestrian-friendly, business-friendly historic commercial district		
11	**Delete; covered?** Re-create an		

	Initial Needs and Priorities	Common Needs and Priorities (similar to goals)	Parameters, Requirements, Criteria, Questions (similar to strategies)
	atmosphere in downtown to help businesses survive/thrive and residents connect with each other and create a strong sense of community.		
12	**Delete; covered?** Protect "discrete historic core"; because of its geography, the historic downtown is recognizable and can be "read" as a separate historic area		
13	**Delete; covered?** Avoid major tong-term adverse impacts that will degrade Chaska, with its 150+ years of physical and cultural investment		
	Housing, Affordability		
14	**Too vague; is this a common concern?** Maintain stable affordable housing		Prevent net loss of affordable housing
15	**Do you want to use this, instead?** Recognize and respect local and regional affordable housing goals		
16	**Delete; covered?** Ensure livability of local residents and residential communities most affected by new roadway		
17	**Delete; NA?** Support connectedness of affordable housing to the broader community (prevent isolation)		
	Land Use		
18	**What to do with this?** Define existing and future development patterns based on developability, factoring		

	Initial Needs and Priorities	Common Needs and Priorities (similar to goals)	Parameters, Requirements, Criteria, Questions (similar to strategies)
	in current and future land ownership (private, public, tribal)		
19	**What to do with this?** Identify long-term impacts of ROW preservation and alternatives, including allowing appropriate development within defined corridor		
	Transportation		
20	**What to do with this?** Explore/coordinate multipurpose corridors for transportation and utility ROWs		
	Collaborative Process; Laws and Regulations		
21		Implement TH 41 River Crossing Implementation Collaborative (RCIC)	**What goes here?**
22	**Is this superseded by #29 re: RCIC?** Properly engage all agencies that have a stake in the NEPA process		
23		**Is this assumed under the RCIC charge or should we keep this specificity?** Ensure that FHWA issues a ROD with no unresolved issues	**What goes here?**
24	**Is this superseded by #29 RCIC and charge?** Develop design criteria that satisfactorily balance stakeholders' priorities, costs, and benefits		
	Natural Resources, Access		
25		Minimize impacts to Refuge flora and fauna	Manage/contain contamination from vehicles and people on TH 41 (vehicles and boats

	Initial Needs and Priorities	Common Needs and Priorities (similar to goals)	Parameters, Requirements, Criteria, Questions (similar to strategies)
			on roadway, and roadway maintenance activities and products inadvertently bring contaminants or invasive species that move through waterways and other natural pathways) Prevent additional habitat fragmentation and use best management practices to connect habitats Use best technologies to keep noise at acceptable levels for wildlife Maintain ability of wildlife to use natural land and water movement and migration corridors in the Refuge
26		Minimize impacts on aquatic and terrestrial ecosystems	Prevent disruption to wetland hydrology **What else goes here?**
27		Protect public access to the outdoor recreational opportunities in the river valley (Refuge, state trail, and other public lands)	Maintain trail connections and future outdoor recreational opportunities within Minnesota River Valley
28		Minimize impacts to people using the Refuge, state trail, and other public lands	Ensure quality experience, including wildlife viewing, solitude and quiet, hearing sounds of wildlife, casual and professional wildlife observation and photography, walking and hiking, outdoor education, bicycling, etc. (understanding that the various public lands have their own use restrictions)
29		Maintain management capability on Refuge	Ensure that TH 41 does not: • Prevent heavy equipment access within the Refuge • Create impediments for prescribed burning

	Initial Needs and Priorities	Common Needs and Priorities (similar to goals)	Parameters, Requirements, Criteria, Questions (similar to strategies)
			• Disrupt water management program • Conflict with forest management practices
30		Make Refuge "whole" following the impacts of the roadway (compensatory mitigation)	Provide suitable mitigation for adversely affected Refuge lands

TH 41 Tier I EIS Design Refinement Group, 12 June 2009 (+ 26 June follow up)

Location: Chaska City Hall

These notes reflect the notes from the 12 June meeting plus subsequent refinement to the strategies in the Goals and Strategies table below as requested by the RCIC (also see separate 26 June 2009 notes).

Introduction and Participants
The focus of this workshop was on attempting to complete work on the common issues, needs, and priorities, as well as starting some serious conversations about noise issues. Participants in this meeting are listed below, followed by the meeting topics and results.

Matt Podhradsky	Chaska City Administrator	Dennis Gimmestad	State Historical Preservation Office (SHPO)
Kevin Ringwald	Chaska City Planner	Cheryl Martin	Federal Highway Administration (FHWA) Environmental Engineer
Bart Fischer	Chaska Assistant City Administrator	Diane Langenbach	MnDOT Project Mgr
Jim Weygand	City of Carver	Michael Leek	Shakopee Community Development Director
Bill Weckman	Carver County	Michael Sobota	Scott County Community Development Director
Charlie Blair	USFWS – MN Valley National Wildlife Refuge Manager (MVNWR)	Nancy Frick	SRF Project Mgr. (MnDOT's EIS Consultant)
Mark Cleveland	DNR – Parks and Trails	Anne Carroll	Carroll, Franck & Associates; public involvement, facilitator

Agenda and Results

1. Common issues and priorities:
   - Discussion:
     - Commitment to making C2 the best alternative in light of everyone's issues and concerns, not routinely revisiting all the initial decisions about C2
     - Clear agreement that doing nothing is not a viable alternative, but equally understandable that individuals at various points in the process may not see light at the end of the tunnel
     - Committing to bringing people up to speed as they come in and out of the process, and completing and using the Project Overview to help communicate what is going on
     - This new collaborative approach is difficult, but worth is
     - Focusing now on what issues and impacts we can and cannot address, and moving forward
     - Now to the point where we must all stay together in order to accomplish anything
   - Results: See revised table below. Participant teams were assigned to outstanding strategies and will complete drafts by June 19 using Track Changes mode; these will be compiled and form the basis for approval at the next meeting
2. Draft stakeholder engagement plan: Postponed until next meeting
3. **Noise issues:** Diane Langenbach presented an overview of noise issues in the area in preparation for

MnDOT noise experts attending the next meeting. Participants will prepare questions in advance and submit to Diane so staff can better prepare for the meeting.

	Common Goals	Strategies
	Framework: In addition to supporting the TH 41 C2 route, support and advocate for improvements that meet current and future transportation needs across the Minnesota River between I-35 and CR 9. Avoid or minimize negative permanent and temporary/ construction impacts on all stakeholders, and support mitigation as part of a comprehensive solution	
1.	**<u>Noise and visual impacts on neighborhoods</u>: Address noise and visual impacts on adjacent neighborhoods**	• Begin from the baseline state and federal noise standards • Collectively define qualitative and quantitative objectives and values around how people should be able to experience their communities, such as homes, ballfield, districts, and neighborhoods • Develop methodologies for measuring extent to which various alternatives meet defined objectives, and for evaluating tradeoffs • Prepare clear recommendations to guide future decision making
2.	**<u>Noise and visual impacts on historic properties:</u> Avoid negative visual, atmospheric, auditory, and use effects on historic properties/districts in all communities**	• Work with key stakeholders and the public to identify and evaluate project effects on historic properties • <Include specific properties of historic properties in the noise and visual strategies for communities> • Ensure that transportation outcomes support Chaska's commitment to a pedestrian-friendly, business-friendly historic commercial district • <think about a broad strategy that makes the nod to long-term, indirect, or ancillary future impacts that must be addressed as part of other projects>

3.	**<u>Impacts on historic ballpark</u>: Ensure ability of Chaska ballpark to operate; preserve the overall ballpark experience and its character as a small-town ballpark eligible for listing on the National Register of Historic Places**	• Seek ways to avoid physical impacts to the ballpark • <Include specific properties of the historic ballpark in the noise and visual strategies for communities>
4.	**<u>Safety issues in downtown Chaska</u>: Resolve safety issues along existing Highway 41 in downtown Chaska**	• Reduce speed • Create safer pedestrian crossings • Connect east and west downtown Chaska (reduce barrier posed by current Hwy 41) • Reduce *through* car and truck traffic on existing Chestnut Street through downtown Chaska • Recent intersection improvements have moved queue of trucks and quieted neighborhood, and landscaping has helped • Re-route truck/traffic from downtown to reclaim downtown/pedestrian access/local users • Mitigate visual and noise impacts on downtown residents and businesses, including businesses with outdoor amenities
5.	**<u>Environmental justice:</u> Proactively work with stakeholders to understand and responsibly address environmental justice impacts**	• Better understand beneficial and adverse impacts • Further explore interchange and ramp locations that pose least potential adverse impact to established neighborhoods <further discussion needed on reference to "neighborhoods" as this is too broad> • Recognize and respect local and regional affordable housing goals; maintain stable affordable housing • Support no net loss of low-income housing due to the project • Support connectedness between Jackson Heights neighborhood and the broader community (prevent isolation)

6.	**<u>Local access:</u> Provide appropriate access to local and county roadways that will facilitate land use developments guided by counties and cities**	• Review development constraints and confirm adopted land use guiding by the counties and cities in and near the preferred corridor • Review the preferred corridor and "touch-down points" on both sides of the Minnesota River, and make recommendations regarding whether their location aligns with guided land uses and is feasible; identify alternatives for addressing any concerns • Identify the potential areas needed for ROW, long-term impacts of ROW preservation, and alternatives, including funding sources to acquire ROW or allowing appropriate interim or long-term development within defined corridor
	Natural Resources	•
7.	**<u>Ecosystem impacts</u>: Minimize impacts on aquatic and terrestrial ecosystems including animals and plants**	• Manage/contain contamination from vehicles and people on TH 41 (vehicles and boats on roadway, and roadway maintenance activities and products inadvertently bring contaminants or invasive species that move through waterways and other natural pathways) • Prevent additional habitat fragmentation and use best management practices to connect habitats • Encourage multi-use (transportation, utilities, etc.) of river crossing corridor to reduce additional habitat fragmentation • Use best technologies to keep noise at acceptable levels for wildlife • Maintain ability of wildlife to use natural land and water movement and migration corridors • Prevent disruption to wetland hydrology
8.	**<u>Public access:</u> Ensure reasonable and usable public access to the outdoor recreational opportunities in the river valley (Refuge, state trail, and other public lands)** **<u>User impacts:</u> Minimize impacts to people using the Refuge, state trail, and other public lands**	• Maintain trail connections and access points for current and future outdoor recreational opportunities within the Minnesota River Valley • Ensure a quality experience for wildlife observation, wildlife photography, hiking, biking, environmental education and interpretation and other related activities (understanding that the various public lands have their own use restrictions) • Maintain a feeling of solitude by minimizing noise and visual intrusions

9.	**<u>Land management capabilities:</u> Maintain natural resource management capability on public lands**	• Ensure that TH 41 does *not* interfere with land management activities in the following ways:
		  • Preventing or limiting heavy equipment access
		  • Creating impediments for prescribed burning
		  • Disrupting water management programs
		  • Interfering with forest management practices

MnDOT TH 41 Bridge Project, FEIS
Stakeholder Engagement with Jackson Heights Residents, Allies
13 June 2009

Location: Chaska Moravian Church

As part of MnDOT's work on a Final Environmental Impact Statement for a new Trunk Highway 41 bridge across the Minnesota River at Chaska, MnDOT project manager Diane Langenbach had a series of conversations with Yesica Martinez, of the Jackson Heights Resident Association, and Krystal Klein, a staff member for All Parks Alliance for Change (APAC), a supporting ally of the Jackson Heights Resident Association. The purpose of these conversations was to create an opportunity for MnDOT to hear from residents about their questions, concerns, and priorities about impacts on their homes from the anticipated Highway 41 river crossing, projected for 2030 or later. Residents invited MnDOT and public engagement consultant Anne Carroll to this meeting in Chaska on 13 June 2009. Residents' perspectives, priorities, and concerns will directly shape MnDOT's decisions about the future Highway 41, and the group agreed to additional meetings to ensure enough time for all ideas and issues to be heard and documented.

Below are the notes taken by Anne Carroll on a flipchart. Attached to these notes are two maps showing the current C-2 alternative as studied in the environmental document as well as an option that shows how the current C-2 alignment could be modified to eliminate all direct impacts on Jackson Heights residents. Following those is a list of participants, and then the draft agenda the residents and APAC prepared prior to the meeting.

Finally, please note that the photos embedded in this document are of the meeting participants and Jackson Heights children and their families, and used with permission. The personal photos were shared during the meeting with the reminder of what this conversation is all about: these children's future.

Jackson Heights Residents' Purpose of This Meeting

- Dialogue with MnDOT
- Benefit both Jackson Heights and MnDOT
- MnDOT's previous map showed Hwy 41 route, which affected Jackson Heights
- Jackson Heights agrees that Hwy 41 needs to be built and project needs to be carried out, but is concerned about impact on homes
- Discuss future of Jackson Heights
- If beneficial for both parties, that means Jackson Heights residents are OK in their homes and MnDOT is OK for its project
- Want to keep doors open to continued discussion

Presentation by Jackson Heights

Some of the content below was presented by APAC staff and Board members, and is noted as such

- Proud of achieving dream of a home for our children due to work and hard effort
- MnDOT's plans/decision affects homes

- Respectfully ask MnDOT to respect our families: Respect for rights of others means peace
- MnDOT's decisions will affect our economy – we pay little and are happy and comfortable
- Children frustrated with MnDOT decision; will no longer see our teachers, friends, neighbors
- Losing our hopes and dreams
- Children fear for their future – where will they live now?
  - Hard work and effort, but if no home, what will happen?
  - As parent it is frustrating not to be able to answer these questions
- Here to see hope and some way out
- Hope MnDOT behaves fairly toward Jackson Heights without forgetting the equality and values of our families
- It may be coincidental, but government projects always affect people of color, they get the short end of the stick and are not valued by government – not only in mobile home parks, but in broader community
- Victims of racial profiling don't know if that's the case this time, but it creates a lot of tension; a lot of Jackson Heights families are of Latino descent
- When a highway comes through, the government puts a monetary value on homes, which doesn't account for the personal and family values and benefits of the home plus investments we've made in our homes

Comments by APAC staff and board members (Jackson Heights ally)

- In an economic crisis, foreclosures decrease money for affordable housing, but manufactured housing parks support responsible home ownership – Jackson Heights has approximately 71% owners paying about $ 350/month; this is rare and important to protect
- Manufactured housing is the leading source of unsubsidized housing, so it can help meet affordable housing goals, which is a source of economic power for homeowners and benefits the community
- Most manufactured home owners work in and bring value to the local community
- Manufactured housing is endangered (20 parks closed in the last 10 years) and the majority of people displaced are Latino
- Don't want such injustices at Jackson Heights
- People of color make up 10% of the total residents in manufactured housing, but 58% of the people in manufactured housing parks that were closed
- Of the seven communities with various government projects
  - 71% affected were people of color
  - 98% affected by MnDOT projects were people of color
- Racial justice issue
- Want to protect people and economy of Jackson Heights
- Aren't there other options for manufactured homes owners?
- Need to ensure people are made whole
- Timing: We understand that this is a long-term project with time on our side, which is why we are here having the conversation; but time really is not on our side; FEIS will be the kiss of death because it will discourage newcomers to and investments in Jackson Heights
- Unique situation with manufactured homes – there are more severe consequences than with traditional homes
  - These are neighborhoods but also businesses

    - Landowners rent to families and value is tied to the land, so there is interdependence
    - As people move out and stop investing, it increases vacant lots and therefore is not economically feasible – so the owner sells the property
    - In this case, the highway will not have "directly" affected the other homes, so will Mn DOT pay or not?
    - Infrastructure: with traditional neighborhoods, the government pays for the roads, lights, water, sewer, etc., but here the park owner pays for these, and if they know the highway is going in it would be stupid of them to make such investments – and the park will deteriorate badly
    - When the park closes, it is not directly tied to MnDOT, so will they pay?
- Reinvestments
    - Options: owner invests, owner sells to others and they invest, park is turned into a coop, etc.
    - All options vanish the moment the FEIS is signed
    - Signing FEIS is the "kiss of death" and has two results:
        - Net loss of affordable housing in area with no MnDOT obligation to address
        - Uncertainty of whether people will get any compensation

- Slow but certain demise of neighborhood
- All together, this is why manufactured housing parks are different from traditional neighborhoods

Comments by Housing Preservation Project staff (Jackson Heights ally)

- The Housing Preservation Project tries to preserve and increase affordable housing through policy, law, and data analysis
- State law requires a certain percentage of affordable housing in communities
- There is limited money to support affordable housing as part of new developments
- Most subsidized affordable housing is apartments, townhomes, twin homes, and some single family depending on the developer
- Manufactured housing is rarely or ever subsidized to become a community – and is therefore among the most precious in a county
- Manufactured housing is precious because the parks and homes aren't subsidized; they are privately owned, run, etc., rather than being dependent upon public dollars
- When traditional homes are threatened by government projects, there are relocation benefits so people are left "whole"
- With manufactured housing, people are either paying monthly for their home and lot, or only for the lot if they own their home
- Government may give you the price of a manufactured home, but such payments won't cover replacement like it does for other homes; in addition, sometimes the age of the manufactured home prevents it from being moved, so it must be replaced
- If manufactured home owners get bought out, they can take the money and rent apartments, but they lose a backyard and their own 4 walls, plus rental benefits last only 42 months
- There are exceptions, but agencies have limited money – they try to be fair but they can't take care of people for the rest of their lives
- Therefore, such precious housing resources are irreplaceable
- Cities already fail to meet affordable housing goals
- This area has high regional growth projections and therefore high affordable housing goals, so losing this affordable housing sets them further back in their goals
- Housing Preservation Project therefore supports avoidance or replacement policy when

manufactured housing parks are affected by government projects – so people aren't harmed
- Cities and counties aren't meeting current affordable housing goals:
  - Chaska has met 75%
  - Shakopee has met 50%
  - Scott County has met 68%
  - Carver County has met 59%
- Losing affordable housing in the area is therefore a huge problem; any required relocation should retain affordable housing in the area
- Social losses are just as important as financial losses; huge social networking losses of schools, community access to jobs and shopping, etc.
- Government must address social justice issues, but often these issues are set on the shelf/ignored as long as a check gets written
- It is important to work together to preserve housing to protect families and communities and helping people stabilize their lives

Jackson Heights resident
- We discussed these issues as a community and decided to work together
- We want you to replace our neighborhood with another close to Jackson Heights, in the same school district, because our children don't want to leave their friends
- Most homes are old and can't be moved, but we have put a lot of work into them
- We need new homes
- This is a fair solution
- We only want what we have now, and not to move
- We believe that is what's fair
- We want to continue paying the same amount of rent

Presentation by MnDOT
- Before we talk about the Hwy 41 project, we should talk about the bigger picture of affordable housing
- In a meeting last month, the MnDOT legislative liaison and advocacy groups committed to form a MnDOT working group to discuss all of these issues, not only Jackson Heights
- MnDOT also created the separate Design Refinement Working Group, understanding that the C2 alignment can be moved to minimize impacts to Jackson Heights
- We had a consultant look at options to minimize the impact to Jackson Heights
- The current alignment of the highway would require 18 of the 64 homes to be relocated; we don't know if the owner would consider the park viable if 18 of the homes were lost
- *<See maps following these notes illustrating two alternatives that would eliminate direct impacts on Jackson Heights residents>*
- The alternative route would have no direct impact on Jackson Heights
  - Need to look at the feasibility of keeping Jackson Heights "whole"
  - The red lines illustrate the option to move the ramps south and east of Jackson Heights; no homes are taken
  - The blue lines illustrate moving the major interchange north of Jackson Heights; no homes are taken but there are significant impacts on the businesses to the east
- One of the reasons these alternatives weren't presented before is that in either case Jackson Heights would still coexist with major roadways that bring noise and visual impacts
- Not sure if it is prudent for MnDOT to move an entire community 20-30 years before the impact

- Our MnDOT goal is to cause Jackson Heights the least disruption now and peace of mind, keeping open many options for future investigation
- This initial (Tier I) FEIS is expected to be completed in mid-2010

Discussion, Questions and Answers

- Jackson Heights: Is MnDOT committed to working with Jackson Heights on a mitigating plan that includes when, where, and how the neighborhood will be mitigated and include that with the FEIS?
  - MnDOT: This Tier I EIS includes high level strategies, not details
- Jackson Heights: So what guarantees can you give us?
  - MnDOT: We must address these issues because they are about environmental justice, and the law requires us to address them – and we believe in doing that
- APAC: We want a commitment from MnDOT to thoroughly understand Jackson Heights issues and to reassure Jackson Heights residents as much as possible
  - MnDOT: More discussions will allow us to include the best language possible in the FEIS to protect the community – as the law requires
- Jackson Heights: Lots of us are interested in improving our homes, but why would we do that if we are so unsure?
  - Scott County Community Development Director: It is important to know that the County's Comprehensive Plan shows the zoning for the land now used by Jackson Heights as commercial. Jackson Heights is not on public sewer. The Jackson Heights land owner is not allowed to expand the current manufactured home park
- Jackson Heights: So what happens to us?
  - APAC and Housing Preservation Project: That is something we need to talk about outside this meeting; for 20 years the zoning for this land under Jackson Heights has been commercial, but the economy is not good while Jackson Heights is economically strong
- Jackson Heights: Does MnDOT commit to working with us and to listening to our concerns?
  - MnDOT: Si!
- Jackson Heights: Does MnDOT agree that we have the right to a new "mediator" (Anne Carroll) if we feel the process is unfair?
  - MnDOT: Yes

Jackson Heights residents and allies then conducted a short question and answer session with Anne Carroll to determine whether they wanted her to continue working with the joint group and facilitating meetings. They decided this arrangement was acceptable.

The group agreed to meet again on July 25, tentatively 10 am to noon, in the Chaska area at a specific location to be determined.

Proyecto del Puente de la Carretera 41 de MnDOT

(Reporte Final de Impacto Ambiental [FEIS])
Reunión con los residentes y amigos de Chaska
13 de junio de 2009, Iglesia Moravian de Chaska

Como parte del trabajo de MnDOT en un Reporte Final de Impacto Ambiental para un nuevo puente en la carretera 41 a través del río Minnesota en Chaska. La directora del proyecto de MnDOT, Diane Langenbach, ha sostenido una serie de conversaciones con Yesica Martinez quien es miembro de la Asociación de Residentes de Jackson Heights y Krystal Klein miembro de All Parks Alliance for Change (APAC) este es un grupo que apoya a la Asociación de Residentes de Jackson Heights. El propósito de estas conversaciones fue crear una oportunidad para que MnDOT pudiese escuchar tanto las preguntas como las preocupaciones que los residentes tuviesen y también saber las prioridades de ellos en relación a los impactos que pudiesen afectar sus viviendas en el cruce del río en la carretera 41 proyectado para el año 2030 o después. Los residentes invitaron a MnDOT y a la consultora pública Anne Carroll a esta reunión que tuvo lugar en Chaska el pasado 13 de junio de 2009. Las perspectivas, prioridades y preocupaciones de los residentes dirigirán directamente la toma de decisiones de MnDOT sobre el futuro proyecto en la carretera 41. También el grupo decidió futuras reuniones para asegurar que haya suficiente tiempo para escuchar y documentar todas las ideas y aspectos que surjan.

A continuación están las notas tomadas por Anne Carroll en el tablero, también adjuntamos dos mapas que muestran la actual alternativa C-2 como se ha estudiado en los documentos ambientales y otro mapa que muestra el modo como la actual C-2 alineación podría modificarse para eliminar todos los impactos directos en los residentes de Jackson Heights. Además se ha incluido una lista de los participantes y el borrador de la agenda que los residentes y APAC previamente prepararon para la reunión.

Finalmente, nótese que las fotos incluidas en este documento son de las personas asistentes a esta reunión y de los niños y familias de Jackson Heights. Las fotos personales se compartieron en la reunión para recordar el motivo final de esta conversación: el futuro de estos niños.

Propósito para esta reunión de los residentes de Jackson Heights
→ Dialogar con MnDOT
→ Beneficiar a ambas partes Jackson Heights y MnDOT
→ Mostrar el mapa previo de MnDOT de la carretera 41 que afectaba a Jackson Heights
→ Jackson Heights está de acuerdo con la idea de construir y llevar a cabo el proyecto, pero tiene preocupaciones sobre el impacto de este proyecto en sus viviendas
→ Discutir el futuro de Jackson Heights
→ Si es beneficioso para ambas partes, esto implica que los residentes de Jackson Heights están OK en sus casas y MnDOT está OK con su proyecto
→ Se quiere seguir manteniendo la oportunidad de continuas conversaciones

Presentación de Jackson Heights
Algunos de los contenidos presentados en esta sección fueron presentados por personal de APAC y miembros del consejo de la siguiente manera
→ Orgullo por el logro del sueño de la vivienda propia para nuestros niños como resultado de nuestro trabajo y gran esfuerzo
→ Las decisiones/planes de MnDOT afectan las viviendas
→ Solicitamos respetuosamente a MnDOT respetar nuestras familias: el respeto por los derechos de los demás es sinónimo de paz

→ Las decisiones de MnDOT afectarán nuestra economía -pagamos poco y estamos contentos y cómodos
→ Los niños están frustrados con la decisión de MnDOT. No verán más a sus maestros, amigos y vecinos
→ Pérdida de nuestras esperanzas y sueños
→ Temor de los niños sobre el futuro: ¿dónde van a vivir?
→ Trabajo duro y esfuerzo, pero si no hay casa: ¿qué va a pasar?
→ Como padres es frustrante no poder responder estas preguntas
→ Maneras de ver esperanza y soluciones

(picture)
→ Esperanza que MnDOT sea justo con Jackson Heights sin olvidar la igualdad y valores de nuestras familias
→ Puede que sea coincidencia, pero siempre los proyectos gubernamentales afectan a las personas de color, ellas reciben la parte más difícil y no son valorados por el gobierno. No sólo en parques de viviendas móviles, pero también en comunidades más amplias
→ Víctimas de estereotipos raciales no saben si ese el caso en está situación, pero esto aumenta la tensión. Muchas de las familias de Jackson Heights son descendientes latinos
→ Cuando se construye una carretera, el gobierno pone valor monetario a las casas, lo cual no vale en relación a los valores familiares y personales y los beneficios de la casa más las inversiones que hemos hecho en ellas

Comentarios de personal de APAC y miembros del consejo (Amigos de Jackson Heights)
→ En una crisis económica, el no pago de una casa al banco resultando en la pérdida de la casa disminuye la cantidad de dinero disponible para comprar casas, así parques de casas móviles son una ayuda para acceder a una casa responsablemente. Jackson Heights tiene aproximadamente un 71% de los dueños pagando alrededor de $350 dólares al mes. Esto no es común y es necesario mantenerlo
→ Las casas móviles es la manera más importante de lograr una vivienda no subvencionada, de este modo se pueden lograr los objetivos de acceder a una vivienda, lo cual representa un medio de poder económico para los dueños de viviendas y beneficia a la comunidad
→ La mayoría de los dueños de las casas móviles trabajan en la comunidad y le dan valor a ésta misma
→ Las casas móviles están en riesgo (20 parques fueron cerrados en los últimos 10 años) y la mayoría de las personas desplazadas son de origen latino
→ No queremos estas injusticias en Jackson Heights
→ Personas de color representan el 10% del total de los residentes de casas móviles, pero ellos mismo representan el 58% de las personas que vivían en los parques de casas móviles que fueron cerrados
→ En las siete comunidades con diferentes proyectos de gobierno
→ El 71% de los afectados eran personas de color
→ El 98% de los afectados por proyectos de MnDOT eran personas de color
→ Asunto de justicia racial
→ Deseo de proteger la gente y la economía de Jackson Heights
→ ¿Hay otras opciones para los dueños de casas móviles?
→ Necesidad de dar seguridad a las personas que no resultaran siendo perjudicadas
→ Tiempo: entendemos que este es un proyecto a largo plazo y con el tiempo a nuestro

favor, por eso estamos acá teniendo esta conversación. Sin embargo, el tiempo realmente no está a nuestro favor, FEIS sería la sentencia de muerte ya que no atraerá nuevos residentes o inversionistas a Jackson Heights
→ Situación única con casas móviles. Hay consecuencias más severas que con casas tradicionales
→ Estos son vecindarios, pero también son negocios
→ Los dueños del terreno rentan a las familias y el valor está ligado a la tierra, así es que existe interdependencia
→ Cuando la gente se muda y deja de invertir se incrementa el número de lotes vacantes y, por lo tanto, no es económicamente factible. Como resultado los dueños venden la propiedad
→ En este caso, el proyecto de la carretera no afectará "directamente" otras casas. ¿Va MnDOT a pagar a ellos o no?
→ Infraestructura: en los vecindarios tradicionales, el gobierno paga por los caminos, las luces, el agua, el sistema de alcantarillado, etc. Pero en este caso, el dueño del parque paga por esos recursos y si saben que se va a construir la carretera a través de este lugar, sería absurdo para ellos hacer tales inversiones y, como resultado, el parque se deteriorará mucho
→ Cuando el parque cierre no estará directamente ligado a MnDOT: ¿Van a pagar?
→ Reinversiones
→ Opciones: los dueños invierten, los dueños venden a otros y estos otros invierten, el parque se transforma en una cooperativa, etc.
→ Todas las opciones se desvanecen al momento en que FEIS se firme
→ La firma de FEIS es la "sentencia de muerte" y tiene dos resultados:
→ Pérdida neta de viviendas de precio asequible en un área en que MnDOT no tiene obligación de considerar
→ Incertidumbre si la gente va a recibir alguna compensación
→ Lenta, pero segura disipación del vecindario
→ Todo esto es lo que hace a los parque para casas móviles diferente de las casas tradicionales

Comentarios de los empleados de Proyectó de Preservación de Vivienda (amigos de Jackson Heights)
→ El Proyecto de Preservación de Vivienda trata de mantener e incrementar casas de precios asequibles a través de políticas, leyes y análisis de datos
→ La ley del estados exige un cierto porcentaje de viviendas de precios asequibles en las comunidades
→ Hay poco dinero disponible para apoyar viviendas de valor asequible en los nuevos proyectos de desarrollo
→ La mayoría de las viviendas subsidiadas son apartamentos, townhomes (casas unifamiliares), casas pegadas y algunas casas para familias independientes según las decisiones de las constructoras
→ Viviendas móviles son raramente, casi nunca, subsidiadas para ser una comunidad y, por lo tanto, están dentro de las más valiosas del condado
→ Viviendas móviles son valiosas ya que como los parques y casas no son subsidiadas, son pertenecientes y manejadas por privados y no dependen del dinero público
→ Cuando las viviendas tradicionales son amenazadas por proyectos gubernamentales, hay beneficios de traslado, así la gente no se siente perjudicada
→ En el caso de viviendas móviles, las personas o están pagando mensualmente por

sus casas y terrenos o sólo por el terreno en el caso que sean dueños de sus casas
→ El gobierno puede dar el precio por una casa prefabricada, pero éste no cubrirá el cambio como cubre en el caso de otro tipo de viviendas. Además, en algunos casos la antigüedad de la vivienda prefabricada impide la posibilidad de moverla, por lo tanto debe ser reemplazada por una nueva
→ Si los dueños de casas móviles reciben pago, pueden usar el dinero para rentar apartamentos, pero pierden sus patios y sus 4 muros independientes, además los beneficios de arriendo duran sólo 42 meses
→ Estas son excepciones, pero las agencias tienen dinero limitado, ellas intentan ser justas pero no pueden hacerse cargo de las personas por el resto de sus vidas
→ Por lo tanto, esos recursos para estas valiosas viviendas son irremplazables

→ Las ciudades ya han fallado en alcanzar objetivos de viviendas de valor asequible
→ Esta zona tiene altas proyecciones de crecimiento regional y, por lo tanto, elevados objetivos de vivienda asequible. Al perder estas áreas de vivienda asequible se retrasa, aún más, el cumplimiento de sus objetivos
→ Así las cosas, el Proyecto de Preservación de la Vivienda apoya la evasión o reemplazo de las políticas cuando los parques de casas móviles son afectados por proyectos del gobierno, de modo de no dañar a las personas
→ Las ciudades y los condados no están alcanzando los actuales objetivos de vivienda asequible:
→ Chaska ha alcanzado el 75%
→ Shakopee ha alcanzado el 50%
→ Scott County ha alcanzado el 68%
→ Carver County ha alcanzado el 59%
→ Perder viviendas de valor asequible en la zona produce un gran problema, cualquier traslado debe implicar conservar viviendas asequibles en el área
→ Pérdidas sociales son tan importantes como las pérdidas financieras. Pérdidas de grandes redes sociales como escuelas, acceso de la comunidad a trabajos y centros de compras, etc.
→ El gobierno debe preocuparse de asuntos de justicia social, pero en general estos asuntos se colocan en el grupo de los "olvidados" una vez que el cheque se ha firmado
→ Es importante trabajar juntos para preservar las viviendas y proteger a las familias y comunidades, esto ayuda a las personas a estabilizar sus vidas

Residentes de Jackson Heights
→ Discutimos estos asuntos como comunidad y decidimos trabajar en conjunto
→ Queremos que reemplacen nuestro vecindario con otro cerca de Jackson Heights en el mismo distrito escolar ya que nuestros niños no quieren dejar a sus amigos
→ La mayoría de las casas son viejas y no se pueden mover, pero aún tenemos que hacer mucho trabajo en ellas
→ Necesitamos casas nuevas
→ Esta es una solución justa
→ Sólo queremos lo que tenemos ahora y no mudarnos
→ Creemos que eso el lo justo
→ Queremos seguir pagando la misma renta

Presentación de MnDOT
→ Antes de hablar del proyecto de la carretera 41 debemos hablar sobre la situación

general de las viviendas de valor asequible
→ En una reunión llevada a cabo el mes pasado, el enlace legislativo de MnDOT y grupos de defensa se comprometieron a formar un grupo de trabajo de MnDOT para hablar de todos estos temas, no sólo el caso de Jackson Heights
→ También MnDOT ha creado un grupo separado llamado *Grupo de Trabajo para el Refinamiento de Diseño* con el entendimiento que la alineación C-2 pude moverse para minimizar los impactos en Jackson Heights
→ Tenemos un consultor que estudió las opciones para minimizar el impacto en Jackson Heights
→ La actual alineación de la carretera requeriría que 18 de las 64 casas fueran trasladadas, no sabemos si el dueño consideraría el parque viable si se perdieran 18 casas
→ *Ver los mapas que siguen a estas notas en los que se ilustran dos alternativas que eliminarían impactos directos en los residentes de Jackson Heights*
→ La ruta alternativa no tendría impacto directo en Jackson Heights
→ Es necesario mirar la viabilidad de mantener a Jackson Heights "completo"
→ Las líneas rojas ilustran la opción de mover las rampas al sur y este de Jackson Heights. Ninguna casa se mueve
→ Las líneas azules muestran que al correr el principal cruce elevado del norte de Jackson Heights no sería necesario mover ninguna de las casas, pero esto implicaría impactos significativos en los negocios del lado este
→ Una de las razones por las cuales estas alternativas no se presentaron antes es porque en ambas situaciones Jackson Heights aún coexistiría con caminos importantes que traerían ruidos e impactos visuales
→ No estamos seguros si es prudente que MnDOT mueva una comunidad entera 20 a 30 años antes de producirse este impacto
→ El objetivo de MnDOT es causar el mínimo perjuicio ahora y mantener la tranquilidad de la comunidad de Jackson Heights, manteniendo opciones para futuras investigaciones
→ Se espera que este FEIS (Tier I[Nivel 1]) esté completo a mediados del año 2010

Discusión, preguntas y respuestas
→ Jackson Heights: ¿Está MnDOT comprometido a trabajar con Jackson Heights en un plan de mitigación que incluye cuándo, dónde, y cómo el vecindario será mitigado e incluir esto en el FEIS?
→ MnDOT: Este Tier I (nivel 1) EIS (Estudio para el Reporte de Impacto Ambiental) incluye estrategias de nivel alto, no detalles
→ Jackson Heights: Entonces ¿qué garantías nos pueden ofrecer?
→ MnDOT: Necesitamos ver estos temas porque son temas de justicia ambiental y la justicia nos exige prestar atención a ellos, además nosotros creemos que es lo correcto hacer
→ APAC: Queremos que MnDOT se comprometa a comprender al cien por ciento los asuntos que conciernen a Jackson Heights y que tranquilice a los residentes de Jackson Heights lo más posible
→ MnDOT: Más discusiones nos permitirán incluir el mejor lenguaje posible en el FEIS para proteger a la comunidad como lo dicta la ley
→ Jackson Heights: Muchos de nosotros estamos interesados en mejorar nuestras casas, pero ¿cómo hacemos estos si estamos inseguros?
→ Director de Desarrollo Comunitario de Scott County: Es importante saber que el

Plan Global del Condado muestra que la división en zonas del los terrenos de Jackson Heights se usa para comercio. Jackson Heights no está ligado al sistema de alcantarillados público. El dueño del terreno de Jackson Heights no está autorizado a expandir el parque actual.

→ Jackson Heights: Entonces ¿qué pasa con nosotros?

→ APAC y Proyecto de Preservación de la Vivienda: Eso es algo de lo que debemos hablar fuera de esta reunión. Por 20 años la división de zona de este terreno en Jackson Heights ha sido de tipo comercial, pero la economía no es buena a la vez que Jackson Heights es económicamente fuerte

→ Jackson Heights: ¿MnDOT se compromete a trabajar con nosotros y escuchar nuestras preocupaciones?

→ MnDOT: ¡Sí!

→ Jackson Heights: ¿MnDOT está de acuerdo en que tenemos el poder de tener una nueva "mediadora" (Anne Carroll) si sentimos que el proceso no es justo?

→ MnDOT: Sí

Más tarde los residentes y amigos de Jackson Heights tuvieron una breve sesión de preguntas y respuestas con Anne Carroll para decidir si querían que ella continuara trabajando con el grupo y facilitar las reuniones. Ellos decidieron que este arreglo era aceptable.

El grupo decidió reunirse nuevamente el 25 de julio, tentativamente entre 10:00 am y 12:00 en la zona de Chaska en un lugar específico aún no determinado.

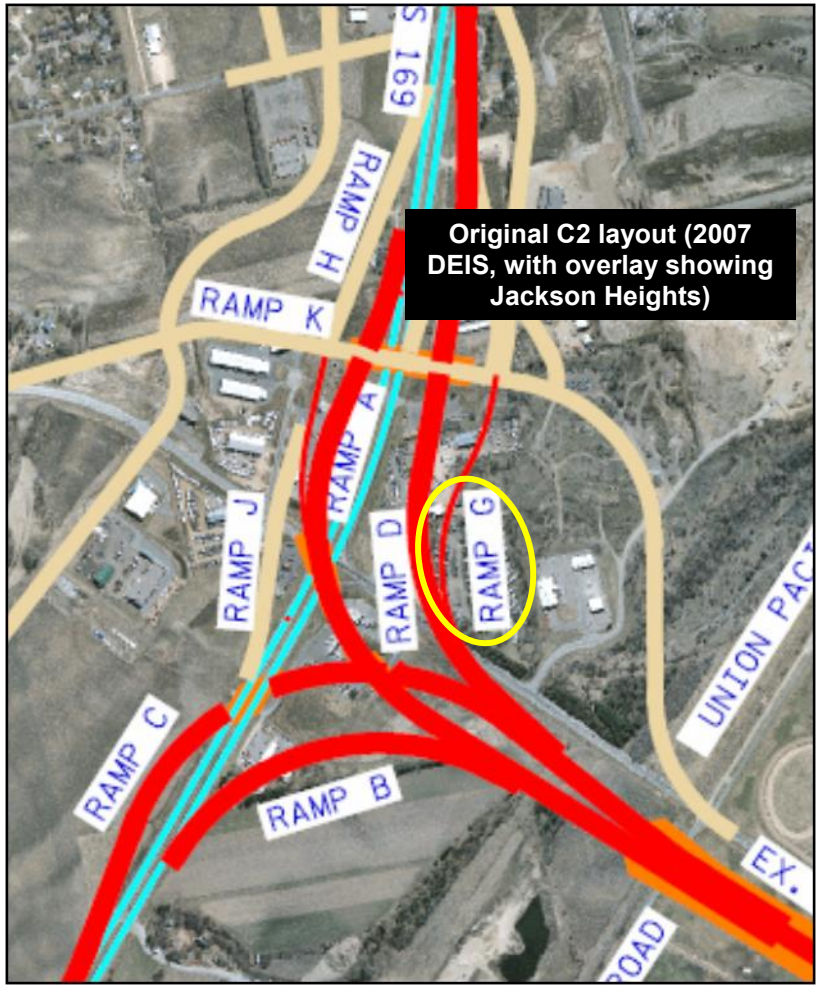
Participants at Jackson Heights and Allies Discussion

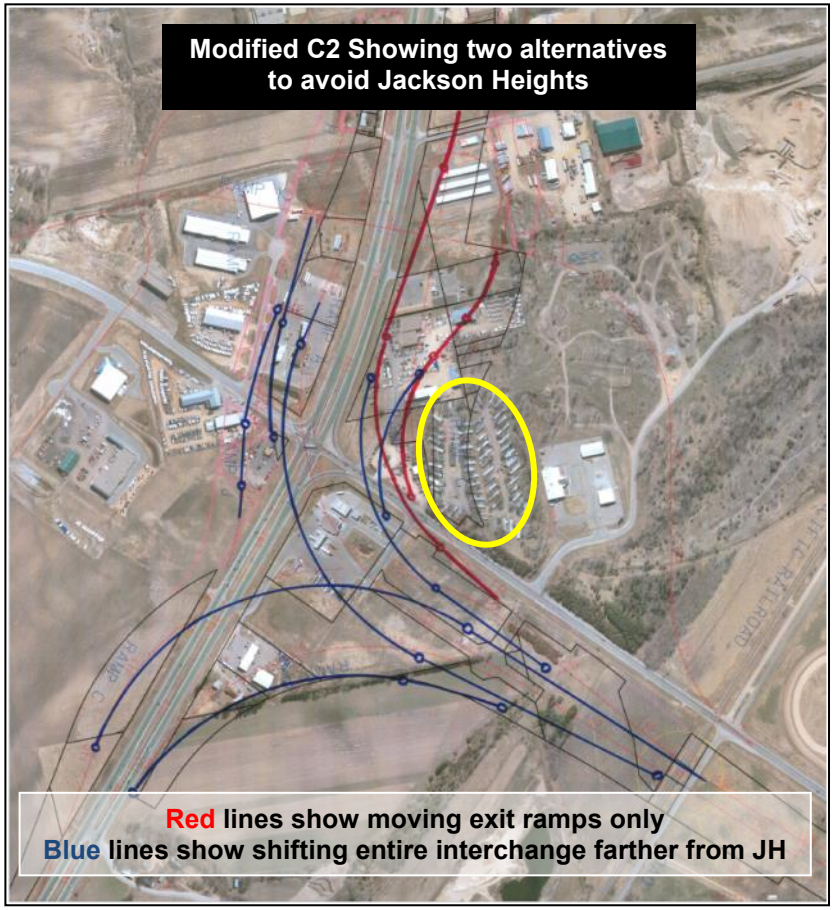
June 13, 2009, 2:00-4:30 pm, Chaska Moravian Church

Name	Representing	Phone Number	Mailing Address	Email Address	Receiving information via US Mail/Email
Diane Langenbach	Minnesota Department of Transportation (MnDOT)	651-234-7721	1500 County Road B2 Roseville, MN 55113	Diane.langenbach@state.mn.us	Email
Anne Carroll	Carroll, Franck & Associates	651-690-9162	1357 Highland Parkway St. Paul, MN 55116	carrfran@qwest.net	Email
Mona Langston	Housing Preservation Project (HPP)	651-642-0102	570 Asbury Street, Suite 105 St. Paul, MN 55104	mlangston@hppinc.org	
Krystal Klein	All Parks Alliance for Change (APAC)	651-644-5525 (press 4) 651-494-7269 (cell)	970 Raymond Avenue, #105 St. Paul, MN 55114	krystal.apac@gmail.com	
Michael Sobota	Scott County	952-496-8366	Government Center Rm GC114 200 Fourth Avenue West Shakopee, MN 55379	msobota@co.scott.mn.us	Email
Yesica Martinez	Jackson Heights Resident Association	952-250-1482	Jackson Heights #8 12666 Chestnut Blvd. Shakopee, MN 55379	Alvamartin6@aol.com	
Astrid	Jackson Heights Resident				
Veronica	Jackson Heights Resident				
Hannah Garcia	La Asamblea de Derechos Civiles	715-252-3623		Hannahgarcia01@gmail.com	
Paul Westveer	Bonnevista Residents Association & Jackson Township Supervisor	952-445-9324	251 Bonnevista Terrace Shakopee, MN 55079	mail4pop@hotmail.com	
Antonia Alvarez	La Asamblea de Derechos Civiles			Alvarez_antonia_2005@yahoo.com	
Julio Cesar o Emilia	Jackson Heights Resident				
Pablo	La Asamblea de Derechos Civiles & APAC Board Member	651-208-7896	3840 Patriot Lane Lexington, MN 55014		
Interpreter: Marcela Estibill				abrapalabra@qwestoffice.net	

Maps of Original and Refined C2 Corridor

These excerpts of the maps discussed show the original C2 corridor from the DEIS (left) and the modified C2 (right) discussed with Jackson Heights residents showing two ways of avoiding residents' homes.





Jackson Heights Presentation, June 2009

TH 41 Tier 1 EIS: Jackson Heights Resident Association Meeting

Chaska Moravian Church

June 13, 2009

Why are we here?

- Jackson Heights residents are important stakeholders in the TH 41 Tier 1 EIS process
- Supporting allies are welcomed in this process, primary goal is to engage the Jackson Heights residents
- Stakeholder involvement has included many public meetings to discuss information and build understanding
- Unfortunately, events out of our control have undermined trust and we are hoping to turn that around
- We'd like to continue with constructive discussions and document outcomes in notes and in the FEIS
- We are committed to working with you to achieve a successful outcome

TH 41 Tier 1 EIS Recent Activities

- Design Refinement working group
  - comprised of governmental agencies
  - considering C-2 alignment changes to further avoid/minimize impacts, this includes Jackson Heights/Refuge/Chaska Ballfield, etc.
  - building support for C-2 and are forming River Crossing Implementation Collaborative
  - looking for input on potential manufactured housing impacts
- Mn/DOT Legislative working group
  - received many letters re: TH 41 EIS from national advocacy groups
  - Mn/DOT responded by sending response letter (May 20) and by meeting w/interested parties (advocacy groups, political leaders, etc)
  - Mn/DOT committed to forming work group and meeting will be scheduled in coming weeks
  - goal is to better understand how manufactured housing parks are impacted by transportation projects (statewide, not just TH 41 EIS) and to define objectives and timeline for addressing issues

TH 41 Tier 1 EIS Key Points

- Tier 1 EIS is only to identify and preserve corridor
  - Construction is NOT in Mn/DOT's 20-year program
  - Preferred alternative in FEIS will shape long-range plans
  - Goal is to limit development and minimize future impacts
  - Tier 1 EIS includes mitigation concepts, <u>not</u> detailed plans
  - FHWA Record of Decision (ROD) will allow Mn/DOT to start acquiring property from *willing* sellers
  - Tier 2 EIS will be needed prior to design and construction
  - Tier 2 EIS ROD will allow rest of property to be acquired

TH 41 Tier 1 EIS: Manufactured Housing Potential Impacts/Solutions for Option 1

- Option 1 is C-2 in DEIS and Jackson Heights (JH) impacts include:
  - Direct impact to 18 of 64 households (direct impact = relocation, etc)
  - If JH park is not viable business due to impacts, then mitigation would be for the entire park (relocation, etc)
  - Also have indirect impacts like noise, visual etc.
  - Tier 1 FEIS addresses impacts and includes mitigation concepts/strategies/commitments for Tier 2 (details).
  - Use the long time frame prior to construction to further define mitigation & begin implementation (willing sellers)
  - Complete implementation in Tier 2 EIS for design and construction of new TH 41 bridge

TH 41 Tier 1 EIS: Manufactured Housing Potential Impacts/Solutions for Option 2

- Option 2: Move C-2 alignment to avoid any direct impacts to Jackson Heights
  - Interchange can be moved slightly to the north or two ramps can be moved further away from the park
  - Community stays whole and in tact
  - Trade-off is that community coexists with local and future regional interchange
  - This revised C-2 still has noise & visual indirect impacts
  - If/when funding becomes available, Tier 2 EIS would review impacts based on detailed design plans and mitigation would occur with residents at that time
  - Minimizes disruption now and does not preclude future mitigation options once detailed design is done

Final thoughts to keep in mind . . .

- Your input can help decide whether Option 1 or Option 2 is in FEIS
- Options 1 and 2 both have trade-offs
- Funding situation is bleak and it could be decades before this new crossing is constructed
- Timeline complicates situation: residents at JH park now will likely change before bridge is constructed
- Would not be prudent for us to disrupt your community now with no definite funding or design plans
- Our goal is to find a solution that minimizes disruption now and allows for a wide range of future mitigation options that leaves the community whole and vital.

Questions?

TH 41 Tier I EIS Design Refinement Group, 26 June 2009

Location: Chaska City Hall

Introduction and Participants

The focus of this workshop was on noise issues and parameters, with the MnDOT noise expert and the SRF noise consultant who worked on the noise model for this project. Participants continue to work on RCIC goals and strategies and stakeholder engagement. Participants in this meeting are listed below, followed by the meeting topics and results.

Matt Podhradsky	Chaska City Administrator	Michael Leek	Shakopee Community Development Director
Kevin Ringwald	Chaska City Planner	Michael Sobota	Scott County Community Development Director
Cindy Nash	City of Carver	Mark Cleveland	DNR – Parks and Trails
Bill Weckman	Carver County	Charlie Blair	USFWS – MN Valley National Wildlife Refuge Manager (MVNWR)
Lynn Clarkowski	MnDOT South Area Manager	Diane Langenbach	MnDOT Project Mgr
Gerry Shimek	USFWS – MN Valley National Wildlife Refuge	Nancy Frick	SRF Project Mgr. (MnDOT's EIS Consultant)
Craig Jenson	Scott County Transportation Planning	Anne Carroll	Carroll, Franck & Associates; public involvement, facilitator
Kristen Zschomler	MnDOT Cultural Resources	Pete Wasko	MnDOT Noise Specialist
Brett Danner	SRF Noise Consultant		

Agenda and Results

1. **Updates**:
   a. Secondary impacts on Shakopee's Historic District: MnDOT is still planning to have a meeting about this with MnDOT cultural resources, SHPO, Shakopee, and others to further clarify the issues and their intersection with this project.
   b. RCIC goals and strategies: Members are still working on their sections
   c. Stakeholder meeting with residents of Jackson Heights manufactured home park on the south side of the river: Diane Langenbach, Mike Sobota, and Anne Carroll met on June 13 with residents and allies to get their input on the C2 route and implications for their community. Draft documentation has been distributed to participants and will be sent to this group for review shortly. The group will meet again on July 25 to further advance the discussion and seek a common understanding of problems as well as collaboratively develop potential long-term solutions. <See separate meeting notes and PowerPoint slides.>

2. **Noise "101":**
   a. See PowerPoint presentation below by Diane Langenbach, based on work done by Brett Danner, SRF's noise specialist, with input from Pete Wasko, MnDOT's noise specialist; also see attached MnDOT Highway Traffic Noise Assessment and Abatement brochure
   b. Note the following additions/clarifications to the PPT slides:
   c. The 2004 modeling and 2005 monitoring results are both prior to the construction of new US

212. Future modeling results assume US 212 is constructed and system interchanges are at areas identified in Draft Environmental Impact Statement (DEIS).

d. "L10" is measured from a height of 5 feet above the ground, during peak loudness hours (may or may not be peak traffic hours) and gives a worst-case reading. "L10" gives the noise level that is exceeded 10% of the time. For example, an "L10" of 65 dB means that for 54/60 minutes of peak traffic, levels were below 65 dB. Conversely, for 6/60 minutes, levels were greater than 65 dB.

e. There is less modeling done in a Tier I than Tier II DEIS.

f. There are differences in parameters between C2 and C2A; so comparing these two is not comparing apples to apples. C2 and C2A carry different levels of traffic and this creates different traffic patterns on adjoining roadways. They are also at different elevations and this also affects the noise levels.

g. **Discussion:**

- Monitoring vs. modeling**:** Important to differentiate between monitoring (devices placed at specific locations measuring noise during peak traffic noise) and computer modeling results (numbers generated from assumed parameters and compared to monitoring results).
  - Noise monitoring generally done 9 am-noon or 1-4 pm because it includes more commercial traffic/heavy trucks, which are the largest source of noise; no snow on the ground, dry ground
  - The purpose of *monitoring* is fundamentally to cross-check the computer model and then make necessary adjustments, *not* as the primary source of data
  - The models assume no sound barriers
  - The modeling has not yet accounted for the wide variety of variables within the C2 route

- How sound works and is perceived:
  - For hard materials such as concrete, asphalt, and water, the sound carries farther and is not reduced as compared to a soft ground. On elevated structures, even if the ground is soft, it is treated as hard ground and is not reduced.
  - One key issue is that even if people can hear something and don't like it, it may not exceed state standards; it also relates to the type of experience people are trying to achieve, so perceptions of highway traffic vs. wildlife sounds vary by location and intent
  - Important distinctions between what people perceive they are hearing vs. what is measured; often people are more aware of something when it is new or changed, as well as volume variations over short periods of time; people can also hear decibel changes of less than 3 dB if they are in bursts; colder/dryer air carries sound somewhat better
  - For comparison, passenger automobiles accelerating are typically about 75 dB inside the vehicle
  - Wind can also be a factor, especially for people farther away – and in addition, wind itself is often a key noise factor
  - Traffic left on TH 41 explains the noise differences for C2 vs. C2A. For R10 in downtown Chaska, C2 noise levels are less than C2A (even though C2 is closer) because the dominant noise source is TH 41 and C2 leaves less traffic on TH 41.
  - For R20 by Jackson Heights, for C2 there are more ramps and thus noise is more dispersed; question whether the model accounted for the connection to existing TH 41; also whether that assumed an interchange or traffic signal

- Noise mitigation:
  - Trees serve as a good visual buffer (at least during late spring/summer/early fall), but have minimal impact on sound

- Speed is not often an effective noise mitigation measure because people often drive much faster than the posted speed. It is difficult to keep drivers within speed limit unless design factors (horizontal and vertical curves, etc.) are applied to the roadway.
- The most effective portion of the noise barrier is within the "shadow zone" of the noise barrier.
- For traffic noise mitigation, the biggest impact is 300-500 feet away from the source.
- Tradeoff between noise and visual: going higher reduces noise at the ground level, but increases the visual impacts

- Additional monitoring, modeling:
  - Would be interesting to look at noise profiles around the 494 bridge over the Minnesota River by the Refuge, that is much lower, as well as for the Mendota Bridge
  - There have been some discussions about doing more monitoring at comparable sites such as near the Bloomington Ferry Bridge
  - Should also research whether there are different noise standards that would make more sense for historic structures, accounting for the experience. ***Follow-up note:*** **Pete Wasko checked with MnPCA (Pollution Control Agency) and FHWA and both agencies stated that it is not appropriate to apply more stringent noise standards to historical structures. State standards for residential should govern. To be discussed more at the July 10th meeting so that everyone understands this point.**

h. **Agreed: Additional monitoring/modeling**
- Use C2 modeling assumptions, move the route southwest (perpendicular to proposed corridor) near the ballpark
- Model the noise at points on either side of the C2 corridor at representative GPS points determined by USFWS and DNR – with the understanding that an actual noise contour would be required for Tier II
- Gather monitoring data at ballfield on field and in the stands, during a game and during practice
- Chaska and historic resource experts will identify historic site monitoring locations
- USFWS and Chaska will get aerials to SRF so noise data results can be represented at various points on that map

i. **Agreed: Visualizations to help inform decision making**
- MnDOT will work with others to create very simple visualizations, working with photos from different vantage points, and marking them up with bridges at different heights using either markers or PhotoShop; historical resource and USFWS staff will provide all those points and elevations, and Chaska will take photos and HD videos
- Historic resource experts will research whether such noise issues have been addressed elsewhere in the country in Tier I processes
- MnDOT and SRF will provide RCIC with information on the assumptions and parameters that are accounted for in the noise model

j. **Discussion of RCIC establishing "reasonable" noise levels:**
- To gain approvals on the historic and refuge issues, we need to get all these data about noise and visual images and work with them all together to really understand the options and tradeoffs; in situations where the impacts are unavoidable and are deemed to be too much, then everyone will have sufficient information to made decisions about minimizing and

mitigating
- One of the challenges for the RCIC and community is to identify "reasonable" noise levels and what the options are to achieve them
- As we work through this, we need to be able to agree on a "programmatic" approach as we look to avoid, minimize, and mitigate impacts on all key stakeholders
- RCIC perhaps should focus on establishing criteria and examining all the parameters and tradeoffs, so that future decision makers and designers have complete access to all the information considered

k. **Agreed, next steps:** Complete specific noise monitoring/modeling per RCIC requests above, then define some of the qualitative issues that each key stakeholder/situation expects or experiences right now at key times; photos and current sounds and noise at ballpark; ditto for refuge, especially at the pinch-point where the road, refuge, and ballpark intersect; create some stories to help explain what everyone is thinking and expecting

3. **Common issues and priorities:**
   a. **Discussion**:
      - Commitment to making C2 the best alternative in light of everyone's issues and concerns, not routinely revisiting all the initial decisions about C2
      - Clear agreement that doing nothing is not a viable alternative, but equally understandable that individuals at various points in the process may not see light at the end of the tunnel
      - Committing to bringing people up to speed as they come in and out of the process, and completing and using the Project Overview brochure to help communicate what is going on
      - This new collaborative approach is difficult, but worthwhile
      - Focusing now on what issues and impacts we can and cannot address, and moving forward
      - Now to the point where we must all stay together in order to accomplish anything
   b. **Results/ACTION REQUIRED:** See revised table below following input prior to this meeting. The remaining teams will complete their sections by July 7 using Track Changes mode; these will be compiled and form the basis for approval at the next meeting

4. **Draft stakeholder engagement plan:** Brief update on meeting with Jackson Heights residents and allies; further information will be provided and discussion will continue at next meeting

5. **July 10 agenda items:**
   - Update/ discussion of additional work being done on noise and visuals
   - Review and hopefully finalize next version of the information brochure
   - Update on stakeholder engagement plan and results
   - Update on goals and strategies (per work assignments above)

	Common Goals	Strategies
	Framework: In addition to supporting the TH 41 C2 route, support and advocate for improvements that meet current and future transportation needs across the Minnesota River between I-35 and CR 9. Avoid or minimize negative permanent and temporary/ construction impacts on all stakeholders, and support mitigation as part of a comprehensive solution	
4.	**<u>Noise and visual impacts on neighborhoods</u>: Address noise and visual impacts on adjacent neighborhoods**	• Begin from the baseline state and federal noise standards • Collectively define qualitative and quantitative objectives and values around how people should be able to experience their communities, such as homes, ballfield, districts, and neighborhoods • Develop methodologies for measuring extent to which various alternatives meet defined objectives, and for evaluating tradeoffs • Prepare clear recommendations to guide future decision making
5.	**<u>Noise and visual impacts on historic properties:</u> Avoid negative visual, atmospheric, auditory, and use effects on historic properties/districts in all communities**	• Work with key stakeholders and the public to identify and evaluate project effects on historic properties • <Include specific properties of historic properties in the noise and visual strategies for communities> • Ensure that transportation outcomes support Chaska's commitment to a pedestrian-friendly, business-friendly historic commercial district • <think about a broad strategy that makes the nod to long-term, indirect, or ancillary future impacts that must be addressed as part of other projects>
6.	**<u>Impacts on historic ballpark</u>: Ensure ability of Chaska ballpark to operate; preserve the overall ballpark experience and its character as a small-town ballpark eligible for listing on the National Register of Historic Places**	• Seek ways to avoid physical impacts to the ballpark • <Include specific properties of the historic ballpark in the noise and visual strategies for communities>
7.	**<u>Safety issues in downtown Chaska</u>: Resolve**	• Reduce speed

	Common Goals	Strategies
	safety issues along existing Highway 41 in downtown Chaska	• Create safer pedestrian crossings • Connect east and west downtown Chaska (reduce barrier posed by current Hwy 41) • Reduce through car and truck traffic on existing Chestnut Street through downtown Chaska • Recent intersection improvements have moved queue of trucks and quieted neighborhood, and landscaping has helped • Re-route truck/traffic from downtown to reclaim downtown/pedestrian access/local users • Mitigate visual and noise impacts on downtown residents and businesses, including businesses with outdoor amenities
8.	**<u>Environmental justice:</u> Proactively work with stakeholders to understand and responsibly address environmental justice impacts**	• Better understand beneficial and adverse impacts • Further explore interchange and ramp locations that pose least potential adverse impact to established neighborhoods <By referring only to "established neighborhoods," this could be construed to mean all such, rather than only those that qualify under environmental justice rules; this needs to be revised> • Recognize and respect local and regional affordable housing goals; maintain stable affordable housing • Support no net loss of low-income housing due to the project • Support connectedness between Jackson Heights neighborhood and the broader community (prevent isolation)
9.	**<u>Local access:</u> Provide appropriate access to local and county roadways that will facilitate land use developments guided by counties and cities**	• Review development constraints and confirm adopted land use guiding by the counties and cities in and near the preferred corridor • Review the preferred corridor and "touch-down points" on both sides of the Minnesota River, and make recommendations regarding whether their location aligns with guided land uses and is feasible; identify alternatives for addressing any concerns • Identify the potential areas needed for ROW, long-term impacts of ROW preservation, and alternatives, including funding sources to

	Common Goals	Strategies
		acquire ROW or allowing appropriate interim or long-term development within defined corridor
	Natural Resources	
10	**<u>Ecosystem impacts</u>: Minimize impacts on aquatic and terrestrial ecosystems including animals and plants**	• Manage/contain contamination from vehicles and people on TH 41 (vehicles and boats on roadway, and roadway maintenance activities and products inadvertently bring contaminants or invasive species that move through waterways and other natural pathways) • Prevent additional habitat fragmentation and use best management practices to connect habitats • Encourage multi-use (transportation, utilities, etc.) of river crossing corridor to reduce additional habitat fragmentation • Use best technologies to keep noise at acceptable levels for wildlife • Maintain ability of wildlife to use natural land and water movement and migration corridors • Prevent disruption to wetland hydrology
11	**<u>Public access:</u> Ensure reasonable and usable public access to the outdoor recreational opportunities in the river valley (Refuge, state trail, and other public lands)** **<u>User impacts:</u> Minimize impacts to people using the Refuge, state trail, and other public lands**	• Maintain trail connections and access points for current and future outdoor recreational opportunities within the Minnesota River Valley • Ensure a quality experience for wildlife observation, wildlife photography, hiking, biking, environmental education and interpretation and other related activities (understanding that the various public lands have their own use restrictions) • Maintain a feeling of solitude by minimizing noise and visual intrusions

12	**<u>Land management capabilities:</u> Maintain natural resource management capability on public lands**	• Ensure that TH 41 does *not* interfere with land management activities in the following ways:
		  • Preventing or limiting heavy equipment access
		  • Creating impediments for prescribed burning
		  • Disrupting water management programs
		  • Interfering with forest management practices

MnDOT "Noise 101" Presentation

NOISE 101

Presented by Diane Langenbach
RCIC Meeting 26 June 2009

Noise 101

- Definition of noise – any unwanted sound
- Measured in sound pressure levels (decibels – dB)
  - increase of 3 dB barely perceptible
  - increase of 5 dB is clearly noticeable
  - increase of 10 dB is heard twice as loud
- Measured L10 and L50, State/Fed standards use L10
  - Residential L10 Std = 65 dB day and 55 dB night
    (L10 of 65 dB means that in one hour of heaviest traffic, noise level was at or greater than 65 dB for 6/60 minutes)
  - Federal noise abatement criteria for Category B = 70 dB
    (Category B is for residential and recreational)
- Noise Level Comparison chart:

Jet engine at 75 feet	140 dB
Heavy Truck Traffic	80 dB
Business Office	70 dB
Conversational Speech	60 dB
Secluded woods	30 dB

Noise Modeling Results around C-2 and C-2A

Looking at specific receptor points of interest (see map):

R8 near CSAH 11/New US 212
R9 near Chaska athletic field
R10 in Downtown Chaska (on TH 41 near 2nd street)
R13 along C-2A east of Chaska Lake in USFWS Refuge
R14 just east of where C-2 crosses existing TH 41
R19 just north of railroad along C-2A
R20 near Jackson Heights

R8 Noise Information
(near CSAH 11/new US 212)

- Modeling Results

L10 in 2004	52 dB
L10 No-build in 2040	65 dB
L10 building C-2 as studied	66 dB

- Conclusions

Expected noise increase only slightly above State Standard

R9 Noise Information
(by 1st St/RR near Chaska Athletic Field)

- Monitoring/Modeling Results

L10 monitored in Oct 2005 (before new US 212)	64 dB
L10 in 2004 model	61 dB
L10 No-build in 2040	63 dB
L10 building C-2 as studied	68 dB
L10 building C-2A as studied	66 dB

- Conclusions

L10 level for C-2 as studied is only 2 dB less than C-2A as studied (may be different elevations, etc.). This is not a perceptible difference.

Consider leaving buffer of trees for visual screen/character retention, but not very effective for more noise mitigation

R10 Noise Information
(near 2nd St and TH 41 in downtown Chaska)

- Modeling Results

L10 in 2004 (before new US 212 opened)	73 dB
L10 No-build in 2040	74 dB
L10 building C-2 as studied	70 dB
L10 building C-2A as studied	71 dB*

- Conclusions/Questions:

Noise standards are already exceeded and only slightly increase with no-build scenario. Why does C-2A show higher noise level when farther away (less ADT, different elevation, etc.)?

R13 Noise Information
(In Refuge east of Chaska Lake along C-2A)

- Modeling Results

L10 in 2004 (before new US 212 opened)	54 dB
L10 No-build in 2040	55 dB
L10 building C-2 as studied	65 dB
L10 building C-2A	73 dB

- Conclusions:

Noise levels only slightly increase in no-build scenario. Building C-2 as studied substantially increases noise, yet still remains at 65 dB (state threshold) and well below 70 dB (federal threshold). Building C-2A as studied exceeds state and federal threshold.

R14 Noise Information
(just east of where C-2 crosses existing TH 41

- Modeling Results

L10 in 2004 (before new US 212 opened)	57 dB
L10 No-build in 2040	58 dB
L10 building C-2 as studied	64 dB
L10 building C-2A	58 dB

- Conclusions:

Both C-2 and C-2A result in noise levels under the state and federal levels at this receptor location.

R19 Noise Information

(just north of railroad along C-2A)

- Modeling Results

L10 in 2004 (before new US 212 opened)	56 dB
L10 No-build in 2040	58 dB
L10 building C-2 as studied	59 dB
L10 building C-2A as studied	67 dB

- Conclusions:

  Levels remain below state and federal thresholds for C-2 as studied. Only state threshold is exceeded with C-2A.

R20 Noise Information

(near Jackson Heights)

- Monitoring/Modeling Results

L10 monitored in Oct 2005 (prior to new US 212)	59 dB
L10 in 2004 (before new US 212 opened)	63 dB
L10 No-build in 2040	64 dB
L10 building C-2 as studied	65 dB
L10 building C-2A as studied	68 dB

- Conclusions/Questions:

  Noise levels remain at or below state standards. Question why both C-2 and C-2A as studied did not increase more with local and regional interchange here.

A barrier is feasible if it can be constructed without major engineering or safety issues and provide a substantial noise reduction to the adjacent receivers. Reasonableness deals with whether or not the barrier can be constructed in a cost-effective manner, the percentage of residential-type development, overall noise levels and noise level increases, and the desires of the community.

What is a "substantial noise reduction"?

A noise barrier must provide at least a readily perceptible decrease in noise levels to adjacent receivers to be effective. This is defined as a noise decrease of at least five decibels. As noise level changes of three decibels or less are not generally perceivable, it is not prudent to construct a noise barrier that only gives a one- or two- decibel benefit to adjacent properties.

What types of noise barriers are constructed?

Noise barriers are commonly constructed as walls, earthen berms, or a combination of the two. Walls are most common, and are usually constructed out of dense material, such as wood, concrete or block materials. Earth berms are a natural alternative to walls, but require much more land to construct. Walls can be constructed on top of berms in order to raise the overall height of the barrier.

How do noise barriers work?

Noise barriers reduce noise by blocking the direct travel of sounds waves from a source (highway) to adjacent homes or businesses, forcing them over the top or around

the barrier. The barrier must be high enough and long enough to block the view (line of sight) of the highway. This is the phenomenon that allows a noise barrier to provide a perceivable noise reduction. Noise barriers do very little good for homes on a hillside overlooking a road or for buildings which rise above a barrier. Openings or gaps in barriers for driveway connections or street intersections reduce barrier effectiveness.

Noise barriers are most effective for the first one or two rows of homes at distances up to 400 to 500 feet from the barrier. As noise levels decrease with distance, there is a point away from the highway at which noise barriers are no longer effective. They are not designed to eliminate or block all noise.

Will planting vegetation help reduce noise levels?

Vegetation is only effective for reducing noise levels if it is at least 100-200 feet deep, high enough that it cannot be seen over, and dense enough that it cannot be seen through. It is not feasible to plant enough vegetation along a highway to achieve this type of reduction, however, planting trees or shrubs can provide aesthetic benefit and visual screening.

How does pavement type affect noise levels?

Research regarding the influence of pavement surface texture on the tire/pavement sound source has been ongoing throughout the years and continues to this day. The benefits of new advances in paving, such as rubberized asphalt, the use of designed surface texturing etc. are not easily determined. As a result pavement type, in and of itself, cannot be considered as an alternative to conventional noise mitigation at this time.

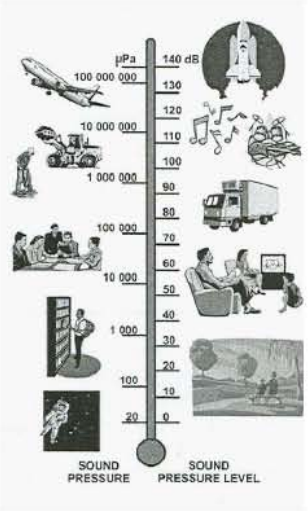
Does Mn/DOT analyze noise mitigation for new developments?

For a major highway reconstruction project, Mn/DOT will analyze an area if the final plat was approved prior to Mn/DOT's environmental review process. If development occurs after this date, any noise mitigation is the responsibility of the municipality as per MN State Rule 7030.0030.

Highway Traffic Noise: Assessment and Abatement

Traffic noise is an important consideration that must be taken into account when the Minnesota Department of Transportation (Mn/DOT) embarks on environmental studies that involve major highway improvements. For these projects, a noise study is required to assess existing noise levels and predict future noise levels (usually 20 years into the future) to determine noise impacts.

All traffic noise studies and analyses prepared for Mn/DOT projects must adhere to procedures and requirements as established by Federal law, U.S. Department of Transportation regulations, MN Pollution Control Agency (MPCA), and Mn/DOT noise analysis guidelines. This assures that the policies are uniformly and consistently applied and provides equitable treatment for those impacted by highway traffic noise.



If noise impacts are identified during a traffic noise analysis, Mn/DOT is required to examine and consider noise mitigation measures. If these measures are found to be feasible and reasonable in accordance with Mn/DOT defined criteria, they must be included as part of the project.

How are noise level changes perceived?

Studies have shown that changes in noise levels of three decibels or less are not typically detectable by the average human ear. An increase of five decibels is generally readily noticeable by anyone, and a 10-decibel increase is usually felt to be "twice as loud" as before.

How do changes in traffic or roadway geometry affect noise levels?

Due to the nature of the decibel scale, a doubling of traffic will result in a three-decibel increase in noise levels, which in and of itself would not normally be a perceivable noise increase. Traffic would need to increase at least three times to result in a readily perceivable (five decibel) increase in noise.

Using the same reasoning, if a highway is moved half as close to existing homes (i.e. 200 to 100 feet), the noise levels will increase by three decibels. Conversely, if a highway is moved double the distance from existing homes, the noise levels will decrease by three decibels. Noise level increases due to highway projects are usually due to a combination of increased traffic and changes in the roadway alignment.

When is a noise analysis required?

A noise analysis is required for a proposed Mn/DOT project if that project consists of:

- A new highway built on a new location,
- An existing highway is significantly altered by substantially changing the horizontal or vertical characteristics of the road, or,
- The number of through traffic lanes is being increased.

Minor projects, such as normal roadway resurfacing or minor alterations (without adding new lanes), usually do not require a noise analysis.

Does Mn/DOT analyze noise levels on existing highways?

In the absence of a major highway project as described above, Mn/DOT would base any determination for future noise barriers by it's 1997/2002 Highway Noise Abatement Study.

What constitutes a traffic noise impact?

A "noise sensitive receiver" (defined as homes, parks, schools, businesses, etc.) is considered impacted by noise if either the future (generally a 20-year traffic projection) noise levels exceed the State Noise Rules/ FHWA noise abatement criteria, or if there is a substanti increase in future noise levels over existing noise levels from a proposed Mn/DOT project as described above. These are the noise levels that are experienced at commonly used exterior portions of the property.

For residences, schools, and parks, impact is defined when the future noise levels would exceed the State Noise Standards of 65 dBA L_{10} daytime or 55 dBA L_{10} nightime for residential areas and 70 dBA L_{10} for commercial. For Federal aid type projects, a substantial increase impact occurs when there is a projected 5 decibel increase over existing levels. Impacts such as these require mitigation consideration and analysis, which may result in the construction of noise barriers if they are determined to be feasible and reasonable.

What does Mn/DOT consider "feasible and reasonable"?

A noise barrier must be both feasible and reasonable if it is to be constructed with the highway project. Feasibility and reasonableness are determined by criteria that are quantifiable but flexible, and judgments for special and/or unusual circumstances are made on a case-by-case basis. As a result, noise mitigation is not automatically provided where noise impacts have been identified.

TH 41 Tier I EIS Design Refinement Group (River Crossing Implementation Collaborative, RCIC), 30 July 2009

Location: Chaska City Hall

Introduction and Participants

The focus of this session was on reaching agreement on outstanding items necessary for the Final Environmental Impact Statement, finishing the RCIC goals, finishing input on the information brochure, and clarifying next steps and timelines for the RCIC's work. Participants in this meeting are listed below, followed by the meeting topics and results.

Bart Fischer	Chaska Assistant City Administrator	Gerry Shimek	USFWS – MN Valley National Wildlife Refuge
Kevin Ringwald	Chaska City Planner	Michael Sobota	Scott County Community Development Director
Cindy Nash	City of Carver	Cheryl Martin	FHWA
Lynn Clarkowski	MnDOT South Metro Area Manager	Charlie Blair	USFWS – MN Valley National Wildlife Refuge Manager (MVNWR)
Michele Hanson	DNR	Diane Langenbach	MnDOT Project Mgr
Anne Carroll	Carroll, Franck & Associates; public involvement, facilitator	Nancy Frick	SRF Project Mgr. (MnDOT's EIS Consultant)

Agenda and Results

1. **Administration:** On June 26 notes, correct participant list to read Craig "Jenson" rather than "Johnson" from Scott County (done)
2. **Updates and additional issues for FEIS**
   - Noise: Ballpark monitoring done and being compiled; MnDOT will bring the results and the bridge design implications to the September workshop <see map below of noise receptor locations>
   - Visual:
     - USFWS and Chaska are working with MnDOT on some coarse visuals – such as lines drawn against the trees – so they have an understanding of what this might look like; everyone understands that this provides rough guidance only
     - USFWS is calculating some tree heights based on those that essentially define the skyline, and to locate them in space to serve as the baseline
   - Vegetation and soil classifications: USFWS will bring these to the September workshop
   - Performance standards:
     - Clarify our thinking rather than making specific recommendations
     - Consider an impacts/tradeoff matrix that illustrates
     - Discuss notion of finding a balance and optimizing competing impacts
   - FEIS: The approved RCIC partnership agreement and goals will be included in the body of the document, along with the performance commitments.
   - Corridor refinement: With the noise and visual information-gathering that is in progress, we are ready to do a workshop to refine the corridor – understanding that truly new issues may emerge at that time and we'll deal with them then. We recognize and agree that in that workshop the

corridor definition will explicitly describe the areas where the future alignment will need to be shifted to avoid critical impacts. We will deal with impacts on natural resources, historic resources, and environmental justice issues.

- Outstanding issues: Participants at today's meeting agreed that there was no additional information that needed to be gathered prior to a September workshop. Mike Sobota and Diane Langenbach will work with Michael Leek to determine if Shakopee has additional issues. Diane, Cheryl Martin, the MnDOT CRU, and SHPO will work in August to ensure that they are prepared to complete their data gathering prior to the September workshop

3. **RCIC Framework, Goals, and Strategies:** Participants finalized these, included below. The final goals will be included in the public information brochure.

4. **RCIC Partnership Agreement:** RCIC members agreed to actively begin work with their authorizing entities to seek any necessary approvals for the Partnership Agreement attached below.

5. **Next meeting agenda items:** Long workshop to finalize corridor and document agreement on all issues.

6. **Edits to public information brochure:**
   Macro level
   - Like the brochure
   - Clear; can imagine using it with people in the public
   - Easy to read and follow
   - Includes all the right information
   - Should hold for several years

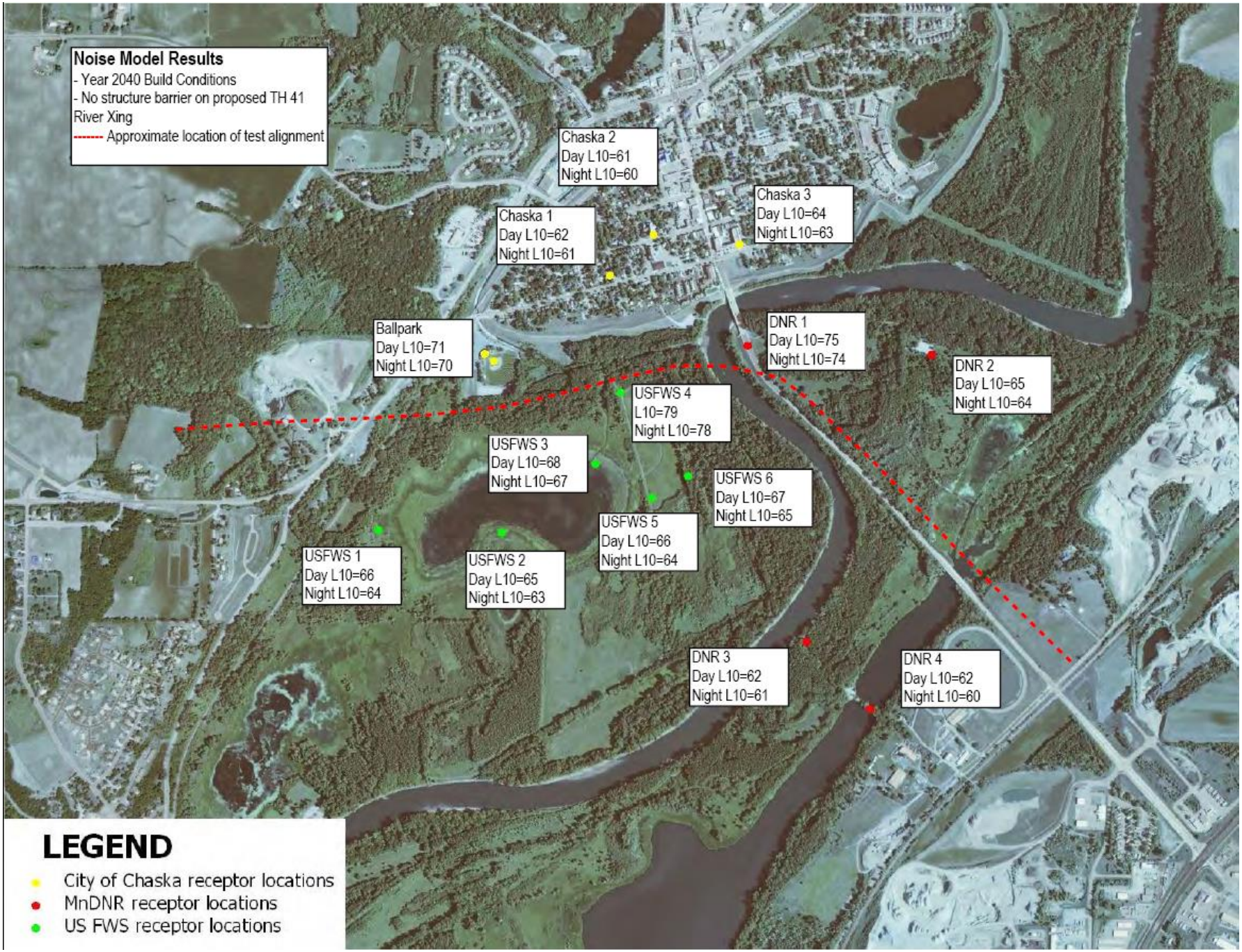
   Content
   - May need a clearer time reference; make footer stand out more
   - Pg 8: Drop references to Study Advisory Committee and Policy Advisory Committee
   - Pg 8: Add solid reference to extensive stakeholder involvement
   - Pg 8: change website reference to a higher level that's project specific
   - Pg 8: corrections to group names are MN Board of Water and Soil Resources, Carver Heritage Preservation Commission; see Diane for others
   - Pg 5: Bold C2 on page 5
   - Pg 5: Clean up entire graphic (see Diane and Nancy)
   - Pg 5: make sure route #s are easier to read
   - Pg 6: ….best potential to meet transportation needs while….
   - Pg 7: Intro paragraph: see Mike Sobota's suggested edits (get from Diane)
   - Pg 7: bullet the goals vs. number them
   - <Pg 7: In version after this one, add language about RCIC>
   - Pg 6: Correct EJ language to make it much more clear; see Diane and Cheryl
   - Pg 6: photos: find better fen photo; find more respectful/safer photos; see Diane
   - Pg 6: C2A change "parkland" to federal and state protected lands
   - Pg 2: … highways and…change "and" to "that"
   - Pg 2: head…why is MN DOT… change "another" to "this"
   - Pg 2: change to Provide Regional Congestion, Reduce Traffic Congestion, Protect Floodplain
   - Pg 2: Flooding is a frequent problem for river crossings in this area. For example, …(keep

the rest of the text the same)

- Pg 3: EIS, Tier I: see Charlie's language; see Diane
- Pg 3: EIS, Tier II: …before construction to address impacts of specific roadway and bridge design
- Pg 3: insert period after first paragraph
- Pg 4: reconcile number described with "21"
- Cover: On upper left, add tag line (get from Diane)

Map of Noise Monitoring Locations

See next page.


Noise Model Results
- Year 2040 Build Conditions
- No structure barrier on proposed TH 41 River Xing
------- Approximate location of test alignment
Chaska 2
Day L10=61
Night L10=60
Chaska 3
Day L10=64
Night L10=63
Chaska 1
Day L10=62
Night L10=61
Ballpark
Day L10=71
Night L10=70
DNR 1
Day L10=75
Night L10=74
DNR 2
Day L10=65
Night L10=64
USFWS 4
L10=79
Night L10=78
USFWS 3
Day L10=68
Night L10=67
USFWS 6
Day L10=67
Night L10=65
USFWS 5
Day L10=66
Night L10=64
USFWS 1
Day L10=66
Night L10=64
USFWS 2
Day L10=65
Night L10=63
DNR 3
Day L10=62
Night L10=61
DNR 4
Day L10=62
Night L10=60
LEGEND
City of Chaska receptor locations
MnDNR receptor locations
US FWS receptor locations

TH 41 Tier I EIS: River Crossing Implementation Collaborative (RCIC), July 2009 DRAFT Framework, Goals, and Strategies

The following framework, goals, and strategies were crafted by RCIC members in the first half of 2009 to represent their commitment to a *common* direction and to working collaboratively over the next 20-25 years to meet the needs of all RCIC members, not just their own. While it is true that the complexity and challenges of this river crossing essentially require such an approach to come to fruition, this group's clear understanding of the context of this effort and their sincere, authentic, and open approach to reaching these commitment to a common direction serves as a model for others in similarly challenging circumstances.

Framework

In addition to supporting the TH 41 C2 route, support and advocate for improvements that meet current and future transportation needs across the Minnesota River between I-35 and CR 9.

Avoid or minimize negative permanent and temporary/ construction impacts on all stakeholders, and support mitigation as part of a comprehensive solution.

Common Goals	Suggested Strategies
1. **Noise and visual impacts on neighborhoods: Address noise and visual impacts on adjacent neighborhoods**	• Begin from the baseline state and federal noise standards • Collectively define qualitative and quantitative objectives and values around how people should be able to experience their communities, such as homes, ballfield, districts, and neighborhoods • Develop methodologies for measuring extent to which various alternatives meet defined objectives, and for evaluating tradeoffs • Prepare clear recommendations to guide future decision making
2. **Noise and visual impacts on historic properties: Avoid negative visual, atmospheric, auditory, and use effects on historic properties/districts in all communities**	• Work with key stakeholders and the public to identify and evaluate project effects on historic properties • Ensure that transportation outcomes support Chaska's commitment to a pedestrian-friendly, business-friendly historic commercial district
3. **Impacts on historic ballpark: Ensure ability of Chaska ballpark to operate; preserve the overall ballpark experience and its character as a small-town ballpark eligible for listing on the National Register of Historic Places**	• Seek ways to avoid physical impacts to the ballpark
4. **Safety issues in downtown Chaska: Resolve safety issues along existing Highway 41 in downtown Chaska**	• Reduce speed • Create safer pedestrian crossings • Connect east and west downtown Chaska (reduce barrier posed by current Hwy 41)

Common Goals	Suggested Strategies
	• Reduce *through* car and truck traffic on existing Chestnut Street through downtown Chaska • Recent intersection improvements have moved queue of trucks and quieted neighborhood, and landscaping has helped • Re-route truck/traffic from downtown to reclaim downtown/pedestrian access/local users • Mitigate visual and noise impacts on downtown residents and businesses, including businesses with outdoor amenities
5. <u>Environmental justice:</u> Proactively work with stakeholders to understand and responsibly address environmental justice impacts	• Better understand beneficial and adverse impacts • Further explore interchange and ramp locations that pose least potential adverse impact to established neighborhoods • Recognize and respect local and regional affordable housing goals; maintain stable affordable housing • Support no net loss of low-income housing due to the project • Support connectedness between Jackson Heights neighborhood and the broader community (prevent isolation)
6. **<u>Local access:</u> Provide appropriate access to local and county roadways that will facilitate land use developments guided by counties and cities**	• Review development constraints and confirm adopted land use guiding by the counties and cities in and near the preferred corridor • Review the preferred corridor and "touch-down points" on both sides of the Minnesota River, and make recommendations regarding whether their location aligns with guided land uses and is feasible; identify alternatives for addressing any concerns • *<Note RCIC-approved addition, fall 2011: Specifically address the desire for local and direct access from 169 and new 41 to downtown Chaska and downtown Shakopee, consistent with local plans>* • Identify the potential areas needed for ROW, long-term impacts of ROW preservation, and alternatives, including funding sources to acquire ROW or allowing appropriate interim or long-term development within defined corridor

Common Goals	Suggested Strategies
Natural Resources	•
7. **<u>Ecosystem impacts</u>: Minimize impacts on aquatic and terrestrial ecosystems including animals and plants**	• Manage/contain contamination from vehicles and people on TH 41 (vehicles and boats on roadway, and roadway maintenance activities and products inadvertently bring contaminants or invasive species that move through waterways and other natural pathways) • Prevent additional habitat fragmentation and use best management practices to connect habitats • Encourage multi-use (transportation, utilities, etc.) of river crossing corridor to reduce additional habitat fragmentation • Use best technologies to keep noise at acceptable levels for wildlife • Maintain ability of wildlife to use natural land and water movement and migration corridors • Prevent disruption to wetland hydrology
8. **<u>Public access:</u> Ensure reasonable and usable public access to the outdoor recreational opportunities in the river valley (Refuge, state trail, and other public lands)** 9. **<u>User impacts:</u> Minimize impacts, including noise and visual, to people using the Refuge, state trail, and other public lands**	• Maintain trail connections and access points for current and future outdoor recreational opportunities within the Minnesota River Valley • Ensure a quality experience for wildlife observation, wildlife photography, hiking, biking, environmental education and interpretation and other related activities (understanding that the various public lands have their own use restrictions) • Maintain a feeling of solitude by minimizing noise and visual intrusions

10. **<u>Land management capabilities:</u> Maintain natural resource management capability on public lands**	• Ensure that TH 41 does *not* interfere with land management activities in the following ways:
	  • Preventing or limiting heavy equipment access
	  • Creating impediments for prescribed burning
	  • Disrupting water management programs
	  • Interfering with forest management practices

TH 41 Tier I EIS: River Crossing Implementation Collaborative (RCIC), July 2009 DRAFT Partnership Agreement

Mission
This group is responsible for ensuring the successful implementation of the TH 41 River Crossing in accordance with the agreements reached by key stakeholders.

Purpose
Agree on TH 41 river crossing alignment, reach agreement on common purposes, and actively carry these forward over time.

Composition
The Collaborative is composed of public entities that are either required or legally empowered to commit to this effort over the life of this project. These include the following:

- Carver County
- City of Carver
- City of Chanhassen
- City of Chaska
- City of Shakopee
- Federal Highway Administration
- Scott County
- Metropolitan Council
- Minnesota Department of Natural Resources
- Minnesota Department of Transportation
- State Historic Preservation Office
- U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge

Responsibilities

- Work collaboratively and transparently
- Steward the process from start to finish
- Oversee the progress of this project, ensuring that key stakeholders are engaged and decisions remain aligned with agreements
- Authentically engage other stakeholders, including regulatory entities, throughout the process in both formal and informal settings, groups, and activities
- Keep the public informed and engaged throughout the process
- Continually update underlying data and information that may affect this project
- Continually update project tasks, timeline, and responsibilities
- Routinely update agencies and electeds
- Support timely and appropriate funding
- Maintain formal representation on and actively participate in the Collaborative's work over time
- Support and assist other members of the Collaborative as needed

Relationship among Team Members
Members work under the guidance of a Memorandum of Understanding that outlines roles and responsibilities. MnDOT agrees to be the administrator for this Collaborative.

Governance
The Collaborative will establish any necessary structures for leadership, structure, decision making, logistics, and anything else required to ensure long-term organizational vitality.

TH 41, Tier I EIS: River Crossing Implementation Collaborative (RCIC) Workshop: 8 October 2009

8 a.m. - 4 p.m., Chaska City Hall

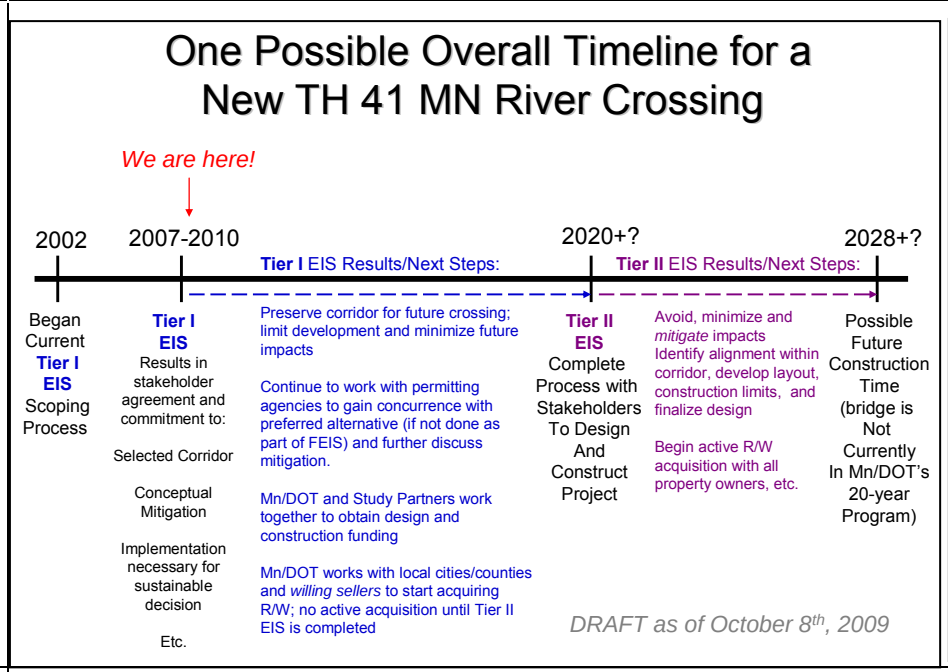
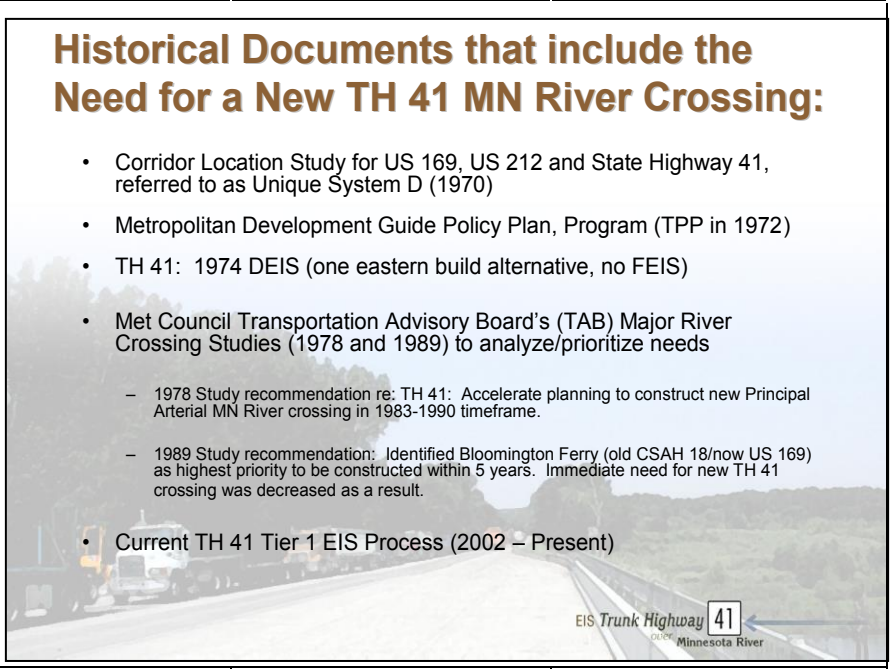
Participants

Bart Fischer	Chaska Assistant City Administrator	Gerry Shimek	USFWS – MN Valley National Wildlife Refuge
Kevin Ringwald	Chaska City Planner	Michael Sobota	Scott County Community Development Director
Cindy Nash	City of Carver	Cheryl Martin	FHWA
Lynn Clarkowski	MnDOT South Metro Area Manager	Charlie Blair	USFWS – MN Valley National Wildlife Refuge Manager (MVNWR)
Mark Cleveland	DNR	Diane Langenbach	MnDOT Project Mgr
Michael Leek	Shakopee Community Development Director	Craig Jenson	Scott County Transportation Planning
Lisa Freese	Scott County Transportation Program Manager	Dennis Gimmestad	State Historic Preservation Office
Kristen Zschomler	MnDOT Cultural Resources Unit	Bob Generous	City of Chanhassen Planning Department
Connie Kozlak	Metropolitan Council	Bill Monk	City of Chaska Engineer
Bill Weckman	Carver County Engineer	Peter Wasko	MnDOT Noise Specialist
Jim Elmquist	City of Carver	Matt Podhradsky	City of Chaska Administrator
Brett Danner	SRF Consulting Noise Specialist	Rick Brown	SRF Consulting Design Engineer
Anne Carroll	Carroll, Franck & Associates; public involvement, facilitator	Nancy Frick	SRF Project Mgr. (MnDOT's EIS Consultant)

Purpose/Desired Outcomes

- Complete RCIC recommendations on the following items so that the Final Environmental Impact Statement (FEIS) can be prepared over the next nine months:
  - Corridor
  - RCIC Framework, Goals, and Strategies
  - RCIC Partnership Agreement
  - TH 41 EIS MN River Crossing Communication Brochure
- Develop joint understanding of next steps in FEIS process and RCIC's role

Workshop Agenda and Results, October 2009			
Est Time	**Topic (Lead)**	**Supporting Documentation**	**Desired Outcome**
8:00-8:10	1. **Welcome and introductions** (Diane Langenbach, MnDOT)	RCIC roster	
8:10-8:20	2. **Review/revise agenda, and agree on intended outcomes of this workshop** (Diane Langenbach): a. Complete RCIC recommendations for the FEIS • Corridor • RCIC Framework, Goals, and Strategies • RCIC Partnership Agreement • Communication brochure b. Begin developing joint understanding of next steps in FEIS process and RCIC's role ***Results*:** Final agenda, as shown in this documentation	Draft agenda	Final agenda
8:20-8:45	3. **Process review** (Diane Langenbach, Lynn Clarkowski, MnDOT): a. Dynamic regional transportation needs b. 1970s/80s plans and results c. 2000s process and results • Key activities and milestones since 2002 • 2009 details d. Q&A/clarifications ***Results*:** See two-sided handout below For property acquisition, note that both MnDOT *and* communities have a role in this through various funding sources Note: Since January 2009, RCIC participants have shared a tremendous amount of information and built common understandings about their various interests and priorities, regulatory requirements and implications (environmental justice, 4F, historical, etc.), local and regional needs, alternatives, and so on. They have spent this time building relationships and coalitions, identifying long-term and common objectives, and creating the necessary framework for this work to be sustainable.	"Historical documents that include the need for a new TH 41 MN river crossing" and "One possible overall timeline for a new TH 41 river crossing"	Common understanding of process to date; no decisions are made here

Est Time	Topic (Lead)	Supporting Documentation	Desired Outcome
				
8:45-11:30	**4. Context-setting:**		Common understandings so participants can deliberate and make recommendation decisions in the next agenda item
	a. Issues context: Quickly review framework and common goals (Diane Langenbach and Anne Carroll, P2 consultant) ***Results***: See final Framework, Common Goals, and Strategies below	*Final draft* Framework, Common Goals, and Strategies	--
	b. Visual context and implications, including historic: Chaska and USFWS photos (Kevin Ringwald, Chaska; Charlie Blair/Gerry Shimek (USFWS))	Chaska and USFWS photos	Better understand context of local setting and provide reference points

Est Time	Topic (Lead)	Supporting Documentation	Desired Outcome
	Results: Chaska, Kevin Ringwald: used the city's bucket truck to estimate height and took panoramic photos from north and south sides of ballpark, and showed where anticipated bridge deck would be, assuming approximately 70 feet high. It would be at about the height of the mature trees. USFWS, Gerry Shimek: Took photos panoramic photos from Refuge and ballpark, estimating tree heights based on species types. Highlighted the distance factor, in that the farther away the bridge would be from the ballpark, and from behind trees in the Refuge, the easier it is to screen it from view. Key discussion points: • Trees can't screen the bridge if they're cut down as part of the construction process • Some of the biggest trees, such as the cottonwoods, are also the oldest – and are on the north side of the Refuge, nearest the ballpark – so even if trees were replaced, it would be many years before they would screen anything; but, there are younger and smaller trees continuing to grow in this area, and this is the best-suited area for tall trees such as these to thrive • These trees have shallow root systems and are tightly packed, so selected tree removal could create a wind tunnel effect that could make the remaining trees much more vulnerable • On the higher elevations, approximately 30-40% are ash trees and with the emerald ash borer could be expected to be gone in 20-30 years • Cleared area southeast of ballpark was constructed as a wetland from former farmsteads/agricultural lands (historically floodplain forests); currently maintained as a wetland but will over 20+ years move back to natural reforestation • If large numbers of trees or other habitat are destroyed, it opens up area to various invasive species • From Chaska's perspective, these visual issues are among the most important, and is much more tangible than noise issues, which include more variables as we look 20+ years out		
	c. MnDOT response to impact concerns from last meeting: Test C2 (Diane Langenbach and Nancy Frick/Brett Danner, SRF)	Show visual and noise potential impacts based on Test C-2	Better understand what the potential impacts might be based on Test C-2

Est Time	Topic (Lead)	Supporting Documentation	Desired Outcome
	Results: Test C2 attempted to address impact concerns for the ballpark and Refuge by moving the corridor a little south. Did 3D modeling for noise and visuals. Assumes: • 20-foot deck • No change in design speed (currently 70 mph) • As low as possible while staying out of the floodplain • Crosses over existing TH 41, about 32 feet above the river and about 48 feet as it goes by ballpark, rising from there to meet 212 at its current height (not lowered) • No changes to current Hwy 169 plans, but those discussions are continuing and it is important to have the RCIC's guidance Discussion included the following: • Typical construction methods would clear too much of the screens • Other tradeoffs (such as noise/height) will be addressed in the RCIC guidelines that we will begin in this workshop and finish later this fall		
	d. Noise context and implications, including historic: Data from RCIC-requested noise monitoring (Nancy Frick/Brett Danner, SRF)	DEIS noise study info (previously discussed) Additional noise monitoring results	Better understand current noise conditions (monitoring results) at the Chaska Cubs ball field and downtown Chaska/historic properties
	Results: Noise monitoring at agreed-upon locations at ballpark, neighborhoods, and Refuge • All these are L10 metric (worst 6 minutes in an hour) • Different times of day including during a ballgame • 2040 traffic conditions with various options, including no build • Near the existing TH 41, there are minimal noise difference between Test C2 and no-build conditions • City Square current noise levels are approximately the same as several Test C2 points in the Refuge and on DNR lands • 3-decibel increase is barely perceptible; 5-decibel increase is clearly noticeable; 10-decible increase perceived as double • Model does not account for changes in atmospheric conditions or variations in bridge deck materials • As a rule of thumb, 100 feet of very dense foliage would result in about a 5-decibel sound reduction (but would have to be very dense); wintertime likely to be noisier without foliage • Analysis looked at state noise standards and federal abatement criteria, and when final design is done these would apply, and as		

Est Time	Topic (Lead)	Supporting Documentation	Desired Outcome
	required, various methods would be explored to reduce noise, and community preferences are considered Discussion included: • Understand that the Test C2 is an attempt to respond to the concerns expressed by RCIC members • At the ballpark, L10 (essentially the worst 6 minutes in the noisiest hour of the day) background noise is 51 decibels and goes to 71 during a game; with Test C2, background noise goes to 69; concerned about the impact of that on the general atmosphere • Noise on highway bridge may be constant across entire hour more as a hum		
11:30-12:00	**LUNCH**		
12:00-12:15	**5. Update on SCALE's preliminary meeting with Met Council chair Peter Bell** (Shakopee Community Development Director Michael Leek) ***Results*:** Scott County Association for Leadership and Efficiency (SCALE) formally requested a meeting with Met Council chair Peter Bell (scheduled for Oct 9 09) and prior to elected and agency staff from Scott County met with Met Council Chair Peter Bell, Administrator Tom Weaver and transportation planning director Arlene McCarthy. SCALE's purpose in doing this is to ask that at a high policy level, Met Council participate in the river crossing plans and help make corridor decisions, and the Council also partner with SCALE to do a subregional transportation study to accommodate 2030 regional and subregional needs especially with regard to non-flood prone river crossings. Scott County as a whole and Shakopee in particular are facing some serious long-term challenges. Chair Bell's general response was supportive, but with the caveat that they cannot agree to advocate directly for a particular county/ because of concerns about a landslide of such requests and concerns about the financial constraints for new projects. One of SCALE's key objectives is to do long-term, proactive analysis and planning at their subregional level, and to include other key stakeholders in all this work. Michael Leek will provide the RCIC with another update following the formal SCALE meeting with Chair Bell and others on 10/9/09 and		

Est Time	Topic (Lead)	Supporting Documentation	Desired Outcome
	receipt of the Met Council's written response to the written questions provided Chair Bell.		
	6. Update on further discussions on potential impacts of the TH 41 project on other nearby historic districts ***Results*:** Note: Issues relevant to Tier I are included in the discussion of specific issues in agenda item 7 below and in the Framework, Goals, and Strategies document. Other issues will be addressed as part of future programmatic agreements and Tier II discussions.		
12:15-3:00	**7. RCIC exploration and deliberations *around agreed-upon outcomes***		
	a. Discussion of Test C-2 (RCIC, Nancy Frick, SRF, Diane Langenbach) ***Results*:** Combined with 7b; see that documentation below.	Reactions, questions, any additional refinement ideas, etc.	Confirm RCIC understands impacts with Test C-2 and is ready to discuss final corridor refinement
	b. Agreement on corridor recommendation for FEIS (RCIC, Diane Langenbach, Nancy Frick, SRF) ***Results*:** See detailed documentation below, following this table.	Knowledge, understandings, and documentation from previous meetings and earlier workshop agenda items	RCIC corridor recommendation to be documented in FEIS
	c. Agreement on RCIC Partnership Agreement (RCIC, Diane Langenbach) ***Results*:** See final Partnership Agreement attached below	Final draft RCIC Partnership Agreement	*Final* RCIC Partnership Agreement, ready to be submitted to members for approval
	d. Agreement on RCIC Framework, Common Goals, and Strategies (RCIC, Diane Langenbach) ***Results*:** See final Framework, Common Goals, and Strategies attached below	Final draft Framework, Common Goals, and Strategies	*Final* Framework, Common Goals, and Strategies; to be used in conversations with RCIC member organizations, and is a *dynamic* document that members will update over time
	e. Communications Brochure **(RCIC, Diane Langenbach)**	Draft Communication Brochure	Finalize brochure to start communicating

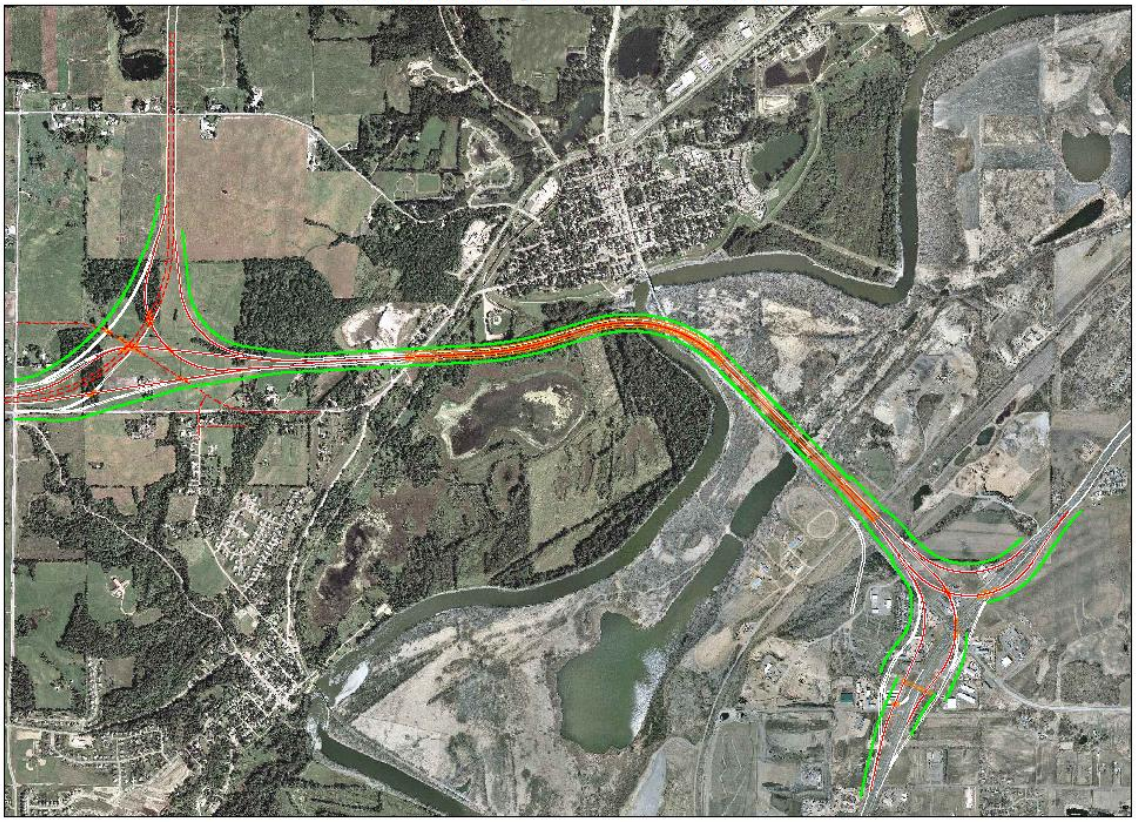
Est Time	Topic (Lead)	Supporting Documentation	Desired Outcome
	***Results*:** See final communications brochure below <See final version from February 2010 RCIC notes.>		with SAC, boards, councils, etc.
3:00-3:30	**8. Begin developing RCIC guidance around impacts to shape future decision making**	Discuss what additional criteria is needed to ensure goals and strategies will be met	Draft RCIC guidance
	***Results*:** *The following issues and topics will form the basis for the RCIC's next discussion* • Construction techniques: if we are counting on a visual barrier, we would need to find a way to not remove all the vegetation that could screens the bridge; not sure how realistic that is, and also not sure that even if trees were saved, they would survive with that level of disruption • Noise: Height-noise tradeoffs, design speed, traffic speed, bridge deck materials, sound barriers of various kinds (legal requirements and community consultation); must look at noise impacts on people and fauna • Connection to 169: location/ configuration, design speed, etc. • Future flora: what can be grown under or near the final corridor to help screen and maintain • Bridge design: with a mile of structure, the actual architectural design will affect impact on historic properties and neighborhoods; look at modifying the design over the length of the bridge to meet needs • Visual tradeoffs between ballpark and refuge: could it go far enough south to allow a real visual foliage barrier on the north side by the ballpark, and not make it significantly worse on the south? • Visuals/height: Need to have tree species where the canopy actually screens the roadway • Need to look at what we can plan in advance to repopulate the area trees over time with the appropriate species, planting times, etc., and put in place a long-term management plan to meet the screening needs; could look at natural tree growth process results from existing bridges over Refuge lands • It is very difficult to naturally re-grow floodplain forests such as this between the ballpark and the Test C2 corridor; you could probably manage trees there if that were included in operating costs to routinely plant and maintain trees in that area; need to explore what might be done over the next 20-30 years to create an environment where trees can serve as visual screens over the long term		
3:30-4:00	9. **Close** (Diane Langenbach) a. Confirm final decisions, recommendations, and documentation (see all documentation) b. Confirm next steps, including 20-year Implementation Plan, conceptual mitigation, Jackson Heights upcoming meeting, etc. c. Celebrate RCIC's great work! d. Adjourn		

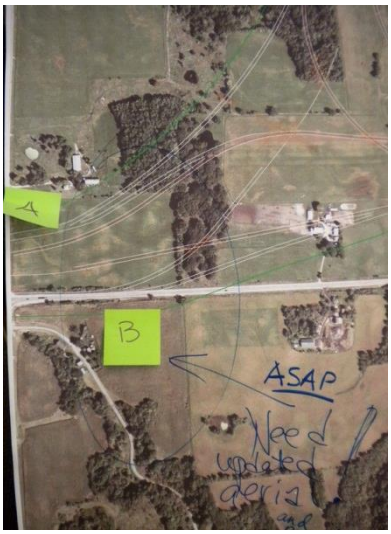
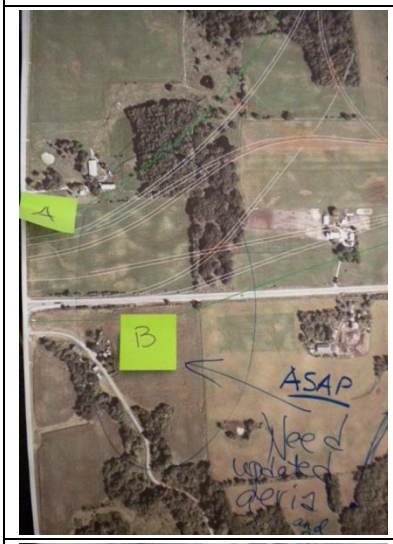
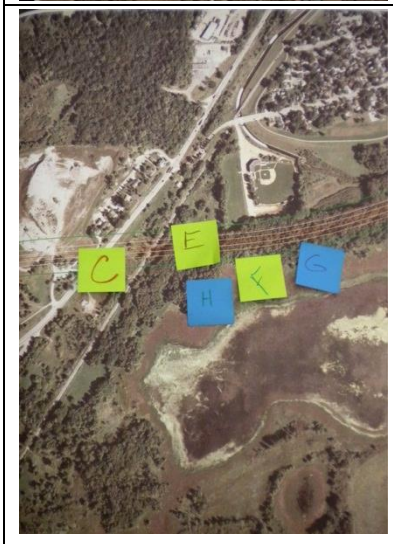
Preliminary Agreements on Corridor Recommendations

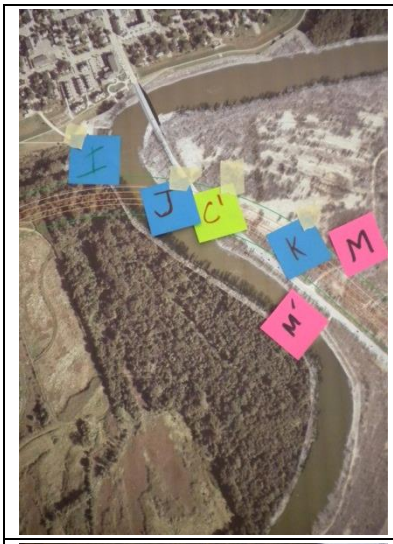
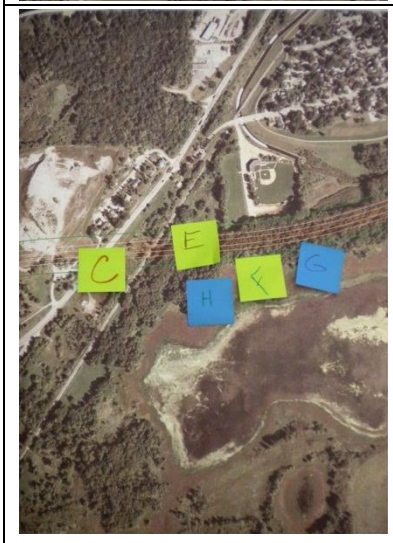
(Agenda item 7b)

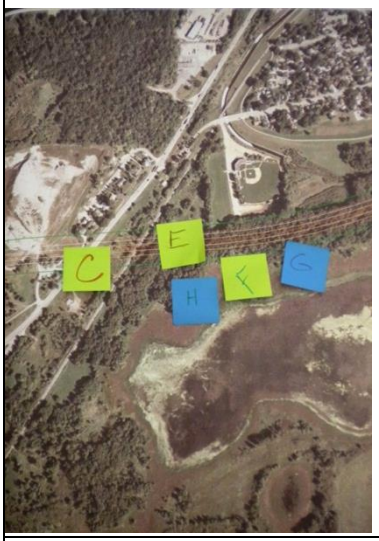
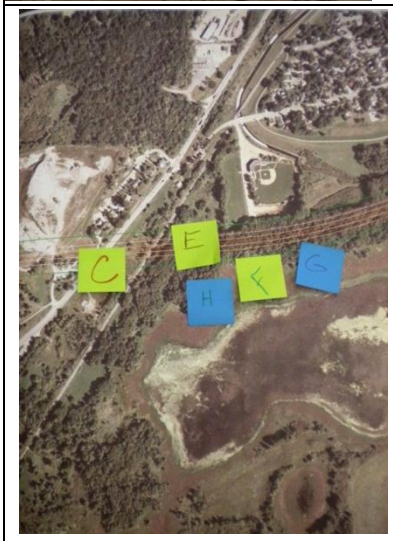
RCIC members deliberated all aspects of the "test" version of C2. This is a variation of the original C2, developed specifically in response to RCIC concerns. Below is detailed documentation of RCIC insights, perspectives, and outstanding concerns, with specific notes keyed to the corridor map locations shown on the photos. The majority of these are offered as part of the RCIC's guidance as this project proceeds over time. There are three highlighted issues, however, that the RCIC needs resolved prior to moving forward in support of this corridor. These are explained below, and are scheduled to be addressed with the key RCIC members as soon as possible so that information can be brought to and finalized at the next RCIC meeting anticipated in late November 2009.

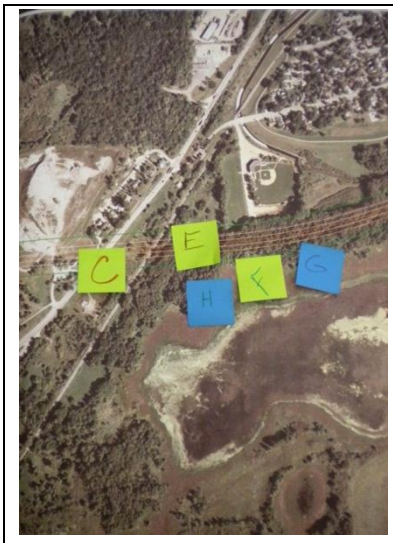
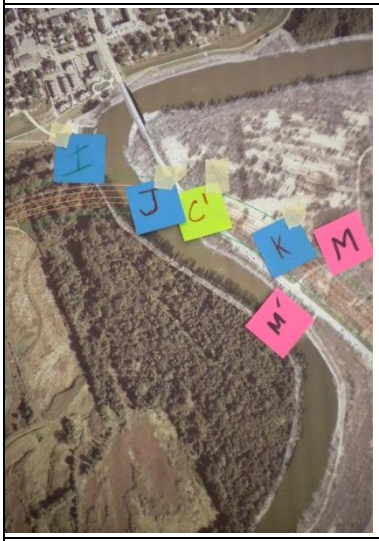
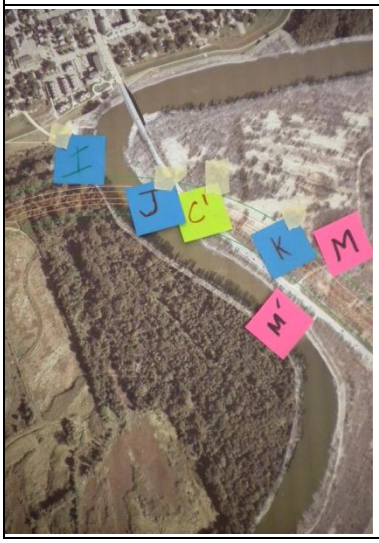
Test C-2 for TH 41 EIS Design Refinement Workshop Oct 8, 2009

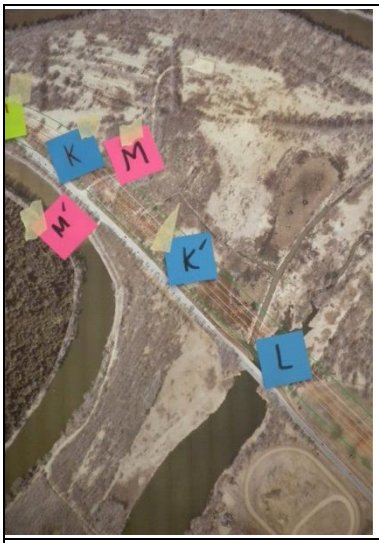
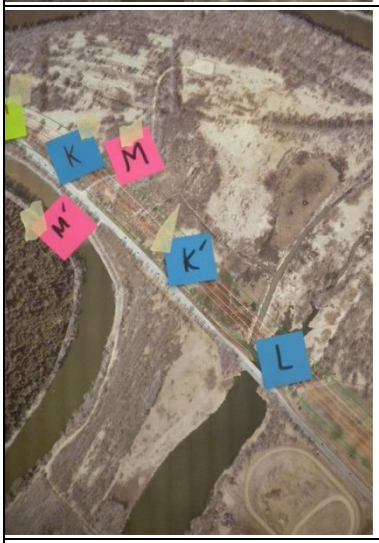
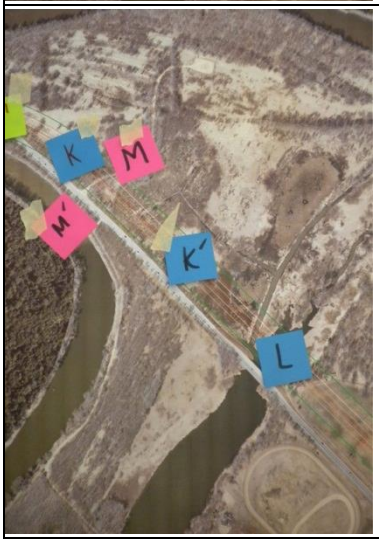


	**A:** City of Carver remains concerned that a C2 alignment touching down at Co Rd 11 (state aid highway) may not allow proper access; they are about to develop this whole area and need more information so they can do their design; final design is missing some ramps; this needs to be done collaboratively with the city, county, MnDOT, and FHWA to avoid unnecessary impacts. **<u>Additional steps necessary prior to agreement</u>:** MnDOT and SRF will do additional analysis and meet with the City of Carver and Carver County to review assumptions and design to ensure that local interchange works at a concept level (including ADT issues); *this group is authorized to complete this work and provide a summary to the RCIC, but will bring final version back to the RCIC for its information*
	**B:** Update maps to include neighborhood that is actually there; may want to consider buying up these platted lots before they're built up
	**C:** Chaska: Where 41 crosses CR 61, subsequent designs should look at how those two roadways relate that would allow the new TH 41 bridge to be lower there – which would allow it to be lower farther east near the ballpark. Also note that lowering it at CR 61 would increase the slope between there and where it connects with 212; the slope must meet MnDOT standards and a steeper slope could make it much noisier. Carver: Need to avoid conflicts with MCES interceptor and other sewer lines planned for this area.

	**C':** Note similar slope issues where the new TH 41 crosses (or not) existing 41. In all cases, the design must keep roadways from flooding. Another idea would be for existing 41 to take route of proposed new 41, and proposed new 41 where existing 41 is, so they don't have to cross. USFWS and DNR note that building an at-grade new road where the new 41 is proposed could have a net higher impact on the wetlands. Another option might be to run new 41 above all or part of existing 41.
	D: Could also look at a different touch-down point, farther northwest, to allow bridge to remain lower but maintain sufficiently low slope. MnDOT noted that anything over a 2% grade is factored into the MnDOT noise modeling.
	**E:** The RCIC discussed at length whether there is any way to start *now* to screen the future bridge using trees, especially near the ballpark. It might be possible to excavate the soil south of the ballpark and include some drainage features that would make conditions significantly more favorable for growing trees; it would have to be maintained properly over time. Also need to work with USFWS to ensure we don't introduce plant species that would self-propagate and cause future problems in the Refuge. The idea is to do landscape mitigation *in advance* as part of the RCIC's agreements to support the Tier I work. It may be possible to create a programmatic agreement about this, similar to what's planned for some of the historic issues. *See G below for more on this topic.* Note that this kind of landscaping in the floodplain may require a separate regulatory review, and FHWA noted that this would probably require a

	separate environmental document and a categorical exclusion.
	**F:** Over time, we need to find an appropriate access to the Refuge for visitors. It's now accessed through the ballpark. This may be more of a shift in visitor expectations if people will be entering the Refuge under this new highway bridge; there are likely ways to soften the approach as part of the Tier II process.
	**G:** The RCIC discussed how far south the bridge could be moved to reduce 4F impacts on the ballpark without significantly increasing them in the Refuge and Chaska Lake (DNR). They determined that the Test C2 is located as far south as it could go without significantly damaging more wetlands. The Refuge noted that most of those impacts will be handled through mitigation, as there's not much the Refuge can do to screen, etc. – most of the mitigation issues will be handled in Tier II This corridor tries to avoid or minimize impacts on two 4F properties, and minimize impacts on wetlands to the south. **Additional steps necessary prior to RCIC agreement:** MnDOT landscape architect and forestry staff will work with Chaska, USFWS, and SHPO to formally explore advance mitigation around the ballpark as soon as possible. They will also include the relevant regulatory agencies (Corps of Engineers, DNR Waters and Ecological Resources, and any others) to make sure they have addressed all those issues. *The team will bring results back to the RCIC for closure.* FHWA and MnDOT will also reengage the other regulatory agencies in this entire process as soon as possible

	**H:** Bridge design, height, and materials must minimize noise impacts on both people and fauna. MnDOT noted that its commitment is always to the best reasonable noises mitigation options. The RCIC understands that MnDOT is not allowed to construct a bridge that doesn't meet state noise standards, and thus agreed to assume those would be sufficient in the future. **<u>Additional steps necessary prior to RCIC agreement</u>:** MnDOT noise experts and engineers will meet with Chaska, the Refuge, DNR, and SHPO to provide them with specific examples of best management practices to minimize noise, and will run the model with noise walls on Test C2 at L10 levels to better understand the options. To get a sense of the worst case scenario, MnDOT and Chaska will take baseline noise samples at Veteran's Park (behind water treatment facility in Chaska) where 212 is at grade. *The team will bring results back to the RCIC for closure.*
	**I:** Where West Chaska Creek enters the MN River, ensure that the specific alignment be adequately screened from downtown Chaska.
	**J:** Note that here there is a recreational trail (winter snowmobile, summer hiking), linked to an extensive trail system. As this is a 4F property, the final design will ensure that this route remains safe and usable by visitors following construction.

	**K and K':** Under the state Wetland Conservation Act, impacts will require wetland replacement.
	**L:** For Gifford Lake (DNR) this will require special permitting, mitigation, and so on as part of Tier II.
	**M and M':** As part of Tier II, the final design must ensure adequate vehicle access to main recreational trail parking areas (recreational trail is a 4F property).

	N: The final alignment in this area (within the corridor) needs to be coordinated with future plans for County Highway 69 and TH 169. Scott County is currently doing a study of this area with the City of Shakopee and MnDOT to look at interchange options and preliminary design for a new interchange eliminating the existing at-grade crossing.
	O: As part of Tier II, it is essential to plan for, design and protect local and supportive road connections and factor in the railroad as a constraint. This is of particular concern to Scott County and City of Shakopee. The RCIC will continue to explore content and options that would be appropriate for Tier I.
	P: The RCIC agreed that they need to keep on their respective agendas funding for ROW acquisition (including RALF) in order to be planful and to take advantage of ROW acquisition opportunities that arise over time.

	Q: The RCIC agrees that the Tier II process will properly address impacts to manufactured home park (an environmental justice issue).

TH 41, Tier I EIS: River Crossing Implementation Collaborative (RCIC), October 2009 FINAL Framework, Goals, and Strategies

The following framework, goals, and strategies were crafted by RCIC members in 2009 to represent their commitment to a *common* direction and to working collaboratively over the next 20-25 years to meet the needs of all RCIC members, not just their own. While it is true that the complexity and challenges of this river crossing essentially require such an approach to come to fruition, this group's clear understanding of the context of this effort and their sincere, authentic, and open approach to reaching these commitments to a common direction serves as a model for others in similarly challenging circumstances.

Framework

- In addition to supporting the TH 41 C2 route, actively support improvements that meet current and future transportation needs across the Minnesota River between I-35 and CR 9.
- Avoid or minimize negative permanent and temporary/ construction impacts on all stakeholders, and support mitigation as part of a comprehensive solution.

Common Goals	Suggested Strategies
1. Noise and visual impacts on neighborhoods: Address noise and visual impacts on adjacent neighborhoods	a. Begin from the baseline state and federal noise standards b. Collectively define qualitative and quantitative objectives and values around how people should be able to experience their communities, such as homes, ballfields, parks and recreation areas, districts, and neighborhoods c. Develop methodologies for measuring extent to which various alternatives meet defined objectives, and for evaluating tradeoffs d. Prepare clear recommendations to guide future decision making
2. Noise and visual impacts on historic properties: Avoid negative visual, atmospheric, auditory, and use effects on historic properties/ districts in all communities	a. Work with key stakeholders and the public to identify and evaluate project effects on historic properties b. Ensure that transportation outcomes support Chaska's commitment to a pedestrian-friendly, business-friendly, historic commercial district
3. Impacts on historic ballpark: Ensure ability of Chaska ballpark to operate; preserve the overall ballpark experience and its character as a small-town ballpark eligible for listing on the National Register of Historic Places	a. Seek ways to avoid impacts to the ballpark b. Use the best management practices for design and construction to support this goal
4. Safety issues in downtown Chaska: Resolve safety issues along existing Highway 41 in downtown Chaska	a. Reduce vehicle speed on Chestnut Street through downtown Chaska b. Create safer pedestrian crossings c. Connect east and west downtown Chaska (reduce barrier posed by current Hwy 41) d. Reduce through car and truck traffic on existing

Common Goals	Suggested Strategies
	Chestnut Street through downtown Chaska e. Re-route truck/traffic from downtown to reclaim downtown/pedestrian access/local users f. Mitigate visual and noise impacts on downtown residents and businesses, including businesses with outdoor amenities
5. Environmental justice: Proactively work with stakeholders to understand and responsibly address environmental justice impacts	a. Better understand beneficial and adverse impacts b. Further explore interchange and ramp locations that pose least potential adverse impact to neighborhoods c. Recognize and respect local and regional affordable housing goals; maintain stable affordable housing d. Support no net loss of low-income housing due to the project e. Support connectedness between Jackson Heights neighborhood and the broader community (prevent isolation)
6. Local access: Provide appropriate access to local and county roadways that will facilitate land use developments guided by counties and cities	a. Review development constraints and confirm adopted land use guidance by the counties and cities in and near the preferred corridor b. Review the preferred corridor and "touch-down points" on both sides of the Minnesota River, and make recommendations regarding whether their location aligns with guided land uses and is feasible; identify alternatives for addressing any concerns c. Specifically address the desire for local and direct access from 169 and new 41 to downtown Chaska and downtown Shakopee, consistent with local plans *<RCIC-approved addition from fall 2011>* d. Identify the potential areas needed for ROW, long-term impacts of ROW preservation, and alternatives, including funding sources to acquire ROW or allowing appropriate interim or long-term development within defined corridor
7. Ecosystem impacts: Minimize impacts on aquatic and terrestrial ecosystems including animals and plants	a. Manage/contain contamination from vehicles and people on TH 41 (vehicles and hauled equipment on roadway, and roadway maintenance activities and products inadvertently bring contaminants or invasive species that move through waterways and other natural pathways) b. Prevent additional habitat fragmentation and

Common Goals	Suggested Strategies
	use best management practices to connect habitats c. Encourage multi-use (transportation, utilities, etc.) of river crossing corridor to reduce additional habitat fragmentation d. Use best technologies to keep noise at acceptable levels for wildlife e. Maintain ability of wildlife to use natural land and water movement and migration corridors f. Prevent disruption to wetland hydrology
8. Public access: Ensure reasonable and usable public access to the outdoor recreational opportunities in the river valley (Refuge, state trail, and other public lands) 9. User impacts: Minimize impacts, including noise and visual, to people using the Refuge, state trail, and other public lands	a. Maintain trail connections and access points for current and future outdoor recreational opportunities within the Minnesota River Valley b. Ensure a quality experience for wildlife observation, wildlife photography, hiking, biking, environmental education and interpretation and other related activities (understanding that the various public lands have their own use restrictions) c. Maintain a feeling of solitude by minimizing noise and visual intrusions
10. Land management capabilities: Maintain natural resource management capability on public lands	a. Ensure that TH 41 does not interfere with land management activities in the following ways: b. Preventing or limiting heavy equipment access c. Creating impediments for prescribed burning d. Disrupting water management programs e. Interfering with forest management practices

TH 41, Tier I EIS: River Crossing Implementation Collaborative (RCIC), October 2009 FINAL Partnership Agreement

Mission
The RCIC is responsible for ensuring the successful implementation of the TH 41 river crossing in accordance with the agreements reached by key stakeholders.

Purpose
The purpose of the RCIC is to agree on TH 41 river crossing corridor, reach agreement on a framework and common goals and strategies, and actively carry these forward over time.

Composition
The RCIC is composed of public entities that are either required or legally empowered to commit to this effort over the life of this project. These include the following:

- Carver County
- City of Carver
- City of Chanhassen
- City of Chaska
- City of Shakopee
- Federal Highway Administration
- Metropolitan Council
- Minnesota Department of Natural Resources
- Minnesota Department of Transportation
- Scott County
- State Historic Preservation Office
- U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge

Responsibilities

- Work collaboratively and transparently
- Steward the process from start to finish
- Oversee the progress of this project, ensuring that key stakeholders are engaged and decisions remain aligned with agreements
- Authentically engage other stakeholders, including regulatory entities, throughout the process in both formal and informal settings, groups, and activities
- Keep the public informed and engaged throughout the process
- Continually update underlying data and information that may affect this project
- Continually update project tasks, timeline, and responsibilities
- Routinely update agencies and elected officials
- Support timely and appropriate funding
- Maintain formal representation on and actively participate in the RCIC's work over time
- Support and assist other members of the RCIC as needed

Relationship among RCIC Members
Members work under the guidance of this Partnership Agreement; MnDOT agrees to be the administrator for this RCIC.

Governance
The RCIC will establish any necessary structures for leadership, structure, decision making, logistics, and anything else required to ensure long-term organizational vitality.

MnDOT Trunk Highway 41 Bridge Project, FEIS Stakeholder Engagement with Jackson Heights Residents, Allies, 17 October 2009

Location: Chaska City Hall

Participants: Residents Yesica Martinez, Emilia Torres R, Sondra Luz Pinedu, Astrid; La Asamblea de Derechos Civiles representative Krystal Klein; interpreter Marcela Estibill; MnDOT project manager Diane Langenbach; public participation consultant Anne Carroll of Carroll, Franck & Associates

Welcome and introductions	See participant list
Review and agree on agenda	Agreed as documented here
Frequently asked questions	Reviewed document (see attached)
TH 41 study update; what has happened since we last met	Narrative by Diane Langenbach

Group discussion of C2 options from Final Environmental Impact Statement (FEIS)
• Explain alternatives:
  • Keep original alignment
  • Avoid Jackson Heights completely
• Document residents' preferences of which alternative to include in the FEIS
• Document impact concerns and ideas that residents want to include in the FEIS
	• A, Safety: We understand and accept that there will be no way to cross TH 41 east-west at ground level
	• B, Safety: Children must be prevented from getting onto any of the major roadways; a barrier of some kind may be necessary to do that
	• C, Noise: Residents already experience a lot of highway noise, especially from 169, and they are very close to TH 41; they also easily hear the loudspeakers from the gas station east across TH 41. The new road must meet noise standards in place at that time.
	• D, Air Quality: The new road must meet applicable residential air quality standards at that time.
	• E, Access to manufactured home park: With the new road, there must be reasonable access to Park, including by the school bus.
	• F, Construction: Minimize construction impacts; maintain access to the Park during construction, maintain utilities (including cell phone service), during construction
	• G, Community Benefits Agreement: Consider entering into a CBA to protect the community during and after construction
	• H, Utilities: Ensure that Park residents retain safe drinking water and sewer service during construction and after construction

Communication brochure input from group	Use a photo of another local manufactured home park
Next steps, questions and answers	• Diane Langenbach will contact Mona Langston, the attorney from the Housing Preservation Project to see and if she has additional issues or concerns to add, and to verify with her that by slightly shifting the route to avoid direct impacts on the residents this does not limit any options to protect residents' interests during the Tier II EIS • Diane Langenbach and her team will document all this work

	and prepare a draft presentation; the residents at this meeting and Diane will jointly present at a workshop with Jackson Heights residents so they can hear about moving the road and the list of impacts that need to be addressed in Tier II, and provide the opportunity for them respond and provide additional input
	• Workshop structure:
	  • Very short presentation by Jackson Heights residents
	  • Q&A with support from MnDOT
	  • Open-house style with maps and information on walls where people can ask questions and provide additional input and comments
	• Workshop schedule:
	  • November 7
	  • Meet at noon at the Moravian Church to review the presentation, make any changes, and practice
	  • Then MnDOT will print and make final copies locally and bring to presentation and workshop
	  • Presentation and workshop at 4 pm

Adjourn	

Preguntas más frecuentes del Puente sobre el Río de Minnesota en la Troncal 41 (TH41)

1. Why is MnDOT proposing another bridge?

- Alleviate traffic congestion on existing TH 41 – currently 18,000 vehicles per day with 20% heavy trucks. Expected to increase to 14 hours of congestion per day with no-build option.
- Build a crossing out of the floodplain to end major traffic disruptions due to flood closings.
- Connect TH 169 and new US 212 with a freeway for beneficial north-south principle arterial.

¿Por qué MnDOT está proponiendo otro puente?

- Para aliviar el congestionamiento del tráfico en la existente vía troncal 41- Actualmente pasan dieciocho mil (18,000) vehículos por día, de los cuales veinte por ciento (20%) son vehículos de carga pesada. Se estima que la congestión diaria se incrementaría a 14 horas si no se construyese.
- Construir un paso fuera de la zona de inundación para evitar las interrupciones de tráfico debido a las crecidas.
- Para conectar a la vía troncal 169 y la nueva autopista nacional US 212 a través de una autopista para el beneficio norte-sur de la arteria principal.

2. When would this new river crossing be built?

Funding for construction is not in MnDOT's 20-year plan. It is likely going to be after 2030 before a project gets funded.

¿Cuando será este nuevo puente sobre el río construido?

El Financiamiento para la construcción de este proyecto no se encuentra en el plan de MnDOT de los próximos veinte (20) años. Es muy probable el proyecto reciba financiamiento después del año 2030.

3. If construction is not within MnDOT's 20-year plan, why is this study being done now?

MnDOT is working with stakeholders now to identify the future river crossing location in this rapidly developing area. This way Right of Way can be preserved and communities can plan around the future river crossing corridor**.**

Si la construcción de este proyecto no está dentro del plan de 20 anos de MnDOT, ¿Por qué se está haciendo este estudio ahora?

MnDOT esta trabajando con los interesados en este proyecto ahora, para identificar la ubicación del puente sobre el río en esta área de rápido crecimiento. Así, el derecho de vía podría ser preservado y las comunidades podrían planificar alrededor del futuro paso del puente.

4. What is an EIS and why is MnDOT preparing one?

An EIS is an Environmental Impact Statement that studies the project impacts on the social, economic and environmental resources in the affected area. An EIS is prepared to meet federal and state requirements.

¿Qué es y porqué MnDOT está preparando un EIS?

En español significa Estudio de Impacto Ambiental (EIS, por sus siglas en inglés), que tiene como objetivo el estudio del impacto social, económico y ambiental de este proyecto en el área afectada. Un EIS es preparado para satisfacer los requisitos estadales y federales.

5. When will this EIS be published and how can I access it?

The Draft EIS is expected to be published in Fall, 2006. Copies will be available for review at local libraries, city

halls, county government centers and MnDOT offices as well as posted on the project website: http://projects.dot.state.mn.us /srf/041/. A public hearing will be held following release of the Draft EIS and there will be a 45-day formal comment period.

¿Cuando será publicado el EIS y como puedo acceder al mismo?
Se espera que el anteproyecto del EIS sea publicado para otoño del 2006. Las copias estarán disponibles para su revisión en las bibliotecas locales, en los ayuntamientos, en los centros de gobernación del los condados y en las oficinas de MnDOT, así como también será publicado en la página Web del proyecto: http://projects.dot.state.mn.us/srf/041/ . Una audiencia pública se llevará a cabo luego de la emisión del anteproyecto EIS y habrá un periodo formal de cuarenta y cinco (45) días abierto para comentarios.

6. When will a corridor be selected?
MnDOT will select a "preferred alternative" following the 45-day formal comment period that begins when the Draft EIS is published in Fall, 2006. The selection of a preferred alternative will likely occur in 2007.

¿Cuando será seleccionado un corredor?
MnDOT seleccionará la "alternativa con preferencia", luego del periodo formal de cuarenta y cinco (45) días abierto a comentarios, que serán contados a partir de la publicación del anteproyecto del EIS en otoño del 2006. La selección de la alternativa con preferencia ocurrirá probablemente en el año 2007.

7. Who makes the decision and how is the public involved?
MnDOT is responsible for selecting the preferred alternative. This will be done in conjunction with the Federal Highway Administration after thoroughly analyzing the DEIS and addressing comments and concerns from stakeholders and the general public.

¿Quien decide y como está el publico involucrado?
MnDOT es responsable de seleccionar la alternativa con preferencia. Esto será hecho en conjunto con la Administración Federal de Carreteras (FHWA, por sus siglas en inglés), luego de analizar minuciosamente el anteproyecto de EIS y los comentarios y preocupaciones de los involucrados y del público en general.

8. Will my home be acquired? If so, when would this occur and what is the process?
Each of the alternatives being studied would require MnDOT to acquire Right of Way from currently developed land. Some alternatives would affect more existing homes or businesses than others. For properties located within the selected preferred alternative, MnDOT would work with willing sellers over the next twenty years to begin the acquisition process. As mentioned previously, construction will not likely occur until after 2030, so this property acquisition will occur slowly over many years. When the bridge construction is programmed, then it will be necessary to complete acquisitions of all the properties and eminent domain actions may be required if negotiated settlements cannot be reached.

¿Será mi casa adquirida (expropiada)? Si es así, ¿Cuando ocurrirá y cuál es el proceso?
Cada una de las alternativas que están siendo estudiadas requerirá que MnDOT adquiera el derecho de vía de las áreas que están actualmente desarrolladas. Algunas alternativas afectarán a más casas y negocios que otras. Para propiedades que estén ubicadas dentro de la alternativa seleccionada, MnDOT trabajará con los propietarios (vendedores) que estén dispuestos a vender dentro de los próximos veinte años para comenzar el proceso de adquisición (expropiación). Como se mencionó anteriormente, la construcción de este proyecto probablemente no ocurrirá sino hasta después del año 2030. Por esta razón, el proceso de adquisición de propiedades ocurrirá lentamente durante muchos años. Cuando la construcción del puente sea programada, entonces si será necesario completar el proceso de adquisición de todas las propiedades y acciones de dominio eminente será requerido si un acuerdo de negociación no sea alcanzado con el propietario.

Spanish translation by: Maria J Lobo de Murphy, MnDOT, maria.lobo@dot.state.mn.us

MnDOT Trunk Highway 41 Bridge Project, FEIS Stakeholder Engagement with Jackson Heights Residents, Allies, 7 November 2009

Location: Chaska Moravian Church

Below are sample photos and the presentation from the stakeholder engagement meeting on 7 November 2009 with a large number of Jackson Heights residents. This meeting was organized and conducted by the Jackson Heights residents who had volunteered to serve as community representatives. Their purpose was to bring to the larger group of residents their work preliminary work on the key problems and proposed solutions/approaches (see presentation content).

As the photos below show, the meeting was well attended and as with all meetings with the residents, MnDOT paid for a contract interpreter who interpreted from either English to Spanish or from Spanish to English depending on the need. At this resident-led meeting the group decided to take a vote to determine their position on the identified impacts and solutions/approaches; there was unanimous concurrence.

Photos, Jackson Heights Meeting, November 2009

Jackson Heights Presentation, November 2009

Future Highway 41
Minnesota River Crossing
Tier 1 Environmental Impact Statement

Avoiding Manufactured Housing Impacts

Jackson Heights Residents
November 7, 2009
Chaska Moravian Church

Why we are here today

- Welcome and introductions
- Explain what has happened so far
- Present the original and proposed new road plans
- Answer questions
- Gather your additional ideas and recommendations

2

June: We presented our concerns

In June 2009, the committee met with MnDOT:

- Our goal: to protect our community, our families, and our homes now and in the future
- We presented all our concerns (respect, timing, schools, etc.)
- We proposed that MnDOT replace our neighborhood with a new mobile home park
- MnDOT agreed to consider our proposal and to continue working with us to find a solution

3

October: We discussed problems and possible solutions (see map)

In October, the committee and MnDOT met again:

- We discussed the original plan, where the road ran through our Park
  - We would lose at least 18 of our homes
  - The rest of our homes would be too close to the highway or underneath ramps; this could be dangerous and too noisy for our families
- We agreed there is high risk if plans go forward showing the road running through our Park

4

October: We discussed problems and possible solutions (see map)

- Based on our concerns, we discussed MnDOT's proposed solution: *Move the road so it goes around our neighborhood*
- We offered initial ideas and recommendations to minimize impacts
- (We planned today's workshop)

5

Proposed solutions, continued

- MnDOT said the law does not allow them to relocate our homes until just before the highway is built in 20+ years; *our lawyer agrees*
- MnDOT will list our concerns, recommendations in the 2010 Report to the government
- About 5 years before the road is built, Park residents will meet with MnDOT to discuss <u>all</u> options to protect Park residents from impacts
- Park residents will not be disrupted until construction (likely 2025 or later)

6

How would you like to proceed?

- Do you want MnDOT to use the proposed new route that avoids Jackson Heights?

➔MnDOT, allies, and the Jackson Heights Committee agree that this is the best solution at this stage of the process

7

Next steps in the process

- MnDOT will prepare Final Report in 2010
- MnDOT will host a public information meeting in 2010 where we can check the Report and ask for changes
- When MnDOT gets the money (over $400 million, in 20+ years), they will start a second report and Jackson Heights residents will work with MnDOT to protect residents

8

Our work today: Provide additional recommendations

- We need to give MnDOT more of our concerns and ideas; these will be listed in the Report
- The committee started this list at our last meeting, and now we need to add your ideas
- How to do this (after the break)?
  - As a whole group?
  - By topic at different tables? (safety, noise, etc.)
  - Other?

9

Safety

- We understand and accept it will not be possible to cross TH 41 at ground level
- *Recommendation: Children must be prevented from getting onto any of the major roadways; a barrier of some kind may be necessary to do that*
- *What else?*

10

Noise

- We already experience a lot of noise from Highway 169 and TH 41
- We also easily hear the loudspeakers from the gas station east across TH 41
- *Recommendation: The new road must meet strict state noise standards in place at that time*
- *What else?*

11

Air Quality

- *Recommendation: The new road must meet strict residential air quality standards in place at that time*
- *What else?*

12

Access

- *Recommendation: During and after construction, there must be reasonable access to the Park, including by the school bus*
- What else?

13

Utilities

- *Recommendation: Ensure that Park residents retain safe drinking water, sewer, power, and cell phone service during and after construction*
- What else?

14

Community Benefits Agreement

- *Option: Consider entering into a Community Benefits Agreement to protect the community during and after construction*
- What else?

15

Questions?

¡Muchas gracias!

16

TH 41 Tier I EIS: River Crossing Implementation Collaborative (RCIC), 10 December 2009

Location: Chaska City Hall

This extended meeting at the end of the year provided an opportunity for RCIC members to review the work they had done since committing to work together early in 2009, and to start thinking through the 2010 work that will yield a Record of Decision they can all support and that is completed as quickly as reasonably possible.

Participants are listed below:

Matt Podhradsky	Chaska City Administrator	Michael Leek	Shakopee Community Development Director
Kevin Ringwald	Chaska City Planner	Michael Sobota	Scott County Community Development Director
Cindy Nash	City of Carver	Mark Cleveland	DNR – Parks and Trails
Bill Weckman	Carver County	Charlie Blair	USFWS – MN Valley National Wildlife Refuge Manager
Lynn Clarkowski	MnDOT South Area Manager	Diane Langenbach	MnDOT Project Mgr
Gerry Shimek	USFWS – MN Valley National Wildlife Refuge	Bob Generous	Chanhassen Planning
Craig Jenson	Scott County Transportation Planning	Britta Bloomberg	State Historic Preservation Office/MN Historical Society
Connie Kozlac	Metropolitan Council	Nancy Frick	SRF Project Mgr. (MnDOT's EIS Consultant)
Cheryl Martin	FHWA	Anne Carroll	Carroll, Franck & Associates; public involvement, facilitator

Check in and reaffirm RCIC purpose, progress, status, and tasks

1. Introduction: One of the challenges we're facing as a group is differentiating between what we originally called the "big uglies" – issues that *had* to be resolved to even consider a corridor – and the plethora of *other* issues that have emerged since those showstoppers were resolved; they are certainly also important, but they are of a different order of magnitude
2. Clarification regarding FEIS: What is needed to complete the FEIS by summer 2010?
    - FEIS will focus on the preferred alternative
    - This is a Tier I document, so it's a corridor-level decision, and doesn't include design decisions that will be included in Tier II
    - That means gross 300-foot corridor options, and which is best for the future crossing
    - We're focusing now on higher-level impacts; in Tier II, the focus shifts to nitty-gritty alignment issues within the corridor, further minimizing impacts, specific mitigation to which we will commit, and so on
    - In Tier I we are looking at processes – but decisions such as like bridge types are made in Tier II
    - 20 years from now there may be new regulations, bridge design types, etc., and the RCIC at that time will be in a better position to determine the design issues and mitigation options

- The FEIS focuses on the preferred alternative; under new regulations, MnDOT and FHWA will share the draft FEIS with cooperating agencies (EPA, FWS, Corps, etc.), and in this case will also include RCIC members; it's a 30-day review period for everyone
- The RCIC is a great structure; we've been able to address lots of issues that are not included in the FEIS, and the RCIC will keep those issues on the front burner – as well as the project as a whole; a key concern in other situations is that sometimes projects lose visibility so when construction begins there can be major problems; in this case, it's a very long way off and there are like to be issues that emerge along the way; this in-place RCIC will allow those issues to be addressed as they come up

3. Record of Decision:
    - Like with Tier I, Tier II will include a draft, final, and Record of Decision
    - ROD from Tier I allows expenditure of public funds to preserve corridor, and to officially map it
    - Chaska still has concerns about the pre-mitigation landscaping plans near the ballfield, and wants to be reassured that this will actually happen
    - RCIC members feel it is very important to have all RCIC members supporting this during the 30-day comment period
    - Regarding the schedule, it would be helpful for Cheryl Martin (FHWA) to look at key sections before February (because she is leaving to take a position in Maine); 30-day comment period would be in summer 2010
    - Would be helpful to create a timeline for RCIC and policy makers to see how everything lays out over the next 25 years, as well as in the next 1-2 years
    - Chaska needs to see tangible progress with regard to the landscaping issue; they don't need an "absolute" answer, but need to be assured there *is* a solution, there is a way to make this happen – it may not be exactly this, and some of the decisions are yet to be made – but it has to seem reasonable
    - Important to remember that everyone is bringing something to the table, giving up things, making compromises – everyone; it has taken a lot of hard work and consideration for all parties to find a balance

4. FEIS clarifications: What the FEIS is and is not; what is and isn't in it; how it is and is not used
    - The FEIS is a "snapshot" of the process at a point in time, and is truly only a formal *beginning*, not an end
    - Who has to agree on what to make it "final"?
        - There's a difference between *new* issues to be included in FEIS and ongoing work on current issues
        - Several months ago we finished identifying new issues of which we are aware right now; at this point we're refining what, whether, and how to work them into the FEIS
        - There is no formal "approval" required from any other RCIC member for MnDOT and FHWA to complete the FEIS
        - What is essential to MnDOT and FHWA is to be confident that they do have all the "big uglies" identified *to the best of our collective knowledge right now*, AND that there is a plan and process in place to continue this work over time so new issues can be addressed as they emerge

5. Clarification and understanding regarding future issues: What happens with any big or small issues that emerge after today but before the FEIS is done in summer 2010? What about those that emerge after the FEIS process and before Tier II begins in 15+ years?
    - It is impossible to identify all issues that will affect this project over the next 20 years, before

the end of 2010

- That is one of the key reasons we jointly created this RCIC (see *Partnership Agreement* mission, purpose, and responsibilities)
- The RCIC created the underlying principles to guide our work together with the goals and strategies – remember that those deal with nearly every possible *category* of issue, and commit all RCIC members to resolving them together and on behalf of all members
- One of the challenges we're facing right at this moment is that the RCIC has *not* yet addressed the specific process for dealing with important issues that certainly will emerge over time
- So, to clarify, it is anticipated that as the RCIC identifies, tackles, and then collaboratively resolves these big and small issues over the next 1, 5, 10, and 15 years, for each of them the RCIC is likely to craft formal Memoranda of Understanding to document those resolutions
- Those MOUs have the net effect of continually updating the Tier I EIS so that when the Tier II process formally begins, the RCIC will have, in fact, already gotten through the vast majority of the work
- Perhaps more importantly, by working together all along the way, the RCIC will have positioned this project as a high priority within the state and federal funding process – as was seen with Highway 212 and with all sorts of funding decisions around the country – groups united in support of something that really is important get listened to

Specific issues that are included in the FEIS now being completed

6. Update on recently addressed issues:
    - Jackson Heights: Diane Langenbach explained the various meetings with Jackson Heights, including the final presentation by members of the Resident Association to community members; the RCIC will need to keep in touch with the Resident Association and owner over the course of this long-term project
    - Carver and Scott County meetings: MnDOT is still working through the interchange issue with Carver; Carver remains concerned about whether there is sufficient right-of-way identified; MnDOT and Carver planner will continue to work on how to describe the issues and options at a planning and feasibility level – again, with the focus on defining sufficient right-of-way; the County Road 140 study will be the primary source of guidance on this, so need to determine how to weave those together
    - Met Council and MnDOT updates: In 2008 Met Council did a major update to the Transportation Policy Plan as required by federal law, but at that time committed to major updates over the next couple of years; MnDOT is also in the process of updating their 20-year plan, and in this case doing more of a visioning process; they are having a full-day event around this on January 28, 2010

7. Major issues previously resolved:
    - Clarification and agreement on why C2 vs. other corridors
    - Change from original C2 to current C2 to more fairly attend to impacts on *all* parties
    - Creation of RCIC to present a collaborative face in support of solutions that are balanced and fair to all key stakeholders
    - Commitment to ongoing process

8. **Next steps:** Continue communicating with everyone using all RCIC's past work, each other, *and* new *communications brochure* that Diane Langenbach will send out to everyone

9. Next meeting in January 2010:

- RCIC Implementation Plan
- Chaska Landscaping update
- MnDOT/consultant will provide an outline of the FEIS so RCIC members better understand contents

TH 41 Tier I EIS: River Crossing Implementation Collaborative (RCIC), 22 January 2010

Location: USFWS, *9 am-noon, with celebration lunch to follow*

1. **Welcome and introductions**

Matt Podhradsky	Chaska City Administrator	Julie Klima for Michael Leek	Shakopee Planning
Kevin Ringwald	Chaska City Planner	Michael Sobota	Scott County Community Development Director
Cindy Nash	City of Carver	Mark Cleveland	DNR – Parks and Trails
Bill Weckman	Carver County	Charlie Blair	USFWS – MN Valley National Wildlife Refuge Manager
Lynn Clarkowski	MnDOT South Area Manager	Diane Langenbach	MnDOT Project Mgr
Ann Braden	Metropolitan Council	Bob Generous	Chanhassen Planning
Connie Kozlac	Metropolitan Council	Nancy Frick	SRF Project Mgr. (MnDOT's EIS Consultant)
Cheryl Martin	FHWA	Anne Carroll	Carroll, Franck & Associates; public involvement, facilitator
Phil Forst	FHWA		

2. **Review and modify draft agenda as necessary**: see below

Overview, Right-of-Way Acquisition Loan Fund (RALF)

Ann Braden/Connie Kozlac (notes below also include input from RCIC members)

1. See handouts for administrative guidelines and statute (473.167 and 473.166)
2. Right-of-Way Acquisition Loan Fund
3. Concept is that early acquisition of ROW will save money
4. Met Council (MC) has a levy of c. $3 million per year that goes into this fund; almost every year the MC has levied the full amount; this last year the MC was allowed to transfer up to 75% for transit operations, but at this point they don't intend to do that in 2010
5. Cities and counties can apply for money from the fund to spend on state trunk highway projects in metro area, or highways that have been otherwise approved
6. In the last 25 years, all expenditures on trunk highways
7. In the early years the fund was for land threatened with development; undeveloped, vacant land
8. Modified a few years later to include acquisition of "hardship" properties; homesteads and up to surrounding 10 acres; homeowner had to demonstrate they couldn't sell because of some impending roadway development; relocation benefits for homeowner also paid
9. Also changed to be used for any property with the right-of-way, focusing on willing sellers who emerge over time
10. Law was amended to also include some commercial property, but with restrictions

11. Three entities: city, MnDOT, and MC, each with own responsibilities
12. City required to adopt official map, arranges for appraisals and relocation, enters into agreement with MC, adds restrictive covenant, and must manage the property after acquisition; some arrangements can be made to use the property in some way in the meantime; any income derived is returned to RALF program
13. MnDOT assists with official mapping and is given opportunity to buy ROW – but as MnDOT is not permitted to buy until closer to the development time, RALF was created
14. Closer to the time of the development, MnDOT buys the land back from the city at the price originally paid, and then the loan fund is paid back
15. MC handles all the administration and manages the loan fund
16. Chaska has had a great experience and have developed trusting relationships with RALF staff and local landowners
17. Currently $5 million in fund, about half of which already encumbered; understanding is that MC will levy full amount this year and use all of it for transportation loans; no major repayments expected this year
18. As statute restricts recipients to certain types of government units, townships would work through counties – though as noted above nearly every loan has been to a city
19. Note the many amendments to the statute to that have allowed sufficient flexibility to meet the needs of various projects
20. Chaska has found this great tool to address uncertainties and fears of property owners
21. Some real questions about how far in advance to buy homes, given the long-term maintenance, managing rents, etc.
22. In developing communities, it's a great opportunity to preserve highway right-of-way that may be threatened by development; in Bloomington many of the smaller, older homes were razed; in Chaska and Scott County, in some cases they rented them, used them for other purposes, etc., prior to highway construction
23. Choices are very specific to each project, community, and timing
24. RALF funds are available on a first-come, first-serve basis
25. MC has never turned down a request due to lack of available funds – there have always been enough funds when they were needed; some loan requests have been turned down because they didn't meet all the requirements
26. Preliminary work is to assure location meets requirements, MnDOT says it is needed, city maps it, and so on – that assures everything qualifies before significant money is spent on appraisals, etc.
27. If everything is ready, process can go as quickly as two months, but in many cases getting everything in place can take several months; funds come to MC in tax chunks twice a year, so it's possible the disbursement could be delayed until those receipts were available
28. Cities need to think about timing – so if there are smaller, older units or undeveloped land, it may make a lot of sense to buy it early to prevent a huge/expensive development that would later have to be bought out at high cost; but cities also need to think about properties taken off the tax rolls – important to look at tradeoffs
29. If there is sufficient design information in the Tier I FEIS, the MC could approve the design at that

level and it becomes eligible for RALF funds; if the design is not sufficient, the official mapping creates eligibility

30. In the past, individual loans each went to the MC for approval; now, staff prepares an annual plan that identifies highways that are likely to need RALF funds and that is pre-approved by the MC; plan can be amended during the year
31. Official mapping process includes a survey of the roadway, and parcels that fall within the designated area are eligible for RALF funds
32. MnDOT has always assumed that RALF fund would be used for this project
33. In the 30 years of the fund, most properties that have been bought *and eventually used* have gone to highway development, but fewer than a quarter of the loans made since the beginning of the fund have been repaid ($65 million outstanding loans)

Update, Chaska Landscaping Task Force:

1. Were waiting on results of soils tests, and found it is *not* over-compacted and there is no contamination, but is low in some nutrients – so it looks promising to grow what's needed
2. MnDOT is preparing preliminary landscaping plan (including the "plant palette" using native species at all height ranges) for the Task Force to review and discuss on Feb 1; will try and create "soft" edges rather than abrupt transitions in plant structures/heights, which benefits fauna and provides a better view
3. TF will look at both these pre-mitigation issues as well as long-term maintenance
4. All this is currently on public property
5. Results will be brought back to the RCIC for the next meeting

Update, communications brochure
Done, dated February 2010 and is attached. This will now go up on the website in PDF form for everyone to download and print on demand

Update on ensuring that elected officials are informed and supportive of the RCIC

1. Chaska has had a workshop with Council and they are up to speed and very supportive; will go to Council more formally following landscaping conclusions
2. Scott County Commissioners and Shakopee Council holding a joint workshop on Feb 23 to bring everyone up to speed
3. Carver waiting for resolution of interchange issues; this will be discussed at Feb 22nd meeting
4. All staff are keeping their electeds up to speed and managing those relationships
5. At this time, they don't need help from other Collaborative members, but will in the future
6. We also must provide information to the public in a responsible fashion, but without being premature. May need to have a simple open house to bring people up to speed about the current status; can't be all about "solutions," but rather about issues being addressed.
7. Late March/early April is a good time for a joint open house; Matt, Michael, Cindy will bring some date options back to the RCIC at the next meeting. This will be open to everyone, but we will specifically invite all the members of the SAC along with all other key stakeholders.

8. Before that, they will be having conversations with most directly affected property owners.

Clarify and discuss context
We have been working in a rather self-contained, informal, and highly collaborative environment; all our work occurs, however, within a context. That context includes your Councils, Boards, and other leadership, as well as the regulatory agencies, especially FHWA. (Handouts provided)

FEIS process (Cheryl Martin, FHWA)

1. Have now identified a preferred alternative, and will prepared a Final EIS using a condensed format; MN uses this format all the time; this will identify the preferred alternative and the FEIS will include the mitigation; will *not* include all the alternatives that were covered in the Draft EIS, but they will be referred to
2. We will provide drafts of the FEIS to participating agencies, including RCIC members, before it is approved; this is a 30-day comment period; comments are not incorporated into the FEIS but rather revised based on those comments; if there are any major issues that arise, FHWA will work with everyone to resolve them
3. FHWA has identified "cooperating agencies," USFWS, Corps, EPA who must be included in this review, but in this case will also include RCIC (the law changed subsequent to this effort beginning, supporting the inclusion of "participating" agencies; in this case the FHWA will include the RCIC in the spirit of the current rules even though it is not required)
4. Legal sufficiency review done by legal counsel to FHWA; once that is received, they approve FEIS
5. Publish formal notice of FEIS and allow another 30-day comment period
6. FHWA issues a Record of Decision that addresses any substantive comments received in the 30-day comment period
7. MnDOT then makes an adequacy determination
8. At that time, the process is complete (!)

9. While there is no formal public hearing required, there has been and will continue to be consistent stakeholder involvement throughout this process
10. Municipal consent is not legally required for this Tier I FEIS, but as we draw to the conclusion of this phase, MnDOT will review the FEIS with Councils and Commissions to more formally close this step of the effort – this will also be a good time to confirm support and participation over the long term as part of the RCIC

FEIS outline (Nancy Frick):

1. See handout of FEIS table of contents; it parallels the DEIS. For each of the impact sections, the format has four parts: information from the DEIS that remains unchanged; what has changed in the setting (for example, an area that has been developed or platted since the DEIS was issued, a technical change, a new analysis or test, etc.); impacts of the preferred alternatives (not anything related to the alternatives not chosen); mitigation for the impacts. In this case, because it's a Tier I, it's more about mitigation options that will occur in Tier II such as related to Section 4(f), environmental justice, etc.
2. The "Xs" in the table of contents indicate where the work of the RCIC will come into play most

significantly. Also in the appendices.

3. In section 15, may want to seek new comment letters from various agencies, because the FEIS must respond to the comments currently on record; for example, Chaska's 2007 letter preferred completely different options. *Create opportunities for each of these agencies to develop new letters (sponsored by MnDOT and FHWA) that explicitly supersede the previous letters and present their current position – hopefully in support of C2.* When the key issues that are of concern to the various agencies are resolved, that would be the appropriate time – so probably this spring. It may not be possible for such letters to be provided by agencies whose preferences were not able to be supported because of issues like permitting limitations.
4. We will also create a separate, stand-along document compiling the work of the RCIC. Sections of that will be pulled into the FEIS.

Outstanding issues
Carver's outstanding concerns on the interchange remain to be addressed; a Task Force of Carver, Chaska, MnDOT and consulting engineers, and Carver County will meet and attempt to resolve these on this prior to the next RCIC meeting.

RCIC Draft Implementation Plan
The group briefly reviewed several tasks and adjusted their timelines. This document will continue to be a source of RCIC discussion and refinement over time. ***See attached draft.***

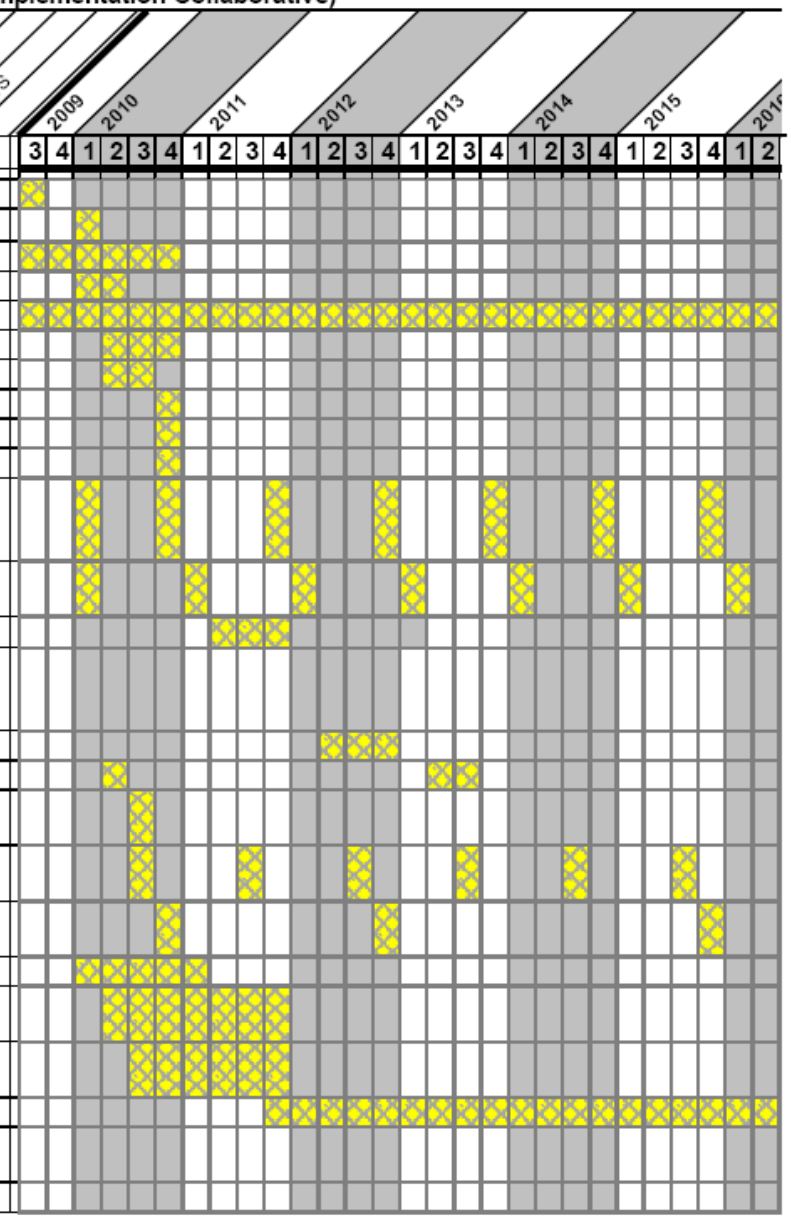
Next steps/next meeting/adjourn/celebrate
(Honor Cheryl Martin of FHWA who has accepted a new position at the Maine FHWA office): See tasks embedded in notes above. Diane Langenbach will send out meeting request to schedule the next RCIC meeting.

TH 41 River Crossing Implementation Schedule, 2009-2029

Current to: 2010-01-22

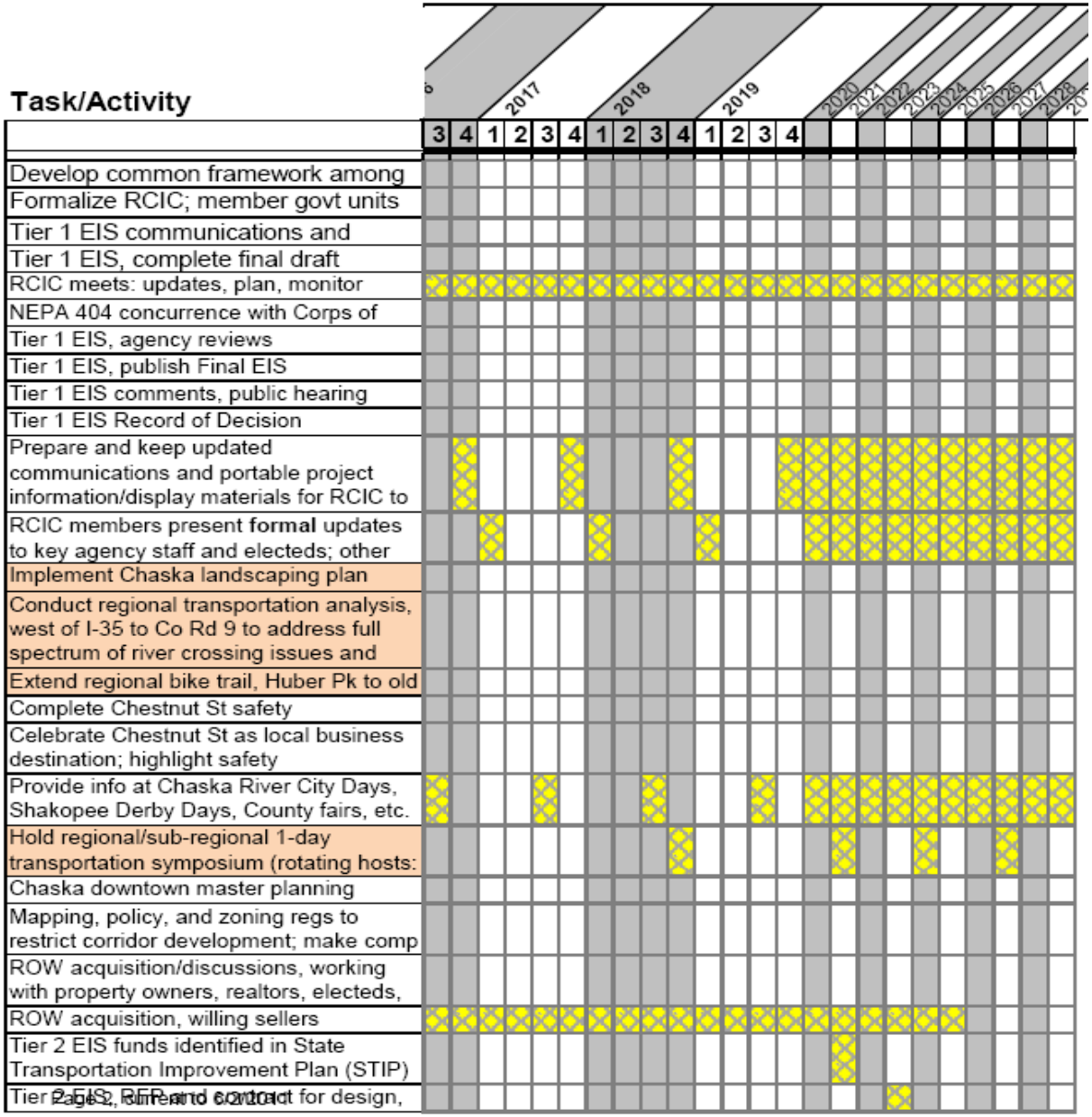
(Members of the River Crossing Implementation Collaborative)

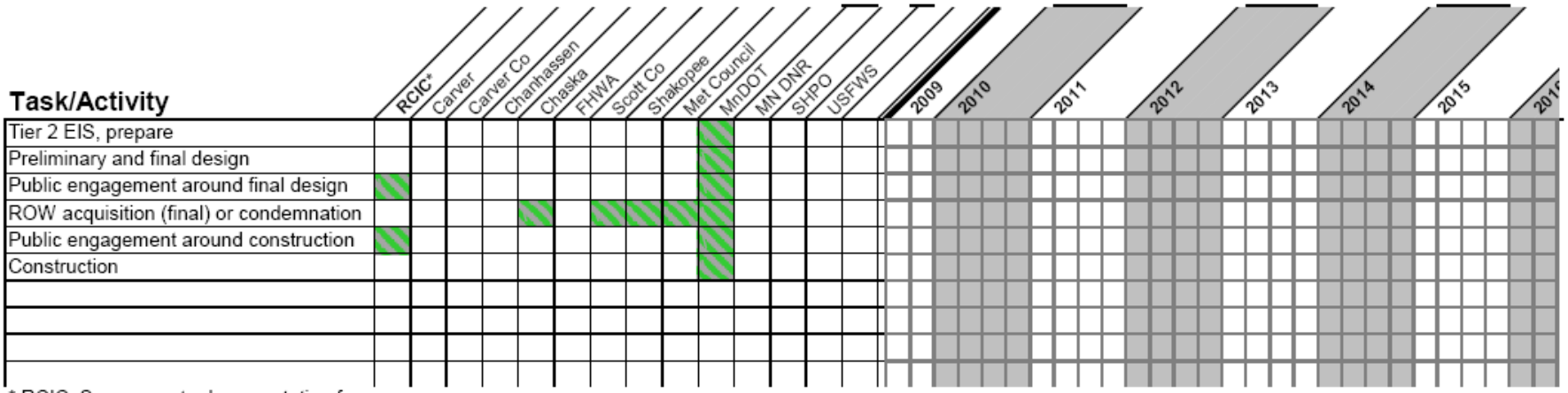
Task/Activity	RCIC*	Carver	Carver Co	Chanhassen	Chaska	FHWA	Scott Co	Shakopee	Met Council	MnDOT	MN DNR	SHPO	USFWS
Develop common framework among	■												
Formalize RCIC; member govt units	■												
Tier 1 EIS communications and	■												
Tier 1 EIS, complete final draft	■					■				■			
RCIC meets: updates, plan, monitor	■												
NEPA 404 concurrence with Corps of						■				■			
Tier 1 EIS, agency reviews	■									■			
Tier 1 EIS, publish Final EIS										■			
Tier 1 EIS comments, public hearing										■			
Tier 1 EIS Record of Decision						■				■			
Prepare and keep updated communications and portable project information/display materials for RCIC to	■									■			
RCIC members present **formal** updates to key agency staff and electeds; other	■												
Implement Chaska landscaping plan													
Conduct regional transportation analysis, west of I-35 to Co Rd 9 to address full spectrum of river crossing issues and								■		■			
Extend regional bike trail, Huber Pk to old							■	■			■		■
Complete Chestnut St safety					■					■			
Celebrate Chestnut St as local business destination; highlight safety					■								
Provide info at Chaska River City Days, Shakopee Derby Days, County fairs, etc.	■				■								
Hold regional/sub-regional 1-day transportation symposium (rotating hosts:	■												
Chaska downtown master planning					■								
Mapping, policy, and zoning regs to restrict corridor development; make comp		■	■		■		■	■	■				
ROW acquisition/discussions, working with property owners, realtors, electeds,		■	■		■		■	■		■			
ROW acquisition, willing sellers		■	■		■		■	■	■	■			■
Tier 2 EIS funds identified in State Transportation Improvement Plan (STIP)										■			
Tier 2 EIS, RFP and contract for design,										■			



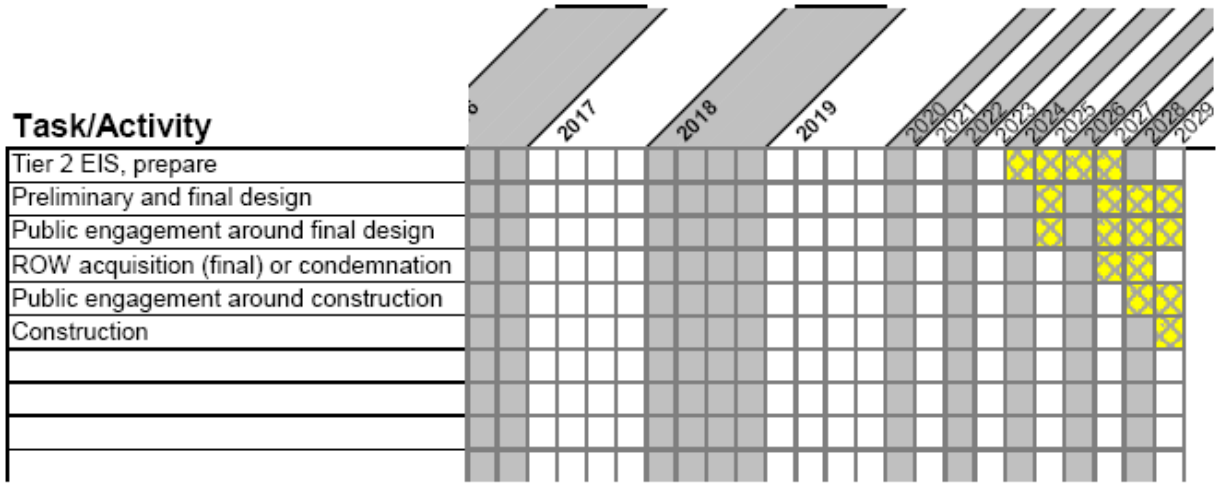
TH 41 River Crossin

Current to: 2010-01-22





* RCIC: See separate documentation for composition, charge, activities, etc.



* RCIC: See separate documentation for composition, charge, activities, etc.

TH 41 RCIC: *Chaska Landscaping Pre-mitigation Task Force*, 1 February 2010

Location: Chaska City Hall

Introduction and Participants

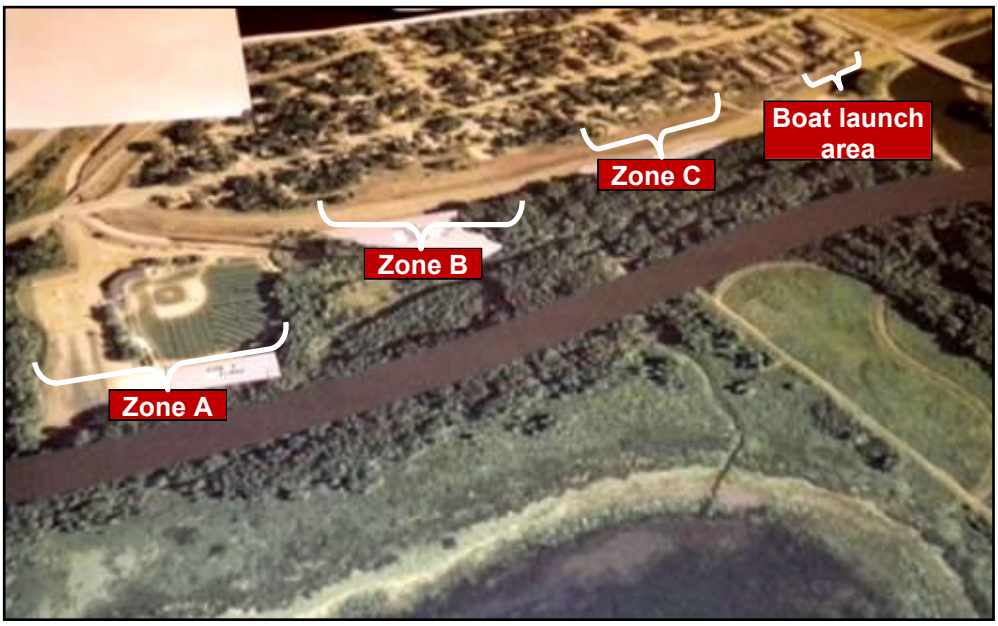
The purpose of this Task Force meeting was to continue working on pre-mitigation options in Chaska along the river from current TH41 west to the ballpark. A previous meeting of this Task Force included a site visit and allowed the group to identify key areas for which pre-mitigation would be relevant, issues and concern, questions, and requests for further information.

Participants included the following:

Charlie Blair	MN Valley National Wildlife Refuge	Kevin Ringwald	Chaska, Community Development
Gerry Shimek	MN Valley National Wildlife Refuge	Randy Maluchnik (able to stay 20 min)	Carver County Board
Mark Cleveland	DNR Parks and Trails	Tina Markeson	MnDOT Roadside Vegetation management
David Larson	MnDOT Landscape Architecture unit	Diane Langenbach	MnDOT project manager
Joe Yanta	US Army Corps of Engineers, Regulatory branch (permits)	Anne Carroll	Carroll, Franck & Associates, public participation consultant
Matt Podhradsky	Chaska, Administrator		

Landscaping Options

Landscape architect David Larson from MnDOT presented the draft Landscaping Plan for discussion. The draft Plan is included following these notes. The discussion began with Zone B, and sheet numbers refer to those listed on the bottom right of each of the Plan sheets. After the draft plan sheets is the handout of possible species types provided by Tina Markeson from MnDOT.



Zone B (sheet 6):

- Because so little is currently growing in this section, there was concern that soil compaction might be a problem
- Testing found that soil compaction was not an issue (the probes in almost all cases easily went to 18", and as MnDOT's standard is 12", this should not be a problem)
- Some nutrient imbalances were found in this very anaerobic soil; these issues could be addressed primarily with composting – but not mulching, because that would make the soil less aerobic

- Considering 1", bare-root trees ("whips")
  - Planted 8' on center, which is closer than normal but would look more natural over time
  - Easily planted with a spade and a simple "V" in the soil, which significantly reduces soil displacement and thus risk of erosion
  - Trees likely to grow to 60' in harmony with the existing forest, but how long that takes depends on how much and how often it floods
  - Tree species would be selected that are viable in these conditions and align with existing vegetation, and *could* include species such as river birch, black willow, disease-resistant elms, silver maple, eastern cottonwood, and box elder *(see sample species at the end of these notes)*
  - With regard to the possibility of a staggered planting schedule, in later correspondence Tina Markeson explained the planting will be single aged because observations by the USFWS and DNR showed that even if you varied the age of the planting stock, you ended up with an even sized stand. So going planning for different size planting stock is not worth it. She also added that the larger the tree the longer it can take to recover from planting shock (the amount of time it takes for the plant to establish its roots and growth rate in the new environment). The smaller plant can recover faster and start to put on more caliper and height sooner and may look pretty similar to the larger tree by the time the larger tree is out of shock and starts to put on normal growth. The age difference between a whip and a 2" caliper tree is less than 10 years. In the environment, there is not a lot of difference between a 40 and 50 year old tree.
- Included a shrub edge for variety, planted 4' on center
  - Bare-root, smaller stock that is easy to plant
  - These are not as common in flood plains but unlikely to migrate
  - 10-15' maximum height
  - Species would be selected that are viable in these conditions and align with existing vegetation, and could include species such as red osier dogwood, prairie willow, shining willow, common/ dwarf/ darts gold ninebark, glossy black chokeberry, and American cranberry bush; could also use smaller willows that are more vigorous and fast-growing that would reduce decimation by deer (see sample species at the end of these notes)

- Providing a shrub transition is less relevant for Zones B and C because no one will see them from the levee
- There is a possibility of providing some rodent protection if necessary
- These plantings offer the possibility of a significant improvement to the current situation

Zone C (sheet 7):

- This area right along the levee will have some planting restrictions to preserve levee integrity
- Plantings could be as described for Zone B
- Providing a shrub transition is less relevant for Zones B and C because no one will see them from the levee

Boat Launch Area (sheet 8):

- Decisions on this area would be made in conjunction with local stakeholders, so these are simply initial ideas
- It may be desirable to have a more formal planting in this area so the town homes aren't looking directly out on the bridge and so that it is more attractive for people traveling southbound
- Essential that plantings stay outside the "prism" of the levee in order to not penetrate it
- These would likely be larger at planting time
- Plantings could be as described for Zone B

Zone A (sheet 5; south of ballpark field)

- This area is very flat and now gravel
- Chaska explained it is used occasionally for buses, but those could be put elsewhere; assume that this entire area is available
- Discussion of how far to the west to go:
  - If the purpose of the landscaping is primarily screening, it may make more sense to go all the way to the western tree line
  - In addition, given the extra land needed for construction particularly for pier construction, some of what's there now could be lost
- Also very important to leave space for construction equipment access somewhere in this area – understanding that the object is to provide as much landscaping as possible
- *Diane will check with MnDOT construction engineering staff to estimate the minimum reasonable*

space needed for future construction access and find out how much would be cleared around the piers during construction

- To address needs for future parking, the USFWS noted they would likely see no long-term value in the small amount of remaining land it currently owns northwest of the current parking area, so that might be an option
- *MnDOT will take spring soil samples in all of Zone A (shown on the draft Plan) and extending west to the tree line to see how deep the gravel is and what's underneath that might affect planting options*
- With regard to building up the land in Zone A so the trees would more quickly serve as visual screens, the Corps and other regulatory agencies would have to determine if this were permitted, in other words, make a hydrologic determination about the impact of such a berm on the ability of the river to flood
    - Key concern is that building up a berm and planting on it would change the nature of the trees and their visual screening abilities – because tall, fast-growing trees like cottonwoods might not be able to reach through the berm to the wet soils they need to grow to their maximum
    - The bridge height could be lower at this point and still have a reasonable slope up to meet 212
    - To determine whether or not the berm is needed, Diane will verify the revised bridge height near the ballpark; if it is low enough for the planned trees to screen it, there is no need for a berm; if not, the Task Force will meet again and discuss further

Maintenance and Management

- What's needed to ensure these plantings are successful?
    - There is a plant-establishment period during which the contractor is responsible for maintenance; this is typically two years
    - In areas where the plantings are "naturalized," essentially no maintenance is required; these would include Zone B and probably Zone C; also possibly Zone A by the ballpark, depending on what's done there
    - There may be higher maintenance requirements and costs if the boat launch area is more formal
    - After that the initial MnDOT/contractor maintenance period, there is the possibility that MnDOT could use the boat launch area to train arborists; they also encouraged the city to include it in Arbor Day and other community-based activities; MnDOT also has an institutional work crew that might be able to help out
    - Different trees require different kinds of maintenance over time
    - The closer trees are to the trail, the more initial pruning that will be required to get the canopy high enough and to maintain the shrub line – but that shouldn't be particularly burdensome in this case because most won't be that close to the trail
    - Fertilizer is probably not necessary to spur growth, and there is concern about runoff; compost is likely to be sufficient if anything at all is needed
    - In drought years, it might be necessary to do some watering for any trees that are planted higher from the water table
    - *Chaska will check with their PW staff about current maintenance in the boat launch area*
- What are costs for initial plantings?
    - Normal planting contracts require much more work to dig up soil, wood chip, etc., but little of that extra work is desired or appropriate here
    - DNR has also found that if they herbicide areas around some of their young trees it gives the trees more time to get established
    - Another option is to partner with the city where the city and MnDOT share in some of these

long-term responsibilities

General Issues

- Chaska could mow only the minimum width on top of the dike to allow smaller plants to grow and provide a transition to the trees
- *Chaska engineer will talk with the Corps of Engineers about planting restrictions around the levee, and provide that information to MnDOT and the Task Force*

Sample Drawings and Planting Types

See following pages.

MINNESOTA DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLAN FOR LANDSCAPING

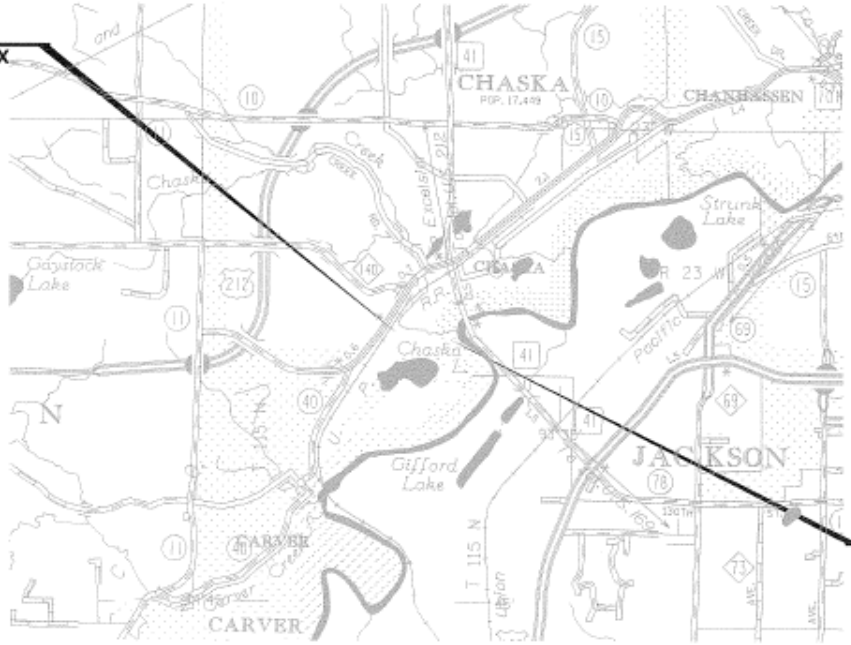
LOCATED ON T.H. 41 FROM XXXXXXXXXXXXXXXX TO XXXXXXXXXXXXXXXXXX

STATE PROJ. NO. 1008-000
MINN. PROJ. NO. XX-XXX-XX

GROSS LENGTH	N/A	FEET	N/A	MILES
BRIDGES-LENGTH	N/A	FEET	N/A	MILES
EXCEPTIONS-LENGTH	N/A	FEET	N/A	MILES
NET LENGTH	N/A	FEET	N/A	MILES

REF. POINT XXX+XX TO REF. POINT XXX+XX

BEGIN S.P. 1008-000
(T.H.41) STA. XXX+XX



END S.P. 1008-000
(T.H.41) STA. XXX+XX

FED. PROJ. NO.
STATE FUNDS

GOVERNING SPECIFICATIONS
THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX

TITLE SHEET	1
GENERAL LAYOUT	2
ESTIMATED QUANTITIES	3
PLANT STOCK TABULATIONS	4
LANDSCAPE PLAN	5–8
SWPPP	9
PLANTING DETAILS	10–12

THIS PLAN CONTAINS 12 SHEETS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE XX-XX-XXXX LIC. NO. XXXXXXX L.A.
PROJECT L.A. XXXXXXXX, XXXXXXXXXXXX, LANDSCAPE ARCHITECT
PROJECT DESIGNERS XXXXXXXX, XXXXXXXXXXXX, TITLE

RECOMMENDED FOR APPROVAL BY: _____ 20____
LANDSCAPE PARTNERSHIP COORDINATOR

RECOMMENDED FOR APPROVAL BY: _____ 20____
DISTRICT LANDSCAPE PARTNERSHIP COORDINATOR

APPROVED _____ 20____ _____
DISTRICT ENGINEER

FOR PLANS & UTILITIES SYMBOLS SEE TECHNICAL MANUAL

PROJ. NO	CHARGE IDENTIFIER
1008-000	

PLAN REVISIONS		
DATE	SHEET NO.	APPROVED BY

DESIGN DESIGNATION – TIER NO. _____

PROJECT LOCATION
COUNTY : Carver
DISTRICT : Metro

I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, OF THIS PLAN WERE MADE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINT NAME: _____ LIC. NO.: _____
DATE: _____ SIGNATURE: _____

DATE MODIFIED: 1/29/2010
TIME MODIFIED: 12:27:10 PM

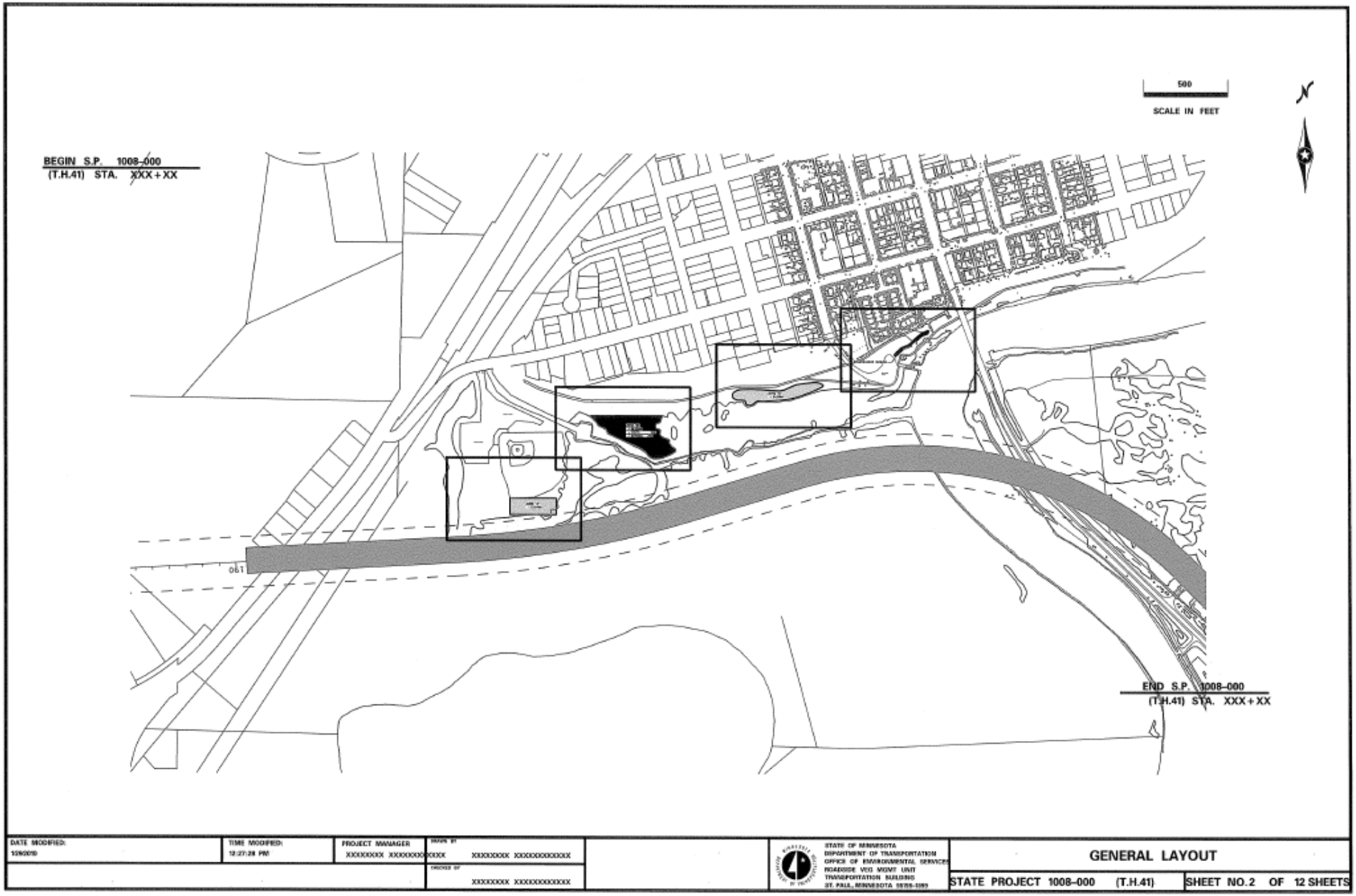
INDEX MAP — NO SCALE
GENERAL LAYOUT 0 XXXX
PLAN 0 XX
SCALES IN FEET

ADT (Current Year) 200_ = XX,XXX
Design Speed XX MPH

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENTAL SERVICES
ROADSIDE VEG MGMT UNIT
TRANSPORTATION BUILDING
ST. PAUL, MINNESOTA 55155-1899

TITLE SHEET

STATE PROJECT 1008-000 (T.H.41=XXX) SHEET NO.1 OF 12 SHEETS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PROJECT MANAGER
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STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENTAL SERVICES
ROADSIDE VEG MGMT UNIT
TRANSPORTATION BUILDING
ST. PAUL, MINNESOTA
GENERAL LAYOUT
STATE PROJECT 1008-000 (T.H.41)
SHEET NO. 2 OF 12 SHEETS

Statement of Estimated Quantities

ITEM No.	ROOT CATEGORY & SIZE	UNITS	ESTIMATED S.P. XXXX-XX
2571.501	CONIFEROUS TREE (INSERT SIZE HERE)	Tree	0
2571.501	CONIFEROUS TREE (INSERT SIZE HERE)	Tree	0
2571.501	CONIFEROUS TREE (INSERT SIZE HERE)	Tree	0
2572.501	CONIFEROUS TREE (INSERT SIZE HERE)	Tree	0
2571.501	CONIFEROUS TREE (INSERT SIZE HERE)	Tree	0
2571.502	DECIDUOUS TREE (INSERT SIZE HERE)	Tree	0
2571.502	DECIDUOUS TREE (INSERT SIZE HERE)	Tree	0
2571.502	DECIDUOUS TREE (INSERT SIZE HERE)	Tree	0
2571.502	DECIDUOUS TREE (INSERT SIZE HERE)	Tree	0
2571.502	DECIDUOUS TREE (INSERT SIZE HERE)	Tree	0
2571.502	DECIDUOUS TREE (INSERT SIZE HERE)	Tree	0
2571.502	DECIDUOUS TREE (INSERT SIZE HERE)	Tree	0
2571.502	DECIDUOUS TREE (INSERT SIZE HERE)	Tree	0
2571.502	DECIDUOUS TREE (INSERT SIZE HERE)	Tree	0
2571.502	DECIDUOUS TREE (INSERT SIZE HERE)	Tree	0
2571.503	ORNAMENTAL TREE (INSERT SIZE HERE)	Tree	0
2571.503	ORNAMENTAL TREE (INSERT SIZE HERE)	Tree	0
2571.502	ORNAMENTAL TREE (INSERT SIZE HERE)	Tree	0
2571.502	ORNAMENTAL TREE (INSERT SIZE HERE)	Tree	0
2571.502	ORNAMENTAL TREE (INSERT SIZE HERE)	Tree	0
2571.503	CONIFEROUS SHRUB (INSERT SIZE HERE)	Shrub	0
2571.503	CONIFEROUS SHRUB (INSERT SIZE HERE)	Shrub	0
2571.503	CONIFEROUS SHRUB (INSERT SIZE HERE)	Shrub	0
2571.505	DECIDUOUS SHRUB (INSERT SIZE HERE)	Shrub	0
2571.505	DECIDUOUS SHRUB (INSERT SIZE HERE)	Shrub	0
2571.505	DECIDUOUS SHRUB (INSERT SIZE HERE)	Shrub	0
2571.504	DECIDUOUS SHRUB (INSERT SIZE HERE)	Shrub	0
2571.504	DECIDUOUS SHRUB (INSERT SIZE HERE)	Shrub	0
2571.504	DECIDUOUS SHRUB (INSERT SIZE HERE)	Shrub	0
2571.504	DECIDUOUS SHRUB (INSERT SIZE HERE)	Shrub	0
2571.504	DECIDUOUS SHRUB (INSERT ROSE SIZE HERE)	Shrub	0
2571.505	VINE (INSERT SIZE HERE)	Plant	0
2571.505	VINE (INSERT SIZE HERE)	Plant	0
2571.505	VINE (INSERT SIZE HERE)	Plant	0
2571.506	PERENNIAL (INSERT PERENNIAL SIZE HERE)	Plant	0
2571.506	PERENNIAL (INSERT PERENNIAL SIZE HERE)	Plant	0
2572.506	PERENNIAL (INSERT PERENNIAL SIZE HERE)	Plant	0
2571.506	ORNAMENTAL GRASS (INSERT SIZE HERE)	Plant	0
2575.501	SEEDING 2	Acre	0
2575.541	MOWING 4	Acre	9
2575.608	SEED MIX 350 3	Pound	0

ESTIMATED INCIDENTAL MATERIAL AND WORK QUANTITIES [1,2]

MATERIAL	TYPE	UNIT	QUANTITY
RODENT GUARD		EACH	0
STAKING AND GUYING		EACH	0
COMPOST	GRADE 2	SQ. FT.	0
MULCH	6	SQ. FT.	0

UTILITIES TABULATION [3,4]

COMPANY	TYPE
(INSERT UTILITES CONTACT HERE)	SELECT UTILITY TYPE
(INSERT UTILITES CONTACT HERE)	SELECT UTILITY TYPE
(INSERT UTILITES CONTACT HERE)	SELECT UTILITY TYPE
(INSERT UTILITES CONTACT HERE)	SELECT UTILITY TYPE
(INSERT UTILITES CONTACT HERE)	SELECT UTILITY TYPE
(INSERT UTILITES CONTACT HERE)	SELECT UTILITY TYPE
(INSERT UTILITES CONTACT HERE)	SELECT UTILITY TYPE
(INSERT UTILITES CONTACT HERE)	SELECT UTILITY TYPE
(INSERT UTILITES CONTACT HERE)	SELECT UTILITY TYPE
(INSERT UTILITES CONTACT HERE)	SELECT UTILITY TYPE

NOTES:

1.) INCIDENTAL ITEMS, FOR WHICH NO DIRECT PAYMENT WILL BE MADE.
2.) QUANTITIES ARE FOR INFORMATION ONLY
3.) NO UTILITIES WILL BE AFFECTED BY THIS PROJECT.
4.) THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND

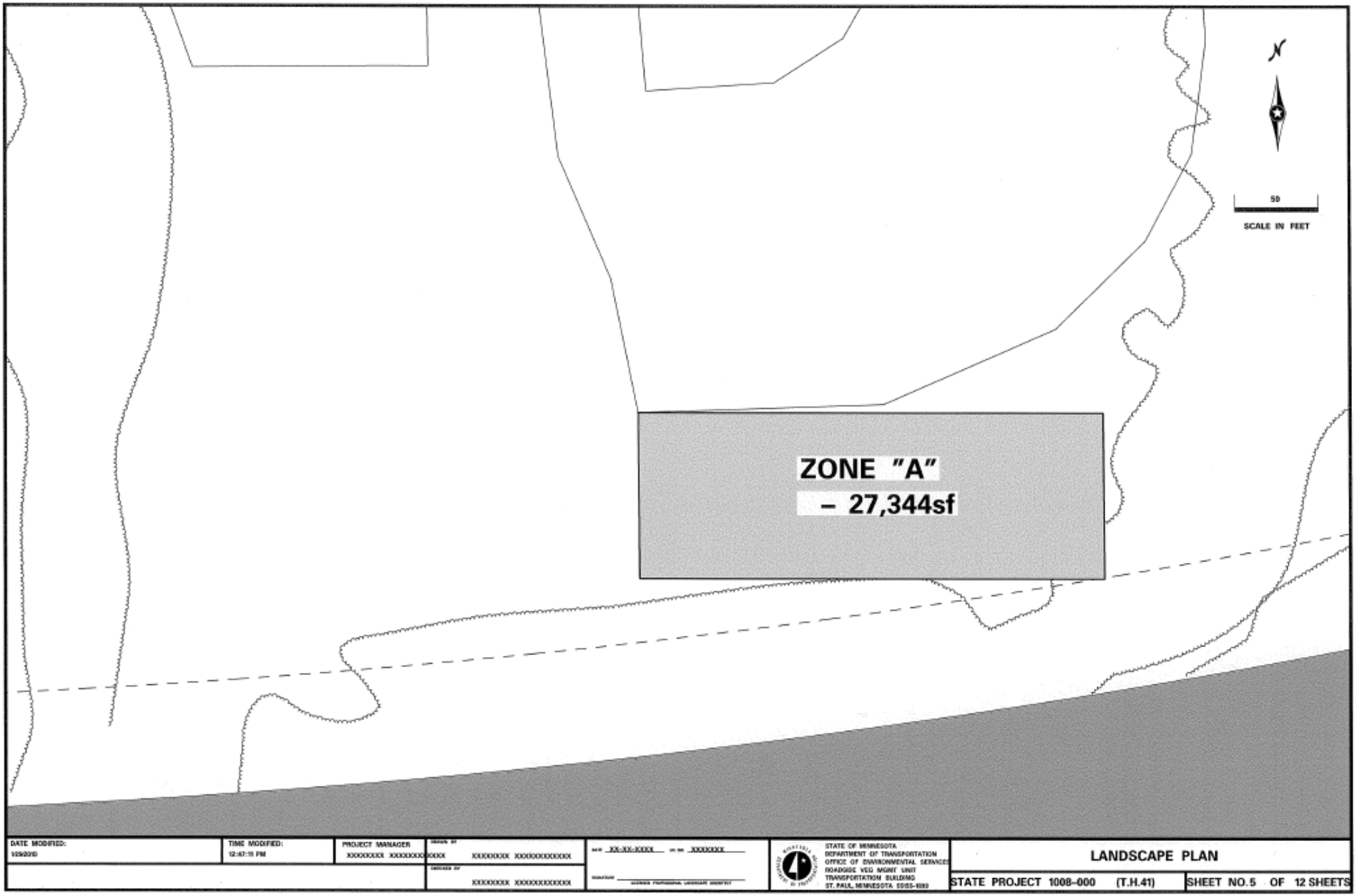
GENERAL NOTES:

A. LOCATE TREES AT LEAST 6' FROM FENCE WHEN NOT PLANTED WITHIN A MULCHED SHRUB BED.
B. ALL STAKED LOCATIONS SHALL BE VERIFYIED IN THE FIELD BY MN/DOT LANDSCAPE ARCHITECTURE UNIT BEFORE TRANSPLANTING BEGINS. COORDINATE WITH MN/DOT PROJECT ENGINEER.
C. OPERATE TILLING EQUIPMENT A MINIMUM OF 10' CLEAR OF EXISTING TREES, UNLESS AUTHORIZED BY THE ENGINEER.
D. COMPLETE ALL TILLING USING A SPADE TYPE TILLER.
E. SEE THE PLANT STOCK TABULATION TABLE FOR INDIVIDUAL PLANT QUANTITIES.
F. RESTORE ALL DAMAGED TURF AT THE CONTRACTOR'S EXPENSE, TO PRE-LANDSCAPE INSTALLATION CONDITIONS.

DATE MODIFIED:	TIME MODIFIED:	PROJECT MANAGER	DRAWN BY		STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION OFFICE OF ENVIRONMENTAL SERVICES ROADSIDE VEG MGMT UNIT TRANSPORTATION BUILDING ST. PAUL, MINNESOTA 55155-1899	ESTIMATED QUANTITIES	
12/23/2010	12:27:39 PM	XXXXXXXX XXXXXXXXXXXX	XXXXXXXX XXXXXXXXXXXX			STATE PROJECT 1008-000 (T.H.41)	SHEET NO.3 OF 12 SHEETS
			CHECKED BY XXXXXXXX XXXXXXXXXXXX				

DATE MODIFIED: 12/3/2010	TIME MODIFIED: 12:27:47 PM	PROJECT MANAGER XXXXXXXX XXXXXXXX	DRAWN BY XXXX XXXXXXX XXXXXXXXXXXX		STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION OFFICE OF ENVIRONMENTAL SERVICES ROADSIDE VEG MGMT UNIT TRANSPORTATION BUILDING ST. PAUL, MINNESOTA 55155-1899	PLANT STOCK TABULATIONS
			CHECKED BY XXXXXXXX XXXXXXXXXXXX			STATE PROJECT 1008-000 (T.H.41) SHEET NO. 4 OF 12 SHEETS

<This page intentionally blank as plant stock has not yet been determined>


ZONE "A"
– 27,344sf
50
SCALE IN FEET
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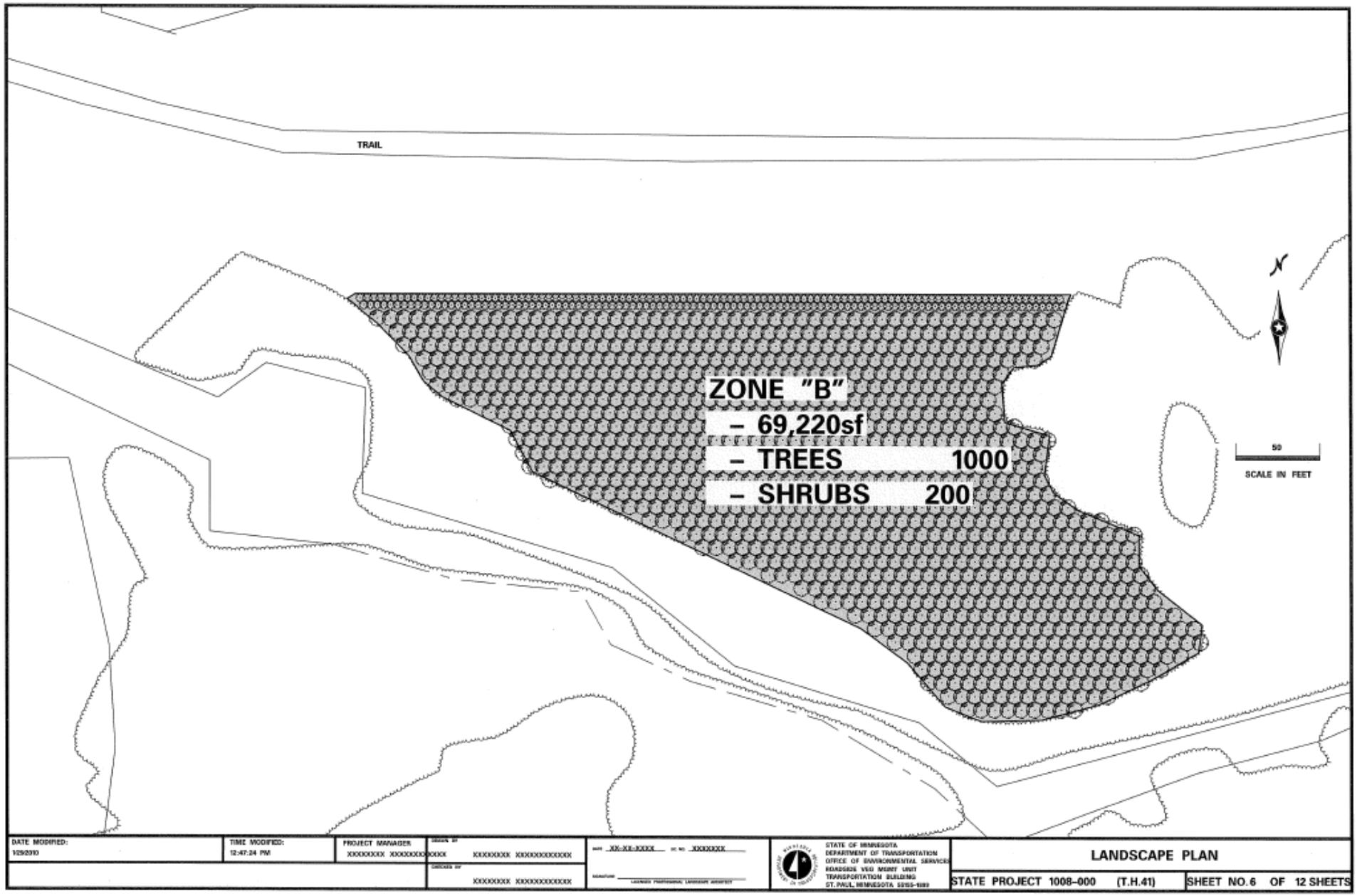
10/9/2010
TIME MODIFIED:
12:47:11 PM
PROJECT MANAGER
XXXXXXXX XXXXXXXXXXXX
XXXXXXXX XXXXXXXXXXXX
XXXXXXXX XXXXXXXXXXXX
DATE XX-XX-XXXX
XXXXXXX
STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENTAL SERVICES
ROADSIDE VEG MGMT UNIT
TRANSPORTATION BUILDING
ST. PAUL, MINNESOTA 55155-1899
LANDSCAPE PLAN
STATE PROJECT 1008-000 (T.H.41)
SHEET NO.5 OF 12 SHEETS


TRAIL
ZONE "B"
– 69,220sf
– TREES 1000
– SHRUBS 200
50
SCALE IN FEET
DATE MODIFIED:
1/29/2010
TIME MODIFIED:
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PROJECT MANAGER
XXXXXXXX XXXXXXXXXXXX
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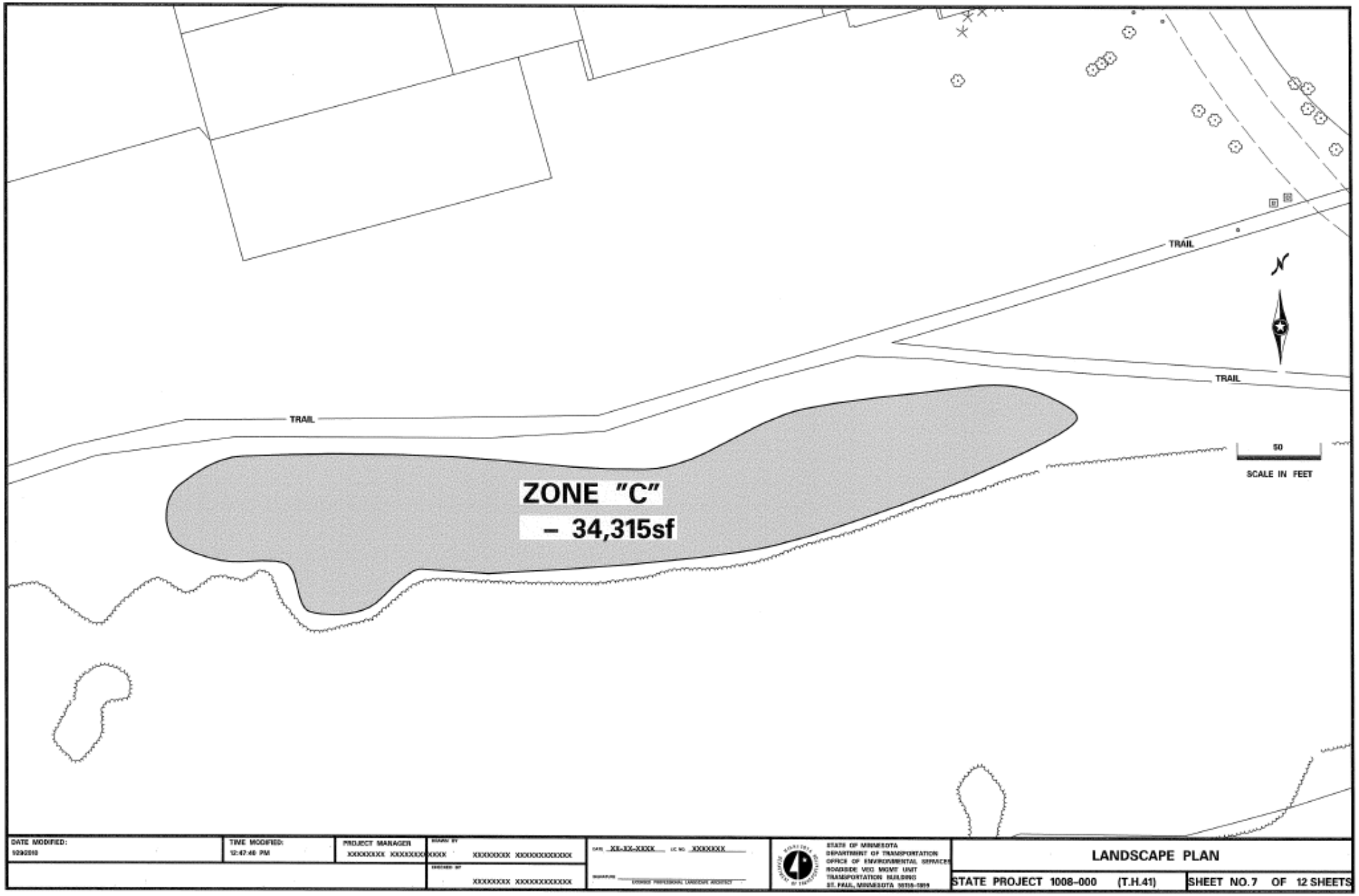
STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENTAL SERVICES
ROADSIDE VEG MGMT UNIT
TRANSPORTATION BUILDING
ST. PAUL, MINNESOTA 55155-1899
LANDSCAPE PLAN
STATE PROJECT 1008-000 (T.H.41)
SHEET NO. 6 OF 12 SHEETS


TRAIL
TRAIL
TRAIL
ZONE "C"
– 34,315sf
50
SCALE IN FEET
DATE MODIFIED:
9/29/2010
TIME MODIFIED:
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PROJECT MANAGER
XXXXXXXX XXXXXXXXXXXX
DRAWN BY
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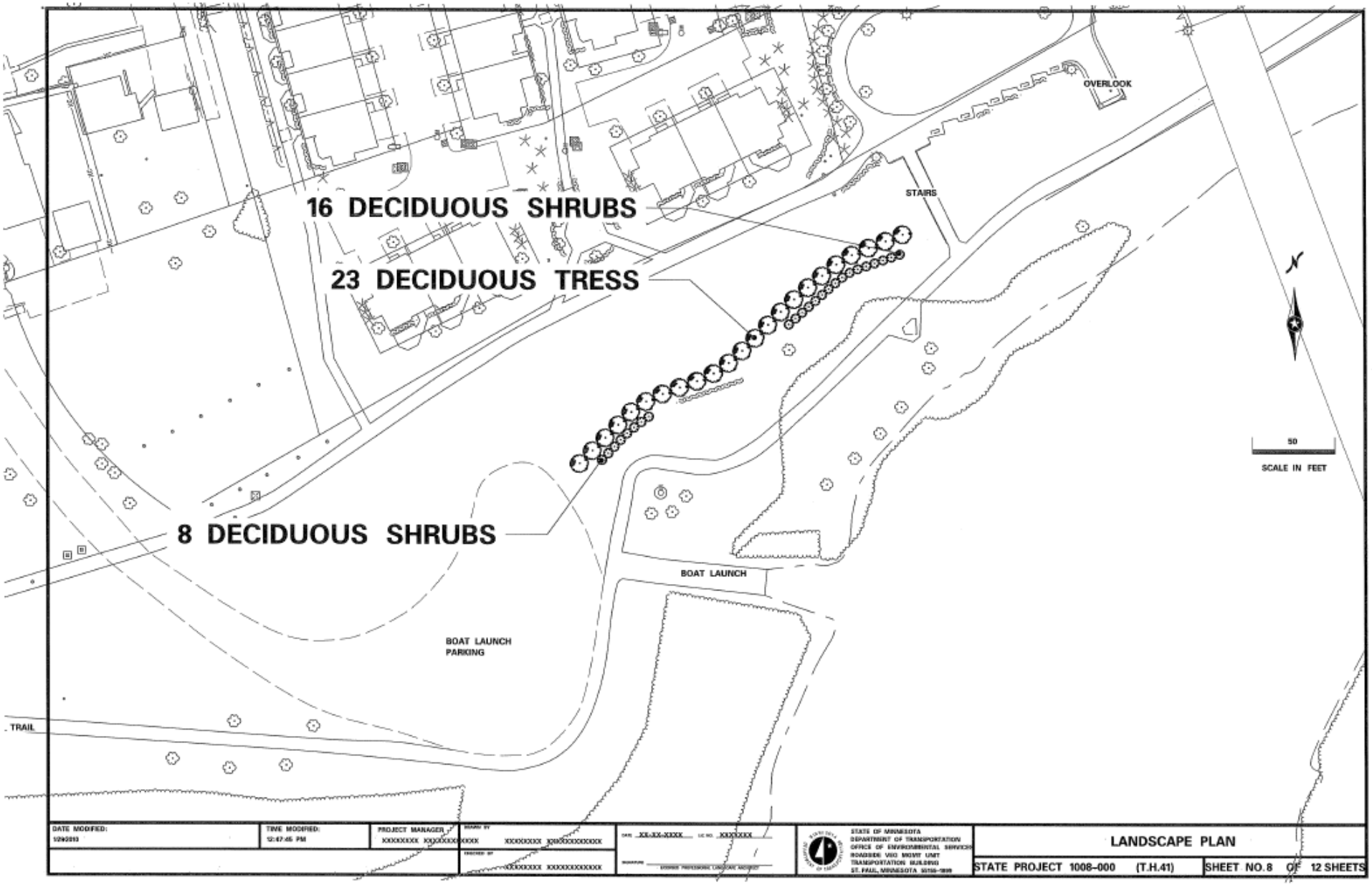
DATE XX-XX-XXXX
LIC NO. XXXXXXX
SIGNATURE
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT
STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENTAL SERVICES
ROADSIDE VEG MGMT UNIT
TRANSPORTATION BUILDING
ST. PAUL, MINNESOTA 55155-1899
LANDSCAPE PLAN
STATE PROJECT 1008-000 (T.H.41)
SHEET NO. 7 OF 12 SHEETS


16 DECIDUOUS SHRUBS
23 DECIDUOUS TRESS
8 DECIDUOUS SHRUBS
OVERLOOK
STAIRS
BOAT LAUNCH
BOAT LAUNCH PARKING
TRAIL
50
SCALE IN FEET
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PROJECT MANAGER
STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENTAL SERVICES
ROADSIDE VEG MGMT UNIT
TRANSPORTATION BUILDING
ST. PAUL, MINNESOTA
LANDSCAPE PLAN
STATE PROJECT 1008-000 (T.H.41)
SHEET NO. 8 OF 12 SHEETS

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

1) PROJECT DESCRIPTION/LOCATION: THE PROJECT IS LOCATED ON TRUNK HIGHWAY XXX FROM (ST/AVE) TO (ST/AVE) IN THE CITY OF (CITY NAME), MINNESOTA IN (COUNTY NAME) COUNTY.

THIS PROJECT WILL DISTRUB PERENNIAL VEGETATED SOILS TO CONSTRUCT STABILIZED LANDSCAPE PLANTING BEDS. SOILS LIKELY CONSIST OF ALL SOIL TEXTURAL TYPES.

THE EXPECTED AREA DISTRUBNACE WILL BE MORE THAN 1 ACRE, AND IS A FUNCTION OF LANDSCAPE CONTRACTOR OPERATAIONS OF THE ULTIMATE SOIL DISTURBANCE, INCLUDING SLOPE ACCESS, STAGING OF MATERIALS AND EQUIPMENT. THERE WILL BE NO CHANGE IN PERVIOUS OR IMPERVIOUS SURFACES DEVELOPED DURING COMMON AREA OF THE

THE ULTIMATE RECEIVING WATER IS (INSERT NAME HERE) BY DIRECT AND INDIRECT DISCHARGE, DITCHES, CURB AND GUTTER INLETS, STORM WATER PONDS, CARVER LAKE AND UNNAMED WETLAND. THERE (ARE/ARE NO) SPECIAL STREAMS, LAKES, FENS, SNA, OR TROUT STREAMS WITHIN 1 MILE OF THIS PROJECT.

THE FOLLOWING IMPAIRED WATERS ARE WITHIN 1 MILE OF THIS PROJECT: MISSISSIPPI RIVER FOR PCB, PFOS, AND T, WITH TMDL FOR HG; MINNEHAHA CREEK FOR B-F,FC,C1 AND DO; CEDAR LAKE FOR NUTRIENTS; LAKE OF THE ISLES FOR HG AND PCB; LAKE CALHOUN FOR HG AND PFOS; LAKE HARRIET FOR HG AND PFOS; LAKE HIAWATHA FOR NUTRIENTS; LAKE NOKOMIS FOR PCB AND NUTRIENTS. THIS PROJECT WILL ADDRESS THE APPENDIX C1 PERMIT REQUIREMENT FOR IMPAIRED WATERS BUT WITH TIGHT CONTROLS FOR STABILIZING BEST MANAGEMENT PRACTICES, STRONGER THEN THE 7 DAY MAXIMUM ALLOWANCE, AND

THE POTENTIAL POLLUTANTS GENERATED FROM THIS WORK INCLUDE THE FOLLOWING: SEDIMENTS, FERTILIZERS, TRASH, CONSTRUCTION DEBRIS, AND VEHICLE/EQUIPMENT CHEMICALS.

2) POND AND DRAINAGE SYSTEMS: GENERALLY SPEAKING, DO NOT IMPEDE OR CHANGE FLOW CHARACTERISTICS, DRIVE VEHICLES OR OPERATE EQUIPMENT IN PONDS, DITCHES AND OTHER CONTRIBUTING DRAINAGE AREAS DURING CONSTRUCTION AND OVER THE LIFE OF THE PROJECT. WHEN ACCESS IS NECESSARY TO CONSTRUCT THE WORK, SCHEDULE OPERATIONS TO OCCUR DURING LOW FLOW CONDITIONS AND LIMIT DISTURBANCE TO AREAS THAT CAN BE REPAIRED EASILY IN ORDER TO MINIMIZE EROSION AND SEDIMENT POLLUTION. DO NOT DRIVE VEHICLES AND EQUIPMENT IN POND BOTTOMS UNDER ANY CIRCUMSTANCE. RESTORE CRITICAL AREAS, SUCH AS POND CORNERS AND EDGES, DITCH FLOWLINES AND STORM DRAIN INLETS TO PRE-EXISTING

AREAS WITHIN 10 FEET OF PONDS DISTURBED BY THE WORK SHALL BE PLANTED AND MULCHED WITHIN 24 HOURS. AREAS WHICH CANNOT BE COMPLETED WITHIN 24 HOURS, SHALL BE TEMPORARILY MULCHED AND PROTECTED WITH TEMPORARY SEDIMENT CONTROL DEVICES SUCH AS BALE BARRIERS AND FILTER LOGS AS REQUIRED TO PREVENT EROSION AND SEDIMENT

DITCHES AND OTHER DRAINAGE SYSTEMS WHICH MUST BE DISTURBED TO CONSTRUCT THE WORK, INCLUDING RUTTING, SHALL BE RESTORED TO PRE-EXISTING CONDITIONS WITHIN 3 DAYS.

3) STORM DRAIN INLETS: BEST MANAGEMENT PRACTICES BMP'S AND DEVICES, INCLUDING INLET DIAPERS, FILTER LOGS AND SEDIMENT MATS SHALL BE INSTALLED FOR STORM DRAIN INLET AND CULVERT PROTECTION AS REQUIRED TO PROTECT SEDIMENTATION INTO AND THROUGH UNDERGROUND DRAINAGE SYSTEMS.

4) STEEP SLOPES: THIS PROJECT CONTAINS AREAS REQUIRING PLANT INSTALLATION ON ROADWAY EXCAVATIONS AND EMBANKMENTS WITHIN THE RIGHT OF WAY AND EASEMENTS. SLOPES WITH GRADIENTS 1 VERTICAL: 3 HORIZONTAL AND GREATER DISTURBED BY THE WORK SHALL BE PLANTED AND MULCHED WITHIN 24 HOURS. AREAS WHICH CANNOT BE COMPLETED WITHIN 24 HOURS, SHALL BE TEMPORARILY MULCHED AND PROTECTED WITH TEMPORARY SEDIMENT CONTROL DEVICES SUCH AS SILT FENCES, SAND BAGS AND FILTER LOGS AS REQUIRED TO PREVENT EROSION AND SEDIMENT CONTROL UNTIL PLANTING AND PERMANENT MULCHING CAN BE COMPLETED. FILTER LOGS ARE REQUIRED AT EACH TREE LOCATION AND

5) TIMING OF BMP INSTALLATION: EROSION AND SEDIMENT CONTROL BMP'S SHALL BE INSTALLED AS REQUIRED TO MINIMIZE EROSION FROM DISTURBED SURFACES AND CAPTURE SEDIMENT ONSITE IN ACCORDANCE WITH MN/DOT 2573.

6) VEHICLE TRACKING: REMOVE TRACKED SEDIMENT FROM PAVED SURFACES IN ACCORDANCE WITH MN/DOT 2573.

7) PERMITS REQUIRED: NPDES/SDS GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY

8) PROJECT CONTACTS: THE ENGINEER AND CONTRACTOR ARE RESPONSIBLE FOR IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND INSTALLATION, INSPECTION AND MAINTENANCE OF THE EROSION AND SEDIMENT CONTROL BMP'S DURING CONSTRUCTION AND OVER THE LIFE OF THE PROJECT. MN/DOT METRO DISTRICT AND MN/DOT OFFICE OF ENVIRONMENTAL SERVICES STAFF ALSO ARE AVAILABLE FOR ASSISTANCE AS DESCRIBED BELOW:

NAME	AGEINCY	TELEPHONE
RESIDENT ENGINEER	MN/DOT CONSTRUCTION -METRO DISTRICT - EDEN PRAIRIE	XXX/ XXX-XXXX
BETH NEUENDORF	MN/DOT WATER RESOURCES -METRO DISTRICT	651/ 234-7520
DWAYNE STENLUND	MN/DOT EROSION CONTROL/WATER QUALITY - SUPPORT	651/ 366-3625
	CONTRACTOR EC SUPERVISOR	
TODD CARROLL	MN/DOT LANDSCAPE ARCHITECT	651/ 366-4617
PETER LEETE	MN/DNR TRANSPORATION HYDROLOGIST	651/ 366-3634
SHAWN NELSON	MPCA	651/ 757-2604
	STATE DUTY OFFICER	800/ 422-0798

9) LOCATION OF SWPPP REQUIREMENTS: BMP'S AND DEVICE LOCATIONS SHALL BE ON AN AS NEEDED BASIS, DETERMINED BY THE CONTRACTOR AND THE PROJECT ENGINEER AND SHALL BE INCIDENTAL TO THE PROJECT. SEE ESTIMATED QUANITITIES

ESTIMATED INCIDENTAL SWPPP ITEMS, MATERIALS AND WORK QUANTITIES

ITEM	UTILIZATION	ESTIMATED QUANTITY
3897 FILTER LOGS, TYPE COMPOST	PERIMITER CONTROL, LANDSCAPE BED EDGE, GUTTER FILTER CHECKS	LIN FT
3882 MULCH MATERIAL, TYPE 3 CERTIFIED WEED FREE	DAILY REPAIR OF DAMAGED SLOPES; ACCESS SOIL DAMAGE ON SLOPES LESS THEN 3:1	TON
3884 HYDRAULIC SOIL STABILIZER, TYPE 6	FINAL RESTORATION MULCH COVER OF STAGING AREAS, STOKPILE PADS, AND OTHER TURF DAMAGED AREAS	ACRE
3882 MULCH MATERIAL, TYPE 6	WINTER COVER OF ALL LANDSCAPE BEDS, IF NOT PERMANENTLY STABILIZED WITH PERENNIAL WOODY VEGETATION AND MULCH COVER.	CU YDS.
3885 EROSION CONTROL BLANKET, CATEGORY 0	DAILY REPAIR OF DAMAGED SLOPE STEEPER THAN 3:1 AND ALL CONVEYANCE SYSTEMS OF CONCENTRATED	SQ YDS
3891 STORM DRAIN INLET PROTECTION, TYPE F FILTER BAG INSERT	ALL INLETS DOWN GRADIENT TO LANDSCAPE BED ACCESS	EACH
1717.2C QUALITY ASSURANCE PROGRAM	ENSURE THAT THE SITE IS STABILIZED AND IN COMPLIANCE OF PART iv OF THE NPDES PERMIT FOR ALL CONTRACTOR OPERATIONS	DAILY
1717.2D EROSION CONTROL SCHEDULE	MAINTAIN NPDES WEEKLY AND AFTER EVERY 12 INCH RAIN DOCUMENTS FOR PERMIT COMPLIANCE DUT TO THE CONTRACTORS OPERATIONS	WEEKLY
1717.2E SITE PLAN	PROTECT CRITICAL POND CORNERS, POND SLOPES, CONVEYANCE CHANNELS, WELAND EDGES, CULVERT INLETS AND SPILL PREVENTION PROGRAM	AS REQUESTED BY PROJECT ENGINEER
2573.2A3 MODIFIED STREE SWEEPING	PREVENT SEDIMENT DISCHARGE TO STORM DRAIN INLETS AND PROTECT THE DRIVING PUBLIC	DAILY
2573.2A4; 2573.2A5 AND 2573.4	SEDIMENT REMOVAL AND RELATED WORK	DAILY
2573.3A1 EROSION CONTROL SUPERVISOR	DIRECT ALL OPERATIONS TO IMPLEMENT THIS PLAN AND ENSURE PERMIT COMPLIANCE; CONDUCT ALL REQUIRED NPDES INSPECTIONS; ENFORCE QUALITY ASSURANCE AND CONTROL PROGRAM; CONTACT FOR ALL REGULATORY AUTHORITIES; DEVELOP ALL SITE	DAILY
2573.3A5 MODIFIED EXIT STABILIZATION MATS	TEMPORARY RUT PREVENTION MATS (MUD MAT OR APPROVED EQUAL) FOR ACCESS OFF IMPERVIOUS SURFACES AND DITCH CROSSINGS, OR OTHER SOFT	500 LF
2575 TURF RESTORATION	FINAL TURF RESTORATION SEED MIXTURES	100 LBS MIXTURE 250; 50 LBS MIXTURE 350

DATE MODIFIED:	TIME MODIFIED:	PROJECT MANAGER	DRAWN BY
1/26/2010	12:28:46 PM	XXXXXXXX XXXXXXXX	XXXX XXXXXXXX XXXXXXXXXXXX
			CHECKED BY XXXXXXXX XXXXXXXXXXXX

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
OFFICE OF ENVIRONMENTAL SERVICES
ROADSIDE VEG MGMT UNIT
TRANSPORTATION BUILDING
ST. PAUL, MINNESOTA 55155-1899

SWPPP

STATE PROJECT 1008-000 (T.H.41) SHEET NO. 9 OF 12 SHEETS

GENERAL NOTES

SEE SPECIAL PROVISIONS FOR SPECIFIC PROJECT REQUIREMENTS.

REFER TO MnDOT SPECIFICATIONS 2571, 3881, THE " 2009 INSPECTION AND CONTRACT ADMINISTRATION MANUAL FOR MnDOT LANDSCAPE PROJECTS" FOR GENERAL REQUIREMENTS.

COMPLETE PREPARATORY WORK BEFORE STARTING INITIAL PLANTING OPERATIONS.

ACCEPT ALL PLANT STOCK IN ACCORDANCE WITH MnDOT 3881 PRIOR TO PLANTING.

THE CONTRACTOR WILL DEMONSTRATE COMPETENCY FOR SOIL CULTIVATION OPERATIONS AS CALLED FOR IN (MnDOT2571.3D2 (STEP 4))

THE CONTRACTOR WILL DEMONSTRATE COMPETENCY FOR ALL PLANT INSTALLATION OPERATIONS AS CALL FOR IN (MnDOT2571.3F1a)

RODENT PROTECTION	SEE SPECIAL PROVISIONS
FERTILIZER	SEE SPECIAL PROVISIONS
COMPOST	MnDOT 3890 TYPE 2 UNLESS OTHERWISE SPECIFIED.
MULCH MATERIAL	MnDOT 3882 TYPE 6 UNLESS OTHERWISE SPECIFIED.
MASS PLANTING BEDS	PREPARE MASS PLANTING BEDS FOR PLANTS PLACED AT 36" OR LESS, UNLESS OTHERWISE SPECIFIED ON SHEETS. PLANT BEDS IN STAGGERED ROWS ON THE PERIMETER FIRST. THEN UNIFORMLY FILL IN WITH REMAINING PLANTS. USE TRIANGULAR SPACING, UNLESS SPECIFIED OTHERWISE. PROVIDE 6' RADIUS CLEAR OF SHRUBS AROUND EACH DECIDUOUS TREE AND 8' CLEAR RADIUS AROUND EACH CONIFER TREE. RADIUS WILL BE MEASURED FROM THE CENTER OF THE TREE TO THE CENTER OF THE SHRUB. NOTIFY ENGINEER OF GROSS PLANT QUANTITY SURPLUS OR DEFICIENCY IMMEDIATELY. MULCH ENTIRE MASS PLANTING BED.
TREE PAINTING (FROST CRACK PREVENTION)	PAINT OAKS, LINDENS, LOCUSTS, MAPLES, CRABAPPLES AND MOUNTAIN ASH. ONLY UNDILUTED EXTERIOR WHITE LATEX PAINT IS ACCEPTABLE. PAINT TREE CIRCUMFERANCE FROM GROUND LINE TO FIRST MAJOR BRANCH.
PLANTING PLAN DIMENSIONS	STATED DIMENSIONS SUPERCEDE SCALING FROM PLAN.

WATERING GUIDELINES (MnDOT 2571.G)

PLANT TYPE	AVERAGE GALLONS OF WATER PER APPLICATION PER PLANT
MACHINE TRANSPLANTED TREES 42" AND UP	50-100
BALLED & BURLAPPED TREES	20
BARE ROOT TREES	15
BALLED & BURLAPPED SHRUBS	10
BARE ROOT OR CONTAINER SHRUBS	7
WOODY SEEDLINGS	4
PERENNIALS AND VINES	3

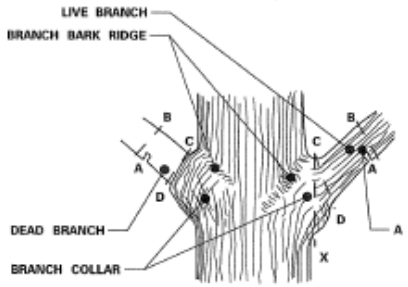
IT IS THE CONTRACTOR'S RESPONSIBILITY TO MONITOR AND MAINTAIN SOIL MOISTURE AT ADEQUATE BUT NOT EXCESSIVE LEVELS. THE AMOUNTS LISTED ABOVE ARE GUIDELINES, NOT REQUIREMENTS.

1. BARE ROOT PERENNIALS MUST BE INSTALLED IN THE SPRING NO LATER THAN JUNE 1ST OR FOLLOW THE FALL DECIDUOUS PLANTING DATES.
2. ACTUAL DATES MAY CHANGE DEPENDING UPON SEASONAL CONDITIONS, AS DETERMINED BY THE ENGINEER.
3. FALL PLANTING IS NOT ALLOWED FOR BARE ROOT FORM OF THE FOLLOWING SPECIES: HAWTHORN, DOGWOOD, POPLAR, HACKBERRY, LINDEN, IRONWOOD, HONEYLOCUST, BIRCH, MOUNTAIN ASH, MAPLE, WILLOW, CRABAPPLE, PLUMCHERRY, OAKS, AND SUMAC.
4. ALL REPLACEMENT PLANTS MUST BE INSTALLED DURING THE MONTH OF MAY DURING THE FIRST YEAR OF THE PLANT ESTABLISHMENT PERIOD.

PLANTING DATE BY ZONES

KEY	SPRING DECIDUOUS	SPRING CONIFEROUS	SPRING PERENNIALS	SPRING SEEDLINGS	FALL DECIDUOUS	FALL CONIFEROUS
1	APRIL 21 TO JUNE 1	APRIL 21 TO JUNE 1	MAY 1 TO JUNE 15	APRIL 21 TO JUNE 1	OCT. 1 TO NOV. 1	AUG. 25 TO SEPT. 15
2	APRIL 7 TO JUNE 1	APRIL 7 TO MAY 17	MAY 1 TO JUNE 15	APRIL 7 TO MAY 17	OCT. 10 TO NOV. 15	AUG. 25 TO SEPT. 15

PLANT INSTALLATION PERIOD (MnDOT 2571.3F)

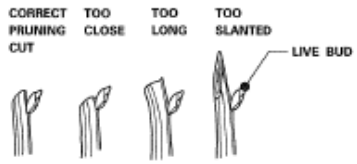


INCORRECT CUT (TOO CLOSE) WILL RESULT IN DISCONTINUOUS CALLUS FORMATION AFTER ONE SEASON OF GROWTH.

CORRECT CUT (LEAVING BRANCH COLLAR BUT NO STUB) WILL RESULT IN CONTINUOUS DOUGHNUT SHAPED CALLUS FORMATION AFTER ONE SEASON OF GROWTH.

BRANCHES PRUNED AT TRUNK (SHIGO METHOD)

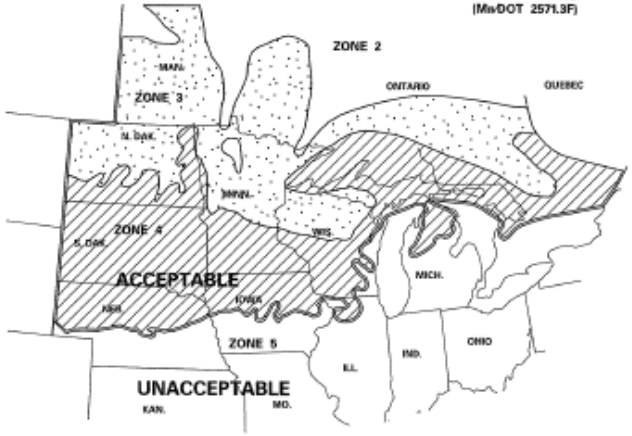
STEPS TO PRUNING WITH PRUNING SAW
1. CUT PART WAY THROUGH THE BRANCH AT POINT A.
2. CUT COMPLETELY THROUGH BRANCH FROM POINT B TO A.
3. CUT FROM POINT C TO D.
4. LEAVE BRANCH COLLAR (C TO D)
5. DO NOT FLUSH CUT (C TO X)
6. DO NOT LEAVE STUBS (B TO A)



BRANCHES PRUNED TO LIVE BUD

PRUNING NOTES
1. PRUNE USING CLEAN AND SHARP SISSOR TYPE PRUNER OR PRUNING SAW.
2. THE BEST TIME TO PRUNE IS LATE DORMANT SEASON OR EARLY SPRING.
3. AVOID PRUNING OAKS IN APRIL, MAY, JUNE OR JULY.
4. IF PRUNING IS NECESSARY OR IF WOUNDS OCCUR TO OAK TREES IN APRIL, MAY, JUNE OR JULY, IMMEDIATELY PAINT CUT SURFACE OR WOUND WITH LATEX PAINT OR SHELLAC.

PRUNING (MnDOT 2571.3K2a9)



ZONE MAP

ZONES	LEGEND	APPROXIMATE MIN. TEMP.
2		-40° TO -50° F
3		-30° TO -40° F
4		-20° TO -30° F

FOR ALL PLANT STOCK, DOCUMENT ACCEPTABILITY FOR HARDINESS IN THE MINNESOTA ZONE WHERE THE PROJECT SITE IS LOCATED, AS FOLLOWS:

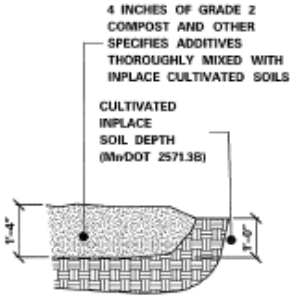
A. PLANT STOCK CONTINUOUSLY GROWN FOR AT LEAST THE LAST TWO YEARS WITHIN THE ACCEPTABLE LIMITS SHOWN.

OR

B. PLANT STOCK, GROWN OUTSIDE THE ACCEPTABLE GROWING RANGE LIMITS, HAVING THE SEED SOURCE OR ROOT AND GRAFT STOCK ORIGINATING FROM THE ACCEPTABLE LIMITS SHOWN.

ACCEPTABLE PLANT STOCK GROWING RANGE LIMITS

SOURCE: USDA PLANT HARDINESS ZONE MAP (MnDOT 2571.2D)



PLANTING SOIL (MnDOT 2571.D2)

DATE MODIFIED: FEBRUARY / 04 / 2008	PROJECT MANAGER SCOTT BRADLEY	DRAWN BY OFFICE OF TECHNICAL SUPPORT	STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION OFFICE OF ENVIRONMENTAL SERVICES ROADSIDE VEG MGMT UNIT TRANSPORTATION BUILDING ST. PAUL, MINNESOTA 55155-1899

STANDARD PLANTING DETAILS (A)

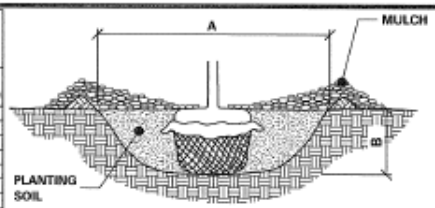
STATE PROJECT 1008-000 (T.H.41) SHEET NO.10 OF 12 SHEETS

PLANTING HOLE DIMENSIONS

HOLE DEPTH FOR B&B AND CONTAINER PLANTS SHALL NOT EXCEED MEASUREMENT FROM ROOT FLAIR TO BOTTOM OF SOIL BALL.

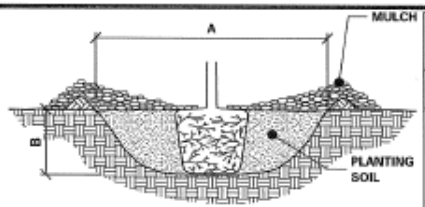
PLANT TYPE	PLANT SIZE UP TO AND INCLUDING	(A) MINIMUM HOLE WIDTH	(B) APPROXIMATE HOLE DEPTH (Z)
DECIDUOUS & ORNAMENTAL TREES	(2") B.B.	(46")	(19")
	(4") B.B.	(46")	(34")
	(5") B.B.	(48")	(34")
	(6") B.B.	(54")	(35")
	(7") B.B.	(60")	(36")
	(8") B.B.	(66")	(38")
	(0.75") B.B.	(48")	(32")
	(1") B.B.	(54")	(34")
	(1.25") B.B.	(60")	(34")
	(1.5") B.B.	(66")	(35")
	(1.75") B.B.	(72")	(36")
	(2") B.B.	(84")	(38")
	(4") B.B.	(42")	(31")
	(5") B.B.	(48")	(32")
	(6") B.B.	(54")	(34")
	(8") B.B.	(66")	(36")
	(10") B.B.	(66")	(36")
	(12") B.B.	(66")	(36")
	(1") B.B.	(48")	(34")
	(1.25") B.B.	(54")	(35")
	(1.5") B.B.	(60")	(36")
	(1.75") B.B.	(66")	(36")
	(2") B.B.	(72")	(36")
	(2.5") B.B.	(84")	(38")
	(3") B.B.	(96")	(39")
	(3.5") B.B.	(114")	(39")
	(4") B.B.	(126")	(39")
DECIDUOUS SHRUBS, ROSES AND PERENNIALS	(12") B.R.	(24")	(7")
	(15") B.R.	(28")	(8")
	(18") B.R.	(30")	(8")
	(2') B.R.	(32")	(9")
	(3') B.R.	(42")	(11")
	(4') B.R.	(48")	(12")
	(5') B.R.	(54")	(14")
	(6') B.R.	(60")	(14")
	(18") B.B.	(27")	(7")
	(2') B.B.	(30")	(8")
	(3') B.B.	(36")	(9")
	(4') B.B.	(42")	(11")
	(5') B.B.	(48")	(12")
	(6') B.B.	(54")	(14")

PERENNIAL HOLE DEPTH AND WIDTH SHALL BE BASED UPON ON-CENTER SPACING IN A CONTINUOUS TRENCH.



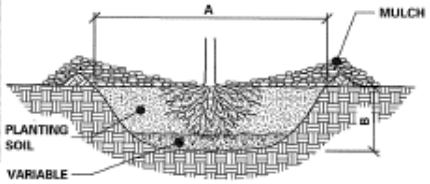
BALLED & BURLAPPED STOCK

1. SCARIFY SIDES AND BOTTOM OF HOLE.
2. PROCEED WITH CORRECTIVE PRUNING.
2. SET PLANT ON UNDISTURBED NATIVE SOIL OR THOROUGHLY COMPACTED PLANTING SOIL. INSTALL PLANT SO THE ROOT FLARE IS AT OR UP TO 2" ABOVE THE FINISHED GRADE WITH BURLAP AND WIRE BASKET, (IF USED), INTACT.
4. SLIT REMAINING TREATED BURLAP AT 6" INTERVALS.
5. BACKFILL TO WITHIN APPROXIMATELY 12" OF THE TOP OF THE ROOTBALL, THEN WATER PLANT. REMOVE THE TOP 1/3 OF THE BASKET OR THE TOP TWO HORIZONTAL RINGS WHICHEVER IS GREATER. REMOVE ALL BURLAP AND NAILS FROM THE TOP 1/3 OF THE BALL. REMOVE ALL TWINE. REMOVE OR CORRECT STEM GIRDLING ROOTS.
6. PLUMB AND BACKFILL WITH PLANTING SOIL.
7. WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANTS AND FILL VOIDS.
8. BACK FILL VOIDS AND WATER SECOND TIME.
9. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.



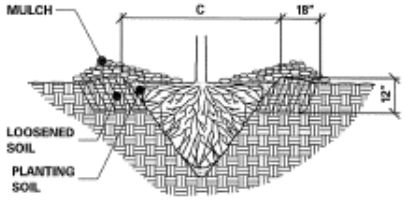
CONTAINER STOCK

1. SCARIFY SIDES AND BOTTOM OF HOLE.
2. PROCEED WITH CORRECTIVE PRUNING OF TOP AND ROOT.
3. REMOVE CONTAINER AND SCORE OUTSIDE OF SOIL MASS TO REDIRECT AND PREVENT CIRCLING FIBROUS ROOTS. REMOVE OR CORRECT STEM GIRDLING ROOTS.
4. SET PLANT ON UNDISTURBED NATIVE SOIL OR THOROUGHLY COMPACTED PLANTING SOIL. INSTALL PLANT SO THE TOP OF THE ROOT FLARE IS AT OR UP TO 2" ABOVE THE FINISHED GRADE.
5. PLUMB AND BACKFILL WITH PLANTING SOIL.
6. WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANTS AND FILL VOIDS.
7. BACK FILL VOIDS AND WATER SECOND TIME.
8. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.



BARE ROOT STOCK

1. SOAK ROOTS IN WATER FOR AT LEAST ONE HOUR BUT NOT MORE THAN 24 HOURS PRIOR TO PLANTING.
2. SCARIFY SIDES AND BOTTOM OF HOLE.
3. PROCEED WITH CORRECTIVE PRUNING OF THE TOP AND ROOTS.
4. TRANSFER PLANT DIRECTLY FROM WATER TO HOLE. SET PLANT SO THE ROOT FLARE IS APPROXIMATELY AT THE FINISHED SOIL ELEVATION. SPREAD ROOTS OUT EVENLY. PLUMB AND IMMEDIATELY BACKFILL WITH PLANTING SOIL.
5. WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANTS AND FILL VOIDS.
6. BACK FILL VOIDS AND WATER SECOND TIME.
7. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.



MACHINE MOVED STOCK

1. SCARIFY SIDES AND BOTTOM OF HOLE.
2. PROCEED WITH CORRECTIVE PRUNING.
3. SET PLANT ON NATIVE SOIL AT SAME DEPTH AS IT WAS PREVIOUSLY GROWN.
4. PLUMB AND BACKFILL WITH PLANTING SOIL.
5. AFTER PLANTING, LOOSEN THE SOIL IMMEDIATELY ADJACENT TO THE SPADE-MOVED SOIL TO A MINIMUM DISTANCE OF 18" AND A MINIMUM DEPTH OF 12".
6. WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANTS AND FILL VOIDS.
7. BACK FILL VOIDS AND WATER SECOND TIME.
8. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

MINIMUM TREE SPADE SIZE REQUIREMENTS

SPADE DIAMETER SIZE 'C'	OAK TREE, CALIPER	DECIDUOUS/ ORNAMENTAL TREE,CALIPER	CONIFEROUS TREE, HEIGHT
42"	1" to 1.5"	2" to 3"	5' to 7'
60"	1.5" to 2.5"	3" to 4"	7' to 9'
76"	2.5" to 3.5"	4" to 6"	9' to 14'
85"	3.5" to 5"	6" to 8"	14' to 18'

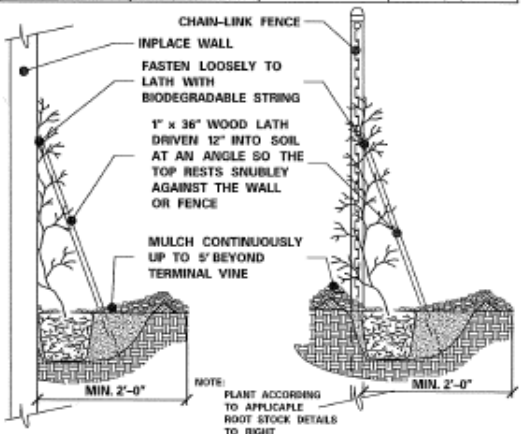
INSTALLATION OF PLANTS

(MnDOT 2571.3F)

PLANTING HOLE DIMENSIONS

HOLE DEPTH FOR B&B AND CONTAINER PLANTS SHALL NOT EXCEED MEASUREMENT FROM ROOT FLAIR TO BOTTOM OF SOIL BALL.

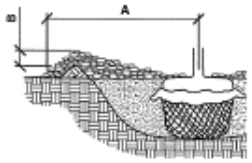
PLANT TYPE	PLANT SIZE UP TO AND INCLUDING	(A) MINIMUM HOLE WIDTH	(B) APPROXIMATE HOLE DEPTH (Z)
CONIFEROUS TREES AT LEAST 2/3 OF ALL CONIFER BRANCHES WILL CONTAIN TERMINAL BUDS	(2") B.B.	(36")	(30")
	(3") B.B.	(42")	(11")
	(4") B.B.	(51")	(13")
	(5") B.B.	(60")	(13")
	(6") B.B.	(66")	(15")
	(7") B.B.	(72")	(16")
	(8") B.B.	(81")	(18")
	(9") B.B.	(90")	(28")
	(10") B.B.	(102")	(28")
	(12") B.B.	(114")	(24")
CONIFEROUS SHRUBS (UPRIGHT)	(18") B.B.	(24")	(7")
	(3') B.B.	(48")	(12")
CONIFEROUS SHRUBS (SPREADING)	(18") SPR B.B.	(36")	(8")
	(2') SPR B.B.	(56")	(9")
CONTAINER GROWN PLANTS	CELLPACKS /PLUGS	(6")	(2.5")
	(2.25") CONT.	(7")	(3")
	(3.5") CONT.	(10")	(3")
	(4") CONT.	(11")	(4")
	(4.5") CONT.	(13")	(4")
	(6" /1 QT.) CONT.	(15")	(5.5")
	(#1) CONT.	(19")	(6")
	(#2) CONT.	(23")	(7.5")
	(#3) CONT.	(29")	(8.5")
	(#5) CONT.	(30")	(11")
	(#7) CONT.	(37")	(11")
	(#15) CONT.	(44")	(14")
	(#18) CONT.	(45")	(15")
	(#20) CONT.	(50")	(16")
	(#25) CONT.	(72")	(17")
SEEDLINGS	(6") SEEDLING	(15")	(14")
	(9") SEEDLING	(18")	(14")
	(12") SEEDLING	(23")	(16")
	(18") SEEDLING	(30")	(16")
	(2') SEEDLING	(36")	(18")
VINES	1 YR. MED. B.R.	(15")	(11")
	1 YR. NO. 1 B.R.	(17")	(14")
	2 YR. MED. B.R.	(33")	(12")
	2 YR. NO. 1 B.R.	(42")	(16")



INSTALLATION OF VINES

MULCH PLACEMENT

TYPE OF PLANT	A FROM CENTER OF PLANT TO OUTSIDE EDGE OF MULCH	B DEPTH OF MULCH
CONIFEROUS TREES	3' MIN.	4"-6"
DECIDUOUS TREES	3' MIN.	4"-6"
CONIFEROUS SHRUBS	3' MIN.	4"-6"
DECIDUOUS SHRUBS	3' MIN.	4"-6"
VINES	2' MIN.	4"-6"
PERENNIALS	2" MIN.	2"-4"
MACHINE-TRANSPLANTED TREES	12" BEYOND EDGE OF HOLE	4"-6"

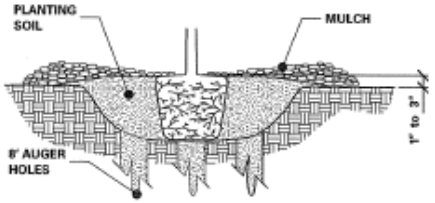


1. PULL MULCH BACK NO LESS THAN 3" AND NO MORE THAN 6" FROM TREE TRUNKS.
2. SUBSIDING OR DETERIORATING MULCH IS ACCEPTABLE THROUGHOUT THE CONTRACT IF THE MULCH DEPTH IS MAINTAINED AT A MINIMUM 3" DEPTH.
3. IF THE MULCH DEPTH IS LESS THAN 3" ADDITIONAL MULCH IS REQUIRED TO PROVIDE THE MINIMUM DEPTH SPECIFIED IN CHART BELOW.
4. MULCH CONTAMINATED WITH SOIL MUST BE REMOVED AND REPLACED.

MULCH PLACEMENT

(MnDOT 2571.3H2)

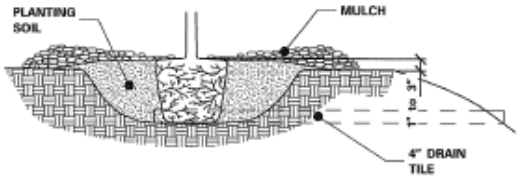
DATE MODIFIED: FEBRUARY /94 /2008		PROJECT MANAGER SCOTT BRADLEY	DRAWN BY OFFICE OF TECHNICAL SUPPORT		STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION OFFICE OF ENVIRONMENTAL SERVICES ROADSIDE VEG MGMT UNIT TRANSPORTATION BUILDING ST. PAUL, MINNESOTA 55155-1899	STANDARD PLANTING DETAILS (B)	
						STATE PROJECT 1008-000 (T.H.41)	SHEET NO.11 OF 12 SHEETS



INSTALL GRANULAR FILTER

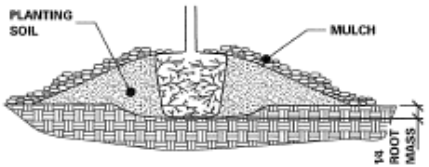
1. EXCAVATE HOLE OR BED TO ALLOW PLACING THE TOP OF ROOT MASS 1"-3" HIGHER THAN FINISHED GRADE.
2. AUGER 8" DIAMETER HOLES ENTIRELY THROUGH IMPERVIOUS OR POORLY DRAINED HARD PAN SOIL LAYER TO ADEQUATELY DRAIN SUBSOIL.
3. TEST FOR POSITIVE DRAINAGE. RE-AUGER AN ADDITIONAL 8" IF NECESSARY FOR POSITIVE DRAINAGE.
4. THOUROUGHLY BACKFILL AUGER HOLES WITH A UNIFORM INCORPORATED MIXTURE OF 50% SAND AND 50% INPLACE SOIL.
5. COMPLETE PLANTING ACCORDING TO INSTALLATION OF PLANTS (Mn/DOT2571.3F).

NOTE:
1. THE NEED FOR USING PLANTING DETAILS FOR POORLY DRAINED SOILS AND WHICH TYPE TO USE ARE DETERMINED BY THE CONTRACTOR, SUBJECT TO ENGINEER APPROVAL.



INSTALL TILE DRAINAGE

1. EXCAVATE HOLE OR BED TO ALLOW PLACING THE TOP OF THE ROOT MASS 1"-3" HIGHER THAN FINISHED GRADE.
2. INSTALL 4" MINIMUM DIAMETER DRAIN TILE DAYLIGHTING AT A LOWER GRADE.
3. COMPLETE PLANTING ACCORDING TO INSTALLATION OF PLANTS (Mn/DOT2571.3F).

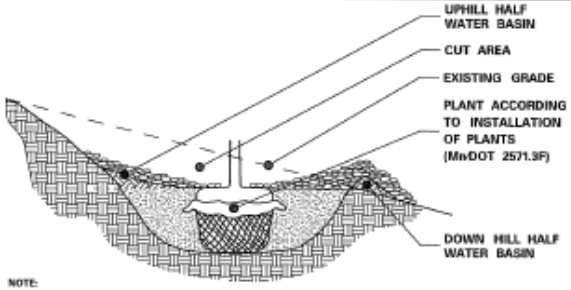


INSTALL MINI-BERM

1. EXCAVATE HOLE OR BED 1/4 THE DEPTH OF THE ROOT MASS.
2. SET ROOT MASS IN HOLE.
3. CONSTRUCT BERM WITH SANDY LOAM TOPSOIL. EXTEND THE BERM BASE TO A WIDTH OF 3 TIMES THE BERM HEIGHT.
4. COMPLETE PLANTING ACCORDING TO INSTALLATION OF PLANTS (Mn/DOT2571.3F).

PLANTING DETAIL FOR POORLY DRAINED SOILS

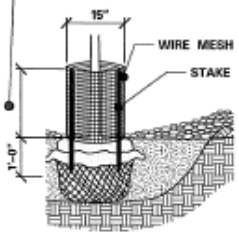
(Mn/DOT 2571.3D2 (STEP 8))



NOTE:
1. ON 1:2 SLOPES OR GREATER, DO NOT CONSTRUCT THE UPHILL HALF OF THE WATERING BASIN.

PLANTING ON STEEP SLOPES

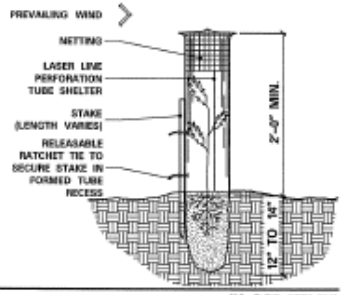
1. FORM A DOUBLE-LAYERED CYLINDER USING 0.25" GRID GALVANIZED WELDED WIRE MESH (HARDWARE CLOTH). OVERLAP THE CUT END 2".
2. DRIVE TWO 1" x 1" OPPOSING HEARTWOOD WHITE OAK STAKES INTO THE GROUND 7" FROM THE CENTER OF THE TREE STEM.
3. SECURE THE MESH CYLINDER TO THE OUTSIDE OF THE STAKES USING EITHER, SCREWS AND WASHERS OR RATCHET-LOCKING TIES ALONG THE OVERLAP. SPACE APPROXIMATELY 4" ON CENTER ALONG THE OVERLAP.
   a. SCREWS SHALL BE ROUND HEAD GALVANIZED 1/8" DIA. x 3/4" LONG WITH WASHERS.
   OR
   b. RATCHET-LOCK TIES SHALL BE NYLON AND AT LEAST 6" LONG.
4. EMBED THE LOWER EDGE OF THE MESH CYLINDER 1" BELOW THE SOIL SURFACE WITHOUT DISTURBING THE TREE ROOTS.
5. CUT EDGES WILL NOT BE PERMITTED AT THE TOP OF THE CYLINDER. STAKE WILL BE FLUSH WITH THE TOP OF THE CYLINDER.
6. MULCH WITHIN THE CYLINDER SHALL NOT EXCEED 3" DEPTH AND SHALL BE PULLED BACK FROM THE TRUNK AS SPECIFIED IN MULCH PLACEMENT DETAIL.
7. THE BOTTOM WHORL OF PINE BRANCHES MAY HAVE TO BE REMOVED TO PERMIT INSTALLATION OF 12" MIN. HEIGHT RODENT GUARDS.
8. INSTALL ON ALL DECIDUOUS, PINE AND LARCH TREES, DO NOT INSTALL ON SPRUCE TREES.



RODENT PROTECTION

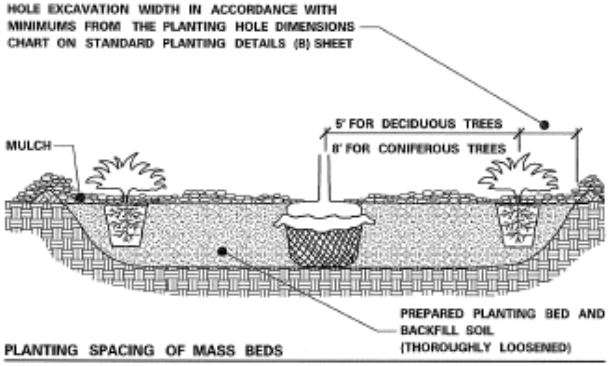
(Mn/DOT 2571.3I2)

1. USE SEAMLESS, EXTRUDED, TWIN-WALL, RIGID AND SEMI TRANSLUCENT POLYPROPYLENE TUBES WITH A LASER LINE PERFORATION AND AN OUTWARD-FLARED TOP RIM.
2. SECURE THE SHELTER WITH NYLON RACHET-LOCKING TIES ATTACHED TO A 1" x 1" WHITE OAK STAKE TO PREVENT DISLODGING OR TWISTING.
3. EMBED THE BOTTOM OF THE TUBE A MINIMUM OF 1" BELOW THE SOIL SURFACE WITHOUT DISTURBING THE TREE ROOTS.
4. INSTALL A PLASTIC PHOTODEGRADABLE NETTING COVER AND SLEEVE OVER THE TOP OF THE TUBE. PULL NETTING DOWN AS SHOWN.

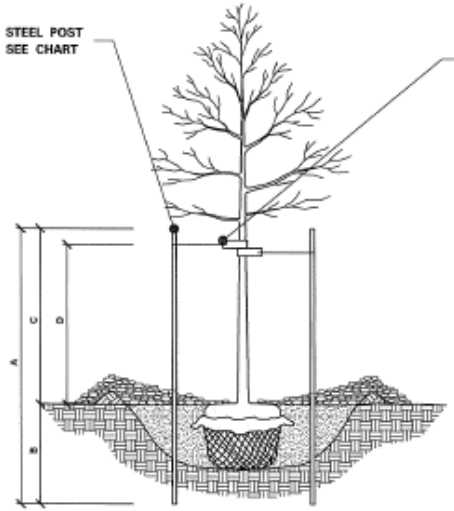


SEEDLING TREE SHELTER

(Mn/DOT 2571.3I4)



PLANTING SPACING OF MASS BEDS



1. STEEL POSTS TO BE NOTCHED OR DRILLED TO RETAIN GUY WIRES. PLACE OUTSIDE OF ROOT BALL. DRIVE PLUMB REGARDLESS OF GROUND SLOPE.
2. REQUESTS TO SUBSTITUTE RUBBER HOSE AND WIRE GUYING SYSTEMS WILL NOT BE APPROVED.
3. TREE STAKING IS NOT REQUIRED UNLESS SPECIFIED OR NECESSARY TO MAINTAIN TREES IN A PLUMB CONDITION WHERE VANDALISM, SOIL, OR WIND CONDITIONS ARE A PROBLEM, OR AS REQUESTED BY THE ENGINEER.
4. REMOVE WITHIN ONE YEAR.

STEEL POST SIZING

CALIPER	STEEL POST TYPE	A	B	C	D
LESS THEN 4 INCHES	ROLLED STEEL FENCE POST (Mn/DOT 3463) OR APPROVED EQUAL.	7'-0"	3'-0" MIN.	4'-0"	3'-6"
GREATER THEN 4 INCHES	10', 2.2 LB. FLANGED CHANNEL STEEL SIGN POST (Mn/DOT 3461) OR APPOVED EQUAL.	10'-0"	4'-0" MIN.	6'-0"	5'-6"

STAKING AND GUYING

(Mn/DOT 2571.3I1)

DATE MODIFIED: FEBRUARY /04 /2000		PROJECT MANAGER SCOTT BRADLEY	DRAWN BY OFFICE OF TECHNICAL SUPPORT		STATE OF MINNESOTA DEPARTMENT OF TRANSPORTATION OFFICE OF ENVIRONMENTAL SERVICES ROADSIDE VEG MGMT UNIT TRANSPORTATION BUILDING ST. PAUL, MINNESOTA 55155-1899	STANDARD PLANTING DETAILS (C)	
						STATE PROJECT 1008-000 (T.H.41)	SHEET NO.12 OF 12 SHEETS

Silver Maple	*Acer saccharinum*	Ht 60'-80'	Width 40'-50'

Boxelder	*Acer negundo*	Ht 35'-50'	Width 35'-50'

Eastern Cottonwood	*Populus deltoides*	Ht 75'-100'	Width 75'-100'

River Birch	*Betula nigra*	Ht 30'-50'	Width 25'-40'

Black Willow	*Salix nigra*	Ht 35'-55'	Width 20'-40'

Disease Resistance Elms	Ht 35'-75'	Width 30'-50'		
Ulmus				

Swamp White Oak	*Quercus bicolor*	Ht 35'-70'	Width 25'-50'

Hackberry	*Celtis occidentalis*	Ht 50'-75'	Width 30'-50'

Red Oiser Dogwood	*Cornus sericea*	Ht 6'-12'	Width 6'-12'

Prairie Willow	*Salix humilis*	Ht 6'-12'	Width 6'-12'

Shining Willow	*Salix lucida*	Ht 12'-20'	Width 12'-20'

Common Ninebark	*Physocarpus opulifolius*	Ht 8'-10'	Width 8'-10'

TH 41 Tier I EIS: River Crossing Implementation Collaborative (RCIC), *Communications Brochure*, February 2010

On the following pages is the information brochure the RCIC created to communicate about this project to stakeholders and the general public. It was provided as a PDF to RCIC members so they could print/photocopy and distribute it locally as needed, and also posted on the MnDOT project website for anyone to download.

Note that the copy reproduced for this report is not correctly formatted for printing; the actual PDF can be printed on 8.5x11 white copy paper on either a color or black ink printer, with the pages folded in half to produce an attractive and accessible 8.5x5.5-inch brochure.

The RCIC will update this and other communications materials over time as the project evolves.

Communications Brochure

Trunk Highway 41 over Minnesota River

A Future US 169/US 212 Regional Freeway Connection

Future TH 41 Minnesota River Crossing:

Identifying a Corridor.
Committing to a Sustainable Decision.

February 2010

The Minnesota Department of Transportation (Mn/DOT) is responsible for the development and maintenance of a safe and efficient state highway system that meets the transportation needs of the public. It is Mn/DOT's job to alleviate traffic congestion on state roads and ensure adequate access and mobility in support of a strong regional economy.

Why is Mn/DOT proposing this bridge project?

Provide Regional Connection

Trunk highway (TH) 169 and new TH 212 are U.S. highways that serve regional traffic in the southwest portion of the Twin Cities Metropolitan Area, as well as connecting with Greater Minnesota.

There is a need for an effective north-south regional highway connection between these two important regional highways.

Reduce Traffic Congestion

The existing TH 41 river crossing is one of the most heavily traveled two-lane roads in Minnesota (18,000 vehicles per day). The result: traffic congestion, noise, and vibration that pose quality-of-life concerns for downtown Chaska, and delays for regional commuters and goods.

Traffic congestion is projected to increase as the area develops.

Protect Floodplain

Flooding is a frequent problem for river crossings in this area. For example, TH 41 was closed 46 days, and Hwy 101 was closed 74 days from 1993-2001.

Commuters, residents, businesses, and planners have recognized for decades, **the need for a high volume, reliable Minnesota River Crossing** that connects TH 169 and new TH212.

Where would this new river crossing be built?

After seven years of collaboration, study, and stakeholder involvement, Mn/DOT and FHWA announced in December 2008 **a corridor shown as C-2 in the Draft EIS as the preferred alternative.**

(see map on next page for reference)

When would this new river crossing be built?

The project is still many years away. Construction funding is not currently included in Mn/DOT's 20-year fiscally-constrained transportation plans. Right-of-way preservation funding is included, however, and can be used in the meantime to aquire property in the corridor from willing sellers.

If funding is not in Mn/DOT's 20-year plan, why select a corridor now?

While construction may be many years away, it is important to decide where the future river crossing would be located **to plan for development, regional and local transportation systems, preserve the right-of-way, and minimize future negative impacts.**

EIS

What is an EIS?

An **Environmental Impact Statement** *or EIS* is prepared to meet federal and state requirements to study project impacts on the social, economic, and environmental resources in the affected area.

What does it mean to do a "Tier I" EIS?

Federal environmental guidelines allow for a tiered, two-step, EIS process.

The Tier I EIS identifies the corridor to preserve the right-of-way, and to minimize future impacts.

The Tier II EIS will review the project impacts about 5 years before construction to identify the exact bridge and roadway alignment and prepare design plans for construction. The Tier II EIS will also identify mitigation opportunities to offset those project impacts that can not be avoided.

Where can I find the EIS documents?

On the Mn/DOT website at: *www.projects.dot.state.mn.us/srf/041/index.html*

Identifying the C-2 Corridor

2002-2004 | Scoping Study

The Scoping Study identified the study area and resources that the project might affect, developed 21 potential corridor alternatives, and then identified 6 feasible corridor alternatives to study in detail.

Specifically, the Scoping Study mapped the resources in the area that could be affected by the project. These included established neighborhoods and planned community growth areas, businesses, historic sites, parks, wildlife habitat, wetlands including a rare calcareous fen, and the Minnesota River.

The 21 potential alternatives were identified through an iterative process with stakeholders, based on different possibilities for connecting the two east-west highways. At this step, the potential alternatives were conceptual, just "lines on a map."

2004-2007 | EIS Engineering Study

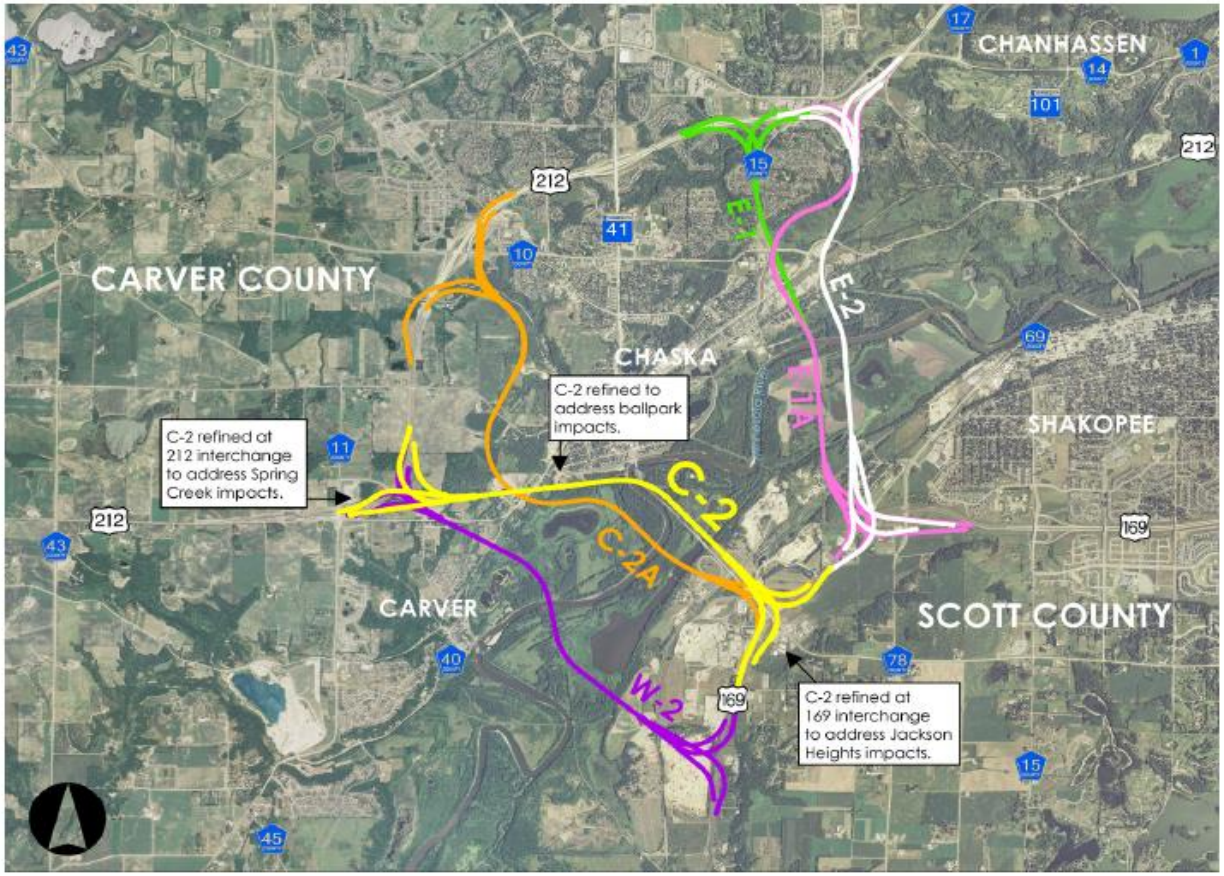
The draft EIS engineering study researched six alignments developed from the broad corridors identified in the scoping study.

It compared the social, economic, and environmental resources affected by each alternative.

Please see page 6 for more information about corridor alternatives.

2007-Present | Preferred Alternative

Preferred alternative C-2 was informed by the technical information in the Draft EIS and through stakeholder consultation and public comment.



The 21 scoping alternatives included: No-build | Transportation System Management: more transit use and minor road improvements | 4 bridge alternatives in the western area | 9 bridge alternatives in the central area | 6 bridge alternatives in the eastern area

Why was C-2 identified as the preferred alternative?

Comments on the Draft EIS and follow-up consultation found no first choice alternatives among stakeholders. Compared to the other alternatives, C-2 offered the best potential to avoid or minimize impacts to the most state and federally protected resources, while minimizing impacts on people, wildlife, and habitat and meeting transportation needs.

Problems with other alternatives

Sterile sedge (rare plant in Seminary Fen)

Bonnevista Terrace

W-2 posed the greatest harm to state and federally protected lands, specifically the Minnesota Valley National Wildlife Refuge and Minnesota State Recreation land.

C-2A had the highest impacts on sensitive vegetation. C-2A also had more impacts to state and federally protected lands, and would require acquisition of more homes than C-2.

E-1 had large impacts to low income/minority neighborhoods, and would require acquisition of the largest number of homes.

E-1A and E-2 also had large environmental justice* impacts and would threaten the state and federally protected Seminary Fen, which is home to state-listed rare plants and a globally rare ecosystem.

*Environmental Justice: This refers to a project affecting a disproportionate number of low-income and/or minority populations either by direct impacts (acquiring property) or indirect impacts (additional noise, visual changes, etc.). The project team is committed to proactively working with these stakeholders to understand and responsibly address potential impacts to their homes and communities.

What will be done about the negative impacts of C-2?

By refining the design of C-2, project planners intend to avoid or minimize negative permanent and temporary (construction) impacts on all stakeholders, and support mitigation as part of a comprehensive solution.

Moving Forward

Won't things change by the time construction is ready?

The natural environment that will be affected by the project will be largely the same. Additional development is planned within the travelshed of the selected corridor. The Tier I EIS will assist Mn/DOT and public agencies to more effectively plan for the facility. Decisions on the preferred alternative are made with what is known now.

Common goals have been developed to inform decisions

Framework: In addition to supporting the TH 41 C2 route, actively support improvements that meet current and future transportation needs across the Minnesota River between I-35 and CR 9.

Avoid or minimize negative permanent and temporary/ construction impacts on all stakeholders, and support mitigation as part of a comprehensive solution.

Goals

Noise and visual impacts on neighborhoods: Address noise and visual impacts on adjacent neighborhoods

Noise and visual impacts on historic properties: Avoid negative visual, atmospheric, auditory, and use effects on historic properties/districts in all communities

Impacts on historic ballpark: Ensure ability of Chaska ballpark to operate; preserve the overall ballpark experience and its character as a small-town ballpark eligible for listing on the National Register of Historic Places

Safety issues in downtown Chaska: Resolve safety issues along existing Highway 41 in downtown Chaska

Environmental justice: Proactively work with stakeholders to understand and responsibly address environmental justice impacts

Local access: Provide appropriate access to local and county roadways that will facilitate land use developments guided by counties and cities

Ecosystem impacts: Minimize impacts on aquatic and terrestrial ecosystems including animals and plants

Public access: Ensure reasonable and usable public access to the outdoor recreational opportunities in the river valley (Refuge, state trail, and other public lands)

User impacts: Minimize impacts, including noise and visual, to people using the Refuge, state trail, and other public lands

Land management capabilities: Maintain natural resource management capability on public lands

How do I stay informed?

Minnesota Department of Transportation
Diane Langenbach, P.E.
ph: 651-234-7721
email: diane.langenbach@state.mn.us

More information online at:

http://www.projects.dot.state.mn.us/srf/041/index.html

Who else is involved?

The TH 41 Tier 1 EIS was completed with involvement from stakeholders on the local, state, and federal levels. Project advisory groups helped Mn/DOT and FHWA lead the effort and they included representatives from cities, counties, natural resource agencies, historic preservation groups and community/special interest groups. The general public also participated in several open houses where they received project information and provided input. The overall process worked through many controversial issues to identify a preferred corridor. With the support of the active participants below, we are confident that we can continue working together to make the C-2 preferred corridor a sustainable decision.

- Carver County
- Carver Heritage Preservation Commission
- Chaska Heritage Preservation Commission
- City of Carver
- City of Chanhassen
- City of Chaska
- City of Shakopee
- MN Department of Natural Resources
- State Historic Preservation Office
- Jackson Township
- Louisville Township
- Lower Minnesota Watershed District
- Metropolitan Council
- Scott County
- U.S. Environmental Protection Agency
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- Federal Highway Administration

TH 41 Tier I EIS: River Crossing Implementation Collaborative (RCIC), *Interchange Task Force,* 22 February 2010

Location: MnDOT Water's Edge

1. **Welcome and introductions:**

Cindy Nash	City of Carver, planner	Don Demers	SRF project engineer
Dan Boyum	City of Carver, engineer	Lynn Clarkowski	MnDOT South Area Manager
Bill Monk	Chaska, engineer	Diane Langenbach	MnDOT Project Mgr
Lyndon Robjent	Carver County, engineer	Nancy Frick	SRF Project Mgr. (MnDOT's EIS Consultant)
Todd Polum	SRF	Anne Carroll	Carroll, Franck & Associates; public involvement, facilitator
Howard Preston	City of Carver, Traffic engineer		

2. **Objective: The following objective was developed in conjunction with all participants.**
   - Ensure that we have agreement on what does and does not have to be resolved, when, and by whom, in order to responsibly complete the FEIS *and* allow Carver and Chaska to responsibly plan and communicate about the future interchange at US 212/TH 41/CSAH 11, and the surrounding area. This will inform future work that all the groups in the area will do.

3. **Outstanding issues/questions/complexities with this future system/local interchange:**

   a. To officially map a corridor for future preservation, Carver needs more detail about this interchange; need to preserve enough right-of-way for interchange while keeping preliminary design and engineering appropriate for a Tier I EIS.

   b. Current planning shows significant growth in traffic compared to the projections from a number of years ago. Does the new information substantially change the numbers and resulting conclusions? Is there sufficient capacity and operations efficiency to meet this demand, especially southbound left turns?

   c. Footprint needed at this interchange remains unresolved because it is not yet possible to determine what roadway requirements will be needed by commuters in 20+ years, what commuters will tolerate, what the private sector will do, etc. (Note that the design year being used for planning purposes is 2040.)

   Discussion:
   - Earlier traffic forecasts were based on assumptions about growth projections that have changed both residential and commercial development
   - Land use inputs to the regional transportation model have changed since then
   - Note that model is constrained because it all must balance out, so that may have limited projections for this specific area
   - For original projections [for what purpose – AUAR's?], to cross-check regional model Howard used land use data to make projections, and then added in population and employment until it aligned with regional model
   - City previously went through an AUAR for SW quadrant, and is now incorporated into the regional model; city also got Met Council approval for NW quadrant AUAR for 950,000 sq feet of commercial development. Those data are *not* in the current model
   - Anticipated queue (may be 700 feet) for the southbound left turn is an issue to explore further

- May need to reach agreement on the base set of numbers this design should accommodate
- Changing the existing MnDOT maintenance facility in that quadrant may not solve the entire problem because it's not all MnDOT property *and* there may be some vertical issues associated with a ramp
- It is assumed that the bridge at CR 11 will be replaced, but also must ensure there's sufficient merge space [SRF will check to see if this bridge was in the cost estimate]
- Space designated as ROW should be designed to accommodate expected future needs, but it's not reasonable to simply identify the largest possible amount of land
- Current numbers are not only outdated for five years– they don't reflect current thinking and planning within the communities
- Numbers can't be *too* specific, but could look at things like daily traffic volume
- Could take various traffic volumes and look at the implications of such and how much space is required to meet those needs; could do this based on various thresholds [more on this to be discussed at follow-up meetings]
- A key outstanding question is whether you can put both system and land access interchanges here at all given the projected volumes; look at the interplay of traffic operations and development, and the connection with both local development and regional traffic; have to factor in both regional traffic *and* local access when setting the ROW

d. Chaska's CSAH 140 interchange proposal raises questions about close spacing to future TH 41/US 212/CSAH 11. If these two are not separated with enough distance, then US 212 operations are affected with weaving, etc., causing safety and capacity issues.

e. Spring Creek update: road connection to CSAH 61 (old 212) changes and further avoidance to minimize impacts

Discussion:

- Chaska just finishing EAW for SW corner of US 212 and County Road 140; numbers show that in 2030 it will exceed design capacity for Engler interchange
- Bill Monk reported that the only real solution is to get a portion of the projected traffic to stop using it, so looking at the possibility of doing an additional interchange
- At the same time, the numbers indicate that a partial interchange (west side) might work
- Could also use 140 and 11, maybe even down to 212 interchange, to handle traffic on the two southern ramps; Chaska hasn't done enough planning to figure out what would work
- That may be the only option to save Engler interchange without having to rebuild it in 30 yrs
- Could relieve a lot of the traffic elsewhere, but it also puts probably too many interchanges in too small a space

4. **Next steps:** Interchange TF members (plus MnDOT modeling staff) meet probably twice by end of April to agree on sufficiently updated and accurate information for Carver to preserve the appropriate amount of right-of-way through official mapping; those results would be brought to the RCIC and included in the FEIS. Work will include the following:
   - Place the analysis within the broader context of local/ regional plans; agree on design year
   - Clarify and document the basis for the original numbers, including underlying assumptions
   - Using a sensitivity analysis, reconcile original numbers with new planning information
   - Document all updated numbers and underlying assumptions; that allows everything to be trusted and adjusted appropriately over time
   - Frame interchange conclusions within the broader understandings, priorities, and commitments for this area

TH 41 Tier I EIS: River Crossing Implementation Collaborative (RCIC), 4 March 2010

Location: USFWS Visitor Center)

1. **Welcome and introductions.**

Participants included the following:

Matt Podhradsky	Chaska City Administrator	Michael Leek	Shakopee Community Development Director
Kevin Ringwald	Chaska City Planner	Michael Sobota	Scott County Community Development Director
Cindy Nash	City of Carver	Mark Cleveland	DNR – Parks and Trails
Bill Weckman	Carver County	Charlie Blair	USFWS – MN Valley National Wildlife Refuge Manager
Lynn Clarkowski	MnDOT South Area Manager	Diane Langenbach	MnDOT Project Mgr
Gerry Shimek	USFWS – MN Valley National Wildlife Refuge	Bob Generous	Chanhassen Planning
Craig Jenson	Scott County Transportation Planning	Nancy Frick	SRF Project Manager (MnDOT's EIS Consultant)
Phil Forst	FHWA	Anne Carroll	Carroll, Franck & Associates; public involvement, facilitator

2. **Review and modify agenda as necessary:** No substantive changes; agenda as shown below

3. **Task Force Updates (including Next Steps) as it relates to RCIC work**

   a. Landscaping Pre-mitigation (Kevin Ringwald/Matt Podhradsky); see separate notes from this Task Force meeting
      - Landscaping TF met a couple of weeks ago, including MnDOT landscaping and forestry staff; looked at ways to visually pre-mitigate Chaska's sight-line concerns
      - Explored variety of options around plant types, strategies, timing, etc.
      - Exchanged various files between Chaska and MnDOT to have complete/updated data
      - Still talking with construction engineers about what areas will be required for the construction process, so factor that into the pre-mitigation decisions
      - Once that is resolved, the TF will bring back its findings to the RCIC and information can then go forward to the various elected bodies
      - The TF will meet again in March and hopes to bring back final information to the RCIC by the next meeting

   b. Future TH 41/US 212/CSAH 11 Interchange (Cindy Nash); see separate notes from this Task Force meeting
      - Met last week and laid out all the issues around this interchange and how it is so connected to other transportation issues
      - Crux of Carver's concern is that when the earlier traffic projections were done they relied on land use plans that have since significantly changed, quite likely affecting the projections

- Team will do a "sensitivity analysis" that looks at the scale of impact on the projections, and then determine the implications
- Will also check any cross-impacts with Chaska's work on 140
- *Discussion:*
- Need to take care about the level of detail associated with a Tier I effort
- At this point we do need to do at least the sensitivity analysis to establish the footprint
- Note that the 140 project is in the 10-year timeframe
- Focus on seeing this as a system rather than one project at a time

4. Communications

a. Website:
- Transitioning it from SRF to MnDOT
- Getting all the information from the RCIC's work onto the website
- Will be an important resource for everyone as time goes on
- Will include the communications brochure (as it evolves) and all ongoing materials

b. Work sessions with policy makers
- Timing: Expect to do these in May
- Update policy makers on key issues, including "big uglies"
- Led by local staff, supported by MnDOT (RCIC members available upon request)
- Would be helpful if these were coordinated so they could all be on one or two evenings in May so MnDOT staff can be there as requested
- Chaska, Shakopee, Carver, Scott County, and Carver County will likely do more comprehensive briefings in work sessions with policy makers
- Chanhassen has been keeping Council updated and doesn't anticipate anything more formal
- USFWS will brief permitting group, but no formal permitting action would be taken anytime soon; also will work with MnDOT to assure that Section 404 process is continuing appropriately; when this process is done they will amend their Comprehensive Conservation Plan, which codifies it as both a planning and legal document (and serves as a public compliance document), and stays in place for 15 years
- DNR will work through their typical environmental review process

c. Open House
- Timing: June Wed evening; lasting long enough to accommodate lots of people's schedules
- Should come after policy maker briefings
- Objectives (initial list):
  - update stakeholders on current progress; starting with DEIS
  - announce RCIC
  - present major conclusions on "big uglies" including pre-mitigation landscaping, interchange
  - present goals/framework, key issues, remaining process
  - provide information on FEIS and public's role as that progresses
- Stations for major issues, staffed by RCIC members, Jackson Heights community members, and others as appropriate
- Need somehow to provide a perspective on the regional framework, system issues, and issues that are part of the bigger picture, longer term; including some perspectives from other major players and the broader commitment to working toward solutions (a great large-scale graphic would show the plethora of crossings to the east compared to this area); may be able to set

the stage with statements from the various major agencies – need some piece of it here, which sets the table for both the FEIS and a regional symposium
- Include larger implementation plan

d. Update on Scott County-Shakopee Joint Workshop Feb 23 2010 (Mike Sobota); see copy of PPT
- Decided to do a joint Scott County-Shakopee workshop for policy makers because this is a major issue
- Joint presentation by Mike Sobota, Michael Leek, and Brad Davis (Scott Co planning manager)
- Used goals/strategies framework, brochure, implementation plan, RCIC charge
- Key issue was getting through the decisions around the eastern alignments so the conversation could move on to C2
- Explained the framework and goals as well as next steps
- Included 69/169 interchange project also because it is broadly important to these policy makers
- Participants seemed generally receptive to this direction, saw how it fit within the larger regional picture, and how other projects are connected
- Presentation also clarified the intermediate decisions that need to be made as part of the bigger regional framework; critical to continue to place all this work within a regional, long-term framework
- Lynn Clarkowski noted that MnDOT is in the process of creating a separate office for long-term, multi-modal planning and investment; that will make it easier for the cities and counties in this SW region to work together on all these major regional, multimodal issues and challenges

e. SHPO connections
- With all the staff changes, important to reengage SHPO staff
- *Diane Langenbach is in the process of scheduling a briefing session with the new SHPO representative for this project.*

f. RCIC Memorandum of Understanding
- Cities and counties will do this as an MOU through their councils and commissions
- DNR will get this approved by the regional administrator
- USFWS will take care of this through Charlie Blair and the regional administrator
- FHWA will brief division administrator; their commitment may be primarily in the form of a sign-off on the environmental documents
- MnDOT will likely have this signed off on by district engineer
- Met Council: *Diane Langenbach will discuss this with them as part of their next joint MnDOT/MC meeting*
- SHPO: *Diane Langenbach will include this in her briefing with the new lead staff as we discuss the draft Programmatic Agreement.*

5. Clarification of FEIS outstanding/unresolved Issues (Nancy Frick)

a. Written input for document: SRF provided draft content from DEIS (and will send electronic version) to all relevant participants in order for them to make updates/corrections; due back 4/1/10

b. Revised comment letters: RCIC members indicated that they all anticipated preparing revised comment letters; USFWS indicated theirs was done in conjunction with one of their offices and in coordination with DNR, so USFWS will coordinate with all of them

c. The FEIS will follow the same format as the DEIS, summarizing those items and noting current information

d. The internal agency review process of the draft FEIS may be in late summer/early fall

6. **RCIC Implementation Plan: Review and discuss further**
   a. Updates include tying the 1-day transportation symposium to updates to Met Council's TPP, so it would occur prior to those in order to provide focus
   b. *Regarding NEPA 404, FHWA will check on the role of consulting partners such as USFWS to provide comments on biological issues*
   c. Materials (and practice) from the May briefings with policy makers feed the June Open House, then any local summer activities, and then the fall regional transportation symposium; those begin to build momentum for the RCIC around this project to keep things rolling over time
   d. RALF fund and various ways it could be used were clarified in the Scott County/Shakopee briefing, but not addressed formally at a policy level; *Diane will follow up with Met Council about whether a signed ROD allows RALF funds to be accessed, or if official maps must also be completed*

7. **Next steps/next meeting/adjourn:** Next RCIC meeting will be scheduled around the landscaping TF report, and the one after that around the interchange TF. Those provide the basis for the May briefings and then the June Open House.

TH 41 Tier I EIS: River Crossing Implementation Collaborative, *Chaska Landscaping Pre-mitigation Task Force,* 24 March 2010

Introduction and Participants

Matt Podhradsky	Chaska, Administrator	Kevin Ringwald	Chaska, Community Development
Gerry Shimek	MN Valley National Wildlife Refuge, Biological Programs Supervisor	Tina Markeson	MnDOT Roadside Vegetation management
David Larson	MnDOT, Landscape Architecture Chief	Diane Langenbach	MnDOT project manager
Joe Yanta	US Army Corps of Engineers, Regulatory branch (permits)	Anne Carroll	Carroll, Franck & Associates, public participation consultant

Discussion

This was a very free-flowing discussion, so with the permission of the participants, the content document below has been reorganized by topic.

Figure 1: Landscaping TF meeting, 24 Mar 2010

Planting Plan

- **Option for seedlings from DNR:**
  - Tina Markeson (MnDOT Roadside Vegetation management) heard from DNR nursery about a massive overrun in seedlings, offering them essentially at cost
  - They have cottonwood and silver maple seedlings (12-18" high); these would be the most logical choices
  - These would be placed 4' on center to account for die-off and natural competition – they will thin themselves out to as thick a mature stand as the species would tolerate **(**whips discussed earlier would be planted 8' on center (8-10' high but no branches when planted)
  - A decision on these seedlings would have to be made in the next week because that's when the nursery is pulling the seedlings; if they aren't purchased/used, they will be composted
  - Diane checked on funding availability and there would be some funds available
  - Costs range from $127 for a small tree with full contractor and guarantee, to $0.50/seedling
  - There may be some safe herbicides available to keep the grass from competing with the seedlings
  - To plant either seedlings or whips, it's just a slice into the soil so erosion would be minimal
  - *Summary/conclusion: The Landscaping TF concluded that it would be premature to purchase the seedlings this year in light of the current city planning efforts in that area; waiting until next year will allow a more comprehensive approach to planning, planting, and maintenance*

TH 41 PLANTING ESTIMATES

David Larson, 24 Mar 2010

Planting area	Square footage of area	Number if planted 4' on center	Number if planted 8' on center
A-1	41,767	2,610	653
A	29,077	1,817	454
B	83,594	5,225	1,306
C	9,730	608	152
Total	164,168	10,260	2,565

- **Flood damage:**
  - Need to ask DNR based on their much more extensive planting experience in flood zones how seedlings and other plantings would cope with this kind of flooding in the next few years; especially see what's happening with their new plantings just south of the river along 41
  - Plantings would be close enough to the water table that drought isn't a concern; but need to find out more about impact of floods
  - Flood waters provide great fertilizer, and with a week of flooding like is expected this year, that's some of the greenest grass ever the following summer
  - Might want to analyze the frequency of floods at certain levels to estimate potential impacts

Figure 2: Flooding, boat launch/levee 24 Mar 2010

- **Restricted plantings on the levee:** The Corps reminded everyone that any new tree and shrub plantings should be 15 feet away from the toe of the Chaska flood control levee to avoid problems that could affect the certification of the existing levee, or even worse, affect the integrity of the levee itself
- **Long-term success:**
  - Reach an agreement for MnDOT to check back in X period of time to see how everything is doing and what else needs to be done at that time
  - Timing would likely be conditional, based on what actually happens over time
  - Part of that revisiting would include deer/rodent damage and whether any further action needed to be taken; note that rodent guards would not be used because they become loose during floods
- **Construction impacts on new plantings:** Diane's discussions with Hastings engineers indicated the need for at least two 24' access points in this area; need 100' for the actual structure, and 25' of permanent ROW and 25' of temporary ROW – BUT depending on construction method (such as form-traveler method) that temporary ROW could be eliminated; also possible in some cases to use river barges as a staging area
  - Need to have some formal commitments that will protect these plantings during construction
  - May need to increase space beyond 24'
  - May need to use different kinds of barriers during construction to protect the trees
  - Will require special construction management approach and techniques
  - In Zone A, USFWS already needs access to the Refuge through here, so that access can be the *same* as would be needed for construction – although USFWS needs only 15' width

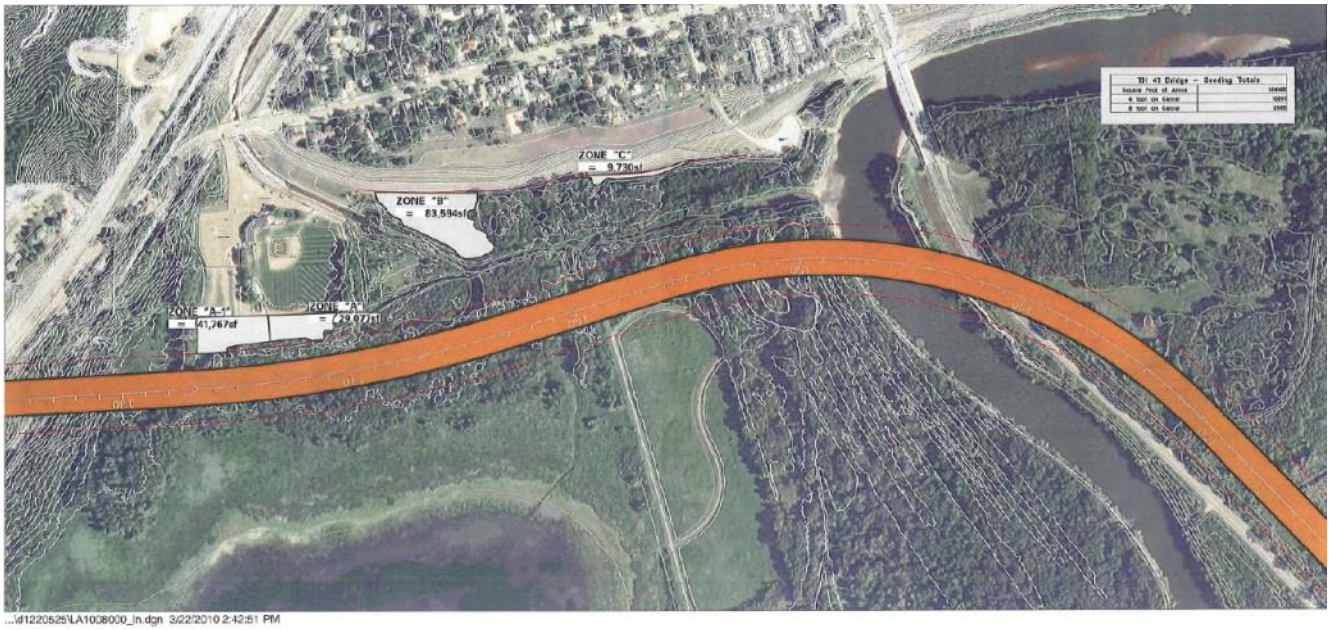
Zone A/Gateway to the Refuge

(See attached map)

- Independently of the work of the RCIC and MnDOT, Chaska and USFWS need to do some serious planning around access to the refuge under a major highway and within the historic context
- This provides an opportunity for the community to provide a "gateway" to the Refuge and could also offer a viewpoint to a beautiful (vs. ugly) bridge – and resolve access issues at the same time

Figure 3: Flooding, ballpark 24 Mar 2010

- Need to look at ways to actively support context-sensitive bridge design when this is finally built
- This is a historic community so some relationship may be in order
- In addition, there are still trade-offs among height, noise, visuals, etc.
- Advantage to doing the planting with appropriate access, while still committing to context-sensitive design
- That discussion will be occurring in the next two months as part of some local planning efforts already under way
- Significant site prep and a major public process because current parking areas would be planted



Planting Sequence and Timing

- Still determining whether it makes sense to plant Zone C because of narrowness of area.
- Plant Zone B first because it is a large empty space close to the levee without close neighbors
- Plant Zone A and A-1 after seeing the results of the Chaska master planning w/USFWS input
- Plant the boat launch area only after talking with residents that overlook that area
- If planning were started next year rather than this year, another option might be larger transplants

rather than the smaller seedlings
- **FEIS contents regarding landscaping:** Include all the landscaping planning done to date and the key bullet points about management, MnDOT's role, etc.

Design, Context-Sensitive Solutions

- In the discussion it continued to be clear that there was no way to truly "hide" this bridge, and that there will be visual and noise-related impacts on historic downtown Chaska, the Refuge, and other key stakeholders
- There was considerable discussion of Context Sensitive Design (CSD), which is a more formal way of defining the kind of collaborative process that FHWA and MnDOT do; CSD is central to the work done with stakeholders several years before the project is ready to go *and on through final design*
- With this tiered EIS, the RCIC has gotten deeply engaged in CSD; MnDOT's chief landscape architect David Larson noted after the meeting that now that we are all in agreement we can't hide the future bridge, we may want to reevaluate the proposed planting areas. As an example, he suggested people think about the experience of walking or biking the trail on the dike. Would it be a more interesting to have a continuous tree line 15' from the toe of the berm, or the variable edge that transitions from woods to grassland and back to woods? He also noted that while a re-vegetation and vegetation management plan needs to be developed for the ballfield area, there is not a clear community benefit to introducing river bottom trees in any open area.
- Gerry Shimek from USFWS also noted later that because Refuge users are cognizant that they are entering a natural refuge, not a park, our joint challenge is to simultaneously mitigate the damage to the habitat and maintain the illusion of entering a natural habitat area; that will be difficult, and will require actions that go beyond what today is considered "business as usual" from a design, construction, restoration, and maintenance perspective. He also noted the challenge of the Task Force and the RCIC is to help FHWA/MnDOT make a legal commitment to offset the damage to public resources that will be honored 20+ years from now and as far into the future as the road facility remains on the landscape.
- It is essential that the Tier II design be done with a sincere commitment to a process that uses context-sensitive design principles, and that the Tier I FEIS be clear that the area in Chaska along the bridge is visually "highly sensitive," and since we can't completely screen any bridge, MnDOT will use a context-sensitive design approach that will include Chaska, USFWS, and other key stakeholders in the design development process
- David Larson also provided information for anyone interested in more info about context-sensitive design (also sometimes referred to as "context-sensitive solutions" or CSS):
  - http://www.fhwa.dot.gov/context/what.cfm
  - http://www.contextsensitivesolutions.org/content/topics/what_is_css/core-principles/
  - http://www.cts.umn.edu/Education/ContextSensitive/

RCIC Agenda Items for Next Meeting

- Update status of landscaping planning
- Discuss critical importance of designing a process that these key stakeholders can support; this would be done as part of a context-sensitive design process per MnDOT policy
- Discuss further the contents of an MOU that addresses the variables being discussed, context-sensitive design, municipal consent, etc.; Diane will prepare an initial draft prior to the meeting
- Discussion in more depth is the *other* work that must be done in the region – on 101, to improve 41 in the meantime (flooding, public safety, etc.), and elsewhere in the region; Diane will talk with Chanhassen and Scott County prior to the meeting

TH 41 Tier I EIS: River Crossing Implementation Collaborative (RCIC), 26 April 2010

Location: USFWS

<NOTE: The *italicized* text below was part of the original agenda content, not notes from this meeting.>

1. **Welcome and Introductions**

Matt Podhradsky	Chaska City Administrator	Michael Leek	Shakopee Planning
Kevin Ringwald	Chaska City Planner	Michael Sobota	Scott County Community Development Director
Cindy Nash	City of Carver	Craig Jenson	Scott County transportation planning
Bill Weckman	Carver County	Mark Cleveland	DNR – Parks and Trails
Lynn Clarkowski	MnDOT South Area Manager	Gerry Shimek	USFWS – MN Valley National Wildlife
Connie Kozlac	Metropolitan Council	Diane Langenbach	MnDOT Project Mgr
Phil Forst	FHWA	Bob Generous	Chanhassen Planning
Mary Ann Heidemann	SHPO	Jennie Ross	MnDOT Environmental Services
		Anne Carroll	Carroll, Franck & Associates; public involvement, facilitator

2. **Agree on/revise agenda (no changes; see below),** including process/participation update from Diane

3. **Updates: Brief updates from RCIC members about non-agenda items**
   a. Head of MN Historical Society retiring after 30 years with the organization, and new person will be setting tone for major projects such as this
   b. Scott County Board approved the RCIC partnership agreement
   c. Scott County is moving ahead with the 35W-to-County Rd 9 issues from a system optimization perspective
   d. Scott County also has a variety of other projects in the works as part of regional transportation planning; related to one of those, there is a 169 corridor coalition (Mankato to N Metro), which played a significant role in recently announced funding for 169-494; so there's some capacity to bring those assets to the table in support of these efforts

4. **Landscaping Pre-mitigation Issues** (*italicized* text is from original agenda content)
   a. *At the March 24, 2010 Landscaping Task Force meeting, participants from Chaska, USFWS, MnDOT landscape architecture and forestry, and the Corps of Engineers fleshed out the full details of a workable landscape plan; in doing so, both the clear benefits and obvious limitations of this screening strategy were brought to the forefront*
   b. *Please review the attached meeting notes and additional material on context-sensitive design; participants will provide a brief meeting summary (Matt)*
   c. *Further discussion on these issues will occur within the Issues Mapping topic later in the agenda*

Matt's informal presentation:

d. Good effort to look at early screening options; decent plan developed, but through process it became more clear that you really can't screen a bridge of this scale or create certainty about the screening effectiveness
e. Concern that during subsequent flooding the pre-mitigation screening would be damaged
f. Spurred a variety of different discussions, including 1) if you can't "hide" the bridge, perhaps showcase it with a beautiful design ("signature bridge") that actually adds to the character of this historic community (see meeting notes for discussion of some specific examples); could probably do something special with the piers but unlikely to have much impact on the deck; 2) if you can't "hide" it or have something that looks like a "historic" bridge, spurred discussion of who else will be championing this besides MnDOT, so that more people can not only provide support but will champion it; may be of value to start back at the objectives around a flood-proof bridge and increased capacity and ask if those are the right objectives; one of the objectives we might want to have is to have a number of champions/advocates
g. Ideally the RCIC wants to have a win-win solution; something absolutely will happen to create a flood-proof river crossing – can't have major roadways closed so frequently and for so long
h. Brought the design to a good resolution, getting the most from the various options
i. **Diane** noted extensive work through context-sensitive design for the Hastings bridge, but that this conversation hasn't been a major part of the RCIC's work because that level of design will happen 20+ years from now; the level of design we're doing in this Tier I is much more than anticipated, although completely understandable; the 1974 DEIS was left right where we are right now, and would like to at least get this one done so this corridor is one of the options

RCIC discussion:

a. What we do here sets expectations for the future about where the bridge would go (as did the 1974 DEIS)
b. One of the advantages of finishing the FEIS is that it formalizes commitments from various agencies; the landscaping screening will make some significant difference, but really won't "hide" the bridge; within the defined C2 corridor, can't push the bridge too far into the Refuge because of unstable soils and regulatory issues; the access required for construction poses some challenges, as well as the reality of the land required for the piers; significant discussion in the TF meeting about some great design opportunities that would be possible in the Tier II process
c. This part of the corridor by the historic ballfield has been one of the toughest issues from the beginning, and there's not a lot of space on either side to move it one way or another
d. The TF also discussed the benefits and costs of implementing this kind of pre-mitigation – investing money now for a project 20 years out, far ahead of constructing funding; one of the conclusions was that while there were certainly some benefits to putting some money, time, and effort into this now, doing so wasn't a panacea; this leads right back to expectations
e. In addition, Chaska is in the middle of some master planning in the ballpark area that must be taken into account, which includes USFWS access to the Refuge, better links between the ballpark and downtown, maintenance issues, etc.; that ties to how much could actually be landscaped in advance

5. **Interchange Issues** (*italicized* text is from original agenda content)
   a. *RCIC members of this Task Force met with various other stakeholders, MNDOT, and SRF most recently in February*
   b. *The TF is still struggling with the array of future scenarios for the area near 212, new TH 41, and CSAH 11, and the fact that Carver's recently approved land use plan includes updated development and traffic projections that are not yet included in MnDOT's FEIS; please review*

the attached meeting notes

c. *The proposed issue for the RCIC's consideration under the Issues Mapping agenda item is how to handle this and countless other changes in the environment surrounding the TH 41 decisions that will occur over time, and how long we wait to finish the FEIS out of consideration for that changing decision-making landscape*

RCIC discussion:

d. Much of this is actually public land
e. Typical approach is to establish the largest possible footprint to keep all options open
f. Has to be some level of comfort among project partners that everyone will work together over time
g. In the TH 212 process they're looking at multiple interchange design options – but that's not a Tier I EIS
h. Met Council also noted that regional job growth projections were much higher than data are actually showing, and that all regional projections will be updated in next few years with 2010 census data
i. Again, that's the challenge with unpredictable changes on multiple fronts over time

6. **Issues Mapping/SW Metro River Crossing Alternatives** (*italicized* text is from original agenda content)
   a. *In response to the additional issues that have been raised in recent Task Force meetings, in preparation for this RCIC meeting, Diane Langenbach, Lynn Clarkowski, and Anne Carroll went back to the big picture of the SW regional river crossing, and explored various pathways for the underlying issues from MnDOT's perspective*
   b. *At this point in the process, we think it's critical for the RCIC to do this same kind of check-in and provide guidance on how to proceed*
   c. *Attached are two draft documents that we created for you to preview. They attempt to present how the different solutions compare in terms of benefits and impacts and how they interrelate; the focus of the RCIC's work today will be on walking through these drafts and then elaborating on it to reflect the RCIC's perspectives (we will do this projected on the wall in real time)*

RCIC discussion:

a. Long-standing issues throughout the region with river crossings, downtown/community impacts including major congestion, etc.
b. Throughout the process, C2 was determined to be the only feasible solution given environmental regulations, but perhaps we're trying to solve too many things with one solution
c. Even with all the additional capacity throughout the county and with alternative transportation options, there's still insufficient regional river crossing capacity (see SW Metro River Crossing Alternatives matrix below)
   - Still need to do many or most of the other alternatives ALSO
   - The farther west this goes for this first major river crossing west of the Bloomington Ferry Bridge, ultimately the fewer options there will be across the river – BUT there are no eastern alternative corridor options given the regulatory limitations
d. Major initial objectives were to create a flood-proof crossing, make regional connections (169-212), and reduce congestion in downtown Chaska
   - Note that the no-build projections through downtown will never be reached
   - A key Chaska concern is what kinds of traffic go through Chaska
e. Also, how the various connections are made; specifically one lane between 169 and 212; making the assumption that you can go 60 mph to connect 160, 212, and the new 41; there would be two

lanes across the bridge heading north and then to a one-lane
    - This level of design discussion occurs in Tier II, because we don't know what will happen with 212 in the future; there's no funding for any of this in the regional plan at this point anyway
f. As soon as the FEIS is finished, we'd want to preserve ROW with local cooperation, but in fact probably don't need to actually buy ROW; is there any way to preserve that ROW without officially mapping?
g. Chaska remains concerned about how it's possible to meet the objectives around flood-proof crossing and a regional connection – how can the specific design that's in the draft generate a freeway-to-freeway connection with just one lane?
    - These are detailed design issues (whether there is one or more lanes has yet to be determined); the question is whether this corridor has sufficient space to meet those objectives
    - If it's designed for this high-speed connection, it must be very high elevation
h. For Chaska, C2 and no-build were the last two choices
    - This process has allowed much clearer articulation of what the real impacts are and the trade-offs; using this process as a learning exercise
    - With C2, have to minimize negative impacts and maximize benefits to increase everyone's comfort level
    - Need to have sufficient advocacy around solutions in order to make any progress even over 20 years – and also not having lots of people actively working against C2
    - Shakopee is in a similar situation, with no-build and C2 at the bottom of their list; the impact of C2 on Shakopee's historic downtown and properties is very significant; understand, however, that we can't address that level of design in a Tier I
i. One of the original objectives of pre-mitigation landscaping was to "hide" the bridge, but found that's not possible
j. We also looked at it being noisier if lower, but no matter what there will be noise
k. The issue is that right now, as a freeway-to-freeway connection, going northbound on 169, drivers have to make a decision at that far south interchange to get to downtown Chaska
    - If Chaska has to take the noise and visual negatives, there should be some local benefits
    - We're doing this within the context of Chaska's master plan, and what this results in is a downtown bypass; that has happened throughout the state, with Shakopee as a great example; Shakopee and Scott County supported 169's construction to create that flood-proof bypass – but the net result was a huge drop in downtown traffic; there it moved regional truck traffic to 169 instead of that being so disruptive to downtown
    - Once the freeway-to-freeway connection is made in this case, it will also divert that regional truck traffic
    - Long ago in the RCIC's discussion Shakopee realized there would be no regional connection but there will be better sub-regional connections – but better than regional truck traffic
    - Chaska remains concerned that there will be gravel and garbage trucks through downtown
    - As part of master planning effort, seeing the benefits of regional traffic to local businesses – in spite of the noise both on a ground-level roadway and from the new bridge
    - Note that whenever one changes an entry point to a community, there's a historic impact that must be considered
    - Challenge is that to get low enough for a local interchange significantly increases the noise
    - (Garbage: don't know where it's going and when that will fill up)
    - Grain trucks likely to move to the regional system; Met Council also noted that grain transport is way down regionally because so much more is staying nearby for ethanol

production
- Hard to predict what will happen to gravel trucks in the future, but Chaska believes it is likely to continue to go through city because it is generally moving south from pits north to construction; also questions about role of rail and barge transportation for these
- MnDOT's traffic projections focused primarily on non-truck traffic
- Does defining this as a regional facility doesn't preclude a local connection in the future, but it will depend on who's at the table at that time and their priorities
- Local access could be acknowledged as a possible benefit to Chaska and perhaps Shakopee and Carver
- Latest flood illustrates perfectly the reliance of local businesses on regional mobility and access to Chaska
- Other kinds of improvements between I-35 and Scott County 9 may also provide better local access – although that is not regional-to-regional access

l. Regardless of what happens here, cities retain the authority to officially map and preserve ROW; note that quite recently there have been some huge requests for RALF funds so this will change the availability of those funds to purchase ROW
   - If we don't finish FEIS, it leaves all the property owners in limbo, which has some community impact

m. Chaska wants to be in board with this corridor, but still issues to be addressed
   - Chaska still concerned about local access and traffic speed, and would like to have a little time to use their own funds to explore some alternatives within C2
   - **Action**: RCIC supports Chaska's exploration over the next 30-60 days of some conceptual design options within C2 that may better meet identified interests of RCIC members; the focus is on either decreasing negative impacts or increasing benefits to Chaska as well as other RCIC members; this will also include exploration of the interchange challenges, as that's a local access issue for Chaska, too; Chaska will include other RCIC members in this process as needed
   - Chaska would like to do this additional work to help the Council find a way to support C2

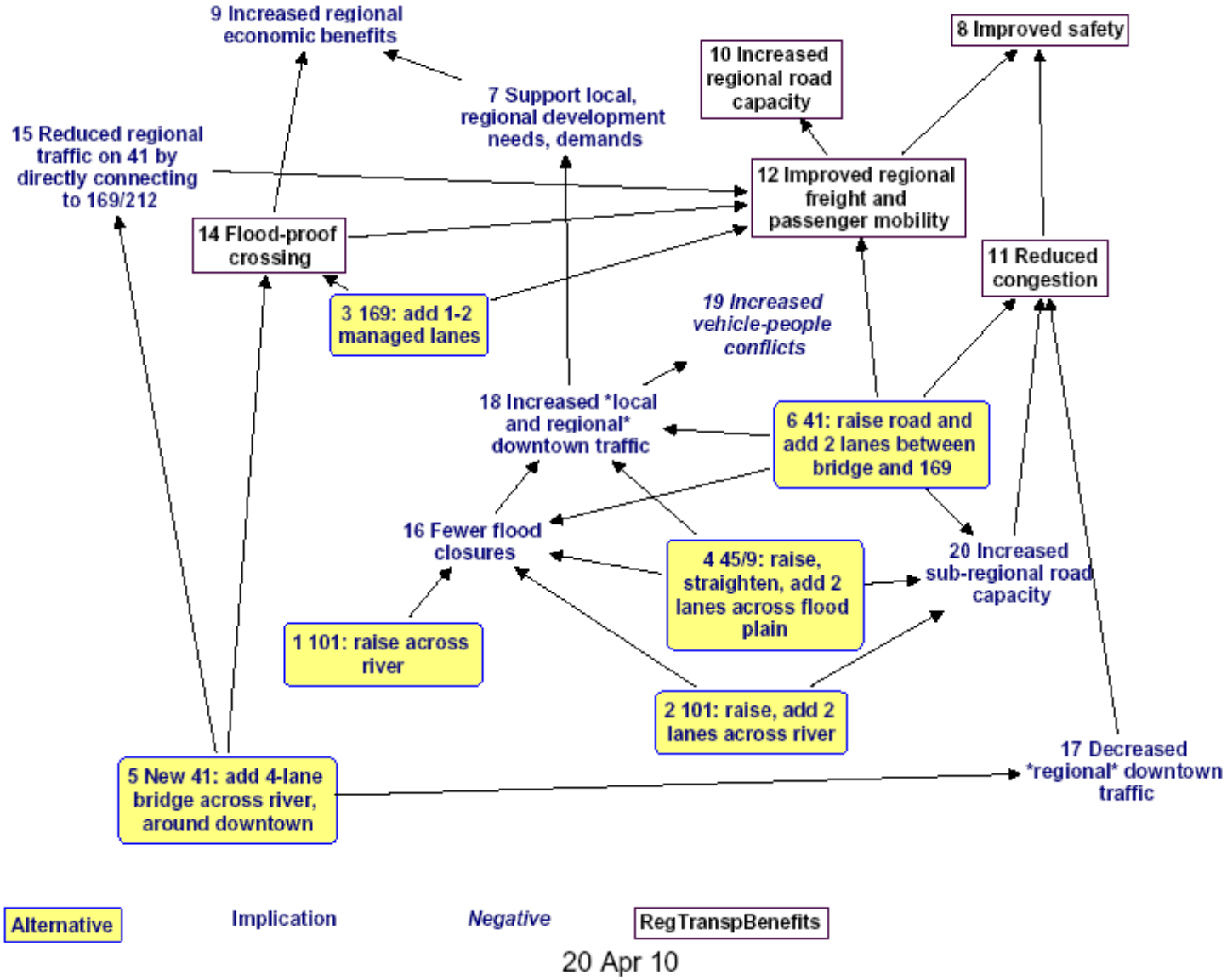
7. Next Steps/Next Meeting: Chaska will notify Lynn when they have a sense of the schedule, and then send out schedule options for the next RCIC meeting.

River Crossing Alternatives, Benefit/Impact Analysis

Draft current to: 4/27/2010 12:17

	BENEFITS					IMPACTS			
Alternative	Flood Protection	Regional Mobility	Regional Economy	Downtown Traffic Calming, Safety	Sub-regional Roadway Capacity	Community: Visual, Noise, Add'l Traffic, Ped/Bike Risks, ROW(?)	Natural Resources	Historic Properties	Costs
1: Raise TH 101 Crossing	5		5			Shakopee Chaska Carver 3	3	3	2
2: Raise and Widen TH 101 Crossing	5	4	5	2	5	Shakopee 2	2	2	2
3: Widen US 169	6	5	5	5	6		3		2
4: CR 45/9: Raise, Straighten, Widen Crossing	5	4	4	2	5	Carver 2	2	1	2
5: New TH 41 Regional River Crossing	6	6	6	6	6	Chaska Carver Shakopee 1	1	Chaska Carver Shakopee 1	1
6: Raise and Widen existing TH 41 Crossing / So. Approach	5	4	4	2	5	Chaska 2	2		2

DRAFT "Issues Map"



Context Sensitive Solutions (CSS)

<Source: MnDOT, November 2009>

Context Sensitive Solutions is a collaborative, interdisciplinary approach that involves all stakeholders in providing a transportation facility that fits its setting and leads to preserving and enhancing scenic, aesthetic, historic, community and environmental resources while improving or maintaining safety, mobility and infrastructure conditions.

Context Sensitive Solutions is a way of doing business to support MnDOT's Strategic Vision. CSS is a collaborative, interdisciplinary approach that involves all stakeholders in providing a transportation facility that fits its setting and leads to preserving and enhancing scenic, aesthetic, historic, community and environmental resources while improving or maintaining safety, mobility and infrastructure conditions.

CSS is about accountability and responsiveness in building relationships and trust with our stakeholders and public to improve processes, outcomes, quality and cost-effectiveness. A CSS approach uses early, continuous and meaningful public and stakeholder involvement to help identify and resolve problems and value conflicts before they are likely to cause costly process and project conflicts, delays and rework cycles. Avoidance of delays and rework cycles contributes to process streamlining and overall time savings and improvements in agency cost-effectiveness. A CSS approach also relies upon broadly informed innovation and flexibility in decision making, planning, design, construction, operations and maintenance to balance competing objectives with right-sized solutions that optimize benefit to cost ratios and return on investments.

Background

In 1999, the Federal Highway Administration designated MnDOT as one of five pilot states to help advance the institutionalization of a Context Sensitive Design approach in transportation. FHWA has since adopted Context Sensitive Solutions as the preferred name to distinguish the nationally advocated philosophy and body of principles. MnDOT has been recognized as a national leader in CSS since 1999 for its training and project development efforts, including many nationally recognized and award-winning projects that have demonstrated CSS philosophy, principles and benefits. At the same time, MnDOT has come to realize that the philosophy and principles of CSS are really a business model and should be taken to a new level of integration in our decision-making, planning, programmatic, project development, construction, operations and maintenance activities to maximize the benefits and cost effectiveness for our agency and customers.

Business case and payoff for taking CSS to a new level of integration

- Improves our customer and stakeholder relationships (building confidence and trust)
- Improves our efficiency and performance (reducing costly delays and rework cycles)
- Improves our ability to balance competing objectives within constrained budgets (optimizing benefit-to-cost ratios with flexibility in planning and design)
- Reduces our costs of doing business (delivering collaborative and right-sized solutions)
- Achieves more than 20 desired agency and user benefits (research correlation to CSS principles)

CSS Principles (15 paraphrased from the original principles referenced in SAFETEA-LU)

- Use interdisciplinary teams
- Involve stakeholders

- Seek broad-based public involvement
- Use full range of communication strategies
- Achieve consensus on purpose and need
- Address alternatives and all modes
- Is a safe facility for users and community
- Maintain environmental harmony
- Address community and social issues
- Address aesthetic treatments and enhancements
- Use full range of design choices (design flexibility)
- Document project decisions
- Track and meet all commitments
- Use agency resources effectively
- Create a lasting value for the community

CSS Benefits (22 from NCHRP Report 642 - Quantifying the Benefits of CSS)

- Improved predictability of project delivery
- Improved project scoping and budgeting
- Improved long-term decisions and investments
- Improved environmental stewardship
- Optimized maintenance and operations
- Increased risk management and liability protection
- Improved stakeholder/public feedback
- Increased stakeholder/public participation, ownership and trust
- Decreased costs for overall project delivery
- Decreased time for overall project delivery
- Increased partnering opportunities
- Minimized impact to human and natural environment
- Improved mobility for users
- Improved walk-ability and bike-ability
- Improved safety (vehicular, pedestrian, bicyclist)
- Improved multi-modal options (including transit)
- Improved community satisfaction
- Improved quality of life for community
- Improved speed management
- Design features appropriate to context
- Minimized construction related disruption
- Improved opportunities for economic

NOTE: RCIC Activity May 2010 through January 2011

With the RCIC's support, from May 2010 through January 2011 the City of Chaska worked with an engineering firm to examine various road/bridge design alternatives that would provide more direct access from the new river crossing to downtown Chaska.

Following the 25 February 2011 RCIC meeting, the RCIC resumed its ongoing work..

TH 41 Tier I EIS: River Crossing Implementation Collaborative (RCIC), 25 February 2011

Location: USFWS

1. Welcome, introductions and round-robin check-in

Matt Podhradsky	Chaska City Administrator	Michael Leek	Shakopee Community Development
Kevin Ringwald	Chaska City Planner	Michael Sobota	Scott County Community Development Director
Kristen Zschomler	MnDOT Cultural Resources	Bill Monk	Chaska City Engineer
Cindy Nash	City of Carver	Craig Jenson	Scott County Transportation Planner
Charlie Blair	USFWS Refuge Manager	Paul Oehme	Chanhassen City Engineer
Bill Weckman	Carver County Asst Engineer	Mark Cleveland	DNR – Parks and Trails
Lynn Clarkowski	MnDOT South Area Manager	Gerry Shimek	USFWS – MN Valley National Wildlife
Anne Carroll	Carroll, Franck & Associates; public involvement, facilitator	Diane Langenbach	MnDOT Project Mgr
Phil Forst	FHWA	Bob Generous	Chanhassen Planning
Mary Ann Heidemann	SHPO	Jennie Ross	MnDOT Environmental Services
Nicole Peterson	MnDOT South Area Engineer	Bart Fischer	City of Chaska Asst Admin

<Review and modify draft agenda as necessary; no changes>

Chaska presents TH 41 River Crossing Alternative Analysis and discussion

1. See handout *attached at the end of these notes*
2. Key concerns: no-build option was *not* an option because of the traffic volume; C-2 prompted concern about local access; concern about regional traffic movements at 169 and 212; concern about double interchange at 169 where someone would have to decide whether to go to Chaska or use the regional bypass; also concerned about height of roadway
3. Had SRF use exact same traffic model
4. Figure 1: Asked about adding partial (vs. full) interchange at downtown Chaska with a full interchange at 61; this would allow for fewer movements at both 212 and 169; removed the existing TH 41 river crossing in this option, leaving 77,000 on the new crossing in 2040. So, there should be other river crossing options – doesn't meaningfully reduce traffic in downtown Chaska
5. Figure 2: Leaves existing 41 as proposed, adding a full interchange at 61; helps with local access to Carver and Chaska downtowns and reduces demand at County Rd 11; leaves existing highway 41; reduces downtown Chaska highway traffic to manageable number for thriving and safe downtown (This is the option that appears to show the most promise)

6. Figure 3: Northbound and Southbound Connections to Downtown Chaska and Removal of Current TH 41. This dramatically increases downtown traffic
7. Key objectives: one was purely traffic; it's the lifeblood of downtown but too much is a serious problem; getting around the 15,000 number (Figure 2) creates a "main street" culture (current is about 20,000); the other was creating another option to access downtown other than 2 miles away from downtown; also dealing with the issue of regional traffic and local traffic (for example, neither gravel trucks nor people zooming to work at 7 am constitute valuable local traffic)
8. Next figures show grade issues, illustrating that the bridge *can* be lowered to allow local access and still make the 212 connection
9. Desired future redesign of Chestnut Street illustration: 14-18,000 trips/day would allow this street to be used as a community (some years back before 212 MnDOT modeled this 3-lane option in downtown and found it would handle up to 20,000)
10. Being able to accomplish this downtown would allow us to be an advocate for the C2 corridor
11. See MN River Crossing "conditions" list that would allow Chaska to support this effort
12. See response letter from MnDOT and FHWA
13. Discussion:
    a. Chaska isn't "locked into" this particular solution, but rather ensuring local access and separating local and regional flow – and there are many ways we might be able to get there as we move forward over the next 20-30 years; this sets the context for how the decision might be made in the future.
    b. Carver is interested in learning more about the impact on their community over time
    c. Chaska and Refuge will work together on Refuge access in both short and long terms
    d. Chaska fundamentally trying to get to the position of supporting the corridor and also meeting Chaska's local needs
    e. Chaska understands that all the other issues need to get addressed, too, but that wasn't the objective of this study

MnDOT and FHWA Present Funding, Policy and Regulatory Updates)

- Transportation Policy Plan was adopted by Met Council this year
- This is a good time to finish this Tier I EIS
- **FHWA and National Environmental Protection Act fiscal constraint:**
- NEPA process has been used in many different ways…to get to official mapping, to get a project access to federal funds, to get a project to the point of acceptance
- Engineering and planning have to work together to yield a good result
- Fiscal constraint has been in place for some years but up until recently it wasn't particularly enforced; with increasing major projects and earmarks + internal discussions about when FHWA should actually be taking NEPA action if there aren't any federal funds available anytime soon or a real project ready to move forward
- When you combine living within ones means and fulfilling environmental regulatory requirements, can only take a federal NEPA action for a project that is identified and for which funding is authorized to execute a post-NEPA phase (Phil and others conducted a webinar and Diane will post this on MnDOT's website)
- The Tier I and Tier II processes will continue to exist, but will have to be executed when there's a programmed project, but for the Tier I to be finalized there has to be something like substantial ROW to be acquired
- MnDOT and FHWA examined current projects
- There were projects such as this one for which significant efforts and funds have been expended to determine which were worth finishing; this Tier I project is far enough along and could be finished

under the policies under which it was begun; if we don't finish this in a formal manner, under the newly enforced policy, unless someone came forth with lots of money for a post-NEPA acquisition we couldn't conclude the FEIS; we *could* later on do a process just like this with all the similar work, but it wouldn't have formal standing and would put us in the same place we started with the 1970s project that wasn't finished and made this effort much more difficult
- There isn't a legal timeframe in which this must be finished, but part of what sold the review group on finishing off this project is that there was meaningful progress being made by this group
- When the TH 41 plan came up it could have also been set aside but the fall flooding helped put pressure on moving it forward; continued pressure to find less expensive solutions

Transportation Policy Plan (TPP)
- Federal law requires that it be fiscally constrained
- MnDOT had been carrying the "big 14" – major projects, including Dayton and TH 41 MN River Crossings
- As the TPP was adopted those weren't added as they had been in previous plans but rather were sent back to seek less expensive solutions

MnDOT Presents Legislative-initiated Information on Intermediate Work: 2011 MN River Crossing Feasibility Study
- Addresses issue of how we move people across the river during floods
- 41 and 101, plus 169 capacity improvements
- High-level, conceptual
- Alternatives including profile changes between structures
- Includes hydraulic modeling
- Matrix of things including traffic, environmental, etc.
- First couple of months are data collection and modeling (Mar-Apr)
- May-June is evaluation
- July-Aug is drafts of feasibility study
- MnDOT, study management teams (state, county, city, twp staff) meeting monthly <might also want to include a FEMA person>, and agency meetings (permitting entities; c. 3 meetings)
- 2 open houses; first one to introduce project and data; second to present findings; also a newsletter
- This fast-track provides an understanding of the options; later this year MnDOT will have a two-part solicitation for flood-mitigation that might be eligible for that bonding
- Note also that the SCALE group pressed hard for this kind of study and influenced it moving forward

Overall RCIC Process with graphics to show how SW MN river crossing efforts relate
- *See attached graphic*
- Approving RCIC charge and responsibilities: Completed by Scott County, Shakopee, and Chanhassen; Chaska intends to work on this internal process shortly; Carver County will get this done, as will DNR and SHPO; Carver needs to be able to explain all this to the Council; Refuge has already reached an understanding internally in support of moving forward and participating in the RCIC;
- Shakopee and Scott County also working on redesign for US 169/TH 41 which is currently a significant regional connection and affects how the system functions in the future
- Shakopee also continuing to work through SCALE on these collaborative efforts
- Essential for the RCIC to continue to engage over time *and* create the space for this to enter the

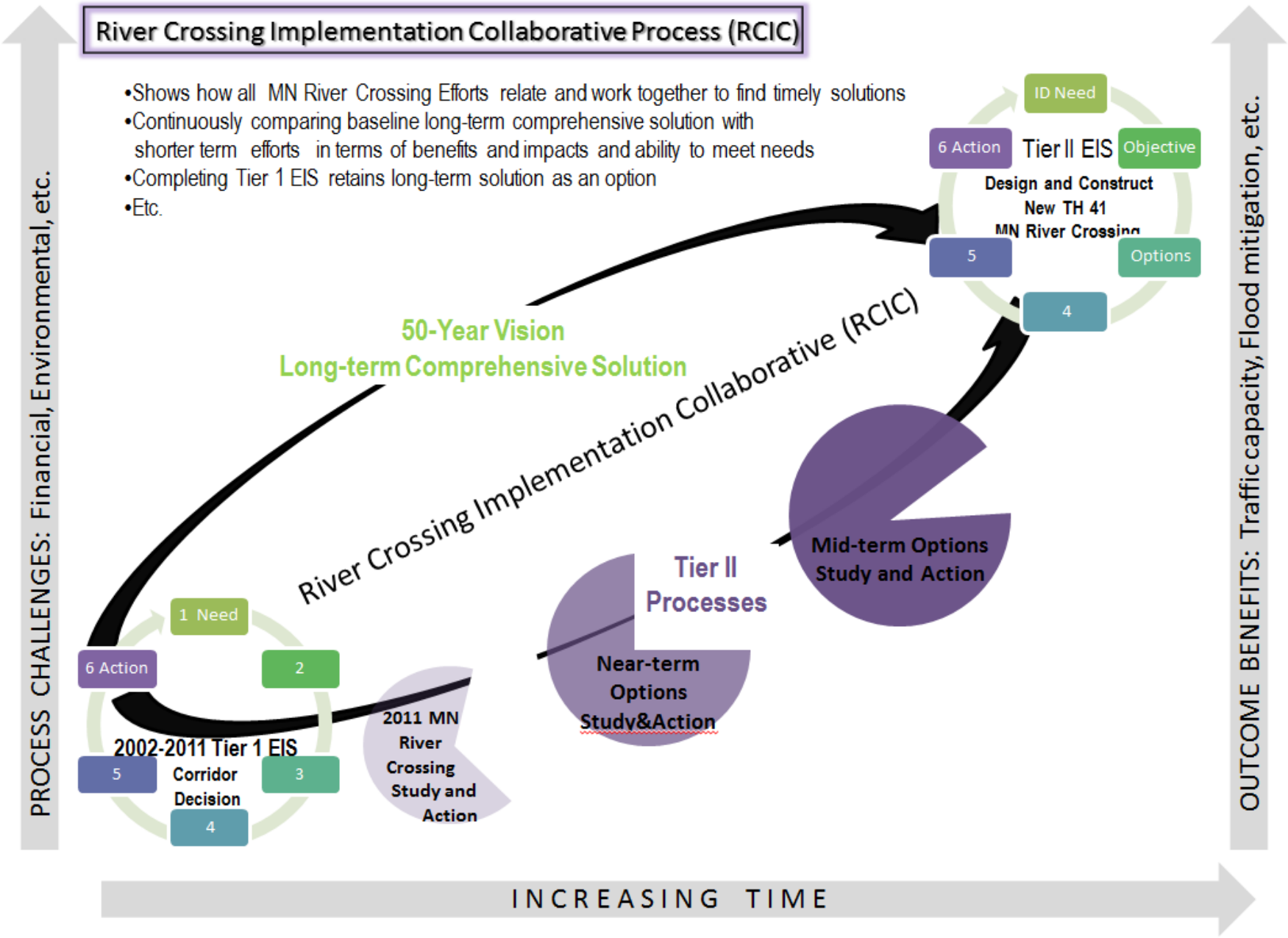
political realm (like SCALE); any big effort like this requires strong technical *and* political support

Tasks, Responsibilities and Timeline to Complete the Tier I FEIS and obtain ROD

- See Colorado PowerPoint outlining their Programmatic EIS
- See process completion scenario

Wrap-up: summarize next steps/action items, set meeting schedule

- March TOC writing team: Michael Leek, Kristin, Cindy and Brent, Mike S, Jenny, Matt, Kevin, Charlie, Jerry, Mark and Melissa DNR, Diane, Phil, Anne
- Meet at Refuge
- Diane will send out Doodle (Post meeting note: The workshop to write the TOC will be held on Monday March 14 from 9 am – 4 pm at the USFWS Visitor Center).


River Crossing Implementation Collaborative Process (RCIC)
•Shows how all MN River Crossing Efforts relate and work together to find timely solutions
•Continuously comparing baseline long-term comprehensive solution with shorter term efforts in terms of benefits and impacts and ability to meet needs
•Completing Tier 1 EIS retains long-term solution as an option
•Etc.
PROCESS CHALLENGES: Financial, Environmental, etc.
OUTCOME BENEFITS: Traffic capacity, Flood mitigation, etc.
ID Need
6 Action
Tier II EIS
Objective
Design and Construct
New TH 41
MN River Crossing
5
Options
4
50-Year Vision
Long-term Comprehensive Solution
River Crossing Implementation Collaborative (RCIC)
Mid-term Options
Study and Action
Tier II
Processes
Near-term
Options
Study&Action
1 Need
6 Action
2
2002-2011 Tier 1 EIS
5
Corridor
Decision
3
4
2011 MN
River
Crossing
Study and
Action
INCREASING TIME

Memo from Chaska City Engineer Bill Monk to RCIC for 25 February 2011 meeting

The Minnesota Department of Transportation (MnDOT) has been exploring options for a flood-proof highway crossing of the Minnesota River Valley to address traffic capacity issues for some time. In June of 2007, MnDOT issued a river crossing Draft Environmental Impact Statement (DEIS) to "discuss the purpose of and need for the proposed project; consider alternatives; evaluate environmental effects of alternatives; explore methods for avoiding and minimizing adverse impacts; and obtain public and agency input, to aid in the identification of a preferred alternative for further study in the Final Environmental Impact Statement (FEIS)." During the DEIS process, six river crossing alternatives (see attached exhibit) were identified and analyzed, in addition to the no-build alternative. Chaska went on record at that time stating that Alternative W-2 was the City's preferred route and that a "No Build" route was unacceptable.

At that point MnDOT initiated work on the FEIS to "summarize public involvement during the DEIS process; respond to substantive comments received on the DEIS; identify the preferred alternative; and, if necessary, provide more detail on the environmental impacts of the preferred alternative and describe potential mitigation measures." It is important to note that the FEIS process is divided into two distinct phases or tiers. Tier I, which is being worked on now, "is a corridor-level document, with analysis based on a standard corridor width of 300 feet." Whereas, a Tier II process "will focus on preferred alignment design alternatives, updated assessment of environmental impacts to address a higher level of design, and identification of mitigation."

Looking at the big picture information available in the DEIS, MnDOT chose Alternative Alignment C-2 based on their analysis of environmental impacts and a policy that new alignments should follow existing corridors as much as possible. The C-2 exhibit attached is a modified version that was realigned slightly to avoid Athletic Field, which had been designated as a protected historical facility. At this time, a group of stakeholders was assembled (RCIC) and met on a regular basis to discuss impacts and concerns specifically related to the C-2 layout. As these meetings progressed, it became evident that more detailed review was in order to identify issues and potential resolutions. This was especially true from Chaska's perspective where the project issues included:

1. Height of the bridge and need for screening/noise mitigation
2. Proximity to Athletic Field
3. Local vs regional access at TH212 and TH169
4. Regional traffic through downtown

Based on the available data, Chaska was not in a position to support the C-2 alignment, which by default supported the no-build alternative. The City then requested a delay in the stakeholder process to conduct its own review of some project options. The City had been informed that alignment changes to C-2 could not be considered, however, City Staff wanted time to review options related to direct local access to the new river crossing from downtown and at CSAH 61 (Chaska Boulevard). These efforts led to the creation of Figures 1, 2, and 3 (attached) which show varying local access options and their impacts on local and regional traffic in comparison to the original DEIS data. In addition, the highway grades were examined to a degree that found changes could be incorporated to lower the height of the bridge to allow vegetative screening and reduce impacts to the ballpark and downtown area.

With this information in hand, City Staff suggested that we could recommend to the City Council

approval of the C-2 Tier I EIS, but only with the following conditions:

1. The profile of the bridge deck of the River Crossing immediately south of historic downtown Chaska shall be at the lowest height allowable by MnDOT/FHWA design standards to minimize the visual impacts of the structure.

2. For that same reason, the River Crossing shall utilize "context sensitive" design techniques and landscape planning to screen and separate the new highway from existing land uses.

3. Noise levels created by the River Crossing shall be mitigated to the maximum extent possible via speed limit, highway pavement material, and sound walls, in addition to other accepted noise reducing techniques.

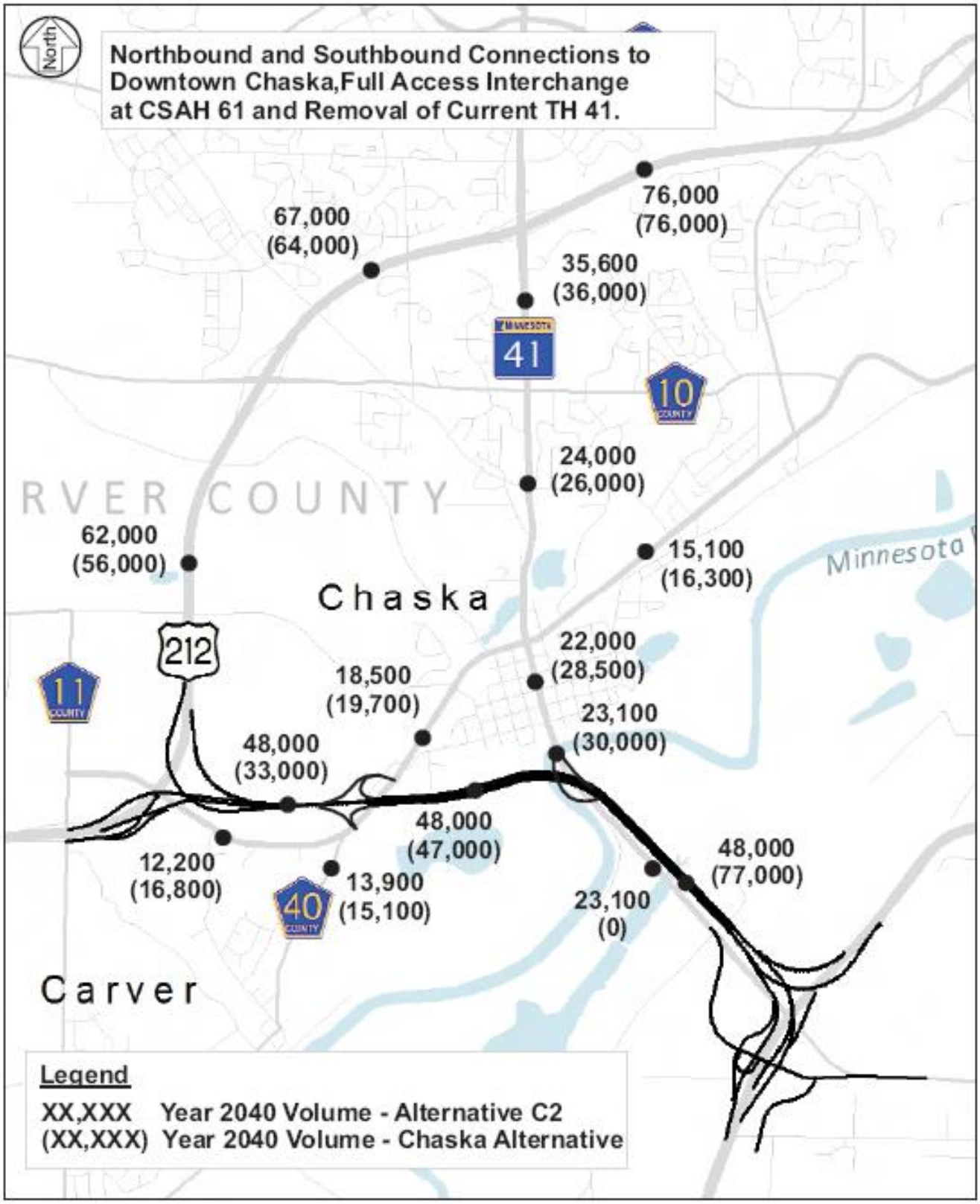
4. Direct access to Chaska from the River Crossing to CSAH 61 and/or the existing river bridge on TH41 shall be included in the project design. The final access configuration shall be based on the project including construction of a three-lane design street section on Chestnut street through downtown Chaska t a reasonable traffic service level.

5. A pedestrian connection between Athletic Field and the US Fish and Wildlife property shall be provided across the River Crossing right of way.

6. Highway lighting on the River Crossing shall be designed to minimize all impacts on adjacent land uses.

7. Chaska shall retain the right of "municipal consent" on future design approvals.

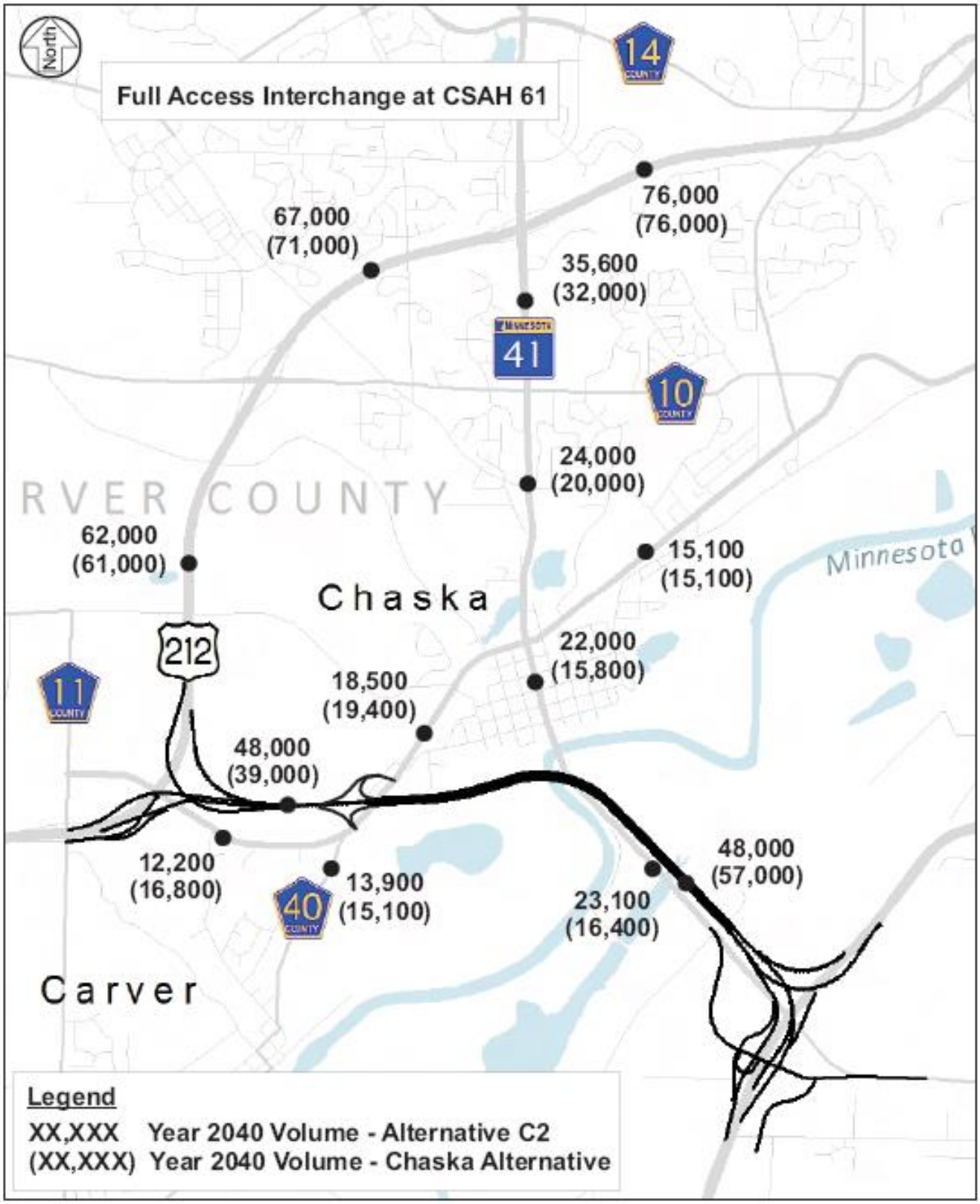
After being told by MnDOT and Federal Highway Administration (FHWA) staff that detailed conditional approvals by stakeholders is not usually considered on a Tier I (big picture) process, the City was very surprised and pleased to receive a letter from MnDOT and FHWA such an approval would indeed be acceptable to conclude the Tier I FEIS.



Connections to Downtown Chaska and CSAH 61 Interchange

TH 41 River Crossing - Chaska Alternatives
City of Chaska, Minnesota

Figure 1

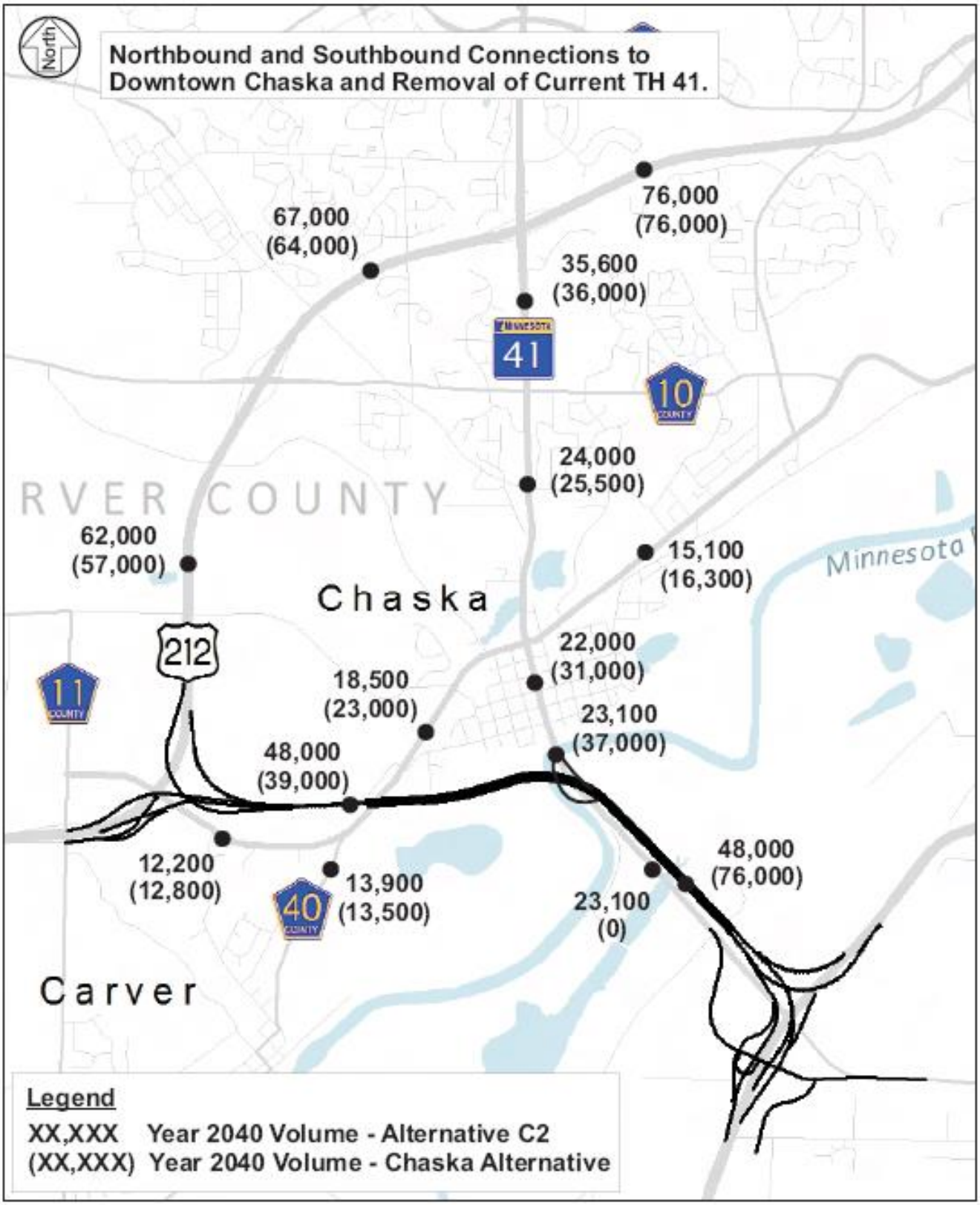


CSAH 61 Interchange

TH 41 River Crossing - Chaska Alternatives

City of Chaska, Minnesota

Figure 2



Connections to Downtown Chaska

TH 41 River Crossing - Chaska Alternatives

City of Chaska, Minnesota

Figure 3

MnDOT Letter to Chaska Regarding Local Access

Minnesota Department of Transportation
1500 West County Road B2
Roseville, MN 55113

Mr. Podhradsky
City Administrator
1 City Hall Plaza
Chaska, MN 55318

February 24, 2011

Dear Mr. Podhradsky,

The Minnesota Department of Transportation (Mn/DOT) and the Federal Highway Administration (FHWA) appreciate the recent technical work done by the City of Chaska. Your analysis assessed alternative configurations within the C-2 corridor in the Trunk Highway (TH) 41 Tier 1 Final Environmental Impact Statement (FEIS) to see how a new regional river crossing might better serve your transportation needs while considering the safety, economic vitality, and character of your historic downtown. We understand that the City's concern is that the C-2 corridor identified by the River Crossing Implementation Collaborative (RCIC) results in more potential negative impacts than benefits to the downtown. By adding access to downtown, the City would still be subject to the potential impacts of the regional river crossing, but from our discussions with you we understand that the City perceives it would also gain some offsetting benefits. For example, the study indicated that local drivers may have increased mobility and the downtown would likely benefit from a manageable amount of regional traffic that could access rather than bypass downtown Chaska. The analysis did not draw any conclusions regarding how these revised C-2 scenarios affect the ability of the proposed project to serve its primary function as a regional connector within the footprint established by this Tier I EIS.

Your recent work shows that an interchange at County Road 61 (old TH 212) and new TH 41 may hold promise for future consideration. Your modeling shows that it would provide the downtown with a balance of favorable traffic -- enough to keep the downtown businesses economically viable while not so much as to cause congestion and make it unsafe for pedestrians. Your study also showed that allowing traffic to exit at a potential new TH 41/CR 61 interchange would likely decrease demand on the future system interchange at new TH 41/TH 212. This would also respond to the City of Carver's concerns about the ability of that interchange to function effectively as both a system and local interchange.

The question now is how to incorporate this potential local access concept into the existing Tier 1 EIS while still adhering to the National Environmental Policy Act (NEPA) process and retaining the validity and credibility of the vast amount of work done to date. There are regulatory and technical implications to consider as we move forward. The original purpose and need statement of the TH 41 EIS described a direct regional connection between US 169 and US 212, with capacity maximized by limiting local access between the future system interchanges. While the federally regulated Tier 1 process permits some changes to the original purpose and need based on extensive and documented stakeholder involvement, formally modifying the need statement to *exclude* the regional connection would require significant re-work and additional technical analysis of the southwest region before committing to it as part of the Tier 1 EIS C-2 preferred alternative.

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That said, we recommend that local/downtown Chaska access be included in the body of the Tier 1 EIS for future consideration and study in the Tier 2 EIS. This would be framed within the RCIC's agreed-upon goals and strategies to mitigate impacts and presented alongside the RCIC's other outstanding issues around the U.S. Fish and Wildlife Service Refuge, the City of Carver TH 41/US 212 interchange, Jackson Heights, the ballpark, historic districts, and so on.

As you know, with current funding constraints and stricter federal policies it will likely be 20+ years before the Tier 2 EIS would even begin – and at that time will have to account for all the changes in conditions and needs in the interim. Those changes certainly include decisions and actions resulting from Mn/DOT's new high-level feasibility study examining immediate to mid-term, lower-cost alternatives to increase flood protection in the southwest metro area – including the existing TH 41, US 169, and TH 101 river crossings.

Completing the FEIS with all the technical analyses *and* these outstanding issues within the context of the RCIC goals and strategies formalizes a new framework for such ongoing work on Minnesota River crossings, and formally documents both the regulatory approval and the stakeholder agreements necessary to preserve the C-2 corridor for the very long term.

Thank you again for your continued active involvement and we look forward to collaborating with the City of Chaska and other RCIC members for many years to come. Please call us if you would like to meet to discuss this further before the Feb 25 RCIC meeting or if you have any questions or concerns.

Sincerely,

Lynn Clarkowski, P.E.
Mn/DOT Metro South Area Engineer

Philip Forst
FHWA Environmental Specialist

Cc: Bill Monk, City of Chaska
Kevin Ringwald, City of Chaska
Bart Fischer, City of Chaska
Diane Langenbach, Mn/DOT
Jennie Ross, Mn/DOT
Nancy Frick, SRF, Inc.

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Supplemental Content from Chaska's Interchange Study: Preliminary Bridge Profile/Vertical Alignment Options

The content below is provided to the RCIC by the City of Chaska as part of the separate interchange study prepared for Chaska by SRF Consulting in June 2010 and presented to the RCIC at the 25 February 2011 meeting.

It is for information only and included here as it is referred to in some of the impact discussions in the body of the report.

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Email Tuesday 6/1/2010 8:00 am
From: Dave Montebello, SRF Consulting (dmontebello@srfconsulting.com)
To: Bill Monk, City of Chaska City Engineer (bmonk@chaskamn.com
Subject: TH 41 Profile Follow-up

Bill,

Here is some more information on the bridge profile. The attached information really supports what I was saying in my email last week.

1. The information in the concept alignment is at a very early stage of design and is conservative. The vertical alignment shown in the attached figure shows some additional flexibility in the area of the ball park (ability to get to around a 40 foot height) - this is 30 feet lower than the original vertical profile.

2. Some modifications may need to be made to crossings (i.e., railroad and Old TH 212)

3. The design will need to be assessed in more detail in the future trying to optimize costs (i.e., structure depth, span length and foundation costs). Again, the Bloomington Ferry bridge was similar and designers tried to minimize height as much as possible.

Hope this provides what you needed. Call if you have questions.

Dave

Dave Montebello, P.E. (MN, MI)
Vice-President
SRF Consulting Group, Inc.
Suite 150 One Carlson Parkway
Plymouth, MN 55447

Phn (763) 249-6754
Cell (612) 269-4999
Fax (763) 475-2429

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Email Friday 5/28/2010 1:05 pm
From: Michelle Gerrity, SRF Consulting (mgerrity@srfconsulting.com)
To: Dave Montebello, SRF Consulting (dmontebello@srfconsulting.com)
Subject: TH 41 Profile Follow-up

Per our conversation yesterday, I took a look at lowering the TH 41 profile and the following is what I've come up with.

Don confirmed Larry's recollection that we were directed by MnDOT to use an assumed span length of 400 ft which determined the 20 ft structure depth.

I verified that the 500 yr flood event elevation is 729.0 ft as shown on the layout. Dave Filipiak agreed that the 500 yr event should be used to set the minimum profile elevation with a 2' freeboard allowance added to that. That places the minimum profile elevation at 751.0 ft (729.0 + 2' freeboard + 20' structure depth). If they did decide to go with the 100 yr flood the elevation is 724.0 or a difference of just 5'.

The attached pdf shows 3 profile alternatives.
Red - Original Profile
Blue - Revised profile from Oct. 2009
Black - latest Revision

The potential re-route of Old TH 212 to the existing railroad bed would allow the vertical curve to be pushed farther west. The 4% upgrade would begin just west of the ballfield and would cut through portions of the bluff on the incline. Increasing the grade above 4% was found to have little benefit as the vertical curve as well, raising the profile at the park. This alternative would still work with all the TH 212 interchange ramps.

Ultimately the controlling factors are the flood elevation and the structure depth. The current profile (black) is as low as it can possibly be at the Ballfield without adjustment of the structure depth.

Let me know if you have any questions about this.

Thanks
Michelle

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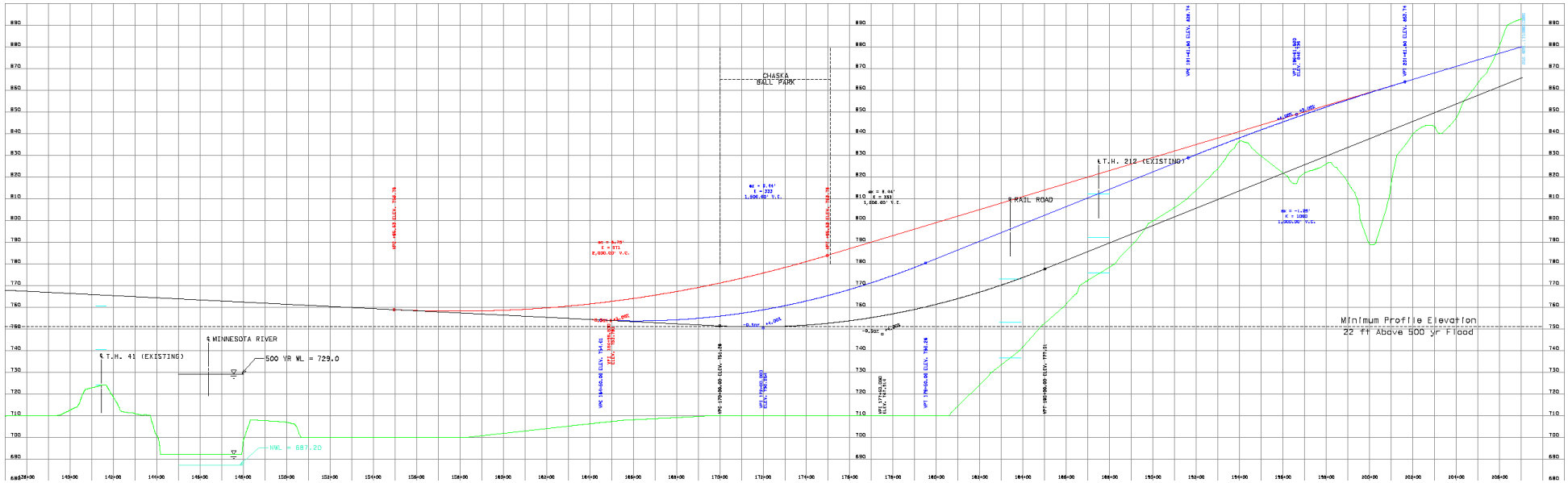
<Note: Preliminary bridge profile <u>included for information only</u>; prepared May 2010 by SRF Consulting for City of Chask



TH 41 Tier I EIS: River Crossing Implementation Collaborative (RCIC), 6 October 2011

Location: USFWS

Participants:

Diane Langenbach	MnDOT	Kristen Zschomler	MnDOT
Michael Sobota	Scott County	Jennie Ross	MnDOT
Gerry Shimek	USFWS	Bob Generous	City of Chanhassen
Bill Weckman	Carver County	Brent Mareck	City of Carver
Cindy Nash	City of Carver	Kevin Ringwald	City of Chaska
Charlie Blair	USFWS-MN Valley	Craig Jenson	Scott County
Lynn Clarkowski	MnDOT	Jeanne Holler	USFWS-MN Valley
Philip Forst	FHWA	Mark Cleveland	MNDNR
Connie Kozlak	Met Council	Anne Carroll	Carroll, Franck & Associates

1. **Agenda review:** No changes

2. **Updates**:

   a. **Scott County:**
   - Just want to ensure process gets done with various staff changes, etc.
   - Ongoing discussions with board members about this being a long-term process to meet needs – which is recognized by our board
   - County in process of 69/169 study and have narrowed it to a recommended alternative – relates to this project because they're only about a mile apart; had an open house last week
   - Another fatality at 9 and 169 at the intersection, continuing to put pressure and need for interchanges
   - MnDOT noted that their traffic people are interested in doing some traffic studies of 169 and 41 (in light of thinking about 69/169 and increased pressure on 41)

   b. **USFWS**: Have participated in meetings with Chaska about linking the Refuge to the City

   c. **Chaska**:
   - Working on downtown master plan including discussions with stakeholders as they review final product; making sure we've addressed key issues from major stakeholders and then will take it through the various committees/commissions in the city
   - Have kept Council up to speed on these issues; they are most interested in flood mitigation options around the ballpark and the issues and relationship between the MnDOT flood mitigation study on current Hwy 41 and ballpark flood protection decisions and the long-term Hwy 41 project

Council has been supportive of the RCIC as a collaborative and the general direction of the plan, but still looking closely at the long-term directions from the FEIS (as we're addressing here today)

Still haunted by (now) 3x/year flood so looking at flood mitigation for the athletic park
Technically could address 50-yr floods that would take most of the pressure off the fields, and for those

that were higher it would reduce the duration of standing water on the fields, stands, etc.; talking with Refuge staff about technical issues around something like an outfield berm following the fence/ditch/causeway up to the RR tracks on the SE. Area being considered is "flood fringe" – about 15,000 yards of material so no major permits needed.

City of Carver: doing quite a bit up in the area of 212 near the touchdown; broke ground for Hwy 61 to the west; neighborhood SE of 11 and 212 is now in the area of the ROW "take" in the original EIS and is now almost fully built out

More broadly, updated Council last spring; haven't taken formal action, of course, because content is still in process

Carver County: involved with Carver in Co Rd 61 project; spent some funds on 212 projects; County will follow City's efforts related to this project

Chanhassen: participating in 41/101 flood mitigation; working on a section of 41 north of that that's getting some negative press about trees being removed

DNR: Continue with staff changes including a new regional (metro area) administrator who is getting up to speed and a new structure in parks and trails that allows us to look at things more strategically; very involved in MN River flood mitigation efforts around 41 and 101

FHWA: Would like to see this process draw to a conclusions and get this Tier I document off the active list; as noted previously, a year or so ago FHWA began actively enforcing a requirement that there be no NEPA process unless there are funds actually available, and all projects (including this one) were evaluated to determine whether projects continued, went on hold, or stopped; this project was determined to have included so many key stakeholders and was a fairly contentious corridor, so was allowed to continue; there was no consideration in this evaluation of the entire concept of T1, which were for projects where it was understood there was no specific funding in place…so FHWA doesn't expect to do many T1 efforts in the near future. So if we don't finish this effort now, there is no chance to restart this effort in the foreseeable future – and if there isn't regular and meaningful progress made, FHWA can issue a notice of withdrawal that will end the project. (MnDOT noted the other meaningful progress being made on related projects that are due to the RCIC's relationships.)

MnDOT explained that this report that the RCIC is working on then goes to Nancy at SRF to convert it to an FEIS, and that will be completed by the end of this year, with the ROD early next year

MnDOT: About a month ago Lynn and Diane talked with MnDOT's Scott McBride about the RCIC making a lot of progress but the funding process still puts us "in a box" and Lynn was leaning toward stopping – but there *has* been real progress from the RCIC and good work on the flood mitigation study. Scott's input was that you've made meaningful progress and the report is 90% complete, and no matter what the story has to be documented comprehensively anyway; we might be in a different place if so much hadn't happened already. We're ready to contribute the resources necessary to get this done. We all need to keep in mind that there are *so* many things that may happen over the next 20-30 years to solve problems in many ways – not necessarily as a traditional project as some of us are envisioning it at this moment. We are so far along and we're using the appropriate tool with an FEIS, so we're ready to help get it done.

Lynn has since taken a slightly different job in the operations division through next spring, with Tim

Quinn serving as the new temporary South Area Manager, but Lynn will stay with this project.

Chaska noted that they were *not* fond of the Tier I process because it's so hard to envision so long ahead but by comparison to other efforts (like Stillwater) these conversations do have to happen and there is a lot of value here to look hard at many options for a river crossing. Future conversations will be much smoother due to the "un-smooth" conversations we're having now.

MnDOT reaffirmed the value of this highly collaborative process and the benefits in both the short and long terms to create solution options.

Carver County: After the Tier I is completed can we move into mapping? Jenny: you can do that now, but a completed environmental process creates greater comfort level in such mapping and Scott County noted that it also allows the corridor to be officially included in the County's comprehensive plan.

MnDOT 41 flood mitigation study update:

- Started in Feb/March; final report published (available on MnDOT website as of Sept 30)
- Started just after we finished cleaning up from the fall 2010 floods – similar issues throughout the state – so MnDOT leadership decided to designate $50 million for flood mitigation statewide inspired by Legislative funding for cleanup (not new money for flood mitigation efforts but had savings from project cost savings and decision to spend down part of fund balance)
- RFP went out statewide for projects that were ready to go, cost-benefit value, ability to implement, bondability, etc. Projects awarded in February and got started fast.
- This project was looking at lower-cost options for flood mitigation on 41 and 101 prior to examining any bonding
- Included a study management team that included a lot of RCIC members
- Came up with some good solutions; did a large-scale, high-level 2D hydrologic model that will help address this and many other issues on this stretch of the river that resulted in some good ideas for 101 and 41
- Now trying to understand how much money will be available for the next phase of funding for flood-mitigation bonding (the state shutdown resulted in huge costs to shut down and restart projects, as well as damages, costing 10s of millions just for construction part – so there are less funds available)
- 101 has the larger benefit-cost and a lot of good potential, but at $30 million (compared to 41's $19 million) that remains a challenge – and MnDOT is already at their bonding limit – but this is a realistic project to tackle so we just have to wait another month or two to know what's happening at both state and federal levels

TH 41 Tier I EIS: River Crossing Implementation Collaborative (RCIC), 7 December 2012

Location: USFWS

1. **Welcome and introductions**
   Participants:

Matt Podhradsky	Chaska City Administrator	Michael Leek	Shakopee Community Development
Diane Langenbach	MnDOT	Jennie Ross	MnDOT
Kevin Ringwald	City of Chaska	Bob Generous	City of Chanhassen
Gerry Shimek	USFWS	Bill Weckman	Carver County
Jeanne Holler	USFWS	Craig Jenson	Scott County
Cindy Nash	City of Carver	Phil Forst	FHWA
Sheila Kauppi	MnDOT	Kristen Zschomler	MnDOT Cultural Resources
Mark Cleveland	MNDNR	Anne Carroll	Carroll, Franck & Associates

2. **Check-in and updates**
3. **<Review and modify draft agenda as necessary; no changes>**
4. **Implications of finishing the document:** Don't want to leave it unfinished as in 1974, but given how long-term this is, both locals and state are challenged to determine how to proceed in the meantime. The wide-ranging, free-flowing discussion included the following:
   a. Chaska is concerned about the "fairness" of the situation between now and then; we have lots of property owners who would be affected by this some very long time in the future; what do we say to them? As the market improves, have some willing sellers who aren't sure what to do, and is unfair to put City in that situation. MnDOT or County should be willing to step up and officially map this and buy out willing sellers now. As Chaska updates its Comprehensive Plan, not sure how to represent this very long-term project. Finishing the project isn't just finishing the FEIS, it's officially mapping and buying out willing sellers
   b. Chaska also looking at some of the new investment associated with Highway 101, and wondering whether things have changed enough to question how serious anyone is about this project.
   c. Note that official mapping is a local function (vs. MnDOT)
   d. Originally MnDOT did think that there would be options to buy from willing sellers (RALF funds), although not sure what funds are available; Chaska has managed RALF funds in the past with properties for decades
   e. RALF funds currently being used for transit-related acquisitions
   f. Chaska saved the state quite a bit by using RALF funds on the 212 project
   g. There are ways to make it reasonable to finish this
   h. No one is able to predict the exact timing of this river crossing – other than beyond 20 years
   i. While 101 will be out of the floodplain when improved as a 4-lane land bridge (though not totally floodproof), it does not meet the other key goal of a regional freeway connection
   j. MnDOT will do some additional research on RALF and other funds that might be available for ROW acquisition (c. 30 acres of land + property owners along the corridor)
   k. Carver doesn't have much opportunity to acquire much now, because most built out, but going forward funds would be important in the Spring Creek area

l. In Chaska, large areas on the west are beginning to be marketed and under more pressure to do so
m. If there isn't a specific answer from this process and then official mapping, there could be major additional right-of-way acquisition costs in the future
n. Locals aren't in a fiscal position to acquire the property themselves; locals would do the official mapping and could manage the RALF process; also, there are a lot of public areas in the project area
o. There are big challenges if RALF funds are not currently available
p. There are a number of *current* MnDOT capital and maintenance projects for which there are sufficient funds, so there's not much fiscal capacity for acquiring property for a project that is several decades in the future
q. In addition, if locals are property owners, it changes their position to an equity stake and partnership – which would like create significant complications along the way
r. Pressures aren't the same in Shakopee, because the areas for acquisition are largely county; there are city pressures, however, around industrial demands and other development interests
s. Farther west, there are frac sand projects on hold bordering the project on the south, and everywhere it's difficult to determine locations for frontage roads, rail spurs, etc.
t. Chaska has history of purchasing properties using RALF funds and subsequently managing it
u. Shakopee used RALF funds to purchase some properties for the earlier Hwy 169 project, and Chaska used them to acquire property as part of the 1970s TH 41 DEIS (since then identified as a protected, rare calcareous fen)
v. One issue to identify in this completed FEIS, in local plans, and in regional plans is that by completing this Tier I EIS there is an expectation that this corridor is being preserved for this project; the challenge is that doing this creates the presumption that funds will become available – or the alternative is high prices and land takings that cause all kinds of other problems; oughtn't state you're "preserving" a corridor until there are at least some funds available to do so
w. Communities can also establish a class of interim uses even if all properties can't be purchased
x. As this process is already well under way, even if it's not finished the plans are known to be out there and creates another kind of limbo
y. MnDOT needs to clarify what ability it has to be serious about regional transportation solutions, and there's concern that "Band-Aid" solutions will continue to drive the work rather than legitimate, big-picture, and long-term regional approaches; even buying a few small pieces sends a critical and positive message about MnDOT's commitment to move this forward
z. The broader context is that the communities here haven't been pushing for one solution or another, but it's essential to recognize that this region is woefully underserved with regional connections – so 101 was pushed *as an <u>interim</u> solution* – and because the timeline for a "real" solution is so far out (as evidenced by the TPP)
aa. Everyone understands the need for some assurance and predictability when there are essentially no public funds; what private funds might be available? And if they were, how might that affect this work around the corridor? While there has been some talk about private developers being able to accelerate portions of this project, the timeline may be a significant barrier there, too.
bb. This is the last chance under FHWA NEPA and the fiscal constraint policy to do this kind of long-term NEPA process documentation without specific implementation funds identified
cc. We can't seek/find funds unless we complete the FEIS ; when that's done we can start making more progress; it provides evidence of a finished public planning and decision-making process, which can help generate funds to move portions of the project forward in the future
dd. We absolutely can NOT see completing this as the *end*; it has to be the beginning of a concerted, collective push to move this forward
ee. Chaska thinks it's essential to *start* moving in this agreed-upon direction with some property

acquisitions; this is a unique opportunity to set in motion the construction of this project, not simply finish the plan – and if we don't do that other things will break up this effort and it will fall apart

ff. If we do finish the FEIS, it will be seen as the beginning of a legitimate regional effort

gg. It is *essential*, however, that this work be rolled into a *tangible* regional commitment on the part of big agencies to actually address long-term regional issues (with this as one part of it)

hh. It's also critical to be able to leverage the agreements that everyone has made along the way – those couldn't be assumed years from now

ii. This is a unique window right now…that could close really easily; USFWS's ability to continue as part of this in the future couldn't be guaranteed without this being finished; need to be able to point to this as a success – institutional stake in finishing this

jj. DNR did a lot of pushing "upslope" to get regional and central office agreement on what's in this plan; concerned about the frac mining in the township, and major responsibilities to maintain properties; lots of compromises across divisions, and our ability to continue is also not unlimited unless there's a formal agreement with which to work; new ideas and visions continually emerge that could significantly compromise this direction

kk. Big agencies are obligated to do the long-term plans and to identify obstacles that have to be overcome, but instead they're planning based on the money available, not the bigger regional system needs

ll. This FEIS is an important step for planning, but needs to be accompanied by a legitimate regional plan within which this works

mm. Everyone came to the table and compromised, and if we finish this FEIS *and then start* to move forward with some tangible/visible activities, it creates opportunities and options that wouldn't otherwise exist

nn. It's about redirecting future energy, time, ideas, and funds to get this started

oo. For Carver County, the key is to have a legitimate regional transportation corridor – understanding that acquisitions within the county would be in the city, not county; this is an important corridor with major transportation pressures

pp. Need to continue moving this forward, generating political and community will to move this forward over decades

qq. Critical to work very hard for legitimate regional planning at a much larger scale

rr. <u>*Conclusions*</u>:
- Complete the FEIS and ROD
- As part of that, make the commitment to demonstrably move this project forward by finding funds to begin some land acquisition
- Continue collectively pressing for *comprehensive* and *long-term* regional planning and funding
- Continue working together to collaboratively advance this river crossing project and related efforts in the southwest Metro area

5. **Landscaping update-what's happening with Refuge/ball field area and to what should we jointly commit? Chaska:**

a. Since last RCIC meeting and with the new river valley floodplain mapping, the ballfield is now in the flood "fringe" and not in the "flood way," which allows us to prevent a lot of flooding in the field with a berm outside the fence; flood way is area necessary to carry and convey flood waters; fringe is associated lands (overflow); regulations are more rigorous for flood way than fringe

b. Diversion channel currently north of field

c. New designation brought the flood way along the RR tracks and along the levy; new flood way stays south of the field, leaving the ballfield area in the fringe; looking at a berm on the east, south, and much of the west side of the field (terminating at the RR); even floods that would overtop the berm on the east side would be for shorter duration and with less damage especially to the historic structures, as well as the fields
d. Using the clay readily available from local construction projects to build the berm (might be some available from 101 project and projects in Scott County)
e. Working with the DNR, USFWS, and Corps to get pieces in place to move forward with this project
f. Can also then use the berm as part of the trail system and also perhaps to expand ball game seating
g. As this is not a Corps flood-protection structure, we can plant trees; can use construction material as it becomes available to have enough dirt to build it (8' high in the SE corner, 4-5' in the NW corner)
h. On the west berm touch-down point along the trail there, could have a wayfinding kiosk that begins progress on the gateway idea for the city, ball park, and Refuge
i. Could plant trees on the berm, likely along the sides and at the base, which helps pre-mitigate the sight-line issues

6. **Briefly walk through current version of RCIC report**
   a. Report should reflect discussion above; acquisition, regional planning/thinking, long-term collaboration – tie to Framework at top of Goals and Strategies
   b. Need to add the *revised* C2 map
   c. Shakopee has no additional changes
   d. Others still reviewing
   e. FHWA will look for consistency between FEIS and RCIC report especially with regard to agency obligations
   f. Gerry will check whether the Refuge maps need to be revised
   g. Carver will examine how their intersection is addressed in the intermediate steps section, and the RCIC will consider how this (as well as the area around 169) affects official mapping in those segments; it may be too risky to officially map those really soon

7. **Agree on process and timeline for RCIC review:** Convene for final review of RCIC report on 12/21, 9-noon at USFWR

8. **What, if anything, do we need to bring to various decision makers?** *To be addressed at 21 Dec meeting (meeting postponed to January 2013)*

9. **What makes sense for RCIC's future?** *See discussion above; further details to be addressed at 21 Dec meeting (meeting postponed to January 2013)*
   a. Relation to FEIS
   b. Relation to purposes and needs
   c. Relation to impacts/ issues
   d. Specific projects

10. **Confirm next steps and adjourn**

TH 41 Tier I EIS: River Crossing Implementation Collaborative (RCIC), 18 January 2013

Location: USFWS

1. **Welcome and Introductions**
   Participants:

Matt Podhradsky	Chaska City Administrator	Michael Leek	Shakopee Community Development
Diane Langenbach	MnDOT	Jennie Ross	MnDOT
Kevin Ringwald	City of Chaska	Bob Generous	City of Chanhassen
Gerry Shimek	USFWS	Bill Weckman	Carver County
Charlie Blair	USFWS	Craig Jenson	Scott County
Cindy Nash	City of Carver	Phil Forst	FHWA
Sheila Kauppi	MnDOT	Lisa Freese	Scott County
Scott McBride	MnDOT	Ann Braden	Metropolitan Council
		Anne Carroll	Carroll, Franck & Associates

2. **Check-in and updates**
3. **FEIS completion process and schedule, continued discussion**
   a. Review December 2012 revised notes and recap discussion: Anne Carroll
   b. RALF (revolving acquisition loan fund; administered by Metro Council) update: Diane Langenbach and RALF administrator Ann Braden will share detailed information; discussion follows
      - Current RALF balance is about $7.8 million
      - In recent years received some extremely large requests (many millions); haven't had to deny any requests in the past but with these large requests and some unusual/special requests, felt need to pull back and reevaluate the RALF program's effectiveness and value
      - Group of stakeholders reached consensus to continue RALF but hire consultant to do financial analysis; consultant's report confirmed that with land prices increasing over time, the RALF model worked – but with the economic slump starting in 2007 the buy-low-sell-high model was at risk
      - MC is completing the financial analysis and report over the next three months and the RALF program should then be ready to take requests for this and other projects
      - There are not limits to the amount of time that locals can hold properties under the RALF program, but such lands typically go off the tax rolls so there are implications for everyone
      - Using these funds does require official mapping prior to purchase, which is typical and anticipated as part of this corridor EIS process
      - RCIC members noted that parcels were identified as part of the DEIS, although that would need some updating
      - Property *can* be used in the interim; revenues used to cover costs and the excess is returned to the RALF
      - Question: What about the problematic intersections where it's not clear what will happen – so what would be purchased? *Discussion*:
        - With the Hwy 169 project, locals ended up purchasing more parcels than were needed and in the end they were sold back

- There are major community and political challenges if locals fill the corridor with new homes and businesses in the meantime
- Worth trying to find ways to preserve the corridor now, map it, and access funds to buy out willing sellers
- Relatively easy to identify the *primary* parcels that would be purchased from willing sellers, but harder to determine what to do with parcels on the edge of the corridor
- Very tough for many communities with long-term projects; Chaska had a positive experience with the long-term Hwy 212 project that generated a lot of community support – worked pretty well; Shakopee has done similar successful planning and property acquisition for Hwy 169
- In the next TPP update it would be good to note this FEIS as being completed and moving forward; this would help ensure it's out in multiple public places being recognized and supported

c. Scott McBride, Metro District Engineer, will describe MnDOT's commitment to this effort once the FEIS and ROD (record of decision) are complete; discussion follows
   - Astounding to see that a large group of people has come together and reach agreement on this very challenging corridor
   - MnDOT had a lot of debate about whether to finish this EIS because it is past the long-term funding horizon – but remember the 1974 process that was not completed and forced this redo; astonishing to see the quality of the work done in this process, and not convinced this could be replicated in the future, and thus renewed our commitment to finishing this
   - This region will continue to grow and we will get to this point in the future, so we must finish; MnDOT more than willing to be an active partner and to include this in the 2014 TPP update (work starting now); would certainly support official mapping and RALF funds being used to acquire property from willing sellers – especially when MnDOT's funds are required for nearer-term projects. Our message is we'll be an active partner and supportive of this, given this collaborative has come together around a corridor we can all support. Will continue to be a part of the RCIC to continue moving this forward. TPP needs to reflect appropriate things so corridor is positioned to go after RALF funding. Expect that in later 80s and early 90s in the 212 process, it was also planned much farther out but then suddenly it needed to move right away *and because the work had continued to progress locally* it was ready to go that quickly.
   - MnDOT's continued work on the 101 corridor as an interim project is much appreciated by Scott County, Shakopee, Chanhassen
   - Work of the RCIC has helped all the pieces fit together

4. **Continue working through latest RCIC report**

   a. Per 12/12 discussion, report should reflect RCIC discussion of that date around acquisition, regional planning/thinking, long-term collaboration, and those issues should be tied to the Framework, Goals, and Strategies: Upon careful review of the report, these issues are already addressed at length. *Are there specific further changes that RCIC members would like to see?*

   b. Chaska and Shakopee have completed their review of the report and have no further changes. *What input do others have?*
      - Edit to 3.7.4; done

   c. FHWA previously agreed to check consistency between FEIS and RCIC report especially with regard to agency obligations. *What are the results of that review?*

- Two remaining issues: question about consistency with local plans and potential interchange at CR 61
- Those will be further discussed as necessary with the goals and strategies at next RCIC meeting

d. USFWS previously agreed to check whether the Refuge maps need to be revised. *Results*?
   - Provided by USFWS – 1 map showing rerouting of C2 around ballpark
   - New recreational activities map
   - Agreement is to 1) add the map showing the revised alignment on USFWS property, 2) add federal, regional, and local recreational resources to map – adding accompanying text to clarify the collaboration among the parties
   - Diane will provide Gerry with the baseline shape files; **Gerry** will prepare revised maps; Anne will insert into document

e. USFWS:
   - Need additional bullets around access issues for Refuge (goal 8)
   - Task Force of Gerry, Mark, and Kevin will draft these for next meeting

f. Carver previously agreed to examine how their intersection is addressed in the intermediate steps section of the report. *What are the results of that examination?* The RCIC agreed to consider how the Carver intersection issues and the area around 169 affect official mapping in those segments (it may be too risky to officially map those very soon). *How do we want to proceed?*
   - Need to add specific references to CSAH 11 in the RCIC body section for intermediate activities (under Goal 6) and guidance for Tier II
   - Added sections in RCIC report
   - Task Force of Cindy, Kevin, Gerry, Diane will draft text for review at next RCIC meeting

g. Local access TH 41/169/69:
   - Check current or in-progress intermediate activities and guidance for Tier II and edit as necessary to ensure they include discussion of the importance of this, interchange distances, etc.
   - TF of Lisa, Cindy (wearing her township hat), Michael, and Diane will draft some text or bullets for review at the next meeting

5. **RCIC Framework, Goals, and Strategies:** Deferred to next RCIC meeting

   a. The RCIC has not carefully reviewed these since the fall of 2009, and even then some of the strategies were closer to brainstorms than a definitive list. *Given the changes since then, review and discuss the contents and reach consensus on final text.*

6. **Further formal interactions with local decision-making bodies**

   a. What, if anything, do we need to bring to various decision makers?

   b. Regarding the DEIS comment letters, what are the requirements to complete the FEIS and ROD, what obligations or options do RCIC have, etc.?

   c. Reach consensus on how to proceed

   d. *Discussion:*
      - In 2007 organizations submitted comment letters that would typically be responded to formally by MnDOT
      - But with the RCIC process, MnDOT understood that the work in this report supersedes formal responses to the comment letters

- Carver and Scott County had issues in their comment letters that weren't included in the RCIC report
- Discussion of the process for EIS comment letters and responses
- Shakopee suggested that the various RCIC members could go to their decision-making bodies and present the recommendation that the RCIC report responds adequately to the majority of the issues raised, and most of the rest will be addressed in the Tier II process
- Carver's new content (see notes above) for intermediate activities and guidance for Tier II aren't yet drafted, so Council is not yet ready to feel confident that the RCIC report does adequately address their issues
- Would be very important to include in the RCIC's final report the key issues that the RCIC members/decision-making bodies state as still outstanding; this will help guide the RCIC's future work
- Likely still need to have some "formal" responses to the comment letters, although much of the content will be in the form of "see RCIC report" and "to be addressed in Tier II"
- MnDOT concerned about the volume of work around the response to c. 700 comments; Diane will see what's already been done and how massive this is, and update everyone as soon as possible
- RCIC members will review their own letters and identify which items have been addressed in the RCIC's work, will be part of Tier II work, need a different kind of response, or something else

7. **What should be the future role of the RCIC?** Discuss and agree on purpose, role, responsibilities, opportunities, membership, next steps, etc. Deferred to next RCIC meeting.

8. **Confirm next steps and adjourn**

TH 41 Tier I EIS: River Crossing Implementation Collaborative (RCIC), *Interchange Task Force,* 11 March 2011

Location: MnDOT Cedar Avenue Truck Station, Richfield

1. **Welcome and introductions:**

Cindy Nash	City of Carver, planner	Lisa Freese	Scott County
Gerry Shimek	USFWS	Kevin Ringwald	City of Chaska
Michael Leek	City of Shakopee	Diane Langenbach	MnDOT Project Manager
Craig Jenson	Scott County	Mark Cleveland	DNR
Cynthia Wheeler	DNR (replacing Mark Cleveland on RCIC)	Anne Carroll	Carroll, Franck & Associates; public involvement, facilitator

2. USFWS and DNR language related to Goals 8, 9, and 10
   e. Will include updated access points for foot and snowmobile trails (see map provided by Gerry Shimek, USFWS)
   f. Need to ensure access to trails along current TH 41, plus access from Chaska athletic park to the Refuge
   g. Made minor adjustment to "Goals 8 and 9, Public Access and User Impacts: Agreed-upon Strategies to Avoid, Minimize, Mitigate Impacts" to include trail continuity
   h. Verified that recommended intermediate activities gathered baseline data about impacts
   i. Verified that maintenance activities were ensured and protected over time (Goal 10)

3. Interchange of TH 41/CSAH 11/TH 212: New content added to RCIC report under Goal 6

4. Local access TH 41/169/69: Added new bullet to RCIC report under 3.7.12 on intermediate activities about collaborative implementation of land use and transportation

TH 41 Tier I EIS: River Crossing Implementation Collaborative (RCIC), 11 March 2011

Location: MnDOT Cedar Avenue Truck Station, Richfield

1. **Welcome and introductions**

Cindy Nash	City of Carver, planner	Lisa Freese	Scott County
Gerry Shimek		Kevin Ringwald	City of Chaska
Bob Generous	City of Chanhassen	Philip Forst	FHWA
Jennie Ross	MnDOT	Connie Kozlak	Met Council
Michael Leek	City of Shakopee	Matt Podhradsky	City of Chaska
Craig Jenson	Scott County		
Cynthia Wheeler	DNR (replacing Mark Cleveland on the RCIC)	Diane Langenbach	MnDOT Project Mgr
Bill Weckman	Carver County	Mark Cleveland	DNR
		Anne Carroll	Carroll, Franck & Associates; public involvement, facilitator

1. **Updates**: Mark Cleveland of DNR is moving to new position and Cynthia Wheeler is replacing him on RCIC

2. **Schedule update** (Diane Langenbach and Phil Forst)
   a. Following review and finalization by RCIC, send FEIS to FHWA no later than mid-May
   b. FEIS then goes to cooperating agencies (30 days) and for legal sufficiency review; USFWS, Corps, DNR, EPA, etc., are some of the cooperating agencies and play a key role in moving this forward and addressing issues along the way; this helps ensure that regulatory agencies are on the same page and the document is adjusted accordingly before going out for official public comment
   c. After those review, RCIC hosts public meeting about 15 days following FEIS publication and beginning of 30-day public comment
   d. Record of Decision issued
   e. *Phil/Jennie/Diane will prepare timeline and distribute to RCIC*

3. **Comments/comment letters:**
   a. SRF has already addressed all comment letters except from the RCIC
   b. RCIC members were going to review their previous comment letters
   c. Scott County: Some comments were addressed in the RCIC process, others will be addressed during the ongoing work
   d. Shakopee: Some comments related to corridors that weren't selected; others relate to Tier II; and the rest are addressed in the RCIC's work
   e. USFWS: Needs to be assured that the RCIC's work has standing going forward. FHWA: this RCIC report is the legally required public input process, and not binding. Both the comment letters and the RCIC report contents include references to Tier II. It would be important to get updated letters from the agencies clarifying what issues are included in the RCIC report contents and which are still outstanding. USFWS: Some of these comments were from the larger entities such as Department of Interior, which make it complicated to manage the process.

f. Chaska: would be beneficial to make clear what the RCIC's work accomplished, and what still needs to be done; will issue additional letter (both to be kept in the FEIS documentation) to which MnDOT would respond
g. None of the RCIC members would be prohibited from providing a new letter to MnDOT reflecting on changes since the original comment letters in 2007. Shakopee intends to do this. Chaska will begin some of this work now, which will also help ensure the Council is fully up to speed and prepared to issue their final comment letter on the FEIS. Carver will do the same, as will Scott County.
h. *Conclusion:*
   - MnDOT will send a formal letter explaining the relationship between the RCIC's report conclusions and the DEIS, how it changed the FEIS, how it shapes future work, and the FEIS timeline
   - MnDOT will send copies of original comment letters to Carver County and DNR

4. **ROW acquisition options, common messages:**
   a. Connie Kozlak:
      - Met Council recently received consultant's draft report on RALF value and will combine with Task Force input to provide to Council
      - Anticipates that later this year the Council will lift the moratorium
      - Notes that there haven't been a lot of repayments recently and not clear how quickly those will be repaid so those funds can be lent out again (repayments depend on roads being built, which may be a long way out)
   b. Chaska:
      - Needs more detailed guidance about how to proceed with their official mapping and whether RALF funds will be available
      - Met Council reminds that it must be officially mapped in order to access RALF funds
      - Complex conundrum for locals because this is so far out

5. **Interchange Task Force results:** Reported to group; see those notes for details

6. **RCIC's future work**
   a. RCIC final draft and letter from MnDOT will go to RCIC members for review and "track changes" comments in next two weeks; 1-week deadline
   b. To plan the joint public meeting, RCIC will meet as the FEIS is sent for legal sufficiency review (c. 45 days prior to release); potential locations include the Chaska Community Center, Scott County Government Center

APPENDIX B

Correspondence

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Minnesota Department of Transportation

Office of Environmental Services
Mail Stop 620
395 John Ireland Boulevard
St. Paul, MN 55155

Office Tel: (651) 366-3633
Fax: (651) 366-3603

March 28, 2013

Dr. Mary Ann Heidemann, Manager
Government Programs & Compliance
State Historic Preservation Office
Minnesota Historical Society
345 Kellogg Blvd. W.
St. Paul, MN 55101

RE: S.P. 1008-60 (TH 41 River Crossing Study, Carver and Scott Counties)

Dear Dr. Heidemann:

We have reviewed the above-referenced undertaking pursuant to our FHWA-delegated responsibilities for compliance with Section 106 of the National Historic Preservation Act, as amended (36 CFR 800), and as per the terms of the Programmatic Agreement (PA) between the FHWA and the Minnesota State Historic Preservation Office (SHPO) (June 2005) and the Historic Bridge PA between the FHWA and SHPO (February 2008).

The proposed action is the future construction of a new Minnesota River crossing connecting TH 169 in Scott County and the proposed realigned TH 212 (New TH 212), north of the existing TH 212 corridor in Carver County in the vicinity of existing TH 41. Six alternatives were considered.

- Alternative W-2 is located in the western portion of the study area.
- Alternative C-2 is in the central/western portion of the study area.
- Alternative C-2A is located in central portion of the study area.
- Alternative E-1, E-1A and E-2 are located in the eastern portion of the study area.

Because the project was not funded, it was determined that the environmental review document would be a Tier 1 EIS, and if and when the project was funded in the future, a Tier 2 EIS would be completed. Our office conducted archaeological and architectural history surveys based on the alternatives listed above, and submitted our determinations on the eligibility of the identified properties. These determinations are documented in our letters dated July 13, 2006 and August 24, 3006 regarding this project. Your office responded on September 27, 2006. Please see the enclosed letters for a full listing of properties identified during the Section 106 review completed as part of this Tier 1 process.

MnDOT is currently wrapping up the Tier 1 EIS. There was discussion on if the Section 106 process should be wrapped up through a project-specific Programmatic Agreement. Discussions between FHWA, your office and ours lead to the determination that such an agreement does not make sense, since it will likely be many decades before a potential Tier 2 EIS for this project would begin again and the tracking and management of such an agreement would be difficult. Instead, it was agreed that I would write to your office and document what work has been completed to date, and what will happen when and if the Tier 2 process begins in the future.

The enclosed copies of correspondence adequately address what determinations and findings were made as part of this Tier 1 EIS. If the project begins again and a Tier 2 EIS is started, our office, on behalf of FHWA, will re-initiate the Section 106 review, which will follow all applicable requirements under 36 CFR 800 or any Section 106 Programmatic Agreement in effect between our offices at that time. This work will include, but not necessarily be limited to, re-assessing and potentially adjusting the area of potential effect (APE), conducting additional survey work to identify any additional historic properties (archaeological and standing structures) or to update the status of the previously identified properties (e.g., to assess if they still retain sufficient integrity), consulting with the public and other interested parties, and findings of effects.

Since our Metro District is working to complete the Tier 1 EIS in April 2013, I respectfully request a response from your office in less than 30 days, if possible. Thank you for all the time and assistance your office has put into this project. Please let me know if you have any questions or concerns.

Sincerely,

Kristen Zschomler

Kristen Zschomler, RPA
Historian/Archaeologist
Cultural Resources Unit (CRU)

cc: Phil Forst, FHWA
Abbi Ginsberg, FHWA
Diane Langenbach, MnDOT Metro
Nancy Frick, SRF Consulting
Mn/DOT CRU Project File

Minnesota
Historical Society
STATE HISTORIC PRESERVATION OFFICE

Using the Power of History to Transform Lives
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April 29, 2013

Kristen Zschomler
MnDOT Cultural Resources Unit
Transportation Building, Mail Stop 620
395 John Ireland Boulevard
St. Paul MN 55155-1899

RE: S.P. 1008-60
TH 41 River Crossing Study
Carver and Scott Counties
SHPO Number: 2011-0455

Dear Kristen:

Thank you for summarizing consultation to date on the above-referenced project. As you are aware, our office has participated in developing and reviewing the new materials included in the river crossing study referenced above, according to the responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and implementing federal regulations at 36 CFR 800 and responsibilities given the Minnesota Historical Society by the Minnesota Historic Sites Act and the Minnesota Field Archaeology Act.

We are grateful that historic and cultural resources have been considered during the research and evaluation of route alternatives undertaken as part of the Tier I EIS for this project. We agree with your determination that a Programmatic Agreement at this stage of project review would not be appropriate, because the project is not yet funded, and unlikely to be constructed for more than ten or twenty years hence. Prior to actual construction of this project, we understand that a Tier II EIS will be prepared, including additional consultation under Sec. 106 of the National Historic Preservation Act.

Meanwhile, we agree that it is important to document the cultural resource and route selection work completed to date. We believe that your letter dated March 28, 2006, along with prior project correspondence and the Tier I EIS draft itself properly provide that documentation. With this in mind, our office fully supports the completion of the Tier I EIS, because it has appropriately taken cultural resources into consideration as an important factor in project planning and development.

We look forward to seeing this stage of the project completed. Meanwhile, if you have any questions regarding this review, feel free to contact me at (651) 259-3456.

Sincerely,

Mary Ann Heidemann, Manager
Government Programs and Compliance

cc: Phil Forst, FHWA
Diane Langenbach, MnDOT Metro

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REC'D
MAY 0 8 2014
MN - FHWA

MAY 0 1 2014

REPLY TO THE ATTENTION OF
(E-19J)

Phil Forst
Environmental Specialist
Federal Highway Administration
380 Jackson Street, Suite 500
St. Paul, Minnesota 55101-4802

RE: Cooperating Agency Draft of FHWA/MnDOT Tier 1 Final Environmental Impact Statement, TH 41 Minnesota River Crossing, From US Highway 169 to New US Highway 212, Scott County and Carver County, Minnesota.

Dear Mr. Forst:

The United States Environmental Protection Agency Region 5 (EPA), as a cooperating agency, has reviewed the above-referenced Cooperating Agency Draft of the Tier 1 Final Environmental Impact Statement (Draft Tier 1 FEIS) dated December 2013, as requested in your March 14, 2014, letter. Our cooperating agency comments on the Draft Tier 1 FEIS are being submitted now in order to meet the May 5, 2014, due date designated in your letter. EPA will submit a separate letter regarding concurrence point #3 (Preferred Alternative), after we participate in FHWA/MnDOT scheduled May 9, 2014, Tiered NEPA/Section 404 merger process meeting with the U.S. Army Corps of Engineers (Corps) and the U.S. Fish and Wildlife Service (USFWS).

The Draft Tier 1 FEIS is a condensed format and incorporates by reference the 2007 Tier 1 DEIS. The Draft Tier 1 FEIS focus is on changes in the project, its setting, impacts, technical analysis, and mitigation that have occurred since the Tier 1 DEIS. The Draft Tier 1 FEIS identifies a Preferred Alternative corridor route: a modification of the Tier 1 DEIS C-2 Alternative. The Draft Tier 1 FEIS explains the basis for its selection as the Tier 1 FEIS Preferred Alternative as recommended by the River Crossing Implementation Collaborative (RCIC) in RCIC's December 2013 *TH 41 EIS: River Crossing Implementation Collaborative Process and Outcomes Report* (RCIC 2013 Report).

Only a portion of the RCIC 2013 Report is included in the Draft Tier 1 FEIS (Appendix A-1). The portion of the RCIC 2013 Report in the Draft Tier 1 FEIS does not substantiate/document (i.e., via agency letters or official meeting minutes, etc.) each local, state and/or federal agency's concurrence with the RCIC 2013 Report recommendations, including the RCIC Preferred Alternative, prior to release of the RCIC 2013 Report. According to the Draft Tier 1 FEIS (Appendix A-1, Page i), both USFWS

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and the Corps participated in the RCIC.

1 **Recommendation**: We recommend the entire RCIC 2013 Report be included in the Tier 1 FEIS, as Appendix A-2. We advise the Tier 1 FEIS include the letters and/or the official RCIC and/or RCIC subgroup meeting minutes that substantiate that USFWS and Corps, if applicable, participated in the RCIC and documents their concurrence or not with the recommendations, including the RCIC Preferred Alternative identified in the RCIC 2013 Report.

The Draft Tier 1 FEIS briefly identifies that this project is going through a Tiered EIS NEPA/Clean Water Act (CWA) Section 404 concurrent review (Tiered NEPA/404 merger process). The Corps and EPA letters on concurrence points #1(Purpose and Need) and #2 (Range of Alternatives) are included in the Draft Tier 1 FEIS (Appendix B). However, there is no letter regarding concurrence points #1 and #2 from USFWS. In addition, the document does not provide an explanation nor discuss the importance of the Tier 1 NEPA/404 concurrent review process for this project. To date, concurrence point #3 (Preferred Alternative) is still under discussion/consideration, at least, until after the May 9, 2014, NEPA/404 merger process meeting identified earlier.

2 **Recommendations:** EPA recommends the Tier 1 FEIS provide a concise explanation of the Tier 1 NEPA/404 concurrent review process for this project, including whether or not the process may be used during Tier 2. We recommend the Corps' July 13, 2007, Special Public Notice be included in the Tier 1 FEIS. In addition, the Tier 1 FEIS should include the Corps, USFWS and EPA letters regarding concurrence points #1, #2 and #3.

The Draft Tier 1 FEIS Preferred Alternative is the Tier 1 DEIS C-2 Build Alternative with the horizontal alignment modified to avoid direct impacts to Athletic Park (Chaska Cubs Ball Field) in the City of Chaska and to an Environmental Justice community (Jackson Heights) in Jackson Township. This alternative also minimizes impacts to the Spring Creek neighborhood in the City of Carver. However, the modification that avoids direct impacts to the Athletic Park increases impacts, in part, to the USFWS Minnesota Valley National Wildlife Refuge (MVNWR), wetlands, forest, core forest, and habitat. The Draft Tier 1 EIS discloses that construction of the TH 41 project is not currently listed in the MnDOT 20-year construction plan. It is possible that changes to the Athletic Park may occur between now and Tier 2 that would make the park ineligible for listing on the National Register of Historic Places (NRHP).

3 **Recommendation:** To reduce impacts to the MVNWR and natural resources if the project moves forward into Tier 2, EPA recommends that MnDOT and FHWA consider identifying a Tier 1 FEIS Preferred Alternative that allows for re-evaluation and, if applicable, modification to the Tier 1 FEIS Preferred Alternative corridor route in the Chaska area.

We look forward to further discussions with FHWA, MnDOT, USFWS, the Corps and other resource agencies concerning the Draft Tier 1 FEIS identified Preferred Alternative

corridor route and concurrence point #3 of the Tiered NEPA/404 merger process prior to publication of the Tier 1 FEIS.

When finalized, EPA requests two hard copies and 4 DVDs of the Tier 1 FEIS, for our independent review and comment. If you have any questions, please contact Virginia Laszewski of my NEPA Implementation staff at (312) 886-7501.

Sincerely,

Kenneth Westlake, Chief
NEPA Implementation Section
Office of Enforcement and Compliance Assurance

cc: Tamera Cameron, U.S. Army Corps of Engineers, 180 Fifth Street East, Suite 700, St. Paul, Minnesota 55101-1678
Diane Langenbach, Project Manager, MnDOT-Metro Program Delivery, 1500 W. County Road B-2, Roseville, Minnesota 55113
Gerry Shimek, Supervisory Refuge Specialist, U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge, 3815 American Blvd. East, Bloomington, Minnesota 55425

APPENDIX B-1

NEPA/Section 404
Concurrence Process

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SRF No. 0076179

TH 41 Over the Minnesota River – EIS
Agency Meeting
NEPA/Section 404 Merger Process

Federal Highway Administration (FHWA) Offices
St. Paul, Minnesota
Monday, February 4, 2008 1:00-3:00 p.m
DRAFT FOR FHWA AND MN/DOT REVIEW

Cheryl Martin	FHWA	Joe Yanta	COE
Tamara Cameron	COE	Dennis Gimmestad	SHPO
Diane Langenbach	Mn/DOT	Mark Cleveland	DNR – State Parks
Virginia Laszewski	EPA	Molly Shodeen	DNR
Phil Forst	FHWA	Nancy Frick	SRF
Nick Rowse	USFWS		

MEETING PURPOSE

For the TH 41 Minnesota River Crossing project, the Federal Highway Administration (FHWA) and the Corps of Engineers (COE) have agreed to a merger of the National Environmental Policy Act (NEPA) review process and the Clean Water Act (CWA) Section 404 permit evaluation process (NEPA/404 merger). The purpose of this merger process is to incorporate CWA Section 404 regulatory requirements into the project planning/NEPA review process, to achieve an orderly, concurrent review process. FHWA and COE have established the concurrence points of this merger process; these concurrence points reflect key milestones in the project. The purpose of the meeting was to secure concurrence among agencies with water resource responsibilities on the first two of these points, as described below.

BACKGROUND

Cheryl Martin reviewed the background of the merger process which was initiated by request from FHWA and Mn/DOT to COE. Cheryl noted that this process of documented agreements will be particularly useful because the project is in a tiered NEPA process. The outcome of the Tier I process will be a corridor for preservation; detailed design of the project will be evaluated in a Tier II process to occur closer to construction, which is expected to be many years away. While the NEPA/404 merger process does not guarantee that a project will be permittable, it does give the indication that, based on current information, the project would likely satisfy Section 404 requirements. It is expected that the merger process would carry into the Tier II process.

It was noted that many of the agencies attending the meeting are represented on the project Study Advisory Committee (SAC) and that staff attending the meeting are familiar with the project.

Tamara Cameron reported that a public notice was issued for the Section 404 process at the time that the Tier I Draft Environmental Impact Statement (DEIS) was issued for public review. Environmental Protection Agency (EPA) staff had commented on the draft of this notice. There was a station at the DEIS public hearings with displays and a handout specific to the Section 404 process; special comment forms to be submitted to the COE were also available at the public hearings. COE staff reported that no comments were received. It was noted that many of the comments that Mn/DOT received on the DEIS cited concerns about wetlands either generally, or specifically regarding Seminary Fen.

CONCURRENCE

Three concurrence points will be addressed during the merger process occurring during the Tier I EIS stage. The purpose of this meeting is to secure concurrence from the water resource agencies on the first two of these: Purpose and Need, and Range of Alternatives. The third point will be the Alternatives Analysis and LEDPA (see below).

COE staff advised that SHPO staff was invited to the meeting because certain alternatives have cultural resource impacts that will be addressed under Section 106, and that are important for the other agencies to understand as project decisions are made. The potential that Section 106 impacts might result in an alternative no longer being the "least environmentally damaging *practicable* alternative" (LEDPA) was noted.

Purpose and Need

Diane Langenbach reviewed the purpose and need for the proposed new Minnesota River crossing. The project is needed to (1) alleviate congestion on existing TH 41 through downtown Chaska, which is heavily congested today and is expected to experience 10 hours of congestion per day under 2030 No Build conditions; (2) construct a river crossing in the project area that is above the 100-year flood level, since there has been frequent and sustained flooding that has closed the existing TH 41 bridge and nearby bridges, creating extensive regional traffic delays and congestion as well as emergency service concerns; and (3) provide an interregional connection between TH 169 and New TH 212. Existing TH 41 will remain in order to provide the local connection across the river.

The purpose and need for the project is not expected to change in Tier II. There were no additional questions about the need for the project.

COE and FHWA staff will develop a succinct Section 404 Purpose and Need statement and distribute it to agencies. While the merger process only needs to include the federal agencies (FHWA, COE, EPA, and Fish and Wildlife Service [FWS]), it was agreed to also include Minnesota Department of Natural Resources (DNR), Minnesota Pollution Control Agency (MPCA) and the Minnesota Board of Water and Soil Resources (BWSR).

Cheryl Martin will contact MPCA and BWSR (staff were not in attendance). Cheryl is also planning to meet with Charlie Blair, the new FWS Refuge Manager.

Dennis Gimmestad advised that SHPO might be a concurring party regarding Purpose and Need, but not be a concurring party for other points.

Tamara Cameron explained that the COE will issue a second Section 404 public notice concurrent with the FHWA-Mn/DOT publication of the Final EIS (FEIS). This second Section 404 notice would indicate that the SHPO had been consulted.

Range of Alternatives

Diane Langenbach reviewed the scoping process that identified over 20 alternatives and brought forward six of these into the DEIS for detailed analysis. A figure showing the alternatives was distributed. As the meeting attendees were familiar with the alternatives, there was little discussion.

MITIGATION DISCUSSION

Virginia Laszewski recommended more discussion among all the resource agencies to better pinpoint opportunities for mitigation now, so that these opportunities are not lost in the interim between the Tier I and Tier II processes. Mark Cleveland and Nick Rowse indicated that there are opportunities on the state park and refuge lands for wetland enhancement and re-establishment of the floodplain forest.

Dennis Gimmestad observed that vegetation planted now would have time to establish a screen for the future project. Dennis suggested that the Advisory Council on Historic Preservation be contacted for guidance about how to successfully address mitigation of cultural resource impacts in a tiered process.

It was noted that advance mitigation could be transferred to other projects if it is later determined to not be needed for the river crossing project.

It was recommended that a mitigation working group be established.

NEXT STEPS

Mn/DOT and FHWA continue to meet with stakeholder groups as they move toward a recommended preferred alternative. There was discussion of the issues involved in the preferred alternative decision. A SAC meeting will be held when a preferred alternative is selected for recommendation.

The next merger concurrence milestone will be the NEPA preferred alternative-Section 404 LEDPA.

The FEIS will be prepared that updates the information in the DEIS, presents the impacts of the preferred alternative, discusses mitigation (appropriate for Tier I) and responds to comments. The FEIS will discuss the NEPA-Section 404 merger process and concurrences.

The conclusion of the process will be a NEPA Record of Decision (ROD) issued by FHWA and a Section 404 Administrative Record issued by the COE.

The group discussed how the project and related agreements would be updated in the interim between the Tier I and Tier II processes. The group recommended that agencies establish a contact staff person to be updated as staff turns over and that Mn/DOT distribute annual project updates that track mitigation.

SRF No. 7917

FINAL MEETING SUMMARY

TH 41 River Crossing Project

NEPA/Section 404 Meeting

Tuesday, March 26, 2013, 9:00 a.m. to 11:00 a.m.
MnDOT Central Office, Room 421

1. **Introductions.**

   Meeting/Conference Call Attendees:

   Diane Langenbach, MnDOT
   Jennie Ross, MnDOT
   Phil Forst, FHWA
   Virginia Laszewski, USEPA (via phone)
   Janice Cheng, USEPA (via phone)*
   Mary Ann Heidemann, SHPO*
   Nancy Frick, SRF Consulting
   Peter Leete, MN DNR*
   Michael MacDonald, MN DNR*
   Tamara Cameron USACE
   Chad Konickson, USACE*
   Michael Setering, USACE*
   Gerry Shimek, USFWS*

   *It was noted that several attendees (denoted with asterisk above) had not been involved in the NEPA/Section 404 merger process to date due to staff turnover.

2. **Purpose of this meeting/conference call**. Talk about the status of the TH 41 project's Tiered NEPA/404 merger concurrence process and get the Tiered NEPA/Section 404 merger concurrence process back on track since the February 4, 2008 NEPA/404 merger meeting.

3. **Project Background.** Diane L. reviewed the project history, as follows:

   - Project proposed to (1) provide a regional connection between U.S. Highways 169 and 212, (2) reduce traffic congestion particularly in downtown Chaska, and (3) provide crossing above the floodplain

   - Tier 1 process because no funding in near term, but to preserve corridor for the long term. With current transportation funding outlook, project construction is beyond the current 20-year planning horizon.

   - NEPA Scoping process resulted in six alternatives being evaluated in the Draft EIS. DEIS Alternatives: W-2, C-2, C-2A, E-2, E-1A, and E-2. The DEIS did not identify a Preferred Alternative with the intent of gathering more input before arriving at a Preferred Alternative.

- Following DEIS comment period, W-2, C-2A, E-2, E-1A, and E-2 were rejected due to impacts to various sensitive resources, and FHWA and MnDOT announced intent to carry C-2 forward as the anticipated Preferred Alternative (as best balance of minimizing impacts to various resources) but with intent to refine it to further minimize impacts. **Later in the meeting, Diane L. provided more detail about the specific impacts of all DEIS alternatives by reviewing a Powerpoint presentation that had been prepared for the DEIS public hearings (2007). This presentation is attached to these minutes.**

- Since announcement, intensive stakeholder involvement process has been underway; a group evolved into the River Crossing Implementation Collaborative (RCIC), which has worked to advise on the refinement of the C-2 alignment and to build consensus and support among communities and agencies.

- Virginia L. asked if the USACE actively participated in the RCIC. If the USACE and EPA were not participants in RCIC, then how could the RCIC give advice for Tier 2 as stated in FHWA's February 14, 2013 letter? In response to Virginia L. question about USACE and RCIC as described in the February 14, 2013 FHWA letter providing information for the meeting, Phil F. clarified that the RCIC focused on the NEPA process and not the Section 404 process. The RCIC work is a facilitated stakeholder effort to build consensus around a Preferred Alternative and address critical concerns and set a vision for future implementation.

- Virginia L. stated that EPA was operating under the notion that the TH 41 project was undergoing a Tiered NEPA/404 merged process. EPA has not received any information regarding how the RCIC came up with their Preferred Alternative recommendations. EPA expressed concern that there appears to be misinformation in the FHWA's February 14, 2013, letter that should not go uncorrected, so there will be no misunderstandings regarding what and when the USACE and EPA provided input into the Tiered NEPA/404 merger process for the TH 41 project. For example, Virginia L. states that her notes regarding the February 4, 2008 NEPA/404 merger process meeting shows EPA requested formal written concurrence be sent to the concurring agencies regarding concurrence points #1 (Purpose and Need) and #2 (Alternatives to carry forward for detailed analysis).

4. **Current Project Status.** With the RCIC having completed its stakeholder engagement/consensus work, FHWA and MnDOT are prepared to move forward with completion of the Final EIS on a Preferred Alternative that is a "Refined C-2" with corridor alignment revisions to avoid direct impacts to (1) the Chaska Cubs Ballfield, a National Register-eligible property; (2) the Jackson Heights manufactured home community, which is home to a low-income, minority population (Environmental Justice considerations); and (3) platted residential lots in Carver, near the proposed interchange with US 212. It was noted that the alignment revision that avoids the Chaska Cubs Ballfield results in greater impacts than the DEIS C-2 to the USFWS Minnesota Valley National Wildlife Refuge and to wetlands.

   The RCIC is completing a report of its activities. The FEIS will acknowledge this stakeholder effort.

Discussion

Tamara C. said that both the USACE and EPA need to learn what has occurred since the Tier 1 DEIS.

Tamara C. inquired about USACE input to the C-2 refinement. Gerry S. gave some additional information about the RCIC work (USFWS Refuge staff was involved because of the direct impacts of C-2 to the Refuge). Gerry noted that the RCIC set up task forces to deal with specific issues and that USACE (Joe Yanta) was involved in some of the task force work on impacts and mitigation.

Gerry noted that while the refined C-2 alignment does not have the least impact to the Refuge, that other alternatives had greater impacts to Environmental Justice communities and to Section 106 resources, and that this was a good faith effort to best balance impacts. Phil F. reiterated the perspective that this process resulted in a Preferred Alternative that best balance social, economic and environmental (SEE) impacts.

Peter L. inquired about DNR involvement in the RCIC. It was noted that Mark Cleveland was a regular member. The DNR's primary concern was the Seminary Fen. Gerry S. further noted that resource agency land managers that were regular members of the RCIC were charged to relay information back to their agency counterparts. Peter L. noted his recollection that impact issues with C-2 were not insurmountable.

Mary Ann H. inquired about how the Section 106 process is left in a tiered approach. Phil F. advised that there is not expected to be a Programmatic Agreement (PA) or Memorandum of Agreement (MOA) at the Tier 1 level, but will have documentation in the FEIS about Section 106 considerations, findings, correspondence, etc. Diane L. noted that Kristin Zschomler (MnDOT CRU) was preparing a summary statement about cultural resources for inclusion in the FEIS and would send to SHPO for concurrence. It was recommended that this occur as soon as possible. The FEIS should be very clear about how far the Section 106 review was taken in the Tier 1.

USFWS recommended, and EPA agreed, that the FEIS include some kind of table to allow the reader to compare the impacts of the Refined C-2 in relation to, not only the DEIS C-2, but also the other DEIS alternatives, especially in consideration of the tiered process where new staff will be involved in this process in future years.

Phil F. advised that the FEIS will be a condensed format that incorporates the DEIS by reference, so it will not include a complete revision. In response to a question, he advised that it is not planned to put out the FEIS and ROD together.

Virginia L. noted that the 2007 Tier 1 DEIS is over 5 years old. Consequently, it will be important for the Tier 1 FEIS to tell the whole project development story and have adequate documentation to substantiate the story and the decisions made.

Virginia L. asked if FHWA plans to put out the Tier 1 FEIS together with the final Record of Decision (ROD). Phil F. advised that FHWA does not plan to do this.

It was noted that the EPA, USFWS, and USACE are all Cooperating Agencies so will receive the draft FEIS for review. The expected timeframe for this is summer 2013.

5. **Previous NEPA/Section 404 Concurrence Meeting Outcome Documentation.** There was a meeting on February 4, 2008 to discuss NEPA/Section 404 Concurrence Point 1 -- Purpose and Need, and Concurrence Point 2 -- Alternatives to be Carried Forward. However, this was not formalized with correspondence. It was determined that FHWA would submit a letter to USACE, with appropriate attachments, references to the DEIS, etc., for USACE**,** USFWS**,** and EPA for concurrence on Points 1 and 2.

6. **Remaining NEPA/Section 404 Concurrence Points.** Tamara C. asked where FHWA/MnDOT would like to be in the concurrence process. Tamara C. noted that the main concern at this point for the concurrence process is Concurrence Point 3 - the Preferred Alternative. USACE would like to put the Least Environmental Damaging Practicable Alternative (LEDPA) public notice finding out with the Tier 1 FEIS notice. With the tiered process and lengthy timeframe for implementation, if there is a LEDPA finding and sound record, the USACE should be able to make the case that the alternatives question doesn't need to be revisited in the future for permitting. Tamara C. said, and Virginia L. agrees, there should be formal written concurrence and recommended two separate concurrence request letters be sent to the concurring agencies: First concurrence request letter: Concurrence Point #1 - P&N and Concurrence Point #2 - Alternatives Carried forward. Second concurrence request letter: Concurrence Point #3 - Preferred Alternative.

   It was determined that additional materials will be provided to the meeting participants prior to requesting concurrence for Point #3. Once the RCIC report is finalized, FHWA will send the Request for Concurrence Point #3 letter to USACE, USFWS and EPA, along with the RCIC report and an updated Preferred Alternative selection description from the draft of the Tier I FEIS as attachments. Then, about 2 weeks later, another meeting with the agencies will be scheduled, to present to the agencies the process for defining C-2 (including refining C-2 through the RCIC process) as the Preferred Alternative. After the meeting, the three agencies will provide their written response to FHWA's request for concurrence.

   Regarding Concurrence Point 4 – mitigation, the consensus of the group was that this could not be detailed at this time. Virginia L. advised that the Tier 1 FEIS can explain how it is expected that the NEPA/Section 404 concurrence process, including detailed mitigation, will be carried out in the Tier 2 NEPA/404 merger process, at least based on what is known now regarding the regulatory process.

   It was agreed that at this time, two letters requesting formal concurrence will be sent to the concurring agencies: First letter, requesting Tier 1 concurrence on #1 Purpose and Need and #2 Alternatives Carried Forward for detailed analysis, and a second letter requesting Tier 1 formal concurrence on #3 Preferred Alternative.

Virginia. L said that the first concurrence request letter should specifically state the purpose and need and the alternatives carried forward that we are being asked to formally concur on. The second letter requesting formal concurrence on a Preferred Alternative should have enough detailed information regarding why it is being put forward as the Preferred Alternative so that we can make an informed response. EPA would like to receive a presentation on the RCIC process and how RCIC decisions were made. Tamara C. concurs with Virginia L. that the concurring agencies will review the RCIC process. Diane L. advised that the RCIC report will be finalized soon, and then sent to concurring agencies in advance of presentation.

Other Discussion

In response to questions or as additional information, it was noted that:

- The affected communities were in agreement with the Preferred Alternative.
- The community participants in the RCIC process have provided creative ideas for mitigation in view of the lengthy implementation timeframe (e.g. early landscaping).
- There was intensive outreach effort to low-income/minority communities.
- The MPCA had been member of Study Advisory Committee but was not an active participant.
- Section 401 MPCA does not need involvement at this point in the tiered EIS process.
- Virginia L. said that it doesn't hurt to at least invite the state agencies to participate early in the process for their expertise. Let the state agencies decide for themselves whether or not they want to participate early.
- No Coast Guard determination is needed.
- This portion of the Minnesota River is a State canoe route.
- The USACE Tier 1 decision will be on a LEDPA corridor.
- DNR and SHPO will continue to be invited to the NEPA/Section 404 concurrence meetings. While not formally concurring within the process, these agency perspectives inform the process and their interests and regulatory roles are informed by the same findings about impacts, Preferred Alternative, mitigation, etc.
- Virginia L. said that all EPA comments in EPA's Tier 1 DEIS comment letter (dated August 9, 2007) are still applicable.

7. Next Steps.

Timeframe	Action By	Next Step
With 3/26/13 meeting summary	MnDOT	Send a copy of the 2007 DEIS public meeting presentation (presented to the group at this meeting) to EPA
ASAP	FHWA	Send letter to USACE, USEPA and USFWS requesting written response re: concurrence on 404 Merger Points 1 and 2. Include Purpose and Need and Range of Alternatives description from DEIS as attachments.
2-3 weeks	USACE, USEPA, USFWS	Provide written response to FHWA re: Concurrence Points 1 and 2
2-3 weeks	MnDOT	RCIC report finalized and sent to FHWA, along with Preferred Alternative selection rationale text from draft FEIS, to be used as attachments for concurrence point #3 letter to agencies.
3-4 weeks	FHWA	Send letter to USACE, USEPA and USFWS requesting written response re: concurrence on 404 Merger Point 3, including attachments.
Approximately 2 weeks after CP#3 letter is sent to agencies	All	Attend meeting/conference call to discuss concurrence point #3. MnDOT to present process for identifying and refining Preferred Alternative, including description of RCIC process.
2-3 weeks	USACE, USEPA, USFWS	Provide written response to FHWA re: Concurrence Point 3
End of May	MnDOT	Send draft Tier 1 FEIS to FHWA for review (45 days)
Mid-July	MnDOT	Revise draft FEIS based on FHWA comments and send to cooperating agencies for review/comment (30 days)

SRF No. 7917

MEETING SUMMARY

TH 41 River Crossing Project

NEPA/Section 404 Meeting

Tuesday, May 9, 2014, 10:00 a.m. to 12:00 noon
MnDOT Central Office, Room 360

1. Introductions.

Meeting/Conference Call Attendees:

Jennie Ross, MnDOT
Abbi Ginsberg, FHWA
Virginia Laszewski, USEPA (via phone)
Janice Cheng, USEPA (via phone)
Melissa Jenny USACE
Andrew Horton, USFWS (via phone)
Nancy Frick, SRF Consulting (via phone)
Ken Westlake, USEPA (via phone)

Note: Phil Forst, primary FHWA staff for this project, is on medical leave. Diane Langenbach, MnDOT project manager, was delayed, but followed up with on-site attendees after the conference call ended; content of that discussion is noted where relevant in these minutes.

Notes have also been added to provide additional information to inform questions or discussion points that were raised during the meeting.

2. Purpose of this meeting/conference call.

Discuss/respond to any questions from USACE, USFWS and USEPA regarding the FHWA request for concurrence with the identified Preferred Alternative for the TH 41 River Crossing (Concurrence Point 3 – NEPA/Section 404 Merger Process). FHWA provided the request for concurrence to USACE, USFWS and USEPA by letter dated March 14, 2014. Subsequent email communications requested that agencies provide FHWA with written correspondence regarding Concurrence Point 3 by May 23, 2014, i.e. two weeks following the May 9 meeting.

3. Main Discussion Points.

- The status of NEPA/Section 404 Merger Process Concurrence Points 1 (Purpose and Need) and 2 (Alternatives to be carried forward for further study) was noted, i.e. USACE, USEPA, and USFWS had provided written concurrence with these points. Andrew H. will send a copy of the USFWS concurrence letter (sent previously to FHWA) to USEPA, USACE and MnDOT. Virginia L. recommended that the concurrence letters be included in the Tier I FEIS.

- The Cooperating Agency Draft of the Tier I FEIS for the project was submitted to USACE, USFWS and USEPA March 14, 2014, with the request for comments by April 30, 2014. Comments have been received from USEPA. Andrew H. was coordinating with Gerry Shimek (USFWS Minnesota Valley National Wildlife Refuge) on USFWS comments and hoped to have USFWS comments prepared shortly. Melissa J. indicated that she was preparing USACE comments. Jennie R. requested that comments be received within the same time frame as the Concurrence Point 3 correspondence so that the process could continue forward in a timely way.

- Regarding NEPA/Section 404 Merger Process Concurrence Point 3 (Preferred Alternative), the March 14, 2014 FHWA correspondence included the relevant chapter from Tier I FEIS Cooperating Agency Draft.

- The TH 41 river crossing project is not programmed and not expected to be constructed for 20-50 years. The purpose of the Tier I NEPA process is to identify a broad corridor for preservation so that communities can plan around it and designate it in land use plans. This allows for local public agencies (LPAs) to do "Official Mapping," and it also allows for local governments to use State Revolving Loan Funds to purchase land within corridor as it becomes available.

- A 300-ft corridor (greater where appropriate to account for topography and at interchanges) was used to calculate impacts.

- Virginia L. commented that the Tier I Preferred Alternative should allow for re-evaluation and modification in the Refuge/Chaska ball field area. Jennie noted that at the time of the Tier II NEPA process, changes in setting, regulations, and other relevant information would be considered to re-evaluate/reaffirm the corridor at that time, and identify if any changed conditions would influence the preferred alternative corridor. A detailed alignment within the corridor would be developed during the Tier II process, including efforts to further minimize impacts. However, at this point, it is important to be clear about the corridor that has been identified so that agencies and municipalities can plan for it.

- There was discussion that the Preferred Alternative has greater wetland impacts than DEIS Alternative C-2. This increase in wetland impacts is in the short segment where the alignment was altered to avoid direct impacts to the Chaska Cubs Ball Field, a National Register of Historic Place (NRHP)-eligible site, which would be eliminated by the DEIS Alternative C-2 alignment.

    - **Note**: As described in the Tier I FEIS Cooperating Agency Draft "Only Practicable Alternative Finding" (Section 9.5.3), all six DEIS Build Alternatives have wetland impacts, ranging from 9.0 to 16.1 acres. The DEIS Alternative C-2 has 10.9 acres and the Preferred Alternative as 13.2 acres of wetland impacts. These impact calculations are based on a 300-ft. wide corridor and the NWI.

- Virginia L. inquired about the detail of the NRHP-eligibility of the Chaska Cubs Ball Field.
    - **Note:** MnDOT CRU determined that the Chaska Cub Ball Field was locally significant under Criterion A in the areas of recreational and social history (relating to the post-World War II Minnesota town ball phenomena), and retains the key features of a 1950s ball field such as a wood and cinderblock grandstand, wood bleachers, chicken-wire screen, announcer's booth, and concession stand; wooden or cinderblock dug outs; a grassy infield (unlike a softball infield that has no grass); and large flood lights that allowed for evening games.
- Virginia L. inquired as to agency involvement in the River Crossing Implementation Collaborative (RCIC).
    - **Note:** The RCIC grew out of the intensive stakeholder engagement process which began following FHWA and MnDOT announcement of DEIS Alternative C-2 as the recommended preferred alternative. The work of the RCIC first secured consensus among key stakeholders that the other DEIS alternatives should be dismissed, and then collaborated on the refinement of DEIS Alternative C-2 in order to further minimize negative impacts. This resulted in agreement on the modified Alternative C-2 as the preferred alternative that should be carried forward in the Tier I FEIS.
- It was discussed that, in addition to FHWA and MnDOT, the key parties actively participating in the RCIC included the cities and counties, USFWS Refuge staff and MnDNR staff, reflecting the key trade-offs considered in the refinement to DEIS Alternative C-2.
    - **Note:** Shortly after conference call, Diane L. discussed with attendees present at MnDOT Room 360, that while USACE staff Joe Yanta had not attended all of the RCIC meetings (since much of the RCIC discussions did not relate to USACE's permitting issues), Diane had met with Joe and/or invited him to RCIC meetings at key decision points, to make sure that he was informed and he had an opportunity to comment on the issues and decisions being made.
- Virginia L. recommended that the entire RCIC Report be included in the Tier I Final EIS, so as to document the details of the stakeholder group's discussions.
- Nancy F. relayed that in its comments on the Draft EIS, USACE expressed support for the C-2 alternative.
    - **Note**: Appendix E of the Tier I FEIS Cooperating Agency Draft includes the USACE comment letter on the Draft EIS; this letter also recommended shifting the alignment as far from the ball field as feasible to avoid direct impacts to it.

- Jennie R. commented that the USACE would need to address NEPA and Section 106, and that, in making its Least Environmentally-Damaging Practicable Alternative (LEDPA) finding, would take into account whether alternatives with lesser wetland impacts would have other substantial adverse environmental consequences. Melissa indicated that the USACE would be making a LEDPA determination re: the preferred alternative, based on the information in the Tier I FEIS.

- Virginia L. recommended that the USACE's July 2007 special public notice be included in the Tier I FEIS. She inquired whether the USACE would be filing a public notice also at the time of FEIS publication. Melissa R. was going to check into that.

- Melissa R. asked about impacts to the levee and the potential need for a Section 408 permit. Nancy F. reported that the proposed Preferred Alternative would not impact the levee.

- Virginia L. asked about MnDOT commitment to the interim actions described in the RCIC report. Jennie R. confirmed that it is MnDOT's intent to continue working with the stakeholders represented on the RCIC.

- Nancy F. reported that current schedule for completion of the Tier I EIS process is as follows (this assumes timely receipt of Cooperating Agency comments on the draft FEIS):

    - FHWA Legal Sufficiency Review – complete by mid-summer 2014

    - Publication of Tier I FEIS – early fall 2014

    - Final federal Record of Decision/state Adequacy Determination – end of 2014

4. Next Steps.

- USACE, USFWS and USEPA to provide written correspondence to FHWA regarding Concurrence Point #3. Requested by May 23, 2014.

- USFWS and USACE to provide comments on Tier I FEIS Cooperating Agency Draft. Requested as soon as possible (originally requested by April 30, 2014), but at least by May 23, 2014.

- USACE to advise if planning to issue public notice concurrent with release of FEIS.

cc: Attendees
Diane Langenbach, MnDOT
Philip Forst, FHWA

U.S. Department of Transportation
Federal Highway Administration

Minnesota Division

380 Jackson Street
Cray Plaza, Suite 500
St. Paul, MN 55101-4802
651.291.6100
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www.fhwa.dot.gov/mndiv

April 12, 2013

Tamara Cameron
Chief, Regulatory
United States Army Corps of Engineers
Saint Paul District
180 5th Street East, Suite 700
Saint Paul, MN 55101

Re: TH 41 River Crossing
NEPA/404 Merger Concurrence Points 1 & 2
Minnesota State Project Number 1008-60
In Carver and Scott Counties, Minnesota

Dear Ms. Cameron:

A National Environmental Policy Act (NEPA)/Section 404 concurrence meeting for the TH 41 River Crossing project was held on February 4, 2008, to secure concurrence on the first two points in the NEPA/404 merger process: (1) purpose and need, and (2) the alternatives to be carried forward. The agreed upon approach to document concurrence consisted of distributing the draft minutes for comment. Finalization of the meeting minutes via lack of comments by the agencies at the meeting or resolution of any comments received would constitute the concurrence on points one and two by all agencies. Those draft meeting minutes were never distributed for comment and finalization. The Federal Highway Administration has decided that too much time has passed to utilize finalization of meeting minutes as a means to document concurrence on the first two points in the NEPA/404 merger process.

Therefore, as discussed with your agency at the meeting on Tuesday, March 26, 2013, we are requesting written correspondence from your agency regarding Concurrence Point 1 (Purpose and Need) and Concurrence Point 2 (Alternatives to Be Carried Forward for Further Study) in the NEPA/Section 404 Merger Process for the TH 41 River Crossing project. A request for concurrence on Point 1 and Point 2 is also being sent to the United States Fish and Wildlife Service and the United States Environmental Protection Agency.

As a basis for your concurrence review, find enclosed the following chapters from the 2007 Tier I Draft Environmental Impact Statement (DEIS).

1. DEIS Chapter 2.0. Purpose and Need for Action. In summary, DEIS Chapter 2.0 documents the need to address inadequate capacity on TH 41, address regional congestion and public safety concerns during flooding, and improve the regional connection between US 169 and

US 212, as well as documenting additional considerations for safety, goods movement, and quality of life.

The Purpose and Need as discussed in DEIS Chapter 2.0 continues to be valid. The technical analysis supporting the Purpose and Need was conducted between 2005 and 2007 with the most current data available at the time. Since the DEIS was published, there have been changes in traffic volumes related to population changes, land use development, employment patterns. There have been additional flood-related closures of existing TH 41 and Highway 101 river crossings. The Minnesota Department of Transportation (MnDOT) and the cities and counties in the project area have continued to plan for and implement improvements to the area transportation system; among them the planned project to raise Highway 101 above the 100-year flood elevation.

None of the changes that have occurred since the publication of the DEIS have altered the basic Purpose and Need for the project. Technical analysis of capacity, system connectivity, flood-related congestion and safety, and additional transportation needs will be updated as part of the Tier II EIS process.

2. DEIS Chapter 3.0. Alternatives. DEIS Chapter 3.0 presents the process and findings that resulted in six Alternatives being evaluated in the DEIS. The DEIS Alternatives are W-2, C-2, C-2A, E-1, E-1A and E-2 and are depicted on Figures 3-5 through 3-11.

   The process and findings that resulted in these six Alternatives being carried forward for further study in the DEIS remain valid. The six Alternatives were identified through a scoping process that was subject to agency and public review and that was documented in a Scoping Decision Document and Amended Scoping Decision Document.

   The scoping process screened a wide range of alternatives against the Purpose and Need, potential for social, economic, and environmental (SEE) impacts resources and transportation/design considerations. As noted above, the Purpose and Need remains valid. In addition, no changes have occurred in the project setting that would alter the scoping findings regarding the potential for SEE impacts or transportation/design considerations.

   Comments on the DEIS were received from federal, state and local governmental agencies, non-governmental organizations, and the public. No new alternatives were recommended for consideration by governmental agencies. Some non-governmental organizations (i.e. social and environmental advocacy organizations) recommended returning to the scoping process, but did not specify any new or previously-dismissed alternatives that should be considered. Some members of the public recommended previously-dismissed alternatives (tunnel, alignments outside of the study area), but provided no new information that would alter the rationale for dismissing these alternatives.

It is our understanding that your agency will issue a letter summarizing concurrence and/or concerns with Concurrence Point 1: Purpose and Need and Concurrence Point 2: Alternatives to Be Carried Forward for Further Study. We would appreciate receiving your comments by May 10, 2013. We are making a similar request to the US Fish and Wildlife Service and US EPA.

Please note that the request for concurrence on Point 2 addresses the alternatives that existed at the time the DEIS was issued to the public. Changes to these alternatives, if any, since the issuance of the DEIS will be addressed as part of the process for Concurrence Point 3.

Feel free to contact me at 651-291-6110 or phil.forst@dot.gov with questions.

Sincerely,

Philip Forst
2013.04.12
14:48:41 -05'00'

Philip Forst
Environmental Specialist

Enclosures

PJF/alk

cc: 1 MnDOT – Gage, e-copy w/enclosures, brian.gage@state.mn.us
1 MnDOT – Moynihan, e-copy w/enclosures, debra.moynihan@state.mn.us
1 MnDOT – Ross, e-copy w/enclosures, jennie.ross@state.mn.us
1 MnDOT – Langenbach, e-copy w/enclosures, diane.langenbach@state.mn.us
1 FHWA – Ginsberg, e-copy w/enclosures, abbi.ginsberg@dot.gov
1 MnSHPO – Heidemann, e-copy w/enclosures, maryann.heidemann@mnhs.org
1 MnDNR – Leete, e-copy w/enclosures, peter.leete@state.mn.us
1 SRF – Frick, e-copy w/enclosures, nfrick@srfconsulting.com
1 MnDNR – Shodeen, e-copy w/enclosures, molly.shodeen@state.mn.us
1 MnDNR – Cleveland, e-copy w/enclosures, mark.cleveland@state.mn.us

DMS – MN_DOC_LIBRARY-#37420-SP 1008-60 - TH 41 River Crossing - 4-12-13 Letter to COE Request NEPA 404 Merger on Concurrence Points 1 and 2 - Carver County

Enclosures

TH 41 DEIS Chapter 2.0. Purpose and Need for Action
TH 41 DEIS Chapter 3.0. Alternatives

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MINNESOTA 55101-1678

AUG 2 6 2013

REPLY TO
ATTENTION

Operations
Regulatory (2006-02250-JJY)

Mr. Phillip Forst
U.S. Department of Transportation
Federal Highway Administration
380 Jackson Street, Suite 500
St. Paul, Minnesota 55101-4802

Dear Mr. Forst:

We have received your letter and enclosed materials, dated April 12, 2013, regarding the Trunk Highway (TH) 41 Minnesota River Crossing.

As discussed during our meeting on March 26, 2013, this letter is intended to provide Corps concurrence with Points 1 (Purpose and Need) and 2 (Alternatives Carried Forward) for the TH 41Minnesota River Crossing, per the National Environmental Policy Act (NEPA)/Section 404 Clean Water Act (404) merger process.

For the purposes of our permit evaluation, we will use the overall project purpose to evaluate practicable alternatives under the Section 404(b)(1) Guidelines. Chapter 2 of the Tier 1 Draft EIS, dated June 2007, describes the purpose and need for the TH 41 Minnesota River Crossing. Based on this purpose and need, we have determined the overall project purpose to be alleviating congestion and capacity issues, providing an improved regional connection between U.S. Highway 169 and U.S. Highway 212, and to address public safety and flooding concerns. We concur with the purpose and need identified in Chapter 2 of the Tier 1 Draft EIS.

A scoping document, dated April 2004, presented six alternatives to be carried forward for evaluation in the Tier 1 Draft EIS. These alternatives were identified through a scoping process that integrated project purpose and need, considerations of transportation and design, and the potential for impacts to social, economic, and environmental resources. Chapter 3 of the Tier 1 Draft EIS, dated June 2007, describes the scoping process that resulted in the six alternatives identified as "W-2", "C-2", C-2A", "E-1", "E-1A", and "E-2".

We have reviewed Chapter 3 of the Tier 1 Draft EIS and believe these six alternatives present a reasonable range of alternatives to be carried forward into the Tier 1 Final EIS. Therefore, we concur with the alternatives carried forward for review.

As a cooperating agency in the preparation of the Environmental Impact Statement (EIS) for this project, we are committed to continuing coordination for the development of the EIS through the NEPA/404 merger process.

For further information, please contact Melissa Jenny at (651) 290-5363 or melissa.m.jenny@usace.army.mil.

Sincerely,

Tamara E. Cameron
Chief, Regulatory Branch

Copies furnished (electronic):

Janice Cheng, USEPA
Nancy Frick, SRF Consulting
Mary Ann Heidemann, SHPO
Diane Langenbach, MNDOT
Virginia Laszewski, USEPA
Peter Leete MNDNR
Michael MacDonald, MNDNR
Jennie Ross, MNDOT
Michael Setering, USACE
Gerry Shimek, USFWS

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
180 FIFTH STREET EAST, SUITE 700
ST. PAUL MINNESOTA 55101-1678

JUN 02 2014

REPLY TO ATTENTION

Operations
Regulatory (2006-02250-MMJ)

Mr. Phillip Forst
U.S. Department of Transportation
Federal Highway Administration
380 Jackson Street, Suite 500
St. Paul, Minnesota 55101-4802

Dear Mr. Forst:

We received your letter dated March 14, 2014, and have reviewed Chapter 3 (Identification of the Preferred Alternative) of the cooperating agency draft of the 2013 Trunk Highway (TH) 41 Minnesota River Crossing Tier 1 Final Environmental Impact Statement (FEIS). After reviewing this information we can now concur with Point 3 (Identification of the Selected Alternative) for the TH 41 Minnesota River Crossing, as outlined in the National Environmental Policy Act (NEPA) / Section 404 Clean Water Act (404) merger process. We previously concurred with Points 1 (Purpose and Need) and 2 (Alternatives Carried Forward) of the merger process for this project in a letter dated August 26, 2013.

We reviewed and commented on the TH 41 Tier 1 Draft Environmental Impact Statement (DEIS) in 2008. During our review of the DEIS, we recommended the selection of corridor Alternative C-2 (DEIS Alternative C-2) as the preferred alternative for the TH 41 Minnesota River Crossing. In December 2008, the Minnesota Department of Transportation (MnDOT) and the Federal Highway Administration (FHWA) recommended corridor Alternative C-2 as the preferred alternative to be carried forward into the TH 41 FEIS, with the inclusion of additional refinements that would further minimize negative impacts to residents, historic properties and natural resources located within the project corridor. These additional refinements were identified using stakeholder inputs described in the River Crossing Implementation Collaborative Process and Outcomes Report (RCIC Report, April 2013).

As a result of this additional inter-agency coordination and public outreach, the preferred corridor alternative presented in the TH 41 FEIS (Modified Alternative C-2) is similar to the Corps recommended DEIS Alternative C-2, but has been slightly modified to avoid direct impacts to the Athletic Field (Chaska Cubs Ball Field), which is eligible for listing on the National Register of Historic Places (NRHP), and the Jackson Heights residential community, a neighborhood with environmental justice concerns. When compared to the DEIS Alternative C-2, the Modified Alternative C-2 would result in an additional 2.3 acres of impact to waters of the U.S. (13.2 acres total), as well as an additional 13.5 acres of impact (22 acres total) to U.S. Fish and Wildlife Service Minnesota River Wildlife Refuge (MRVNWR). However, Modified

Alternative C-2 would also avoid and minimize impacts to numerous protected and key resources located within the project boundaries, including: the Seminary Fen, cultural resources including an NRHP eligible property, neighborhoods with environmental justice concerns, and state listed endangered species. Therefore, we concur with the selection of Modified Alternative C-2 as the preferred corridor for the TH 41 project.

We have also made a preliminary determination that the corridor identified as Modified Alternative C-2 represents the Least Environmentally Damaging Practicable Alternative (LEDPA) for this project, as defined in our 404(b)(1) Guidelines. As is typical of a NEPA/404 merger process, if substantial new information regarding Modified Alternative C-2 is brought forward later in the project development process, we may revisit this decision and our concurrence that the selected alternative is the LEDPA. Note that this preliminary LEDPA determination is based on a corridor-scale analysis. We anticipate further opportunity for avoidance and minimization of impacts to WOUS as the project is further refined during completion of the Tier 2 FEIS.

As a cooperating agency in the preparation of the Environmental Impact Statement (EIS) for this project, we are committed to continuing coordination for the development of the EIS through the NEPA/404 merger process. For further information, please contact Melissa Jenny at (651) 290-5363 or melissa.m.jenny@usace.army.mil.

Sincerely,

for Tamara E. Cameron
Chief, Regulatory Branch

Copies furnished (electronic):

Nancy Frick, SRF Consulting
Diane Langenbach, MNDOT
Virginia Laszewski, USEPA
Peter Leete, MNDNR
Michael MacDonald, MNDNR
Jennie Ross, MNDOT
Gerry Shimek, USFWS

U.S. Department of Transportation
Federal Highway Administration

Minnesota Division

380 Jackson Street
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Fax 651.291.6000
www.fhwa.dot.gov/mndiv

April 12, 2013

Virginia Laszewski
United States Environmental Protection Agency – Region V
Ralph Metcalfe Federal Building
77 West Jackson Boulevard
Chicago, IL 60604-3590

Re: TH 41 River Crossing
NEPA/404 Merger Concurrence Points 1 & 2
Minnesota State Project Number 1008-60
In Carver and Scott Counties, Minnesota

Dear Ms. Laszewski:

A National Environmental Policy Act (NEPA)/Section 404 concurrence meeting for the TH 41 River Crossing project was held on February 4, 2008, to secure concurrence on the first two points in the NEPA/404 merger process: (1) purpose and need, and (2) the alternatives to be carried forward. The agreed upon approach to document concurrence consisted of distributing the draft minutes for comment. Finalization of the meeting minutes via lack of comments by the agencies at the meeting or resolution of any comments received would constitute the concurrence on points one and two by all agencies. Those draft meeting minutes were never distributed for comment and finalization. The Federal Highway Administration has decided that too much time has passed to utilize finalization of meeting minutes as a means to document concurrence on the first two points in the NEPA/404 merger process.

Therefore, as discussed with your agency at the meeting on Tuesday, March 26, 2013, we are requesting written correspondence from your agency regarding Concurrence Point 1 (Purpose and Need) and Concurrence Point 2 (Alternatives to Be Carried Forward for Further Study) in the NEPA/Section 404 Merger Process for the TH 41 River Crossing project. A request for concurrence on Point 1 and Point 2 is also being sent to the United States Fish and Wildlife Service and the United States Army Corps of Engineers.

As a basis for your concurrence review, find enclosed the following chapters from the 2007 Tier I Draft Environmental Impact Statement (DEIS).

1. DEIS Chapter 2.0. Purpose and Need for Action. In summary, DEIS Chapter 2.0 documents the need to address inadequate capacity on TH 41, address regional congestion and public safety concerns during flooding, and improve the regional connection between US 169 and US 212, as well as documenting additional considerations for safety, goods movement, and quality of life.

The Purpose and Need as discussed in DEIS Chapter 2.0 continues to be valid. The technical analysis supporting the Purpose and Need was conducted between 2005 and 2007 with the most current data available at the time. Since the DEIS was published, there have been changes in traffic volumes related to population changes, land use development and employment patterns. There have been additional flood-related closures of existing TH 41 and Highway 101 river crossings. The Minnesota Department of Transportation (MnDOT) and the cities and counties in the project area have continued to plan for and implement improvements to the area transportation system; among them the planned project to raise Highway 101 above the 100-year flood elevation.

None of the changes that have occurred since the publication of the DEIS have altered the basic Purpose and Need for the project. Technical analysis of capacity, system connectivity, flood-related congestion and safety, and additional transportation needs will be updated as part of the Tier II EIS process.

2. DEIS Chapter 3.0. Alternatives. DEIS Chapter 3.0 presents the process and findings that resulted in six Alternatives being evaluated in the DEIS. The DEIS Alternatives are W-2, C-2, C-2A, E-1, E-1A and E-2 and are depicted on Figures 3-5 through 3-11.

   The process and findings that resulted in these six Alternatives being carried forward for further study in the DEIS remain valid. The six Alternatives were identified through a scoping process that was subject to agency and public review and that was documented in a Scoping Decision Document and Amended Scoping Decision Document.

   The scoping process screened a wide range of alternatives against the Purpose and Need, potential for social, economic, and environmental (SEE) impacts resources, and transportation/design considerations. As noted above, the Purpose and Need remains valid. In addition, no changes have occurred in the project setting that would alter the scoping findings regarding the potential for SEE impacts or transportation/design considerations.

   Comments on the DEIS were received from federal, state and local governmental agencies, non-governmental organizations and the public. No new alternatives were recommended for consideration by governmental agencies. Some non-governmental organizations (i.e. social and environmental advocacy organizations) recommended returning to the scoping process, but did not specify any new or previously-dismissed alternatives that should be considered. Some members of the public recommended previously-dismissed alternatives (tunnel, alignments outside of the study area), but provided no new information that would alter the rationale for dismissing these alternatives.

It is our understanding that your agency will issue a letter summarizing concurrence and/or concerns with Concurrence Point 1: Purpose and Need and Concurrence Point 2: Alternatives to Be Carried Forward for Further Study. We would appreciate receiving your comments by May 10, 2013. We are making a similar request to the US Fish and Wildlife Service and US Army Corps of Engineers.

Please note that the request for concurrence on Point 2 addresses the alternatives that existed at the time the DEIS was issued to the public. Changes to these alternatives, if any, since the issuance of the DEIS will be addressed as part of the process for Concurrence Point 3.

Feel free to contact me at 651-291-6110 or phil.forst@dot.gov with questions.

Sincerely,

Philip Forst
2013.04.12
14:45:59 -05'00'

Philip Forst
Environmental Specialist

Enclosures

PJF/alk

cc: 1 MnDOT – Gage, e-copy w/enclosures, brian.gage@state.mn.us
1 MnDOT – Moynihan, e-copy w/enclosures, debra.moynihan@state.mn.us
1 MnDOT – Ross, e-copy w/enclosures, jennie.ross@state.mn.us
1 MnDOT – Langenbach, e-copy w/enclosures, diane.langenbach@state.mn.us
1 FHWA – Ginsberg, e-copy w/enclosures, abbi.ginsberg@dot.gov
1 MnSHPO – Heidemann, e-copy w/enclosures, maryann.heidemann@mnhs.org
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1 SRF – Frick, e-copy w/enclosures, nfrick@srfconsulting.com

DMS – MN_DOC_LIBRARY-#37423-SP 1008-60 - TH 41 River Crossing - 4-12-13 Letter to USEPA Requesting NEPA 404 Merger Concurrence Points 1 and 2 - Carver County

Enclosures
TH 41 DEIS Chapter 2.0. Purpose and Need for Action
TH 41 DEIS Chapter 3.0. Alternatives

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAY 09 2013

REPLY TO THE ATTENTION OF:

E-19J

Phil Forst
Environmental Specialist
Federal Highway Administration
380 Jackson Street, Suite 500
St. Paul, Minnesota 55101-4802

Re: Tiered NEPA/404 Merger Process Concurrence Points for Purpose and Need, and Alternatives to be Carried Forward for Further Analysis for the Trunk Highway 41 Minnesota River Crossing Project between Carver and Scott Counties, Minnesota.

Dear Mr. Forst:

The U.S. Environmental Protection Agency – Region 5 (EPA) received your April 12, 2013, letter with enclosures of *Chapter 2.0 Purpose and Need for Action* and *Chapter 3.0 Alternatives* from the Federal Highway Administration (FHWA) / Minnesota Department of Transportation (MnDOT) 2007 Tier 1 Draft Environmental Impact Statement (2007 Tier 1 DEIS) for Trunk Highway (TH 41) Minnesota River Crossing Project. You request EPA's written correspondence regarding the first two points in the tiered NEPA/404 merger process: (1) purpose and need and (2) alternatives to be carried forward for further study.

EPA reviewed the 2007 Tier 1 DEIS and submitted comments in our letter to FHWA/MnDOT dated August 9, 2007. At that time, we did not have any concerns with purpose and need that merited comment. In addition, we did not identify or request additional alternatives be developed for further study. However, we did note that the Tier 1 DEIS did not identify that the TH 41 project was going through a Tiered EIS NEPA/Clean Water Act Section 404 concurrent review process (Tiered NEPA/404 merger process) and recommended the Tier 1 Final EIS (Tier 1 FEIS) include this information as well as the results of the Tier 1 NEPA/404 merger process.

Concurrence Point #1 (Purpose and Need): EPA concurs with the 2007 Tier 1 DEIS purpose and need statement. However, more than five years have passed since the Tier 1 DEIS. The Tier 1 FEIS should include updated data, analysis and discussion as necessary to verify that the 2007 Tier 1 DEIS purpose and need still applies.

Concurrence Point #2 (Alternatives for detailed analysis): EPA concurs with the alternatives carried forward and analyzed in the 2007 Tier 1 DEIS. The Tier 1 DEIS Alternatives are W-2, C-2, C-2A, E-1, E-1A and E-2.

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If you have any questions please contact Virginia Laszewski of my staff at (312) 886-7501 or laszewski.virginia@epa.gov.

Sincerely,

Kenneth A. Westlake
Chief, NEPA Implementation Section
Office of Enforcement and Compliance Assurance

cc: Diane Langenbach, Project Manager, Minnesota Department of Transportation, 1500 West County Road B-2, Roseville, Minnesota 55113
Tamara Cameron, U.S. Army Corps of Engineers – Regulatory Branch Chief, 180 Fifth Street East, Suite 700, St. Paul, Minnesota 55101-1678

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAY 27 2014

REPLY TO THE ATTENTION OF:

E-19J

Phil Forst
Environmental Specialist
Federal Highway Administration
380 Jackson Street, Suite 500
St. Paul, Minnesota 55101-4802

Re: Tiered NEPA/404 Merger Process Concurrence Point # 3 - Preferred Alternative (Tier 1) for the Trunk Highway 41 Minnesota River Crossing Project between Carver and Scott Counties, Minnesota.

Dear Mr. Forst:

The U.S. Environmental Protection Agency – Region 5 (EPA) received your March 14, 2014, letter with enclosures. You request EPA review the enclosures and provide written correspondence regarding concurrence point #3 (Preferred Alternative) in the tiered NEPA/404 merger process for the TH 41 project. Your letter enclosures are excerpts from the Federal Highway Administration (FHWA) / Minnesota Department of Transportation (MnDOT) Cooperating Agency Draft of the Tier 1 Preliminary Final Environmental Impact Statement (undated) for Trunk Highway (TH 41) Minnesota River Crossing Project (Tier 1 Draft FEIS). The enclosures are: *Section 3.1: Alternatives Dismissed Prior to the Draft EIS, Section 3.2: Alternatives Studied in the Draft EIS and Dismissed,* and *Section 3.3: Identification of the Preferred Alternative*. EPA previously provided concurrence regarding point #1 (Purpose and Need) and point #2 (Alternatives for detailed analysis) in our May 9, 2013, letter.

The proposed Tier 1 Draft FEIS Preferred Alternative (a.k.a., "Modified Alternative C-2") is a modified version of the 2007 Tier 1 DEIS Alternative C-2. "Modified Alternative C-2" would have 2.3 more acres of direct wetland impact (13.2 acres total) and 13.5 more acres of impact to the U.S. Fish and Wildlife Service Minnesota River Valley National Wildlife Refuge (MRVNWR) (22 acres total) than previously identified for Tier 1 DEIS Alternative C-2.

In order to find ways to avoid direct impacts to Athletic Park (i.e., Chaska Cubs Ball Field), a cultural resource, and Jackson Heights, a community with Environmental Justice (EJ) concerns, Tier 1 DEIS Alternative C-2 was modified. The modification is based on the work that took place by the River Crossing Implementation Coalition (RCIC) established after the Tier 1 DEIS public comment period closed. "Modified Alternative C-2" avoids direct impacts to Athletic Park and Jackson Heights. In addition, "Modified Alternative C-2" continues to avoid direct impacts to Seminary Fen (a calcareous fen).

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Concurrence Point #3 (Preferred Alternative): EPA concurs with the Modified Alternative C-2 as the Tier 1 Preferred Alternative for the TH 41 project.

The Tier 1 FEIS should include written documentation from the USFWS and the Corps that demonstrates that those agencies, as well as EPA, concur that "Modified Alternative C-2" is the Tier 1 FEIS Preferred Alternative for the TH 41project. Given that Tier 2 may not occur for 10-20 years or more, the Tier 1 FEIS and Record of Decision (ROD) should acknowledge that the project may require re-evaluation if and when the project moves into Tier 2.

If you have any questions please contact Virginia Laszewski of my staff at (312) 886-7501 or laszewski.virgina@epa.gov.

Sincerely,

Kenneth A. Westlake
Chief, NEPA Implementation Section
Office of Enforcement and Compliance Assurance

cc: Diane Langenbach, Project Manager, Minnesota Department of Transportation, 1500 West County Road B-2, Roseville, Minnesota 55113
Tamara Cameron, U.S. Army Corps of Engineers – Regulatory Branch Chief, 180 Fifth Street East, Suite 700, St. Paul, Minnesota 55101-1678
Melissa Jenny, Project Manager, U.S. Army Corps of Engineers, 180 Fifth Street East, Suite 700, St. Paul, Minnesota 55101-1678
Gerry Shimek, Supervisory Refuge Specialist, U.S. Fish and Wildlife Service, Minnesota Valley National Wildlife Refuge, 3815 American Blvd., East, Bloomington, Minnesota 55425
Andrew Horton, Twin Cities Ecological Services Field Office, U.S. Fish and Wildlife Service, 4101 American Blvd., East, Bloomington, Minnesota 55425-1665

U.S. Department of Transportation
Federal Highway Administration

Minnesota Division

380 Jackson Street
Cray Plaza, Suite 500
St. Paul, MN 55101-4802
651.291.6100
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April 12, 2013

Gerry Shimek
Supervisory Refuge Specialist
Unites States Fish and Wildlife Service
Minnesota Valley National Wildlife Refuge
3815 American Boulevard East
Bloomington, MN 55425

Re: TH 41 River Crossing
NEPA/404 Merger Concurrence Points 1 & 2
Minnesota State Project Number 1008-60
In Carver and Scott Counties, Minnesota

Dear Mr. Shimek:

A National Environmental Policy Act (NEPA)/Section 404 concurrence meeting for the TH 41 River Crossing project was held on February 4, 2008 to secure concurrence on the first two points in the NEPA/404 merger process: (1) purpose and need, and (2) the alternatives to be carried forward. The agreed upon approach to document concurrence consisted of distributing the draft minutes for comment. Finalization of the meeting minutes via lack of comments by the agencies at the meeting or resolution of any comments received would constitute the concurrence on points one and two by all agencies. Those draft meeting minutes were never distributed for comment and finalization. The Federal Highway Administration has decided that too much time has passed to utilize finalization of meeting minutes as a means to document concurrence on the first two points in the NEPA/404 merger process.

Therefore, as discussed with your agency at the meeting on Tuesday, March 26, 2013, we are requesting written correspondence from your agency regarding Concurrence Point 1 (Purpose and Need) and Concurrence Point 2 (Alternatives to Be Carried Forward for Further Study) in the NEPA/Section 404 Merger Process for the TH 41 River Crossing project. A request for concurrence on Point 1 and Point 2 is also being sent to the United States Environmental Protection Agency and the United States Army Corps of Engineers.

As a basis for your concurrence review, find enclosed the following chapters from the 2007 Tier I Draft Environmental Impact Statement (DEIS).

1. DEIS Chapter 2.0. Purpose and Need for Action. In summary, DEIS Chapter 2.0 documents the need to address inadequate capacity on TH 41, address regional congestion and public safety concerns during flooding, and improve the regional connection between US 169 and

US 212, as well as documenting additional considerations for safety, goods movement, and quality of life.

The Purpose and Need as discussed in DEIS Chapter 2.0 continues to be valid. The technical analysis supporting the Purpose and Need was conducted between 2005 and 2007 with the most current data available at the time. Since the DEIS was published, there have been changes in traffic volumes related to population changes, land use development and employment patterns. There have been additional flood-related closures of existing TH 41 and Highway 101 river crossings. The Minnesota Department of Transportation (MnDOT) and the cities and counties in the project area have continued to plan for and implement improvements to the area transportation system; among them the planned project to raise Highway 101 above the 100-year flood elevation.

None of the changes that have occurred since the publication of the DEIS have altered the basic Purpose and Need for the project. Technical analysis of capacity, system connectivity, flood-related congestion and safety, and additional transportation needs will be updated as part of the Tier II EIS process.

2. DEIS Chapter 3.0. Alternatives. DEIS Chapter 3.0 presents the process and findings that resulted in six Alternatives being evaluated in the DEIS. The DEIS Alternatives are W-2, C-2, C-2A, E-1, E-1A and E-2 and are depicted on Figures 3-5 through 3-11.

   The process and findings that resulted in these six Alternatives being carried forward for further study in the DEIS remain valid. The six Alternatives were identified through a scoping process that was subject to agency and public review and that was documented in a Scoping Decision Document and Amended Scoping Decision Document.

   The scoping process screened a wide range of alternatives against the Purpose and Need, potential for social, economic, and environmental (SEE) impacts resources, and transportation/design considerations. As noted above, the Purpose and Need remains valid. In addition, no changes have occurred in the project setting that would alter the scoping findings regarding the potential for SEE impacts or transportation/design considerations.

   Comments on the DEIS were received from federal, state and local governmental agencies, non-governmental organizations and the public. No new alternatives were recommended for consideration by governmental agencies. Some non-governmental organizations (i.e. social and environmental advocacy organizations) recommended returning to the scoping process, but did not specify any new or previously-dismissed alternatives that should be considered. Some members of the public recommended previously-dismissed alternatives (tunnel, alignments outside of the study area), but provided no new information that would alter the rationale for dismissing these alternatives.

It is our understanding that your agency will issue a letter summarizing concurrence and/or concerns with Concurrence Point 1: Purpose and Need and Concurrence Point 2: Alternatives to Be Carried Forward for Further Study. We would appreciate receiving your comments by May 10, 2013. We are making a similar request to the US Environmental Protection Agency and US

Army Corps of Engineers.

Please note that the request for concurrence on Point 2 addresses the alternatives that existed at the time the DEIS was issued to the public. Changes to these alternatives, if any, since the issuance of the DEIS will be addressed as part of the process for Concurrence Point 3.

Feel free to contact me at 651-291-6110 or phil.forst@dot.gov with questions.

Sincerely,

Philip Forst
2013.04.12
14:43:01 -05'00'

Philip Forst
Environmental Specialist

Enclosures

PJF/alk

cc: 2 MnDOT – Gage, e-copy w/enclosures, brian.gage@state.mn.us
1 MnDOT – Moynihan, e-copy w/enclosures, debra.moynihan@state.mn.us
1 MnDOT – Ross, e-copy w/enclosures, jennie.ross@state.mn.us
1 MnDOT – Langenbach, e-copy w/enclosures, diane.langenbach@state.mn.us
1 FHWA – Ginsberg, e-copy w/enclosures, abbi.ginsberg@dot.gov
1 MnSHPO – Heidemann, e-copy w/enclosures, maryann.heidemann@mnhs.org
1 MnDNR – Leete, e-copy w/enclosures, peter.leete@state.mn.us
1 MnDNR – Shodeen, E-copy w/enclosures, molly.shodeen@state.mn.us
1 MnDNR – Cleveland, e-copy w/enclosures, mark.cleveland@state.mn.us
1 SRF – Frick, e-copy w/enclosures, nfrick@srfconsulting.com

DMS – MN_DOC_LIBRARY-#37421-SP 1008-60 - TH 41 River Crossing 4-12-13 Letter to USFWS Requesting NEPA 404 Merger Concurrence Points 1 and 2 - Carver County

Enclosures
TH 41 DEIS Chapter 2.0. Purpose and Need for Action
TH 41 DEIS Chapter 3.0. Alternatives

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Twin Cities Field Office
4101 American Blvd E.
Bloomington, Minnesota 55425-1665

January 10, 2014

Mr. Phillip Forst
Environmental Specialist
U.S. Department of Transportation
Federal Highway Administration
Cray Plaza, Suite 500
380 Jackson Street
St. Paul, Minnesota 55101-4802

RE: Request for Concurrence on NEPA/Section 404 Merger Process
TH 41 River Crossing, Tier I
FWS TAILS No. 03E19000-2014-CPA-0012

Dear Mr. Forst:

This is in response to your letter dated April 12, 2013, sent to Gerry Shimek of the Minnesota Valley National Wildlife Refuge (Refuge), regarding concurrence on the first two points in the National Environmental Policy Act (NEPA)/Section 404 merger process for the TH 41 River Crossing: (1) purpose and need, and (2) the alternatives to be carried forward for further study. This concurrence is being requested as it pertains to the information presented in the 2007 Tier I Draft Environmental Impact Statement (DEIS) and the concurrence meeting held on February 4, 2008.

Based on the information provided in the 2007 Tier I DEIS, we concur with the purpose and need and alternatives to be carried forward. If new information or significant changes to the project, the environment, or laws and regulations have transpired since the 2008 concurrence meeting, these concurrence points should be revisited.

Since 2007, there have been changes to the transportation infrastructure surrounding TH 41 and this is expected to continue into the future. Traffic patterns should be reevaluated at the FEIS and Tier II EIS stage and should specifically address the purpose and need.

We would also like to reiterate that the alternatives to be carried forward are alternatives for further study, and should address the concerns stated in our September 12, 2007, letter (ER 07/527) to Mr. Tom Sorel, Division Administrator for the Federal Highway Administration. The U.S. Fish and Wildlife Service has not reviewed the Tier I draft Final Environmental Impact Statement (FEIS) and we are unable to comment on whether our concerns have been addressed in the FEIS. We understand that we will have an additional opportunity to review and concur

with Point 3, Preferred Alternative and our response will be based on information provided from the draft FEIS when that document is made available to us.

We appreciate the opportunity to provide comments at this stage of the NEPA/Section 404 merger process. If you have questions about these comments, please contact Fish and Wildlife Biologist Andrew Horton (*andrew_horton@fws.gov,* 612-725-3548, ext. 2208) or Wildlife Refuge Specialist Gerry Shimek (*gerry_shimek@fws.gov,* 952-858-0705).

Sincerely,

Lisa Mandell

for Peter Fasbender
Field Supervisor

cc (email only):
Mr. Tim Bodeen, USFWS, Minnesota Valley National Wildlife Refuge
Mr. Paul Richert, USFWS, Ecological Services, Region 3

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Twin Cities Field Office
4101 American Blvd E.
Bloomington, Minnesota 55425-1665

May 16, 2014

Mr. Phillip Forst
Environmental Specialist
U.S. Department of Transportation
Federal Highway Administration
380 Jackson Street, Suite 500
St. Paul, Minnesota 55101-4802

RE: Request for Comments on TH 41 River Crossing, Tier I DFEIS
FWS TAILS No. 03E19000-2014-CPA-0024

Dear Mr. Forst:

This is in response to your letter, dated March 12, 2014, regarding cooperative agency review of the 2014 Tier 1 Draft Final Environmental Impact Statement (DFEIS) for the Trunk Highway 41 River Crossing. We appreciate the extension of the comment period requested by Minnesota Valley National Wildlife Refuge (Refuge) Biologist Gerry Shimek, to allow for continued collaboration between our two offices. Our response below will also address your March 14, 2014, letter requesting concurrence on point 3 in the National Environmental Policy Act (NEPA)/Section 404 merger process: Preferred Alternative.

The Tier 1 DFEIS incorporates changes made to the 2007 Tier 1 Draft EIS (DEIS) and focuses on the preferred alternative C-2 that was modified from the original 2007 DEIS design through a multi-agency River Crossing Implementation Collaborative (RCIC) that included the Refuge. Both the 2007 DEIS and a summary report of the RCIC process are included in the Tier 1 DFEIS appendixes. The modifications that were made to alternative C-2 avoid direct impacts to the Chaska Cubs Ball Field (Athletic Park) that is eligible for the National Register of Historic Places (NRHP) and to community of Jackson Heights and minimizes impacts to the Spring Creek neighborhood. However, these modifications increase impacts to wetlands, floodplain forests and other habitats within the Refuge.

Impacts to Service trust resources have been adequately identified in this Tier 1 DFEIS for corridor planning purposes of the preferred alternative C-2. We anticipate much greater detail to be provided for identifying specific impacts and appropriate mitigation for trust resources at the Tier 2 stage as design details become available. During the interim period (estimated at greater than 20 years) before the Tier 2 EIS process is initiated, we believe that continued efforts to address resource concerns should be made as addressed in the RCIC process and subsequent report included in Appendix A-1. Several intermediate activities have been identified by the RCIC that may avoid, minimize or mitigate project impacts and these continued efforts were considered in the Service's selection of C-2 as the preferred alternative. We recommend identifying these intermediate activities within the NEPA document and clearly identifying the continued involvement of the RCIC and potential options for providing environmental benefits before impacts occur.

The Tier 1 DFEIS briefly describes the tiered NEPA/Clean Water Act Section 404 process. Given the complexity of this process and the importance of maintaining review authority in light of potential long-term changes to the environment and project needs, more information should be provided in this DFEIS to clarify the process and outline future opportunities and outcomes for project review. In particular, the DFEIS should address if NEPA/404 concurrence points will be readdressed with the opportunity for review during the Tier 2 process. We recommend the Tier 1 DFEIS also address the possibility of re-evaluating or modifying the preferred alternative at the Tier 2 stage in the unlikely, but still possible event that the Athletic Park becomes ineligible under NRHP to any number of changes that could occur in the next 20-50 years. If this were to occur, the preferred route should be re-evaluated and modified to avoid or minimize direct impacts to the Refuge.

Based on the information provided in the 2014 Tier 1 DFEIS and RCIC report, we concur with the selection of Alternative C-2 as the preferred alternative when compared to the other available alternatives addressed in the 2007 Tier 1 DEIS that meet the purpose and need of this project.

We appreciate the opportunity to provide comments as a cooperating agency at this stage of the NEPA/Section 404 merger process and look forward to continuing our involvement in the RCIC process to inform and carryout the intermediate activities outlined in the report up until the time the Tier 2 EIS process and eventual construction of a new TH41 river crossing. If you have questions about these comments, please contact Fish and Wildlife Biologist Andrew Horton. He may be reached at 612-725-3548, extension 2208 or by email at *andrew_horton@fws.gov*.

Sincerely,

Lisa Mandell

for Peter Fasbender
Field Supervisor

cc: Mr. Tim Bodeen, USFWS, Minnesota Valley National Wildlife Refuge
Mr. Gerry Shimek, USFWS, Minnesota Valley National Wildlife Refuge

US Army Corps
of Engineers
St Paul District

Special Public Notice

ISSUED: July 13, 2007
EXPIRES: August 13, 2007

Applicant: Minnesota Department of Transportation

REFER TO: 2006-2250-JJY **SECTION:** 404-Clean Water Act

NOTICE OF AVAILABILITY OF THE TRUNK HIGHWAY 41 TIER 1 DRAFT ENVIRONMENTAL IMPACT STATEMENT AND A PROPOSED CLEAN WATER ACT SECTION 404 REVIEW PROCESS

1. PURPOSE OF THIS PUBLIC NOTICE. The purpose of this public notice is to invite public comment on the Tier 1 Draft Environmental Impact Statement (DEIS) prepared by the Federal Highway Administration (FHWA) and the Minnesota Department of Transportation (MnDOT) for the purpose of selecting a new Trunk Highway 41 Minnesota River crossing in the vicinity of the Cities of Chaska, Carver, and Chanhassen, and Dahlgren Township in Carver County and the City of Shakopee and Jackson and Louisville Townships in Scott County. The approximate decimal degree coordinates for the center of the project area are Latitude 44.76 and Longitude -93.62.

   The attached figures, labeled 2006-2250-JJY 1 of 6 through 2006-2250-JJY 3 of 6, show the study area and the alternative corridors that have been evaluated in the DEIS.

   The Army Corps St. Paul District (Corps) is a cooperating agency in the preparation of the TH 41 Tier 1 EIS, and will be applying Clean Water Act (CWA) Section 404 evaluation criteria to the DEIS and the selection of a corridor for the TH 41 improvements. The Corps has consulted with the FHWA, MnDOT, the U.S. Environmental Protection Agency (EPA), the U.S. Fish and Wildlife Service (FWS), and the Minnesota Department of Natural Resources (MnDNR) in proposing a process to conduct a CWA Section 404 review concurrently with the tiered EIS process.

   The attached figures, labeled 2006-2250-JJY 4 of 6 through 2006-2250-JJY 6 of 6, provide a comparison of the environmental impacts among the alternatives evaluated in the DEIS.

2. BACKGROUND. Section 404 of the CWA prohibits discharges of dredged or fill material into waters of the United States unless the work has been authorized by a Department of the Army permit. Waters of the United States may include rivers, lakes, ponds, streams, wetlands and other aquatic resources.

The Corps' evaluation of a CWA Section 404 standard permit application is a three-part analysis that (1) determines whether the proposal complies with the Section 404(b)(1) Guidelines, under 40 CFR Part 230.10, (2) evaluates the proposal's impacts in accordance with the National Environmental Policy Act (NEPA), under Appendix B of 33 CFR Part 325, and (3) determines whether the proposal is contrary to the public interest, under 33 CFR Part 320.4(a).

The proposed project is not currently programmed for construction within the next 20 years. However, FHWA and MnDOT have identified a need to preserve a corridor that best meets the project objectives as soon as possible, since the rapid development of the study area would further limit available options for meeting the transportation need. Therefore, FHWA and MnDOT are using a "tiered" two-step environmental review process (as permitted by the National Environmental Policy Act (NEPA) regulations and by Minnesota Rules 4410.4000) for the proposed project.

The Tier 1 EIS will address the social, economic and environmental issues associated with alternative corridor locations in order to identify a preferred corridor for the project. A Tier 2 environmental process, which will be initiated at a time closer to project construction, will address project-specific issues and focus on the proposed project's design alternatives, environmental impacts and mitigation.

FHWA and MnDOT requested that the Corps serve as a cooperating agency in the preparation of the Tier 1 EIS, and review the EIS for consistency with CWA Section 404 requirements. In addition, because this proposal is being studied as a tiered process, with the location decision being made during the Tier 1 process and the specific design decisions being made during the Tier 2 process, FHWA has requested that the Corps document their concurrence or non-concurrence at major milestones during the development of the Tier 1 and Tier 2 EIS.

Due to the forecasted development in the study area, it is anticipated that there would be less opportunities to avoid and minimize impacts to Waters of the U.S. and aquatic resources if the tiered EIS process were not used to preserve a corridor. Therefore, the Corps has agreed to conduct a CWA Section 404 review concurrently with the tiered EIS process.

3. CONCURRENT REVIEW PROCESS. The Corps intends to carry out the following actions to implement a CWA Section 404 review concurrently with the TH 41 tiered EIS process.

   a. Solicit public input, by issuing this special public notice, on the proposed incorporation of CWA Section 404 requirements into FHWA and MnDOT's selection of a preferred river crossing location as part of the Tier 1 DEIS.

   b. Address comments received in response to this public notice, and hold a state/federal interagency meeting to discuss agency comments on the tier 1 DEIS. After fully considering public comments and agency input, the Corps will determine whether the purpose and need and the alternatives analysis in the Tier 1 DEIS satisfy CWA Section 404 requirements.

   c. Upon notification by FHWA and MnDOT of their selected alternative, hold a state/federal interagency meeting to discuss the preferred alternative, and solicit agency input whether the selected alternative, on a corridor level, would satisfy CWA Section 404 requirements. In addition, potential mitigation options would be discussed on a conceptual level.

   d. Issue a second special public notice, summarizing comments received on first PN, announcing the availability of the Tier 1 Final EIS, identifying FHWA and MnDOT's selected alternative, and the Corps' determination whether the selected alternative would satisfy CWA Section 404 requirements on a corridor level. This notice would also include a 30-day public comment period.

   e. Prepare an administrative record of this process, addressing comments received in response to the second public notice. This administrative record would be closed until FHWA and MnDOT initiate the tier 2 EIS process.

4. DOCUMENT AVAILABILITY. This public notice is available on the Corps' internet web site at

http://www.mvp.usace.army.mil/regulatory/.

The Tier 1 DEIS and other information and analysis is available on the MnDOT internet web site at

http://projects.dot.state.mn.us/srf/041/report/index.html.

5. FEDERALLY-LISTED THREATENED OR ENDANGERED WILDLIFE OR PLANTS OR CRITICAL HABITAT. This proposal is being coordinated with the U.S. Fish and Wildlife Service. Any comments it may have concerning Federally-listed threatened or endangered wildlife or plants or their critical habitat will be considered in our final assessment.

6. HISTORICAL/ARCHAEOLOGICAL. This public notice is provided to the National Park Service, the State Archaeologist, and the State Historic Preservation Officer to help determine whether there are known cultural resources which may be present in the Tier 1 DEIS study area.

7. REGULATORY AUTHORITY. Conducting a CWA Section 404 review concurrently with the tiered EIS development process does not guarantee that the analysis done would result in a permittable project. It only gives an indication whether, based on the available information, the analysis done would likely satisfy CWA Section 404 review requirements. Use of this merged review process in no way precludes the Corps from exercising any provision of its authorities and policies during any subsequent permit evaluations.

8. REPLIES/COMMENTS. The Corps invites public comment on both the Tier 1 DEIS and the proposed implementation of a concurrent CWA Section 404 review process and tiered EIS process.

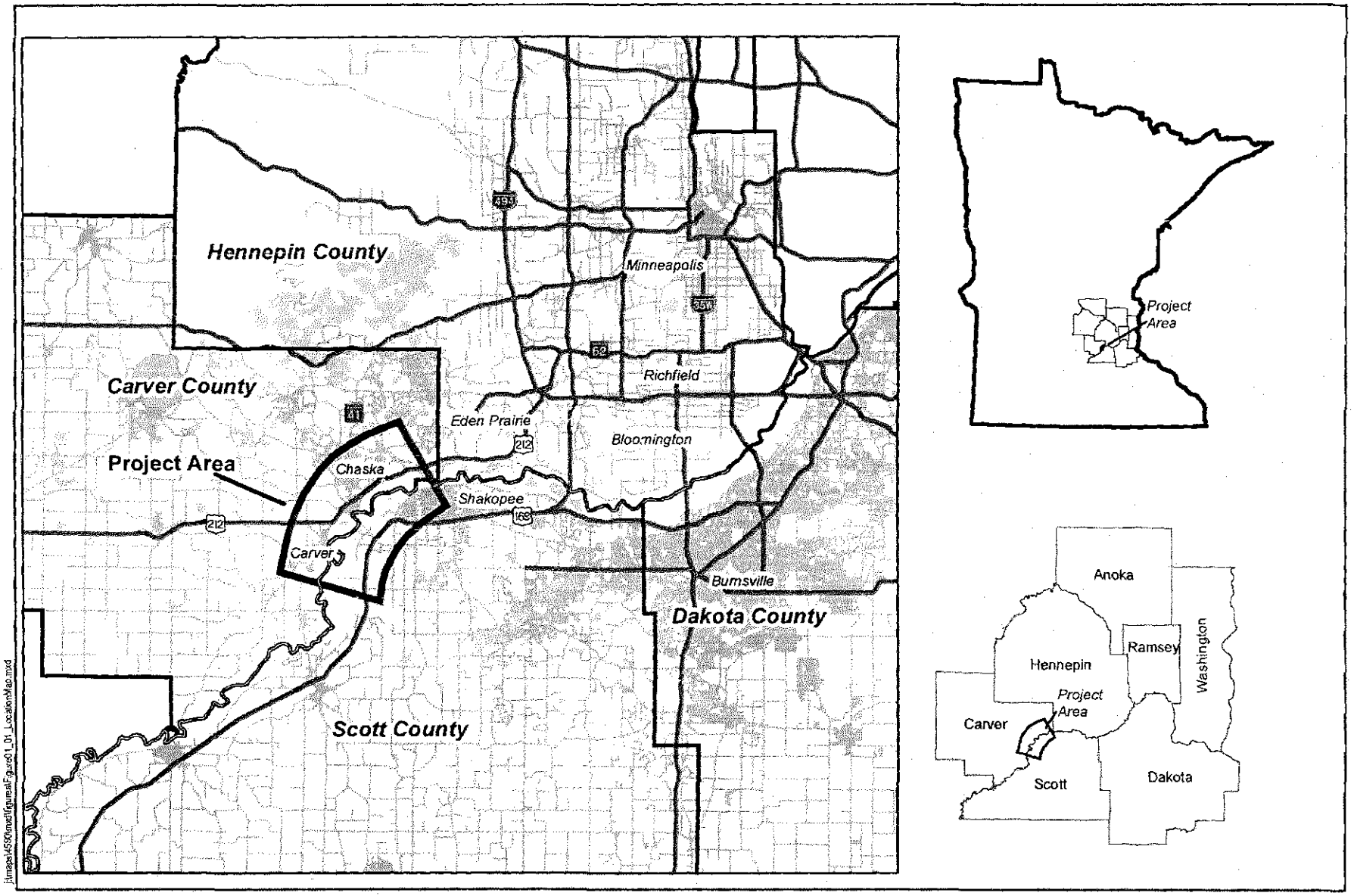
Interested parties are invited to submit to this office written facts, arguments, or objections within 30 days of the date of this notice. Replies may be addressed to St. Paul District, Corps of Engineers, ATTN: OP-R/JJY, 190 Fifth Street East, St. Paul, MN 55101-1638. Questions about the proposal may be directed to Joseph Yanta, at telephone (651) 290-5362, email address joseph.j.yanta@mvp02.usace.army.mil, or fax (651) 290-5330.

Maria T. Valencia

Robert J. Whiting
for Chief, Regulatory Branch

Enclosures

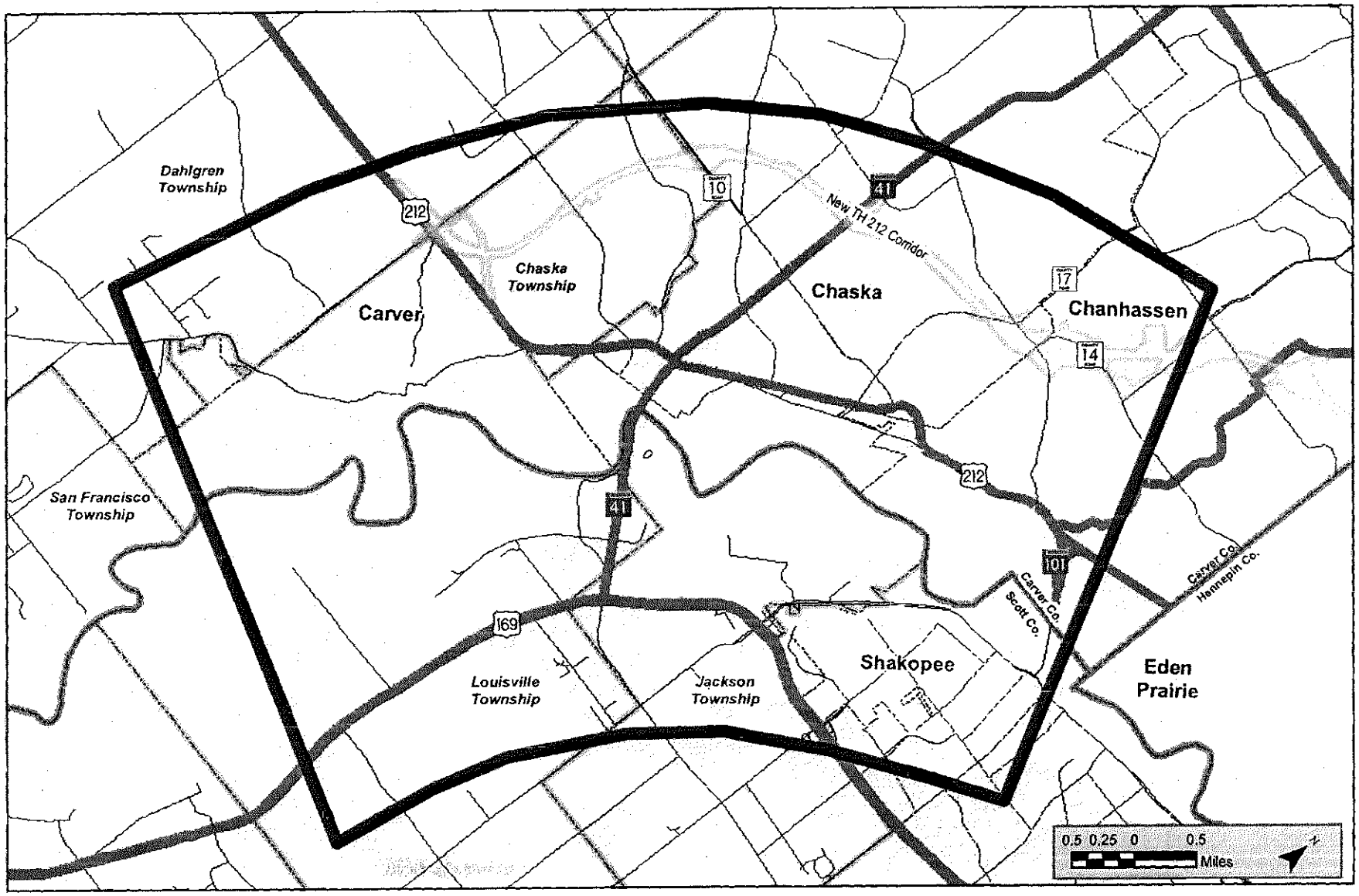
NOTICE TO EDITORS: This public notice is provided for your information only and is not a request for publication.



STATE / COUNTY LOCATION MAP

Figure 1-1

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Draft Environmental Impact Statement
S.P. #1008-60
Minnesota Department of Transportation



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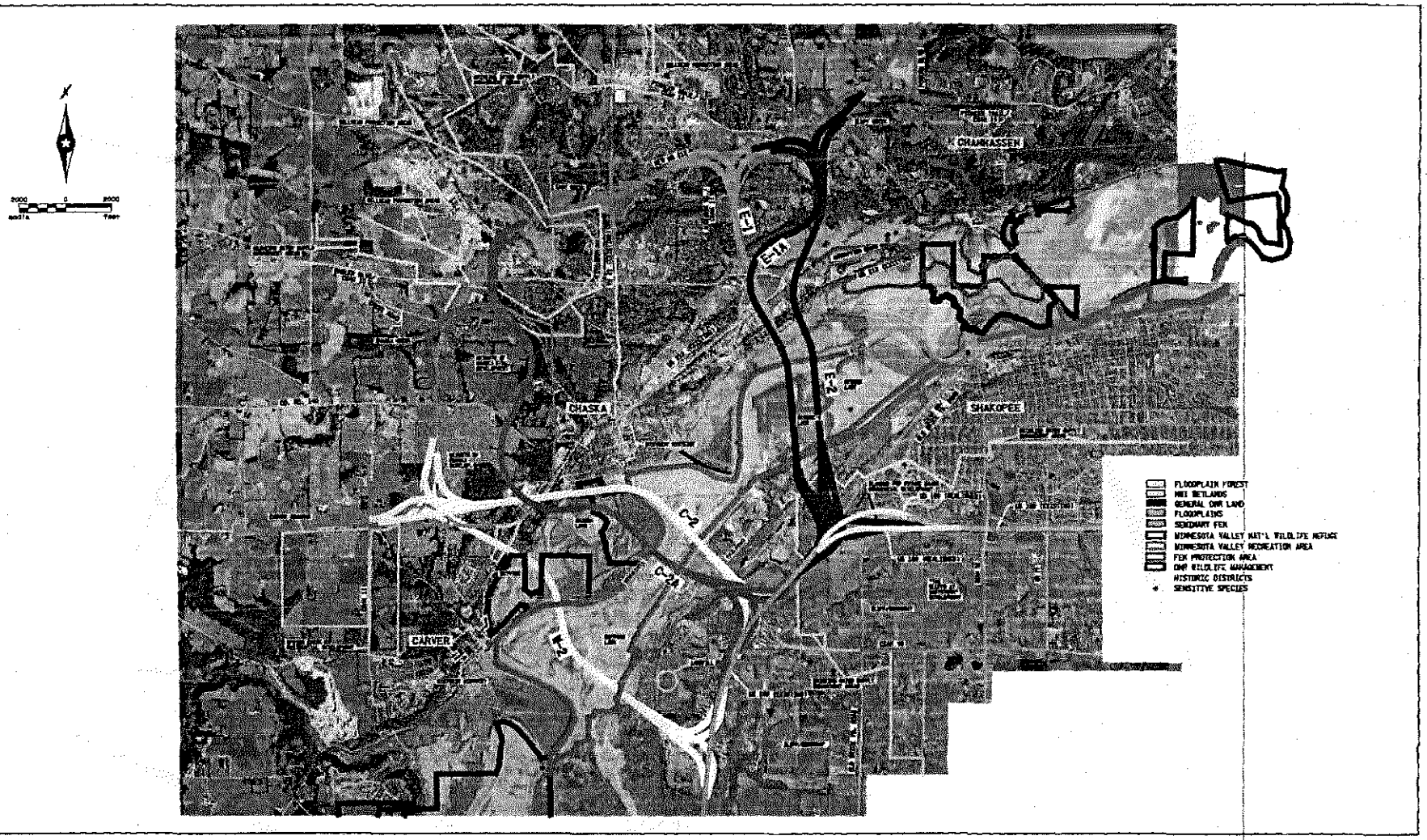
STUDY AREA MAP — *Figure 1-2*

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Draft Environmental Impact Statement
S.P. #1008-60
Minnesota Department of Transportation



BUILD ALTERNATIVES, WITH KEY FEATURES

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING
Draft Environmental Impact Statement
S.P. #1008-60
Minnesota Department of Transportation

Figure 1-3

TABLE 1-4
IMPACT SUMMARY

	ALTERNATIVES						
	No-Build	W-2	C-2	C-2A	E-1	E-1A	E-2
TRANSPORTATION AND FISCAL IMPACTS							
Capacity Improvement and Relief to Other River Crossings							
New TH 41 Average Daily Traffic (ADT) (2040)	N/A	45,000	48,000	43,000	56,000	56,000	59,000
Other River Crossings ADT (2040)							
▪ CSAH 9/45	▪ 25,100	▪ 19,200	▪ 21,600	▪ 21,300	▪ 20,800	▪ 21,300	▪ 21,300
▪ TH 41	▪ 36,500	▪ 24,700	▪ 22,000	▪ 24,800	▪ 23,800	▪ 25,100	▪ 24,200
▪ Highway 101	▪ 34,000	▪ 30,400	▪ 30,000	▪ 29,900	▪ 24,800	▪ 24,300	▪ 23,300
▪ US 169	▪ 141,000	▪ 135,000	▪ 135,000	▪ 135,000	▪ 131,000	▪ 129,000	▪ 129,000
▪ I-35W	▪ 133,000	▪ 133,000	▪ 133,000	▪ 133,000	▪ 132,000	▪ 132,000	▪ 132,000
Hours of Congestion (2040)							
▪ Existing TH 41 north of existing US 212	▪ 0	▪ 0	▪ 0	▪ 0	▪ 0	▪ 0	▪ 0
▪ Existing TH 41 river crossing	▪ 10	▪ 3	▪ 2	▪ 3	▪ 2	▪ 3	▪ 2
▪ Existing Highway 101 river crossing	▪ 10	▪ 7	▪ 7	▪ 7	▪ 6	▪ 6	▪ 5
Regional Efficiency (2040)							
▪ VMT (difference from No-Build)	▪ N/A	▪ 310,000	▪ 314,000	▪ 354,000	▪ 309,000	▪ 285,000	▪ 292,000
▪ VHT (difference from No-Build)	▪ N/A	▪ -3,900	▪ -3,500	▪ -3,100	▪ -3,600	▪ -4,000	▪ -4,000
Safety							
Crashes (2040)							
▪ Freeway	▪ 996	▪ 1,058	▪ 1,052	▪ 1,058	▪ 1,052	▪ 1,055	▪ 1,053
▪ Non-Freeway	▪ 9,430	▪ 9,433	▪ 9,460	▪ 9,468	▪ 9,435	▪ 9,444	▪ 9,438
▪ Downtown Chaska	▪ 35	▪ 24	▪ 22	▪ 24	▪ 23	▪ 24	▪ 23
Other		▪ Grade-separated rail crossings increase safety and decrease number of stops for transports carrying hazardous/flammable materials. ▪ Substantial improvements in emergency response times, especially during flood conditions. ▪ Reduced potential for vehicle-bicycle or vehicle-pedestrian conflicts.					
Trucks per day (% of ADT) (2040)							
▪ New TH 41	▪ N/A	▪ 2,360 (5)	▪ 2,350 (5)	▪ 2,210 (5)	▪ 3,650 (7)	▪ 4,130 (7)	▪ 4,040 (7)
▪ Existing TH 41	▪ 2,700 (7)	▪ 900 (4)	▪ 700 (3)	▪ 800 (3)	▪ 700 (3)	▪ 700 (3)	▪ 700 (3)
▪ Highway 101	▪ 1,400 (4)	▪ 1,500 (5)	▪ 1,500 (5)	▪ 1,300 (4)	▪ 1,300 (5)	▪ 1,300 (5)	▪ 1,000 (4)
▪ US 169	▪ 8,900 (6)	▪ 8,700 (6)	▪ 8,700 (6)	▪ 9,100 (7)	▪ 8,300 (6)	▪ 8,200 (6)	▪ 8,100 (6)
Fiscal							
Cost (in 2005 dollars) (rounded to $10M)							
▪ Construction		▪ $335-$390M	▪ $305-$355M	▪ $345-$405M	▪ $375-$460M (low profile) ▪ $395-$485M (high profile)	▪ $410-$490M	▪ $370-$440M (low profile) ▪ $375-$450M (high profile)
▪ Right of way	N/A	▪ $ 55-$ 80M	▪ $ 75-$105M	▪ $ 65-$ 90M	▪ $100-$135M	▪ $ 55- $75M	▪ $ 60- 80M
▪ Total		▪ $390-$470M	▪ $380-$460M	▪ $410-$495M	▪ $475-$495M (low profile) ▪ $495-$620M (high profile)	▪ $465-$565M	▪ $430-$520M (low profile) ▪ $435-$530M (high profile)
Benefit/Cost Ratio	N/A	3.43	3.39	3.29	2.33	2.72	2.84
SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACTS							
Right of way	N/A	▪ 258 acres ▪ 44 affected parcels: · 7 residential · 17 agricultural · 7 industrial/commercial · 9 public · 4 other	▪ 320 acres ▪ 59 affected parcels: · 15 residential · 15 agricultural · 15 industrial/commercial · 11 public · 3 other	▪ 301 acres ▪ 133 affected parcels: · 69 residential · 17 agricultural · 16 industrial/commercial · 16 public · 15 other	▪ 360 acres ▪ 204 affected parcels: · 144 residential · 11 agricultural · 6 industrial/commercial · 39 public · 4 other	▪ 214 acres ▪ 84 affected parcels: · 35 residential · 10 agricultural · 13 industrial/commercial · 25 public · 1 other	▪ 194 acres ▪ 34 affected parcels: · 42 residential · 9 agricultural · 56 industrial/commercial · 24 public · 1 other
Residential Units Acquired[1]		▪ 13	▪ 29	▪ 78	▪ 261	▪ 136	▪ 210
Business/employees	N/A	6 businesses 125 employees	11 businesses 114 employees	12 businesses 134 employees	3 businesses 115 employees	7 businesses 264 employees	5 businesses 99 employees
Fiscal							
▪ Annual tax loss (Scott County)		▪ $25,150	▪ $162,200	▪ $166,750	▪ $25,000	▪ $33,700	▪ $44,200
▪ Annual tax loss (Carver County)		▪ $15,350	▪ $ 17,450	▪ $ 45,900	▪ $45,900	▪ $84,350	▪ $32,150
Environmental Justice	N/A	No disproportionate impacts	18 households – Jackson Heights	38 households – Jackson Heights	▪ Up to 126 households – Mobile Manor, Bonnevista and Riverview Terrace	▪ Up to 113 households – Mobile Manor, Bonnevista and Riverview Terrace	▪ Up to 182 households – Mobile Manor, Bonnevista and Riverview Terrace

[1] Includes single family homes, townhomes and mobile home units. Does not include farm houses.

TABLE 1-4 continued
IMPACT SUMMARY

	ALTERNATIVES						
	No-Build	W-2	C-2	C-2A	E-1	E-1A	E-2
SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACTS							
Neighborhoods	N/A	▪ River Bluff Estates (Carver) ▪ Separates small portion of Carver	▪ Jackson Heights ▪ Heights of Chaska ▪ Separates Carver and Chaska	▪ Jackson Heights ▪ Heights of Chaska ▪ Separates Carver and Chaska	▪ Mobile Manor, Bonnevista and Riverview Terrace ▪ Separates established neighborhoods east and west of Audubon Road	▪ Mobile Manor, Bonnevista and Riverview Terrace ▪ Separates Chaska and Chanhassen	▪ Mobile Manor, Bonnevista, and Riverview Terrace ▪ Separates Chaska and Chanhassen
Community Facilities	N/A	▪ Renaissance Festival (private)	▪ No impact	▪ Chaska maintenance facility (minor land acquisition)	▪ Church, church residence ▪ School property	▪ School property	▪ St. John's Cemetery expansion area ▪ School property
Access	N/A	▪ Existing US 212 realigned ▪ Mt. Hope Road extended to realigned existing US 212	▪ Affects design of US 169/ existing TH 41 interchange and US 169/CSAH 69 interchange ▪ Assumes existing TH 41/CSAH 78 realigned to the west ▪ Local ramps at New US 212/CSAH 11 interchange reconstructed	▪ Affects design of US 169/ existing TH 41 interchange and US 169/CSAH 69 interchange ▪ Assumes existing TH 41/CSAH 78 realigned to the west ▪ Local ramps at New US 212/CSAH 11 interchange reconstructed	▪ Affects design of US 169/ existing TH 41 interchange and US 169/CSAH 69 interchange ▪ Numerous local roadway alterations needed to restore access to affected parcels	▪ Affects design of US 169/ existing TH 41 interchange and US 169/CSAH 69 interchange	▪ Affects design of US 169/ existing TH 41 interchange and US 169/CSAH 69 interchange
Cultural Resources	Walnut Street Historic District (downtown Chaska)	Effect cannot be determined at this time	▪ Athletic Field (a.k.a Chaska Cubs Ball Field) ▪ Effect on other resources cannot be determined at this time	Effect cannot be determined at this time	No adverse effect	No adverse effect; assumes alignment will avoid archeological site	No adverse effect; assumes alignment will avoid archeological site
Parks, Trails, Recreational Areas (Section 4(f)	N/A	▪ 20.4 acres MVNWR ▪ 30.6 acres MVSRA/MV Trails	▪ 8.5 acres MVNWR ▪ 22.3 acres MVSRA/MV Trails ▪ 3.5 acres - Athletic Park, Chaska (possibly all 8 acres)	▪ 36.1 acres MVNWR ▪ 5.4 acres MVSRA/MV Trails	▪ 12.0 acres MVSRA/MV Trails ▪ 10.4 acres Pioneer Park/ Chaska High School/ Pioneer Ridge Freshman Center Complex ▪ 1.4 miles (1.3 acres) Audubon Trail ▪ 4,200 feet (0.8 acres) Chaska Trail Segments	▪ 12.0 acres MVSRA/MV Trails ▪ 2.7 acres Pioneer Park/ Chaska High School/ Pioneer Ridge Freshman Center Complex ▪ 1,000 feet (0.2 acres) Audubon Trail ▪ 800 feet (0.2 acres) City of Chaska Trail Segments	▪ 4.2 acres MVSRA/MV Trails ▪ 1.1 acres Pioneer Park/ Chaska High School/ Pioneer Ridge Freshman Center Complex ▪ 1,000 feet (0.2 acres) Audubon Trail ▪ 800 feet (0.2 acres) City of Chaska Trail Segments
Threatened and Endangered Species	No adverse impacts to rare species have been observed	▪ (Potential) freshwater mussel concentrations ▪ Kitten Tails (state threatened) ▪ Hills Thistle (state endangered) ▪ Regal Fritillary butterfly (state special concern) ▪ Tier II mussel study recommended	▪ None listed within ½ mile ▪ Tier II mussel study recommended	▪ None listed within ½ mile ▪ Tier II mussel study recommended	▪ None listed within ½ mile ▪ Tier II mussel study recommended	Sterile sedge (federal threatened and endangered) and other plant species associated with Seminary Fen native plant communities and sites of biodiversity	Sterile sedge (federal threatened and endangered) and other plant species associated with Seminary Fen native plant communities and sites of biodiversity
Vegetation/Habitat Communities	N/A	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds
▪ Floodplain Forest/Old Growth Floodplain Forest ▪ Maple-Basswood Forest ▪ Oak Forest ▪ Oak-Woodland brush ▪ Lowland Hardwood Forest ▪ New Edge ▪ Native Vegetation		25 acres 0 acres 5 acres 0 acres 3 acres 14,350 feet Carver Marsh and Chaska Lake	16 acres 11 acres 4 acres 0 acres 6 acres 12,300 feet MVNWR	21 acres (bat colony within ½ mile) 22 acres 2 acres 9 acres 12 acres 19,500 feet MVNWR	7 acres 10 acres 4 acres 0 acres 1 acre 8,600 feet Nyssen's Lake (3 acres)	7 acres 11 acres 6 acres 5 acres 8 acres 12,700 feet Nyssen's Lake (3 acres) and SFWC	9 acres 13 acres 1 acre 8 acres 2 acres 14,300 feet Nyssen's Lake (7 acres) and SFWC

TABLE 1-4 continued
IMPACT SUMMARY

	ALTERNATIVES						
	No-Build	W-2	C-2	C-2A	E-1	E-1A	E-2
GENERAL IMPACTS							
Seminary Fen/Assumption Creek	N/A	No impact	No impact	No impact	No impact to CFC Areas 1 or 3. Water table drawdown 0.1 ft. to small portion of CFC Area 2	No impacts to CFC Area 1. Potential contamination on transport to CFC Area 3. Major impact to CFC Area 2	No impacts to CFC Area 1. Potential contamination on transport to CFC Area 3. Major impact to CFC Area 2.
Surface Water Quality/Storm Water Runoff • Impervious surface • Permanent ponding storage requirement (% in floodplain)	N/A	• 44.1 acres • 10.4 acre-ft. (33.6)	• 47.7 acres • 13.9 acre-ft. (31.9)	• 60.3 acres • 17.2 acre-ft. (24.0)	• 48.3 acres • 15.0 acre-ft. (33.2) – High Profile • 14.7 acre ft. (38) – Low Profile	• 52.9 acres • 14.9 acre-ft. (26) (both profile options)	• 47.7 acres • 14.8 acre-ft. (29.6) (both profile options)
Wetland Impacts	N/A	12 9 acres	12.9 acres	17.5 acres	9.4 acres (both profile options)	High: 16.2 acres Low: 15.9 acres	22.5 acres (both profile options)
Wild and Scenic River	N/A	Impact on scenic value *(Note: this section of the Minnesota River is not currently designated as a Wild and Scenic River, but it is on the National River Inventory)*					
Floodplain/Waterbodies • Floodplain encroachment • Increase in flood elevation	N/A	• 7,920 feet (Minnesota River) • 0.01 foot	• 7,250 feet (Minnesota River) • 0.02 foot	• 6,500 feet (Minnesota River) • 1,464 feet (Bluff Creek) • 0.01 foot	• 5,730 feet (Minnesota River) • 0.02 foot	• 5,716 feet (Minnesota River) • 163 feet (Bluff Creek) • 0.02 foot	• 5,934 feet (Minnesota River) • 166 feet (Bluff Creek) • 0.01 foot
Groundwater	N/A	Potential dewatering or direct impacts to groundwater, not excessive	Potential dewatering or direct impacts to groundwater, not excessive	Potential dewatering or direct impacts to groundwater, not excessive	• Potential dewatering or direct impacts to groundwater, limited with assumed pier construction • High profile less potential for impact than Low profile	• Potential dewatering or direct impacts to groundwater, limited with assumed pier construction • High profile less potential for impact than Low profile	• Potential dewatering or direct impacts to groundwater, limited with assumed pier construction • High profile less potential for impact than Low profile
Physical							
Noise (daytime) (2040)	• 1 dBA over existing conditions • would exceed Federal standards	• State standards exceeded by 4 to 16 dBA at 5 receptors • Noise levels near downtown Chaska are 4 dBA lower than No-Build	• State standards exceeded by 1 to 6 dBA at 5 receptors • 5 of 13 receptors lower than No-Build • Downtown Chaska 4 dBA lower than No-Build	• State standards exceeded by 1 to 8 dBA at 12 receptors • 7 of 15 receptors lower than No-Build • Downtown Chaska 3 dBA lower than No-Build	• State standards exceeded by 4 to 12 dBA at five receptors • 5 of 13 receptors lower than No-Build • Downtown Chaska 4 dBA lower than No-Build	• State standards exceeded by 1 to 9 dBA at 6 receptors • 4 of 13 receptors lower than No-Build • Downtown Chaska 4 dBA lower than No-Build	• State standards exceeded by 4 to 7 dBA at 6 receptors • 4 of 9 receptors lower than No-Build • Downtown Chaska 4 dBA lower than No-Build
Air Quality		Reduced MSAT emissions in the immediate area of the project expected relative to No-Build, due to reduced VHT and EPA's MSAT reduction programs.					
Soil, Water Contamination		• 4 low risk sites • 43 medium risk sites • 2 high risk sites	• 22 low risk sites • 2 medium risk sites • 9 high risk sites	• 22 low risk sites • 2 medium risk sites • 9 high risk sites	• 10 low risk sites • 8 medium risk sites • 4 high risk sites	• 10 low risk sites • 8 medium risk sites • 4 high risk sites	• 5 low risk sites • 5 medium risk sites • 3 high risk sites
Visual Quality	N/A	Substantial permanent impacts, highly visible to neighbors, travelers, and riverway users					
Steep Slopes, Erodible Soils – Length of erodible soil crossing		550 feet	1,950 feet	4,980 feet	3,000 feet	4,700 feet	2,610 feet
Farmland	N/A	• 9 land owners • 17 agricultural parcels • 91 acres	• 14 land owners • 15 agricultural parcels • 148 acres	• 14 land owners • 17 agricultural parcels • 101 acres	6 land owners 11 agricultural parcels 50 acres	6 land owners 10 agricultural parcels 92 acres	7 land owners 10 agricultural parcels 80 acres
Excess/Borrow	N/A	Preliminary estimates indicate that up to 3.3 million cubic yards of borrow may be required for this project.					
OTHER							
Construction Impacts	N/A	Local traffic congestion and access impacts; noise near sensitive receptors; temporary channel obstructions; impacts to aquatic species habitat					
Indirect Impacts	N/A	• Assumed US 169 south frontage road removes commercial building	• Assumed US 169/existing TH 41 interchange removes 3 homes • Reduction in affordable housing may affect businesses, broader low-moderate income families	• Assumed US 169/existing TH 41 interchange removes 3 homes • Reduction in affordable housing may affect businesses, broader low-moderate income families	Reduction in affordable housing may affect businesses, broader low-moderate income families	Reduction in affordable housing may affect businesses, broader low-moderate income families	Reduction in affordable housing may affect businesses, broader low-moderate income families
		• Increased development intensity near corridor; potential induced development beyond study area • Vegetation/habitat effects					
Cumulative Impacts	N/A	• MVNWR	• MVNWR • Social • Athletic Park	• MVNWR • Social	• Social • Impacts to Mobile Manor • Seminary Fen	• Social • Impacts to Mobile Manor • Seminary Fen	• Social • Impacts to Mobile Manor • Seminary Fen
		Potential impacts to cultural resources, land development, vegetation, wildlife, threatened and endangered species and wetlands.					

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
SIBLEY SQUARE AT MEARS PARK
190 5TH ST. EAST STE 401
ST. PAUL, MINNESOTA 55101-1638

OFFICIAL BUSINESS
REGULATORY BRANCH

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APPENDIX C

Alternative Impact Summary Table

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TABLE C-1
ALTERNATIVE IMPACT SUMMARY TABLE

	Alternatives							
	No-Build	**Preferred Alternative**	**DEIS W-2**	**DEIS C-2**	**DEIS C-2A**	**DEIS E-1**	**DEIS E-1A**	**DEIS E-2**
DESCRIPTION	N/A	Roadway length: 3.0 miles Bridge length: 9,350 feet No. of piers: 80	Roadway length: 3.1 miles Bridge length: 10,550 feet No. of piers: 86	Roadway length: 3.0 miles Bridge length: 9,350 feet No. of piers: 76	Roadway length: 3.9 miles Bridge length: 9,550 feet No. of piers: 80	Roadway length: 3.1 miles Bridge length: 10,800 feet [low profile], 11,300 feet [high profile] No. of piers: 94	Roadway length: 3.6 miles Bridge length: 13,500 feet No. of piers: 112	Roadway length: 3.2 miles Bridge length: 12,000 feet No. of piers: 98
TRANSPORTATION AND FISCAL IMPACTS								
Capacity Improvement and Relief to Other River Crossings								
New TH 41 Average Daily Traffic (ADT) (2040)	N/A	48,000	45,000	48,000	43,000	56,000	56,000	59,000
Other River Crossings ADT (2040)								
▪ CSAH 9/45	▪ 25,100	▪ 21,600	▪ 19,200	▪ 21,600	▪ 21,300	▪ 20,800	▪ 21,300	▪ 21,300
▪ TH 41	▪ 36,500	▪ 22,000	▪ 24,700	▪ 22,000	▪ 24,800	▪ 23,800	▪ 25,100	▪ 24,200
▪ Highway 101	▪ 34,000	▪ 30,000	▪ 30,400	▪ 30,000	▪ 29,900	▪ 24,800	▪ 24,300	▪ 23,300
▪ US 169	▪ 141,000	▪ 135,000	▪ 135,000	▪ 135,000	▪ 135,000	▪ 131,000	▪ 129,000	▪ 129,000
▪ I-35W	▪ 133,000	▪ 133,000	▪ 133,000	▪ 133,000	▪ 133,000	▪ 132,000	▪ 132,000	▪ 132,000
Hours of Congestion (2040)								
▪ Existing TH 41 north of existing US 212	▪ 0	▪ 0	▪ 0	▪ 0	▪ 0	▪ 0	▪ 0	▪ 0
▪ Existing TH 41 river crossing	▪ 10	▪ 2	▪ 3	▪ 2	▪ 3	▪ 2	▪ 3	▪ 2
▪ Existing Highway 101 river crossing	▪ 10	▪ 7	▪ 7	▪ 7	▪ 7	▪ 6	▪ 6	▪ 5
Regional Efficiency (2040)								
▪ VMT (difference from No-Build)	▪ N/A	▪ 314,000	▪ 310,000	▪ 314,000	▪ 354,000	▪ 309,000	▪ 285,000	▪ 292,000
▪ VHT (difference from No-Build)	▪ N/A	▪ -3,500	▪ -3,900	▪ -3,500	▪ -3,100	▪ -3,600	▪ -4,000	▪ -4,000
Safety								
Crashes (2040)								
▪ Freeway	▪ 996	▪ 1,052	▪ 1,058	▪ 1,052	▪ 1,058	▪ 1,052	▪ 1,055	▪ 1,053
▪ Non-Freeway	▪ 9,430	▪ 9,460	▪ 9,433	▪ 9,460	▪ 9,468	▪ 9,435	▪ 9,444	▪ 9,438
▪ Downtown Chaska	▪ 35	▪ 22	▪ 24	▪ 22	▪ 24	▪ 23	▪ 24	▪ 23
Other		▪ Grade-separated rail crossings increase safety and decrease number of stops for transports carrying hazardous/flammable materials. ▪ Substantial improvements in emergency response times, especially during flood conditions. ▪ Reduced potential for vehicle-bicycle or vehicle-pedestrian conflicts.						
Trucks per day (% of ADT) (2040)								
▪ New TH 41	▪ N/A	▪ 2,350 (5%)	▪ 2,360 (5%)	▪ 2,350 (5%)	▪ 2,210 (5%)	▪ 3,650 (7%)	▪ 4,130 (7%)	▪ 4,040 (7%)
▪ Existing TH 41	▪ 2,700 (7%)	▪ 700 (3%)	▪ 900 (4%)	▪ 700 (3%)	▪ 800 (3%)	▪ 700 (3%)	▪ 700 (3%)	▪ 700 (3%)
▪ Highway 101	▪ 1,400 (4%)	▪ 1,500 (5%)	▪ 1,500 (5%)	▪ 1,500 (5%)	▪ 1,300 (4%)	▪ 1,300 (5%)	▪ 1,300 (5%)	▪ 1,000 (4%)
▪ US 169	▪ 8,900 (6%)	▪ 8,700 (6%)	▪ 8,700 (6%)	▪ 8,700 (6%)	▪ 9,100 (7%)	▪ 8,300 (6%)	▪ 8,200 (6%)	▪ 8,100 (6%)
Fiscal								
Cost (in 2013 dollars) (rounded to $10M) [2]								
▪ Construction (higher figure risk assessed for factors including mitigation)	N/A	▪ $370-$430M	▪ $410-$470M	▪ $370-$430M	▪ $420-$490M	▪ $450-$560M (Low Profile) ▪ $480-$590M (High Profile)	▪ $500-$590M	▪ $450-$530M (Low Profile) ▪ $450-$540M (High Profile)
▪ Right of way		▪ $ 90-$130M	▪ $ 70- $100M	▪ $ 90-$130M	▪ $ 80- $110M	▪ $120-$160M	▪ $ 70- $90M	▪ $ 70- $100M
▪ Total		▪ $460-$560M	▪ $470-$570M	▪ $460-$560M	▪ $500-$600M	▪ $570-$600M (Low Profile) ▪ $600-$750M (High Profile)	▪ $560-$680M	▪ $520-$630M (Low Profile) ▪ $530-$640M (High Profile)
Benefit/Cost Ratio	N/A	3.39	3.43	3.39	3.29	2.33	2.72	2.84
SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACTS								
Right of way	N/A	▪ 320 acres ▪ 57 affected parcels: – 11 residential – 16 agricultural – 15 industrial/commercial – 12 public – 3 other	▪ 262 acres ▪ 56 affected parcels: – 19 residential – 17 agricultural – 7 industrial/commercial – 9 public – 4 other	▪ 323 acres ▪ 71 affected parcels: – 27 residential – 15 agricultural – 15 industrial/commercial – 11 public – 3 other	▪ 301 acres ▪ 133 affected parcels: – 69 residential – 17 agricultural – 16 industrial/commercial – 16 public – 15 other	▪ 360 acres ▪ 204 affected parcels: – 144 residential – 11 agricultural – 6 industrial/commercial – 39 public – 4 other	▪ 214 acres ▪ 84 affected parcels: – 35 residential – 10 agricultural – 13 industrial/commercial – 25 public – 1 other	▪ 194 acres ▪ 132 affected parcels: – 42 residential – 9 agricultural – 56 industrial/commercial – 24 public – 1 other
Residential Units Needed to be Acquired[2]		▪ 10	▪ 16	▪ 37	▪ 78	▪ 261	▪ 136	▪ 210
Business/employees	N/A	11 businesses 114 employees	6 businesses 125 employees	11 businesses 114 employees	12 businesses 134 employees	3 businesses 115 employees	7 businesses 264 employees	5 businesses 99 employees
Fiscal (2013 dollars)	N/A							
▪ Annual tax loss (Scott County)		▪ $188,360	▪ $29,200	▪ $188,360	▪ $193,650	▪ $29,050	▪ $39,150	▪ $51,350
▪ Annual tax loss (Carver County)		▪ $ 20,260	▪ $17,850	▪ $ 20,260	▪ $ 53,300	▪ $53,300	▪ $97,950	▪ $37,350

[1] Project costs have been updated from 2005 dollars to 2013 dollars using the Consumer Price Index (CPI). ftp://ftp.bls.gov/pub/special.requests/cpi/cpiai.txt. Accessed May 10, 2013.
[2] Includes single family homes, townhomes and manufactured home units. Does not include farm houses. Note: Agricultural parcels include seven properties that will be classified as residential before the anticipated build-year.

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TABLE C-1 continued
ALTERNATIVE IMPACT SUMMARY TABLE

	Alternatives							
	No-Build	**Preferred Alternative**	**DEIS W-2**	**DEIS C-2**	**DEIS C-2A**	**DEIS E-1**	**DEIS E-1A**	**DEIS E-2**
SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACTS								
Environmental Justice	N/A	No disproportionate impacts; indirect noise and visual impacts to Jackson Heights	No disproportionate impacts	18 households – Jackson Heights	38 households – Jackson Heights	▪ Up to 126 households – Mobile Manor, Bonnevista and Riverview Terrace	▪ Up to 113 households – Mobile Manor, Bonnevista and Riverview Terrace	▪ Up to 182 households – Mobile Manor, Bonnevista and Riverview Terrace
Neighborhoods	N/A	▪ Separates corner of Heights of Chaska from remainder ▪ Separates Carver and Chaska	▪ River Bluff Estates (Carver) ▪ Separates northeast portion of Carver from remainder of City	▪ Jackson Heights ▪ Separates corner of Heights of Chaska from remainder ▪ Separates Carver and Chaska	▪ Jackson Heights ▪ Divides Heights of Chaska ▪ Separates Carver and Chaska	▪ Mobile Manor, Bonnevista and Riverview Terrace ▪ Separates established Chaska neighborhoods east and west of Audubon Road	▪ Mobile Manor, Bonnevista and Riverview Terrace ▪ Separates Chaska and Chanhassen	▪ Mobile Manor, Bonnevista, and Riverview Terrace ▪ Separates Chaska and Chanhassen
Community Facilities	N/A	▪ No impact	▪ Renaissance Festival (private)	▪ No impact	▪ Chaska maintenance facility (minor land acquisition)	▪ Church, church residence ▪ School property	▪ School property	▪ St. John's Cemetery expansion area ▪ School property
Access	N/A	▪ Affects design of US 169/ existing TH 41 interchange ▪ Assumes existing TH 41/ CSAH 78 realigned to the west ▪ Local ramps at US 212/CSAH 11 interchange partially reconstructed	▪ Existing US 212 realigned ▪ Mt. Hope Road extended to realigned existing US 212	▪ Affects design of US 169/ existing TH 41 interchange and US 169/CSAH 69 interchange ▪ Assumes existing TH 41/ CSAH 78 realigned to the west ▪ Local ramps at New US 212/CSAH 11 interchange reconstructed	▪ Affects design of US 169/ existing TH 41 interchange and US 169/CSAH 69 interchange ▪ Assumes existing TH 41/ CSAH 78 realigned to the west ▪ Local ramps at New US 212/CSAH 11 interchange reconstructed	▪ Affects design of US 169/ existing TH 41 interchange and US 169/CSAH 69 interchange ▪ Numerous local roadway alterations needed to restore access to affected parcels	▪ Affects design of US 169/ existing TH 41 interchange and US 169/CSAH 69 interchange	▪ Affects design of US 169/ existing TH 41 interchange and US 169/CSAH 69 interchange
Cultural Resources	Walnut Street Historic District (downtown Chaska)	Effect cannot be determined at this time	Effect cannot be determined at this time	▪ Athletic Field (a.k.a. Chaska Cubs Ball Field) ▪ Effect on other resources cannot be determined at this time	Effect cannot be determined at this time	No adverse effect	No adverse effect; assumes alignment will avoid archeological site	No adverse effect; assumes alignment will avoid archeological site
Parks, Trails, Recreational Areas (Section 4[f])	N/A	▪ Temporary construction impacts to Canoe and Boating route ▪ Temporary construction impacts to planned trail ▪ 22.0 acres MVNWR ▪ 22.3 acres MVSRA/MV Trails ▪ Avoids direct impacts to Athletic Park, Chaska	▪ Temporary construction impacts to Canoe and Boating route ▪ 20.4 acres Minnesota Valley National Wildlife Refuge (MVNWR) ▪ 30.6 acres Minnesota Valley State Recreation Area/ Minnesota Valley (MVSRA/MV) Trails	▪ Temporary construction impacts to Canoe and Boating route ▪ 8.5 acres MVNWR ▪ 22.3 acres MVSRA/MV Trails ▪ 3.5 acres - Athletic Park, Chaska (possibly all 8 acres)	▪ Temporary construction impacts to Canoe and Boating route ▪ 36.1 acres MVNWR ▪ 5.4 acres MVSRA/MV Trails	▪ Temporary construction impacts to Canoe and Boating route ▪ 12.0 acres MVSRA/MV Trails ▪ 10.4 acres Pioneer Park/ Chaska High School/ Pioneer Ridge Freshman Center Complex ▪ 1.4 miles (1.3 acres) Audubon Trail ▪ 4,200 feet (0.8 acres) Chaska Trail Segments	▪ Temporary construction impacts to Canoe and Boating route ▪ 12.0 acres MVSRA/MV Trails ▪ 2.7 acres Pioneer Park/ Chaska High School/ Pioneer Ridge Freshman Center Complex ▪ 1,000 feet (0.2 acres) Audubon Trail ▪ 800 feet (0.2 acres) City of Chaska Trail Segments	▪ Temporary construction impacts to Canoe and Boating route ▪ 4.2 acres MVSRA/MV Trails ▪ 1.1 acres Pioneer Park/ Chaska High School/ Pioneer Ridge Freshman Center Complex ▪ 1,000 feet (0.2 acres) Audubon Trail ▪ 800 feet (0.2 acres) City of Chaska Trail Segments
Threatened and Endangered Species	No adverse impacts to rare species have been observed	▪ No Threatened and Endangered species listed within ½ mile ▪ Tier II mussel study anticipated	▪ (Potential) freshwater mussel concentrations ▪ Kitten Tails (state threatened) ▪ Hills Thistle (state special concern) ▪ Regal Fritillary butterfly (state special concern) ▪ Tier II mussel study recommended	▪ No Threatened and Endangered species listed within ½ mile ▪ Shovelnose sturgeon (state special concern) ▪ Tier II mussel study anticipated	▪ No Threatened and Endangered species listed within ½ mile ▪ Shovelnose sturgeon (state special concern) ▪ Tier II mussel study anticipated	▪ No Threatened and Endangered species listed within ½ mile ▪ Shovelnose sturgeon (state special concern) ▪ Tier II mussel study anticipated	▪ Several species that are part of the Seminary Fen native plant community, including (but not limited to): – sterile sedge (state threatened) – low nutrush (state threatened) – beaked spikerush (state threatened) – white lady's slipper (state special concern) – twig rush (state special concern) ▪ Shovelnose sturgeon (state special concern) ▪ Tier II mussel study anticipated	▪ Several species that are part of the Seminary Fen native plant community, including (but not limited to): – sterile sedge (state threatened) – low nutrush (state threatened) – beaked spikerush (state threatened) – white lady's slipper (state special concern) – twig rush (state special concern) ▪ Shovelnose sturgeon (state special concern) ▪ Tier II mussel study anticipated

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TABLE C-1 continued

ALTERNATIVE IMPACT SUMMARY TABLE

	Alternatives							
	No-Build	**Preferred Alternative**	**DEIS W-2**	**DEIS C-2**	**DEIS C-2A**	**DEIS E-1**	**DEIS E-1A**	**DEIS E-2**
SOCIAL, ECONOMIC, AND ENVIRONMENTAL IMPACTS								
Vegetation/Habitat	N/A	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds	▪ Shading effects ▪ Salt spray, trash, debris, and opportunistic invasive species ▪ Bridge piers may create obstacles for wildlife; bridge creates flight barrier for birds
▪ Native vegetation ▪ High quality native vegetation (BC rank or better) ▪ State rarity ranking of native vegetation ▪ Outstanding biodiversity area ▪ Forested areas ▪ Impacts to forest interior ▪ Creation of new forest edge	N/A	58.3 acres 36.3 acres 41.6 acres 0.0 acres 41.0 acres 24.3 acres 22.3 acres	51.7 acres 33.3 acres 48.8 acres 0.0 acres 33.9 acres 24.9 acres 15.9 acres	54.8 acres 36.3 acres 38.1 acres 0.0 acres 38.6 acres 20.8 acres 13.6 acres	81.6 acres 44.9 acres 61.4 acres 0.0 acres 61.3 acres 33.6 acres 23.3 acres	29.9 acres 2.8 acres 28.9 acres 0.5 acres 22.3 acres 12.2 acres 7.0 acres	48.9 acres 28.1 acres 35.9 acres 30.6 acres 33.0 acres 20.1 acres 11.6 acres	59.3 acres 34.2 acres 48.9 acres 26.0 acres 26.3 acres 21.8 acres 10.2 acres
Seminary Fen/Assumption Creek (3 calcareous fen component (CFC] areas)	N/A	No impact	No impact	No impact	No impact	No impact to CFC Areas 1 or 3. Water table drawdown 0.1 ft. to small portion of CFC Area 2	No impacts to CFC Area 1. Potential contamination transport to CFC Area 3. Major impact to CFC Area 2.	No impacts to CFC Area 1. Potential contamination transport to CFC Area 3. Major impact to CFC Area 2.
Surface Water Quality/Storm Water Runoff ▪ Impervious surface ▪ Permanent ponding storage requirement (% in floodplain)	N/A	▪ 47.7 acres ▪ 13.9 acre-ft. (31.9)	▪ 44.1 acres ▪ 10.4 acre-ft. (33.6)	▪ 47.7 acres ▪ 13.9 acre-ft. (31.9)	▪ 60.3 acres ▪ 17.2 acre-ft. (24.0)	▪ 48.3 acres ▪ 15.0 acre-ft. (33.2) (High Profile) ▪ 14.7 acre ft. (38) (Low Profile)	▪ 52.9 acres ▪ 14.9 acre-ft. (26) (both profile options)	▪ 47.7 acres ▪ 14.8 acre-ft. (29.6) (both profile options)
Wetland Impacts	N/A	13.2 acres	11.7 acres	10.9 acres	16.1 acres	9.0 acres (both profile options)	14.9 acres (High Profile) 14.6 acres (Low Profile)	15.7 acres (both profile options)
Wild and Scenic River	N/A	Impact on scenic value *(Note: this section of the Minnesota River is not currently designated as a Wild and Scenic River, but it is on the National River Inventory and is a candidate for potential National Wild and Scenic River)*						
Floodplain/Waterbodies ▪ Floodplain encroachment ▪ Increase in flood elevation	N/A	▪ 7,250 feet (Minnesota River) ▪ 0.02 foot (Minnesota River)	▪ 7,920 feet (Minnesota River) ▪ 0.01 foot (Minnesota River)	▪ 7,250 feet (Minnesota River) ▪ 0.02 foot (Minnesota River)	▪ 6,500 feet (Minnesota River) ▪ 1,464 feet (Bluff Creek) ▪ 0.01 foot (Minnesota River)	▪ 5,730 feet (Minnesota River) ▪ 0.02 foot (Minnesota River)	▪ 5,716 feet (Minnesota River) ▪ 163 feet (Bluff Creek) ▪ 0.02 foot (Minnesota River)	▪ 5,934 feet (Minnesota River) ▪ 166 feet (Bluff Creek) ▪ 0.01 foot (Minnesota River)
Groundwater	N/A	Potential dewatering or direct impacts to groundwater, not excessive	Potential dewatering or direct impacts to groundwater, not excessive	Potential dewatering or direct impacts to groundwater, not excessive	Potential dewatering or direct impacts to groundwater, not excessive	▪ Potential construction dewatering or permanent direct impacts to groundwater, limited with assumed pier construction ▪ High profile less potential for impact than Low profile	▪ Potential construction dewatering or permanent direct impacts to groundwater, limited with assumed pier construction ▪ High profile less potential for impact than Low profile	▪ Potential construction dewatering or permanent direct impacts to groundwater, limited with assumed pier construction ▪ High profile less potential for impact than Low profile
Physical								
Noise (daytime) (2040)	▪ 1 dBA over existing conditions ▪ would exceed Federal standards	▪ State standards exceeded by 1 to 14 dBA at 4 receptors ▪ 2 of 19 receptors lower than No-Build ▪ Noise levels near downtown Chaska are similar to No-Build	▪ State standards exceeded by 4 to 16 dBA at 5 receptors ▪ Noise levels near downtown Chaska are 4 dBA lower than No-Build	▪ State standards exceeded by 1 to 6 dBA at 5 receptors ▪ 5 of 13 receptors lower than No-Build ▪ Downtown Chaska 4 dBA lower than No-Build	▪ State standards exceeded by 1 to 8 dBA at 12 receptors ▪ 7 of 15 receptors lower than No-Build ▪ Downtown Chaska 3 dBA lower than No-Build	▪ State standards exceeded by 4 to 12 dBA at five receptors ▪ 5 of 13 receptors lower than No-Build ▪ Downtown Chaska 4 dBA lower than No-Build	▪ State standards exceeded by 1 to 9 dBA at 6 receptors ▪ 4 of 13 receptors lower than No-Build ▪ Downtown Chaska 4 dBA lower than No-Build	▪ State standards exceeded by 4 to 7 dBA at 6 receptors ▪ 4 of 9 receptors lower than No-Build ▪ Downtown Chaska 4 dBA lower than No-Build
Air Quality	N/A	Reduced MSAT emissions in the immediate area of the project expected relative to No-Build, due to reduced VHT and EPA's MSAT reduction programs.						
Soil, Water Contamination	N/A	2 Medium risk sites 7 High risk sites	3 High risk sites	2 Medium risk sites 7 High risk sites	2 Medium risk sites 7 High risk sites	5 Medium risk sites 1 High risk sites	5 Medium risk sites 1 High risk sites	2 Medium risk sites 1 High risk sites
Visual Quality	N/A	Substantial permanent impacts, highly visible to neighbors, travelers, and riverway users						
Steep Slopes, Erodible Soils – Length of erodible soil crossing (acres)		1,950 feet (13.4 acres)	550 feet (3.8 acres)	1,950 feet (13.4 acres)	4,980 feet (34.3 acres)	3,000 feet (20.6 acres)	4,700 feet (32.3 acres)	2,610 feet (18.0 acres)
Farmland	N/A	▪ 14 land owners ▪ 16 agricultural parcels ▪ 148 acres	▪ 9 land owners ▪ 17 agricultural parcels ▪ 91 acres	▪ 14 land owners ▪ 15 agricultural parcels ▪ 148 acres	▪ 14 land owners ▪ 17 agricultural parcels ▪ 101 acres	6 land owners 11 agricultural parcels 50 acres	6 land owners 10 agricultural parcels 92 acres	7 land owners 10 agricultural parcels 80 acres
Excess/Borrow	N/A	Preliminary estimates indicate that up to 3.3 million cubic yards of borrow may be required for this project.						

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TABLE C-1 continued
ALTERNATIVE IMPACT SUMMARY TABLE

	Alternatives							
	No-Build	**Preferred Alternative**	**DEIS W-2**	**DEIS C-2**	**DEIS C-2A**	**DEIS E-1**	**DEIS E-1A**	**DEIS E-2**
SOCIAL, ECONOMIC, AND ENVIRONMENTAL IMPACTS								
OTHER								
Construction Impacts	N/A	Local traffic congestion and access impacts; noise near sensitive receptors; temporary channel obstructions; impacts to aquatic species habitat						
Indirect Impacts	N/A	▪ Assumed US 169/existing TH 41 interchange removes 3 homes	▪ Assumed US 169 south frontage road removes commercial building	▪ Assumed US 169/existing TH 41 interchange removes 3 homes ▪ Reduction in affordable housing may affect businesses, broader low-moderate income families	▪ Assumed US 169/existing TH 41 interchange removes 3 homes ▪ Reduction in affordable housing may affect businesses, broader low-moderate income families	Reduction in affordable housing may affect businesses, broader low-moderate income families	Reduction in affordable housing may affect businesses, broader low-moderate income families	Reduction in affordable housing may affect businesses, broader low-moderate income families
		▪ Increased development intensity near corridor; potential induced development beyond study area ▪ Vegetation/habitat effects						
Cumulative Impacts (greater potential)	N/A	▪ MVNWR – visual, noise, habitat fragmentation, storm water	▪ MVNWR – visual, noise, habitat fragmentation, storm water	▪ MVNWR – visual, noise, habitat fragmentation, storm water ▪ Mobile home parks ▪ Athletic Park	▪ MVNWR – visual, noise, habitat fragmentation, storm water ▪ Mobile home parks	▪ Mobile home parks ▪ Seminary Fen health	▪ Mobile home parks ▪ Seminary Fen health	▪ Mobile home parks ▪ Seminary Fen health
		Potential impacts to cultural resources, land development, vegetation, wildlife, threatened and endangered species and wetlands.						

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APPENDIX D

Preliminary Final Section 4(f)/6(f) Evaluation

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PRELIMINARY FINAL SECTION 4(f) EVALUATION
TH 41 MINNESOTA RIVER CROSSING
FROM US 169 TO NEW US 212
CITIES OF CARVER, CHASKA, AND CHANHASSEN, DAHLGREN TOWNSHIP
CARVER COUNTY
LOUISVILLE AND JACKSON TOWNSHIP
SCOTT COUNTY,
MINNESOTA

I. INTRODUCTION

The Section 4(f) legislation as established under the Department of Transportation Act of 1966 (49 USC 303, 23 USC 138) provides protection for publicly owned parks, recreation areas, historic sites, and wildlife and/or waterfowl refuges from conversion to a transportation use. The Federal Highway Administration (FHWA) may not approve the use of land from a significant publicly owned park, recreation area, wildlife and/or waterfowl refuge, or any significant historic site unless a determination is made that:

- There is no feasible and prudent alternative to the use of land from the property; and
- The action includes all possible planning to minimize harm to the property resulting from such use (23 CFR 774.3).

Additional protection is provided for outdoor recreational lands under the Section 6(f) legislation (16 USC 4602-8(f) (3)) where Land and Water Conservation (LAWCON) funds were used for the planning, acquisition or development of the property. These properties may be converted to a non-outdoor recreational use only if replacement land of at least the same fair market value and reasonably equivalent usefulness and location is assured.

The purpose of this Preliminary Final Section 4(f)/6(f) Evaluation is to provide the information required by the Secretary of Transportation to make the decision regarding the use of properties protected by Section 4(f) and Section 6(f) legislation under the Preferred Alternative selected in the Tier I Final Environmental Impact Statement for the Trunk Highway 41 Minnesota River Crossing (FEIS).

23 CFR 774.7(o)(1) states:

> *When the first-tier, broad-scale EIS is prepared, the detailed information necessary to complete the section 4(f) evaluation may not be available at that stage in the development of the action. In such cases, an evaluation should be made on the potential impacts that a proposed action will have on section 4(f) land and whether those impacts could have a bearing on the decision to be made. A preliminary determination may be made at this time as to whether*

there are feasible and prudent locations or alternatives for the action to avoid the use of section 4(f) land. This preliminary determination shall consider all possible planning to minimize harm to the extent that the level of detail available at the first-tier EIS stage allows. It is recognized that such planning at this stage will normally be limited to ensuring that opportunities to minimize harm at subsequent stages in the development process have not been precluded by decisions made at the first-tier stage.

This Preliminary Final Section 4(f)/6(f) Evaluation describes all identified Section 4(f) and Section 6(f) properties which are proposed to be "used" under the Preferred Alternative, potential impacts on those properties, and possible mitigation measures to minimize impacts. A "use" occurs (1) when land from a Section 4(f) site is acquired for a transportation project, (2) when there is an occupancy of land that is adverse in terms of the statute's preservationist purposes, or (3) when the proximity impacts of the transportation project on the Section 4(f) site, without acquisition of land, are so great that the purposes for which the Section 4(f) site exists are substantially impaired (normally referred to as a constructive use).

The Section 4(f) process requires that any impacts from use of a park, recreation area, historic site, or wildlife and/or waterfowl refuge for highway purposes be evaluated in context with the proposed highway construction/reconstruction activity. An inventory of these types of properties was completed based on a review of the design concept drawings and the project's impact on these properties was assessed. Based on the initial inventory and impact assessment, the following design modifications were implemented to avoid and minimize use of Section 4(f) properties:

- The alignment of DEIS Alternative C-2 was shifted approximately 300 feet to the south to avoid direct impacts to Athletic Park (Chaska Cubs Ball Field), a park resource that is also eligible for the National Register of Historic Places (NRHP).

The following Section 4(f) properties will be impacted by the proposed project (see Figure D-1):

- Minnesota Valley National Wildlife Refuge (MVNWR) – Chaska Unit
- Minnesota Valley State Recreation Area/Minnesota Valley (MVSRA/MV) State Trail

II. PROPOSED ACTION

A description of the proposed project, and an explanation of the purpose and need for the project, can be found in the FEIS. Please refer to Chapter 3 of the FEIS for a description of the proposed action and Chapter 2 for a discussion of the purpose and need for the project.

SECTION 4 (f) RESOURCES - MVNWR, MVSRA, ATHLETIC PARK

Figure D-1

TRUNK HIGHWAY 41 MINNESOTA RIVER CROSSING

Final Environmental Impact Statement
S.P. #1008-60
Minnesota Department of Transportation

III. SECTION 4(f) PROPERTIES

A. MINNESOTA VALLEY NATIONAL WILDLIFE REFUGE – CHASKA UNIT

Map of Section 4(f) property: Figure D-1 shows the relationship of the Preferred Alternative to the Minnesota Valley National Wildlife Refuge – Chaska Unit (referred to as MVNWR or the Refuge).

Size and location: The MVNWR – Chaska Unit is located in the northeastern part of the City of Carver and the extreme southwest part of the City of Chaska and is about 600 acres in size.

Ownership and type of Section 4(f) property: The MVNWR is owned by the U.S. Department of the Interior (DOI); the U.S. Fish and Wildlife Service (USFWS) is responsible for its management. The site was designated as a National Wildlife Refuge in 1976 and includes 14,000 authorized acres (Chaska Unit is 600 acres).

Function of property and available activities: The MVNWR – Chaska Unit is used for a variety of activities; these range from hiking and biking to wildlife observation and birdwatching.

Description and location of all existing and planned facilities: According to its website, the MVNWR is one of four urban wildlife refuges in the nation. It was established in 1976 to preserve and protect wildlife and wildlife habitat and to provide opportunities for wildlife-oriented recreation and education. The Refuge is home to many animals such as the bald eagle and is a crucial corridor for migrating birds. The MVNWR consists of eight non-contiguous units that stretch 34 miles from Fort Snelling in the Twin Cities metropolitan area west to the City of Jordan. The 600-acre Chaska Unit consists of marsh-edged lake surrounded by farmland and floodplain forest.

The MVNWR is a largely undeveloped natural area with sites developed for hiking, biking, and parking. The draft 2012 Hunting Plan for the Refuge lists future hunting opportunities at the Chaska Unit as including "Refuge-specific special hunts for migratory birds, upland game, and big game only with Refuge authorization". A gravel hiking and biking trail runs through the Refuge.

Access: Vehicle access and parking for the Chaska Unit of the MVNWR are provided at two locations: north gate entrance is at the southern edge of Athletic Park in the City of Chaska; south gate entrance and trailhead is at Riverview Park in the City of Carver. Riverview Park also provides boat launching facilities. There is a gravel service road that also serves as a trail. The entire Refuge receives about 275,000 visitors annually.

Relationship to other similarly used lands in the vicinity: The Minnesota Valley State Recreation Area and Minnesota Valley State Trail are adjacent to the MVNWR to the

south, east and west. These resources are described in Section III-B of this Preliminary Final Section 4(f)/6(f) Evaluation.

Riverside Park is an 18-acre park owned by the City of Carver and managed by the USFWS. The park was created in the 1860s when its use as the County Fair site commenced. Its primary use today, aside from boat launching and as a trailhead for the MVNWR trail system, is providing opportunities for passive outdoor recreation and community/family gathering space. The City is considering offering primitive camping. No potable water, picnic, or restroom facilities are present.

Athletic Park (Chaska Cubs Ball Field), an 8-acre community park in the City of Chaska is immediately west of a portion of the MVNWR and is described in Section III-C of this Preliminary Final Section 4(f)/6(f) Evaluation. The MVNWR is visible from Riverside Park in Carver and from Hickory, Winkel, Fireman's, and Schalow parks in the City of Chaska.

Applicable clauses affecting the ownership: MVNWR has received LAWCON funding; therefore, Section 6(f) is applicable to this resource.

Unusual characteristics reducing or enhancing the value of the property: The USFWS has begun the long process of returning farmland in the MVNWR - Chaska Unit to native floodplain forest, creating one large area of forest. The Refuge is located along the Mississippi Flyway; over 200 species of birds have been seen on the Refuge. Many species of waterfowl, songbirds, and raptors use the Refuge as a stop-over on their migrations to and from breeding grounds. Restoring the floodplain forest will benefit habitat for these species. In addition, the Refuge is home to about 50 mammals, from the red squirrel to the coyote. Common sightings include white-tailed deer, red fox, muskrat, beaver, wood chuck, and raccoon. Thirty species of reptiles and amphibians make their home on the Refuge, including the leopard frog, green frog, painted and snapping turtles, and the bull snake.

B. MINNESOTA VALLEY STATE RECREATION AREA/MINNESOTA VALLEY STATE TRAIL

Map of Section 4(f) property: Figure C-1 shows the relationship of the Preferred Alternative to the Minnesota Valley Recreation Area (MVSRA) and the Minnesota Valley State Trail (MV Trail) which is located within the MVSRA.

Size and location: The portion of the MVSRA in the study area is in the Minnesota River valley and runs from the City of Carver on the south end through the City of Chanhassen on the north end, about four miles. The entire MVSRA is 5,490 acres. The MV Trail is located therein. Existing TH 41 crosses over the MVSRA connecting the City of Shakopee with downtown Chaska.

Ownership and type of Section 4(f) property: The MVSRA is owned by the Minnesota Department of Natural Resources (MnDNR). The site was designated as a recreation area as was the trail in the late 1960s.

Function of property and available activities: The portion of the MVSRA in the study area is used for a variety of activities; these range from boating and canoeing to hiking, biking, horseback riding, and snowmobiling, to wildlife observation and birdwatching. Outside of the study area the MVSRA also provides a variety of camping opportunities including equestrian, watercraft, walk-in, and primitive. The MV Trail is used for a variety of activities ranging from hiking and biking, to horseback riding and snowmobiling, to wildlife observation and birdwatching.

Description and location of all existing and planned facilities: The MVSRA preserves part of the Minnesota River valley. The area is used for hiking, biking, cross-country skiing, mountain biking, and snowmobiling. The Minnesota River valley is a rich mosaic of plant and animal communities. The valley holds floodplain marshes, wet meadows, fens, and lakes. These wetlands are maintained by the river and by the spring-fed streams draining from the base of the bluffs. The hillsides and bluffs support oak forest and oak savanna remnants. They offer scenic overlooks.

The portion of the MVSRA in the study area runs from the City of Carver on the south end through the City of Chanhassen on the north end. The Nyssen's Lake Area offers trail access for snowmobiling, horseback riding, mountain biking, and hiking. The Gifford Lake Area offers fishing and trail access.

The recreation area is a largely undeveloped natural area with sites developed for more active use including paths, picnic areas, boat launches, vehicle access, and parking.

The MV Trail in the MVSRA runs through the study area and offers recreational opportunities for biking, hiking, snowmobiling, and horseback riding as well as wildlife observation and birdwatching. The five-mile paved trail in the study area, referred to as the Chaska/Shakopee Bike Trail, runs from the former Milwaukee Railroad right of way near the Carver County Courthouse area in Chaska to Murphy's Landing in Shakopee.

The MnDNR has developed a horse, mountain bike, and snowmobile trail from Chaska upriver to Belle Plaine. The northerly trailhead is located on the east side of existing TH 41 about one-half mile south of the Minnesota River/Chaska City limits. These trails are grass or sand.

Access: Vehicle access to the MVSRA and the MV Trail is provided from TH 41 in the City of Chaska and from Highway 101 in the City of Shakopee; three parking lots are available. The MVSRA is easily accessed by pedestrians and bicyclists via these routes as well. There are three boat launching facilities in the MVSRA within the study area. Over 170,000 people visit the MVSRA annually.

Relationship to other similarly used lands in the vicinity: The MVNWR is adjacent to the MVSRA to the southwest and northeast in the river valley. The MVNWR is described in Section III.A of this Preliminary Final Section 4(f)/6(f) Evaluation.

There are several city-owned parks along the river adjacent to the MVSRA; they include Riverside Park in the City of Carver, and Hickory, Winkle, Fireman's II, Schalow, and Riverview parks in the City of Chaska.

Athletic Park (Chaska Cubs Ball Field), an 8-acre community park in the City of Chaska is northwest of the MVSRA and is described in Section III-C of this Preliminary Final Section 4(f)/6(f) Evaluation.

The City of Chaska owns and operates a network of trails. The network consists of greenway trails (leisure and recreation trails which primarily parallel the watershed system of East Chaska Creek leading to the University of Minnesota Arboretum) and roadway trails (destination trails that interconnect most of Chaska's major public facilities and service centers). The closest City trail to the MVSRA is located on the levee at the south edge of the city.

The Southwest Regional Trail Connection is proposed to follow the alignment of Creek Road in Chaska. The Minnesota Bluffs Regional Trail Extension is planned to follow the alignment of the former Union Pacific rail corridor along CSAH 61 and CSAH 40 in Chaska and Carver.

Applicable clauses affecting the ownership: The MVSRA and the MV Trail have received LAWCON funding; therefore, Section 6(f) is applicable to this resource.

Unusual characteristics reducing or enhancing the value of the property: There are no notably unusual characteristics.

C. ATHLETIC PARK

As proposed in the DEIS, Build Alternative C-2 resulted in direct impacts to Athletic Park (Chaska Cubs Ball Field), a park resource that is also eligible for the NRHP. The Preferred Alternative is a result of revisions to DEIS Alternative C-2 to avoid direct impacts to Athletic Park, among other revisions to minimize social, economic, and environmental impacts. Consequently, the Preferred Alternative results in greater impacts to the MVNWR and the MVSRA/MV Trail than DEIS Build Alternative C-2 did.

IV. IMPACTS ON SECTION 4(F) PROPERTIES

A. MINNESOTA VALLEY NATIONAL WILDLIFE REFUGE – CHASKA UNIT

The Preferred Alternative would cross directly through the northern edge of the MVNWR, requiring 22.0 acres through partial acquisition or an easement. The height of the bridge crossing will be determined during the Tier II EIS process, but regardless would be visible from the MVNWR. The Preferred Alternative corridor impacts floodplain forest, but the location minimizes the fragmentation of this habitat to the extent possible while still avoiding Athletic Park (Chaska Cubs Ball Field) and also avoids fragmentation of the emergent marsh habitat located further west in the unit.

B. MINNESOTA VALLEY STATE RECREATION AREA/MINNESOTA VALLEY STATE TRAIL

The Preferred Alternative would cross directly through the MVSRA and the MV Trail, requiring 22.3 acres through partial acquisition or an easement. The height of the bridge crossing will be determined during the Tier II EIS process, but regardless would be visible from the MVSRA and MV Trail.

C. ATHLETIC PARK

The Preferred Alternative does not directly impact Athletic Park (Chaska Cubs Ball Field). The proximity of the corridor to Athletic Park poses noise and visual impacts. Mitigation for noise and visual impacts is discussed in the FEIS and will be addressed during the Tier II EIS process.

23 CFR 774.15(a) states that a constructive use occurs when the transportation project does not incorporate land from a Section 4(f) property, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features, or attributes of the property are substantially diminished.

Athletic Park (Chaska Cubs Ball Field) is used for organized baseball games. It is not anticipated that the extent of noise or visual impacts of the project will substantially diminish the activities, features, or attributes of the property. Therefore, a constructive use of Athletic Park (Chaska Cubs Ball Field) will not occur.

V. AVOIDANCE ALTERNATIVES

No-Build: The No-Build Alternative would avoid impacts to the MVNWR and MVSRA/MV Trail. This alternative would not adequately address concerns related to inadequate capacity, regional congestion and public safety concerns during flooding, an improved transportation system connection for traffic and freight movement, and other concerns discussed in the purpose and need chapter of the FEIS. More information on the No-Build Alternative can be found in Chapter 3 of the FEIS. The No-Build Alternative does not meet the Purpose and Need for the project, therefore, it is not a feasible and prudent alternative.

Slight Alignment Changes: A slight alignment change to the north would not avoid direct impacts to the MVNWR and would result in direct impacts to Athletic Park (Chaska Cubs Ball Field). As noted previously, the Preferred Alternative is the result of an adjustment to the alignment of DEIS Build Alternative C-2 to avoid direct impacts to Athletic Park (Chaska Cubs Ball Field). A slight alignment change to the south would not avoid impacts to the MVNWR because its boundary extends more than one mile to the south. Therefore, a slight alignment change to avoid impacts to the MVNWR is not feasible.

A slight alignment change to the north or south would not avoid impacts to the MVSRA or MV Trail because boundaries of these resources follow the Minnesota River and extend well north and south of the Preferred Alternative alignment. Therefore, a slight alignment change to avoid impacts to the MVSRA or MV Trail is not feasible.

Build on Alternative Alignment Location: The DEIS analyzed six Build alternatives for the river crossing. Each of the six Build alternatives impacts more than one Section 4(f) resource. Avoidance of the MVNWR involves impacts to the Pioneer Park/Chaska Senior High School/Pioneer Ridge Freshman Center complex, as well as other social, economic, and environmental impacts. Impacts to the MVSRA or MV Trail are not avoided by any of the alternatives; these resources are essentially unavoidable in the study area. Alternatives that were analyzed in the DEIS are discussed in Chapter 3 of the FEIS as are alternatives that were studied during the project scoping process and eliminated from further consideration. The Preferred Alternative is located along the only feasible and prudent alignment for the river crossing and is considered the least environmentally damaging practicable alternative. The description of the process upon which this determination is based is described in Chapter 3 of the FEIS.

VI. MEASURES TO MINIMIZE HARM

The proposed project would not require total use of the MVNWR or the MVSRA/MV Trail and would allow for continued use of these resources. During the project scoping process, alternatives with greater harm to the MVNWR and the MVSRA/MV Trail were eliminated from further consideration. Early in the DEIS process, the original alignment of Alternative C-2 was realigned to reduce the natural resource impacts within the MVSRA posed by its initial alignment.

The MVNWR and MVSRA/MV Trail are Section 6(f) resources requiring that land acquired for the project will be mitigated via replacement land that is of reasonably equivalent usefulness and location and of at least comparable value.

Chapter 3 of the FEIS describes the River Corridor Implementation Coalition (RCIC) stakeholder engagement process that advised on the alignment refinements of the Preferred Alternative and prepared recommended mitigation strategies and guidance for consideration in the Tier II EIS process. The USFWS (MVNWR staff) and the MnDNR (MVSRA staff) are members of the RCIC.

The RCIC process is documented in detail in the report *TH 41 EIS: River Crossing Implementation Collaborative Process and Outcomes Report* (RCIC Report*)* (April 2013). See Appendix A of the FEIS.

Numerous issues and strategies are discussed in the RCIC Report. Included in the report is information developed by the Task Force that developed pre-mitigation landscaping strategies to be installed in the short term in order to minimize visual impacts when the project is constructed. MnDOT is committed to continuing this effort.

Other information from the RCIC Report most pertinent to minimizing harm to the MVNWR and the MVSRA/MV Trail include the following RCIC goals:

- *RCIC Goal 7, Ecosystem Impacts: Minimize impacts on aquatic and terrestrial ecosystems including animals and plants*

- *RCIC Goal 8, Public Access: Ensure reasonable and usable public access to the outdoor recreational opportunities in the river valley (Refuge, state trail, and other public lands)*

- *RCIC Goal 9, User Impacts: Minimize impacts, including noise and visual, to people using the Refuge, state trail, and other public lands*

- *Goal 10, Land Management Capabilities: Maintain natural resource management capability on public lands*

VII. LEAST HARM ANALYSIS

The analysis in Section V supports the conclusion that there is no feasible and prudent avoidance alternative.

Section II references Chapter 3 of the FEIS for a description of the proposed action (Preferred Alternative). Chapter 3 of the FEIS also provides a description of the DEIS Alternatives that were dismissed in favor of the Preferred Alternative.

Section IV identifies the impacts of the Preferred Alternative on Section 4(f) properties in the study area. The Draft Tier I Section 4(f) Evaluation (Appendix B to the DEIS) identified impacts of the DEIS Alternatives on Section 4(f) properties in the study area.

To determine which of the alternatives (of the Preferred Alternative and the DEIS Alternatives) would cause least overall harm, seven factors are compared as set forth in 23 CFR 774.3(c)(1). Table D-1 presents the alternatives and resources in relation to these seven factors.

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TABLE D-1
LEAST HARM ANALYSIS

	ALTERNATIVES						
	Preferred Alternative	**DEIS W-2**	**DEIS C-2**	**DEIS C-2A**	**DEIS E-1**	**DEIS E-1A**	**DEIS E-2**
Net Harm							
1. Ability to mitigate adverse impacts to each 4(f) property							
MVNWR	Yes[1]	Yes[1]	Yes[1]	Yes[1]	NA	NA	NA
MVSRA/MV Trail	Yes[1]	Yes[1]	Yes[1]	Yes[1]	Yes[1]	Yes[1]	Yes[1]
Athletic Park (Chaska Cubs Ball Field)	NA	NA	No[2]	NA	NA	NA	NA
Audubon Trail	NA	NA	NA	NA	Yes[1]	Yes[1]	Yes[1]
City of Chaska Trail Segments	NA	NA	NA	NA	Yes[1]	Yes[1]	Yes[1]
Pioneer Park/Chaska Sr High School/Pioneer Ridge Freshman Ctr complex	NA	NA	NA	NA	Yes[1]	Yes[1]	Yes[1]
2. Relative severity of the remaining harm							
MVNWR	22.0 ac.	20.4 ac.	8.5 ac.	36.1 ac.	0.0 ac.	0.0 ac.	0.0 ac.
MVSRA/MV Trail	22.3 ac.	30.6 ac.	22.3 ac.	5.4 ac.	12.0 ac.	12.0 ac.	4.2 ac.
Athletic Park (Chaska Cubs Ball Field)	0.0 ac.	0.0 ac.	3.5 ac.	0.0 ac.	0.0 ac.	0.0 ac.	0.0 ac.
Audubon Trail	0.0 ac.	0.0 ac.	0.0 ac.	0.0 ac.	1.32 ac.	0.18 ac. (1,000 ft.)	0.18 ac. (1,000 ft.)
City of Chaska Trail Segments	0.0 ac.	0.0 ac.	0.0 ac.	0.0 ac.	0.77 ac.	0.15 ac.	0.15 ac.
Pioneer Park/Chaska Sr High School/Pioneer Ridge Freshman Ctr complex	0.0 ac.	0.0 ac.	0.0 ac.	0.0 ac.	10.4 ac.	2.7 ac.	1.1 ac.
3. Relative significance of each 4(f) property							
MVNWR	Higher significance. National refuge. One of four urban wildlife refuges in the nation. Subject to 6(f).						
MVSRA/MV Trail	Higher significance. Important recreation area with many plant and animal communities. Subject to 6(f).						
Athletic Park (Chaska Cubs Ball Field)	Higher significance. National Register-eligible property. Highly valued by community.						
Audubon Trail	Lesser significance.						
City of Chaska Trail Segments	Lesser significance.						
Pioneer Park/Chaska Sr High School/Pioneer Ridge Freshman Ctr complex	Relatively moderate significance.						
4. Views of the officials with jurisdiction							
MVNWR	USFWS is part of the RCIC which supports the Preferred Alternative.						
MVSRA/MV Trail	MnDNR is part of the RCIC which supports the Preferred Alternative.						
Athletic Park (Chaska Cubs Ball Field)	City of Chaska is part of the RCIC which supports the Preferred Alternative. SHPO is part of the RCIC which supports the Preferred Alternative.						
Audubon Trail	City of Chaska is part of the RCIC which supports the Preferred Alternative.						
City of Chaska Trail Segments	City of Chaska is part of the RCIC which supports the Preferred Alternative.						
Pioneer Park/Chaska Sr High School/Pioneer Ridge Freshman Ctr complex	City of Chaska is part of the RCIC which supports the Preferred Alternative. The school was represented through the City.						
	ALTERNATIVES						
Substantial Problems Beyond Section 4(f)	**Preferred Alternative**	**DEIS W-2**	**DEIS C-2**	**DEIS C-2A**	**DEIS E-1**	**DEIS E-1A**	**DEIS E-2**
5. Degree to which purpose and need is met	All alternatives met the purpose and need. No alternative is clearly superior based on benefit in meeting the purpose and need.						
6. Magnitude of effects to other resources - Protected Resources[3]							
Federal: Sec. 106 Cultural Resources	Direct avoided Potential indirect[4]	Direct avoided Potential indirect[4]	Direct Potential indirect[4]	Direct avoided Potential indirect[4]	Avoided	Avoided	Avoided
Federal: Sec. 404 Wetlands	13.2 ac.	11.7 ac.	10.9 ac.	16.1 ac.	9.0 ac.	14.6-14.9 ac. [5]	15.7 [6]
Federal: Ex. Order 12898 Environmental Justice	Avoided	Avoided	Moderate	Moderate	High	High	High
State: Minnesota Threatened/Endangered Species	May be avoided	May be avoided	May be avoided	May be avoided	May be avoided	Impacts several species	Impacts several species
State: Minnesota Calcareous Fen	Avoided	Avoided	Avoided	Avoided	Indirect	High direct and indirect	High direct and indirect

TABLE D-1 continued
LEAST HARM ANALYSIS

	ALTERNATIVES						
Substantial Problems Beyond Section 4(f) - continued	**Preferred Alternative**	**DEIS W-2**	**DEIS C-2**	**DEIS C-2A**	**DEIS E-1**	**DEIS E-1A**	**DEIS E-2**
6. Magnitude of effects to other resources - Other Differentiating Resources							
Sensitive vegetation[7]	216.5 ac.	123.5 ac.	202.2 ac.	306.1 ac.	93.3 ac.	208.2 ac.	226.7 ac.
Habitat fragmentation[8]	60.4 ac.	55.2 ac.	56.9 ac.	81.7 ac.	29.4 ac.	43.7 ac.	58.0 ac.
Right of way	320 ac.	262 ac.	323 ac.	301 ac.	360 ac.	214 ac.	194 ac.
Residential units need to be acquired[9]	10	16	37 (18 are manufactured homes)	78 (38 are manufactured homes)	261 (126 are manufactured homes)	136 (113 are manufactured homes)	210 (182 are manufactured homes)
7. Substantial cost differences (Project cost in 2013 dollars)	$460-$560M	$470-$570M	$460-$560M	$500-$600M	$570-$600M (Low Profile) $600-$750M (High Profile)	$560-$680M	$520-$630M (Low Profile) $530-$640M (High Profile)

[1]Resource remains useable after construction; opportunity to restore activities and/or mitigate impacts within remaining resource.
[2]Cannot mitigate. Removes the resource.
[3] Resources with special federal or state protections that require a sequence of reasonable and prudent avoidance, minimization and mitigation.
[4]Determination of effect not yet made.
[5]14.6 acres for low profile bridge and 14.9 ac. for high profile bridge.
[6]Both profile options.
[7]Sensitive vegetation impacts are the cumulative acres of impact to native vegetation, high quality native vegetation (BC rank or better), state rarity ranking of native vegetation, outstanding biodiversity area, forested areas, impacts to forest interior, and creation of new forest edge. Sensitive vegetation impacts of the Preferred Alternative are estimated based on changes as compared to the DEIS C-2 alignment.
[8] Habitat fragmentation is the cumulative acres of created forest edge and shrub edge and acres of impact to forest interior and shrub interior. Habitat fragmentation impacts of the Preferred Alternative are estimated based on changes as compared to the DEIS C-2 alignment.
[9] Includes single family homes, townhomes and manufactured home units. Does not include farm houses. Note: Agricultural parcels include seven properties that will be classified as residential before the anticipated build-year.

A. NET HARM

The first four factors relate to the net harm that each alternative would cause to Section 4(f) property:

1. *The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property).*

   Of the Preferred Alternative and the six DEIS Alternatives, all alternatives except DEIS Alternative C-2 would be able to mitigate impacts to the Section 4(f) properties that they impact. DEIS Alternative C-2 would remove Athletic Park (Chaska Cubs Ball Field), which is an NRHP-eligible property that is highly valued by the community.

2. *The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection.*

   The Preferred Alternative would result in more severe harm to the MVNWR than five of the six DEIS Alternatives and more severe harm to the MVSRA/MV Trail than four of the six DEIS Alternatives; however the Preferred Alternative would avoid use of four of the five other Section 4(f) resources that would be impacted by one or more of the other alternatives.

   As noted above, DEIS Alternative C-2 would result in severe harm to Athletic Park that cannot be mitigated. DEIS Alternative W-2 would result in more severe harm to the MVSRA/MV Trail than the Preferred Alternative. DEIS Alternative C-2A would result in more severe harm to MVNWR than the Preferred Alternative. DEIS Alternatives E-1, E-1A and E-2 would result in less severe harm to Section 4(f) resources as a whole than the Preferred Alternative, however they would result in substantial problems beyond Section 4(f), as discussed in factor 6 below.

3. *The relative significance of each Section 4(f) property.*

   Of the Section 4(f) properties, the MVNWR, MVSRA/MV Trail and Athletic Park are judged to be of higher significance in that they are unique resources. The Audubon Trail and City of Chaska Trail Segments are of relatively lesser significance in that there are other trail opportunities in the community and the function of the affected trails would be relatively easy to replace. The Pioneer Park/Chaska Senior High School/Pioneer Ridge Freshman Center complex is of relatively moderate significance in that, while the resource is an important community facility, the area that would be affected (by three of the DEIS Alternatives) represents only a portion of the resource; the remaining features of the resource, including parkland and several ballfields, could continue to function.

4. *The views of the officials with jurisdiction over each Section 4(f) property.*

All officials with jurisdiction over the affected Section 4(f) properties are part of the RCIC which supports the Preferred Alternative.

B. SUBSTANTIAL PROBLEMS

The remaining three factors set forth in 23 CFR 774.3(1) enable FHWA to take into account any substantial problem with any of the alternatives remaining under consideration on issues beyond Section 4(f). These factors are:

5. *The degree to which each alternative meets the purpose and need for the project.*

All alternatives meet the purpose and need for the project; however, no alternative is clearly superior based on benefit in meeting the project's purpose and need.

6. *After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f).*

There are nine key resources (in addition to the Section 4(f) resources) for which the impacts of the Preferred Alternative and the DEIS Build Alternatives would differ appreciably. These include federally-protected Section 106 cultural resources, Section 404 wetlands, and environmental justice (low income or minority) populations; state-protected threatened and endangered species and calcareous fen; sensitive vegetation; habitat (fragmentation); land to be acquired for right of way; and homes. Impacts of each alternative on each of these resources are identified in Table D-1.

Section 106 Cultural Resources. DEIS Alternative C-2 is the only alternative that would have a direct effect to a National Register of Historic Places (NRHP)-eligible property (Athletic Park [Chaska Cubs Ball Field]); this effect is also a Section 4(f) use. The Preferred Alternative reflects changes to the horizontal alignment of the DEIS Alternative C-2 corridor in order to avoid direct impacts to Athletic Park (Chaska Cubs Ball Field). The Preferred Alternative and DEIS Alternatives W-2 and C-2A would have relatively high total acres of Section 4(f) impacts and the potential for indirect impacts to cultural resources. DEIS Alternatives E-1, E-1A, and E-2 would have relatively fewer Section 4(f) impacts and would avoid cultural resource impacts.

Section 404 Wetlands. Section 404 wetland impacts cannot be completely avoided; all alternatives would have impacts to wetlands. These impacts range from 9 to 16 acres. The Preferred Alternative impacts 13 acres of wetlands. There is no apparent opportunity to substantially reduce the wetland impact of any particular alternative compared to the other alternatives. The alternatives with

fewer wetland impacts than the Preferred Alternative (DEIS Alternatives W-2, C-2 and E-1) would have relatively greater impacts to other protected resources.

Environmental Justice. DEIS Alternatives E-1, E-1A, and E-2 would have relatively fewer Section 4(f) impacts, but would have high impacts to low-income and minority populations. The Preferred Alternative reflects changes to the horizontal alignment of the DEIS Alternative C-2 corridor in order to avoid impacts to the Jackson Heights manufactured home community in order to avoid environmental justice impacts. Impacts to known low income and minority populations are avoided by DEIS Alternative W-2; however, this alternative has the highest Section 4(f) impact (total acres).

State Threatened/Endangered Species. DEIS Alternatives E-1A and E-2 would have relatively fewer Section 4(f) impacts, but would result in impacts to identified state threatened and endangered species located in the calcareous fen. Each of the alternatives that may be able to avoid impacts to state threatened and endangered species (Preferred Alternative, DEIS Alternatives W-2, C-2, C-2A, and E-1) would have impacts on other protected resources.

Calcareous Fen. DEIS Alternatives E-1, E-1A, and E-2 would have relatively fewer Section 4(f) impacts, but would result in indirect or direct impacts to the state-protected calcareous fen. Each of the alternatives that would avoid impacts to the calcareous fen (Preferred Alternative, DEIS Alternatives W-2, C-2, and C-2A) would have impacts on other protected resources.

Sensitive vegetation. DEIS Alternative E-2 would have relatively fewer Section 4(f) impacts, but would have the greatest impact to sensitive vegetation. Impacts to native vegetation, native vegetation of high quality or state rarity ranking, forested areas, or forest interiors cannot be completely avoided; all alternatives have impacts to these types of sensitive vegetation resources. The impacts on sensitive vegetation (taken cumulatively) range from 93 to 306 acres. The Preferred Alternative impacts 216 acres.

Habitat fragmentation. Fragmentation of habitat cannot be completely avoided; all alternatives result in some fragmentation. Habitat fragmentation ranges from 29 to 82 acres (cumulative acres). The alternative with the least impact on habitat fragmentation (DEIS Alternative E-1) would impact the most homes. The alternative with the greatest impact on habitat fragmentation (DEIS Alternative C-2A) would have slightly fewer total acres of Section 4(f) impact as compared to the Preferred Alternative.

Right of way (acres). DEIS Alternative E-1, which would have relatively fewer Section 4(f) impacts, would have the greatest right of way impact. Right of way impacts cannot be completely avoided; all alternatives would require acquisition

of land for right of way. Right of way acquisition ranges from 194 acres to 360 acres. Right of way impacts of the Preferred Alternative are 320 acres.

Homes (number). DEIS Alternatives E-1, E-1A, and E-2 would have relatively fewer Section 4(f) impacts, but would result the greatest number of home acquisitions (household relocation). Acquisition of homes cannot be completely avoided; all alternatives would require relocation of households. The number of home acquisitions ranges from 10 to 261 homes. The Preferred Alternative would result in the fewest home acquisitions (10).

7. *Substantial differences in costs among the alternatives.*

The estimated project cost of alternatives ranges from $460 million to $750 million (2013 dollars). The estimated cost of the Preferred Alternative is $460 to $560 million (2013 dollars).[1]

Least Harm Finding: Based on these seven factors, the Preferred Alternative is found to cause the least overall harm to Section 4(f) resources. The Preferred Alternative would result in less net harm to resources than DEIS Alternative C-2. The Preferred Alternative would result in net harm that is generally comparable to DEIS Alternatives W-2 and C-2A; however, DEIS Alternatives W-2 and C-2A have substantial problems in terms of the magnitude of their adverse impacts to other resources. DEIS Alternatives E-1, E-1A and E-2 would result in less net harm to Section 4(f) resources than the Preferred Alternative, but they also have substantial problems in terms of the magnitude of their adverse impacts to other resources.

VIII. COORDINATION

The Minnesota Department of Transportation (MnDOT) has coordinated with federal agencies including the FHWA, U.S. Army Corps of Engineers (COE), U.S. DOI including the USFWS and the National Park Service (NPS), and the Environmental Protection Agency (EPA). Coordination has also occurred with MnDNR and with local government agencies and non-governmental groups. Specifically, the RCIC Report was prepared collaboratively by stakeholders including the USFWS and MnDNR.

Chapter 3 of the FEIS provides information on the process to involve stakeholders (public and government) in the development of the Preferred Alternative and in the preparation of the FEIS, in particular the involvement of the River Crossing Implementation Coalition (RCIC), which is documented in the RCIC Report in Appendix A-1. Chapter 3 of the FEIS also notes the concurrence of cooperating agencies, including the results of the NEPA/Section 404 concurrence process (Appendices B and B-1). The COE, USFWS and EPA have concurred with the project purpose and need, range of alternatives studied, and selection of the Preferred Alternative.

[1] Higher cost figures is risk assessed for factors including mitigation.

IX. CONCLUSION

Basis for concluding that there are no feasible and prudent alternatives to the use of the Section 4(f) property

The No-Build Alternative is not a feasible and prudent alternative because it would not address the project purpose as described in Chapter 2 of the FEIS and would not adequately address concerns relating to inadequate capacity, regional congestion and public safety concerns during flooding, and the need for improved transportation system connections for traffic and freight movement.

It is not feasible and prudent to avoid Section 4(f) land by constructing on a different alignment.

- An alignment outside of the study area would not address the project purpose and need as described in Chapter 2 the FEIS.
- All of the alternative alignments considered in the DEIS result in impacts to more than one Section 4(f) resource; project impacts to Section 4(f) resources are unavoidable.

It is not feasible and prudent to avoid Section 4(f) lands by making minor alignment shifts because:

- The MVNWR extends both north and south of the Preferred Alternative alignment. A slight shift to the north would not avoid the MVNWR and would result in direct impacts to Athletic Park. A slight shift to the south will not avoid the MVNWR since its boundary extends more than one mile to the south.
- The MVSRA/MV Trail Valley runs through the project area and impacts to it are unavoidable, even with slight or major shifts to the north or south.

Basis for concluding the proposed action includes all possible planning to minimize harm

The Preferred Alternative is a feasible and prudent alternative as it addresses the project purpose and need as described in Chapter 2 the FEIS and minimizes harm to the MVNWR and MVSRA/MV Trail to the extent feasible based on the agreement reached by stakeholders involved in project development. The RCIC Report describes recommended mitigation strategies and guidance for the Tier II Process. Included in the report is information developed by the Task Force that developed pre-mitigation landscaping strategies to be installed in the short term in order to minimize visual impacts when the project is constructed. MnDOT is committed to continuing this effort.

Summary of coordination with appropriate federal agencies

Coordination has occurred with several federal agencies including the COE, the EPA, and the DOI including the USFWS and the NPS.

The Preliminary Draft Section 4(f)/6(f) Evaluation was submitted by the FHWA to the DOI for review and comment in June 2007. In its comment letter dated September 12, 2007 (see Chapter 17 of the FEIS) the DOI stated that it would not concur with a determination that there is no feasible and prudent alternative which would avoid impacts to Section 4(f)/6(f) properties or that a determination that all possible planning needed to minimize potential harm to this resource has been employed, Subsequently, the USFWS participated in the RCIC stakeholder process to reach an agreement on the Preferred Alternative for the river crossing and develop a plan for proceeding with the environmental documentation for the project. This participation is referenced above and in the FEIS.

Copies and summary of all formal coordination comments received

Coordination has occurred at the federal, state, and local level. Comments on the DEIS and Preliminary Draft Section 4(f) Evaluation and responses are addressed in the FEIS.

Conclusion

Based upon the above considerations, there is no feasible and prudent alternative to the use of land from the Minnesota Valley National Wildlife Refuge or the Minnesota Valley State Recreation Area and Minnesota Valley State Trail and the proposed action includes all possible planning to minimize harm to the Minnesota Valley National Wildlife Refuge and the Minnesota Valley State Recreation Area and Minnesota Valley State Trail resulting from such use.

This is a preliminary determination based on the information available at the Tier I stage. A final determination will be made during the Tier II process.

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APPENDIX E

Government Agency Comments on the DEIS and Responses

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GOVERNMENT AGENCY COMMENTS ON THE TH 41 RIVER CROSSING DEIS AND RESPONSES

The following sections respond to substantive written government agency comments received by FHWA and Mn/DOT during the public comment period that concluded August 10, 2007. The agency letter is presented on the left half of the page, with responses to the agency's comments appearing in the right half. Substantive comments are identified by a letter in the right-hand column of the agency letter. The corresponding response is identified by the same letter on the right half of the page. Due to size, attachments to comment letters are not included, but are on file with Mn/DOT.

H:\Projects\7917\EP\Reports\FEIS\Final FEIS for Approval_Sept 2014\Appendices\Appendix Word docs\App E Agency Comments and Responses_140918.doc

COMMENT

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT CORPS OF ENGINEERS
190 FIFTH STREET EAST, SUITE 401
ST. PAUL, MINNESOTA 55101-1638

REPLY TO
ATTENTION OF
Operations
Regulatory (2006-2250-JJY)

Ms. Nancy Frick, AICP
Senior Associate
SRF Consulting Group, Inc.
One Carlson Parkway North, Suite 150
Plymouth, MN 55447-4443

Dear Ms. Frick:

This letter provides our initial comments on the Agency Review Draft of the TH 41 Minnesota River Crossing, Draft Tier I Environmental Impact Statement (DEIS) and Draft Section 4(F)/6(F) Evaluation. As stated in the DEIS, Tier I will identify a corridor for preservation. Tier II will evaluate the identified alignment and select a design for construction.

The DEIS identifies a number of alternatives. Other alternatives were considered but dropped from more detailed review because they were unfeasible or had unacceptable adverse impacts. Of the alignments identified in the DEIS, all have appreciable impacts on wetlands and other resources. All of the identified alignments involve discharges of fill in wetlands and other waters of the United States that would require authorization under Section 404 of the Clean Water Act. These alignments would also involve a crossing of a navigable water regulated under Section 10 of the Rivers and Harbors Act. Although the actual bridge may be authorized under the advance approval provisions of the U. S. Coast Guard bridge permit program (check with the Coast Guard for specific requirements), other work in the river may require Section 10 and Section 404 permits from our agency.

The eastern alignments, in particular, may be unacceptable because of impacts on the Seminary Fen and other resources. The U. S. Environmental Protection Agency, the Minnesota Department of Natural Resources, and others expressed concern about these alternatives. These impacts are also a concern for the Corps of Engineers. The fen-area (E-1, E-1A, E-2) alignments have less impact on the forest communities than C-2, but greater other direct wetland impacts (as listed in the DEIS, Tables 7.2 and 9.6) and greater potential indirect impacts on the fen (not included in Tables 7.2 and 9.6). Although E-1 may be completely outside the fen (Figure 9-13 shows it on the extreme western edge of the wetland complex in an area that is not a fen community), it still could have substantial runoff or road spray impact that could affect the fen.

The Minnesota Department of Natural Resources and U. S. Fish and Wildlife Service expressed concern about impacts of the other central and western alternatives on State and Federal land and on high quality wetland and woodland. We share these concerns.

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RESPONSE

U.S. Army Corps of Engineers (COE)

Note: The comments on the DEIS from the COE were based on the COE's review of the Cooperating Agency Review draft of the DEIS. The COE's technical comments were addressed prior to the distribution of the DEIS released for public review. Communication between Mn/DOT and COE staff in September 2007 confirmed that the COE comments on the Cooperating Agency Review draft would serve as the COE's official comments on the DEIS.

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COMMENT

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Initial reviews by our agency and other regulatory and resource agencies questioned whether any of the alignments first identified would be acceptable. Consequently, you developed Alignment C-2 in response to these concerns. From unofficial comments at interagency meetings, this alternative also appears to be favored generally by the participating Federal and State review agencies and other interests, although this letter does not speak for any other agency or interest. Those agencies will provide their own comments.

A At this point, Alignment C-2 appears to be the most acceptable alternative from our perspective. The other alignments generally appear to have either greater or comparable impact on wetlands, greater adverse impact on State and Federal park/refuge lands, greater impact on the Seminary Fen area, and greater or comparable impact on other environmental, social, and economic resources. From the information provided in the DEIS, Alignment C-2 has less floodplain forest and lowland hardwood impact than the other non-fen (central and western) alignments. In terms of impacts on state and federal lands, impacts on higher-quality wetlands, minimization of habitat fragmentation, and many other environmental impacts, C-2 appears to be preferable. Alignment C-2 attempts to balance environmental justice concerns and to avoid the Chaska and Carver Historic Districts. No other alternative has been identified by any review agency or other interest that appears to be less environmentally damaging. However, as noted below, we have some questions about the identified wetland impacts, which may affect our preliminary evaluation of the alternatives. The impact on the Chaska Cubs Ball Field is also uncertain. These questions must be answered. As also noted below, Alignment C-2 and the other alternatives may affect the existing Chaska Flood Control Project. As the study moves forward, these potential impacts must be considered.

B Impacts on wetlands need to be reconsidered before distributing the DEIS for public review. Apparent discrepancies in wetland impacts may have reduced the estimated wetland impact. See Table 7.2. Areas identified as floodplain forest and lowland hardwood forest do not appear to be classified as wetland. Using Alignment C-2 as an example, total wetland impacts are 12.9 acres. Most of these are later identified as shallow marsh (Table 9-6). However, Table 7.2 identifies 15.9 acres of floodplain forest impact and 5.6 acres of lowland hardwood forest impact for this alignment. The text (see section 7.1.1.1) suggests that the DEIS uses these terms to describe a natural community that may not all be wetland. The lowland hardwood forest (see section 7.1.1.2) is a 6.1-acre area dominated by basswood, red oak, white oak, burr oak, American elm, and green ash. Not all of this area may be wet, also. But both communities probably have areas (maybe substantial areas) of wetland impact not included in the 12.9 acres estimated for Alignment C-2.

In any event, this issue will need to be resolved before we can consider a Section 404/Section 10 Department of the Army permit application for this project. Resolving this issue at the earliest feasible point will avoid unnecessary complications at a later date.

C Alignment C-2 may have an adverse impact on an identified cultural resource (the Chaska Cubs Ball Field, which is eligible for the National Register of Historic Places). Although we recommend that the alignment be shifted as far from the ball field as feasible to avoid a direct impact, even this shift may result in indirect adverse impacts. This issue will need further

RESPONSE

U.S. Army Corps of Engineers (COE) (continued)

A. DEIS Alternative C-2, with revisions, was identified as the Preferred Alternative.

B. The technical comments relating to wetland impacts and impacts to the Chaska Cubs Ball Field were addressed prior to the release of the DEIS for public review.

C. The Preferred Alternative avoids direct impacts to the Chaska Cubs Ball Field (Athletic Park). Chapter 10 of the FEIS addresses the status of the Section 106 review.

COMMENT

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the flood control project are a concern. Other alignments may also have possible impacts, and the following comments cover any alignment.

If Alignment C-2 is carried forward to the next stage, care should be taken to assure that sufficient capacity is provided for the Chaska Creek Standard Project Flood Discharge of 5500 cfs. (Section 1, Chaska Creek Area in the March 1993 Operation and Maintenance Manual for the Flood Control Project.) Any evaluation of project impacts in this area should include the project impact on the project design flood event which is the Standard Project Flood.

D Whichever alternative is selected, the project should be designed to avoid impairment of the Chaska Flood Control Project, including the Chaska and East Chaska Creek systems (not only levees and other structures and channels constructed as part of the authorized project, but also other natural and constructed features that were not constructed for the project but that may function as part of it, including tributary streams and ditches, and ponding areas).

E Any locations where new roads cross any of the designed flood control features should be examined carefully to ascertain potential impacts. A contingency plan should be developed for any location where levees are temporarily breached so that interim flood protection can be constructed should the need arise. Concrete floodways should not be realigned or altered in any manner without prior approval of the Corps of Engineers and its local sponsor for flood control (City of Chaska). Additional culverts, ditching, and other work should not add any water load to the flood control system without a hydraulic review of the potential impacts. Culverts and ditches that are currently connected directly to the flood control project should not be removed without a hydraulic review of the potential impacts. Storm water storage ponds should not be filled and thereby removed from the overall area drainage system.

Thank you again for the opportunity to review this draft. We look forward to further coordination on this project. In any correspondence, please refer to Regulatory file number 2006-2250-JJY. If you have any questions about these comments, please contact Mr. Joseph Yanta in our St. Paul office at (651) 290-5362. Mr. Yanta and other members of our staff would be glad to discuss our comments in more detail.

Sincerely,

Robert J. Whiting
Chief, Regulatory Branch

RESPONSE

U.S. Army Corps of Engineers (COE) (continued)

D. Comment noted. During design of the Preferred Alternative in the Tier II EIS process, care will be taken to avoid impairment of the Chaska Flood Control Project and assure that sufficient capacity is provided for the Chaska Creek Standard Project Flood Discharge. See Section 9.3.2 of the FEIS.

E. Comment noted. During preparation of the Tier II EIS, any locations where the Preferred Alternative crosses designed flood control features will be examined carefully to identify potential impacts.

COMMENT

4

Identical Letters to:

Ms. Cheryl Martin
Region 5 – Minnesota Division
Federal Highway Administration
380 Jackson Street, Suite 500
St. Paul, Minnesota 55101

Ms. Diane Langenbach
Minnesota Department of Transportation
Metro Program Delivery
Waters Edge Building MS 050
1500 West County Road B-2
Roseville, Minnesota 55113

RESPONSE

U.S. Army Corps of Engineers (COE)
(continued)

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COMMENT

U.S. Department of Homeland Security
United States Coast Guard

Commander
Eighth Coast Guard District

1222 Spruce Street
St. Louis, MO 63103-2832
Staff Symbol: dwb
Phone: (314)269-2380
Fax: (314)269-2737

16591.1/29.0 MIN
July 18, 2007

Ms. Diane Langenbach
Minnesota Department of Transportation
1500 W. County Road B-2
Roseville, MN 55113

Subj: TRUNK HIGHWAY 41 BRIDGE PROJECT, MILE 29.0 MINNESOTA RIVER

Dear Ms. Langenbach:

The waterway for the subject project conforms to criteria for advance approval of bridges as set forth in Title 33, Code of Federal Regulations, Section 115.70, as amended. This regulation provides for the advance approval by the Commandant, U.S. Coast Guard, of the location and plans of bridges to be constructed across navigable waterways or waterways navigable-in-law but not actually navigated other than by logs, logs rafts, rowboats, canoes and small motorboats. Clearances provided for high water stages and drift will be considered adequate to meet the reasonable needs of navigation.

A Coast Guard Bridge Permit is not required. However, we will need as-built drawings of the replacement bridge, in 8 1/2 by 11 inch format, when the project is completed. The Coast Guard offers no objection to the project upon compliance with the laws and regulations listed below:

a. Executive Order 11990 - Protection of Wetlands.

b. Executive Order 11988 - Floodplain Management.

c. Section 106 of the National Historic Preservation Act (Public Law 89-665) and Executive Order 11593.

A d. Section 401 of the Federal Water Pollution Control Act, as amended (Public Law 92-500).

e. Fish and Wildlife Coordination Act (Public Law 85-624).

f. Endangered Species Act (Public Law 93-205).

g. Coastal Zone Management Act (Public Law 92-583).

h. Section 309 of the Clean Air Act (Public Law 90-148).

i. Noise Control Act (Public Law 92-574).

RESPONSE

U.S. Coast Guard

A. Comment noted. Mn/DOT will comply with all noted laws and regulations. Note that the Tier I EIS is being prepared for purposes of right of way preservation. Construction of the project may not occur for 20 or more years. Closer to the time of construction, a Tier II EIS will be prepared for the Preferred Alternative.

COMMENT

Subj: TRUNK HIGHWAY 41 BRIDGE, MILE 29.0 — 16591.1/ 29.0 MIN
MINNESOTA RIVER — July 18, 2007

j. Wild and Scenic Rivers Act of 1968, (Public Law 90-542).

k. Prime and Unique Farmlands (Council on Environmental Quality Policy dated 16 January 1980).

l. Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646).

A m. Environmental Justice, Executive Order 12898.

n. Taking of Private Property, Executive Order 12630.

o. Civil Justice Reform, Executive Order 12988.

p. Indian Tribal Governments, Executive Order 13175.

q. Energy Effects, Executive Order 13211.

Sincerely,

ROGER K. WIEBUSCH
Bridge Administrator
By direction of the District Commander

Copy: CDRUSAED St. Paul District

2

RESPONSE

U.S. Coast Guard
(continued)

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COMMENT

United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, DC 20240

TAKE PRIDE IN AMERICA

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ER 07/527

Mr. Tom Sorel
Division Administrator
Federal Highway Administration
Minnesota Division - Galtier Plaza
380 Jackson Street, Suite 500
St. Paul, Minnesota 55101

Dear Mr. Sorel:

The U.S. Department of the Interior (Department) has reviewed the June Tier I Draft Environmental Impact Statement (DEIS) and Section 4(f)/Section 6(f) Evaluation for the **TH-41 Minnesota River Crossing to connect US-169 in Scott County to new US-212 in Carver County, Minnesota.** The Tier 1 DEIS identifies and evaluates the social, economic, and environmental issues associated with a no-build alternative and six build alternative corridor locations as a basis for identifying a preferred alignment corridor that can be preserved for future use. The Minnesota Department of Transportation (Mn/DOT) and Federal Highway Administration (FHWA) have not identified a preferred alternative in the documents. Each of the six build alternatives impacts at least two properties protected under Section 4(f) as park, recreation, and/or waterfowl and wildlife refuge areas. In addition, a number of historical, architectural and archeological resources subject to Section 4(f) could potentially be affected by the project alternatives. The Department offers the following comments and recommendations for your consideration:

GENERAL COMMENTS

A The U.S. Fish and Wildlife Service (FWS) has been involved in the scoping process, as well as in other aspects of the planning process for this project for a number of years. The FWS has significant concerns about this proposal and its impacts upon the natural resources within the Minnesota River Valley (Valley) within and adjacent to the study area. These lands include, but are not limited to, the Minnesota Valley National Wildlife Refuge (Refuge), the Minnesota Valley State Recreation Area (MVSRA), and the Seminary Fen Wetland Complex. These landscapes support a wide diversity of wildlife and their associated habitats, as well as provide recreational opportunities for the people to enjoy these unique and special places. The DEIS provides analysis of various impacts to these resources and functions, including impacts related to noise, visual impairment, and contaminants. However, the information provided in the DEIS, particularly with respect to noise and fragmentation of habitats, is insufficient to allow for

RESPONSE

U.S. Department of the Interior

A. The USFWS of the Department of the Interior (DOI) is a member of the River Crossing Implementation Coalition (RCIC) which has further addressed the concerns stated in the DOI's 2007 comment letter. The RCIC process included discussions about balancing environmental impacts in refinement of DEIS Alternative C-2 and recommendation of the refined alternative as the Tier I FEIS preferred alternative. RCIC recommendations for the Tier II process are included in the RCIC Report and referenced in the Tier I FEIS.

COMMENT

Mr. Tom Sorel 2

A an accurate determination of the extent of such impacts for each alternative. We recommend that a supplemental DEIS be prepared to provide a thorough analysis of noise impacts and fragmentation impacts associated with each of the alternatives to ensure that such impacts are appropriately considered in the selection of a preferred alternative. The comments below address those areas of the DEIS that we believe require more detailed analysis in a supplement to properly identify the level of potential impacts to environmental and recreational resources:

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

Analysis of Noise Impacts

B The information provided in the DEIS on noise impacts (section 6) indicates that some areas of the Valley, particularly areas that are presently the more remote parts of the Valley, would experience a substantial increase in noise levels with the construction of a new crossing. Noise levels can be an important factor in impact analysis, especially where an increase in noise levels might result in substantial indirect impacts to, or constructive use of, a Section 4(f) resource. The information provided in the DEIS is insufficient to allow for an accurate determination of the extent of such impacts for each alternative. We recommend a supplemental DEIS be prepared to provide a thorough analysis of noise impacts associated with each of the alternatives. The analysis should identify the potential zone of influence by conducting a noise study that will provide a contour prediction graphic for each of the alternative alignments in the study area. Figures should be provided for each alignment showing contours of existing noise levels along the alignment, contours of predicted noise levels in 2040, and contours showing the increase in noise levels along the alignment. Included in the analysis should be an evaluation of various noise mitigation measures that could be taken to avoid, minimize, and offset the adverse effects of traffic noise on wildlife and visitors to the public lands in the affected area.

There is a wide array of parameters (e.g., temperature and humidity) that affect sound transmission. Existing baseline sound levels should be monitored using noise receptors in varying distances from the proposed bridge alignments to compare with existing similar-sized bridge structures with commensurate traffic levels. We request that the model and parameters be made available to the FWS so that they can have a clearer understanding of model results.

Highway Crossing-Generated Noise Effects on Wildlife

Sufficient literature exists to demonstrate the detrimental anhffect of noise on wildlife. Some wildlife may tend to habituate to long-term, ongoing disturbance and continuous uninterrupted noise, but others may not. Noise has been shown to have significant effects upon the distribution of wildlife and their use of habitat. In particular, wildlife often flee or avoid areas that are subject to unpredictable high bursts of sound. Many

RESPONSE

U.S. Department of the Interior (continued)

B. Section 6.2 of the Tier I FEIS describes supplemental noise analyses conducted for the FEIS preferred alternative, including assessment of multiple locations within the MVNWR. The Tier II EIS will include additional analysis of noise impacts on the refuge.

COMMENT

Mr. Tom Sorel 3

species of wildlife are also sensitive to a broader range of frequencies than those audible to the human ear.

Wildlife habitat in the Valley is very diverse and of high quality. It supports the full spectrum of viable populations of native migratory and resident wildlife. Some of these species depend on their vocalizations to avoid predation and attract mates for breeding. Traffic noise can mask their vocalizations, increase predation, and adversely affect reproduction.

B The magnitude of the increase in sound over the current background noise levels would have adverse impacts to wildlife, in some cases significant enough to prevent species from fully utilizing available habitat as intended. In particular, we are concerned the construction and use of these alternative crossings would effectively render areas in the Valley less attractive to wildlife species seeking quiet and solitude for their nesting, resting, and feeding activities (e.g., bald eagles, herons, bitterns, and amphibians). Therefore, we recommend that a detailed analysis of the effects of traffic noise on wildlife for each of the proposed alternatives, as well as possible mitigation measures, be included in the supplemental DEIS.

Effects of Highway Crossing-Generated Noise Effects on Refuge Visitors

The DEIS insufficiently addresses the effects of noise on Valley visitors. Refuge visitors to units presently impacted by traffic noise have conveyed to Refuge staff their feelings regarding the negative effects of vehicle noise. For example, Refuge staff noted noise-related impacts to visitors after the new US-169 bridge crossing was completed. We believe this effect would occur in various degrees to Refuge visitors with the three upstream corridor alternatives and to MVSRA visitors regardless of the alignment chosen.

Most birders use the vocalizations of birds to pinpoint the position of the individual bird prior to attempting to view the bird. Unfortunately, bridge noise masks most vocalizations to the point where it is very difficult to conduct this type of activity. The result is that birders tend not to conduct birding in areas subject to high levels of traffic noise, as is the case in the Wilkie Unit of the Refuge due to the noise challenges resulting from completion of the US-169 bridge project.

Eco-tourism is big business, nationally and internationally. Although economic surveys have not been completed for all refuges, nearby Sherburne National Wildlife Refuge, located 30 miles northwest of the Twin Cities, was visited by over 96,000 people during a 12-month period during 2003 and 2004, and the visits generated nearly $870,000 to the local economy. It is estimated that the Minnesota Valley National Wildlife Refuge is host to between 250,000 and 300,000 visitors annually. Any disturbance, such as excessive noise, that interferes with a visitor's experience while engaging in wildlife-

RESPONSE

U.S. Department of the Interior (continued)

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COMMENT

Mr. Tom Sorel 4

dependent activities would likely result in a decrease in return visits, thereby lowering inputs to the local economy.

B The DEIS indicates that noise levels in the Valley near the proposed bridge crossing would more than double. Based on their knowledge of noise research and experience with other bridge crossings of the Valley, it is the professional judgment of Refuge staff that the noise generated by the bridge crossing would significantly decrease the quality of the outdoor experience Valley visitors have come to enjoy. A supplemental DEIS should be prepared to identify and evaluate for each alternative alignment and the effects from noise on these high priority uses of public lands in the Valley, as well as possible mitigation measures to address these effects.

Habitat Fragmentation

C Fragmentation of wildlife habitat occurs when plant communities are separated from one another by a physical, aboveground structure or disturbance. The effect is that the remaining parcels no longer complement each other to the extent they did prior to the fragmentation nor function as efficiently as one unit. Therefore, both resulting units are significantly degraded ecologically regardless of their stage of vegetative succession or quality. The increase in exposed fringe habitat can significantly influence species presence and use but is less important than the loss of contiguous large parcels. This is particularly true for those species that require large blocks of habitat/territory for various life-history stages (e.g., breeding, feeding).

Tables 7-1 through 7-6 provide interesting and useable data in assessing biodiversity and qualitative analysis. The data presentation in Table 7-6 is somewhat confusing; however, we assume the numbers represent acres of each habitat type affected by fragmentation. Because much of the land in the Valley is in various stages of succession and has been degraded in the past, resource managers base their landscape and management plans on the future vegetative community expected, rather than on what may be present at any given time during the restoration process. Therefore, the area of negative influence would be larger than the quantities listed in the table and we recommend that the table be adjusted accordingly.

Visual Impacts

D The DEIS states that visual impacts cannot be avoided. Most former agricultural lands in the Valley have reverted, or are in the process of reverting, to forested habitats. The tree species growing in the Valley can reach to over 60 feet in height when mature. The potential exists to have a natural screen over time depending on the bridge design criteria. The DEIS indicates that Alternatives W-2, C-2, E-1A, and E-2 would be 60 feet above the river, while E-1 would be 65 feet and C-2A would be 75 feet. We assume that these are the minimum heights possible while meeting design criteria but were

RESPONSE

U.S. Department of the Interior (continued)

C. Section 7.1.1 of the Tier I FEIS shows updated fragmentation data specific to the refined C-2 preferred alternative.

D. The bridge heights in the DEIS were estimated to allow for relative comparison of visual impacts in the Tier I DEIS. Refined Alternative C-2 [which was in the lower height group of the DEIS alternatives] has been identified in the Tier I FEIS as the preferred alternative. The Tier II EIS will provide more detailed information on bridge height, based on more refined design information.

COMMENT

Mr. Tom Sorel 5

D unable to find information in the DEIS to confirm this. Such information should be provided in the supplemental DEIS.

Light Pollution

E No lighting plan is presented in the DEIS. The effect of light pollution is of major concern due to the potential adverse effects on Refuge visitors and wildlife. Many species of birds migrate at night, including species that use the Valley on a regular basis. In addition, light exacerbates the exposure of wildlife moving along fringe habitat at night, increasing predation pressure and negatively affecting the diversity and population of species, which may normally be found in fringe areas. Project plans should fully address the problematic impacts of artificial lighting and provide appropriate measures to avoid, minimize, and mitigate these impacts.

Threatened and Endangered Species

There are several statements of fact about species and statements that reference surveys conducted for species in the analysis area. Statements of fact about species, statements regarding the effects of the proposed action on species, and statements on previous studies on species need to have supporting references. For surveys, citations should be provided wherever feasible. When citations are not available, at a minimum, the survey sponsor, the timing of the survey, and the location where results can be found, even if results are stored in project files, should be provided.

F Examples:

> Biological surveys have been completed for much of the study area since 2000. In 2002, a survey of the biological features in the MVSRA was completed by the Minnesota County Biological Survey (MCBS). In 2006, field survey was conducted to verify Minnesota Land Cover Classification System (MLCCS) and MCBS cover (page 7-1, 2nd paragraph).
>
> Any bridge piers placed within the river channel may create an obstacle within the fish habitat, though the fish could adjust to the placement by swimming around any pier and amphibians and reptiles, likewise, could maneuver around piers (page 7-11, 1st paragraph).
>
> The Minnesota River supports a relatively diverse population of freshwater mussel (unionid) species…. The extremely rare mussels require harder, more stable river bottom substrates and relatively good water quality, and appear to be eliminated from the Minnesota River due to heavy siltation and water pollution (page 7-23, 3rd paragraph).

RESPONSE

U.S. Department of the Interior (continued)

E. Section 7.1 of the Tier I FEIS provides a discussion of this issue relative to the identified preferred alternative: refined alternative C-2. The Tier II EIS will include more detailed design information which will allow for more detailed consideration of potential light pollution impacts and mitigation.

F. Comment noted. An updated analysis of potential impacts to Threatened and Endangered species will be done in the Tier II EIS, based on information regarding protected species available at that time, and based on more detailed project design information.

COMMENT

Mr. Tom Sorel 6

F While it [Shovelnosed sturgeon] apparently had once been relatively abundant, recent MnDNR surveys did not report it and other authorities believe the sturgeon to be scarce or absent altogether. The typical habitat of the Shovelnosed sturgeon is the deep main channels of the free-flowing river (page 7-23, last paragraph).

Invasive Species

G All physical disturbances to habitat have the potential to introduce and encourage the spread of invasive species. Although the DEIS does acknowledge the potential for invasive species introduction, it does not address the resulting adverse impacts. These impacts have the potential to significantly impact the Refuge and other public lands as initial introduction, especially in the absence of a management plan to address outbreaks, would only result in greater impacts over time. Invasive species are often aggressive and thrive in monotypic habitats and, so, represent the opposite of Refuge goals for healthy, diverse habitats able to support a wide variety of wildlife year round.

To reduce and manage invasive species requires, in most cases, a significant amount of resources for long periods of time. The DEIS should provide a more thorough analysis of adverse impacts to Valley resources from invasive species and should include a plan to prevent introduction where possible, and manage invasive species that do become established over time. This effort should be included as a component of long-term project operations and funded accordingly, regardless of the alternative chosen.

Wild and Scenic Rivers

H The DEIS includes a discussion of the inclusion of the Minnesota River on the Nationwide Rivers Inventory (NRI). The National Park Service (NPS), which maintains the NRI for the Department, has been consulted at least initially on the scope of the project. In reviewing the DEIS, we are in agreement with the FHWA and Mn/DOT that all build alternatives would have an effect on the values that make the Minnesota River eligible for listing. The NPS takes issue with two statements made in section 7.5.3 of the DEIS. The first concerns a statement that implies there would be no impacts to the free-flowing condition of the river other than piers in the river. The addition of piers where presently there are none has the potential for serious impacts to the free-flowing condition of the river and, in addition, impacts from construction on tributaries away from the bed and banks of the listed river can also impact the free-flow of water in the river. A later statement in that same section implies that canoeing and fishing would not be impacted because there may be no impacts to free-flowing, a fact that has yet to be determined, and in the least, contradictory to the earlier statement regarding free-flow. The second issue is the discussion of mitigation of impacts in section 7.5.4 which appears only to address visual impacts without acknowledging that piers in the river can impact the free-flowing characteristics of the river. The NPS realizes all build

RESPONSE

U.S. Department of the Interior (continued)

G. A general discussion of Invasive species can be found on Section 7.1 of the Tier I EIS. The Tier II EIS will include more details about the potential impacts of invasive species. More will be known about the location and design details of the project and the nature and extent of any existing invasive species in the area at that time.

H. For the Tier I analysis, a general assumption was made about the number and spacing of piers. Current bridge design allows the structure to completely cross the river. Therefore, no piers were assumed to be in the main river channel. The Tier II EIS process would include more design details and a full analysis of impacts to free flow, canoeing and fishing, and eligibility for listing on the NRI as stated in Sections 1.8.11 and 7.5.1 of the Tier I FEIS.

COMMENT

Mr. Tom Sorel 7

H alternatives would impact the river - in terms of the values that make the river eligible for listing on the NRI and asks that these impacts be considered in full when selecting a preferred alternative. We recommend the FHWA and Mn/DOT improve the discussion of impacts to the free-flowing condition of the Minnesota River by including possible engineering constraints that may allow or prevent spanning the river with a bridge, regardless of which alternative is selected, in a supplemental DEIS. This would allow the Department to better evaluate the potential for impacts to the river.

Contaminants, Trash, and Hazardous Material Spills

I Experience with existing transportation projects within the Refuge have provided an understanding of long-term and cumulative impacts, which must be addressed through pre-planning efforts. For instance, the TH-77 Bridge crossing of Long Meadow Lake in the Refuge has no primary treatment of runoff from the bridge. The collection infrastructure outlets directly into the lake and does not represent a system that adequately addresses runoff concerns; therefore, this is not a system the Department and FWS would support in conjunction with the proposed project. In addition, large amounts of trash and litter have routinely been found under and adjacent to existing bridge crossings on the Refuge; all efforts available should be used (e.g., bridge design) to address this impact to Refuge resources.

The stormwater treatment plan should address not only water volume collected by the system but also treatment of the full range of contaminants carried by impervious surface runoff. A hazardous materials spill plan would complement this effort and provide needed insight into methods of avoiding and minimizing the potential large-scale release of contaminants.

Road salts are of particular concern and can negatively affect a wide variety of vegetative and wildlife communities. A monitoring plan should be developed for the selected bridge alignment to assess changes from baseline conditions in any area where such impacts are expected to affect wetlands, including but not limited to Seminary Fen. No runoff impacts are acceptable for the unique resources of Seminary Fen, and all planning efforts should be focused on avoidance of this type of impact.

Cumulative Impacts

J The conclusions regarding cumulative impacts (Table 13-1) appear to underestimate these impacts and seem incomplete. Given the wide range of impacts to habitat and wildlife resources that would occur outside the basic footprint of the transportation structure itself (e.g., impacts from traffic noise, invasive species, visual resources, habitat fragmentation, hydrologic alterations, and artificial lighting, as well as visual and water quality impacts) and the long-term effects of these disturbances, it is logical to assume that cumulative effects may be significant. In addition, the proposed project, depending on the alignment selected, would contribute in varying degrees to an adverse

RESPONSE

U.S. Department of the Interior (continued)

I. These potential impacts from contaminants, trash, hazardous materials and stormwater runoff will be thoroughly analyzed in the Tier II EIS and mitigation measures identified in this process will be incorporated into the bridge design. The Seminary Fen will not be impacted by road salts because an E alignment was not selected as the preferred alternative.

J. The Tier I DEIS cumulative impacts discussion included assessment of the relative potential for cumulative impacts of all DEIS alternatives, including consideration of cumulative impacts to all social, economic and environmental resources/issues. DOI comments relative to potential cumulative refuge impacts (which, it should be noted, would have been similar for all DEIS alternatives) have been noted and considered in description of cumulative impacts of the preferred alternative corridor, described in Section 13.0 of the Tier I FEIS. As noted in DOI comment 'L' below, the DOI agreed that alternative C-2 (the Tier I FEIS preferred alternative) is the least environmentally damaging alternative.

COMMENT

Mr. Tom Sorel 8

effect on the ability of the land management agencies to attain identified management goals for public lands in the Valley.

We disagree with the statement made in section 13.3.9.4, first sentence, second paragraph, which states "… the size of impact from the proposed project in relation to the overall size of MVNWR is relatively small." Such a statement might seem reasonable, even with respect to Alternative W-2, if the only impact considered would be the actual acreage occupied by the crossing. However, when consideration is given to the substantial acreage adjacent to the crossing that is impacted by noise, habitat fragmentation, and some of the other factors discussed in our comments above, the direct and indirect impacts of transportation and utility corridors within the Refuge are, in fact, relatively large in relation to the overall size of the Refuge due to the expansive zone of influence bridge crossings have on a given unit of land, especially when all existing crossings, both aerial and land, are considered. Much of the Refuge property between the I-494 bridge and the southern edge of the TH-41 study area is already impacted by noise from transportation facilities, including river crossings for I-494, TH-77, I-35W, US-169, TH-101, and TH-41. The Long Meadow Lake Unit and Black Dog Unit are now also subject to noise from constant overflights from the new runway at the Minneapolis-Saint Paul International Airport and the Upgrala Unit would be subject to a significant increase in overflights if the expansion of the Flying Cloud Airport was completed as planned. Areas free from elevated noise levels are relatively rare along this portion of the Minnesota River and a special effort should be made to protect them. **J**

We disagree with the statement in section 13.3.3, last sentence, second paragraph, which states "… traffic noise levels are generally localized and tend to disburse over relatively short distances." Construction of any of the Build Alternatives would result in an increase of L10 noise levels ranging from 22 dBA (decibels – A weighted) to 32 dBA over existing conditions in isolated areas currently not exposed to traffic noise. This is a substantial increase in the audibility of noise from the existing background levels in such areas. Table 6-8, which shows the results of noise modeling for the river at Alternative W-2, indicates that the noise levels (daytime L10) for year 2040 at 50 feet from the bridge would be 81 dBA and would still be 67 dBA at a distance of 1,600 feet from the bridge. As mentioned in our comments above on noise effects on Refuge visitors, Refuge staff and the general public have noted the impact on wildlife and recreational use of the Wilkie Unit as a result of increased noise levels associated with the new TH-169 bridge crossing. The change in noise levels is noticeable; in some instances significantly so, up to 1 mile from the bridge.

Proposed Mitigation

The DEIS states: "[a] rich diversity of birds, mammals, fish, reptiles, and amphibians inhabit lands within the study area. Over 260 species of birds are attracted to the diverse habitats within the study area each year. Of these, over 120 are known to nest in the area…[a]t least 50 mammals occur within the area as year-round **K**

RESPONSE

U.S. Department of the Interior (continued)

K. Comments noted. The Tier I EIS includes general concept level mitigation because this is a corridor level document being used to identify and preserve a 300 foot corridor. The Tier II EIS will include a more detailed analysis and further refinements to the alignment will be made to avoid and minimize impacts to specific species. For those that are unavoidable, the Tier II EIS will include more specific mitigation measures and reference details.

COMMENT

Mr. Tom Sorel 9

residents…[t]hirty species of reptiles and amphibians have been reported within the river valley" (pages 7-8 and 7-9). The U.S. Geological Survey (USGS) expresses concern that the mitigation measures identified in the DEIS seem to be very general. For instance, on page 7-21, the DEIS states: "[w]here impacts to wildlife are unavoidable, the effect of the impacts would be minimized through design features such as provision of wildlife crossing areas where the roadway is at grade." There are no references indicating how the various species affected react to human-made wildlife crossings. It would benefit the public if more clearly defined, species-specific mitigation measures could be specified in the final EIS and where appropriate, discussion of the potential effects of the various proposed alternatives on specific species was supported by references.

K

The DEIS further states: "[i]f a State-listed threatened or endangered species will be destroyed during the construction of the proposed project, a Threatened and Endangered Species Taking Permit would be required from the DNR" (page 7-22). For threatened, endangered, and special concern species, the mitigation measures identified in the DEIS also seem to be very general. For instance, as stated on page 7-28, "[m]itigation measures to avoid, minimize, or alleviate impacts to threatened/endangered or other protected species and sites of biodiversity significance will be defined during the Tier II process after the preferred alternative is selected…[a]voidance measures such as minor alignment shifts will be considered during final design to minimize impacts on identified species." It would likewise benefit the public if more clearly defined, species-specific mitigation measures could be specified in the final EIS and referenced where appropriate for the various proposed alternatives. Also, whenever the "Tier II process" is developed, it should clearly define species-specific mitigation measures and provide reference material, where appropriate.

Views on Acceptability of Alternatives

The Least Environmentally Damaging Alignment

The Department strives to ensure that impacts to lands and resources under its stewardship are avoided or minimized whenever possible. With respect to the subject project, that would mean favoring selection of one of the downstream alignments (E-1, E-1A, or E-2) that would avoid impacts to the Refuge. However, the FWS has been coordinating closely with the Minnesota Department of Natural Resources in an effort to

L

identify the alignment that would result in the least overall impact to natural resources and ecotourism within the Valley when all of the lands of the two Agencies within the project area are considered in a holistic manner. The Agencies concluded that Alignment C-2 would be least damaging. It currently represents the only alignment that crosses the Valley, including the portions both north and south of the river, near areas that have already been developed. Because of this proximity to existing development, the additional impacts to habitat, wildlife, and public resources in the area of the

RESPONSE

U.S. Department of the Interior (continued)

L. The selected C-2 preferred alternative alignment was identified by the Department of Interior as the Least Environmentally Damaging Alignment. Since that time, the RCIC process (which included representatives from the MVNWR) further refined the C-2 alignment to avoid a direct impact to Chaska Athletic Park. This resource is eligible for the National Register of Historic Places and is a 4(f) and 6(f) property. This alignment shift means that the direct impact to MVNWR increases from 8.5 to 22.0 acres.

COMMENT

Mr. Tom Sorel 10

crossing would be less than those resulting from construction of a river crossing on any of the other alignments.

Environmental Effects of Remaining Alignments Upstream from Chaska

Alignments C-2A and W-2 would have substantial wetland and habitat fragmentation impacts south of the river in the MVSRA, as well as substantial visual and noise impacts to visitors in that area. Both also would have substantial wetland and habitat fragmentation impacts to the Chaska Unit of the Refuge north of the river, as well as substantial visual and noise impacts to visitors in that area of the Refuge.

L For these reasons, alignments C-2A and W-2 would be incompatible with the goals of the Refuge as specified in the Minnesota Valley National Wildlife Refuge Act (16 U.S.C. 668dd note, Public Law 94-466 (1976)), and the National Wildlife Refuge Administration Act (16 U.S.C. 688dd *et seq.*), as amended by the National Wildlife Refuge System Improvement Act of 1997. FWS would not find selection of either of these alignments acceptable.

Environmental Effects of Alignments Downstream of Chaska

Alignments E-1, E-1A, and E-2 fragment a large block of habitat and have substantial wetland impacts in the MVSRA south of the river. These alternatives would add significant noise and visual impacts to visitors in an area that is presently relatively isolated from such impacts. In addition, E-1A and E-2 would have significant impacts to the Seminary Fen Wetland Complex. Accordingly, we could not support selection of any of these three alignments.

COMMENTS ON SECTION 4(f) EVALUATION

M1 The draft Section 4(f) evaluation (Appendix B of the DEIS) identified properties in the project study area eligible to be considered under Section 4(f) of the Department of Transportation Act of 1966 (48 U.S.C. 1653(f)). The evaluation identified six properties classified as park, recreation, and waterfowl and wildlife refuge areas that could be directly impacted by the alternatives considered in detail in the document. These are listed on page B-2 (Appendix B) and include Athletic Park, Audubon Trail, City of Chaska Trail segments (Chaska Trail), Pioneer Park/Chaska Senior High School/Pioneer Ridge Freshman Center complex (Complex), the Refuge, the MVSRA, and the Minnesota Valley State Trail, (the evaluation treats the MVSRA and the Minnesota Valley State Trail as part of the MVSRA though they are two separate entities). In addition, there are 21 historic properties and 2 historic districts that potentially may be affected by the alternatives. A total of eight historic resources are identified as directly impacted by the alternatives, though there is an admitted uncertainty about whether some indirect impacts would be "adverse" under Section 106 of the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).

RESPONSE

U.S. Department of the Interior (continued)

M1. The intent of the Tier I process is identification of a preferred corridor; therefore, alternatives have not been refined to a design level that allows for detailed description of mitigation – a more detailed description of potential impacts and mitigation will be provided in the Tier II analysis. Refined Alternative C-2 has been identified in the Tier I FEIS as the preferred alternative, and a least harm analysis has been completed for this alternative (see FEIS Appendix D). Selection of this corridor doesn't 'seal the fate' of Section 4(f) resources: additional avoidance/minimization/least harm analysis will be conducted within the corridor as the alignment and design details of the preferred alternative are refined in the Tier II process.

COMMENT

Mr. Tom Sorel 11

Each of the six build alternatives would impact at least two Section 4(f) resources. As all of the alternatives involve the use of Section 4(f) resources, and no alternative avoids all Section 4(f) resources other than the no build alternative, the alternatives analysis required for the purpose of Section 4(f) is substantially more complicated than for other projects. According to the guidance provided in the *Section 4(f) Policy Paper* (FHWA March 1, 2005), the objective of the alternatives analysis is to determine which alternative results in the least overall harm to the Section 4(f) resources. The net harm determination would take into account all the possible mitigation that could be done to minimize harm to the Section 4(f) resources. There would also be important non-Section 4(f) environmental impacts, which must be considered in determining the "least overall harm" and prudent alternative. We note that the DEIS does not select a preferred alternative and the Section 4(f) evaluation does not select an alternative that results in the least overall harm to Section 4(f) resources.

M2

The Department is concerned that selection of any corridor in this Tier 1 document essentially seals the fate of the resources in that corridor; there would be no way to avoid impacts to Section 4(f) resources, and mitigation of impacts to minimize harm to any affected resource would not be developed until after the decision to use the resource. The DEIS and evaluation acknowledges that impacts to some properties are not known at this time, and presents only suggested mitigation for impacts to other properties. Based upon the information contained in the DEIS and this evaluation, and on the factors presented in these comments, the Department would not concur with a determination that there is no feasible and prudent alternative which would avoid impacts to Section 4(f) properties. In addition, the Department would not be able to concur with a determination that all possible planning needed to minimize potential harm to this resource has been employed.

In terms of impacts to historic Section 4(f) resources, we note that you have proposed a programmatic agreement with the State Historic Preservation Officer (SHPO) to satisfy the requirements of Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 *et seq.*), for the mitigation of impacts to historic properties. The Department relies on the results of that consultation process when making our Section 4(f) decisions since we take into consideration whether impacts to historic properties have been properly considered and whether all means to minimize harm have been employed. However, the DEIS and evaluation states the full extent of impacts to several resources is not yet known. We would like to review the signed programmatic agreement with the SHPO in order to better understand the recommendations for mitigation, and we would like adequate time to review those recommendations.

M3

Impacts to the trail resources are often less problematic since impacts are usually limited to short-term interruption of access. However, we urge the FHWA and Mn/DOT to keep in mind the continuity of trail use and access in considering the least-harm

M1

RESPONSE

U.S. Department of the Interior (continued)

M2. A Section 106 programmatic agreement (PA) was planned as the means to address impacts on resources that are on or are eligible for listing on the National Register of Historic Places (NRHP). As outlined in the DOI comment, the extent of impacts to all historic or Section 4(f) resources are not known at this time and will not be known until the Tier II EIS is prepared. Based on discussions among Mn/DOT, FHWA and the Minnesota State Historic Preservation Office (SHPO), the FHWA has decided to address the extent of impacts, as are known at this point in time, and the avoidance and minimization of impacts to historic resources through a series of letters in lieu of a formal Section 106 Memorandum of Agreement or PA. Furthermore, these letters address Mn/DOT Cultural Resource Unit's (CRU) position and Minnesota SHPO's position regarding the adequacy of the evaluation and the assessment of impacts – the aspects that are normally part of the Section 106 consultation process. See correspondence dated March 28, 2013 and April 29, 2013 in Appendix B. The Tier I FEIS includes a Preliminary Section 4(f) Evaluation which addresses known or potential impacts to Section 4(f) resources based on the corridor footprint. The Tier II EIS will include any appropriate Section 106 agreements and Section 4(f) Evaluations pursuant to regulations in effect at the time of the future NEPA process. The DOI will be provided an opportunity to review and comment on those materials at that time.

M3. The Tier I DEIS impacts discussions included assessment of the relative impacts of the DEIS alternatives, to inform the selection of a Tier I preferred alternative. As noted in response M-1 above, more detailed assessment of potential impacts to the refuge resources (and mitigation) will be conducted as part of the Tier II EIS analysis, when more detailed design information is available. Response B above relates specifically to the noise issues identified in this DOI comment. The DOI comment included acknowledgement that the Alternative C-2 corridor appears to have the potential for lesser noise impacts to refuge resources – this was one of the factors taken into account in the selection of refined Alternative C-2 as the preferred alternative corridor.

COMMENT

Mr. Tom Sorel 12

M1 alternative. We extend that concern to the other recreational resources impacted by these alternatives.

Regarding the impacts to the Refuge and the MVSRA, the evaluation (on page B-8) acknowledges that FWS staff has indicated the habitat function of the Chaska Unit of the Refuge would be seriously damaged by the Alternative W-2 and Alternative C-2A corridors. However, the summary of impacts on Section 4(f) resources provided in Table B-1 appears to only consider the acres of each resource that would be directly used (i.e., acquired through partial acquisition or an easement) for each alternative alignment. No discussion of noise impacts on wildlife use or recreational use on the Refuge or on MVSRA is provided in the evaluation. Nor is there any mention in the evaluation that such impacts on these areas would be considered in the analysis required to determine which of the six build-alternative results in the least overall harm to Section 4(f) resources. Determining an exact amount of Refuge acreage on which the habitat function may be substantially impaired by fragmentation and/or certain other factors, for each of the alternatives, will be difficult and will require further coordination. Determining the acreage on which increased levels of noise may substantially impair major attributes of the Refuge should be more straightforward.

M3 Based on the limited information on noise impacts provided in section 6 of the DEIS, it appears that predicted noise levels on sizeable areas of the Refuge adjacent to the Alternative W-2 and Alternative C-2A corridors, and to a lesser extent the Alternative C-2 corridor, would be so high that the noise levels would result in significant adverse effects on many of the functions for which these Refuge lands were acquired and are managed. It is unclear from the information provided on pages 6-12 and 6-13 of the DEIS which noise standard should be applied in determining substantial impairment.

The DEIS indicates that recreation areas and wildlife refuges within the Valley fall under state Noise Area Classification 1 (NAC-1). For land uses identified as NAC-1, the Minnesota State standards for an hourly L10 are 65 dBA for daytime and 55 dBA for nighttime; the standards for L50 are 60 dBA for daytime and 50 dBA for nighttime. The Federal standards discussed in the DEIS do not specifically mention refuges. It is indicated that the Federal L10 noise abatement criterion for Federal Land Use Category A (special areas requiring serenity) is 60 dBA for both daytime and nighttime. For Federal Land Use Category B (residential and recreation areas), the Federal L10 noise abatement criterion is 70 dBA for both daytime and nighttime. We believe the Refuge lands, particularly those areas that are presently relatively remote and not impacted by high noise levels, should be considered noise-sensitive lands (i.e., Federal Land Use Category A lands).

The DEIS also indicates that, in addition to the identified noise criteria, the FHWA also defines a noise impact as a "substantial increase" (an increase of 5 dBA or greater) in the future noise levels over the existing noise levels. As previously noted, construction of any of the build alternatives would result in an increase of L10 noise levels of more

RESPONSE

U.S. Department of the Interior (continued)

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COMMENT

Mr. Tom Sorel 13

than 20 dBA over existing conditions in remote areas of the Valley that presently experience low background noise levels. Extrapolation of the data provided in Table 6-8 indicates that the noise levels (daytime L10) for year 2040 at distances of perhaps a mile or more from the Alternative W-2 corridor could still be more than 10 dBA greater than the existing noise levels.

M3 As part of the supplemental DEIS that we have recommended be prepared, the portions dealing with Section 4(f) resources should be revised to thoroughly address lands that could be significantly, adversely affected by increased noise levels, habitat fragmentation, and some of the other factors discussed in our comments. We recommend that the Mn/DOT and FHWA coordinate closely with Refuge staff to determine the amount of Refuge land potentially subject to these indirect impacts. The summary of impacts on Section 4(f) resources provided in Table B-1 should be revised to include not only the acres of each resource that would be directly used but also the acreage of Refuge lands indirectly impacted by each of the three upstream alternatives, as determined through the Agency coordination recommended above. An expanded noise study, as we later recommend, will be necessary as a basis for accurately determining the extent of noise impacts. The scope and severity of indirect impacts to Refuge lands, as well as to other Section 4(f) resources, must be understood and appropriately considered if the alternatives analysis to determine which alternative results in the least overall harm to the Section 4(f) resources is to have legitimacy.

The Department would like to add that while our specific management jurisdiction does not apply to State-owned lands, the MVSRA is a Section 4(f) property and we believe the noise impacts mentioned here would apply to those lands as well as to the Refuge. We are concerned that the degree of impacts to these lands from noise is not properly considered in this analysis.

COMMENTS on SECTION 6(f) EVALUATION

The DEIS identifies impacts to the Refuge, MVSRA, Minnesota Valley State Trail, Winkel Park, Firemen's Park I, Tahpah Park, Lions Park, Tahpah-Lions Trail, and East Creek Trail. These projects were acquired and/or developed with assistance from the Land and Water Conservation Fund (L&WCF). Accordingly, these sites are encumbered by Section 6(f)(3) of the L&WCF Act of 1965, as amended.

N We wish to remind you that Section 6(f)(3) of the L&WCF Act is the cornerstone of Federal compliance efforts to ensure that the Federal investments in L&WCF assistance are being maintained in public outdoor recreation use. This section of the Act assures that once an area has been funded with L&WCF assistance, it is continually maintained in public recreation use unless the NPS approves substitution property of reasonably equivalent usefulness and location and of at least equal fair market value. This section specifically states: "[n]o property acquired or developed with assistance under this section shall, without the approval of the Secretary [of the Interior], be converted to

RESPONSE

U.S. Department of the Interior (continued)

N. Comments noted. The Tier II FEIS and related project implementation will address compliance with Section 6(f) of the L&WCF Act of 1965.

COMMENT

Mr. Tom Sorel 14

other than public outdoor recreation uses. The Secretary shall approve such conversions only if he finds it to be in accord with the then existing comprehensive statewide outdoor recreation plan and only upon such conditions as he deems necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location."

N A conversion occurs when the scope of a project is changed to other than public outdoor recreation uses. The question whether there is a change to other than public outdoor recreation use is based upon a comparison of the public outdoor recreation assets provided by the original L&WCF agreement and the impact of any proposed changes thereto. If the changes provide for other than public outdoor recreation as originally agreed to, in all or in part, a conversion exists.

We recommend you consult with the L&WCF program administrator in the State of Minnesota, Director Wayne Sames, Local Grants Unit, Office of Management and Budget, Department of Natural Resources, 500 Layfayette Road, Box 10, St. Paul, Minnesota 55155-4010.

SUMMARY COMMENTS

The Department believes all alignments presented would, to varying degrees, reduce the full use of public lands by wildlife and Valley visitors. We have identified Alternative C-2 as the least environmentally damaging alignment and as having the least impact on Valley wildlife, ecotourism, and recreational visits to public lands. However, Alternative C-2 presents significant challenges that should be further evaluated and addressed. Impacts should be avoided and minimized, where possible, and unavoidable impacts mitigated.

O We recommend that a supplemental DEIS be prepared to provide a thorough analysis of noise impacts, fragmentation impacts, and impacts to historic resources and free-flow characteristics associated with each of the alternatives to ensure that such impacts are appropriately considered in the selection of a preferred alternative. The FHWA and Mn/DOT should coordinate closely with Refuge staff to determine the amount of Refuge land potentially subject to substantial impairment due to these indirect impacts. For your information, please find an enclosure that states the purposes of the Refuge and the permitted uses. The supplemental DEIS should also provide additional information concerning the other issues discussed in our comments above.

The Department has a continuing interest in working with the Mn/DOT and the FHWA to ensure that project impacts to resources of concern to the Department are adequately addressed. For matters related to fish and wildlife resources, please continue to coordinate with Field Supervisor Tony Sullins, Twin Cities Field Office, U.S. Fish and Wildlife Service, 4101 East 80th Street, Bloomington, Minnesota 55425-1665, telephone 612-725-3548. For matters concerning the Refuge, please continue to coordinate with

RESPONSE

U.S. Department of the Interior (continued)

O. Comments noted. MVNWR staff have participated in the RCIC (see Response A above), which was formed following receipt of agency comments on the DEIS. The RCIC discussed and resolved many of the issues identified in the August 9, 2007 DOI comment letter.

The DOI/USFWS is a cooperating agency under NEPA for the Tier I EIS process and is expected to be invited to be a cooperating agency for the Tier II EIS process, as well. USFWS has jurisdiction over actions requiring acquisition or easement on its lands.

The DOI has since provided additional correspondence dated May 16, 2014 that expresses concurrence with the selection of Alternative C-2, as “modified from the original 2007 DEIS design”. The letter also indicates USFWS continued involvement in the RCIC process until the time of the Tier II process and eventual construction of the river crossing. See Appendix B-1. The RCIC will continue to meet and work through project issues in the future, as the project moves forward towards implementation, including in the Tier II EIS process.

COMMENT

Mr. Tom Sorel 15

O Refuge Manager Patricia L. Martinkovic, telephone 952-858-0701, or Project Biologist Terry Schreiner, telephone 952-858-0705. For continued consultation and coordination on the issues concerning other Section 4(f) resources, please contact Regional Environmental Coordinator Nick Chevance, Midwest Regional Office, National Park Service, 601 Riverfront Drive, Omaha, Nebraska 68102, telephone 402-661-1844. For continued consultation and coordination on the issues concerning the Minnesota River and the NRI, please contact Wild and Scenic Rivers Coordinator Sue Jennings, Midwest Regional Office, National Park Service, 601 Riverfront Drive, Omaha, Nebraska 68102, telephone 402-661-1848. If you have any questions concerning comments by the USGS, please contact Chief Lloyd Woosley, USGS Environmental Affairs Program, U. S. Geological Survey, Mail Stop 423, Reston, Virginia 20192, telephone 703-648-5028, or at lwoosley@usgs.gov.

We appreciate the opportunity to review the documents and provide comments.

Sincerely,

Willie R. Taylor
Director, Office of Environmental
Policy and Compliance

Enclosure

cc:
Ms. Cheryl Martin
Environmental Program Manager
Federal Highway Administration
Minnesota Division - Galtier Plaza
380 Jackson Street, Suite 500
St. Paul, Minnesota 55101

Ms. Diane Langenbach
Project Manager
MnDOT – Metro Division
1500 West County Road B2
Roseville, Minnesota 55113

RESPONSE

U.S. Department of the Interior (continued)

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COMMENT

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

AUG 0 9 2007

REPLY TO THE ATTENTION OF:

(B-19J)

Thomas Sorel, Division Administrator
Federal Highway Administration - Minnesota Division
175 Fifth Street East - Suite 500
St. Paul, Minnesota 55101-2904

RE: Tier 1 Draft Environmental Impact Statement, TH 41 Minnesota River Crossing, From US Highway169 to New US Highway 212, Scott County and Carver County, Minnesota. CEQ No. 20070257

Dear Mr. Sorel:

The United States Environmental Protection Agency Region 5 (U.S. EPA) has reviewed the above-referenced Tier 1 Draft Environmental Impact Statement (DEIS) pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA), and Section 309 of the Clean Air Act.

The Minnesota Department of Transportation (MnDOT) and the Federal Highway Administration (FHWA) have identified a need to build a new limited-access Trunk Highway 41 (TH 41) river crossing over the Minnesota River between US 169 and new US 212 in Scott and Carver Counties, Minnesota. At this time, the proposed project is not programmed for construction within the next 20 years. However, due to rapid development occurring in the project study area, FHWA and MnDOT have identified a need to preserve a crossing corridor, as soon as possible. FHWA and MnDOT are using a tiered environmental review process for this project. The Tier 1 EIS will identify the corridor for preservation. The Tier 2 EIS will evaluate the alignment and design for construction.

A In addition, the U.S. Army Corps of Engineers (Corps), a cooperating agency on this Tiered EIS, is conducting a Clean Water Act (CWA) Section 404 review for the TH 41 project concurrently with the tiered NEPA EIS process as identified in the Corps' Special Public Notice, issued July 13, 2007. The Tier 1 DEIS does not identify that this project is going through a Tiered EIS NEPA/CWA Section 404 concurrent review (Tiered NEPA/404 merger process) or provide an explanation of the Tier 1 NEPA/404 concurrent review process for this project. We recommend the Tier 1 FEIS include this information as well as the results of the Tier 1 NEPA/404 concurrent review process to date.

The Tier 1 DEIS identifies and provides a good discussion and evaluation of the many complex issues and environmental impacts associated with the various Tier 1 DEIS alternatives. U.S. EPA

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RESPONSE

U. S. Environmental Protection Agency

A. FHWA, EPA, the COE, and Mn/DOT have engaged in a Tiered Section 404/NEPA Merger process. The process included three interagency meetings and resulted in the COE finding of the Least Environmentally Damaging Practicable Alternative (LEDPA) under Section 404. Correspondence related to Concurrence Point 1 (Purpose and Need), Concurrence Point 2 (Alternatives to Be Carried Forward for Further Study), and Concurrence Point 3 (Preferred Alternative), as well as relevant special public notices and meeting minutes, are found in Appendix B-1. Concurrence was reached among the agencies for each of the three points.Information on the NEPA/Section 404 Merger process is included in Section 9.5.3 of the Tier I FEIS.

COMMENT

understands that all possible river crossing locations present difficulties due to the large number and variety of special resources located throughout the study area. We appreciate the efforts FHWA and MnDOT have made to date in developing alternatives to avoid and minimize impacts to the various study area resources. This includes but is not limited to FHWA's and MnDOT's intent that the new TH 41 roadway will bridge the Minnesota River and its entire 100-year floodplain.

The No-build and six action alternative corridors [i.e., W2, C2, C2A, E1, E1A and E2] are presented and evaluated in the Tier 1 DEIS. Since the Tier 1 DEIS does not identify a preferred alternative, U.S. EPA assigned a rating to each action alternative. We rate the Tier 1 DEIS, EO-2 (Environmental Objections – Insufficient Information), based on the most severe rating assigned to an alternative, as explained below. Enclosed is a copy of our summary ratings sheet.

B

We rate Alternatives E1A and E2 an "EO" (environmental objections) and would object to the selection of either alternative as the Tier 1 Final EIS (Tier 1 FEIS) preferred alternative corridor. The reason for this rating is due to direct and indirect impacts to calcareous fen components (CFC) within the Seminary Fen Wetland Complex (SFWC) and the low probability of successfully mitigating for these impacts. Alternatives E1A and E2 also have the potential to impact the quality and quantity of ground water within SFWC. In addition, there are other feasible Tier 1 alternatives that have no direct impact on calcareous fens or the SFWC, and whose associated wetland impacts would have a greater likely of being successfully mitigated.

C

We rate Alternatives W2, C2, C2A and E-1 "EC - 2" (environmental concerns – insufficient information). Alternatives W2, C2 and C2A would not impact calcareous fens or the SFWC. However, they would impact a variety of important resources in the study area, including but not limited to, 9.0 to 16.1 acres of non-calcareous fen wetlands. Of the three alternatives, Alternative C2 has the least amount of direct wetland impacts (10.9 acres). Alternative C2 would impact one historic property. Wetland mitigation for these alternatives would have a greater chance for success than for Alternatives E1A and E2.

D

While Alternative E1 would not directly impact a CFC, it would directly impact the western edge of the SFWC and approximately 9.0 acres of non-calcareous wetlands outside the SFWC. It also has a slight potential to impact groundwater levels within SFWC. Alternative E1, like Alternatives E1A and E2, has the potential to take more than 100 housing units in areas identified as Environmental Justice (EJ) communities. Due to the rapidly developing nature of the study area, it is uncertain whether enough future affordable housing will be available in the study area for the number of relocations that would be needed for any of the Tier 1 DEIS "E" alternatives. Consequently, we recommend Alternative E1 not be identified as the Tier 1 FEIS Preferred Alternative unless the Tier 1 FEIS includes an adequate conceptual wetland mitigation plan specifically designed for Alternative E1and the Tier 1 FEIS provides assurances that suitable affordable housing in the study area will be available if the future Tier 2 EIS determines it is still needed.

In any case, because the study area is forecasted to rapidly develop, U.S. EPA wants to see some up front mitigation for the Tier 1 EIS preferred alternative identified. The proper Tier 1 mitigation would include a conceptual mitigation plan for the wetland impacts expected with the

RESPONSE

U. S. Environmental Protection Agency (continued)

B. DEIS Alternative C-2, with revisions, was identified as the Preferred Alternative. Therefore, neither DEIS Alternatives E-1A and E-2 were identified as the Preferred Alternative.

C. Comment noted.

D. DEIS Alternative C-2, with revisions, was identified as the Preferred Alternative. Therefore, DEIS Alternatives E-1 was not identified as the Preferred Alternative.

COMMENT

3

E Tier 1 preferred alternative. The wetland conceptual mitigation plan should be completed now, as the FHWA/MnDOT/Corps and resource agencies are conducting our reviews of the proposal as a merged NEPA/404 concurrence process.

U.S. EPA would like to see the following identified in a conceptual mitigation plan:
- Potential locations with assurances to set the land aside for the specific purpose of wetland mitigation for this TH 41 project.
- A compensatory mitigation ratio of at least 1.5:1, depending on the quality of the wetlands destroyed.
- Acknowledgment that the ratio might be as high as 10:1 for forested wetland impacts or even higher if calcareous fens are involved.

F The area chosen for mitigation should ideally provide opportunity for wetland restoration, as this has a higher success rate than wetland creation. The area chosen should have the proper hydrology and soils to continually support a thriving wetland community. Ideally the mitigation area chosen should be within the same watershed where the impacts occur and provide for in-kind mitigation.

We look forward to further discussions with FHWA, MnDOT, the Corps and other resource agencies concerning the choice of a Tier 1 preferred alternative corridor and adequacy of a conceptual mitigation plan through the Tiered NEPA/404 merger process and prior to publication of the Tier 1 FEIS.

If you have any questions, please contact Virginia Laszewski of my NEPA Implementation staff at (312) 886-7501. In addition, Janice Cheng , Wetlands and Watersheds Branch, may be reached at (312) 353-6424.

Sincerely,

FOR Tinka G. Hyde, Director
Office of Enforcement and Compliance Assurance

Enclosure: Summary of Rating Definitions

cc: Robert Whiting, U.S. Army Corps of Engineers, ATTN: OP-R/JJY, 190 Fifth Street East, St. Paul, MN 55101-1638
Diane Langenbach, Project Manager, MnDOT-Metro Division, 1500 west County Road B2, Roseville, MN 55113

RESPONSE

U. S. Environmental Protection Agency (continued)

E. FHWA, EPA, the COE, USFWS and Mn/DOT have engaged in a Tiered Section 404/NEPA Merger process. The process included three interagency meetings and resulted in the COE finding of the Least Environmentally Damaging Practicable Alternative (LEDPA), under Section 404. Correspondence related to Concurrence Point 1 (Purpose and Need), Concurrence Point 2 (Alternatives to Be Carried Forward for Further Study), and Concurrence Point 3 (Preferred Alternative), as well as relevant special public notices and meeting minutes, are found in Appendix B-1. Concurrence was reached among the agencies for each of the three points. Information on the NEPA/Section 404 Merger process is included in Section 9.5.3 of the Tier I FEIS. Section 404/NEPA concurrence regarding mitigation will be addressed during the Tier II process.

F. Comment noted. The outcome of the Tier I EIS process is an identified corridor for right of way preservation. Potential mitigation locations can be identified and acquired as the right of way preservation process occurs. The wetland mitigation plan will be developed during preparation of the Tier II EIS for the Preferred Alternative, closer to the time of construction, and during permitting when a functional analysis will be completed.

COMMENT

SUMMARY OF RATING DEFINITIONS AND FOLLOW UP ACTION*

Environmental Impact of the Action

LO-Lack of Objections
The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC-Environmental Concerns
The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impacts. EPA would like to work with the lead agency to reduce these impacts.

EO-Environmental Objections
The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU-Environmentally Unsatisfactory
The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS sate, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1-Adequate
The EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alterative and those of the alternatives reasonably available to the project or action. No further analysis or data collecting is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information
The draft EIS does not contain sufficient information for the EPA to fully assess the environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3-Inadequate
EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640 Policy and Procedures for the Review of the Federal Actions Impacting the Environment

RESPONSE

U. S. Environmental Protection Agency (continued)

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COMMENT

U.S. Department of Homeland Security
Region V
536 South Clark Street, Floor 6
Chicago, IL 60605

FEMA

July 27, 2007

Diane Langenbach
Project Manager
Minnesota Department of Transportation – Metro Division
1500 W. County Rd. B2
Roseville, MN 55113

RE: Proposed new Minnesota River crossing that would connect United States Highway (US) 169 in Scott County to the New US 212 alignment in Carver County

Dear Ms. Langenbach:

Thank you for sending us a request to review the above referenced project. It appears some of the construction will take place in federally identified Special Flood Hazard Areas (SFHAs) depicted on the Carver and Scott County Flood Insurance Rate Map (FIRM), prepared for participation in the National Flood Insurance Program (NFIP).

A Carver and Scott County participate in the NFIP. Therefore, the county floodplain administrator will have to issue a county floodplain development permit for the development affecting floodplains, in accordance with the county's floodplain management ordinance. Additionally, a State of Minnesota floodplain permit may be required. Please contact the Minnesota Department of Natural Resource Water Area Hydrologist (Kate Drewry 651-772-7910) for further information.

In the draft environmental impact statement for this project titled, "Tier I Draft, Environmental Impact Statement Minnesota River Crossing," June 2007, section 9.3.3.1 directs Executive Order 11988. Thank you for completing the build alternatives and making them available to this agency for review.

If you have any questions, please call Jennifer Scholl, Mitigation Program Specialist, at 312-408-5205.

Sincerely,

Terry Reuss Fell

Terry Reuss Fell (Ms.), Chief
Hazard Identification and Risk Assessment Branch

Cc: Amanda Ratliff, Region V Environmental Officer
NFIP State Coordinator

www.fema.gov

RESPONSE

Federal Emergency Management Agency

A. Comment noted. The need to obtain floodplain permits from Carver and Scott Counties and the State of Minnesota, if needed, for development in the floodplain, is incorporated into the list of Permits and Approvals in the FEIS.

COMMENT

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
National Geodetic Survey
Silver Spring, Maryland 20910-3282

July 25, 2007

Diane Langenbach,
Mn/DOT Metro Program Delivery, South Area
1500 W. County Road B-2, MS 50
Roseville, MN 55113

Dear Ms. Langenbach,

Enclosed are comments on the Tier 1 DEIS - Trunk Hwy 41 MN River Crossing, Construction of a New MN River Crossing Connecting US Hwy 169 to New US Hwy 212, COE Section 10 & 404 Permits, Scott & Carver Counties, MN (20070257). We hope our comments will assist you. Thank you for giving the National Geodetic Survey the opportunity to review this document.

Sincerely,

Christopher W. Harm
Program Analyst
NOAA's National Geodetic Survey
Office of the Director
1315 East-West Highway
SSMC3 8729, NOAA, N/NGS
Silver Spring, Maryland 20910

Enclosure

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RESPONSE

National Oceanic and Atmospheric Administration

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COMMENT

MEMORANDUM FOR: Rodney F. Weiher
NOAA NEPA Coordinator

FROM: David Zilkoski
Director, National Geodetic Survey

SUBJECT: **DEIS Regarding 0706-21: Tier 1 DEIS -Trunk Hwy 41 MN River Crossing, Construction of a New MN River Crossing Connecting US Hwy 169 to New US Hwy 212, COE Section 10 & 404 Permits, Scott & Carver Counties, MN (20070257)**

The DEIS has been reviewed within the areas of the National Ocean Service (NOS) responsibility, expertise, and in terms of the impact of the proposed actions on NOS activities and projects.

A If there are any planned activities which will disturb or destroy geodetic control monuments, NOS requires notification not less than 90 days in advance of such activities in order to plan for their relocation. NOS recommends that funding for this project includes the cost of any required relocation(s).

All available geodetic control information about horizontal and vertical geodetic control monuments in the subject area is contained on the National Geodetic Survey's home page at the following Internet address: http://www.ngs.noaa.gov After entering this website, please access the topic "Products and Services" then "Data Sheet." This menu item will allow you to directly access geodetic control monument information from the National Geodetic Survey database for the subject area project. This information should be reviewed for identifying the location and designation of any geodetic control monuments that may be affected by the proposed project.

For further information about geodetic control monuments, please contact:

Christopher W. Harm
Program Analyst
NOAA's National Geodetic Survey
Office of the Director
1315 East-West Highway
SSMC3 8729, NOAA, N/NGS
Silver Spring, Maryland 20910

Voice: (301) 713-3234 ext. 155
Fax: (301) 713-4175
Email: chris.harm@noaa.gov

RESPONSE

National Oceanic and Atmospheric Administration (continued)

A. Comment noted. The Tier I EIS is being prepared for purposes of right of way preservation. Construction of the project may not occur for 20 or more years. Potential impacts to geodetic control monuments resulting from the Preferred Alternative will be assessed during the Tier II EIS process.

COMMENT

MINNESOTA DEPARTMENT OF AGRICULTURE
FROM THE FARM TO YOUR FAMILY

Thursday, July 19, 2007

Diane Langenback
Project Manager
MnDOT – Metro Division
1500 West County Road B2
Roseville, MN 55113

Re: TH 41 Minnesota River Crossing DEIS

Dear Ms. Langenback:

Thank you for the opportunity to review the TH 41 Minnesota River Crossing Draft Environmental Impact Statement (DEIS). Although the DEIS states on page 1-17 that efforts to minimize impacts to remaining farmland will be part of the Tier II process, the Minnesota Department of Agriculture (MDA) would like to point out that numerous agricultural impacts can occur as a result of a major highway project which are not always addressed in an EIS. The MDA is recommending that the FEIS address the following potential impacts to farm operations and agricultural businesses:

Restricted Road Access
The proposed realignment may restrict farm to market road access making it very difficult for field and market access. It is important for the project to maintain connectivity and continuity. The FEIS should address the following when proposing restricted access:

A

- Area farmers are highly dependent upon quick and adequate accessibility to TH 41. Restricted access will increase their time, distance and transportation costs, which will directly impact their farming operations. Also, restricted access may displace heavy vehicles and equipment onto county roads that have weight restrictions.
- The document should include a map indicating the locations of direct access that will be closed.

Severed, Triangulated or Isolated Farmland
The FEIS should address the acreage or impact of any severed, triangulated or isolated farmland resulting from the alignment alternatives. The impact may be farming remnants that are difficult from a practical standpoint. There may be problems of getting to the field and once there, problems of maneuvering farm equipment on the field. Also, smaller fields that are oddly shaped may be less valuable than fields of typical dimension and size. The parcels of farmland should be identified by location and acreage.

B

Relocating Farming Operations
The FEIS should include the number of any farming operations that will be relocated and indicate their location on a map. It should also indicate if the farm is a livestock operation.

C

Land in Agricultural Preserves or Conservation Reserve Program
The FEIS needs to identify if any farmland is in the Conservation Reserve Program (CRP) or agricultural preserves.

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RESPONSE

Minnesota Department of Agriculture

A. The TH 41 Minnesota River Crossing project is a new and additional river crossing in the area; it is not a realignment of an existing roadway. Existing connectivity and continuity will be maintained with existing TH 41; the new river crossing will enhance existing connectivity and continuity. No direct access will be closed with the project. Existing TH 41 and access locations will be maintained. If access is temporarily impacted during construction, the access would be re-established after construction.

B. Construction of the project may not occur for 20 or more years. Changes in land use (conversion from agricultural to residential, commercial, and industrial) are anticipated to occur prior to construction of the river crossing as the area continues to grow and be developed as planned. The only farmland that would be severed by the Preferred Alternative is planned to be developed well in advance of project construction. Detailed information about farmland impacts of the Preferred Alternative will be assessed during preparation of the Tier II EIS, closer to the time of construction.

C. According to staff from the U.S. Department of Agriculture's Farm Service Agency, there is no farmland in the Conservation Reserve Program in the project study area in Carver or Scott Counties. According to the Metropolitan Council's map identifying Metropolitan Agricultural Preserves Program 2006 Enrollment, there is no farmland in agricultural preserve within the project study area in either Carver or Scott Counties.

COMMENT

TH 41 Minnesota River Crossing DEIS
Page 2

D Last of all, the uncertainty of not knowing the final location or approximate completion date of a major highway project impacts the profit and marketability of farms and agricultural businesses. Often forcing owners to put plans "on hold" for an unknown period of time. To minimize the uncertainties, the MDA recommends that MnDOT and SRF periodically meet with the farmers and agricultural businesses along the TH 41 project corridor to discuss the potential impacts and the final locations and completion dates as they are determined.

Again, thank you for the opportunity to comment on the DEIS. Please feel free to contact me at (651) 201-6369 or becky.balk@state.mn.us if you have any questions regarding this matter.

Sincerely,

Becky Balk

Becky Balk, Agricultural Land Use Specialist
Agricultural Development and Financial Assistance

Cc: Jim Boerboom
Paul Burns
Bob Patton

RESPONSE

Minnesota Department of Agriculture (continued)

D. There is no date identified for project implementation/construction, however the outcome of the Tier I EIS process is an identified corridor for right of way preservation, which may include designation of the corridor in official mapping (a zoning tool) by local governments within the corridor area. Upon completion of the Tier I EIS process, MnDOT will work with local communities and affected landowners as appropriate, to identify the best approach to preserve the needed right of way and/or to address landowner questions and concerns.

COMMENT

MINNESOTA MDH DEPARTMENT OF HEALTH

Protecting, maintaining and improving the health of all Minnesotans

July 13, 2007

Ms. Diane Langenbach
Project Manager
Minnesota Department of Transportation
1500 West County Road B2
Roseville, Minnesota 55113

Dear Ms. Langenbach:

The Environmental Impact Statement (EIS) for the proposed Trunk Highway (TH) 41 Minnesota River Crossing was received by the Minnesota Department of Health (MDH) on June 15, 2007. The location of this project is in the area of existing TH 41 between US Highway 169 and the new proposed US 212 corridor, which spans parts of Carver and Scott Counties.

The Drinking Water Protection Section of the Minnesota Department of Health (MDH) offers the following comments:

A 1. The proposed project area includes portions of the wellhead protection areas (WHPAs) for the cities of Shakopee, Chaska, and Carver. Stormwater management within vulnerable portions of drinking water supply management areas (DWSMAs) associated with these WHPAs should avoid the use of infiltration, if possible, especially within a one-year time of travel to the municipal well or into a fractured or solution-enhanced aquifer used for a public water supply. More information on stormwater infiltration in vulnerable wellhead protection areas is available in guidance obtainable from MDH.

B 2. Other public water supply systems that appear to be in the general project area, but for which wellhead protection planning has not yet been completed, include the following: Mobile Manor Mobile Home Park, Jackson Heights Mobile Home Park, Bonnevista Terrace Mobile Home Park, Riverview Terrace Mobile Home Park, M.A. Gedney, Contech Construction Products, Inc., Ditch Witch of Minnesota, R & R Marine, and Dueco, Inc. Many of the wells used for these systems are vulnerable. Source water assessment (SWA) areas, that could give a rough idea of the recharge area for the wells, may be available for these systems.

3. GIS files containing information on SWA areas for vulnerable wells, WHPAs, and DWSMAs are available for download at the following web site:
http://www.health.state.mn.us/divs/eh/water/swp/maps/index.htm
Additional SWA information, including non-vulnerable SWAs, is available at:
http://www.health.state.mn.us/divs/eh/water/swp/swa/index.htm

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RESPONSE

Minnesota Department of Health

A. The FEIS includes an update to the wellhead protection map in the area of the Preferred Alternative. Specific details of storm water management within vulnerable portions of drinking water supply management areas associated with wellhead protection areas for the cities of Carver, Chaska, and Shakopee will be addressed during preparation of the Tier II EIS for the Preferred Alternative.

B. Comment noted. Wellhead protection planning has not yet been completed for the locations identified in the comment letter and many of the wells used for these systems are vulnerable; source water assessments for all but one of the identified locations are available from the Minnesota Department of Health's website. Wellhead protection planning is scheduled to be completed for the identified locations in the next ten years. The most up-to-date information on wellhead planning will be obtained during preparation of the Tier II EIS for the Preferred Alternative, closer to the time of construction.

COMMENT

Ms. Diane Langenbach
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C 4. Infiltration of stormwater should be avoided within 200 feet of vulnerable public water supply wells lacking delineated wellhead protection areas. Information on well locations is available from MDH, if necessary.

D 5. Any wells that need to be sealed as part of the construction activities should be done in accordance with Minnesota Rules, Chapter 4725.

If you have any questions or concerns about these comments, please call me at 651-201-4648.

Sincerely,

Stephen W. Robertson, Hydrogeologist
Drinking Water Protection Section
Environmental Health Division
P.O. Box 64975
St. Paul, Minnesota 55164-0975

cc: Terry Bovee, MDH Planner, Mankato District Office
Larisa Vishkovetsky, MDH Planner, St. Paul Office

RESPONSE

Minnesota Department of Health (continued)

C. It is noted that infiltration of storm water should be avoided within 200 feet of vulnerable public water supply wells lacking delineated wellhead protection areas. Specific details of storm water management will be addressed for the Preferred Alternative during preparation of the Tier II EIS, closer to the time of construction.

D. Comment noted. Any wells that need to be sealed as part of the construction activities for the Preferred Alternative will be done in accordance with Minnesota Rules, Chapter 4725 and/or regulations in effect at the time of project implementation.

COMMENT

Minnesota Department of Natural Resources

500 Lafayette Road
St. Paul, Minnesota 55155-4025

August 10, 2007

Ms. Diane Langenbach
Project Manager
Mn/DOT-Metro Division
1500 West County Road B2
Roseville, MN 55113

RE: **TIER I DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)**
TH 41 MINNESOTA RIVER CROSSING

Dear Ms. Leezer:

The Department of Natural Resources (DNR) has reviewed the Tier I Draft Environmental Impact Statement (DEIS) for Trunk Highway 41 Minnesota River Crossing, Carver and Scott Counties, MN. The comments take into consideration the impacts of the TH 41 Minnesota River Crossing on lands administered by the Minnesota Department of Natural Resources and impacts on adjacent natural areas. All of the proposed alignments impact the natural communities and recreational uses within the Gifford Lake Wayside and Nyssen's Lake Unit of the Minnesota Valley State Recreation Area (MVSRA), including areas encompassing the Minnesota Valley Trail. We offer the following comments for your consideration.

Least Environmentally Damaging Alternative is Alternative C-2
The purpose of the Tier I DEIS is the identification of a preferred alignment corridor that can be preserved for future use. DNR resource managers and biologists involved in the scoping process recommend Alternative C-2 as the preferred alignment because it is the least environmentally damaging alternative.

A We recognize that the Minnesota River corridor, comprising the river and a diversity of upland and wetland communities, is an extremely valuable ecological system and recreational area deserving conservation and protection. With the development of the surrounding urban area, valuable local natural systems have been degraded and reduced in size. The Minnesota River corridor remains as a substantial landscape element containing a diversity of native plant communities and provides habitat for numerous terrestrial and aquatic animals. Nevertheless, several major highways have already fragmented the river corridor, reducing available habitat and creating barriers to wildlife movement. Another new transportation corridor would further diminish the quality of wildlife habitat, natural communities and recreational areas.

Alternative C-2 has fewer impacts on natural communities within the Minnesota River Valley corridor than other alternatives. Natural areas of all the other alternative alignments have not been impacted by significant development within the Minnesota River corridor. Since Alternative C-2 closely follows the footprint of the current TH 41 corridor, much of the impact along that alignment has already occurred. Therefore, Alternative C-2 would contribute significantly less degradation and cumulative fragmentation of the river corridor than other alternatives. Alternative C-2 also avoids the high quality emergent marsh community (impacted by Alignments E-1 and E-2), and the floodplain forest and emergent marsh communities (impacted by Alternatives W-2 and C-2A).

Calcareous fens, rare natural communities and listed plant and animal species all receive special protection under state laws. Any alignment adversely affecting Seminary Fen Complex would have a difficult time obtaining

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RESPONSE

Minnesota Department of Natural Resources (MnDNR)

A. The selected preferred alternative is alignment C-2, refined to avoid direct impacts to Chaska Athletic Park. This slight alignment shift does not result in more impacts to MVSRA/MV trails. The direct impact remains at 22.3 acres.

COMMENT

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environmental permits and approvals, especially if other feasible and prudent alternative alignments exist. Alternative E-1 and E-2 would potentially impact the Seminary Fen Complex and upland groundwater connectivity to the wetlands.

A

Fragmentation caused by the bridge will impact the Minnesota River corridor in the following ways (degree of impact significantly increased if Alignment C-2 is ***not*** selected) (comments partially related to Section 7.1.1.1):

- Dramatically increases edge habitat, which provides increased access to the more protected interior habitats by predators;
- Breaks up larger contiguous blocks of a single habitat type, which greatly impacts area sensitive wildlife species, including many neo-tropical migrant birds that rely on the larger tracks of flood plain forest for both migration-resting and nesting areas;
- Creates barriers to wildlife movement and is especially harmful to reptiles and amphibians that depend on the ability to move between their aquatic habitats and upland areas;
- Creates barriers to invertebrates such as gastropods and some insects;
- Creates opportunities, habitats, and pathways for harmful exotic plant species to invade natural areas; and
- Brings pollutants and other disturbances such as lights and noise that can impact wildlife habitat and degrade water quality.

B

Section 7.0 Natural Environmental Impacts, pp. 1-54 - Forward Selection & Purchase of Mitigation Sites
Identification of the least environmentally damaging alternative will allow Mn/DOT to take steps to preserve that corridor for future construction of the highway/bridge segment. Once the alternative has been selected, we encourage Mn/DOT to act quickly to mitigate for the impacted natural features/functions identified for the chosen alternative. Therefore, we recommend that the preservation decision process in the DEIS include the consideration of sites to be preserved for replacement of natural resource functions and values that will be lost. We also recommend that the DEIS point out the need for Mn/DOT to acquire those sites containing important natural communities as soon as possible to ensure that they are not developed. Furthermore, the DEIS should incorporate the use of additional mitigation opportunities, which may include floodplain forest restoration, wetland restoration and enhancement, exotic species management, vegetation management, planting and screening, and storm water abatement management.

C

Section 1.13 Executive Summary (Table 1-4), page 1-19
There appears to be an error in the Air Quality row of Table 1-4. The cell under column C-2 should read "2 Medium risk sites."

D

Section 6.0.0 Physical Environmental Impacts, pp. 1-74
The increase in air borne pollutants from the proposed project will have significant direct impacts on Minnesota Valley State Recreation Area (MVSRA) Management Units. Pollutants generated from the proposed alignments include particulates and contaminants, noise, concentrated surface runoff, sand and road salt, and potential material and chemical spills. Airborne particles, which typically concentrate close to roadways, will have an impact on wildlife habitat, wildlife, and visitors. The projected increase in traffic volume will have impacts on recreational users of both pedestrian trails and the Minnesota River channel. Some of the components of the pollution, i.e. high concentrations of salt, deteriorates vegetation and reduces species composition. The DNR encourages the project managers to include appropriate measures in the DEIS that define the increased pollution levels of the proposed roadway.

E

Section 6.2 Traffic Noise, pp 10-37
MVSRA plays an important role of providing wildland experiences for a wide range of recreational activities, including hiking, bird watching, skiing, fishing, canoeing, and boating, among others. Noise has the potential to impact visitor experience and often will determine which types of activities that can be enjoyed. The proposed

RESPONSE

Minnesota Department of Natural Resources (MnDNR) (continued)

B. Section 7.0 of the Tier I FEIS addresses mitigation for the preferred alternative, acknowledging RCIC goals and strategies. RCIC discussions regarding mitigation strategies will continue in the future as the project moves towards implementation.

C. Comment (which relates to "Soil, Water, Contamination," not to "Air Quality" as was noted in the comment) noted and revised in the Tier I FEIS for Alternative C-2, and in Section 17.1 (Technical Revisions to DEIS)

D. The Tier II EIS will further analyze the physical environmental impacts associated with the proposed roadway, including proposed mitigation measures.

E. The selected preferred alternative is alignment C-2. Further noise study will be done as part of the Tier II EIS prior to construction.

COMMENT

Ms. Langenbach
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roadway will affect visitor use patterns. As the DEIS described, noise would increase significantly above existing levels along a number of the proposed routes. Some of the routes show a four-fold increase in noise footprint over current conditions. The increase in amount of noise will potentially displace recreational users and/or negatively impact visitor experiences. The DNR encourages that the DEIS include an accurate measure of mitigation that will be needed for noise impacts.

E Alternative C-2 would be exposed to the smallest increase in noise levels as noise levels from the extant roadway already have some impacts. However, some mitigation for noise along Alternative C-2 would still be applicable because the projected noise levels for C-2 are comparable to other alignments.

Noise affects wildlife, their health and behavior. For example, the increased noise levels along the new roadway will potentially impact avian species and other wildlife that use song or sound for attracting mates or establishing territory. Appropriate mitigation needs to be applied to compensate for the loss of suitable habitat that will be affected by the increased noise levels.

To determine mitigation for the increased noise exposure to the natural areas, visitors, and wildlife, the DNR recommends that a supplemental study be developed that defines noise contours from each of the alternatives. Once the contours are established, the Section 6F regulation should be used as guidance for determining mitigation requirements.

Section 7.1.1.1 Native Plant Communities, pp 3-7

F Types of native plant communities within and adjacent to the MVSRA that would be impacted include high quality emergent marsh (as mapped by the Minnesota County Biological Survey), floodplain forest and lowland hardwood forest.

Section 8.0 Parks, Trails, Recreational Areas and Natural Areas pp. 1-16

G Public access to the Minnesota Valley Trail needs to be maintained and trails need to maintain their connectivity. Depending on the alignment selected, several access points may be affected. Construction activities will most likely affect trail use as well as boating and other river recreational uses. The DNR urges that provisions be placed in the DEIS for a commitment to reestablish access points and other trail connections after project completion.

Section 9.2 Surface Water Quality (Drainage), pages 9-9 to 9-18

Storm water management of the additional hard surface of the proposed alignments, will increase and concentrate storm water run off and pollutants, such as road salt, sand, litter and petroleum products. The DNR urges that proper management and mitigation be incorporated into the DEIS to mitigate for the anticipated impacts on surface water quality.

H Greater traffic volumes increase the potential for accidental material spills, including potential hazardous substances. To handle such events, containment areas will need to be established at the time of road construction to protect natural communities and waters of the Minnesota River. However, the addition of the containment areas will further fragment natural communities and act as additional barriers for wildlife movement. However, if containment areas are developed, the additional impact caused by the containment areas needs to be addressed in the DEIS.

Gifford Lake and adjacent wetland communities, and the Minnesota River currently take storm water runoff from TH 41. Increases in storm water runoff may further impair water quality in these and other bodies of water along the proposed alignments. The DNR would like to see further quantification of the impacts of surface waters from pollutants generated by road construction and increased traffic.

RESPONSE

Minnesota Department of Natural Resources (MnDNR) (continued)

F. Comment noted and included in FEIS.

G. The Tier II EIS will identify specific mitigation commitments like reestablishing trail connections and access points.

H. The Tier II EIS will identify specific commitments to mitigate surface water impacts.

COMMENT

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Section 9.5.3 Wetlands, pp. 38-44

I All proposed alignments would impact wetland communities. Wetland mitigation opportunities should be examined early, especially in relationship to storm water management, erosion control and habitat fragmentation.

Section 10.2.3 Historic and Archaeological Resources, pp. 8-15

J As noted in the Draft EIS, a Phase 1 investigation was completed for the project area. One identified site was evaluated with a Phase 2 investigation. Other fieldwork was done in the corridor. It would be helpful to mention this in the DEIS and add these data or other reference material to an appendix. As noted, these areas have high potential for having intact pre- and post contact archaeological sites and proposed project activities could impact even buried sites. The DNR urges that these resources be sufficiently quantified and potential impacts be sufficiently evaluated.

Section 13.0.0 Cumulative Impacts, pp. 1-24

The DEIS addresses cumulative impacts within the project corridor but does not clearly address the cumulative impacts on the intact corridor of the Minnesota River. It does not directly address the cumulative impacts on the Minnesota Valley National Wildlife Refuge, the Minnesota Valley State Recreation Area or other public and private semi-natural lands within the Lower Minnesota River Valley.

K Along the length on the Lower Minnesota River, there are a number of major river crossings as well as lower volume motor vehicle and railroad crossings. The Minnesota Valley State Recreation Area, Minnesota Valley Trail and Fort Snelling State Park run from the Interstate 35E Bridge west to the Highway 19 up stream at Henderson. Throughout this corridor, there are impacts from the 35-E, Hwy 55 (Mendota), Hwy77 (Cedar Avenue), 35-W, Hwy 169 (Bloomington Ferry) Bridges, that add up to a significant foot print for wildlife, natural communities, airborne pollutants, water quality, noise volumes, and viewsheds (or visual quality) within the Minnesota River corridor. These impacts affect residents, recreational visitors and people using the transportation corridors. The DNR would like the DEIS to further quantify the cumulative impacts mentioned above so that a more complete account of the impacts is available.

Section 13.3.5.2 Impacts from the Propose Action, pp. 11-13

L It should be noted that alignments W-2, C-2, and E-2 impact emergent marsh communities.

Ownership Issues

M All of the proposed alignments cross lands administered by the Minnesota DNR. Prior to construction, easements between Minnesota Department of Transportation and the Minnesota Department of Natural Resources, Division of Parks and Recreation will need to be negotiated.

Regions defined for Native Plant Seed Origin

N Please find enclosed the "Ecotype regions and associated county groups based on ecological subsections," which can be used for selecting suitable seed for native plantings. To determine the seed source for native seed plantings, the origin of the seed should be within the county group in which the project is located. Use the county groups identified on the map. This will ensure suitable plant provenances are used in native plantings.

Agency Draft Environmental Impact Statement – DNR Comment Letter of March 23, 2007

In review of the Agency DEIS document released prior to the official DEIS, several of the DNR comments submitted on March 23, 2007 to you appear not to have been addressed in the current version of the Draft EIS. Please find those comments with some editorial improvements included as follows:

O Environmental Consequences, Section 7.2.3, Alternatives E-1A and E-2, p. 22

The main issue of Alternatives E-1A and E-2, from an endangered species perspective, is the potential taking of the following state-listed threatened plants:

RESPONSE

Minnesota Department of Natural Resources (MnDNR) (continued)

I. The Tier II EIS will identify specific commitments to mitigate wetland impacts.

J. The Tier II EIS will include a Section 106 process that will include review/inventory of resources to sufficiently quantify and evaluate impacts.

K. Comments noted. The Tier II EIS will include analysis of Cumulative Impacts for resources likely to be impacted by the proposed project. The issues to be assessed in the Tier II cumulative impacts analysis will be determined when the Tier II process is initiated.

L. Comment noted.

M. Comment noted.

N. Comment noted. In the Tier II EIS, MnDOT staff will work with MnDNR staff to identify appropriate seed sources for native plantings.

O. The Tier I EIS preferred alternative is a refined C-2, not E-1A or E-2.

COMMENT

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O

Sterile Sedge	*Carex sterilis*
Beaked Spike-rush	*Eleocharis rostellata*
Hair-like Beak-rush	*Rhynchospora capillacea*
Whorled Nut-rush	*Scleria verticillata*
Valerian	*Valeriana edulis ssp.ciliata*

A botanical survey will be required if potential habitat for these species will be impacted by the proposed alignments. If a taking occurs, special statues dealing with endangered and threatened species are described in the following section.

Section 7.2.4 of Agency Draft Mitigation, p. 7-22
Minnesota's endangered species law (MS 84.0895) and associated rules (Chapter 6212.1800 - 6212.2300 and 6134) prohibit the taking of endangered or threatened species, including their parts or seeds, without a permit. For plants, taking includes picking, digging, or destroying.

P

If any state-listed T&E species will be destroyed during construction of the highway, project administrators will need to obtain an Endangered Species Permit from the DNR. Information on the permit is available at the following web link: http://www.dnr.state.mn.us/eco/nhnrp/endangered_permits.html (see enclosure). The application must include evidence that the taking cannot be avoided, a description of alternatives that were evaluated for avoiding/minimizing impacts, and a proposal for mitigation that compensates for the taking of the species. The issuance of permits is discretionary, and negotiations can take several months.

Affected Environment, Section 7.3.1, pp. 26-27
The goal of the Minnesota County Biological Survey (MCBS) is to identify significant natural areas and to collect and interpret data on the distribution and ecology of rare plants, rare animals, and native plant communities. MCBS has systematically identified the highest quality natural communities that remain in Scott, Carver, and Hennepin Counties, among others. The natural communities that have been identified by MCBS make up only 2.3 percent of the tri-county land area and therefore are sufficiently rare to be considered natural features in need of conservation. Areas 4 and 5, labeled and identified in the DEIS, should be considered significant native plant communities even though they are not calcareous fens. Areas 2 and 3 are calcareous fens mapped by MCBS. In summary, all areas mapped by MCBS are significant.

Q

Mitigation, Section 7.3.3, pp. 34-38
It should be noted that before the DNR would allow any destruction of calcareous fen or potential calcareous fen, a detailed survey for listed species in the area would be required. The work couldn't be done without negotiated mitigation and an Endangered Species Permit, if listed species were found.

R

It's highly doubtful that we would allow the "relocation of fen vegetation" described on page 7-36, because it's unlikely that this would result in successful establishment.

RESPONSE

Minnesota Department of Natural Resources (MnDNR) (continued)

P. The Tier II EIS will include mitigation that is in compliance with Minnesota's law and associated rules (at the time of Tier II EIS) regarding Threatened and Endangered Species. This would include obtaining any necessary permits from MnDNR.

Q. Comment noted. A reference to the discussion of native plant communities associated with the Seminary Fen Wetland Complex was added in Section 17.7 (Technical Revisions to the DEIS).Section 7.1.1 of the Tier I FEIS includes information on the impacts of the preferred alternative corridor on vegetation. The preferred alternative does not impact Ares 2, 3, 4, or 5, or any other portion of the Seminary Fen Wetland Complex.

R. The Tier I preferred alternative is a refined C-2 alignment, not E-1A or E-2.

COMMENT

Ms. Langenbach
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Page 6

We appreciate the opportunity to provide comments on the DEIS and thank you for your consideration. Please feel free to contact me with any questions or comments.

Sincerely,

Ronald Wieland, Senior Planner
Environmental Review and Planning Unit
Division of Ecological Resources
(651) 259-5157

cc: Joe Kurcinka, DNR Regional Director
Nick Rowse, USFWS, Twin Cities Field Office
Patricia Martinkovic, Refuge Manager, Minnesota Valley National Wildlife Refuge
Tamara Cameron, NEPA Coordinator, USACE Regulatory Branch
Steve Colvin, DNR Environmental Review Supervisor
Peter Leete, DNR Transportation Team Hydrologist
Bonita Eliason, DNR Ecological Resources Regional Manager
Wayne Barstad, DNR Regional Ecological Assessment Ecologist
Hannah Texler, DNR Regional Plant Ecologist
Matthew Langan, DNR Principal Planner
Lisa Joyal, DNR Endangered Species Environmental Review Coordinator

Enclosures: T& E Species Permit
Ecotype Regions for determining appropriate native plant seed source

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RESPONSE

Minnesota Department of Natural Resources (MnDNR) (continued)

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COMMENT

08/10/07 14:28 FAX 6512978683 MPCA 002

Minnesota Pollution Control Agency

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August 10, 2007

Ms. Diane Langenbach
Project Manager
Minnesota Department of Transportation – Metro Division
1500 West County Road B2
Roseville, MN 55113

RE: Trunk Highway 41 Minnesota River Crossing Tier I
Draft Environmental Impact Statement

Dear Ms. Langenbach:

Thank you for the opportunity to review and comment on the Tier I Draft Environmental Impact Statement (EIS) for the Trunk Highway 41 Minnesota River Crossing. The Minnesota Pollution Control Agency (MPCA) has the following comments for your consideration in developing the Final EIS.

Stormwater Runoff

In general, the Tier I Draft EIS adequately describes the potential project impacts, and proposed mitigation to address those impacts, from stormwater generation and runoff.

A The Tier I Draft EIS indicates that there will be "roadway" spill containment, by wet detention ponds, to prevent potential spills from directly flowing into the river. These statements imply that the bridge deck (roadway) drainage will also be directed to an off-end spill containment area, as would be required by the MPCA. We recommend that the Final EIS specifically state that stormwater and surface water deck drainage will be directed to an off end drainage and containment system to assure that any possible toxic or hazardous material spills that might occur on the bridge will not drain directly to waters of the state.

Questions about stormwater runoff issues may be directed to Mr. Larry Zdon, at 651-297-8219.

Impacts to Impaired Waters

B In general, the Tier I Draft EIS has appropriately highlighted the importance of the issue of the impaired waters that will be affected by the project. Surface water impacts with respect to impervious surface and roadway runoff are discussed in *Chapter 9 Water Resources*. However, discussion in this chapter, and in the document in general, is lacking with respect to a discussion of direct, construction-related impacts of the various build alternatives on the surface water impairments. We would like to see a greater emphasis put on the issue of potential project impacts to surface water impairments, particularly to the Minnesota River, whose impairments include turbidity and fecal coliform. This may be discussed in greater depth in *Chapter 9* and/or in *Chapter 11 Construction Impacts,* as well as being included in

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RESPONSE

Minnesota Pollution Control Agency (MPCA)

A. Comment noted. The requested statement is incorporated in the FEIS under Section 9.1.2.

B. Construction-related impacts of the Build alternatives evaluated in the DEIS are believed to be similar. The Tier II EIS prepared for the Preferred Alternative, closer to the time of construction, and will address pond functions (allowing infiltration or being lined), floodplain impacts by ponds once graded into contours, and any mitigation required.

COMMENT

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B section 1.13 Mitigation Summary and Table 1-4 Impact Summary of *Chapter 1 Executive Summary*. The discussion should identify both the potential impacts and potential mitigation measures. Due to the importance of the water quality of Minnesota's lakes and rivers, both to environmental regulatory agencies and to the people of Minnesota in general, we feel the issue should receive greater discussion and analysis.

C **Impacts to Wetlands**
Minn. R. ch. 7050, as well as the federal Clean Water Act and the state Wetland Conservation Act, require that impacts to wetlands be avoided if prudent and feasible alternatives exist. If prudent and feasible alternatives are not available, then the impacts to wetlands must be minimized and/or mitigated. The wetlands in proximity to the Minnesota River play an important role in protecting the water quality of the river, particularly with respect to the impairments of excess turbidity and nutrients. Any impacts to wetlands from any of the potential project alternatives should be mitigated on site or within the watershed so that the Minnesota River impairments are not exacerbated by loss of protective wetland.

D In addition, certain alternatives evaluated in the Tier I Draft EIS – specifically alternatives E-1, E-1A, and E-2 – involve impact to the Seminary Fen. The Seminary Fen is a calcareous seepage fen, which is a rare and fragile wetland system. Direct and indirect impacts to these systems can dramatically affect the functionality of such system. Mitigating these impacts through restoration is difficult and can be unfruitful. For these reasons, alternatives E-1, E-1A, and E-2 should be avoided in favor of other alternatives.

Questions about wetland impacts may be directed to Mr. Edgar Rudberg at 651-296-6603.

E **Permits and Approvals**
As noted in Table 1-3 Agency Permits, Approvals and Other Required Documents, in *Chapter 1* of the Tier I Draft EIS, the project will require a Section 401 (Clean Water Act) Water Quality Certification from the MPCA. During this process, sufficient information must be provided to demonstrate that the in-stream construction of the bridge can be completed without violating state of Minnesota water quality standards, including mitigation measures to show how further exacerbation of existing impairments will be avoided. The additional discussion encouraged in our previous comments (under Impacts to Impaired Waters, above) will aide in demonstrating how water quality standard violations and impairment exacerbation will be avoided.

F Table 1-3 does not list the need for a permit from the U.S. Coast Guard for Section 9 of the Rivers and Harbors Act for navigable waters. Please explain in the Final EIS whether and how it has been determined that this permit is not needed for this project. This permit may also require a Section 401 Water Quality Certification from the MPCA.

Questions about MPCA's Water Quality Certification program may be directed to Mr. Kevin Molloy at 651-297-7572.

RESPONSE

Minnesota Pollution Control Agency (MPCA) (continued)

C. Comment noted. Mn/DOT agrees with the statement regarding the functions of wetlands in the Minnesota River valley. Efforts to find on-site and in-watershed mitigation will be made. In addition, the water quality functions of wetlands will be addressed through water quality treatment ponds that meet or exceed MPCA/NPDES standards.

D. None of the eastern alternatives was selected as the Preferred Alternative. The rationale for identification of the Preferred Alternative is presented in Chapter 3 of the FEIS.

E. Comment noted.

F. A permit from the U.S. Coast Guard for Section 9 of the Rivers and Harbors Act for navigable waters is not needed. The determination on the need for a permit was provided to Mn/DOT by Roger W. Wiebusch, Bridge Administrator, Eighth Coast Guard District, in correspondence dated December 26, 2002.

COMMENT

08/10/07 14:29 FAX 6512978683 MPCA 004

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Again, we appreciate the opportunity to provide input to this project. We look forward to receiving your responses to our comments, as well as to our continued participation in the project through review of the Tier II Draft EIS when that document is completed. Please be aware that this letter does not constitute approval by the MPCA of any or all elements of the project for the purpose of pending or future permit action(s) by the MPCA. Ultimately, it is the responsibility of the project proposer to secure any required permits and to comply with any requisite permit conditions. If you have any questions concerning our review of this Tier I Draft EIS, please contact me at 651-296-8011.

Sincerely,

for Jessica Ebertz
Planner Principal
Environmental Review and Operations Section
Regional Division

JE:mbo

cc: Larry Zdon, MPCA, St. Paul
Edgar Rudberg, MPCA, St. Paul
Kevin Molloy, MPCA, St. Paul

RESPONSE

Minnesota Pollution Control Agency (MPCA) (continued)

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COMMENT

August 10, 2007

Diane Langenbach
Project Manager
MnDOT Metro District
1500 West County Road B21
Roseville, MN 55113

RE: Trunk Highway (TH) 41 Minnesota River Crossing
Draft Environmental Impact Statement
Review File No. 20031-1

Dear Ms.Langenbach:

A Metropolitan Council staff has reviewed this Draft Environmental Impact Statement (DEIS) to determine its adequacy and accuracy in addressing regional concerns and potential impacts that warrant further investigation. With regard to the various alternatives under consideration, all would provide a transportation benefit to the region. However, the Eastern alignments would provide the most significant benefit as they would carry more traffic and would relieve the other Minnesota River crossings more than the Central or Western alternatives. The Eastern alternatives would also provide more access to areas of the region defined as Developing in the Regional Framework, which should be more densely developed at the time that this bridge is constructed. While the Eastern alternatives are the most costly, they should also provide more of a regional benefit than the other alternatives under consideration.

The following comments are offered concerning specific items in the DEIS. Please note that the Metropolitan Council recommends that Alternative C-2A be removed from consideration due to conflicts with a regional trail.

Transportation Comments – James Andrew (651-602-1721)

The Metropolitan Council's 2030 Transportation Policy Plan includes preservation of right-of-way for the TH41 Minnesota River Crossing to be built sometime after 2030. The right-of-way identified is in the vicinity of the Eastern alignments.

B The DEIS appears accurate and complete. However, it is not possible to completely review the travel demand forecasts for consistency with the regional model as this DEIS used 2040 as its forecast year. Overall, the methodology used to produce the forecasts appears sound and the results appear to be internally consistent.

The DEIS assumed the conversion of TH 169 to be a limited access facility. While the DEIS does note that this is not in the region's Transportation Policy Plan, it comments that it is reasonable to assume this by the 2040 forecast year. While some investments have been made to convert at-grade intersections to interchanges, the assumption that TH 169 would be completely converted by 2040 may not be realistic (given current funding sources). This assumption would

RESPONSE

Metropolitan Council

A. None of the eastern alternatives or Alternative C-2A was selected as the Preferred Alternative. The eastern alternatives had high social and natural resource impacts. Alternative C-2A had high impacts to sensitive vegetation and higher impacts to state and federal lands and residences than the Preferred Alternative. The rationale for identification of the Preferred Alternative is presented in Chapter 3 of the FEIS.

B. Assumptions for the travel demand forecasts beyond the current 2030 planning horizon were developed in consultation with Metropolitan Council and Mn/DOT staffs. Mn/DOT anticipates periodic reassessment of this and other assumptions involved in the forecasts as part of its on-going transportation system planning. An alternate assumption would increase the need for the project regardless of alternative identified.

COMMENT

also have to be addressed in new forecasts should a jurisdiction wish to begin implementing the DEIS recommendations.

Parks and Open Space Comments – Jan Youngquist (651-602-1029)

The draft EIS for the Trunk Highway 41 Minnesota River Crossing was reviewed for impacts to the regional parks system. Elements of the regional and state system in proximity to the area include the Southwest Regional Trail Connection, the Minnesota Valley National Wildlife Refuge and the Minnesota Valley State Recreation Area.

The Metropolitan Council approved Carver County's Southwest Regional Trail Connection master plan on December 13, 2006. This planned trail will connect two existing regional trails—the Lake Minnetonka LRT Regional Trail and the Minnesota River Bluffs LRT Regional Trail. The trail will also link Carver Regional Park Reserve to the Minnesota Valley National Wildlife Refuge area. The Southwest Regional Trail Connection begins at Carver Park Reserve on the north and traverses through Victoria and Chaska. The master plan incorporates existing local trails south of downtown Chaska into the regional trail system. This planned trail was identified in the Metropolitan Council's *2030 Regional Parks Policy Plan.*

Although operated and maintained by the Minnesota Department of Natural Resources, the Minnesota Valley National Wildlife Refuge and Minnesota Valley Recreation Area are considered complements to the regional parks system.

C ure highway crossing the Minnesota River will inevitably have an impact on the Minnesota y National Wildlife Refuge and the Minnesota Valley Recreation Area. These impacts, which vary in degree by the different alignment alternatives, were described in the draft EIS. Each alignment alternative has been evaluated for impacts to the Southwest Regional Trail Connection. The attached map shows the Southwest Regional Trail Connection corridor and the relationship of the build alternatives to the regional parks system.

Alternative W-2
This alignment is over one mile away from the Southwest Regional Trail Connection corridor; therefore, there is no direct impact to the regional trail.

Alternative C-2
This alignment would come within 300 feet of the segment of the Southwest Regional Trail Connection located on the southwestern portion of downtown Chaska. The portion of this alignment is proposed to be on a bridge, 60 feet above the river. Therefore, there would be a visual impact to the trail and other potential impacts during highway construction.

Alternative C-2A
The ramps from this alignment of Highway 41 to US Highway 212 would most likely eradicate a segment of the Southwest Regional Trail Connection along Chaska Creek. The trail's master plan identifies that Creek Road will be vacated and converted to a regional trail corridor. The area near Chaska Creek has stands of high quality old-growth maple basswood forest. This segment of the regional trail was designed to take advantage of views of the creek and old growth trees. The AUAR for the proposed Heights of Chaska development, located south of Chaska

RESPONSE

Metropolitan Council (continued)

C. Comment noted. The DEIS discusses the planned trail corridor (named the Southwest Regional Trail Connection after the Chapter 8 of the DEIS was prepared) as a resource in the area of Alternatives C-2 and C-2a. The trail connection connects the cities of Chaska and Victoria by linking the north and south segments of the Southwest LRT Regional Trail. The planned trail is north of the Preferred Alternative corridor.

COMMENT

Creek, showed preservation of these natural resources, which would be lost to highway construction under this proposed alignment.

Due to the significant impact that this alignment would have on the planned Southwest Regional Trail Connection, this alternative creates a substantial departure from the Metropolitan Council's *2030 Regional Parks System Plan* and may have impacts of regional significance. Council staff strongly recommends that Alternative C-2A be dismissed based on its impact to the Regional Parks System.

Alternative E-1
This alignment would cross over the Southwest Regional Trail Connection near the intersection of Audubon Road and Engler Boulevard in Chaska. The portion of this alignment is proposed to be on a bridge; therefore the trail would run under the highway bridge. There would be visual impacts to the trail and other potential impacts during highway construction.

C

Alternative E-1A
This alignment would cross over the Southwest Regional Trail Connection near the intersection of Audubon Road and Engler Boulevard in Chaska. The portion of this alignment is proposed to be on a bridge; therefore the trail would run under the highway bridge. There would be visual impacts to the trail and other potential impacts during highway construction.

Alternative E-2
This alignment would cross over the Southwest Regional Trail Connection at the existing US Highway 212, just east of Engler Boulevard . The portion of this alignment is proposed to be on a bridge; therefore the trail would run under the highway bridge. There would be visual impacts to the trail and other potential impacts during highway construction.

D

Council staff recognizes that the highway river crossing will unavoidably impact the Minnesota Valley National Wildlife Refuge and Recreation Area and encourages MN/DOT to take these impacts, as well as the impacts to the regional parks system, into consideration when selecting the preferred alignment.

Housing Comments – Linda Milashius (651-602-1541)

The Draft EIS indicates that building alternatives C-2, C-2A, E-1, E-1A and E-2 would have the potential for indirect social impacts due to the reduction in affordable housing supply. However, because of the timeframe for construction, communities will have time to plan for future land use and transportation systems to fit physically with the project and for adequate supply of affordable housing.

The Draft EIS goes on to state that local planning to meet the long-term affordable housing needs is done in the context of metropolitan housing goals and local needs. The Scott County HRA completed a comprehensive housing needs assessment in 2006, which addressed affordable housing needs, and the Carver County CDA has as its stated mission the provision of affordable housing for Carver County residents. The Draft EIS documents the future development actions anticipated to occur in the project area which calls for the potential addition of over 5,800 housing units.

RESPONSE

Metropolitan Council (continued)

D. The impact to the MVNWR was a key consideration in the identification of the Preferred Alternative. USFWS staff from the MVNWR are active participants in the RCIC. The RCIC Report includes description of issues of concern to the MVNWR, and recommendations for mitigation for the Tier II EIS. See Appendix B-1 for DOI/USFWS correspondence in support of the preferred alternative.

COMMENT

From a housing policy perspective, the document appears to have identified potentially controversial issues and appropriate actions that can be taken to resolve them.

Wastewater Service Comments – Roger Janzig (651-602-1119)

E The project crosses the Metropolitan Council's Gravity Interceptor (8038) which is within First Street right of way in the City of Chaska. The interceptor was constructed in 2004 and is a 72-inch FRP pipe. To assess the potential impacts to our interceptor system, prior to initiating this project, final plans should be sent to Scott Dentz, Interceptor Engineering Manager (651-602-4503) at the Metropolitan Council Environmental Services for review and comment.

Environment Comments – Jim Larsen (651-602-1159)

The DEIS appears accurate and complete and identify the myriad potential environmental impacts that could result from construction of any of the proposed project alternatives. Council staff appreciates the opportunity to be able to participate in the SAC and fen study group to date, and look forward to continued participation in the SAC when the final Phase 2 Seminary Fen Report and Preferred Alternative selection methodology will be discussed.

Sincerely,

Phyllis Hanson
Manager, Local Planning Assistance

cc: Brian Lundquist, Council Member District 4
James Andrew, Principal reviewer
Cheryl Olson, Referrals Coordinator

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RESPONSE

Metropolitan Council (continued)

E. Comment noted. Construction of the project may not occur for 20 or more years. The outcome of the Tier I EIS process is an identified corridor for right of way preservation. A Tier II EIS for the Preferred Alternative will be prepared closer to the time of construction. Coordination with the Metropolitan Council to assess the potential impacts to its interceptor system will occur during the Tier II EIS process. It is noted that prior to initiating the project, final plans must be sent to the Interceptor Engineering Manager at the Metropolitan Council Environmental Services for review and comment.

COMMENT

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Planning and Water Management Dept
Government Center - Administration Building
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CARVER COUNTY

May 21, 2013

Diane Langenbach
Project Manager
MN DOT
1500 W. County Rd B2
Roseville, MN 55113

RE: Review Comments for the Draft Environmental Impact Statement (DEIS) for (TH41) MN River Crossing

Dear Diane,

On April 8, 2013, the MN Dept. of Transportation (MNDOT) responded to a letter from Carver County (the County) commenting on the DEIS for the TH41 MN River crossing, dated August 20, 2007. MNDOT states in the April 8, 2013, letter:

> Carver County is a member of the River Crossing Implementation Coalition (RCIC) which has further addressed the concerns stated in the Carver County comments. Guidance for the Tier II process is included in the RCIC Report and referenced in the FEIS.

See Note

The County has identified a number of key comments submitted in its 2007 letter that are not directly addressed in the RCIC report, titled *Minnesota Trunk Highway 41: River Crossing Implementation Collaborative Report: Public Involvement Process and Outcomes*. The following comments were originally submitted by the County in its 2007 letter and are not addressed in the RCIC report. Since the listed comments were not addressed in the RCIC report, the identified sections and tables reference the 2007 DEIS.

If responses were assembled in other reports following the 2007 DEIS, they should be referenced in the RCIC report.

A

- Table 1-3 – Agency permits, approvals
  - The Table mentions local watershed districts and WMO's. The table should list out the three jurisdictions covering this area and their appropriate permitting role as the current table descriptions are vague and incomplete.

B

- Section 1.13 – Surface Water Quality/Stormwater
  - The statement should include stormwater requirements form local jurisdictions in addition to state and federal. The current wording of "incorporated as required," and "to the extent possible," indicate that mitigation of stormwater is an alternative and not a requirement. The entire document should clearly reference that stormwater mitigation is a required activity for all alternatives.

C

- Table 2-1 – Population 2000 and 2040
  - It should be noted that the population forecasts listed in the table appear very low for Carver County. It is unclear when these forecasts were made, but section 2.2.1.3 indicates an update in April 2006. The 2030 Met Council forecast for Carver County at that time was 197,101 while current 2030 forecast is 199,000. Table 2-1 indicates a 2040

1

RESPONSE

Carver County

NOTE: Carver County is a member of the River Crossing Implementation Coalition (RCIC) which has addressed many of the issues identified Carver County's 2007 comment letter on the Tier I DEIS. This letter was sent to Mn/DOT in May 2013 to clarify the issues that the County believes were not addressed as part of the RCIC process. Responses to the issues identified by the County as still outstanding are provided below, in lieu of detailed responses to all issues identified in the County's August 10, 2007 DEIS comment letter (which follows this May 2013 letter).

A. Comment noted. Section 17.9 of the Tier I FEIS provides more details regarding water agency permits/approvals. Also, Table 1-3 indicates current permit/approval requirements. The Tier II EIS will provide an updated list based on requirements at the time of project implementation.

B. Section 1.8.10 includes current information for the preferred alternative. The Tier I IEIS will address surface water/water quality requirements at the time of project implementation.

C. Comment noted. As part of the travel demand forecasting, future socioeconomic data estimates were developed in consultation with city and county staff, with municipal control totals based on Metropolitan Council projections available at that time. While the final travel demand forecasting memorandum was published in 2006, the development of population estimates occurred in 2005, which accounts for discrepancies between available population estimates. Forecast traffic volumes and patterns were not determinants in the selection of a preferred alternative alignment. Updated traffic forecasts will be included in the Tier II EIS and will inform project design and traffic-related impact analyses conducted at that time.

COMMENT

C forecast of 184,910. Either these numbers are very low or the forecasts represented in the DEIS are more likely for a 2025 traffic scenario. Because all the traffic conditions are modeled off of these numbers, the difference should be noted (i.e. forecasts are low or represent an earlier time frame) in this table and any other tables, and maps in the DEIS.

- Section 2.2.4.2.2 – Transit
  - **D** The statements in the DEIS regarding Transit are incomplete and contradicting. This section states that transit "future increases" are not part of local and regional plans, then goes on to mention that SW Transit is in the process of updating its long term plan and mentions added facilities and service. The statement that the new river crossing would decrease overall congestion and therefore facilitate bus or vanpool service contradicts existing transit patterns in the area and seems incomplete. What is this section intended to state?

- **E** Section 4.4 – Benefit/Cost Analysis
  - When will mitigation cost estimates be introduced into the project consideration process?

- Section 4.5.2 – Regional Travelshed Analysis
  - **F** Under the bullet points on page 4-21, are the long distance trips on existing TH 41 north and south of the Minnesota River classified as regional or local trips?
  - Under the bullet points on page 4-21, is the identified traffic from western Carver County classified as regional or local?

- Section 6.5.2 Summary of Environmental Consequences
  - **G** It is unclear what the subjective statement " the highway facilities in the area would be less congested, offering a better and more efficient driving experience" is supposed to mean in the context of environmental consequences or the DEIS as a whole.

- Section 9.1.1 Regulatory Overview
  - The following information is available for impaired waters listings and TMDL's and should be referenced in the document. That statement that "it is not known when (the TMDL's) will be established," seems incomplete.

H

Reach	Pollutant or stressor[3]	Target start/completion
Minnesota River; Carver Creek to RM 22	Mercury1 Water Column	1999/2011
Minnesota River; Carver Creek to RM 22	Mercury1FCA	1999/2011
Minnesota River; Carver Creek to RM 22	PCB FCA	1999/2011
Minnesota River; Carver Creek to RM 22	Turbidity	2008/2011
Carver Creek; Headwaters to Minnesota R	Fecal coliform	2003/2007
Carver Creek; Headwaters to Minnesota R	Turbidity	2003/2007
East Creek to Minnesota R	Fish IBI	2007/2010
East Creek to Minnesota R	Fecal coliform	2006/2009
(West) Chaska Creek	Fecal coliform	2013/2020

NOTE: This list has been updated by the MPCA in 2012.

  - **I** The statement that the water quality treatment ponds were developed to meet current standards does not appear accurate. EIS states that ponds were developed to meet current standards, more detailed review would be necessary to ensure County standards are met. In addition to wet ponds, filtration should be included in the project.
  - **J** References to watersheds and creeks need correction and clarifying. There are three watersheds and creeks draining into the project area from the Carver County side of the river: Carver Creek, West Chaska Creek and East Chaska Creek. Text and maps throughout this section should be changed to reflect this. Examples:

2

RESPONSE

Carver County (continued)

D. Comment noted. The section was intended to state that existing adopted plans did not propose new bus or other transit service; to acknowledge that SouthWest Metro was in the process of updating its plan at the time the text was written; and to report that new facilities (not new bus or other transit service additions) were in development at the time that the text was written. The intent was also to highlight that the congestion reduction on existing river crossings that would result from the added crossing capacity would benefit all vehicle travel, i.e. buses, vanpool vehicles, and private automobiles.

E. The Tier II EIS will factor mitigation costs into the B/C ratio because it will include specific details regarding mitigation. The Tier I EIS only includes a concept level discussion of mitigation and therefore it is not possible to quantify those costs at this time. The overall approach was to assume that mitigation costs would be relatively the same in magnitude for all DEIS alternatives.

F. This entire paragraph is discussing regional traffic.

G. The visual impacts for the driver would not be adversely affected by the new river crossing.

H. Section 9.2 of the Tier I FEIS includes current information regarding this issue. The Tier II EIS will include the list of TMDL's available at that time.

I. Comment addressed in FEIS Section 17.9.

J. Comment addressed in FEIS Section 17.9.

COMMENT

K

- The map on Figure 9-1 references Carver Creek and Hazeltine-Bavaria only and does not match text descriptions.
- Text on pg 9-16, 9-17, 9-19, 9-20, 9-23

L

- Section 9.1.3.2 Build Alternatives
  - Additional review should occur to investigate if ponds can be above the 100-year flood elevation. The EIS currently states ponds are above the 50-year elevation, but not the 100-year. Text in this section states that special considerations in design might be needed. What are examples of this design? Is the DEIS saying that they are needed? The CCWMO does not support ponding without 100 yr. protection.
  - Project should include mitigation of floodplain, through cooperation with local agencies on acquiring property beyond the corridor, creating floodplain, and replacement using natural restoration methods including habitat improvements.

M

- Table 15-1 Agency and Organization Involvement
  - Should read Carver COUNTY WMO.

N

- General Comment
  - Erosion control during construction will be the major short term impact to the corridor and surrounding receiving waters.

The following comments relate to the 2013 RCIC report:

O

- The purpose and intended use of the RCIC report should be clarified to define how the document contributes to the overall Environmental Impact Statement process.

P

- The Carver County WMO should be listed as a stakeholder in the RCIC report and included in future EIS work related to the TH41 MN River crossing.

Q

- Using the RCIC as the sole response document to the DEIS is incomplete.

Although these comments are of concern and should be addressed in any revisions and a Tier II EIS sufficient deficiencies do not appear in the document to warrant an "inadequate" finding.

Sincerely,

Paul Moline, AICP
Carver County Planning & Water Management

3

RESPONSE

Carver County (continued)

K. Comment addressed in FEIS Section 17.9.

L. Comment noted. The determination of the feasibility and effectiveness of design features to prevent 100-year flood events from impacting the effectiveness of potential ponds would occur when more design information is available. Potential design features could include reinforced berms so floodwater and debris do not damage the pond. Other measures could include more frequent dredging and a maintenance regime to protect against suspension of the captured pollutants. More details regarding ponding, including whether there are location opportunities above the 100-year flood elevation, will be included in the Tier II EIS.

M. Comment noted and revised in FEIS Section 17.15.

N. Comment noted and addressed in FEIS Sections 7.4.1 and 11.1.5.

O. The relationship between the RCIC public involvement process and the Tier I FEIS document is clarified in the FEIS.

P. Comment noted.

Q. The RCIC report is a component of the public involvement process of the FEIS. It was never intended to be the sole response of the DEIS. A Tier I FEIS is being issued and followed by a Record of Decision.

COMMENT

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August 10, 2007

Diane Langenbach
Project Manager
MN DOT
1500 W. County Rd B2
Roseville, MN 55113

RE: Review Comments for the Draft Environmental Impact Statement (DEIS) for (TH41) MN River Crossing

Dear Diane,

The MN Dept of Transportation (MNDOT) has issued a Draft Environmental Impact Statement (DEIS) for corridor preservation of a proposed new trunk highway crossing of the MN River (TH41).

Carver County has reviewed the document according to the purpose of the DEIS – " to receive public and agency input on the evaluation of environmental effects and the methods for avoiding and minimizing adverse impacts". At this time, comments on the DEIS are limited to the adequacy of the document and do not contain any input on a preferred alternative or the comparative benefits/negative impacts of any of the corridor alignments. The Carver County Board of Commissioners may issue more information on a preferred corridor in the future. The following comments from Carver County Land & Water Services Division and County Public Works Division were submitted to the Carver County Board on August 7, 2007 and approved for submittal to MNDOT:

Chapter 1 – Executive Summary

Section 1.10 – Potential Area of Controversy and Unresolved Issues

- The last statement of the first paragraph "However, there are currently no unresolved issues" seems inconsistent with the preceding comments about areas of controversy.

Table 1-3 – Agency permits, approvals

- The Table mentions local watershed districts and WMO's. The table should list out the three jurisdictions covering this area and their appropriate permitting role as the current table descriptions are vague and incomplete.

Section 1.13 – Surface Water Quality/Stormwater

- The statement should include stormwater requirements form local jurisdictions in addition to state and federal. The current wording of "incorporated as required" and "to the extent possible" indicate that mitigation of stormwater is an alternative and not a requirement. The entire document should clearly reference that stormwater mitigation is a required activity for all alternatives.

RESPONSE

Carver County (continued)

See note on page E-48.

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COMMENT

Chapter 2 – Purpose and need for action

Table 2-1 – Population 2000 and 2040

- It should be noted that the population forecasts listed in the table appear very low for Carver County. It is unclear when these forecasts were made, but section 2.2.1.3 indicates an update in April 2006. The 2030 Met Council forecast for Carver County at that time was 197,101 while current 2030 forecast is 199,000. Table 2-1 indicates a 2040 forecast of 184,910. Either these numbers are very low or the forecasts represented in the DEIS are more likely for a 2025 traffic scenario. Because all the traffic conditions are modeled off of these numbers, the difference should be noted (i.e. forecasts are low or represent an earlier time frame) in this table and any other tables, and maps in the DEIS.

Section 2.2.1.2.1 – Existing

- Note that the Union Pacific spur which runs to Chaska is likely in abandonment proceedings.

Section 2.2.4.2.2 – Transit

- The statements in the DEIS regarding Transit are incomplete and contradicting. This section states that transit "future increases" are not part of local and regional plans, then goes on te mention that SW Transit is in the process of updating its long term plan and mentions added facilities and service. The statement that the new river crossing would decrease overall congestion and therefore facilitate bus or vanpool service contradicts existing transit patterns in the area and seems incomplete. What is this section intended to state?

Chapter 4 – Transportation Impacts

Section 4.1 – Future Traffic Operations

- Table 4.1 – Do the TH 101 and New TH 41 volume variations in the six alternatives represent regional trips or local trips?
- What capacity expansions (additional lanes) are indicated by each of the alternatives for the Highway 101, TH 41, and CSAH 9/45 crossings?
- Figures 4-1 through 4-7 – 2040 volume forecasts on the maps for Highway 101 north of Highway 212 and for Highway 212 east of Highway 101 would be helpful in understanding impacts on these two highway segments of the Highway 101 crossing forecasts for each alternative.
- Forecast volumes on major roads within the study area –
  - Added narrative explaining the shifting of traffic within the travelshed west of New 212 resulting in the variation of traffic forecasts on CSAH 10 and Highway 212 for each of the alternatives would be helpful.
  - Added narrative explaining the level of service impacts on the segments of New TH 212 identified by forecast traffic volumes east of TH 41 for each of the alternatives (including the TH 41, CSAH 17, and Highway 101 interchanges) would be helpful.

Section 4.2 – Vehicle Miles Traveled / Vehicle Hours Traveled

- No comments / questions

Section 4.3 – Safety

- 4.3.2 – The number of crashes in downtown Chaska is predicted to be reduced by more than 30% under the build alternatives. What is the predicted change in the number and rate of crashes on Highway 101 under the various alternatives?

Section 4.4 – Benefit/Cost Analysis

- When will mitigation cost estimates be introduced into the project consideration process?

RESPONSE

Carver County (continued)

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COMMENT

Section 4.5 – Local and Regional Transportation System Analysis Changes

- 4.5.2 – Regional Travelshed Analysis –
  - Under the bullet points on page 4-21, are the long distance trips on existing TH 41 north and south of the Minnesota River classified as regional or local trips?
  - Under the bullet points on page 4-21, is the identified traffic from western Carver County classified as regional or local?

Section 4.6 – Vehicular Energy use

- No comments / questions

Section 4.7 – Other Modes

- 4.7.2 – Freight (Highway Truck Traffic) – Are the differences in the 2040 truck forecasts for the Highway 101 and TH 41 crossings under the six alternatives statistically significant?

Chapter 5 – Social, Relocation and Economic Impacts

Section 5.1 – Social Impacts

Section 5.1.2.3 – Travel Patterns and Access

- Build Alternatives – Additional narrative explaining the consistency of the statement "Build alternatives would impact the continuity of the local road network resulting in minor impacts on ease of access to community facilities for residents" with the Alternate E-1 statement "there would be numerous local roadway alterations needed" would be helpful.

Chapter 6 – Physical Environmental Impacts

Section 6.2.4 Conclusions

- The conclusion of the noise analysis from pages 6-10 to 6-34 is that traffic will increase everywhere and that higher traffic noise will result seems to contradict the statement in section 6.5.2 (pg 6-73) "highway facilities in the area would also be less congested". Both these sections should be restated and be made more consistent.

Section 6.3.2 Affected Environment

- The section mentions Chaska Township. The township was annexed by the City of Chaska in Jan 2006 and should be removed from the document.

Section 6.5.2 Summary of Environmental Consequences

- When discussing views from the riverway, the section states that users of the riverway "may" experience impacts. This statement should be clear that users will experience adverse visual impacts as there is no way to completely shield a river crossing from the riverway.
- See comments from 6.2.4 above. It is unclear what the subjective statement " the highway facilities in the area would be less congested, offering a better and more efficient driving experience" is supposed to mean in the context of environmental consequences or the DEIS as a whole.

RESPONSE

Carver County (continued)

REMAINDER OF THIS COLUMN INTENTIONALLY LEFT BLANK

COMMENT

Chapter 9 Water Resources

Section 9.1.1 Regulatory overview

- The following information is available for impaired waters listings and TMDL's and should be referenced in the document. That statement that "it is not known when (the TMDL's) will be established" seems incomplete.

Reach	Pollutant or stressor[3]	Target start/completion
Minnesota River; Carver Creek to RM 22	Mercury1 Water Column	1999/2011
Minnesota River; Carver Creek to RM 22	Mercury1FCA	1999/2011
Minnesota River; Carver Creek to RM 22	PCB FCA	1999/2011
Minnesota River; Carver Creek to RM 22	Turbidity	2008/2011
Carver Creek; Headwaters to Minnesota R	Fecal coliform	2003/2007
Carver Creek; Headwaters to Minnesota R	Turbidity	2003/2007
East Creek to Minnesota R	Fish IBI	2007/2010
East Creek to Minnesota R	Fecal coliform	2006/2009
(West) Chaska Creek	Fecal coliform	2013/2020

- The Lower MN River Watershed District should be mentioned in this section
- The statement that the water quality treatment ponds were developed to meet current standards does not appear accurate. EIS states that ponds were developed to meet current standards, more detailed review would be necessary to ensure County standards are met. In addition to wet ponds, filtration should be included in the project,
- Ponding will require additional ROW and often linear projects request relief from ponding due to ROW costs. However, Ponding and filtration should remain a land use requirement throughout the project.
- References to watersheds and creeks need correction and clarifying. There are three watersheds and creeks draining into the project area from the Carver County side of the river: Carver Creek, West Chaska Creek and East Chaska Creek. Text and maps throughout this section should be changed to reflect this. Examples
  - The map on Figure 9-1 references Carver Creek and Hazeltine-Bavaria only and does not match text descriptions.
  - Text on pg 9-16, 9-17, 9-19, 9-20, 9-23

Section 9.1.3.2 Build Alternatives

- Additional review should occur to investigate if ponds can be above the 100-year flood elevation. The EIS currently states ponds are above the 50-year elevation, but not the 100-year. Text in this section states that special considerations in design might be needed. What are examples of this design? Is the DEIS saying that they are needed? The CCWMO does not support ponding without 100 yr protection
- Project should include mitigation of floodplain, through cooperation with local agencies on acquiring property beyond the corridor, creating floodplain, and replacement using natural restoration methods including habitat improvements.

Section 9.1.4 Mitigation

- See comments from Section 1.13 – Surface Water Quality/Stormwater

General

- Erosion control during construction will be the major short term impact to the corridor and surrounding receiving waters.
- Table 15-1 should read Carver COUNTY WMO

RESPONSE

Carver County (continued)

REMAINDER OF THIS COLUMN INTENTIONALLY LEFT BLANK

COMMENT

Although several of the comments are of concern and should be addressed in any revisions and a Tier II EIS there does not appear that there are sufficient deficiencies in the Tier I DEIS to warrant an "inadequate" finding.

Sincerely,

Paul Moline, AICP
Carver County Planning & Water Management

cc: Dave Drealan, Land & Water Services Director
Roger Gustafson, Public Works Director

RESPONSE

Carver County
(continued)

REMAINDER OF THIS COLUMN INTENTIONALLY LEFT BLANK

COMMENT

BOARD OF COUNTY COMMISSIONERS
CARVER COUNTY, MINNESOTA

Date: September 11, 2007 Resolution No: _____
Motion by Commissioner: _____ Seconded by Commissioner: _____

TH 41 Minnesota River Crossing

Minnesota Department of Transportation
Tier 1 Draft Environmental Impact Statement (DEIS)

WHEREAS, the Minnesota Department of Transportation (MnDOT) has prepared a Tier 1 draft DEIS for the TH 41 Minnesota River Crossing; and

WHEREAS, the Carver County Board of Commissioners and Carver County staff have been involved in the development of the Tier 1 DEIS through participation in various committees and work groups; and

WHEREAS, MnDOT did release for comment by August 10, 2007, said Tier 1 DEIS; and

WHEREAS, the Carver County Board of Commissioners did authorize staff on August 7, 2007, to submit to MnDOT review comments on the Tier 1 DEIS; and

WHEREAS, the Carver County Board of Commissioners and Carver County staff did meet with MnDOT representatives on August 21, 2007, to gain a better understanding of the Tier 1 DEIS; and

WHEREAS, the Tier 1 DEIS provides adequate documentation and analysis for MnDOT to move forward in its identifying of a preferred alternative; and

WHEREAS, Carver County recognizes that:

- A new major river crossing within the study area and connecting TH 169 and New TH 212 is a necessary local, regional, and state transportation betterment.
- All the alternatives have impacts on various natural resources.
  - The impacts of the easterly alternatives on the Seminary Fen are of particular sensitivity.
- All the alternatives have impacts on housing, business, and other developments.
  - The impacts of the build alternatives on existing residential units increase notably from west to east (westerly to the easterly alignments).
- All the alternatives have state, regional, and local impacts on the highway transportation system.
  - The impact on the overall regional highway transportation system is positive under all of the build alternatives within the study period and beyond.
  - The travelshed southwest, west, and northwest of New TH 212 is impacted differently by each of the build alternative interchange locations.
    - This westerly travelshed has more dispersed traffic patterns resulting from the New TH 212 / CSAH 11 (Old CR 147) interchange area than the more easterly interchange locations.
  - The New TH 212 traffic volume forecasts for 2040 vary significantly with each of the build alternative interchange locations.
    - The variation in forecast traffic volumes on the New TH 212 segment in Carver County is less under the New TH 212 / CSAH 11 (Old CR 147) interchange location than the more easterly interchange locations.
- All the alternatives have regional and local impacts on the transit system. The impact on the overall regional transit system is positive under all of the build alternatives within the study period and beyond.

RESPONSE

Carver County
(continued)

REMAINDER OF THIS COLUMN INTENTIONALLY LEFT BLANK

COMMENT

- Economic Development – All the alternatives excepting the no build are generally positive in terms of Carver County's economic development potential.
  - All the alternatives detail the existing conditions of incomes and property tax values and the numbers of businesses by type in the area affected by full or partial takings, but do not reflect the potential for economic development at each proposed interchange and bridge crossing.
  - Economic Development opportunities have been proposed by the City of Chaska along the Western (W2) and Central (C2, C2-A) options.

- All the alternatives have impacts on the water resources of local, regional and state (i.e. MN River) watersheds.
  - Stormwater impacts will occur for all alternatives and full mitigation is an expected and required activity for all alternatives.
  - Wetland impacts will occur for all alternatives and full mitigation is an expected and required activity for all alternatives.
  - Floodplain impacts will occur for all alternatives and full mitigation is an expected activity for all alternatives.

NOW THEREFORE, BE IT RESOLVED, that the Carver County Board of Commissioners supports the preservation of either the Alternative W-2 corridor or the Alternative C-2 corridor, or some combination thereof, to best respond to the project issues and impacts identified in the Tier 1 DEIS document, including:

- Regional highway system connectivity between TH 169 and New TH 212.
- Protection and preservation of natural resources.
- Extent of residential and business relocations.
- Magnitude of current and future land use impacts.
- Economic development opportunities.
- Area (local) highway travelshed traffic pattern and volume shifts.
- Blending of the corridor into the natural and community environments.

BE IT FURTHER RESOLVED that the Carver County Board of Commissioners supports the construction of this river crossing and the advancement of its timeline by seeking the following and other actions;

- The MnDOT Transportation System Plan update including right-of-way acquisition and project construction within the next twenty years.
- The Metropolitan Council's Transportation Policy update including the selected river crossing alternative along with right-of-way and construction investment commitments consistent with those of MnDOT.
- The Metropolitan Council's Right-of-way Acquisition Loan Fund (RALF) being made available and adequately funded to support the project.
- Local agencies and other interested parties cooperatively seeking Federal, State, and other assistance in advancing the status of the project.

YES	ABSENT	NO

STATE OF MINNESOTA
COUNTY OF CARVER

I, David Hemze, duly appointed and qualified County Administrator of the County of Carver, State of Minnesota, do hereby certify that I have compared the foregoing copy of this resolution with the original minutes of the proceedings of the Board of County Commissioners, Carver County, Minnesota, at its session held on the 11th day of September, 2007, now on file in the Administration office, and have found the same to be a true and correct copy thereof.

Dated this 11th day of September, 2007.

David Hemze County Administrator

RESPONSE

Carver County (continued)

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COMMENT

SCOTT COUNTY BOARD OF COMMISSIONERS

GOVERNMENT CENTER • 200 FOURTH AVENUE WEST • SHAKOPEE, MN 55379-1220
(952) 496-8100 • Fax: (952) 496-8180 • www.co.scott.mn.us

JOSEPH WAGNER, DISTRICT 1
BOB VOGEL, DISTRICT 2
JERRY HENNEN, DISTRICT 3
BARBARA MARSCHALL, DISTRICT 4
JON ULRICH, DISTRICT 5

August 7, 2007

Ms. Carol Molnau, Lt. Governor
Minnesota Department of Transportation
Office of the Commissioner
395 John Ireland Boulevard
Mail Stop100
St. Paul, MN 55155-1899

RE: TH 41 DEIS Comments

Dear Lt. Governor Molnau:

On behalf of the Scott County Board of Commissioners, I am hereby submitting the attached resolution and comments regarding the Draft Environmental Impact Statement (DEIS) for the Trunk Highway (TH) 41 River Crossing. Clearly, this is an important document in helping determine the future of three principal state and regional priorities. We see these three priorities as:

A

- The critically needed regional TH 41 bridge;
- The preservation of the Seminary Fen and the natural environment; and
- A dialogue regarding affordable housing in the southwest metropolitan area.

We believe alignment E-1A (or a combination of these alignments) is best positioned to meet these priorities. We strongly encourage you to begin a directed discussion with the Department of Natural Resource (DNR) Commissioner to find opportunities for your two state agencies to work together in serving the mutual needs of transportation and natural resources. The combined technical and financial resources of Mn/DOT and the DNR can forge a model by which agencies collaborate to achieve the broader public good.

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RESPONSE

Scott County

A. An eastern alignment was not selected because of Seminary calcareous fen impacts, environmental justice impacts, and the high number of homes that would need to be relocated. Discussions did occur between MnDOT and MnDNR and these concluded when MnDNR indicated that they wanted to make the Seminary Fen into a Scientific Natural Area. All of the natural resource agencies chose the C-2 alignment as their LEDPA – least environmentally damaging practicable alternative. That, along with the very high environmental justice impacts with the eastern alternatives deemed them not feasible.

COMMENT

Ms. Carol Molnau, Lt. Governor
August 7, 2007
Page 2

We have also attached our staff comments with more technically-oriented comments and questions regarding the DEIS. In addition, we have issued copies of our resolution under separate letters to the DNR Commissioner and the Metropolitan Council Chair encouraging dialogue on these regional priorities.

We appreciate Mn/DOT's efforts to include local agency comments as part of the DEIS, and we remain pleased with strong partnership we have with Mn/DOT on providing the right infrastructure for the region. We look forward to Mn/DOT's response, and we stand willing and eager to participate in continued conversation on these priorities. Please feel free to contact Scott County Public Works Director Lezlie Vermillion (at 952-496-8062) or Scott County Engineer Mitch Rasmussen (at 952-496-8026) with any questions you may have.

We thank you for your attention to these comments, and welcome your interest in addressing the concerns of Scott County.

Respectfully,

Barbara Marschall

Barbara Marschall, Chair
Scott County Board of Commissioners

C: Mark Holsten, DNR Commissioner
Peter Bell, Metropolitan Council Chair
Scott County Board of Commissioners
Lisa Freese, Deputy Commissioner of Transportation
Lynn Clarkowski, Mn/DOT Area Manager
Lezlie Vermillion, Scott County Public Works Director
Mitch Rasmussen, Scott County Engineer
Mark McNeil, City of Shakopee Administrator
Donald Hedlund, Jackson Township Chair
John Weckman, Louisville Township Chair

RESPONSE

Scott County
(continued)

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COMMENT

BOARD OF COUNTY COMMISSIONERS
SCOTT COUNTY, MINNESOTA

Date:	August 7, 2007
Resolution No.:	2007-119
Motion by Commissioner:	Ulrich
Seconded by Commissioner:	Hennen

RESOLUTION NO. 2007-119; PROVIDING COMMENTS TO THE MINNESOTA DEPARTMENT OF TRANSPORTATION ON THE TH 41 MN RIVER CROSSING DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)

WHEREAS, Mn/DOT has prepared a draft DEIS for the TH 41 MN River Crossing; and

WHEREAS, comments on the DEIS are due to Mn/DOT by August 10, 2007; and

WHEREAS, the DEIS is prepared to discuss the purpose and need of the project; consider alternatives; evaluate environmental effects and alternatives; explore methods for avoiding and minimizing adverse impacts; and obtain public and agency input to help determine a preferred alignment for the Final Environmental Impact Statement (FEIS); and

WHEREAS, Scott and Carver County are both projected to double in population by 2040; and

WHEREAS, the TH 41 MN River DEIS documents the purpose and need of new river crossing; and

WHEREAS, Mn/DOT is following the two tiered review process so as to preserve the corridor due to pending development; and

WHEREAS, Scott County believes there are three regional and state priorities being determined as part of this alignment decision; and

WHEREAS, these three state and regional priorities are:

- Justified Regional TH 41 River Crossing
- Seminary Fen and environmental protection
- Affordable housing dialogue in southwest Metropolitan Region; and

WHEREAS, the western and central alignments are 10-12 miles from TH 169 (the next major river crossing to the east or you leave Scott County to the west) and when this is contrasted to good transportation planning spacing to support typical suburban development such as in Dakota County, where the following existing bridges: TH 52, I-494, TH 55, I-35E, TH 77 and I-35W support similar suburban development and these bridges are all within approximately 15 miles of each other; and

WHEREAS, to expect Major River Crossing bridges to be spaced 10-12 miles apart with the anticipated growth is not good long-term planning for the region; and

WHEREAS, the new TH 41 River Crossing needs to provide pedestrian and bicycle access as well as plan for transit facilities along this corridor; and

WEREAS, the TH 169 River Crossing is at capacity today in the A.M. with no anticipated expansions; and

WHEREAS, the eastern alignments help to contain a more sprawling development and promotes more orderly development patterns; and

WHEREAS, the eastern alignments have the potential to impact the Seminary Fen and surrounding support area; and

RESPONSE

Scott County
(continued)

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COMMENT

BOARD OF COUNTY COMMISSIONERS
SCOTT COUNTY, MINNESOTA

Date:	August 7, 2007
Resolution No.:	2007-119
Motion by Commissioner:	Ulrich
Seconded by Commissioner:	Hennen

WHEREAS, the western alignment will impact the U.S. Fish and Wildlife Refuge; and

WHEREAS, the central alignments, particularly alternative C2A, have the most overall environmental impact; and

WHEREAS, the current condition of the Fen is that it is fragmented and in a deteriorating condition; and

WHEREAS, the central and eastern alignments have the most impact to affordable housing locations; and

WHEREAS, the Scott County Association for Leadership and Efficiency (SCALE) has identified the new TH 41 River Crossing as one of their top five transportation priorities for the region and Scott County; and

WHEREAS, SCALE is based on building partnerships and offering opportunities to dialogue and collaborate on issues; and

WHEREAS, SCALE has helped organize a forum in which the elected officials for the local units of government can discuss issues and concerns; and

WHEREAS, SCALE will continue to work toward providing a forum for dialogue and discussion to support the preservation, design and construction of this corridor; and

WHEREAS, based on good transportation system planning, land use impacts, natural resource preservation and environmental justice issues Scott County believes that the eastern alignments offer the most comprehensive opportunity for the region to meet these needs; and

WHEREAS, the Minnesota Departments of Transportation and Natural Resources are critical to determining the outcome of this alignment; and

WHEREAS, the eastern and central alignments all impact affordable housing opportunities within the southwest part of the metropolitan region and the Metropolitan Council is a decision maker in transportation, environmental and housing issues within the Metropolitan Region; and

WHEREAS, Scott County believes this is an adequate and thorough document for a Tier I DEIS.

NOW THEREFORE BE IT RESOLVED, that the Scott County Board of Commissioners herby supports further preservation of E-1A (or a combination of the eastern alignments) that can best accomplish the following goals:

- Provide a transportation alignment that best meets the needs of the state and region
- Insures protection of the seminary fen and environment
- Opportunity for a Dialogue on affordable housing in the southwest metropolitan region

BE IT FURTHER RESOLVED, that the Scott County Board of Commissioners submits the attached staff comments as part of their resolution to Mn/DOT; and

RESPONSE

Scott County
(continued)

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COMMENT

BOARD OF COUNTY COMMISSIONERS
SCOTT COUNTY, MINNESOTA

Date:	August 7, 2007
Resolution No.:	2007-119
Motion by Commissioner:	Ulrich
Seconded by Commissioner:	Hennen

BE IT FURTHER RESOLVED, that the Scott County Board of Commissioners supports discussion between the Metropolitan Council, Scott and Carver Counties, Cities of Carver, Chanhassen, Chaska, Shakopee, the Community Development Agencies (CDA) of both Scott and Carver Counties, and Mn/DOT regarding affordable housing and opportunities this corridor selection provides to promote that discussion; and

BE IT FURTHER RESOLVED, that the Scott County Board of Commissioners supports the use of Right of Way Acquisition Funds (RALF) for this important state corridor and that the legislature make available the additional funds needed to assist in this process; and

BE IT FURTHER RESOLVED, that the Scott County Board of Commissioners supports inclusion of this river crossing alignment in the Metropolitan Council's Transportation Policy Plan update and Mn/DOT's Transportation System Plan update for construction funding as well as right of way acquisition; and

BE IT FURTHER RESOLVED, that the Scott County Board of Commissioners supports the Scott County Association for Leadership and Efficiency (SCALE) efforts to provide a continued forum for dialogue between the local communities; and

BE IT FINALLY RESOLVED, that the Scott County Board of Commissioners encourages the Commissioners of Transportation and Natural Resources to embark on a dialogue of how this bridge crossing provides an opportunity for these two state agencies to work together to meet two important state goals: the correct river crossing alignment and preservation of the fen.

COMMISSIONERS	VOTE			
Wagner	☑ Yes	☐ No	☐ Absent	☐ Abstain
Vogel	☑ Yes	☐ No	☐ Absent	☐ Abstain
Hennen	☑ Yes	☐ No	☐ Absent	☐ Abstain
Marschall	☑ Yes	☐ No	☐ Absent	☐ Abstain
Ulrich	☑ Yes	☐ No	☐ Absent	☐ Abstain

State of Minnesota)
County of Scott)

I, David J. Unmacht, duly appointed qualified and County Administrator for the County of Scott, State of Minnesota, do hereby certify that I have compared the foregoing copy of a resolution with the original minutes of the proceedings of the Board of County Commissioners, Scott County, Minnesota, at their session held on the 7th day of August, 2007 now on file in my office, and have found the same to be a true and correct copy thereof.
Witness my hand and official seal at Shakopee, Minnesota, this 7th day of August, 2007.

County Administrator

Administrator's Designee

W:\WORD\RBA_RES_2007\2007-119.doc

RESPONSE

Scott County
(continued)

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COMMENT

Scott County Staff Comments Submittal to Mn/DOT
7/27/07

TH 41 DEIS — Natural Resources Comments

Overall Comments Chapter 7

B
- Subsection 7-3 Figure 7-3A the legend labeled "Fen Status" is confusing. In particular, the second item in the legend titled "Meet fen criteria; short sedge fen possible" is confusing because of the word "possible." Does this legend item refer to short sedge fen that currently meets fen criteria, or only short sedge fen that potentially meets the criteria with some level of restoration?

C
- Subsection 7-4 GEOLOGY/SOILS: A discussion of the impact of the project and alternatives on aggregate resources was not found. According to the map of Primary Sources of Construction Aggregate in the Seven-County Metropolitan Areas, Minnesota by Meyer and Mossler (1999) there are good to moderate deposits of sand and gravel, and excellent bedrock aggregate sources in the area as well as existing aggregate operations. Impacts to these resources should be discussed in light of concern by the Metropolitan Council and others over the long term availability of aggregate sources in the metropolitan area.

Overall Comments Chapter 9

D
- The Tier 1 DEIS identifies general drainage patterns for each option within its own corridor area fairly well. The DEIS stumbles in not identifying where the drainage then leaves the project corridor, which is where Scott County has potential stormwater management and flooding issues with some of the alignments. In particular, alignment W-2 has known flooding problems from the area of the proposed intersection with 169. The drainage paths from out of this area are poorly defined, if even available given the rock quarrying and gravel mines. The other alignments all have drainage issues as well, but are closer to Shakopee's infrastructure and may be able to solve some of the landlocked issues based on Shakopee's stormwater plan and system.

E
- Little to no discussion was found dealing with the existing gravel mining operations and crossing these areas was evident in the document. Is there an overall assumption about these areas? A great amount of fill will be required to reclaim some of them to elevations acceptable for the highway, particularly at Byran Red Rock.

RESPONSE

Scott County (continued)

B. Comment regarding confusing terminology is noted; however it is not pertinent to the overall content of the DEIS as it relates to the decision to select revised alternatives C-2 (which does not affect the Seminary Fen) as the preferred alternative.

C. Construction of the TH 41 MN river crossing is not likely to occur for 20+ years. The relevance of this issue will be assessed/evaluated in the Tier II EIS process closer to construction.

D. Additional drainage details as they relate to existing land would be studied in the Tier II EIS. The Tier 1 EIS identified general drainage patterns as needed to compare the six alignment alternatives.

E. Gravel operations will change dramatically in the 20+ years prior to construction. They will be further studied in the Tier II EIS and, if pertinent, the results would be factored into the TH 41 crossing design and construction methods.

COMMENT

F

- Evaluation of the rules seemed to over simplify and ignore the local water management plans and WMO's. In particular, the ponds in this analysis were sized to existing conditions (tough to identify in some areas given they have no discharge today – such as on W-2) not to pre-settlement conditions as required. It also missed the high groundwater susceptibility issues and the required pond linings and 3 feet separation from bedrock and groundwater in its discussion. Are some of the proposed pond locations feasible given this constraint?

G

- While option W-2 has the largest local drainage problems, this project may present the opportunity to provide an outlet from the current flooding problems at 169 and the proposed intersection with the W-2 alignment. It may also provide an excuse to not deal with the stormwater issues, delaying their resolution until the crossing is built.

Specific Comments Chapter 9:

H

Page 9-1: Last Paragraph: References "comprehensive local water management plans" for both Scott and Carver Counties. The paragraph indicates the preference is to maintain post construction discharge rates below existing discharge rates. This is incorrect for Scott County. Per our plan, post construction discharge rates must be below pre-settlement discharge rates and requires runoff volume control. This may result in different sizing needs for each of the proposed alignments in Scott County than currently defined.

I

Page 9-2, 2nd to last paragraph: Makes the comment that study area will be fully developed. Do various local communities agree with this assumption?

J

All Treatment Pond Figures: Each of these drainage figures should more clearly define how water will leave the project area. The current figures seem to indicate how water will be routed to ponds but not how they will be routed off the highway project area, which is significant concern with landlocked and known flooding areas all along the 169 corridor in this area. While where the water is going to in the project is important, what is probably even more important in Scott County is where does it go after the highway?

K

Alternative W-2 Treatment Ponds Figure: Appears to assume that all drainage to east of 169 will be routed to south. Current drainage patterns seem to indicate that flow actually crosses 169 and heads through undefined means to the west during large flooding events towards the landfill and quarry properties, and damages to existing properties are possible. It is not clear that given the current use of property west of 169 as a gravel quarry how ponds (or the road for that matter) will be elevated above the current pit floor to match the existing 169 grades. Where will this significant amount of borrow material that will be required come from?

RESPONSE

Scott County (continued)

F. Comment noted. The Tier I FEIS addresses this in Section 17.9.

G. The W-2 alignment was not selected as the preferred alternative.

H. Comment noted. The Tier I FEIS addresses this in Section 19.9.

I. This assumption was made with all six alignments and was not questioned by other local communities.

J. Additional drainage details as they relate to existing land would be studied in the Tier II EIS. The Tier 1 EIS identified general drainage patterns necessary to compare the six alignment alternatives.

K. W-2 alignment was not selected as the preferred alternative.

COMMENT

L Alternative C-2 Treatment Pond Figure: There is a known landlocked pond issue to NE quadrant of the intersection of 41 and 169 in this location. Overall conveyances to waterbodies are not well defined between 169 and the River.

M Alternative C-2A Treatment Pond Figures: Same as C-2

N Alternatives E1 and E2 (All versions): Flow to the northeast to the City of Shakopee Stormwater system will require coordination. Landlocked issues at NE corner of existing 41 and 169 intersection. Define drainage paths to the downstream resources.

O Page 9-18: "BMP's would be incorporated as required to meet state and federal water quality regulatory requirements." What about local requirements – County and WMO (one and the same for Scott County) which are more resource specific than state and federal requirements.

P Page 9-18: 3rd Paragraph: References wellhead protection plans. This section should also mention the high groundwater susceptibility area in Scott County that all alternatives cross. This will require lined ponds and three feet of separation from Bedrock/seasonal groundwater tables per Scott County rules, which may affect the currently proposed pond sizing.

Q Page 9-19: Little discussion of the local watersheds is given, nearly all is big picture. We know that local issues of routing water to the river is an issue in nearly all of the affected project areas, but is a bigger headache for W-2 than the other alignments.

R Page 9-28: 2nd to last paragraph: References the 1982 Geological Atlas. Note that new atlas is available for use.

S Page 9-29: Note the overall high groundwater susceptibility of the region. Requires lined stormwater ponds and infiltration.

RESPONSE

Scott County (continued)

L. Additional drainage details for C-2 will be studied in the Tier II EIS closer to construction.

M. C-2A alignment was not selected as the preferred alternative.

N. Alternatives E-1 and E-2 were not selected as the preferred alternative; therefore further clarification re: these issues are not needed.

O. Mn/DOT is not currently required to meet local water permit requirements. However, at the time of project implementation in the future, Mn/DOT would discuss surface water management and treatment with local agency staff, as part of overall project coordination.

P. Section 17.9 of the Tier I FEIS includes information re: this issue.

Q. Alternative W-2 was not selected as the preferred alternative. More detailed discussion of surface water issues will be included in the Tier II EIS process.

R. Comment noted.

S. Section 17.9 of the Tier I FEIS includes information re: this issue.

COMMENT

Transportation Staff -

From an adequacy standpoint it is a very well done Level I Document.

T Page 1-10, says it is assumed the interchanges such as CSAH 14 and TH 169 would be constructed under a separate project. How does constructing the interchanges with the river crossing impact the current environmental process? Would there be a separate environmental document needed or could they be written into the Tier II EIS?

U Page 1-12, it does not mention County permits or plan approval under Table 1-3.

V Page 2-5, it mentions Shakopee is home to the state's largest land area of industrial park. What is the source of this statement?

W Page 2-6, in the first paragraph it says "the I-35W river crossing carried 141,000 ADT in 2004" yet in 2000 it only carried 102,000. Why the 28% jump in 4 years? Maybe the 141,000 in 2004 is not accurate? Also 141,000 ADT is the same number that the 169 bridge would carry in 2040.

X Page 2-7 thru 2-11, why was only PM peak hour looked at? TH 169 and CSAH 18 is where we usually experience a problem in the AM peak on the Scott County side of the river, but do not experience a problem in the PM peak. Would the AM peak have the same or worse LOS or create unique issues due to anticipated development on our side of the river in the future?

Y Do the alignments have adequate room between the ramps or will there be weave issues created? Can design details correct this in the future?

Z Can special transit ramps or bus shoulders be addressed in the future design?

AA Recommend a discussion on future transit park and ride locations in EIS.

AB The document should address bike and pedestrian facilities. The regions policy plan directs major river crossings to include bike and pedestrian facilities.

AC Figure 3-6, the western alignment ramps at TH 169 do not leave much developable room after a frontage road is also included between the bluff and ramps. Would total acquisition of those parcels be necessary?

AD Figure 3-7, there appears to be less than 1,000 feet between Ramp H and the future frontage road on the east side of TH 169. There may need to be something done differently with this ramp design so we don't end up with a similar situation that exists at Vierling Drive/ramps to TH 169. The west side of TH 169 at TH 41 appears to have the frontage road cross the ramp at grade.

RESPONSE

Scott County
(continued)

T. Additional interchanges would need an environmental document. Rules and regulations at the time of the Tier II EIS would inform the decision of whether it is part of the Tier II EIS or a separate document.

U. Mn/DOT is not currently required to meet local water permit requirements, so no reference to those permits or plan approval is made in the table.

V. City of Shakopee staff provided this statement during the TH 169 Interregional Corridor (IRC) study process.

W. The text in the DEIS is in error. The correction is noted in Section 17.2 Revisions to the DEIS.

X. The a.m. peak hour was initially analyzed for existing conditions and level of service (LOS) results for all intersections were better than or equal to those of the p.m. peak hour. The turning movement volumes for the a.m. peak hour were lower than those of the p.m. peak hour as well. When traffic forecasts were developed for Year 2030 and Year 2040, the p.m. peak hour volumes were much higher than those of the a.m. peak hour. The decision was made to analyze only the p.m. peak hour as this represents the worst-case scenario.

Y. More traffic details will be studied in the Tier II EIS closer to construction. A traffic operations analysis during the Tier II process should address the issues of ramp spacing and weaving.

Z. More transit and bus ramp details will be studied in the Tier II EIS closer to construction.

Responses to comments AA-AD provided on following page.

COMMENT

AE Figure 3-8, there appears to even be less room between Ramp H and the future frontage road on the east side of TH 169 than Figure 3-7. On the west side of TH 169 ramp at TH 41 there is an off ramp from TH 169, an on ramp to TH 169, and a frontage road creating an intersection with TH 41 all within a few feet of each other. The frontage road also crosses the ramp like Figure 3.7.

AF Figures 3-8, 3-9, 3-10, appears to be the best for our frontage/backage road continuity on both sides of TH 169 and developability of vacant parcels and redevelopment of existing parcels in Scott County.

AG Page 3-31, there is a typo in the second paragraph of 3.2.2.4 saying "Shakopee will further inform planning." It may mean the word "involve."

AH Figure 4-1, the no build scenario and Figure 4-4 have the highest traffic volume on CSAH 78. Figure 4-3 has the highest traffic volumes on CSAH 69. Figure 4-5 and Figure 4-6 result in lower traffic on both CSAH 78 and CSAH 69 than the other alternatives.

AI Page 4-22, there is a brief discussion on freight but there is no discussion on the delay freight experiences at the rail crossing today. Would this be beneficial info to be included? In 2.2.4.1.3 the only delay mentioned is that there are long queues on TH 41 that extend back from the TH 169 intersection.

AJ Page 4-23, the E 1-A alternative has the highest truck forecasts on the new river crossing and helps to reduce projected truck traffic on existing TH 41, CSAH 101, and TH 169 over W-2 which had the lowest truck forecast for the new river crossing.

AK Page 5-8 – 5-11, it would have been helpful to have maps for this section, for example, where is Riverbluff Estates as discussed on 5-8 etc?

AL Page 5-29, when was the right-of-way impacts analysis conducted, does it assume plats in the works?

AM Page 8-16, it says FHWA may not approve park impact unless there is no feasible and prudent alternative…who at FHWA finally determines if feasible and prudent?

RESPONSE

Scott County (continued)

AA. Potential transit/park-and-ride details will be considered in the Tier II EIS closer to construction.

AB. Bike and pedestrian facilities – including the location of existing ped/bike crossing facilities -- will be considered in the Tier II EIS closer to construction.

AC. The W-2 was not selected as the preferred alternative.

AD. The Tier I EIS shows one potential option for local connections. These local connections are not part of the Tier I EIS and would be constructed in a separate project.

AE. The W-2 alignment was not selected as the preferred alternative.

AF. Comment noted.

AG. Comment noted.

AH. Comment noted.

AI. Comment noted. The freight delay at the rail crossing was not discussed as a specific issue in the DEIS, since the primary delay for freight in the existing TH 41 corridor is at the congestion in downtown Chaska.

AJ. Comment noted.

AK. Comment noted.

AL. The right of way impact analysis included areas that have been platted but not yet built upon, unplatted parcels which are prime for development without further subdivision, and parcels in the process of subdivision.

AM. Minnesota Division of FHWA makes the determination.

COMMENT

Planning Staff Comments

AN

- The "consistency with adopted transportation plans" section in Chapter 2 (page 2-19) does not mention the 2003 *TH 169 Frontage Road and Interchange Study: TH 41 to CSAH 14/59*, which seems to be an important MnDOT transportation plan to consider when assessing the different alternatives as they touch down along 169. (It is worth noting that Figures 3-6 through Figure 3-12 showing each alternative does depict the conceptual frontage roads, but the document does not directly reference the *Frontage Road* study as the source for these possible frontage road alignments).

AO

- The land use section in Chapter 5 (pages 5-24 through 5-27) does not mention the joint study by Scott County and the Metropolitan Council to identify a site and service area for a future regional wastewater treatment plant along the Minnesota River, which post-2030 would add additional sewer capacity to serve urban-type commercial and residential development along the 169 corridor and much of the western portion of the County. This long-term plan to add additional capacity for continued urban growth in this part of Scott County is important to document when considering the purpose and need for a new river crossing.

AP

- The side-by-side image titled "Existing and Proposed Land Use: 2000 and 2030" (page 5-25) shows inaccurate information for Jackson Township. The proposed land use (2030) map shows large parcels in Jackson Township as "Agricultural / Farmstead". This is an inaccurate depiction of proposed land uses for this area. The City of Shakopee's land use plans show residential and commercials uses for this future growth area and more accurately depict 2030 land uses.

AQ

- The discussion on cumulative impacts on affordable housing in Chapter 13 (page 13-8) mentions how Shakopee and Chaska's zoning ordinances treat new mobile home parks; but does not mention Scott County or Carver County's zoning rules. For Scott County, the zoning ordinance only allows new mobile home parks if they are hooked up to and served by a public sewer and water system.

RESPONSE

Scott County (continued)

AN. The study referenced is not an "adopted transportation plan." However, Mn/DOT considers all relevant transportation studies within a proposed project area (including the study referenced in this comment), when considering project options and implications.

AO. Comment noted. The traffic forecasts used to develop the transportation purpose and need were based on available land use and forecasts, in coordination with local planning agencies and the Metropolitan Council.

AP. Comment noted. The Metropolitan Council was the source of the land use maps included in the referenced figure. Land use plans have changed since these maps were developed and are expected to change by the time of the Tier II EIS.

AQ. Comment noted.

COMMENT

August 9, 2007

Ms. Diane Langenbach
Mn/DOT – Metro Program Delivery
Waters Edge Building MS 050
1500 W. County Road B-2
Roseville, MN 55113

Ms. Cheryl Martin
Region 5 – Minnesota Division
Federal Highway Administration
380 Jackson Street, Suite 500
St. Paul, MN 55101

Mr. Joseph Yanta
Army Corps of Engineers, St. Paul District
ATTN: OP-R/JJY
190 Fifth Street East
St. Paul, MN 55101-1638

Dear Ms. Langenbach, Ms. Martin and Mr. Yanta:

Thank you for the opportunity to provide comments on the ***TH 41 Minnesota River Crossing: A Future US 169/US 212 Regional Freeway Connection Tier I Draft Environmental Impact and Draft Section 4(F)/6(F) Evaluation.*** At the City of Carver's August 6, 2007 meeting, the City Council evaluated the document and determined that this document as written is not sufficient to support its use by Mn/DOT or the City of Carver as the decision-making vehicle to determine a preferred alternative corridor.

The following key points are the findings of the Carver City Council:

1. The document does not provide evidence to support the assumption that the proposed single interchange access ramps for both W-2 and C-2 will provide sufficient capacity to handle either planned residential trip generation or planned commercial development, let alone both, particularly in the pm peak hour.

2. Although the DEIS asserts that the proposed improvements will improve regional access and mobility, regional access is only part of the issue. Development impacts and community impacts cannot be assessed without at

Box 147 • Carver, Minnesota 55315 • Phone 952-448-5353 • Fax 952-448-6199

RESPONSE

City of Carver

The City of Carver is a member of the River Crossing Implementation Coalition (RCIC), which has further addressed most of the concerns stated in the City's comment letter. The City sent a letter to Mn/DOT on May 21, 2013 clarifying the comments/issues that are still relevant following the RCIC process. Therefore, no detailed responses to the City's 2007 letter are provided here; instead, responses are provided to the "still relevant issues" identified in the 2013 letter, which follows.

COMMENT

TH 41 DEIS: City of Carver Comments August 9, 2007

3. the very least a conceptual local roadway network identifying local access as well, which is of particular concern to Carver since our only interchange with TH 212 is proposed to become part of a system interchange with TH 41 under the W-2 and C-2 scenarios. The document does not present support for this component of the access issue.

4. The quantifiable comparison between alternatives in the DEIS is inconsistent in detail and accuracy among the alternatives. The evaluation of impacts along Alternative W-2 is inconsistent with the evaluation of those same impacts along Alternative C-2. Examples include the number and size of parcels, land valuations, community cohesion, visual impacts, and historic resource impacts.

5. The document does not support the assumption that future growth will compensate for lost residential and business development. Rather, both the quantity and valuation of properties impacted in Carver are miscalculated.

6. The analyses for a variety of environmental resource categories, including visual quality, noise, and cultural resources, do not allow for a balanced comparison of alternatives.

Detailed comments related to these general themes are contained within the attached memo, prepared by CH2M HILL and Collaborative Planning and dated August 6, 2007 which the City is appending to this comment letter as its official comments on this DEIS.

The City of Carver remains committed to partnering with Mn/DOT and the various stakeholders in the evaluation and refinement of this project. If you have any questions regarding the technical comments, please contact Cindy Olness, consulting City Planner, at 763-473-0569.

Sincerely,

Jim Weygand

Jim Weygand
Mayor

cc: Connie Kozlak, Metropolitan Council
Jim Uttley, Metropolitan Council
Patricia Martinkovic, USFWS
Terry Schreiner, USFWS
Roger Gustafson, Carver County
Dave Drealan, Carver County
Dennis Gimmestad, SHPO

RESPONSE

City of Carver
(continued)

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COMMENT

CITY of CARVER

September 21, 2007

Diane Langenbach
Mn/Dot – Metro Program Delivery
Waters Edge Building MS 050
1500 W. County Road B-2
Roseville, MN 55113

Cheryl Martin
Region 5 – Minnesota Division
Federal Highway Administration
380 Jackson Street, Suite 500
St. Paul, MN 55101

Dear Ms. Langenbach and Ms. Martin:

At their September 17, 2007 meeting, the Carver City Council adopted Resolution 138-07 Related to Alternatives W-2 and C-2 Contemplated Within the Draft Environmental Impact Statement (DEIS) for TH 41.

Enclosed is a copy of Resolution 138-07 for your review.

Sincerely,

J. T. Elmquist

James T. Elmquist PP
City Administrator

Box 147 • Carver, Minnesota 55315 • Phone 952-448-5353 • Fax 952-448-6199

RESPONSE

City of Carver
(continued)

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COMMENT

CITY OF CARVER
CITY COUNCIL
RESOLUTION NO. 138-07

A RESOLUTION RELATED TO ALTERNATIVES W-2 AND C-2 CONTEMPLATED WITHIN THE DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) FOR TH 41

WHEREAS, the City of Carver is a Minnesota Municipal Corporation, duly organized and authorized to conduct its affairs under the laws of the State of Minnesota; and

WHEREAS, Mn/DOT and the Federal Highways Administration (FHWA) are considering one no-build and six build alternatives for TH 41, the locations of which are fully described within the DEIS;

WHEREAS, Mn/DOT has identified a need for a regional river crossing connecting US Highway 169 to new TH 212 within the study search area contained within the DEIS;

WHEREAS, within the study search area, there are three existing river crossings, located at existing TH 41, Carver County CSAH 11 (County 147 to 45) /Scott County 9, and TH 101;

WHEREAS, Alternatives W-2 and C-2 proposed within the DEIS both directly impact the City of Carver;

WHEREAS, the City Council has reviewed the DEIS and has informed Mn/DOT and FHWA of items that need to be addressed to allow for a thorough consideration of all six build alternatives;

WHEREAS, all six alternatives result in numerous impacts to residential and business properties as well as to natural resources; and

RESPONSE

City of Carver
(continued)

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COMMENT

WHEREAS, the City Council has determined that there are unique and extenuating impacts associated with the W-2 and C-2 alternatives as follows:

1. Both W-2 and C-2 adjoin with TH 212 at a joint system and local interchange with CSAH 11. Carver County has planned to have the intersection of CSAH 11 and County Road 45 realigned, making it the through transportation movement from Scott County, across the river, and onward to TH 212 and is projected to carry in excess of 35,000 trips per day. As a result, the interchange that is currently being constructed at TH 212 and CSAH 11 would become an interchange serving two river crossings as well as functioning as the primary local access interchange for Carver and the southwestern portion of the City of Chaska. The City is extremely concerned that the assumed interchange design and functionality may not be sufficient to address what is actually required for an interchange of this magnitude.

2. The City's transportation consultant, CH2M HILL, has raised questions regarding the functionality of the proposed interchanges with TH 212 for the W-2 and C-2 alternatives.

3. W-2 bisects the US Fish and Wildlife (USFWS) Refuge property through the City of Carver. The USFWS has been expanding the refuge within and south of the City of Carver and has been developing the refuge to accommodate an increased visitor base. Unlike other natural and historic resources within the study area, the refuge is already permanently protected.

4. The bisection of the refuge by W-2 results in not only the direct right-of-way acquisition impacts that were described within the DEIS, but also results in numerous constructive use impacts to the remainder of that portion of the refuge. These constructive use impacts affect not only the quality of habitat within the refuge, but also impact the recreational use of the refuge which the City anticipates could result in a smaller number of visitors to the refuge. One of the primary locations for accessing the Chaska Unit of the refuge is via the trailhead located at Carver's Riverside Park.

5. Riverside Park is also a serene riverfront landscape which would suffer from constructive use impacts related to the visual and auditory pollution of the W-2 alternative. Due to the prior receipt of LAWCON funding, Riverside Park is also a protected 6(F) resource.

6. Carver has a long history of protecting its historic downtown, located on the National Register. The Historic District and the historic approach to the district along CR 40 would be adversely impacted both visually and by noise as a result of the W-2 alternative. The impacts to the Historic District have not been

2

RESPONSE

City of Carver (continued)

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COMMENT

documented for Section 106 purposes, nor has the constructive use impacts under Section 4(f) been documented.

7. The future vitality of Carver's historic downtown relies upon maintaining a turn-of-the-century sense of place and embracing its historic reliance upon the river. The downtown commercial core is not of sufficient size to compete against the larger retail areas that will be located in Carver and other nearby communities. The historic commercial core needs to transition to a destination area serving as a local gathering place and a destination point for visitors in order to maintain vitality. Adverse impacts to the sense of place of the historic downtown along with visual and noise impacts to the refuge and Riverside Park are anticipated to negatively impact the number of visitors to both the historic downtown and the refuge, which in turn would negatively impact the economic vitality of Carver's historic core business district.

8. Although the City recognizes that the other alternatives also impact resources that are worthy of preservation, the City is concerned that avoidance of those resources merely means that Mn/DOT or FHWA is not the entity charged with protecting them. For example, although the Seminary Fen may be protected under state law from being directly developed, development in other areas may impact the water source that flows to the fen, resulting in future additional degradation of the resource. Avoidance is not sufficient to protect the many resources, both historic and cultural, that are worthy of protection but that are currently afforded little or no protection.

9. The City does not anticipate that selection of W-2 or C-2 would be beneficial to the City's future commercial industrial areas west of CSAH 11. Although increased traffic is generally recognized as being beneficial to commercial areas, the City is concerned that an interchange that is not sufficient to handle the traffic volume and movements of two river crossings while still functioning as the City's primary local access to TH 212 would have a detrimental impact on what will be fully-developed commercial areas by the time that construction is commenced on new TH 41.

THEREFORE, the City of Carver makes the following recommendations:

1. The negative impacts on the City of Carver are significantly greater than the positive impacts bestowed by either a W-2 or C-2 alternative.

2. The City strongly encourages and supports Mn/DOT in its thorough review and response to the comments that it has received from the DEIS prior to selecting a preferred alternative.

3

RESPONSE

City of Carver (continued)

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COMMENT

3. The City requests that Mn/DOT complete additional analysis to evaluate the functionality of the proposed interchanges of C-2 and W-2 with TH 212.

4. The City requests that if any alternative is removed from consideration due to the desire to protect a resource, whether cultural or historical, that management plans be developed and implemented to protect those resources rather than to simply avoid them.

Adopted and approved by the City Council of the City of Carver on a vote of 5 ayes and 0 nays effective on the 17th day of September, 2007.

James Weygand, Mayor

Attest:

Patricia Plekkenpol, City Clerk

Carver/th 41/resolutions/carver councilres th41
First Draft 9/13/07

4

RESPONSE

City of Carver
(continued)

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COMMENT

CITY OF CARVER

May 21, 2013

Ms. Diane Langenbach
MN/DOT – Metro Program Delivery
Waters Edge Building MS 050
1500 W. County Road B-2
Roseville, MN 55113

Dear Ms. Langenbach:

In light of the work that the River Crossing Implementation Collaborative (RCIC) has completed over the past five years, the City is supplementing its original comment letter on the Draft Environmental Impact Statement dated August 9, 2007, in order to assist MN/DOT in addressing the comments within the upcoming Final Environmental Impact Statement (FEIS).

Since it is our understanding that a modified version of the C-2 corridor has been selected, the City chooses not to further pursue any comments or arguments related to the W-2 corridor.

The concerns outlined in the City's August 9, 2007, letter regarding the C-2 corridor should still be addressed in the FEIS. Specifically, the following remain as a concern of the City:

A 1. The document does not provide evidence to support the conclusion made that the proposed TH 212/TH 41/CSAH 11 interchange can support the new TH 41 traffic as well as the existing and planned traffic already impacting the CSAH 11/TH 212 interchange.

B 2. The City of Carver's concern in Item 1 above and more fully described in the August 9, 2007, letter is further exacerbated by the planned interchange of the City of Chaska at CR 140. Carver is of the opinion that this new interchange on TH 212 in close proximity to the CSAH 11 interchange is a new variable that has the potential to further decrease the functionality of the CSAH 11 interchange under the C-2 option. If the interchange at CR 140 has been approved by MN/DOT, then the FEIS should contemplate that interchange as well.

C 3. Local access and right of way acquisition concerns have changed since the August 2007 letter was sent. The Spring Creek neighborhood (located in the SE quadrant of the CSAH 11/TH 212 interchange) has been fully built-out.

Box 147 • Carver, Minnesota 55315 • **Phone** 952-448-5353 • **Fax** 952-448-6199

RESPONSE

City of Carver (continued)

A. The system interchange will be designed with enough capacity to operate safely and efficiently. In the Tier II EIS, updated traffic counts, traffic projections, traffic modeling, etc. will be done to inform the design details necessary for a well-functioning system interchange that will serve both local Carver and Chaska traffic as well as regional traffic. In addition, the Tier II EIS will consider a TH 41 local interchange, possibly at CR 61. Preliminary study results show that an interchange at TH 41/CR 61 could relieve some traffic from TH 41/TH 212/CSAH 11 and result in a better operating roadway system. This will not be decided until more analysis is done in the Tier II EIS.

B. Additional traffic analysis will be done at the time of the Tier II EIS to ensure that all interchanges (CSAH 11, CR 140, Engler Boulevard, and TH 41) will operate acceptably.

C. Comment noted. Following the completion of the TH 41 Tier I EIS and obtaining a Record of Decision, Mn/DOT will work with local partners to officially map the corridor. This will precipitate discussion about how much land to preserve for the new TH 41 crossing, especially at the two system interchanges where a larger footprint is needed. The objective will be to limit develop or allow uses that will not be prohibitively expensive to buy out once funding is available for construction. While Mn/DOT will participate in these discussions and provide input as necessary, the officially mapping process and right of way acquisition is done by the local city or county. This is often done using Met Council's RALF (right of way acquisition loan fund) funds to purchase land from willing sellers. At the time of project implementation MnDOT would acquire the required right of way, including any land previously acquired by the cities or counties as corridor preservation.

COMMENT

D

Finally, it should be noted that the context under which the DEIS was written has changed. Specifically affecting Carver, the following have occurred:

1. The City of Carver has entered into an Orderly Annexation Agreement for over 4000 acres in Dahlgren Township, and has commenced annexing and developing land within that area. The DEIS did not contemplate this level of development in Carver, particularly within the traffic analysis.

The City of Carver remains committed to partnering with the RCIC regarding this project. If you have any questions regarding this letter, please contact Cindy Nash, City Planner, at 763-473-0569.

Sincerely,

Greg Osterdyk
Mayor

RESPONSE

City of Carver (continued)

D. Comment noted. Information regarding the Orderly Annexation has been added to Section 5.0 of the Tier I FEIS. The Tier II EIS process will include updated traffic forecasts based on information available at the time.

COMMENT

CITY OF CHANHASSEN
7700 Market Boulevard
PO Box 147
Chanhassen, MN 55317

Administration
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Engineering
Phone: 952.227.1160
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Finance
Phone: 952.227.1140
Fax: 952.227.1110

Park & Recreation
Phone: 952.227.1120
Fax: 952.227.1110

Recreation Center
2310 Coulter Boulevard
Phone: 952.227.1400
Fax: 952.227.1404

Planning & Natural Resources
Phone: 952.227.1130
Fax: 952.227.1110

Public Works
1591 Park Road
Phone: 952.227.1300
Fax: 952.227.1310

Senior Center
Phone: 952.227.1125
Fax: 952.227.1110

Web Site
www.ci.chanhassen.mn.us

August 10, 2007

Ms. Diane Langenbach
Project Manager
Minnesota Department of Transportation – Metro Division
1500 West County Road B2
Roseville, MN 55113

Re: Trunk Highway 41 Minnesota River Crossing
Draft Environmental Impact statement (DEIS)

Dear Ms. Langenbach:

The City of Chanhassen has reviewed the draft EIS referenced above and has the following comments:

TECHNICAL COMMENTS

A **Section 1.7, page 1-10:** The document should identify that the alignment should also be included as part of the Metropolitan Council's future highway system so that it would be eligible for Right-of-way Acquisition Loan (RALF) funds, which may be used for the purchase of property within the right-of-way of a state trunk highway shown on an official map adopted pursuant to section 394.361 or 462.359 Minnesota Statutes, or for the purchase of property within the proposed right-of-way of a principal or intermediate arterial highway designated by the council as a part of the metropolitan highway system plan and approved by the council pursuant to section 473.166 Minnesota Statutes.

B **Section 2.2.1.1, Table 2-1, page 2-3**: The City of Chanhassen does not agree that Chanhassen's population will be 45,900 in 2040. The Metropolitan Council's 2030 population projection for Chanhassen is 38,000.

C **Section 2.2.4.2.2, page 2-18:** Light rail transit opportunities are also provided within the new US 212 corridor. Commuter rail is being studied using the Twin Cities & Western rail corridor.

D **Section 2.2.4.3.3, City of Chanhassen, page 2-20:** The discussion should also add the need for improvement of the existing Highway 101 facility from TH 212 to Shakopee (river crossing). To help improve the river crossing in the short term, this corridor should be improved.

C **Section 4.7.3, page 4-24:** Light rail transit opportunities are also provided within the new US 212 corridor. Commuter rail is being studied using the Twin Cities & Western rail corridor.

The City of Chanhassen • A growing community with clean lakes, quality schools, a charming downtown, thriving businesses, winding trails, and beautiful parks. A great place to live, work, and play.

RESPONSE

City of Chanhassen

A. Comment noted. Official mapping and right of way acquisitions using RALF are topics of continuing interest to the RCIC and are addressed in the RCIC report.

B. The population projections in Table 2-1 are for 2040, not 2030. As noted in the footnote for this table, the 2040 projections were made for the DEIS with input from local agencies and Metropolitan Council staff.

C. Comment noted. Light rail transit opportunities will be considered in the Tier II EIS.

D. This was discussed in the RCIC process. TH 101 has now received flood mitigation state funding and local funding. Construction will begin in summer 2014.

COMMENT

Ms. Diane Langenbach
August 10, 2007
Page 2 of 3

B **Section 5.1.1.1, Table 5-1, page 5-2:** The City of Chanhassen does not agree that Chanhassen's population will be 45,900 in 2040. The Metropolitan Council's 2030 population projection for Chanhassen is 38,000.

Subject to these revisions, the City of Chanhassen is of the opinion that the amount and type of information and analysis included in the DEIS is adequate to make a decision regarding the preferred corridor alignment for a new river crossing as proposed for the Tier I review.

ALIGNMENT RECOMMENDATIONS

The end result of the DEIS is to identify a preferred alignment for the new river crossing. The preferred alignment should be both a cost-effective solution and minimize social, economic and environmental impacts. In order to arrive at a preferred alignment, the City recommends that the alignments be ranked based on the following criteria:

1. Benefit/Cost Ratio
2. Residential Units needed to be Acquired
3. Environmental Justice
4. Business Impacted
5. Employees impacted
6. Vegetation impacts (composite of ranked impacts)
7. Wetland Impacts
8. Impacts to the Seminary Fen

E

	W2	C2	C2A	E1	E1A	E2
Benefit/Cost Ratio	1	2	3	6	5	4
Residential Units Acquired	1	2	3	6	4	5
Environmental Justice	1	2	3	5	4	6
Business Impacted	3	5	6	1	4	2
Employees Impacted	4	2	5	3	6	1
Vegetative Impacts	4	2	6	1	3	5
Wetland Impacts	3	2	6	1	4	5
Seminary Fen Impacts	1	1	1	4	5	6
Total	**18**	**18**	**33**	**27**	**35**	**34**

In preparing these rankings, the City relied on the information contained within the Impact Summary Table 1-4 of the DEIS. No one criterion was granted additional weight. A rank of 1 is the best alignment or least impact based on the specific criterion. A rank of 6 is the worst alignment or most impact based on the specific criterion. The City of Chanhassen recommends that the preferred alignment be chosen from the alignment with the lowest total score.

The City of Chanhassen strongly supports the continued protection and preservation of the Seminary Fen Wetland Complex (SFWC). This resource represents one of the few calcareous fens in the metropolitan area. The SFWC, as pointed out in the DEIS, is a rare and threatened type of wetland that is sensitive to changes in water chemistry and groundwater flows. Some comments have been made that the fen has been degraded. However, the DEIS specifically

RESPONSE

City of Chanhassen (continued)

E. The City of Chanhassen ranked the six alignments and W-2 and C-2 were their preferred alternatives. A further refined Alternative C-2 has been selected as the preferred alternative.

COMMENT

Ms. Diane Langenbach
August 10, 2007
Page 3 of 3

states "the SFWC is considered to be relatively pristine". The City of Chanhassen opposes any alignment that would negatively impact the SFWC. Given that the SFWC is impacted, the old saying "*two wrongs don't make a right*" applies. We should work toward creating a management plan for the fen, rather than approving a roadway alignment that will further fragment and negatively impact the long-term quality of this regional resource.

E We believe that other governmental agencies are attempting to use traffic as the sole basis for the selection of the easterly alignments. This factor is already included and given the appropriate weight in the Benefit/Cost analysis. Analysis of transportation impacts (see enclosed transportation impact analysis) shows that the E-1, E-1A and E-2 alignments show an increase of 14,000 - 20,000 trips per day to new Highway 212 at CSAH 17 without a proportional reduction to the other river crossings. This will create an uneven distribution of regional traffic relative to the other alignments.

Ultimately, the Minnesota Department of Transportation must rely on its analysis of the DEIS to make a decision on the alignment, which we believe clearly shows that alignments C-2 or W-2 are the most cost effective and socially, environmentally and economically sensitive alignments. The DEIS impact analysis charts clearly show that the benefit/cost ratio is greatest the further west the alignment. Based on the findings detailed in this letter and the information in the DEIS, the City is adamantly against the E-1, E-1A and E-2 alignments to such an extent that we would not support any of these alignments.

If you have any questions or need additional information, please contact me at (952) 227-1131 of tgerhardt@ci.chanhassen.mn.us.

Respectfully,

Todd Gerhardt
City Manager

Enclosure

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RESPONSE

City of Chanhassen
(continued)

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COMMENT

TH 41 DEIS Transportation Impact Analysis

	No Build	W-2	C-2	C-2A	E-1	E-1A	E-2
New River Crossing	-	45,000	48,000	43,000	56,000	56,000	59,000
CSAH 9/45	25,100	19,200	21,600	21,300	20,800	21,300	21,300
TH 41	36,500	24,700	22,000	24,800	23,800	25,100	24,200
Highway 101	34,000	30,400	30,000	29,900	24,800	24,300	23,300
US 169	141,000	135,000	135,000	135,000	131,000	129,000	129,000
I-35W	133,000	133,000	133,000	133,000	132,000	132,000	132,000
NEW US 212 (West of CSAH 17)	79,000	76,000	76,000	78,000	90,000	95,000	96,000
US 212 (West of Carver)	47,000	51,000	52,000	52,000	40,500	39,300	40,500
TH 41 (South of New US 212)	34,000	36,600	35,600	32,600	31,600	31,600	31,600
Scott County 69	12,500	15,000	16,500	15,000	12,400	11,600	15,800
Scott County 78	22,000	14,400	15,000	17,200	13,300	13,700	13,600
			Traffic Change from No Build Alternative				
New River Crossing	-	45,000	48,000	43,000	56,000	56,000	59,000
CSAH 9/45	-	(5,900)	(3,500)	(3,800)	(4,300)	(3,800)	(3,800)
TH 41	-	(11,800)	(14,500)	(11,700)	(12,700)	(11,400)	(12,300)
Highway 101	-	(3,600)	(4,000)	(4,100)	(9,200)	(9,700)	(10,700)
US 169	-	(6,000)	(6,000)	(6,000)	(10,000)	(12,000)	(12,000)
I-35W	-	-	-	-	(1,000)	(1,000)	(1,000)
NEW US 212 (West of CSAH 17)	-	(3,000)	(3,000)	(1,000)	11,000	16,000	17,000
US 212 (West of Carver)	-	4,000	5,000	5,000	(6,500)	(7,700)	(6,500)
TH 41 (South of New US 212)	-	2,600	1,600	(1,400)	(2,400)	(2,400)	(2,400)
Scott County 69	-	2,500	4,000	2,500	(100)	(900)	3,300
Scott County 78	-	(7,600)	(7,000)	(4,800)	(8,700)	(8,300)	(8,400)

g:\plan\bg\TH 41 River Crossing\EIS Comments\Transportation Impact Analysis

RESPONSE

City of Chanhassen
(continued)

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COMMENT

Chaska

July 20, 2007

Ms. Diane Langenbach
MnDOT
Waters Edge Building
1500 W. Co Rd B2
Roseville, Mn. 55113

Dear Ms. Langenbach,

The Chaska City Council had the opportunity at a recent work session to review the Draft Environmental Impact Statement for the Highway 41 Minnesota River Crossing. After review of the EIS, the Council unanimously agreed that a new Highway 41 corridor is required and that the No Build Alternative is not viable. Given the current and forecasted traffic flows, the existing corridor clearly fails and can no longer serve as a regional river crossing. It is evident to us that the State Highway and Chaska's downtown business district will not be able to coexist in the future.

After reviewing the alternatives identified in the EIS, the City Council felt it was evident that corridors C-2, C-2A, E-1, and E-1A presented insurmountable problems to the community and should not be considered as preferred alternatives. Not only are these corridors inconsistent with the City's long-term land use planning, each of these options would cause significant disruption to the community.

Corridors E-2, and especially W-2, are viewed by the City as viable options, although a number of issues need to be addressed on each layout. In reviewing the key criteria identified in the EIS, after excluding those factors where each of the alternatives are generally equal, the W-2 alternative would appear to be the preferred route. The W-2 alternative has:

- Highest cost benefit ratio – 3.43
- Least impact on low and moderate income housing – zero
- Low impact on existing properties – 7
- Low impact on existing businesses – 6
- Least impact on City parks and trails – zero
- Least impact on Seminary Fen – zero

A **Based on the draft Environmental Impact Statement evaluation and the Council's knowledge of the Chaska area, the Chaska City Council at its July 16th meeting unanimously endorsed W-2 as the preferred alternative and urged MnDot to selected W-2 as the preferred alternative in the final EIS.**

City Of Chaska Minnesota One City Hall Plaza 55318-1962 Phone 952/448-9200 Fax 952/448-9300

RESPONSE

City of Chaska

A. The City of Chaska's concerns have been addressed in the RCIC public involvement process that has been on-going since January 2009. The RCIC report documents this process and explains how all of the stakeholders' concerns have been worked through to arrive at the refined C-2 preferred alternative.

COMMENT

Other than the impact on the Federal Fish and Wildlife land, the W-2 corridor is clearly the alternative with the least environmental impact. The W-2 alternative would fragment the US Fish & Wildlife Refuge. However, an opportunity exists to mitigate for the proposed W-2 alignment through the elimination of an existing crossing through the refuge area. The Union Pacific has a rail spur that starts south of the Minnesota River parallels a significant length along the Minnesota River, then crosses the river at Carver and then proceeds into Chaska. Earlier this year, one of the three bridges on that spur collapsed into the Minnesota River, and due to the high cost of replacement Union Pacific is working to abandon the line. The acquisition of this rail line would reconnect the refuge to a significant length of the Minnesota River. The City of Chaska stands willing to work with MnDot to preserve this mitigation opportunity for the W-2 alternative.

Although Chaska realizes that selecting a preferred alternative is difficult given the scope of the project, our hope is that MnDot would be able to reach an agreement with each of the interested parties in order to select a corridor in the near future. Immediately following identification of the preferred route, we would urge you to initiate right-of-way acquisition to preserve the corridor prior to development.

The City of Chaska is committed to being a partner with MnDot in identifying a new river crossing and initiating construction in the foreseeable future. Chaska also looks forward to working in an evolving coalition of area local governments with one of its objectives seeking to reach a local consensus on a preferred corridor. Continued reliance on the existing Trunk Highway 41 river crossing is not an option, given the increased traffic volume along the corridor and development in this section of the region. Prior to closure of the public comment period, Chaska will be providing a more formal response to the EIS.

If you have any questions concerning Chaska's position on the Environmental Impact Statement, please feel free to contact me at your convenience.

Sincerely,

Gary Van Eyll
Mayor, City of Chaska

GVE:ms

RESPONSE

City of Chaska
(continued)

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COMMENT

August 10, 2007

Attention: Diane Langenbach, P.E., Project Manager
Minnesota Department of Transportation – Metro Division
1500 W County Rd. B2
Roseville, MN 55113

Re: City of Shakopee Comments on the "Tier I Draft Environmental Impact Statement; Minnesota 41 Minnesota River Crossing"

Dear Ms. Langenbach:

The above-captioned EAW has been reviewed with the Shakopee City, and the following comments are offered by the City of Shakopee.

Adequacy of the Tier I DEIS:

The amount and type of information and analysis included in the DEIS provides an adequate basis for making a decision about the preferred corridor alignment for a New River Crossing connecting TH 169 and TH 212. The City of Shakopee recognizes that there are a number of detailed engineering, environmental, and impact issues that cannot and would not be fully answered until the Tier II EIS process is undertaken.

Comments on Primary Issues:

From the City of Shakopee's perspective, the following are the primary issue/impact areas on which the following comments are based;

- Transportation Impacts;
- Land Use Impacts;
- Natural Resource Impacts;
- Social Justice Impacts.

Transportation Impacts:

Access to Downtown Shakopee:

A One of the City of Shakopee's principal concerns throughout this process has been that, whatever alternative is selected, direct and convenient access to CSAH 69 and thus Shakopee's Downtown be preserved. The DEIS alternatives do now provide for this access to be preserved. However, the local roadway connections would not be built as a part of the New River Crossing construction. As a result, it will be important for the

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RESPONSE

City of Shakopee

A. Comment noted. The RCIC process has discussed the importance of keeping the downtowns of Shakopee and Chaska healthy and viable with adequate access. This has been documented in the RCIC report that is referenced in the Public Involvement section of the FEIS.

COMMENT

A City, the County and MnDOT to continue to work cooperatively to make sure that funding is put in place (either in advance of the New River Crossing or at the time of its construction) to construct the needed ramps and local roadway connections that will, in fact, make sure Shakopee's Downtown remains conveniently accessible over the long term.

Impacts on the Regional Transportation System:

It took only about 10 years for TH 169 and the new Bloomington Ferry Bridge to reach capacity during the peak traffic hours. In the same time, traffic on the TH 101 crossing has grown to about the same level it was before the opening of TH 169. If a New River Crossing is not constructed, it is projected that the capacity of the TH 41 and TH 101 crossings will be significantly exceeded, and the average daily traffic (ADT) on TH 169 will grow to 141,000 vehicles per day. The traffic analysis contained in the Tier I DEIS coupled with regional expectations for future growth in both Scott and Carver Counties makes it clear that a "no-build" alternative is not viable.

B All of the alternatives have an impact in reducing traffic on other roadways within the regional system. However, the "E" (or easterly) alternatives have the greatest positive impact in reducing ADT numbers on TH 169 and the TH 101 river crossing.

A key consideration in determining where to locate the New River Crossing ought to be whether it is spaced in such a way to best serve both existing development and new areas of growth. An illustrative comparison that shows appropriate spacing is Dakota County. Dakota currently has a population of about 440,000. It is served by no less than six (6) river crossings that are not susceptible to flooding, all in a space of about 16 miles (an average of one crossing every 2.3 miles). By contrast, Scott County has a current population of about 120,000+. By 2040, it is projected to grow to about the same size as Dakota County. There are only two (2) river crossings in about a 14-mile stretch in Scott County that are not prone to flooding (TH 169 and CSAH 25). For the next several years, it is expected that a large portion of the growth in Scott County will continue to occur in the northern part of the County. To serve that growth, a New River Crossing should be located so that it can serve that growth. For the long-term future, there will, of course, be a need for additional river crossing(s) beyond the one that is the subject of this DEIS to serve areas farther to the south and west as they develop.

Land Use Impacts:

C A major potential area for urban expansion in the future for the City of Shakopee consists of land that is currently within Jackson Township, with which the City has an orderly annexation agreement. The City's long-term planning has for years posited that the important CSAH 69/TH 169 corridor is a logical location for future high quality commercial and industrial/business park development. The ultimate choice of river crossing alignments has significant implications for whether these kinds of high quality uses can and will develop in western Shakopee and Jackson Township. The implications of the alignments for logical and desirable growth and development are outlined below;

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RESPONSE

City of Shakopee (continued)

B. An eastern alignment was not selected due to the insurmountable impacts to the Seminary Fen as well as the Environmental Justice impacts. The reasons for selecting the refined C-2 alternative are documented in Section 3.0 of the FEIS and in the RCIC report.

C. Comments noted. Alignments W-2, E-1, E-1A, C-2A and E-2 not selected as the preferred alternative. The Tier I EIS process allows for planning around the identified preferred alternative corridor.

COMMENT

Alternative W-2:

On the Scott County side, W-2 would be located in Louisville Township. The interchange between the crossing and TH 169 would be located very close to the bluff line that runs northeast to southwest from Shakopee to Jordan, leaving little opportunity in the immediate vicinity for the development of high quality land uses. Depending on when constructed, the W-2 location of the crossing and interchange might also tend to spur development to the south of the interchange in advance of development further north in Scott County along the TH 169 corridor. Further, whatever the timing of construction, a W-2 location would likely have an impact on the desirability of the northern portion of the TH 169/CSAH 69 corridor as a location for high quality commercial and business park development in northern Scott County.

C *Alternative C-2 and C-2A:*

On the Scott County side, C-2/C-2A are located in both Jackson and a small portion Louisville townships. Staff does not expect that the C-2/C-2A alignments would have a significant impact on planned or expected urban commercial and business park uses in the northern portion of the TH 169/CSAH 69 corridor.

Alternatives E-1/E-1A/E-2:

On the Scott County side, these alignments are located in Jackson Township, near the Shakopee city limits. Staff does not expect that these alignments would have a significant impact on planned or expected urban commercial and business park uses in the northern portion of the TH 169/CSAH 69 corridor. However, should one of these alignments (or a variation thereof) be chosen, key to the future land use success of this area will be decisions about the location of supporting local roadway connections, and the impact they may have on the developability of adjacent lands for the intended commercial and business park uses.

Natural Resource Impacts:

D All of the proposed alternatives have environmental impacts, whether they are to the Minnesota Valley Wildlife Refuge Area, Minnesota Valley Recreation Area, Seminary Fen, federal Fish and Wildlife holdings, corridors identified on the Shakopee Natural Resource Corridor Map or other resources. The Seminary Fen is a unique calcareous wetland with special protections under Minnesota Statutes. While the Seminary Fen has a high level of statutory protection, it is on land currently held privately and there is no management plan in place for the Fen. The Fen would be impacted by the E-1, E-1A and E-2 (easterly) alternatives studied in the DEIS. However, the Seminary Fen study conducted as a part of this DEIS concluded that, because there is no management plan in place, the Fen will continue to degrade in any event because of impacts from growth and development in the area.

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RESPONSE

City of Shakopee (continued)

D. An eastern alignment was not selected as the preferred alternative. The Seminary Fen is now designated as a Scientific and Natural Area and is managed by the MnDNR.

COMMENT

D In its review of the DEIS, the City of Shakopee's Environmental Advisory Committee (EAC) expressed their preference for an alternative that would not impact the Seminary Fen. In its own consideration of the DEIS, the Shakopee City Council took into account the EAC's recommendation. Given the other factors to be evaluated, the Shakopee City Council concluded that those alternative alignments may provide the greatest overall benefit to the regional transportation system. In that case, the project should be used as a catalyst to a) find ways to minimize the impacts to the Fen, and b) develop an effective long-term plan for management of the Fen. There is currently no management plan in place for the Seminary Fen, and it may be that selection of one of the easterly alternatives (or a combination thereof) might provide impetus for the MnDNR and MnDOT to cooperatively develop a management plan for this unique resource. Indeed, the City of Shakopee recommends that discussions aimed a the development of a management plan for the Seminary Fen commence as soon as possible between MnDOT and MnDNR at the commissioner level. For that reason, a copy suggests that a copy of the comment letter be sent to the Commissioner of the MnDNR as well.

Social Justice Impacts:

E As the attached table shows, the easterly alternatives have the most impacts in terms of potential residential relocation, a large part of which would be mobile/manufactured homes. Currently these impacts are to homes which are outside the City of Shakopee. However, given the importance placed in the Metropolitan Area on providing housing opportunities for people of low to moderate incomes, in the event that an easterly alternative is chosen, the City of Shakopee recommends that the Metropolitan Council (which currently dictates how much affordable housing communities must guide land for) take a lead role in convening discussions between the Council, Carver and Scott Counties, and the communities within the Counties to determin how and where to provide housing for those who would be impacted by these alignments. For that reason, a copy of the comment letter is being forwarded to the to the Chair of the Metropolitan Council, Peter Bell. It is also important that such homes be acquired as they become available before the start of the actual project to decrease long-term costs and better facilitate voluntary relocation of the residents.

On behalf of the City of Shakopee, I look forward to further discussions that may occur prior to the making of a record decision in this matter. I also look forward to ongoing discussions involving MnDOT, MnDNR and the Metropolitan Council respectively regarding the mitigation of natural resource impacts, specifically to the Seminary Fen, and impacts to affordable housing.

Very truly yours,

Mark McNeill
City Administrator

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RESPONSE

City of Shakopee (continued)

E. An eastern alignment was not selected as the preferred alternative.

COMMENT

RESOLUTION NO. 6638

A RESOLUTION OF THE CITY OF SHAKOPEE, MINNESOTA APPROVING THE SUBMITTAL OF COMMENTS ON THE TIER I DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) FOR THE "TH 41 NEW MINNESOTA RIVER CROSSING"

WHEREAS, the Minnesota Department of Transportation (MnDOT) has prepared and released for comment a Tier I DEIS; and

WHEREAS, the deadline for comments is Friday, August 10, 2007; and

WHEREAS, both staff and elected representatives of the City of Shakopee have been involved in the development of the Tier I DEIS through the various public input committees that were established; and

WHEREAS, the Tier I DEIS provides sufficient and detailed information and analysis on which MnDOT and the Federal Highway Administration (FHWA) can make a decision on the most appropriate alignment for a new river crossing connecting TH 169 and Th 212; and

WHEREAS, the City Council of the City of Shakopee has reviewed both the process for developing the Tier I DEIS and the DEIS itself, and

NOW THEREFORE, BE IT RESOLVED by the City Council of the City of Shakopee, Minnesota that it adopts the following findings relative to the above-named DEIS;

1. That the E-1, E-1A and E-2 (easterly) alignments have the greatest positive impact on the regional transportation system by providing congestion relief on TH 169, TH 101 and TH 41;
2. That the easterly alignments best serve existing and logical future growth and development patterns in the City of Shakopee and Scott County;
3. That the W-2 alignment has the least positive impact on the overall regional transportation system;
4. That the W-2 alignment has the greatest potential to negatively impact land use growth and development patterns in northern Scott County;
5. That the C-2 and C-2A alignments have the greatest potential impact on natural resources;
6. That the easterly alignments impact a significant natural resource, to wit the Seminary Fen, which is not currently the subject of a management plan, and that, absent a management plan, the Seminary Fen will continue to degrade;
7. That the easterly alignments have significant social justice impacts, in that they would result in the relocation of a large number of residents of mobile/manufactured homes.

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RESPONSE

City of Shakopee (continued)

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COMMENT

BE IT FURTHER RESOLVED, that the Shakopee City Council believes that the easterly alignments, or a variation thereof, best serves regional and local transportation needs, as well as best supporting sound future growth and development in the City of Shakopee, including its historic Downtown, and Scott County. For those reasons, the Shakopee City Council supports the preservation of one of the easterly corridors or some combination thereof; and

BE IT FURTHER RESOLVED, that the Shakopee City Council supports the immediate commencement of discussions between MnDOT and MnDNR at the commissioner level aimed at the development of a long-term management plan for the Seminary Fen, as well as the management of impacts that would result from a new river crossing following an easterly alignment; and

BE IT FURTHER RESOLVED, that the Shakopee City Council supports efforts and discussion between the Metropolitan Council, Scott and Carver counties, and the cities within Scott and Carver counties opportunities to address long-term affordable housing needs in the event that a new river crossing project utilizes an easterly alignment; and

BE IT FURTHER RESOLVED, that the Shakopee City Council supports having the Legislature make available additional funds to assist in the acquisition of land for, and construction of, this project well in advance of its currently contemplated timeframe, and

BE IT FURTHER RESOLVED, that the eventual construction of the TH 41 New Minnesota River Crossing will not eliminate the need for the provision of additional flood-proof and reliable crossings of the Minnesota River, given the anticipated growth of the Scott and Carver County region.

Adopted in regular session of the City Council of the City of Shakopee, Minnesota, held the _____ day of _____, 2007.

_____
Mayor of the City of Shakopee

Attest:

_____
Judith S. Cox, City Clerk

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RESPONSE

City of Shakopee (continued)

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COMMENT

Lower Minnesota River Watershed District

Len Kremer, President
Hennepin County
Ron Kraemer, Vice President
Dakota County
Edward A. Schlampp, Treasurer
Hennepin County

Kent Francis, Secretary
Carver County
Lawrence Samstad, Manager
Scott County
Terry L. Schwalbe, Administrator
Cell (952) 221-1089

September 13, 2007

Ms. Diane Langenbach
Project Manager
Mn/DOT Metro Program Delivery
Waters Edge Building MS 050
1500 West County Road B-2
Roseville MN 55113

Ms. Langenbach:

The Lower Minnesota River Watershed District (LMRWD) has reviewed the Tier I Draft Environmental Impact Statement (DEIS) for the Trunk Highway 41 Minnesota River Crossing, and offers the following comments to emphasize the LMRWD's commitment to the conservation and enhancement of the uniquely valuable, fragile and irreplaceable natural resources present within its jurisdiction. The Board of Managers of the LMRWD appreciates your willingness to accept this letter after the close of the comment period on the DEIS.

A Each of the Highway 41 corridor alternatives examined in the DEIS passes through the Lower Minnesota River Watershed. The LMRWD cannot support any of the proposed Build alternatives, but wishes to convey its strong opposition to the three eastern alignment corridors (E-1, E-1A and E-2). The LMRWD finds that while unique and valuable natural resources are present throughout the DEIS study area, the calcareous Seminary Fen (and the associated Assumption Creek trout stream) are particularly important to maintaining the ecological health of the Minnesota River valley. The LMRWD acknowledges the extensive research and analysis of the fen and the creek that have been conducted by Mn/DOT. The LMRWD further recognizes that Seminary Fen (and Assumption Creek) have suffered degradation from a variety of impacts, but as the DEIS acknowledges, the characteristics and qualities that earned these natural resources protected regulatory status endure, and the LMRWD is committed to protect and restore these qualities to the fullest extent possible.

1600 Bavaria Road
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E-mail terrys@lowermn.com

RESPONSE

Lower Minnesota River Watershed District

A. Comment noted. None of the eastern alignment corridors (that would have affected the Seminary Fen) were selected as the preferred alternative. The rationale for identification of refined Alternative C-2 as the preferred alternative is presented in Chapter 3 of the Tier I FEIS.

COMMENT

Lower Minnesota River Watershed District

The LMRWD has an established and ongoing organizational focus on the restoration, sound management and conservation of water resources within its jurisdiction. *See* Minn. Stat. §§ 103D.201, .335 (authorizing watershed district managers to, among other activities, regulate impacts to water resources within the watershed, acquire property, and implement water resource management programs). The LMRWD also, pursuant to its statutory authority, provides technical review of stormwater runoff management and erosion control plans for development projects. Seminary Fen is one of the primary natural resource amenities in the watershed. See http://www.watersheddistrict.org/intro.html. The LMRWD's 1999 watershed management plan, produced in accordance with Minn. Stat. § 103B.231, identifies collaborative strategic evaluation and management of district resources, including calcareous fens specifically, as one of its four primary initiatives. *See* Lower Minnesota River Watershed District Watershed Management Plan, pp. 1-5 – 1-6. http://www.watersheddistrict.org/plan.html. Pursuant to this focus, the LMRWD has collected, analyzed and distributed reports on water-resource data on both Seminary Fen and Assumption Creek. *See* http://www.watersheddistrict.org/reports.html. It is a goal of the Lower Minnesota River Watershed District to work with other units of government, private citizens, and local organizations to provide strategic resource evaluation and management.

As no doubt you are aware, the Minnesota Department of Natural Resources (DNR) is actively engaged in efforts to acquire Seminary Fen. The Minnesota Legislature has appropriated acquisition funds to the DNR, with the stated intention to manage the fen as an aquatic management area in part, a scientific and natural area in part and a wildlife management area in part. 2003 Minn. Laws, 1st Special Session, chap. 20, sec. 5, subd. 9. On completing a transaction, steps will be taken to develop a restoration and management plan for Seminary Fen. Further, the calcareous fen studies conducted for Mn/DOT as part of the development of the DEIS identified and documented the unique natural resource values of the land north of the railroad tracks on the northern border of the portion of the fen the DNR is now seeking to purchase. These values make these lands a high priority for acquisition, restoration and protection as well.

The DNR's focus on Seminary Fen is well warranted, as it represents a substantial and irreplaceable resource within one of the last, best – and most threatened – stretches of pervious greenspace in the metropolitan Twin Cities area. *See* Twin Cities Metropolitan Area: Impervious Surface Classifications and Change, 1986 to 2002, *at* http://land.umn.edu/quickview_data/index.html. The agency has found that calcareous fens such as Seminary Fen are "[t]he rarest of fens," because their unique combination of alkaline soil and cold water gives rise to rare plants such as beaked spike-rush, a state threatened species. "Fighting for Fens," DNR Fish & Wildlife Today, Fall 1997, *at* www.dnr.state.mn.us/fwt/back_issues/september 97/fens.html. (As the DEIS notes, Seminary Fen houses a total of five threatened species and three state species of special concern.) DNR indicates that there are only 500 calcareous fens in the world and that Seminary Fen is "one of the most important natural areas in the entire metro region." *Id.* The uniquely valuable nature of Seminary Fen is further illustrated by its designation in

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RESPONSE

Lower Minnesota River Watershed District (continued)

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COMMENT

Lower Minnesota River Watershed District

2002 as one of the 10 original "Twin Cities Treasures" by the multimember Embrace Open Space campaign. *See* www.embraceopenspace.org/learn/t_seminary.aspx. The DEIS acknowledges that the feasibility of calcareous fen replacement is fraught with uncertainties. Bob Djupstrom of the DNR eloquently summarized the challenge of the endeavor in a June 25, 2003, quote in the *Chaska Herald*: "It takes months or maybe even years to construct a building. It took 8,000 to 10,000 years to build a calcareous fen. … We know for a fact that we can build a building on almost any parcel of land outside of a fen but we know we can't recreate a fen."

In keeping with the natural resources initiative stated its watershed management plan, the LMRWD has been and remains a committed member of the coalition of organizations ready to contribute funds and support, as needed, to help the DNR acquire Seminary Fen. The LMRWD also will substantially contribute to and actively participate in efforts to develop restoration and management plans for the fen, per Minnesota Rules 8420.1050 (permitting the commissioner of the DNR to approve calcareous fen restoration or upgrade plans). The LMRWD will explore, with all relevant partners, options to restore the functions and values of the calcareous fen and associated buffer areas, and will work, through its development-review process and other statutory authority granted it, to protect groundwater flows to the fen and environs, and prevent stormwater runoff that has the potential to damage and degrade the fen. *See* Minn. Stat. § 103D.201, subd. 2.

Regulatory protections

The DEIS acknowledges that the eastern corridor alignments E-1A and E2 have direct physical impact on Seminary Fen (from construction of bridge piers), and that all three eastern alignments will have indirect impact on the fen. The study notes that highway construction can result in alteration to wetland hydrology and direct loss of native vegetation. As the DEIS explains, potential impacts include increased proliferation of invasive species, migration of road salt into groundwater and subsequent discharge, salt spray, compaction of peat soils affecting groundwater flow paths and rates, and lowered water tables from dewatering for pier construction in or near the Seminary Fen. While the DEIS soberly describes these potential, direct and indirect impacts from the eastern alignments present particular difficulties because "[i]nteractions among factors [associated with highway construction and development] may create novel and untested conditions, which will likely hasten the rate and severity of detrimental impacts." DEIS, Section 7.3.2.

As noted by the Phase 1 Seminary Fen study prepared as part of the DEIS process, "Calcareous fens are a uniquely protected wetland resource in Minnesota." Minnesota Statutes section 103G.223 prohibits any filling, drainage or other degradation – in whole or part – of a calcareous fen unless a fen management plan has been developed and approved by the DNR and the commissioner of the DNR has found that alteration of the fen is necessary under the plan. *See also*, Minnesota Rules 8420.1040 (providing that the DNR will assist with the development of a calcareous fen management plan).

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RESPONSE

Lower Minnesota River Watershed District (continued)

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COMMENT

Lower Minnesota River Watershed District

The commissioner of the DNR has identified portions of Seminary Fen as calcareous fen under Minnesota Rules part 8420.1020, meriting the protections described by the statute. (See Order 05-001.) No management plan for Seminary Fen has yet been prepared.

Further, the Minnesota Pollution Control Agency (MPCA) has designated a portion of Seminary Fen an Outstanding Natural Resource Value water. *See* Minnesota Rules, part 7050.0180, subp. 6b(B). The designation means that a new or expanded discharge to the fen must be restricted by the MPCA "to the extent necessary to preserve the existing high quality, or to preserve the wilderness, scientific, recreational, or other special characteristics" that make the fen an Outstanding Resource Value water. Minn. R. 7050.0180, subp. 6. Any discharge to the Outstanding Natural Resource Value water portion of Seminary Fen, if it met the MPCA's definition of "discharge," would have to meet the strict criteria found in Minnesota Rules part 7050.0222, subp. 6.

Finally, a portion of the Seminary Fen wetlands and Assumption Creek are protected waters, which means any work therein must be permitted by the DNR.

The DEIS does not provide fully detailed information on mitigation of impacts to Seminary Fen from the eastern alternatives. The DEIS indicates that close cooperation with the DNR will be the hallmark of mitigation plans, but, again, the DNR has indicated in its comments on the DEIS that permitting of alternatives that affect the Seminary Fen complex would be "difficult." The acknowledged need to mitigate impacts to the fen and the uncertainty running through the discussion of mitigation in DEIS section 7.3.3 contrast sharply with the statutory requirement for a fen management plan under Minn. Stat. § 103G.223 – as acknowledged in section 7.3.3 of the DEIS. These uncertainties are of such magnitude as to render the eastern alternatives proposed by the DEIS untenable.

The DEIS seems to rest to some degree on the conclusion that the Seminary Fen Wetland Complex will continue to degrade without active management, even if no highway construction takes place (section 7.3.3). The DNR's ongoing efforts to purchase and restore the fen, to which the LMRWD and others also are committed, demonstrates that degradation of Seminary Fen is not inevitable, and that a conservation management plan remains a feasible alternative to forsaking one of the metropolitan area's most important and unique natural resources.

The DEIS presents a compelling overview of the complexity of Seminary Fen and the possible restoration techniques that could be deployed to restore it. The LMRWD maintains that such efforts will have an infinitely greater chance of success if deployed in the absence of a roadway corridor.

Wetlands

B Beyond the protection conferred on Seminary Fen as a designated calcareous fen and outstanding natural resource value water, any alignment of Highway 41 that affects wetlands in the area, as the DEIS acknowledges, would also trigger the Wetlands Conservation Act (WCA) process for sequencing, identification, characterization and

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RESPONSE

Lower Minnesota River Watershed District (continued)

B. The DEIS examined potential mitigation approaches for Build alternatives. Detailed information on mitigation impacts for the preferred alternative, consistent with regulations in effect at the time, will occur during preparation of the Tier II EIS closer to the time of construction.

COMMENT

Lower Minnesota River Watershed District

replacement of affected wetlands. *See generally* Minn. Stat. §§ 103G.221-.2373; Minn. R. chapter 6420. Under WCA, the DNR would serve as the local government unit for purposes of review and approval of a wetlands replacement plan for proposed impacts to calcareous fens. Minn. R. 8420.0200.

B The DEIS does not provide detailed information on proposed mitigation of wetland impacts, but concedes that there are a number of high quality wetlands in the area (section 7.3.3), in addition to calcareous fen. Again, the DEIS indicates that close cooperation with the DNR will be the hallmark of wetland mitigation plans for the fen and other wetlands, but, again, the DNR has indicated in its comments that permitting of alternatives that affect the Seminary Fen complex would be "difficult."

Trout Stream Protection Area

C Assumption Creek, which flows through Seminary Fen and the project area, is a designated trout stream, the only one in Carver County. Minn. Stat. § 97C.005; Minn. R. 6264.0050, subp. 2(H). In addition to unique fishing regulations consistent with its unique nature, the designation means that Assumption Creek triggers a range of specific protections, including restrictions on discharges to such waters imposed by the MPCA. *See* Minn. R. 7050.0221-.0223 (Assumption Creek is designated in Minn. R. 7050.0470, subp. 5A(2) as a class 1B, 2A and 3B water). Further, fill or excavation in the creek will be allowed by the DNR only if there is no feasible or practical alternative and the activity will not increase water temperature, cause excessive sedimentation or destroy of fish habitat. Minn. R. 6115.0191, subp. 7; 6115.0201, subp. 6. The LMRWD is concerned that road-building activities may be deleterious of Assumption Creek, given that the DEIS does not appear to assess the potential need for fill of or excavation in the creek.

Broader resource management concerns

The Phase 1 study of Seminary Fen stated,

> Because of their dependence on groundwater discharge from aquifers of often unknown extent and character, calcareous fens can be subject to hydrologic impacts from project areas sometimes far distant from the fen area itself, especially if the impacts result in temporary or permanent alterations to the groundwater system feeding the fen. It is primarily because of this dependence on aquifer maintenance that calcareous fen management plans were developed. Fen management plans are a required component of any project with the potential to impact groundwater and surface water flows within and adjacent to calcareous fens. *A frequently large adjacent area will need to be examined to address several complex hydrologic-impact issues that could extend well beyond the calcareous fen boundary.*

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RESPONSE

Lower Minnesota River Watershed District (continued)

C. DEIS Alternative C-2, with revisions, was identified as the Preferred Alternative. Therefore, no impacts to Assumption Creek would result from the project.

COMMENT

Lower Minnesota River Watershed District

Phase 1 Characterization, Seminary Fen Wetland Complex, p. 13 (April 2006) (emphasis added).

Given the identified sensitivity of fens, the LMRWD believes it will not be possible to construct Trunk Highway 41 in any of the three eastern corridors without seriously and irrevocably damaging Seminary Fen and Assumption Creek. An analysis of the proposed corridors performed for the LMRWD determines that significant indirect impacts to Seminary Fen may occur due to changes in groundwater chemistry from contaminant transport from the roadways – principally salts – even from the E-1 alignment, which skirts the fen itself. As the DEIS concedes, alignments E-1A and E-2 would directly impact the fen. All three alignments would (in addition to the concerns outlined above) materially adversely affect the fen, implicating the Minnesota Environmental Rights Act's (MERA) provisions protecting "natural resources from pollution, impairment, or destruction." Minn. Stat. 116B.02, subd. 5. The alignments also are likely to result in the violation of environmental quality standards, given that portions of Seminary Fen have been classified as outstanding natural resource value waters. *See Schaller v. County of Blue Earth,* 563 N.W.2d 260, 264 (Minn. Ct. App. 1997) (describing material adverse affects and violations of environmental quality standards as constituting pollution, impairment or destruction of natural resources under MERA). The enhanced protections granted to Seminary Fen, as outlined above, also establish definitively that the fen is a natural resource subject to protection under MERA. *Id.* MERA prohibits impact to the fen where a feasible alternative exists. The EIS clearly establishes the existence of less-damaging alternatives to the eastern alignments. *Id.*

D

The Minnesota courts have named the criteria to determine whether a particular action presents an actionable material adverse affect under MERA:

> (1) The quality and severity of any adverse effects of the proposed action on the natural resources affected;
> (2) Whether the natural resources affected are rare, unique, endangered, or have historical significance;
> (3) Whether the proposed action will have long-term adverse effects on natural resources, including whether the affected resources are easily replaceable (for example, by replanting trees or restocking fish);
> (4) Whether the proposed action will have significant consequential effects on other natural resources (for example, whether wildlife will be lost if its habitat is impaired or destroyed);
> (5) Whether the affected natural resources are significantly increasing or decreasing in number, considering the direct and consequential impact of the proposed action.

Schaller at 267. An exhaustive analysis of the application of the *Schaller* factors to the eastern corridor alignments reviewed in the draft EIS is neither appropriate nor necessary, as the draft document itself – along with the extensive studies of the Seminary Fen and

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RESPONSE

Lower Minnesota River Watershed District (continued)

D. DEIS Alternative C-2, with revisions, was identified as the Preferred Alternative. Therefore, no impacts to Seminary Fen or Assumption Creek are expected.

COMMENT

Lower Minnesota River Watershed District

environs conducted as part of the EIS-development process – offer substantial indication that the eastern corridors present a significant risk of material adverse effect on the fen. (Section 7.3.2 in particular acknowledges the complexity of the stream and wetland complexes and hydrology in the Seminary Fen and Assumption Creek areas and the associated difficulty with predicting environmental consequences of highway construction. Further, the same section extensively documents likely and possible impacts to Seminary Fen from highway construction.)

D

Two Tier

The two-tiered EIS process is uniquely problematic when it comes to protection of Seminary Fen and other critical natural resources. The final Tier I EIS will only identify a corridor, and the specific measures that will be taken to protect the fen and other resources will not be detailed until the Tier II EIS. The result is that, because of the complexity of the hydrology of the calcareous fen (which makes it particularly unsuited to effective computer modeling) and the unknown effect of the combination of impact from road construction, the LMRWD remains unconvinced that adequate mitigation measures can be developed and planned. Given the unique and uniquely fragile nature of the natural resources that will be affected by the E-1, E-1A and E-2 in particular, the selection of a corridor in advance of a detailed mitigation plan could result in a premature commitment to an alternative that has irreparable environmental consequences.

The DEIS proposes mitigation (though the Phase II Seminary Fen study concludes that opportunities for mitigation of the effects of road construction on Seminary Fen are "limited"). Impacts to calcareous fens will be technically, hydrologically virtually impossible to effectively mitigate, given their unique and fragile nature and the complex hydrology of fens, as described in the excerpt from the phase 1 Seminary Fen study noted above.

Conclusion

The LMRWD will be a diligent advocate for the irreplaceable natural resources within its jurisdiction and all natural resource management and protection laws as Mn/DOT and its partners continue their research into the viability of a new Highway 41 crossing of the Minnesota River. The LMRWD will make its staff available to Mn/DOT to participate in future efforts to identify a Highway 41 corridor that poses an acceptable environmental impact.

Thank you for the opportunity to comment on the Highway 41 Draft EIS.

Len Kremer
President, Lower Minnesota River Watershed District

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RESPONSE

Lower Minnesota River Watershed District (continued)

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APPENDIX F

Non-Governmental Organization Comments on the DEIS and Responses

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NON-GOVERNMENTAL ORGANIZATION COMMENTS ON THE TH 41 RIVER CROSSING DEIS AND RESPONSES

The following sections respond to substantive written non-governmental agency comments received by FHWA and Mn/DOT during the public comment period that concluded August 10, 2007. The organization letter is presented on the left half of the page, with responses to the organization's comments appearing in the right half. Substantive comments are identified by a letter in the right-hand column of the agency letter. The corresponding response is identified by the same letter on the right half of the page. Due to size, attachments to comment letters are not included, but are on file with Mn/DOT.

H:\Projects\7917\EP\Reports\FEIS\Final FEIS for Approval_Sept 2014\Appendices\Appendix Word docs\App F Organization Comments and Responses_140918.doc

COMMENT

July 23, 2007

Minnesota Department of Transportation
Ms. Diane Langenbach, P.E.
Senior Engineer – South Metro Area
Waters Edge – Metro Program Delivery
Mail Stop 050, 1st Floor
1500 County Road B2
Roseville, MN 55125

Dear Ms. Langenbach:

The organizations listed below would like to express our collective opinion of the proposed expansion of T.H. 41 bridge project. We are all very concerned that each proposed route for this project has a potentially devastating effect on natural resources, rare plant species, and wildlife. We are also very concerned that 5 of the 6 proposed routes would devastate several manufactured home parks by displacing residents from the most affordable home ownership opportunities in their cities and adversely impact a large number of site built homes. These organizations are extremely disappointed that no route is available (other than a no build alternative) that avoids impacting these critical community resources.

A

Furthermore, we are unanimously and vehemently opposed to any "E" route, (i.e., E-1, E-1A and E-2). These routes would have an enormous impact on critical natural resources (the Seminary Fen), on threatened and endangered species and on local homes (both manufactured and site built homes). The substandard planning and community engagement process by MN DOT also makes these options completely unacceptable.

B

We urge MN DOT to return to the planning phase of the operation and attempt to define routes that have zero impact on scarce and critical community resources.

A

Sincerely,

All Parks Alliance for Change
Alliance for Metro Stability
Discovery United Methodist Church
East Chaska Citizens Group
Housing Preservation Project
Sierra Club North Star Chapter

RESPONSE

<u>Joint Letter</u>

All Parks Alliance **East Chaska Citizens Group**
Alliance for Metro Stability **Discovery United Methodist Church**
Housing Preservation Project **Sierra Club North Star Chapter**

A. Alternative C-2 has been refined following release of the DEIS. The refined alignment – identified as the Preferred Alternative in the Tier I FEIS – avoids impacts to all manufactured home parks (including Jackson Heights, which would have been impacted by the original DEIS Alternative C-2).

B. The Build alternatives selected for evaluation in the DEIS resulted from the scoping process; the scoping decision was published and publicized according to the NEPA process rules. Chapter 15 of the DEIS provides information on agency and organization involvement as well as a list of public meetings and hearings held during development of the Tier I EIS scoping document and DEIS. In addition, Mn/DOT had engaged in specific outreach with Jackson Heights, as well as the other manufactured home communities in the study area, both as part of the public involvement activities that occurred during the DEIS process and prior to recommending Alternative C-2 as the Preferred Alternative. With regard to Jackson Heights, this early outreach had engaged the Jackson Heights Residents Association and staff from the All Parks Alliance for Change (APAC).

When the RCIC was formed in early 2009, the group explicitly committed to addressing the needs of this stakeholder group. Project staff met with the Jackson Heights Residents Association and their allies in June 2009 and October 2009. During these meetings, which are detailed in the RCIC Report, residents expressed their perspectives, priorities, and concerns, alternatives to the original Alternative C-2 roadway alignment were presented, mitigation options were discussed, and concurrence around project expectations was established between Mn/DOT and the community.

This input informed the horizontal realignment of Alternative C-2 as presented in Figure 1-2 and shaped the Environmental Justice goal and associated topics in the RCIC Report, summarized in Section 3.4 and included in Appendix A.

COMMENT

APAC

All Parks Alliance for Change

An Organization Of Manufactured Home Residents

August 10, 2007

Minnesota Department of Transportation
Ms. Diane Langenbach, P.E.
Senior Engineer – South Metro Area
Waters Edge – Metro Program Delivery
Mail Stop 050, 1st Floor
1500 County Road B2
Roseville, MN 55125

Re: Comments on Draft EIS Minnesota River Crossing Highway 160 to Highway 212.

Dear Ms. Langenbach:

All Parks Alliance for Change is an organization of manufactured home park residents in the state of Minnesota. Manufactured home parks are a critical source of affordable housing. They provide homeownership opportunities for people who would otherwise be unable to become homeowners. Additionally, manufactured home parks are a significant source of housing for low income families, senior citizens and people of color.

We write to provide comments on the Draft EIS and Draft Section 4(F)/6(F) Evaluation for the above referenced project. We have several concerns with the EIS and the proposed bridge routes that we believe merit additional study before a final determination can be made of the preferred river crossing route.

Analysis of Effects on Environmental Justice in Inadequate and Inaccurate

The Draft EIS is significantly flawed because it does not adequately address the environmental justice effects of the proposed routes. It undercounts what the environmental justice impact will be, while at the same time presenting mitigation factors that are insufficient and inaccurate.

A

One assumption of the Draft EIS is that, if a manufactured home is disrupted in part, the remainder of the manufactured home park will continue to operate. In fact, for some if not all of the manufactured home parks, displacing some home owners will lead to the closure of the entire community, whether because remaining in operation with far fewer lots renders the park economically infeasible, or because from a practical standpoint it would be impossible to continue to operate a park due to the removal of critical systems such as, for example, septic systems. By failing to address the likelihood of entire manufactured home communities ceasing operation, MN DOT has significantly

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RESPONSE

All Parks Alliance for Change

Note: In addition to the comments contained in its letter, All Parks Alliance for Change also submitted summaries of surveys conducted at each of the manufactured home parks in the project study area to collect information about the parks, residents, age, race, language spoken, employment, income, commute times, ownership, and tenure. The information submitted included sign-in sheets from a rally, residents' responses to the question "How do you feel about the proposed bridge," handwritten comments, photographs of the rally, and children's drawings.

A. Based on the information provided in this comment and subsequent discussions with APAC, the estimates of impacts from manufactured home park acquisitions were revised prior to considering the potential impacts of DEIS Alternatives (following the DEIS comment period) that informed the identification of refined Alternative C-2 as the Preferred Alternative. Because the elimination of a number of manufactured home units may threaten the economic feasibility of an entire manufactured home park business, the methodology used to estimate the environmental justice acquisitions was revised prior to selecting the Preferred Alternative, to include a range of potential manufactured home acquisitions. The low end of the range assumed those acquisitions required based on units within the corridor footprint and the high end of the range assumed all units within each park, to account for potential closure of the entire community. Furthermore, Alternative C-2 was refined and realigned to avoid all direct impacts to Jackson Heights.

The resulting Preferred Alternative (refined Alternative C-2) does not directly impact any manufactured home units or any identified Environmental Justice population.

COMMENT

under counted the number of displaced homeowners and minimized the impact the proposed routes will have on fair housing opportunities. Failure to address the full scope of destruction of affordable housing is a serious flaw in the EIS, undermining any conclusions that the EIS makes regarding the scope of the environmental justice effects of the proposals.

We are also concerned about the availability of resources for the relocation of people who are not specifically within the construction zone, but will be displaced by the closure of the manufactured home communities. There is no indication that plans would provide relocation compensation under the URA to the residents beyond the impacted zone; residents who will just as certainly be displaced. Not only would these individuals face the same loss of social support networks as other displaced residents, but they would not be provided with the resources to access adequate replacement housing. If these individuals are not compensated under the URA, their only source for relocation compensation would be the Minnesota Manufactured Housing Relocation Trust Fund. This would essentially be asking low income park residents across the state, through their annual contributions to the trust fund, to pay for MN DOT's decision to displace park residents. Additionally, this could be a substantial burden of the Relocation Trust Fund and a substantial undisclosed cost for manufactured home park owners who, under the trust fund system, would be required to contribute thousands of dollars per displaced household to the trust fund. The Draft EIS does not reference or address the consequences of this issue.

A

The households who are displaced by the proposed bridge project will very likely be unable to relocate the actual home. In the Twin Cities area, approximately 25% of homes are 10 year old or newer, an additional 25 percent are 10 to 20 years old, while nearly 50% of home are older than 20 years old. The majority of manufactured home parks will not accept homes that are older than 10 years old. For the nearly 50% of residents in homes that are older than 20 years old, it is questionable if the homes could even withstand the stress of a move. For any home, regardless of the age, moving the home increases the likelihood of structural damage. Additionally, there are very few options for placing a manufactured home in the community. Due to zoning regulations, the only place that a manufactured home could be placed is in a manufactured home park. Even if a home was new enough to gain acceptance into a different manufactured home park, the options that are available would likely be far distant from the community from which the homeowners are being displaced.

Another environmental justice impact that is not adequately addressed in the draft is the decrease in the quality of life in the parks that are able to remain partially open. The level of noise and pollution that results from proximity to a high traffic bridge will fall on communities that are predominately low income and people of color. While the EIS states the noise levels in the remaining sections of the parks in relation to state and federal standards, it does not address the adverse effects of increased noise on the educational achievement of the many children who who be in close proximity to the proposed project, nor does it discuss the health effects from traffic that will fall predominately on low income people and people of color . The potential health effects of this proximity, a significant environmental justice concern are not adequately addressed in the EIS draft.

B

A further problem with the environmental justice analysis is that the mitigation justification is flawed. The Draft EIS presents as the primary mitigation factor that, although low income people and people of color are disproportionately impacted, the shorter commute times available for low income people and people of color counterbalances the mass displacement. There are, however, several problems with this argument. Firstly, it assumes that the displaced low income people and people of color will find replacement housing in the community from which they are being displaced. In the current housing market, this is improbable in the extreme. Additionally, this argument assumes that the people who are being displaced from the community are commuters who would actually utilize the

C

RESPONSE

All Parks Alliance for Change (continued)

B. The TH 41 exit ramp has been moved in refined Alternative C-2 (Preferred Alternative) to avoid direct impacts to the Jackson Heights Manufactured Home Park. The potential impacts of noise and visual indirect impacts will be studied in the Tier II EIS that will be completed closer to construction.

C. The section of the DEIS identified in the comment relates to mitigation of social and community impacts, not mitigation for environmental justice impacts. The DEIS, page 5-22, notes that mitigation for environmental justice impacts of the Preferred Alternative will be addressed in the Tier II EIS process. The RCIC Report includes recommended mitigation strategies specific to environmental justice concerns that will be considered in the Tier II EIS process.

COMMENT

C

river crossing. A survey of the affected manufactured housing communities yields a very different conclusion. In fact, many of the manufactured home park residents work in the same community in which they live. Speaking anecdotally, there are many park residents who walk to work every day at the Gedney Pickle factory. Not only will the residents be displaced and unable to walk to work each day, but the factory itself will also be displaced, leading to fewer job opportunities in the community.

D

An additional environmental justice concern that is not adequately addressed in the Draft EIS is the unique effect that displacement will have on the many senior citizens and children who live in the manufactured housing communities. The adverse effects of displacement of the health of senior citizens, known as relocation stress syndrome or transfer trauma, has been well documented. The symptoms include exhaustion, sleep disturbance, anxiety, financial strain, grief and loss, depression and disorientation.[1] Beyond the scientific literature, anecdotally APAC has seen firsthand what the effects of park closures are on senior citizens: a loss of social support networks frequently leads to depression and a loss of independence. For displaced children there is likewise well documented research about the long term detrimental effects. The "Kids Mobility Project Report" published by the Family Housing Fund concludes that housing mobility has been linked to serious declines in education achievement[2]. Not only will the children lose their homes and social networks, but for the vast majority, whose families will be unable to find comparable replacement housing in the community, they will be forced to move to a different school district. This has even further detrimental effects of educational achievement. Additionally, the displacement of so many children would have a potentially negative impact of the local school districts due to the loss of so many students. Each student who is removed from the district represents a loss of resource for that school. Additionally, because the affected children are predominately low income and people of color, this displacement will lead to a segregative effect in the local school districts.

Analysis of Effects on Fair Housing Opportunities is Inadequate and Inaccurate

E

Another significant flaw in the EIS is that the data related to the impact that the plans will have on fair housing is inadequate and inaccurate. Firstly, MN DOT is using data from the 2000 census to examine who will be effected by the proposed bridge project. In the years following the 2000 census the number of Latino residents in the affected parks has increased significantly. A cursory examination of the current population in Jackson Heights, Bonnevista, Mobile Manor and Riverview Terrace yields results that are quite different from the 2000 census numbers. For example, the percentage of households in Jackson Heights who identify as Latino is 95% whereas the EIS states the the percentage of Latino/Hispanic households is 60%. Additionally, the failure to account for the larger loss of manufactured housing units due to the complete closure of the affected park means that the percentage of households affected who are low income or people of color will be significantly higher than what is represented in the EIS. The failure to obtain more current and accurate information is a serious flaw in the Draft EIS and drastically under represents the impact that the proposal will have on fair housing opportunities.

Secondly, the EIS assumes that the only fair housing opportunities lost will be those of the current residents. The fair housing opportunities that are affected, however, are not only those of the displaced residents. There is currently a critical shortage of affordable housing in the state of Minnesota. According to the Minnesota Housing Finance Agency, 11.9% of households are spending more than 50% of their income on housing costs.[3] Since 2000, the vacancy rate has decreased while

1 Tracy Green Mintz, Relocation Stress Syndrome in Older Adults, *Social Work Today*, Vol. 5, No. 6.
2 Kids Mobility Project Report, available at http://www.fhfund.org/_dnld/reports/kids.prd
3 MHFA, Seeing the Connections, Making the Connections, available at http://www.mhfa.state.mn.us/about/CURA_1-26-

RESPONSE

All Parks Alliance for Change (continued)

D. The Preferred Alternative for this project (refined Alternative C-2) will have no direct manufactured home residence/environmental justice impacts.

E. The evaluation in the DEIS used Census information that was readily available. The environmental justice assessment established that there are minority and low-income communities present in the project area. The information will be updated during preparation of the Tier II EIS for the Preferred Alternative, closer to the time of construction.

COMMENT

F the cost of rent has increased to an average of $871 a month. The lack of replacement housing requirements for each housing unit lost due to the proposed bridge project will lead to an even tighter affordable housing market. Additionally, the assumption that the cities will be able to produce adequate replacement housing has no actual foundation. The presumption that cities will replace the lost affordable housing is assuming that something will happen without providing any assurances, any resources, or examining the feasibility of such claims. Any conclusions that the EIS presents about the effect on fair housing opportunities is therefore flawed because it assume that, since there are hypothetical solutions, that such solutions can and will occur.

G An additional consideration that the Draft EIS does not acknowledge, is that manufactured home parks provide unsubsidized low income housing. For many of the individuals who live in the affected communities, there are no other unsubsidized alternatives that are affordable for their income levels. This means that either these households will become one of the many households that are cost-burdened or they will have to depend on housing subsidies in order to obtain affordable housing. For each displaced residents who must obtain a housing voucher or subsidized unit, there is one less subsidized unit available for the thousands of other cost burden households.

H For the many manufactured home owners who own their homes outright, there is no other source of housing that even approaches the level of affordability that they currently enjoy. The current lot rent of $290 at Mobile Manor, $380 at Riverview Terrace, $410 at Bonnevista and $300 at Jackson Heights represent one of the few truly affordable unsubsidized housing opportunities in the communities of Shakopee and Chaska. Manufactured housing is a legitimate and valuable housing choice for low income individuals who want to own a home yet cannot afford a conventional home. In choosing to eliminate manufactured home parks, MN DOT will be creating an affordable housing gap, without providing any means to fill it.

Truly Yours,

Margaret Kaplan
Staff Attorney

attachments

07.pdf

RESPONSE

All Parks Alliance for Change (continued)

F. Mn/DOT is required to mitigate for the loss of housing resulting from right of way acquisition. The DEIS discussion noted that the timeframe for the project provides an opportunity for cities and counties to plan for the provision of affordable housing in the area before construction of the project begins. The DEIS does not assume that cities will replace the affordable housing lost; cities have target goals set by the Metropolitan Council for the provision of affordable housing. The Preferred Alternative does not directly impact any units within any manufactured home community.

G. Comment noted.

H. Mn/DOT is not choosing to eliminate manufactured home parks. The identification of a Preferred Alternative requires a balancing of project impacts. The Preferred Alternative avoids direct impacts to residences within the manufactured home community.

COMMENT

Chaska Area Chamber of Commerce

The Mission of the Chaska Area Chamber of Commerce is to lead, inform and advance business interests for members while enriching the life of our communities that we serve

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Executive Director

10 August 2007

SENT VIA US MAIL & FAX

Minnesota Department of Transportation
Att: Diane Langenbach
1500 West County Road B-2
Roseville, MN 55113

RE: Comments for the DEIS – "TH 41 Minnesota River Crossing" *New* HWY 41 Bridge

Minnesota Department of Transportation,

The Chaska Area Chamber of Commerce represents over 250 area businesses in and around the communities of Chaska and Carver, Minnesota. Our interest in the new river crossing site is based on the chamber being the voice of existing area businesses, the future development of our business community, development of the area as a visitor destination and the role of the chamber in building "Quality of Life" for our area communities.

The Chaska Area Chamber of Commerce has reviewed the current Draft Environmental Impact Statement (DEIS) dated June 2007 and has the following comments to provide to Mn/DOT in regards to this document during the 45 day open comment period.

The chamber has surveyed the membership, the board of directors has reviewed this issue and puts forth the following for your consideration;

A

1. We concur with the reports assessment and findings that a **"No Build Option" is not an option.** We agree that there is a definite need for a new HWY 41 River crossing to relieve some of the serious road congestion in our area. We believe also that a new bridge will help provide for the future transportation needs for our communities to develop and achieve the economic development potential of our area and the region.
2. We also feel that not only is a new river crossing needed we believe that the construction of this bridge should be a "Higher" priority in the regions transportation planning than the current 20 + year planning timeline.

B

   a. We cite the current and projected transit numbers in your report along with some unknown impact from the new HWY 212 that will open through our area in the next 12-24 months as evidence of the need for this bridge now.
   b. Our current river crossing and high level of heavy equipment, truck and other traffic continues to have a negative effect on our business and quality of life for parts of our community. A new interstate sized bridge will have the effect for pulling away "Unwanted Traffic" from these current corridors to more appropriate designed corridors.
   c. As river town communities we are also very aware that our current river crossing access connecting the north and south sides of the river are

RESPONSE

Chaska Area Chamber of Commerce

A. Comment noted. The No-Build alternative does not meet the purpose and need for the project established in Chapter 2 of the DEIS.

B. In order to make best use of limited public funds, Mn/DOT investment strategy is currently focused on smaller scale improvement projects in the key areas of traveler safety, and infrastructure preservation. Resources are not available at this time for large scale projects such as the TH 41 River Crossing. The purpose of the tiered process is to preserve a corridor so that land use and infrastructure planning can occur in a manner that facilitates implementation when resources are available for detailed design and construction.

COMMENT

B

currently impacted by the Minnesota Rivers seasonal flooding. This flooding in some years has resulted in closure of access to our communities on the north side of the river thus have significant negative impacts on our local business community. A new river crossing that is outside of the flood plain of the Minnesota River will provide river crossing continuity for years to come providing reliable and safe crossing of the river.

C

3. We feel that once siting of this bridge is done that a deliberate process is undertaken to insure official mapping, right of way acquisition and other planning so as to quickly preserve the right of way for this project. As expressed above we want to see a more aggressive timeline on the actual construction of this bridge complex so as to take way the uncertainty of this project and its impact on the future development of our communities and our member businesses.
4. We have reviewed the various proposed routes and feel that the document fairly expresses some of the issues with each of the respective corridors. Our intent in this input is not to endorse any specific route but to comment on any additional concerns that may not have been articulated by the DEIS as it related to impacts to business and commerce in our communities.
   a. The chamber feels the Central Corridors (C-2 and C-2A) cause specific business impacts to our community that could severely impact some of our community's current business activities in our historic downtown Chaska community. A bridge complex that would shadow over our downtown Chaska will have significant negative aesthetic impacts making it difficult for our downtown area to be seen as a historic tourist destination. The loss of our historic Chaska Athletic Park also causes concern of our business community as this is one of the features of our community that creates a sense of community and history for downtown Chaska. Our membership survey indicated some serious opposition to these Center Corridor routes.

D

   b. The chamber feels that the Easterly Corridors of (E-1, E-1A and E-2) also have business impacts to our communities but feel that other disruptions have a greater impact to our community's quality of life. This is based on the corridors disruption of existing residential communities and the current tight right of way corridors that would be difficult to squeeze in a bridge facility of this size.
   c. The chamber feels that the Westerly Corridor (W-2) also has some difficulties in its impact to the downtown community of the City of Carver. While this corridor appears to provide the least displacement of current businesses and residents it causes aesthetic issues in the efforts to redevelop our downtown Carver community. Carver is working hard to redevelop its downtown community, a historic river town, which stands to be the center piece again of a growing and vibrant community. It would be difficult to have a bridge complex destroy the vistas of this town and its future as a gateway to the Minnesota River Valley.

E

In summary as expressed above the Chaska Area Chamber of Commerce feels that there is a strong and compelling need for the area and region to site and develop a new HWY 41 river crossing. We feel that having this process proceed in a more expeditiously timeline towards construction than what is currently planned would be important to the health of the regional transportation system and the health of our regions economic development. We also feel NONE of the routes proposed are a perfect solution to sighting a bridge complex of this magnitude and careful due diligence should be taken into account as a final siting process proceeds. We would hope that Mn/DOT will continue to work with our local government partners and the chamber to review any preferred routes that could emerge from this process to see if changes or modification could be made to alleviate the concerns of these important community partners. In the end, we would like to see a new bridge project proceed to help build our communities not pull them apart.

The chamber stands ready to continue to be a partner to help Mn/DOT in providing organized input for our business and community on this important issue. Please don't hesitate to contact the chamber to discuss this matter more in-depth.

Respectfully submitted on behalf of the board of directors of the Chaska Area Chamber of Commerce,

Neil Anderson
Chairman of the Board

RESPONSE

Chaska Area Chamber of Commerce (continued)

C. The outcome of the Tier I EIS process is an identified corridor for right of way preservation. Upon completion of the Tier I EIS process, Mn/DOT will work with local communities and affected landowners to identify the best approach to preserve the needed right of way; it will most likely involve official mapping of the identified corridor. Official mapping is a local zoning tool that enables Mn/DOT to work with the local communities to acquire undeveloped properties within the identified corridor where development is imminent as well as open market sales or hardship acquisitions (i.e. the river crossing alignment makes selling the property difficult).

D. The City of Chaska is a member of the River Crossing Implementation Coalition (RCIC) which has further addressed issues of visual impacts on the community, including its historic downtown and the ballfield. The Preferred Alternative is a realignment of Alternative C-2 in order to avoid direct impacts to the ball field. Mn/DOT acknowledges that the Preferred Alternative will be visible from Chaska's Historic Downtown. The RCIC Report includes recommended mitigation, including "pre-mitigation" landscaping to address this issue.

E. The City of Chaska is a member of the RCIC and continues to represent the interests of the community in the on-going planning for the TH 41 River Crossing project.

COMMENT

07/19/2007 THU 11:53 FAX 7634752429 SRF CONSULTING GROUP 002

CHASKA CUBS BASEBALL

BOARD OF DIRECTORS

Mark Windschitl- GM
Les Dahlberg- Director
Bob Roepke- Director

Mike Fahey- VP
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Jay Molnau- Secretary
Chris Goodman- Director

Bob Bruers- Treasurer
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Visit us online at www.chaskacubs.com

Commissioner Carol Molnau
Minnesota Department of Transportation
130 State Capital
75 Rev. Dr. Martin Luther King Blvd.
St Paul, MN., 55155

July 17, 2007 ,

Dear Commissioner Molnau;

On behalf of the Board of Directors for the Chaska Cubs Amateur Baseball Team, I wanted to send you this letter outlining our strong objection to the C2 route being considered for the future H.W. 41 Bridge Crossing and our support of the W2 Crossing route.

Our strong objection to C2 is connected to its impact on Historic Chaska Athletic Park and its impact on the Historic Chaska Downtown residential and business community. We believe real and irreparable damage will occur to the proud heritage of historic Chaska and its 156 year existence.

A

As advocates for Amateur Baseball in our Community we also strongly believe that the C2 route will do significant damage to Historic Chaska Athletic Park and the entire baseball experience that has been so important for many, many years in our community. At a time of growth and development we need to define and add gathering opportunities, not take away existing gathering opportunities such as what we experience today and have experienced at Athletic Park for so many years. It has been and today is a growing family and community gathering experience for members of our community.

As we examined the C2 route we unanimously decided, as a Board, to voice our objection to you, in its strongest form, based on the very negative impacts on critical components of our vital, active downtown and the special experience we have today at Athletic Park There is no question in our minds that C2 will have a dramatic, negative impact on both our residential and business communities and Chaska's overall sense of community. These areas are critical to the quality of life in our community for years to come and we simply cannot stay silent on such an important issue to the future of our community.

As we look then at alternatives, we would strongly support the W2 route for the following reasons:

-W2 possesses the highest cost benefit ratio
-Zero impact on low and moderate income housing so important to the future of our community.
-Low impact on existing properties
-Low impact on existing businesses
-Least impact on City parks and trails
-Least impact on Seminary Fen

As we encourage your support of W2 we believe this route can evolve as the route which can be the most reasonably supported by the affected communities and provide a manageable, workable and beneficial alternative to each community.

If you have questions as to the position of our Board of Directors please do not hesitate to contact me at your convenience.

Sincerely,

Mark Windschitl
President
Chaska Cubs Baseball Board

RESPONSE

Chaska Cubs Baseball

A. The Preferred Alternative is the DEIS Alternative C-2 with the horizontal alignment refined to avoid impacts to Athletic Park (Chaska Cubs Ball Field) in the City of Chaska and Jackson Heights in Jackson Township and to minimize impacts to Spring Creek neighborhood in the City of Carver. The rationale for identification of the Preferred Alternative is provided in Chapter 3 of the FEIS.

COMMENT

Chaska History Center, 1890 Livery Stable

Chaska Historical Society
112 West Fourth Street
Chaska, Minnesota 55318

June 21, 2007

To: Minnesota Department of Transportation,

The Chaska Historical Society Board of Directors would like to go on record with its strong opposition to TH41 River Crossing Alternates C-2, C-2A, E-1 and E-1A.

A As an Historical Society, our charge is to gather, preserve, interpret and share the rich history of the Chaska community. The Society's home is in an 1890 livery stable in downtown Chaska. Like so many other buildings in this community, it is made of the famous, locally produced cream-colored Chaska brick. These unique buildings give Chaska a character that is unlike that of so many cities in the metropolitan area.

Of the six proposed routes, four (C-2, C-2A, E-1, E-1A) would negatively impact the vital historic district in our city. Not only will these corridors directly impact historic structures, even more importantly, the negative impact on the residents of Chaska would be immense.

The far west route (W-2) would lessen the impact on both people and on the historic downtown area. Though it does cross Fish & Wildlife land, that system involves hundreds and hundreds of acres along hundreds of miles of land abutting the Minnesota River. The impact of the River Crossing on people and on the vast majority of river bottom land would be negligible with the selection of the far western route.

The Chaska Historical Society urges the Minnesota Department of Transportation to select a river crossing alternate which would not negatively impact the residents of this historic community.

Sincerely,

Tracy D. Swanson

Tracy D. Swanson, President

Board Members:
Lisa Oberski
Ray Therres
Sonja Deis
Mary Lahl
Charles Stanley
Aldoris Engelhardt
Jerry Lubansky
Doris Coghill

Located in the Chaska History Center on Fourth Street
www.chaskahistory.org • historical@chaskahistory.org
(952) 448-6077

RESPONSE

Chaska Historical Society

A. The Preferred Alternative is the DEIS Alternative C-2 with the horizontal alignment refined to avoid impacts to Athletic Park (Chaska Cubs Ball Field) or any other historic resources in the City of Chaska. The rationale for identification of the Preferred Alternative is provided in Chapter 3 of the FEIS.

COMMENT

Chaska City Council

The Chaska Historical Preservation Commission would like to go on record with its strong opposition to TH 41 River Crossing Alternates C-2 and C-A, E-1 and E-1A. All would negatively impact the historic downtown of Chaska.

As a Preservation Commission, our charge is to preserve and protect the historic district of our community. We have undertaken many projects to do just this. In 2004 a downtown preservation design manual was developed to promote interest in Chaska's rich architectural heritage and to spark enthusiasm toward facade improvements of commercial buildings in the downtown area.

Throughout the downtown district, locally made famous, cream colored Chaska brick were used in simple, decorative patterns to contruct shops, stores, homes and government buildings. This distinctive aspect of Chaska's architecture and the number of Chaska's earliest buildings that survive in nearly original condition are among the aspects that give the community a character that is unlike almost any other place in Minnesota.

The second large study, done by the HPC in 2005-2006, was the City of Chaska Context Study. With the creation of a set of historic contexts, the city took an important step to tying preservation to planning, ensuring a vibrant future for the community by building on the resources of its past. Historic contexts will allow the city to evaluate its resources and incorporate the idea of a strong, well preserved river town confidently looking to the future.

Of the six proposed routes the four (C-2, C-2A, E-1, E-1A) which directly impact the most people (in this case the residents of Chaska) should immediately be struck from the list of possibilities. The far west route would impact Fish and Wildlife property; however that system involves hundreds and hundreds of acres along hundreds and hundreds of miles of land abutting the Minnesota River. The impact of the river crossing on people would be negligible and the vast majority of the river bottoms would not be impacted.

The Chaska Historic Preservation Commission urges the Chaska City Council to take a firm stand now in opposition to the four alternates that so negatively impact the residents of this historic community.

Historic Preservation Commission
March 27, 2007

cc: Minnesota Department of Transportation

RESPONSE

Chaska Historical Society (continued)

REMAINDER OF THIS COLUMN INTENTIONALLY LEFT BLANK

COMMENT

Chaska Moravian Church

115 East 4th St.
Chaska, MN 55318
(612) 448-4000
email: chaskamoravian@embarqmail.com

July 27, 2007

Minnesota Department of Transportation
Ms. Diane Langenbach, P.E.
Mail Stop 050, 1st Floor
1500 County Road B2
Roseville, MN 55125

Dear Ms. Langenbach,

I can see through the local media that there seems to be a substantive debate going on regarding the location for the new Minnesota River crossing in Carver County. It is obvious that the developers and the "movers and shakers" of the local community are weighing in heavily to promote the alternative of their choice. I would like to offer two voices that might not otherwise be heard above the din of progress and self-promotion.

A First, I offer the voice of the priests and monks who protected and preserved the pristine beauty of the Franciscan Seminary Fen. I remember walking the grounds of the seminary forty-odd years ago with the young novices in their flowing black robes. I remember the musty smell of the earth being reborn in the lowlands and marshes. I remember the connectedness between that community and the earth that supported them. I remember the way that the hawks and the chickens, the cows and the deer, the priests and the strangers all found sanctuary in a quiet corner of Carver County before the earthmovers and bulldozers began to reshape the land to suit man alone. We have received a precious and irreplaceable gift from this forgotten community, to destroy it now for the sake of yet another highway would be like filling in Lake Minnetonka to build a parking lot.

The seminary was originally built and staffed by Franciscan brothers who follow the teachings of their patron, Saint Francis of Assisi. Brother Francis is best remembered as the young man who was called by God to walk away from wealth and power, to marry "sister poverty," and to spend the rest of his life working to protect and serve the poor. I also invite you to hear the voices of the poor and disenfranchised within our present community. Perhaps the next time you come to Chaska for a meeting with lawyers and developers and lobbyists, you might just want to drive slowly through the mobile home park on the west end of Chaska and hear the voices of the community living there. Or even, pull over and take a stroll through the deserted seminary grounds and listen for the voice of Francis and his followers.

It takes courage to hear the voices of the mute.

Peace,
Pastor Michael R. Eder
Chaska Moravian Church

. . .Sharing the Love of Jesus Christ with all people through worshipping, serving, caring, and learning together. . .

RESPONSE

Chaska Moravian Church

A. None of the eastern alternatives was selected as the Preferred Alternative. The rationale for identification of the Preferred Alternative is provided in Chapter 3 of the FEIS.

COMMENT

People discovering Christ through Community, Ministry and Worship

June 3, 2007

Minnesota Department of Transportation
Ms. Diane Langenbach, P.E.
Senior Engineer – South Metro Area
Water's Edge – Metro Program Delivery
Mail Stop 050, 1st Floor
1500 County Road B2
Roseville, MN 55125

RE: MNDOT Recommendation for a Minnesota River Bridge Crossing

Ms. Langenbach;

We, the Administrative Council (representing our congregation) of Discovery United Methodist Church in Chaska and Chanhassen, wish to indicate our strong opposition to any of the eastern alternatives that are currently under consideration. We have given this a great deal of consideration and feel compelled to take this stand.

A First, we would like you to consider the displacement of 126 households in the E-1 alternative, displacement of 113 households for the E-1A alternative, and 182 households for the alternative E-2. These households are located in the mobile home parks that include Mobile Manor, Bonne Vista, and Riverview Terrace. These families do not have a strong voice and we feel that they deserve the utmost consideration in this selection process. Environmental Justice issues should be given the highest priority in all considerations. As a church that is vitally involved in our communities, we feel it is incumbent upon us to advocate for these families. To remove these large numbers of affordable homes from this community would destroy this neighborhood and place many families at risk both financially and emotionally. It is unconscionable to even consider any of the E alternatives for this reason alone.

B Second, we are concerned with the destruction of the Seminary Fen, which would be impacted by all of the eastern routes. This treasure is a fragile ecosystem which is highly protected by State and Federal regulations, rules and laws. The City of Chanhassen has referred to this Calcareous Seminary Fen as the crown jewel of their water management program.

DISCOVERY
UNITED METHODIST CHURCH

Main Office/North Campus
275 Lake Drive East
Chanhassen, MN 55317
(952) 937-0063 / f:(952) 937-0002

South Campus
950 Trumble Street
Chaska, MN 55318
(952) 448-6649

RESPONSE

Discovery United Methodist Church

A. The Preferred Alternative is the DEIS Alternative C-2 with the horizontal alignment refined to avoid impacts to Athletic Park (Chaska Cubs Ball Field) in the City of Chaska and Jackson Heights in Jackson Township and to minimize impacts to Spring Creek neighborhood in the City of Carver. The rationale for identification of the Preferred Alternative is provided in Chapter 3 of the FEIS.

B. None of the eastern alternatives was selected as the Preferred Alternative.

COMMENT

Additionally, any of the E routes are much more expensive to construct than the other three alternatives. Given the issues of social justice, ecological damage, and costs, it seems apparent that these three alternatives should be eliminated immediately.

It would appear to our Administrative Council that the W-2 route stands out as the most viable choice. This route would displace no households, be more cost effective, and would take into consideration future growth which is evident in the west. Additionally, this option would tend to support the business community of both Carver and Chaska. We hope that you will give our concerns and recommendation the utmost consideration.

Sincerely,

Mark Semkoff, Administrative Council Chairman

Bob Savard, Lay Leader

Reverend Dr. Thomas Biatek

RESPONSE

Discovery United Methodist Church (continued)

REMAINDER OF THIS COLUMN INTENTIONALLY LEFT BLANK

COMMENT

August 8, 2007

From: The Chaska Downtown Business Council

To: Diane Langenbach
Mn/DOT Metro Program Delivery
South Area – Mail Stop 50
1500 County Road B2 W
Roseville, MN 55113-3174

Subject: Highway 41 Minnesota River Crossing Study

Dear Diane:

A We are writing to voice our opinion on the Highway 41 river crossing. We are opposed to the no build, C-2 and C-2A options. All three options would have a very negative impact on our historic downtown business community, the downtown residential area, and would destroy the integrity of our historic Chaska Athletic Park and neighboring trails. The C-2 and C-2A routes would also have a negative impact on low and moderate income housing.

We thank you in advance for seriously considering the above comments from the Chaska Downtown Business Council.

Sincerely,

Chaska Downtown Business Council

Les Dahlberg, Chair
Wally's Sports & Clothing

Jim Lahl
Klein Bank

Daryl Brengman
Brengman Printing

Kevin Norby
Norby & Associates Landscape Architects

Dan Keyport
Dolce Vita Wine Shop

Marlene VanHecke
Norsemen Travel

Donna Lund
Mixed Company

Rick Ford
Community Insurance Advisors

RESPONSE

Downtown Chaska Business Council

A. The Preferred Alternative is the DEIS Alternative C-2 with the horizontal alignment refined to avoid impacts to Athletic Park (Chaska Cubs Ball Field) in the City of Chaska and Jackson Heights in Jackson Township and to minimize impacts to Spring Creek neighborhood in the City of Carver. The rationale for identification of the Preferred Alternative is provided in Chapter 3 of the FEIS.

COMMENT

Friends of the Minnesota Valley
Leadership in Stewardship

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Public Affairs Consultant

FRIENDS OF THE
MINNESOTA VALLEY
9633 Lyndale Ave. S., Suite 200
Bloomington, MN 55420-7034
Phone: 612-370-9122
www.friendsofmnvalley.org

August 2, 2007

Diane Langenbach
MN DOT – Metro Division
1500 West County Road B2
Roseville, MN 55113

Dear Ms. Langenbach:

Thank you for the opportunity to comment on the Tier 1 Draft Environmental Impact Statement (DEIS) for Trunk Highway 41 over the Minnesota River. Please accept the following comments submitted by Friends of the Minnesota Valley.

Friends of the Minnesota Valley is a Minnesota nonprofit organization that works to protect and enhance the natural resources of the Lower Minnesota River Watershed, including the Minnesota Valley National Wildlife Refuge. The Friends envision a healthy Minnesota Valley National Wildlife Refuge, Minnesota River, and surrounding lands and waters. We envision a core Refuge and River constituency of citizens, elected officials and landowners who are educated on the importance of the River and the Refuge. We foresee a future where conservation partnerships actively promote habitat conservation, improved water quality of the Minnesota River and its Watershed, and sustainable land use. Our programmatic activities and goals reflect our efforts to achieve our vision and to promote our organizational mission. Established in 1982, the Friends currently have 1,700 members.

Friends of the Minnesota Valley supports corridor alternative C-2 as outlined in the DEIS. Although all build alternatives have negative impacts upon the natural, social and economic resources in the study area, the other build alternatives have the potential to significantly impact the resources of the Minnesota Valley National Wildlife Refuge and the Seminary Fen. Alternative C-2, because it most closely follows the alignment of the existing Highway 41 river crossing, disturbs the least amount of wildlife habitat and natural resources of all options.

A Neither the western nor the eastern alternatives are acceptable due to their impacts on natural resources, wildlife, public lands and people. Alternative W-2 dissects the Minnesota Valley National Wildlife Refuge's Chaska Unit and the Minnesota Valley State Recreation Area. Alternative W-2, in addition to affecting public use trails, presents potential adverse impacts to state threatened species and species of special concern. Also, as acknowledged in the DEIS, this alternative will fragment wildlife habitat, providing barriers to wildlife movement. Although the creation of wildlife

RESPONSE

Friends of the Minnesota Valley

A. The Preferred Alternative is the DEIS Alternative C-2 with the horizontal alignment refined to balance and minimize impacts to social and natural resources in the project area. The rationale for identification of the Preferred Alternative is provided in Chapter 3 of the FEIS.

COMMENT

crossings is offered up as a mitigation measure, experience has shown that these are minimally effective.

B In addition, the summary of Alternative W-2 states that state noise standards are exceeded by 4 to 16 dBA at 5 receptors, the highest impact of any of the proposed alternatives. Wildlife such as waterfowl are impacted by noise, affecting their breeding habits and other behavior. Since noise data related to wildlife is somewhat sketchy, although accepted within the scientific community, MN DOT should be especially concerned about a river crossing within the Refuge. Also, public visitor use will undoubtedly be negatively affected by noise in the proposed crossing area, and this too should be taken into consideration when evaluating the proposed alternatives.

C Finally, in respect to Alternative W-2, the DEIS states that the FHWA will complete a Section 4(f) evaluation for the project. Under Section 4(f), the U.S. Secretary of Transportation "shall not approve any program or project which requires the use of any land from a public park, recreation area, wildlife and waterfowl refuge, or historic site unless (1) there is no feasible and prudent alternative to the use of such land, and (2) such program includes all possible planning to minimize harm to such park, recreational area, wildlife and waterfowl refuge or historic site resulting from such use". On FHWA's website, under Highway History and the discussion of Section 4(f), the Administration states that, while the term "feasible and prudent" was subjective enough to encourage highway officials to think they could continue using public lands as a routing of least resistance, in a pivotal U.S. Supreme Court ruling, the Court determined that Section 4(f) prohibits the use of federal funds for construction of highways through parks and public lands, that protection of parks and public lands was to be given paramount importance in decision making. For this reason, MN DOT should give the Minnesota Valley National Wildlife Refuge and the Minnesota Valley State Recreation Area and their resource values the utmost consideration when making the TH 41 routing decision. Alternative C-2 presents a feasible and prudent alternative.

D Alternatives E-1, E-1A and E-2 are unacceptable because of their impacts upon the Seminary Fen and Assumption Creek. Trout streams and calcareous fen wetland complexes are rare and unique in the Twin Cities area. The Assumption Creek Watershed located in Chanhassen offers both in Assumption Creek and Seminary Fen. Assumption Creek, a native trout brook stream, is one of the last remaining trout streams in the Metro area. Seminary Fen is a high quality calcareous fen that supports numerous threatened plant species. The Assumption Creek watershed has many ecologically significant resources. Assumption Creek is a DNR designated trout stream, supporting the only naturally reproducing native brook trout stream in the Twin Cities Metro area. From a cultural resource perspective, there are also Native American mounds in the fen complex.

The wetlands and adjacent bluffs were mapped by the Minnesota County Biological Survey as having significant native plant communities. The Seminary Fen was ranked as one of the highest priority sites identified by MCBS in Carver, Hennepin, and Scott counties. As described in the DEIS, the fen supports 5 state threatened plant species and 3 state special concern plant species. The City of Chanhassen also included it in its Bluff Creek plan as worthy of protection.

Avoiding the impacts to the fen complex is important to protecting the 160 acres of calcareous

2

RESPONSE

Friends of the Minnesota Valley (continued)

B. Alternative W-2 was not selected as the Preferred Alternative for this project.

C. Comment noted. The impact to Section 4(f) resources was a key consideration in the alternatives evaluation process.

D. None of the eastern alternatives was identified as the Preferred Alternative.

COMMENT

fen wetland complex and trout stream; protecting unique plant and wildlife habitats, and providing trout fishing and recreational opportunities in the Minnesota River Valley.

Proposed mitigation steps, such as the development of a Calcareous Fen Management Plan in coordination with the Minnesota Department of Natural Resources, are uncertain in their expected effectiveness. The DEIS acknowledges that the eastern alternatives pose concerns about effects on groundwater *due to the sensitivity of the Seminary Fen calcareous plant species on upwelling groundwater conditions* (emphasis added). The project has the potential to cause dewatering and depletion of groundwater, posing potential serious threats to fen vegetation and fen ecology. Although there has been some groundwater monitoring done in the fen complex to date, there is little certainty regarding knowledge of the hydrology of the Seminary Fen. Because of the sensitive nature of this resource and because of its rarity, the risk of placing a highway crossing in or near the fen complex is too great and should be avoided.

D

Again, thank you for the opportunity to comment on this important Draft Environmental Impact Statement. Please feel free to contact me at 612-370-9123 if you have any questions or require additional information.

Sincerely,

Lori Nelson
Executive Director

3

RESPONSE

Friends of the Minnesota Valley (continued)

REMAINDER OF THIS COLUMN INTENTIONALLY LEFT BLANK

COMMENT

The Church of the Guardian Angels
215 West Second Street • Chaska, MN 55318 • (952) 227-4000 • Fax (952) 227-4051

June 30, 2007

Minnesota Department of Transportation
Ms. Diane Langenbach, P.E.
Senior Engineer – South Metro Area
Waters Edge – Metro Program Delivery
Mail Stop 050, 1st Floor
1500 County Road B2
Roseville, MN 55125

Dear Ms. Langenbach:

It is with a sad and heavy heart and a sense of moral outrage that I write to you today. Members of the Chaska Community have informed me that MNDOT is planning a river crossing bridge in our area. The so called "E Routes" that are being proposed are a tremendous threat to affordable housing in our area, and to the environment – the ecosystem.

The Church has consistently taught that there must be a "preferential option" for the poor. Instead the "E Options" would displace between 126 and 182 affordable homes. Most of the people who live in the areas affected are recent immigrants - poor, powerless and afraid. The destruction of Mobile Manor, Bonne Vista, and Riverview Terrace would displace many families and make it financially impossible to live in this area.

The Church also teaches that we must be good stewards of the earth. The destruction of the Seminary Fen would do great damage to the earth and be in violation of our duty to protect the environment.

A It is my understanding that the "W-2 Route" is a much more viable option. Not only does it not violate the earth it would not displace families and is a less expensive option for the tax payers who ultimately pay for this project.

RESPONSE

Church of the Guardian Angels

A. None of the eastern alternatives was selected as the Preferred Alternative. The W-2 route had high impacts to the Minnesota Valley National Wildlife Refuge (MVNWR) and the Minnesota Valley State Recreation Area (MVNWMR), both subject to federal protections and home to sensitive ecological systems. The rationale for identification of the Preferred Alternative (refined Alternative C-2) is provided in Chapter 3 of the FEIS.

COMMENT

Page two

Many of our Spanish speaking parishioners live in the areas that would be destroyed. Their community would be taken away from them and our larger community would be impoverished by their loss.

The Church of the Guardian Angels begs you not to use the "E Options".

Sincerely,

Fr. Lawrence R. Johnson

Fr. Lawrence R. Johnson
Pastor
Church of the Guardian Angels
215 West Second Street
Chaska, MN 55318

RESPONSE

Church of the Guardian Angels (continued)

REMAINDER OF THIS COLUMN INTENTIONALLY LEFT BLANK

COMMENT

HPP
Housing Preservation Project

August 9, 2007

Ms. Diane Langenbach
Minnesota Department of Transportation
Waters Edge – Metro Program Delivery
Mail Stop 050, 1st Floor
1500 County Road B2
Roseville, MN 55125

Re: Comments on Draft EIS Minnesota River Crossing Highway 160 to Highway 212.

Dear Ms. Langenbach:

The Housing Preservation Project is a non-profit law firm whose mission is to expand and preserve the supply of affordable housing in the state. We write to provide comments on the Draft EIS and Draft Section 4(F)/6(F) Evaluation for the above referenced project. The Draft EIS is, in its discussion of consequences of loss of housing, inadequate in the following respects. The Draft's failure to fully and adequately discuss these consequences will result in an inability of decision makers to make a fully informed choice among alternatives and to fully understand the consequences of such a choice. We hope that litigation will not be necessary to cure these deficiencies in the final EIS.

The Draft does not adequately consider the environmental justice effects of loss of affordable housing.

All of the alternatives except W-2 will remove significant numbers of housing units. Section 5.1.2.4. on Environmental justice characterizes this removal of housing units as disproportionately affecting low income and minority households currently occupying those units. But no where in this environmental justice section is there an actual description of the disproportionate adverse impacts.

A These are of two types. First, the low-income/minority families are displaced from their homes. The federal courts have repeatedly recognized that such displacement results in injuries far beyond the cost involved in seeking relocation housing. Any family involuntarily forced to move suffers harm, but for low income families with limited incomes the effect is devastating and irreparable. The forced move uproots the families, disrupts their existing social, school and community ties, and results in unanticipated and unaffordable costs. When displacement occurs, the families' chances of finding comparable stable, affordable replacement housing in a safe, and economically and racially integrated neighborhood are negligible, given the extreme shortage of affordable housing in the metropolitan area, described below. This is especially true of low income

570 Asbury Street, Suite 105 • St. Paul, MN 55104 • tel: 651.642.0102 • fax: 651.642.0051

RESPONSE

Housing Preservation Project

A. Mn/DOT recognizes that acquisition and relocation of households, particularly those of low-income families, can involve family disruption of existing social, school, and community ties and Mn/DOT recognizes the importance of affordable housing in the region and supports the Metropolitan Council's efforts, and the efforts of cities in the project area, to reach affordable housing goals. The selection of the Preferred Alternatives from among the six DEIS Build Alternatives considered impacts to low income/minority communities as described in Chapter 3 of the FEIS.

Based on comments received from APAC (see comment letter on page F-3), manufactured home park acquisitions were revised prior to considering the potential impacts of DEIS Alternatives (following the DEIS comment period) that informed the identification of refined Alternative C-2 as the Preferred Alternative. Because the elimination of a number of manufactured home units (the primary affordable housing resource/community in the project area) may threaten the economic feasibility of an entire manufactured home park business, the methodology used to estimate the environmental justice acquisitions was revised prior to selecting the Preferred Alternative to include a range of potential manufactured home acquisitions. The low end of the range assumed those acquisitions required based on units within the corridor footprint and the high end of the range assumed all units within each park, to account for potential closure of the entire community.

The Preferred Alternative does not directly impact any manufactured home units. The Preferred Alternative is a realignment of Alternative C-2 in order to avoid direct impacts to Jackson Heights. Mn/DOT conducted extensive outreach to engage residents of the potentially affected manufactured home communities during the DEIS process and with the Jackson Heights community during the refinement of the Preferred Alternative. The River Crossing Implementation Coalition (RCIC) Report includes recommended strategies for minimizing impacts to Jackson Heights and continued engagement of the community.

COMMENT

owners of manufactured homes. In practice most such homes are not really movable for significant distances and relocation with home intact is impossible.

A Financial compensation in the form of assistance cannot compensate for these types of loss, as courts have repeatedly recognized. See, McNeill v. New York City Housing Authority, 719 F. Supp. 233, 254 (S.D.N.Y. 1989); Brown v. Artery Organization, Inc., 654 F. Supp. 1106, 1118-19 (D.D.C. 1987) ("it is axiomatic that… eviction constitutes irreparable injury"); Mitchell v. HUD, 569 F. Supp. 701 (N.D. Cal. 1983); Gibson v. Harris, 438 F. Supp. 487, 490-91 (E.D. Va. 1977); Tenants for Justice v. Hills, 413 F. Supp. 389, 393 (E.D. Pa. 1975); Bloodworth v. Oxford Village Townhouses, Inc., 377 F. Supp. 709, 719 (N.D. Va. 1974).

B Second, minority families in the metropolitan area will be disproportionately adversely affected by loss of affordable housing opportunities. Data published by HUD and available at http://socds.huduser.org/chas/statetable.odb indicates that the proportion of minority/Hispanic households who are low income (at or below 50% of area median) and have housing problems (costs greater than 30% of income, overcrowded, or inadequate facilities) is almost three times that of white non-Hispanic households (32% v. 11%). In Scott County the ratio is 21% of minority households low income and poorly housed to 7% of white households and in Carver county it is 19% minority households to 4% white households. Because minority households are disproportionately in need of affordable housing, they are disproportionately injured by its loss. This type of adverse effect is simply not recognized in the environmental justice section of the Draft.

For a state or federal agency to knowingly choose an alternative which will have disproportionate adverse effects on minorities, is to invite liability under the federal Fair Housing Act, 42 U.S.C. § 3604. To choose an alternative without a full and complete evaluation of the potential adverse effects on minorities prior to selection among alternatives is to violate the agency's obligations under Section 3608(d) of the Fair Housing Act. That statute requires all federal agencies to administer their programs relating to housing and urban development so as to affirmatively further the purposes of the Fair Housing Act. Courts have universally ruled that this requirement requires at the minimum a full evaluation of alternative courses of action in light of their fair housing implications.

A In addition to this failure to acknowledge the environmental justice effects of the proposed alternatives, Section 5.1 fails to fully disclose the likely extent of these effects. The description of removal of housing units by alternatives C-2, C-2A, E-1, E-1A, and E-2 all base the total units to be removed on acquisition of portions of some manufactured home parks. The Draft fails to disclose or discuss the likelihood that partial demolition of these parks will result in closure of the parks with displacement of the remaining families and loss of the remaining low income housing opportunities. Nor does the mitigation section discuss whether URA benefits would be available to persons displaced as the result of such park closures.

C

The Draft does not adequately consider the effects of loss of affordable housing.

B The Draft EIS does barely acknowledge, at page 12-10, that "there is the potential

RESPONSE

Housing Preservation Project (continued)

A. See response "A" on previous page.

B. The DEIS addresses the loss of affordable housing as an indirect effect in Chapter 12. However, the Preferred Alternative will not result in the loss of any manufactured home park units and is not anticipated to affect any other known "affordable" housing units. Mn/DOT recognizes that the supply of affordable housing has been a concern throughout the metropolitan area for several years. Mn/DOT is required to mitigate for any loss of housing resulting from right of way impacts of its projects. The timeframe for the project provides an opportunity for cities and counties to plan for the provision of affordable housing in the area before construction of the Preferred Alternative begins.

C. The Preferred Alternative (refined Alternative C-2) will not result in the loss of any manufactured home park units and is not anticipated to affect any other known "affordable" housing units. Mn/DOT is required to mitigate for the loss of housing resulting from construction of the Preferred Alternative. Mn/DOT will follow the Uniform Relocation and Real Property Acquisition Act for all right of way acquisition and relocation as stated in Section 5.2.3 of the DEIS.

COMMENT

that any removal of affordable housing (i.e., mobile home units) by the proposed project will have indirect impacts… on low and moderate income families throughout the housing market area who would have fewer housing options if the impact is not offset by an increase in the area supply of affordable units." This is a wholly inadequate statement of the issue for two reasons.

First, it avoids any discussion of the low income housing environment in which alternative courses of action will be chosen. An adequate discussion would indicate that there is no question that removal of affordable housing will adversely impact other low income households. Recent studies by the BBC and Metropolitan Council show that there were approximately 170,000 cost-burdened lower income households at the start of the current decade, and an additional 22,000 new low income households expected to be added during this decade, and yet another 28,000 - 31,000 low income households added during the next decade, for whom there will not be affordable housing available.[1]

B Tenant Based Section 8 in Scott County is administered by Scott County HRA, which recently opened the program's waiting list. They received about 1,100 applications and anticipate a 7-10 year wait before current applicants will receive a subsidy. The program in Carver County is administered by the Metropolitan Council HRA. They also recently reopened their waiting list, received about 20,000 applications, and had to do a random drawing to pick 5,000 applicants to be placed on the waiting list. They anticipate a 3-5 year wait prior to receiving the subsidy In this context, it is simply a fact that any unit lost will necessarily add to a huge unmet affordable housing need.

Second, the Draft is simply wrong in asserting that the project will have indirect impacts only if not offset by an increase in the supply. It is extremely difficult and costly to produce new low income housing units. According to the Metropolitan Council, metropolitan area communities are already far behind in meeting their goals, established by agreement with the Council in the mid-1990s, for addressing their share of the region's affordable housing needs through 2010.[2] In Scott County communities which had production goals, 9,466 units (68% of the total goal) remained to be produced in 2005, two thirds of the way through the 15 year period to which the goals apply. In Carver County, 4,022 units remained to be produced, 59% of the fifteen year goal. So any loss of affordable housing is highly unlikely to be offset by production of new units. More importantly, any loss of housing simply increases the number of new units which Scott and Carver County communities must produce simply to avoid falling farther behind.

The Draft does not adequately disclose the economic impacts of alternatives because it does not discuss the costs of replacing lost affordable housing.

C In order to fully disclose, in Section 5.3, the economic impact of the alternative routes, the EIS also must describe the very substantial costs involved in developing replacement housing for the lost affordable units. A recent MHFA study indicated average costs per unit in the metropolitan area of $64,000.[3] That would, as examples, add $11.9 million to the cost of E-2, and $7.2 million to the cost of E-1A. Nor does the draft discuss whether the burden of such replacement costs will fall on county/local governments, or on the federal and state agencies pursuant to 49 C.F.R. § 24.404.

RESPONSE

Housing Preservation Project (continued)

B. See response "B" on previous page.

C. See response "C" on previous page.

COMMENT

Yours truly,

Jack Cann

[1] "The Next Decade of Housing in Minnesota," Prepared by BBC Research and Consulting for the Family Housing Fund, Minnesota Housing Finance Agency and the Greater Minnesota Housing Fund; "Determining Affordable Housing Need in the Twin Cities 2011-2020," Metropolitan Council. See http://www.tchousingpolicy.org/understanding/index.php?strWebAction=article_detail&intArticleID=175

[2] See report at: http://www.tchousingpolicy.org/_uls/resources/downloads/Met_Council_LCA_Progress_Report.pdf

[3] "Development Costs and Gap Funding for New Construction Assisted by Minnesota Housing, 2003-2005", MHFA, available at: http://www.mhfa.state.mn.us/about/Development_Cost_Analysis.pdf

RESPONSE

Housing Preservation Project (continued)

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COMMENT

MINNESOTA NATIVE PLANT SOCIETY

220 Biological Sciences Center
1445 Gortner Avenue
(University of Minnesota)
St. Paul, Minnesota 55108

August 9, 2007

Diane Langenback, P.E.
MN Dept of Transportation
Mail Stop 050, First Floor
1500 Cty Rd B2
Roseville, MN 55125

Dear Ms. Langenback,

On behalf of the Minnesota Native Plant Society, this letter is submitted as public comment on the proposed TH41 crossing of the Minnesota River valley. Since 1983 the Minnesota Native Plant Society has operated for scientific and educational purposes including the preservation of special plants, plant communities, and scientific and natural areas. We are composed of members throughout Minnesota, additional states, and several national botanical conservatories. In preparing this letter we have reviewed public documents and the history of the proposed project. It is very clear that there is overwhelming opposition to all eastern alternatives for several potentially significant impacts, including to the Seminary Fen and related flowages. We agree with this and have concluded that the existing alignment is the only prudent and feasible location for the reconstruction.

A

We call your attention to the figure accompanying this letter. Our principal comment is a question as to how any eastern alternatives are justifiable when they have the potential for altering directly or indirectly areas shown on the map in red. Analysis of the map will show that for all of the Twin Cities Metropolitan area, only 3-5% of this land area consists of natural areas worthy of mapping for statewide level importance. The map identifies the location of existing TH 41 and circles a concentration of these rare sites to the east. It is clear that the existing crossing perfectly avoids impacts to clusters of these rare sites both upstream and downstream.

B

The most unique of these sites is Seminary fen – a calcareous fen which is one of the rarest wetlands in North America. This fen is home to a number of state threatened and special concern plant species. The Seminary Fen is preserved within a mosaic of wetlands beginning directly east of Audubon Road. All of the mosaic is critical for the survival of the fen. In part this is due to the critical role the mosaic plays in buffering the most central, core, and rare portions of the fen. Without this entire wetland mosaic, outside stressors will significantly impact the core areas. Stressors to the Seminary Fen and its wetland mosaic already exist. Bridge construction to any portions of wetland east of Audubon Road will exacerbate this effect. Bridge abutments, shading as well as ensuing

An Independent Non-Profit Organization dedicated to the conservation of Native Plants through the promotion of education and public awareness.

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RESPONSE

Minnesota Native Plant Society

A. The existing alignment was eliminated from further considering during scoping because it did not meet the purpose and need for the project and was therefore not chosen as the Preferred Alternative.

B. None of the eastern alternatives was selected as the Preferred Alternative. The Preferred Alternative is the DEIS Alternative C-2 with the horizontal alignment refined. The rationale for identification of the Preferred Alternative is provided in Chapter 3 of the FEIS.

COMMENT

MINNESOTA NATIVE PLANT SOCIETY

220 Biological Sciences Center
1445 Gortner Avenue
(University of Minnesota)
St. Paul, Minnesota 55108

pollution runoff and changes in water flow will trigger significant negative cumulative impacts.

Thank you for the opportunity to comment on this proposed project.

Sincerely,

Elizabeth Nixon
Chair of the Conservation Committee
The Minnesota Native Plant Society

An Independent Non-Profit Organization dedicated to the conservation of Native Plants through the promotion of education and public awareness.

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RESPONSE

Minnesota Native Plant Society (continued)

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COMMENT

Aug 10 07 01:06p Lois Norrgard 9528817282 p.1

To: MnDOT Project Manager
Diane Langenbach.
From Lois Norrgard 952.881.7282
2 pages.

MINNESOTA RIVER VALLEY AUDUBON CHAPTER
Box 20400, Bloomington, Minnesota 55420

August 10, 2007

Diane Langenbach
MN DOT – Metro Division
1500 West County Road B2
Roseville, MN 55113

Re: Tier 1 Draft Environmental Impact Statement, Trunk Highway 41 Minnesota River Crossing Corridor

Dear Ms. Langenbach:

A I am submitting these comments on behalf of the Minnesota River Valley Audubon Chapter, National Audubon Society. We have great concern for all of the proposed crossings, especially those that threaten the Seminary Fen Wetland Complex. We would urge MN DOT to reconsider its proposed alternatives. On what basis was each originally designed and considered?

B That being said, if we are had to accept one of the alternatives currently proposed it would be Alternative C-2 as set forth in the DEIS. This alternative minimizes negative impacts to the Seminary Fen and the Minnesota River Valley National Wildlife Refuge. The eastern alternatives (E-1, E-1A and E-2) are unacceptable due to the hazards that a bridge in any of those locations would pose to Seminary Fen and Assumption Creek, and Alternatives W-2 and C-2A are similarly unacceptable due to the disturbance that would be caused to the Minnesota Valley National Wildlife Refuge lands.

The Seminary Fen Wetland Complex is a rare ecosystem, and an extremely conservative approach to any construction in its vicinity is warranted. This is especially true since the study revealed that there is more unique calcareous fen in the area than was previously thought. The construction of the bridge piers near the fen would have serious and permanent impacts to the groundwater flow, no matter what precautions are taken. Indeed, the precautionary measures that would be required make the eastern alternatives prohibitive. Salt spray and other pollutants, as well as windblown trash coming from the road would be harmful to the fen complex. These problems, along with storm water, would adversely affect the fragile water chemistry of the area. The shading of the calcareous fen plant species from the elevated bridge and the inevitable soil compaction are also concerns.

The 90 acres of calcereous fen in the Seminary Fen is a significant portion of the state's total acres of this type of ecosystem. It is the rarest wetland type and one of the rarest plant community types in the state. It has been recognized by the state legislature as a critical habitat that needs to be preserved. The native plants that are typical of a calcereous fen plant community are not found outside this community and are on the state's list of threatened and

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RESPONSE

Minnesota River Valley Audubon Chapter

A. The DEIS describes the alternatives development process which began with scoping that identified study area limits, evaluation criteria, initial definition and screening of alternatives to identify alternatives to analyze in the DEIS. This process is summarized in Chapter 3 of the FEIS.

B. None of the eastern alternatives was selected as the Preferred Alternative. The Preferred Alternative is the DEIS Alternative C-2 with the horizontal alignment refined. The rationale for identification of the Preferred Alternative is provided in Chapter 3 of the FEIS.

COMMENT

Aug 10 07 01:07p Lois Norrgard 9520817282 p.2

endangered plants. Disturbance of this fen would have a significant impact on the total state inventory of these plants.

While the E-1 route would only marginally directly impact the calcereous fens, the study predicts that it could impact the hydrology of wetland complex. The calcereous fens are dependent upon their unusual hydrology and any change in the hydrology could completely alter the delicate balance that keeps other plants from invading this community. Even the E-1 route could inadvertently destroy the fen.

Disturbances to soils in native plant communities open the door to favor non-native invasive species introduction and proliferation. A number of plant and animal species in the Seminary Fen Wetland Complex are either listed as state threatened and endangered or are of state special concern. The eastern alternatives would negatively impact these species. This is also the case for the Alternative W-2 route in the Refuge area. However, this is not as great an issue for Alternative C-2, further making C-2 the preferred alternative.

B If a re-assessment is not pursued, to minimize the negative environmental impacts that all of these options include, Alternative C-2 would be our preferred option for the Trunk Highway 41 Minnesota River Crossing. In your forthcoming document, please detail all reasons for the basis of your decision for the preferred alternative. Thank you for your consideration.

Sincerely,

Chair, Natural Resources Committee
Minnesota River Valley Audubon Chapter

RESPONSE

Minnesota River Valley Audubon Chapter (continued)

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COMMENT

CENTEX HOMES
Minnesota Division

12701 Whitewater Dr.
Suite # 300
Minnetonka, MN 55343

Builders License # 20076737
Phone: 952.936.7833
Fax: 952.936.7839

August 9, 2007

Ms. Diane Langenbach
Mn/DOT – Metro Program Delivery
Waters Edge Building MS 050
1500 W. County Road B2
Roseville, MN 55113

RE: TH 41 Minnesota River Crossing – A Future US 169/US 212 Regional Freeway Connection Tier I Draft Environmental Impact Statement (DEIS) and Draft Section 4(F)/6(F) Evaluation

Dear Ms. Langenbach:

Thank you for the opportunity to provide comments on the ***TH 41 Minnesota River crossing: Tier I Draft Environmental Impact Statement (specifically Alternatives C-2 and W-2 Alignment Locations).*** Centex Homes – MN Division has reviewed the document and found that this document contains information that is not accurate and needs clarification.

As we discussed during our conversation, our "Spring Creek" neighborhood has existed for nearly two years. The following comments, attachments and pictures provide history/background information regarding our "Spring Creek" neighborhood.

"Spring Creek" Background
Spring Creek is located in the City of Carver. The site is approximately 76 acres and is located in the SE quadrant of Highway 212 and CR 147 intersection. The Spring Creek neighborhood consists of 131 single family homes, a trailhead and trail system, a linear park area and a regional retention facility.

In August 2005, the Carver City Council granted approval of the Preliminary Plat of "Spring Creek". In October 2005, the City Council granted approval of the final plat for 131 single family lots *(Note: During the EAW/Platting Review Process no other Agencies raised any comments or concerns relating to the proposed C-2 and W-2 alignments in proximity to our property).*

A Full completion of the infrastructure (roads and utilities) for the entire development was in place by fall of 2006.

"Glen of Spring Creek" Background
Glen of Spring Creek is located directly south of the Spring Creek neighborhood one half mile from the future Highway 212 and CR 147 intersection. The site is approximately 47 acres. The neighborhood is a Master Planned community consisting of 215 multiple town house types. The Plan is sensitive to the natural environment, and accommodates a number of trails and sidewalks internal to the site.

In May 2006, the City Council granted approval of the Final Plat of "Glen at Spring Creek". Full completion of the infrastructure for the entire development was in place by spring of 2007 *(Note: During the EAW/Platting Review Process no other Agencies raised any comments or concerns relating to the proposed C-2 and W-2 alignments in proximity to our property).*

RESPONSE

Centex Homes

A. Comment noted.

COMMENT

A *Note: Due to reconfiguring the street layout the entire neighborhood consists of 139 single family homes and 207 town homes for a total of 346 homes. In addition, for marketing/neighborhood identification purposes the two above referenced neighborhoods are identified as one entire neighborhood "Spring Creek".*

Sales/Projected New Starts
Currently, the total sales in the neighborhood are as follows: 12 SF homes and 15 town homes. The projected new starts for the 2008 calendar year: 36 SF homes and 25 town homes.

DEIS Review Comments
The following key points, comments, clarifications and concerns on this DEIS are reiterating and mirroring some of Technical Memorandum comments (as referenced below) as prepared by the City of Carver. It is important to understand that we concur with the City's comments relating to the "Spring Creek" neighborhood.

3.2 Regional Access and Local Accessibility

B Local access considerations, including impacts of providing local access to the proposed Build alternatives, should be assessed in this DEIS… access Carver will ultimately have to future Highway 41/US 212 under Alternatives W-2 or C-2, it is not possible to determine whether that future access is sufficient to accommodate Carver's land use plan…, including the following developments:

- Ongoing residential development at **Spring Creek,** River Bluff Estates and Christy's Bluff.

C Section 5, Alternative W-2. The DEIS did not identify the following local system transportation impacts associated with Alternatives W-2 and C-2:

The local ramps at the New TH 212/CSAH 11 interchange would need to be reconstructed to accommodate Alternative W-2.

D Section 5, Missed Transportation Impacts Alternatives W-2 and C-2. The DEIS did not identify the following local system transportation impacts associated with Alternatives W-2 and C-2:

The DEIS did not identify the need to realign Spring Creek Drive (located within the Spring Creek neighborhood), which merges with the existing TH 212 (following completion of new TH 212) and is Carver's only east-west aligned through-street on the northern side of the City.

3.4 Land Use Issues/Loss of Development Potential

Section 1.13 Mitigation Summary.

The assertion that a new regional river crossing will provide the TH 41 study area with economic benefits, including accommodation of development may well be accurate…land directly adjacent to the highway corridor will become less desirable for certain land uses, particularly residential (example Spring Creek), as many people do not find residing beneath or alongside a major highway or river crossing especially desirable.

3.5.2 Visual Impacts

E Even though no specific comments related to the Spring Creek neighborhood were referenced, an analysis needs to be provided in the future to the neighborhood visual impacts.

RESPONSE

Centex Homes
(continued)

B. Mn/DOT will continue to work with the City of Carver on coordinating local and regional transportation network planning.

C. Comment noted. Chapter 5 of the FEIS identifies the need to reconstruct the local ramps at the US 212/CSAH 11 interchange for the modified Alternative C-2.

D. Comment noted. Chapter 5 of the FEIS identifies the need to realign Spring Creek Drive to reconnect to CSAH 61.

E. The visual impacts of the Preferred Alternative on the surrounding properties will be examined during preparation of the Tier II EIS, closer to the time of construction, when more work on the design of the project will occur.

COMMENT

3.5.3 Noise

F Section 6.2.1.1. The noise analysis needs to be updated. The number of receptors in Carver in 2040 that were modeled is extremely low due to the characterization of several existing residential parcels within the DEIS analysis as agricultural. In addition to **Spring Creek,** Riverbluff Estates and Grove at Spring Creek that have been previously discussed in these comments, developers have applied for preliminary plat approval for Christy's Bluff and Spring Creek Woods…

G Section 6.2.4, Noise Mitigation. Due to steep topography and the lack of easily accessible streets to arterials for parcels within the City of Carver near the W-2 and C-2 alignments, the City has already planned that most of these parcels will be used for residential uses. Although the City can appreciate that there may be avoidance strategies based on land use planning strategies, the City would caution that many of the parcels modeled to have increases in noise impacts have already been granted development rights. For these existing subdivisions **(Spring Creek)**, noise mitigation from the W-2 or C-2 alignment should be planned for as a part of the TH 41 project. In addition, if W-2 is selected, there are other parcels that may not have an economically viable use once avoidance strategies are imposed, in addition to the natural topographical and transportation constraints in this area.

3.5.4 Parks, Public Lands, Trails, Natural Resources

Alternative W-2 Unidentified Trail Impacts, Section 5. The City of Carver has 5 pedestrian and/or bicycle routes (both existing and planned) that are either within or intersected by W-2. Impacts to these trails were not included in the community cohesion discussion for W-2, as they were included in other alternatives. These trails are as follows:

H
- A trail that is being constructed by the developer adjacent to Spring Creek Drive in Centex Homes Spring Creek development.
- A planned trail connecting from the Spring Creek trail along/near the City's northern boundary to the Riverbluff Estates trail, which would also be intersected by the W-2 corridor near the existing Bade Lane.

Alternative C-2 Unidentified Trail Impacts, Section 5. There is one trail in Carver that is within the C-2 alignment, specifically the trail in Spring Creek referenced above.

3.5.5 Errors in Right-of-Way Needs Calculations

Realignment of Spring Creek Drive for Alternatives W-2 and C-2. The DEIS did not identify the need to realign Spring Creek Drive, which merges with the existing TH 212 (following completion of new TH 212) and is Carver's only east-west aligned through-street on the northern side of the City. This realignment results in additional acquisition and construction costs. Per an email from Nancy Frick, SRF, on July 26, 2007, Lot 1, Block 1 of Spring Creek would be a total take for these purposes. We estimate that in order to accomplish this realignment, property would also be required from the following additional properties:

I
- Per an email from Nancy Frick, SRF, on July 26, 2007, Lot 1, Block 1 of Spring Creek would be a total take for these purposes.
- PID # 200181800. This property is adjacent to existing TH 212 and located between the Centex development and the Butler property. Right-of-way estimates should be updated to include a portion of this parcel.

RESPONSE

Centex Homes
(continued)

F. Since noise impacts were not a key consideration in the identification of a Preferred Alternative, the noise analysis for all receptors was not updated in the FEIS. (Additional noise analysis was related to Section 4(f) and historic properties to inform the realignment of Alternative C-2.) The noise analysis will be updated for the Preferred Alternative during preparation of the Tier II EIS and mitigation will be identified, based on the results of the updated noise analysis.

G. The noise analysis will be updated for the Preferred Alternative during preparation of the Tier II EIS and mitigation will be identified, as needed.

H. The information about trails provided in the comment is incorporated into Chapter 8 of the FEIS. Figure 8-1 in the FEIS shows the relationship between the Build alternatives and the trails. Construction of the Preferred Alternative will require realignment of Spring Creek Drive and the trail that is alongside it.

COMMENT

Incorrect Residential Acquisitions for Alternatives W-2 and C-2, Table 5-7.

- **Alternative W-2**. The impacts for W-2 identify a total of 13 residential acquisitions; this is incorrect. An email from Nancy Frick, SRF on July 26, 2007, identified ten additional units which should be added as a total take from Carver's Spring Creek neighborhood.
- **Alternative W-2**. In addition, the City estimates that 3 units from the Grove at Spring Creek may need to be taken for the realignment of Spring Creek Drive.

I

- **Alternative C-2.** The impacts for C-2 identify a total of 29 residential acquisitions, which is an incorrect. Per an email from Nancy Frick, SRF, on July 26, 2007, eight additional units should be added as a total take from Carver's Spring Creek neighborhood. In addition, the City estimates that 3 lots from the Grove at Spring Creek may need to be taken for the realignment of Spring Creek Drive…

Table 5-10. This table needs to be updated in accordance with discrepancies identified above for the following:

- Spring Creek residential acquisitions for W-2 and C-2 for both affected residential parcels and parcels with structures.

3.5.7 Indirect Impacts

Section 12.3. The DEIS does not discuss the economic impact of the various build alternatives on developments that are under construction and completed but located within a build alternative. In particular, the DEIS states that the actual right-of-way requirements for the project will not be determined until detailed design is completed during the Tier II EIS process, likely several years in the future. There are two subdivisions in Carver that are nearly completed at this time that are anticipated to have direct impacts from either W-2 and/or C-2...The City and Centex Homes are concerned that selection of either W-2 or C-2 could have the following indirect impacts on economic conditions:

- The marketability of these subdivisions could be negatively impacted, particularly if the specific right-of-way acquisition areas are not known.

J

- Investments in infrastructure have been made that projected the collection of connection fees. If marketability is affected, connection fees in the affected areas will also decrease, resulting in the City being unable to recover its investment in infrastructure to serve these areas.

Section 13.1. Several items in this section can be updated as follows:

- Spring Creek is under construction. As stated previously, all utilities have been fully installed and 90% of the street construction is fully completed.

Comments on Related Documents Impacting the DEIS Analysis

Memorandum dated April 30, 2007 from Nancy Frick, SRF, to Cheryl Martin, FHWA (in connection with the "Spring Creek" neighborhood).

I

1. Per an email from Nancy Frick to Cindy Olness on July 26, 2007, the R/W acquisition costs for W-2 and C-2 should be updated to include portions of Centex's Spring Creek development. The following properties are anticipated to be taken under both corridors:
   a. Total takes of Lots 19 through 25, Block 2, Spring Creek
   b. Total take of Lot 1, Block 1, Spring Creek
   c. Area takes of Lots 15 and 16, Block 2, Spring Creek

   The following additional properties are anticipated to be taken under W-2:
   a. Total takes of Lots 17 and 18, Block 2, Spring Creek

RESPONSE

Centex Homes (continued)

I. Right of way impacts were revised in the evaluation of DEIS Alternatives that informed the identification of Alternative C-2 as the Preferred Alternative. For the Preferred Alternative, the ramps at US 212/CSAH 11 interchange were revised to avoid direct impacts to the Spring Creek neighborhood. Impacts from the Preferred Alternative are provided in Chapter 5 of the FEIS.

J. The purpose of the Tier I EIS is to identify a corridor for right of way preservation so that planning for development around the corridor can occur accordingly. The Preferred Alternative is the result of balancing social, economic, and environmental impacts. The evaluation of TH 41 alternatives was already underway while these subdivisions were being reviewed by local planning officials. This corridor is anticipated to be incorporated into local planning documents.

COMMENT

The following additional properties are anticipated to be taken under C-2:

I

a. Area takes of Lots 17 and 18, Block 2, Spring Creek

2. Per the email from Nancy Frick, Spring Creek Drive would need to be realigned. This would result in area takings from 2 properties which the City of Carver has estimated as follows:
   d. PID #200181800 -- .06 acres
   e. PID #200181000 – 2.5 acres

Conclusion/Recommendation

J

As I mentioned during our conversation, it was three to four years ago when Centex Homes originally investigated these properties to purchase, the proposed TH 312 was planned and shown for future transportation improvements, however, the proposed W-2 and/or C-2 alternative alignments for the TH 41 River Crossing were not planned and shown directly adjacent to the these properties, known today as "Spring Creek". Again, as referenced above, many of the concerns raised will affect this neighborhood greatly if these proposed alignments remain in the same location. Many of our current home owner's investment as well as our investment will be negatively impacted. During this difficult housing market, to disclose to potential home owners that a new River Crossing may alter this neighborhood in the future, would guarantee marketability difficulty and possibly no further sales in the neighborhood.

Therefore, as we move further in this process, our recommendation is that W-2 and C-2 proposed southerly alignment limits be moved north of the proposed US Hwy 212 ramp or 200/300 feet across from the existing US Hwy 212.

Again, thank you for the opportunity to provide comments. We remain committed to partnering with Mn/Dot and the various agencies as we move further through this process.

If you have any questions, please call me at 952-912-5487 (direct) and/or 612-290-1940 (cell).

Sincerely,

Centex Homes

Tom C. Bakritges
Area Land Acquisition Manager - Minnesota Division

Enclosures

Cc: Cindy Olness, Carver City Planner
Steve Ach, Land Acquisition Manager
Ian Peterson, Land Development Manager
Lynne Jensen, VP of Sales
Dan Blake, President - Minnesota Division

RESPONSE

Centex Homes
(continued)

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COMMENT

SIERRA CLUB
FOUNDED 1892

August 10, 2007

Minnesota Department of Transportation
Ms. Diane Langenbach, P.E.
Senior Engineer – South Metro Area
Waters Edge – Metro Program Delivery
Mail Stop 050, 1st Floor
1500 County Road B2
Roseville, MN 55113-3174

Dear Ms. Langenbach:

The Sierra Club wishes to express its appreciation for your consideration in reviewing these comments for the proposed expansion of T.H. 41 bridge project. The Sierra Club is a national grassroots environmental advocacy organization with 24,000 members in Minnesota.

We are opposed to all six routes that are being proposed for this project due to the potentially devastating effect on natural resources, rare plant species, and wildlife. We are particularly concerned about and are opposed to any "E" route due to the effects of construction, storm water runoff, and groundwater contamination that would impact the Seminary Fen Wetland Complex; a very rare and protected calcareous wetland in Minnesota.

A

We oppose the other routes, W-2, C-2 and C-2A, due to the disruption of wildlife corridors, flight barrier for birds and the loss of threatened and endangered species as listed in Table 1-4 Impact Summary DEIS.

B

We urge MN DOT to return to the planning phase of the operation and consider the two options that have been removed from the table. Despite their complications both routes better preserve Seminary Fen and its surrounding environment while maintaining affordable housing options for Scott and Carver counties.

Sincerely,

/s Frank Jossi

Frank Jossi, Co-Chair
Land Use and Transportation Committee
Sierra Club North Star Chapter

/s Sharell Benson

Sharell Benson, Co-Chair
Land Use and Transportation Committee
Sierra Club North Star Chapter

2327 East Franklin Avenue • Minneapolis, MN 55406
Phone: 612-659-9124 • Fax: 612-659-9129 • www.northstar.sierraclub.org

08/09/2007 23:24 612-659-9129 SIERRA CLUB PAGE 01/01

RESPONSE

Sierra Club

A. None of the eastern alternatives was selected as the Preferred Alternative. The Preferred Alternative is the DEIS Alternative C-2 with the horizontal alignment refined. The rationale for identification of the Preferred Alternative is provided in Chapter 3 of the FEIS.

B. The scoping process to identify Build alternatives for evaluation in the DEIS considered more than 20 alternatives. Each of these alternatives had substantial potential for impacts. The broad Build corridors carried forward for evaluation in the DEIS were refined during the DEIS process into six Build alternatives that minimized socioeconomic and environmental impacts as well as met engineering design standards, provided for acceptable freeway operations, and allowed for development/maintenance of local transportation networks to meet access and system needs. Section 3.1 of the DEIS provides a summary of the alternative development process. It is not known what the "two options that have been removed from the table" refers to in the commenter's letter.

COMMENT

BOARD OF DIRECTORS
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US FISH AND WILDLIFE SERVICE
Patricia Martinkovic, Manager
Minnesota Valley National Wildlife Refuge

MINNESOTA VALLEY TRUST
Minnesota Valley National Wildlife Refuge Trust, Inc.

August 3, 2007

Diane Langenbach
MN DOT – Metro Division
1500 West County Road B2
Roseville, MN 55113

Re: Tier 1 Draft Environmental Impact Statement, Trunk Highway 41 over the Minnesota River

Dear Ms. Langenbach:

Thank you for the opportunity to comment on the Tier 1 Draft Environmental Impact Statement, Trunk Highway 41 over the Minnesota River.

About the Minnesota Valley Trust

The Minnesota Valley National Wildlife Refuge Trust, Inc. (MN Valley Trust) is a 501(c)(3) nonprofit organization that works substantially in the Minnesota River Valley in and near the focus area of the proposed new Highway 41 Bridge. Specifically, the MN Valley Trust and many partner organizations work to expand the Minnesota Valley National Wildlife Refuge in Minnesota and improve habitat for wildlife and, consequently, the public that enjoys it.

The MN Valley Trust was created in 2001 when a settlement was reached to mitigate the significant impact of the north-south runway at the Minneapolis-St. Paul International Airport on the Minnesota Valley Refuge and the public that uses it. The MN Valley Trust is charged with implementing the Mitigation Plan developed through that settlement agreement.

The focus of the MN Valley Trust – and substantial investment – is to increase and improve significant natural resources and wildlife habitat in the Minnesota River Valley, to mitigate the impact of the airport expansion on existing Refuge Units in the Bloomington area. The MN Valley Trust and its partners already have invested over $2.6 million acquiring lands and over $6 million constructing new public use facilities immediately south of the Highway 41 Bridge project area.

Consequently, the MN Valley Trust has a keen interest and important perspective in this process to plan for a new Highway 41 bridge over the Minnesota River.

3815 East American Boulevard • Bloomington, MN 55425-1600 • 612-728-3772

RESPONSE

Minnesota Valley Trust

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COMMENT

Comments on the Draft EIS

We have concluded, after careful review of the Draft EIS, that the only option that can and should be considered for the Highway 41 bridge over the Minnesota River is option C2. We reached this conclusion after studying the options and considering which has the least impact on the important natural resources and public lands within the study area.

Option C2 is the only option that follows, as much as is technically possible, the alignment of the existing Highway 41 river crossing. Because of that, it disturbs the least amount of natural resources and wildlife habitat of the options.

A Wildlife - and the people who enjoy wildlife - needs large expanses of significant natural resources that are not fragmented or disturbed by urban activities and the noise and pollution that come with such activities. A highway bridge in the middle of a refuge unit, a state recreation area, a fen and the Minnesota River valley in general, will have a substantial, negative impact on wildlife and the public.

The MN DOT must avoid cutting a new swath through these valuable natural resources. Once damaged, natural resources are damaged.

B To be sure, even option C2 will have a significant and damaging impact on natural resources, wildlife habitat and the public's ability to enjoy those resources. And those impacts will need to be mitigated. But option C2 will be the least damaging and disruptive of the options considered.

Conclusion

We thank you for the opportunity to comment on this important Draft Environmental Impact Statement. Please contact our executive director, Deborah Loon, at 612-801-1935 with any questions. We look forward to continuing to work with you on this project.

Sincerely,

Lois Norrgard

Lois Norrgard
President

RESPONSE

Minnesota Valley Trust (continued)

A. Alternative C-2, refined since the DEIS was published, was selected as the Preferred Alternative. The rationale for identification of the Preferred Alternative is provided in Chapter 3 of the FEIS.

B. Comment noted. Mitigation for impacts from the Preferred Alternative will be identified when a detailed design is developed during preparation of the Tier II EIS, closer to the time of construction.

COMMENT

August 10, 2007

Diane Langenbach
Mn/DOT-Metro Division
1500 West County Road B2
Roseville, MN 55113
(651) 234-7721 /-7786 (fax)
diane.langenbach@dot.state.mn.us

RE: MCEA Comments On TH 41 Tier 1 Draft EIS

Dear Ms. Langenbach:

Thank you for the opportunity to comment on the Trunk Highway (TH) 41 Over the Minnesota River Project (the Project) Tier 1 Draft Environmental Impact Statement (DEIS). I am an attorney and forestry and wildlife advocate for the Minnesota Center for Environmental Advocacy (MCEA). MCEA is the legal and scientific voice protecting and defending Minnesota's environment, wildlife, and public health. We work with communities and conservation groups, as well as in the courts, at the legislature, and with state and local government agencies, using science and policy to develop, communicate, and achieve positive change. MCEA appreciates your attention to our concerns regarding the Project.

A MCEA prefers corridor alignment C-2, because it does the least damage to the integrity of the Minnesota Valley National Wildlife Refuge (the Refuge) and other natural resources of extraordinary ecological and social importance, including Assumption Creek and Seminary Fen. Corridor C-2 follows the alignment of existing TH 41, and thereby avoids coming into close proximity of Assumption Creek and the Seminary Fen Wetland Complex (SFWC). In addition to being an incredibly rare calcareous fen, the SFWC is the largest contiguous expanse of native vegetation above the limits of regular flooding in a landscape where native habitat has otherwise been highly fragmented by past development. While MCEA challenges the underpinning assumptions and accuracy of the traffic demand study and cost-benefit analysis used to justify this new bridge, if a new bridge is to be constructed, it is clear that corridor C-2 is superior to all others and that the other corridors would cause unacceptable and

RESPONSE

Minnesota Center for Environmental Advocacy

A. Refined Alternative C-2 is the Preferred Alternative. The rationale for identification of the Preferred Alternative is provided in Chapter 3 of the FEIS.

COMMENT

avoidable damage to irreplaceable natural resources of unusual ecological and social value, and therefore that the selection of those other alternative corridors would be legally indefensible.

I. Model Validation, Formal Review, And Select Link Analysis Needed.

B MCEA questions the bases and fundamental assumptions of the future traffic demand modeling, and also challenges the validity and accuracy of the cost-benefit analyses in light of lessons from the inaccuracies in the original analysis on the Bloomington Ferry Bridge. One major inaccuracy in the environmental analysis on the Bloomington Ferry Bridge was the failure of modeling assumptions to account for the induced population growth and development, and therefore induced demand for transportation capacity. These documented effects are worthy of discussion and should be the basis for substantial model revision. Instead, these realities are neither mentioned nor discussed in the DEIS. Accordingly, MCEA requests that a new traffic model validation be performed, and that model discussion in the DEIS be revised to elaborate on the steps taken to fix the model now in use. In addition, the discussion of model validation in the DEIS admits that because no commercial vehicle traffic counts at the Highway 101 crossing were conducted, no validation was performed for the Highway 101 crossing. *Id.* at 4 – 23. This omission should be addressed with additional data collection and proper validation.

C MCEA requests a description of the type of formal review completed regarding the accuracy of centroid connectors and traffic analysis zones (TAZs). These factors are either not mentioned or barely discussed in the DEIS materials.

II. Resources That Would Be Affected By Some Or All Alternatives:

D **A. Seminary Fen.** Seminary Fen is a calcareous fen and an exceptional site. Calcareous fens are characterized by unique hydrologic and hydrogeochemical conditions which support an array of highly specialized and rare species. Many of these species are listed as state endangered, threatened, or special concern, because they are rarely if ever found outside of the calcareous fen environment. Phase 1 Characterization Seminary Fen Wetland Complex TH 41 Over The Minnesota Highway Project (Phase 1 Study) at 17. In the continental U.S., only 5,000 acres of calcareous fen still exist, making those that remain sites of national environmental significance. Calcareous fens are also Minnesota's rarest wetland type, covering in the aggregate approximately 1,800 acres in roughly 121 fens statewide, according to data compiled and submitted to the Minnesota Department of Natural Resources (DNR) as the Draft Savage Fen Resource Plan. According to the Minnesota DNR, Seminary Fen is the finest example of a calcareous fen in the Twin Cities Metropolitan Region. *See* "Saving what little remains," DNR Division of Fish and Wildlife, Winter 1999; online at http://www.dnr.state.mn.us/fwt/back_issues/december99/tcnatura.html (last visited 8/9/07). The Phase 1 Study characterizes Seminary Fen as "relatively pristine" despite over a century of development and human modification of the surrounding landscape for farming and other uses, and states that it is the only calcareous fen in Carver County. *Id.* at pp. 1, 10. Many of the plants found in calcareous fens are rare and listed as state threatened or endangered. Calcareous fens cannot be replaced or restored. *See*

RESPONSE

Minnesota Center for Environmental Advocacy (continued)

B. The travel demand model used in the DEIS study is significantly different than the one used in the 1980s for the Bloomington Ferry Bridge analysis. The Metropolitan Council's current regional travel demand model is consistent with the current state-of-practice in travel demand models. The model accounts for "induced demand" through congestion-sensitive trip generation, trip distributions, mode choice and trip assignment. No relationship between accessibility and induced long-term land development has been quantified and validated in the Twin Cities; consequently any possible such relationship cannot be included and validated in a travel demand model. The travel demand methodology and results, including truck volume estimates, are documented in a separate technical memorandum.

The Tier II EIS that will be prepared for the Preferred Alternative closer to the time of construction will include new traffic demand modeling and cost-benefit analyses. These analyses will follow the standard Metropolitan Council traffic forecast model and will use accepted analysis standards and cost-benefit methodologies.

C. The methodology and application of the travel demand model are reviewed with appropriate staff from the Metropolitan Council and Minnesota Department of Transportation as well as with the project's technical advisory committee. Standard practices for TAZs and centroid connectors, consistent with the purpose and scope of the project, were followed. The travel demand methodology and results are documented in *TH 41 Minnesota River Crossing EIS: Technical Memorandum on Travel Demand Forecasting* (dated May 1, 2006).

D. Comment noted. The Seminary Fen is not located within the Preferred Alternative corridor (Alternative C-2 refined).

COMMENT

D

electronically attached document "February 1998 USFWS letter," at p. 1. Even the most experienced professionals in wetland restoration attest that it is impossible to restore, mitigate or replace the loss of calcareous fen habitat. *See* electronically attached document, "NAWE Letter to MCEA." The USFWS has stated, "avoidance is the only action that will ensure the protection of the existing wetland functions and values," in the context of a bridge project proposed in a calcareous fen on the south side of the Minnesota River. *See* electronically attached document, "November 1995 USFWS Letter to USACOE." Seminary Fen is unique, delicate, and irreplaceable.

B. Minnesota Valley National Wildlife Refuge.

E

According to the USFWS, the Refuge and the Minnesota Valley National Recreation Area and State trail was established more than 30 years ago. The USFWS and the DNR have spent tens of millions of dollars for the purposes of protecting the important ecological assets, securing fish and wildlife habitat, and providing environmental education and outdoor recreation opportunities to the visiting public. The Refuge is one of only four urban refuges in the National Wildlife Refuge System. Urban refuges are unique because they link major urban centers to wild lands and the species for which those lands provide habitat. In the estimation of the USFWS, "[o]ne of the most important attributes of the … Refuge is that it offers Twin Cities area residents and other visitors an opportunity to experience a peaceful and quiet natural environment close to their home, school, and work." February 1998 USFWS letter at p. 2. The Refuge is a major resting stop for migratory waterfowl, and one of three crucial habitat blocks and landscape linkages for wildlife in the Twin Cities Metropolitan Area, along with the St. Croix Wild & Scenic River valley and the Carlos Avery Wildlife Management Area. Additional habitat fragmentation, the addition of new sources and locations of traffic noise and air pollution, and the imposition of built features like bridges and traffic lighting in locations that dominate additional views within the Refuge, are all ways in which a new road and bridge alignment would degrade the ecological, recreational, educational, and aesthetic values of the Refuge.

C. State and local governmentally owned lands.

Numerous state- and locally-owned parcels of land, together with lands owned by the USFWS and other organs of the federal government, comprise the valley of the Minnesota River at and in proximity to the confluence with the Mississippi River. Some in state Wildlife Management Areas and other state ownership, some in regional and local parks, the collection of non-federal lands are essential pieces of the natural system in the river valley, a system that provides crucial habitat for feeding, breeding, shelter, rest, and dispersal of a host of plant and wildlife species, ranging from migratory waterfowl and songbirds, to aquatic species constantly testing and braving the Minnesota River's waters, to reptiles, amphibians, and terrestrial species. Many of these parcels fall within mapped sites of native plant communities (NPCs) possessing biodiversity significance, as determined by the Minnesota County Biological Survey. Even those not mapped as NPCs fulfill an increasingly important role as protected pieces in the natural landscape matrix that will not be, or are less likely to be, developed in a way that conflicts with wildlife habitat values. These state and locally-owned parcels may provide prime habitat or buffer such habitat; they all increase the total ecological function and

RESPONSE

Minnesota Center for Environmental Advocacy (continued)

D. See response "D" on previous page.

E. Comment noted. Section 3.0 of the Tier I FEIS describes the rationale for selection of refined Alternative C-2 as the Preferred Alternative, balancing social, economic and environmental impacts, including the resources referenced in the comment.

COMMENT

values of the Refuge. These lands would affected negatively just as the Refuge would be affected by a new road and bridge alignment across the river valley.

D. Private lands within or buffering the river valley and bluffs.

F Provision of new bridge and other transportation capacity stimulates population growth and land development. Transportation Research Board, Linking Transportation and Land Use: A Peer Exchange, Circular E-C100 (July 2006); National Cooperative Highway Research Program, Research Results Digest 304: Technologies to Improve Consideration of Environmental Concerns in Transportation Decisions (June 2006); American Association of State Highway and Transportation Officials, Handbook on Integrating Land Use Considerations into Transportation Projects to Address Induced Growth (June 2005). The total extent and pace of population growth and land development are to a great degree influenced by land use and transportation plans, and thus should not be considered unavoidable and inevitable or beyond measurement. Once infrastructure is built, or certain to be built, then the permanent loss of wild or restorable lands through conversion to commercial and residential development becomes all but inevitable.

G The TH 41 bridge will stimulate more extensive and rapid development of private land in Carver and particularly Scott counties. Many of those parcels serve to buffer public lands in the river valley. Others are desired for acquisition by Refuge or other public land managers because they still retain biodiversity significance or they could be restored to fill habitat gaps in the river valley. The added development pressure will raise land prices, increased development will speed the land's loss from potential acquisition by the Refuge, and the combination of these factors will mean that the Refuge and associated state and local parcels will lose buffering and potential habitat. These are effects that can and must be mitigated. While MCEA doubts the validity of the traffic modeling and costs-benefit analysis, unless and until MCEA's concerns are addressed, the cost ratio shows that a substantial amount could be spent on mitigations without affecting the overall cost-benefit ratio for the bridge. Sufficient additional money be allocated to the Refuge up front, that is, before any construction begins, so that those dollars may be used by the Refuge to mitigate the negative effects of increased future land prices and land development rates on the ability to acquire important parcels. These mitigation dollars must be additional to the amounts required to compensate for direct and indirect damage to all affected 4(f) and 6(f) lands. A similar sufficient amount must be allocated and disbursed up front to the DNR and possibly other local governmental units to mitigate the damages to their ability to acquire similar lands, because those lands likewise serve an important role in the continuing effort to build and protect the Refuge's ecological and social functions and values.

III. Legalities Surrounding Work In Fens

H Minnesota Statutes § 103G.223 provides that calcareous fens such as Seminary Fen may not be "filled, drained or otherwise degraded, wholly or partially, by any activity, unless the commissioner [of the DNR], under an approved management plan, decides some alteration is necessary." There is no approved fen management plan in existence for Seminary Fen. The last time a major transportation infrastructure project

RESPONSE

Minnesota Center for Environmental Advocacy (continued)

F. Potential indirect impacts are addressed in Chapter 12 of the DEIS and FEIS. Mitigation will be addressed in the Tier II EIS. The RCIC Report identifies key concerns for these public lands and includes recommended mitigation strategies for the Tier II EIS process. USFWS staff from the MVNWR and MnDNR staff are active participants in the RCIC.

G. Development is already occurring in Carver and Scott Counties – addressing increasing travel demand from existing and anticipated future development is one of the "needs" the project is proposed to address. The result of the Tier I EIS process is the identification of a Preferred Alternative for right of way preservation. Since construction of the project is not yet programmed for funding and may not occur for 20 or more years, there is time for MVNWR, MVSRA, and local units of government to acquire buffer and habitat lands if the agencies believe it is needed to protect their resources.

H. None of the eastern alternatives (which would have affected the Seminary Fen) was identified as the Preferred Alternative.

COMMENT

involving a proposed bridge in a calcareous fen, the fen management plan was not approved by the DNR, because feasible and prudent alternatives existed. Such is the case in the present situation, since alternatives to the E set of alternatives avoid any pollution, impairment, or destruction of identified calcareous fen.

In addition, for all its qualities described above and more fully in the Phase I and Phase 2 reports, as well as in the DEIS, Seminary Fen and the entire SFWC clearly qualify as protectible natural resources under the Minnesota Statutes § 116B.01, *et seq.* Minnesota Statutes 116B.01, *et seq.* and 116D.01, *et seq.* prohibit the Minnesota Department of Transportation (MNDOT) from selecting and the DNR from permitting the TH 41 bridge to degrade – in any fashion or degree – Seminary Fen, unless and until MNDOT and DNR prove there is no feasible and prudent alternative. The burden of proof is on MNDOT and the DNR to make that proof, and there is in the record of the DEIS admissions and overwhelming evidence as to the existence of feasible and prudent alternatives.

H

IV. All E Alternatives Would Have Polluting, Impairing, And Destructive Effects On Seminary Fen.

The alternatives designated "E" are aligned unacceptably close to or intrude upon the fen, would have negative impacts on outstanding biodiversity significance native plant communities, and would damage the environment of the fen in several ways. Broad types of environmental damages to the calcareous fen would likely include direct and indirect physical alteration of the fen's perimeter, cross-section, hydrology, hydrochemistry, ambient noise levels, ambient air quality, and viewshed. These injuries to the fen would occur as a result of some or all of the following: construction activities in, over, and around the fen; surface water run-off; runoff and airborne salt spray contamination; interception, diversion, augmentation, and/or concentration of groundwater and precipitation during rain and snow events; physical imposition of bridge components in, around, and over the fen; and stimulated development and changes in land use in the vicinity of the bridge and roadways feeding it. All of these effects are avoidable, as the inclusion of feasible alternatives demonstrates. All of these effects would cause the pollution, impairment, or destruction of the calcareous fen and therefore would violate state law. Corridor E1 might cause less fragmentation and cross less area of native plant communities (NPC) but because of the extreme rarity and sensitivity of calcareous fens, E1 and the other E corridors still would have far more serious negative environmental effects on protectible natural resources of the state.

MCEA takes issue with the DEIS' assertion that alternative E-1, "poses little potential for impact to the SWFC" [sic]. *Id.* at 35. Seemingly without irony, this statement is made immediately after the DEIS warns that the "complexity" of interacting factors "prevents an unequivocal prediction of the likelihood or severity of these potential impacts," i.e., the impacts of building a bridge through or adjacent to a fen recognized to be exceptionally delicate, rare, irreplaceable, and of county, state, and national significance. The DEIS' airy assertion is without basis in the facts, which paint a very different picture – one in which multiple sources of environmental threat would converge on the SFWC if any of the E alternatives were selected.

RESPONSE

Minnesota Center for Environmental Advocacy (continued)

H. See response "H" on previous page.

COMMENT

It is not disputed, for example, that construction of the bridge approaches, footings and other foundational structures would occur in areas adjacent to the western end of Seminary Fen if corridor E-1 were selected. Compaction, removal, blockage, interruption, and other disturbance of soils in the course of construction would affect groundwater flows in the area of those construction activities, and changed groundwater flows there would redound to the fen nearby. The construction activities and source of groundwater flow changes need not occur directly in the fen because the fen is fed by groundwater flows from neighboring areas. Even temporary alterations in the hydrology would harm the fen.

> The net result of hydrologic alterations means that some areas of the SFWC may experience more groundwater discharge, and some areas may experience less. Soil compaction or subsidence may occur in some areas; groundwater flow paths may be altered. These impacts may result in new areas of inundation, areas of seasonally variable water tables, areas with soils not saturated to the surface for long portions of the growing season, and areas in which precipitation and surface water assume greater importance. Any of these changes can alter plant community composition and succession away from calcareous fen plant communities. Although many wetland plants are adapted to fluctuating water tables and soils that are not saturated for extended portions of the growing season, fen species are found in environments that are, essentially permanently saturated to the surface. Lowered water tables could stress or kill fen vegetation, depending on the timing and duration of the drawdown. Competitive interactions would be altered, favoring species that aggressively exploit hydrologically altered environments.
>
> …
>
> In the SFWC, areas that become drier or exhibit a more seasonally-variable water table would be expected to become dominated by reed canary grass or buckthorn. Areas that become wetter, or even inundated or ponded, would be expected to become dominated by cattails and common reed.

DEIS at 7 – 36-37. Likewise, it is clear there would be continual loading with roadway pollution, particularly road salts, if the bridge were built through, adjacent to, or in proximity upwind of, the fen.

> Salt spray may create an additional stress. Any addition of salts, particularly those containing chloride or sodium ions, would exacerbate an already stressed SFWC. Note that compounds such as potassium acetate, which show promise as effective deicing agents with fewer negative environmental side effects, have unknown implications at this time. For example, acetate is a component of many metabolic pathways, and introduction into a wetland complex may create unforeseen biological chain reactions. Salt deposition is known to favor invasive species to the detriment of native vegetation in various types of wetlands, including calcareous fens. Though the Phase 2 Study did not model or estimate amounts of salt runoff or deposition patterns, it is understood from available literature that runoff concentrations can be several orders of magnitude greater than background concentrations or than those necessary to alter vegetation. It is assumed that salt addition to the SFWC would have a potential negative impact (although the extent and severity of impact has not been quantitatively estimated) because of the specific water chemistry required

I

RESPONSE

Minnesota Center for Environmental Advocacy (continued)

I. The Preferred Alternative, at its most easterly point, is located more than two miles from the Seminary Fen, not in proximity to the fen.

COMMENT

> to sustain the fen plant communities. The amount of salt necessary to cause a detrimental impact on fen vegetation may be relatively low although higher values are more commonly cited in the literature. Most salt spray is expected to fall in the immediate vicinity of the highway, although the possibility of longer distance dispersal cannot be excluded.
>
> An additional hazard of salt spray in the SFWC is the possibility of the salt migrating away from the initial deposition site through ground and surface water.

DEIS at 7 – 37-38 (emphasis added). The DEIS makes no attempt to discuss effects of salt spray in relation to documented wind patterns. Winter winds that most frequently blow from the northwest, and also blow from the west, and southwest, would carry road salt-laden spray and other pollutants over down into the fen. See attached document, "Wind roses.pdf" from the Freshwater Society, also available online at http://www.freshwater.org/2004_Calendar_Media/Windroses.pdf . Surface flows would then carry salts and other contaminants elsewhere through the fen.

The DEIS describes road salt's hydrochemical effects on the floodplain as "permanent," *id.* at 9 – 24, and acknowledges that (at least in the case of E-2), "salt spray from a bridge structure also create[s] the opportunity for invasive, exotic species to out-compete the native species, thereby having the potential [to] compromise the integrity of the existing vegetative community even without direct fill impacts." *Id.* at 9 – 26. The DEIS avoids repeating these conclusions in the appropriate locations where effects specific to corridor E-1 are disclosed and discussed, however. Instead the DEIS puts important admissions relating to salt spray and hydrologic damage to the fen in a section dealing with dewatering, flowpaths, and groundwater recharge:

> Alternatives E-1A and E-2 have a greater likelihood of transmitting salt spray to fen areas via groundwater transport than Alternative E-1. Alternative E-1 primarily affects the westernmost portion of the fen complex and does not appear to generate flow paths that would be directed to the better fen areas in the eastern portion of the wetland complex.

DEIS at 9 – 30. It is clear from reading the DEIS that all alternatives in fact would result in a continuing annual cycle of salt deposition in the fen, and would thereby pollute, impair, and possibly destroy all or portions of Seminary Fen as it now exists.

Finally, it must be stated that many state and federal agencies have understood for decades that the risks posed by similar major traffic projects in or adjacent to calcareous fens are too high to be tolerated. The experience in other now-degraded or destroyed fens – Sibley Fen, Nicoles Fen, and Black Dog Fen – is that promised protections and airy statements minimizing risks, when offered in environmental review documents, should deliver cold comfort in the present case.

V. Alternatives W and C-2A Unnecessarily Harm The Refuge And River Valley.

J Alternatives W and C-2A are unacceptable because they would cause further unnecessary fragmentation of the Refuge. Fragmentation of habitat creates barriers to wildlife dispersal and feeding, breeding, and sheltering, and leads to increased penetration by competitors, parasites, and non-native invasive species. Both W and C-2A would cause highly significant fragmentation by bisecting the largest areas of native

RESPONSE

Minnesota Center for Environmental Advocacy (continued)

J. The rationale for identification of refined Alternative C-2 as the Preferred Alternative, including input and concurrence from key stakeholders in the RCIC, is provided in Chapter 3 of the FEIS.

COMMENT

vegetation of any of the corridors proposed. Corridor C-2A would cause the most damage to interior and edge forest habitat (measured as greatest reduction in interior habitat area) of any of the alternatives. Interior forest habitat is of critical importance to a set of migratory songbird species. While C2 affects forest primarily by widening an existing corridor, and so it results in only marginal reduction in interior forest habitat because it closely follows the existing alignment of TH 41. As stated in the "Seminary Fen Phase 2 Ecological Study and Ecological Assessment of Alternative Corridors TH 41 Tier I DEIS Study" (Phase 2 Study), "[t]he alignment of C2 along the existing Highway 41 corridor reduces its fragmentation impact compared to C2A and W2." *Id.* at 29. A bat nesting colony in the corridor of C-2A would likely be damaged by this alternative, and is further reason to avoid it.

This concludes MCEA's comments on the Project. We look forward to hearing from you regarding the concerns raised herein.

Sincerely,

Matt Norton
Attorney, forestry advocate

RESPONSE

Minnesota Center for Environmental Advocacy (continued)

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