



ENVIRONMENTAL ASSESSMENT WORKSHEET TH 10 AUXILIARY LANE ADDITION

Cities: Arden Hills and Mounds View
Counties: Ramsey

MnDOT proposes to add an auxiliary lane beginning at the southbound I-35W exit to eastbound TH 10, extending eastbound to the County Road 96 exit. The project also includes an acceleration lane for Sherer Brothers Lumber, modifying access at Prior Avenue/Frontage Road, a water quality pond and possible noise barriers.

This document is available in alternative formats upon request. Please contact Jerome Adams at 651- 234-7611 or jerome.adams@state.mn.us

October 2017

Contents

Environmental Assessment Worksheet	1
EAW Items 1-4	1
Project title: SP: 6205-39 TH 10 Auxiliary Lane Addition.....	1
Proposer/RGU	1
Reason for EAW Preparation:.....	1
EAW Item 5	2
Project Location:.....	2
EAW Item 6	3
Project Description:	3
EAW Item 7	8
Cover types:.....	8
EAW Item 8	9
Permits and approvals required:	9
EAW Item 9	10
Land use:.....	10
EAW Item 10 –	11
Geology, soils and topography/land forms:	11
EAW Item 11	12
Water resources:	12
EAW Item 12	17
Contamination/Hazardous Materials/Wastes:.....	17
EAW Item 13	19
Fish, wildlife, plant communities, and sensitive ecological resources (rare features):	19
EAW Item 14	22
Historic properties:.....	22
EAW Item 15	22
Visual:	22
EAW Item 16	23
Air:	23
EAW Item 17	25
Noise.....	25
Construction Noise	25
Traffic Noise Analysis.....	26
EAW Item 18	30
Transportation.....	30
EAW Item 19	32
Cumulative potential effects:	32
EAW Item 20	33
Other potential environmental effects:	33

- Appendix A: Project Location and Layout Maps**
 - Appendix B: Figures**
 - Appendix C: Correspondence**
 - Appendix D: Air Quality**
 - Appendix E: Traffic Noise Study**
-

Environmental Assessment Worksheet

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at: <http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm>. The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.

Cumulative potential effects can either be addressed under each applicable EAW Item, or can be addresses collectively under EAW Item 19.

Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

EAW Items 1-4

Project title: SP: 6205-39 TH 10 Auxiliary Lane Addition

Proposer:

Jerome Adams
1500 County Road B2
Roseville, MN 55113
Office: 651-234-7611

jerome.adams@state.mn.us

RGU

Rick Dalton
1500 County Road B2
Roseville, MN 55113
Office: 651-234-7677

richard.dalton@state.mn.us

Reason for EAW Preparation: (check one)

Required:

EIS Scoping

X-Mandatory EAW

Discretionary:

Citizen petition

RGU discretion

Proposer initiated



If EAW or EIS is mandatory, give EQB rule category subpart number(s) and name(s): 4410.4300 subp 22 Highway Projects, (B) For construction of additional travel lanes on an existing road for a length of one or more miles.

EAW Item 5

Project Location:

County: Ramsey County

City/Township: Arden Hills and Mounds View

PLS Location (¼, ¼, Section, Township, Range):

Section:	Twp.:	Range:
8, 9, 16 and 17	T30N	R23W

Watershed (81 major watershed scale): Mississippi River Watershed (WS #20), Rice Creek Watershed District

GPS Coordinates: N/A
 Tax Parcel Number: N/A

At a minimum attach each of the following to the EAW: (See Appendix A)

County map showing the general location of the project

See Figures A-1 in Appendix A

U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable)

See Figure A-2 in Appendix A.

Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan.

See Figures A-3 thru A-5 in Appendix A



EAW Item 6

Project Description:

a. Provide the brief project summary to be published in the EQB Monitor, (approximately 50 words).

MnDOT proposes to add an auxiliary lane beginning at the southbound I-35W exit to eastbound TH 10, extending eastbound to the County Road 96 exit. The project also includes an acceleration lane for Sherer Brothers Lumber, modifying access at Prior Avenue/Frontage Road, a water quality pond and possible noise barriers.

b. Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion include a description of the existing facility. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities.

1. The portion of the project that proposes constructing a new lane to the exit ramp will consist of removing the curb and gutter, disturbing and reusing topsoil, excavating material from under proposed pavement widening areas, placing and compacting material for new roadway embankments, and placing some fill in an existing storm water treatment pond. The portion of the project that proposes constructing a new auxiliary lane will consist of using the existing shoulder pavement as the new auxiliary lane, adding new right turn lanes and accelerations lanes. This will involve disturbing topsoil, excavating material from under the proposed pavement widening areas, placing and compacting material for new roadway embankments, laying storm sewer and constructing a water quality pond. Material excavated on the project is anticipated to be re-used for overlay, aggregate, or embankment purposes, where appropriate, and in accordance with best management practices established in MnDOT's Standard Specifications for Construction.

Two noise barriers have been identified within the project area. This construction consists of clearing and grubbing and placing posts approximately 10-feet into the ground every eight feet for the length of the barrier. Overhead signs will also be placed throughout the project which will consist of placing support posts approximately 10-15 feet into the ground.

2. This project does not modify equipment or industrial processes.
3. The proposed project will not demolish or remove any existing structures.
4. Schedule: Project Letting is planned for July, 27 2018. Construction is expected to begin the late fall 2018 and be completed the summer of 2019.

c. Project magnitude:

Table 1: Project Magnitude

Total Project Acreage	11.79 acres
Linear project length	1.2 miles
Number and type of residential units	N/A
Commercial building area (in square feet)	N/A
Industrial building area (in square feet)	N/A
Institutional building area (in square feet)	N/A
Other uses – specify (in square feet)	N/A
Structure height(s)	N/A

d. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

Mobility:

According to MnDOT’s *Metropolitan Freeway System 2015 Congestion Report* the current traffic volumes on the southbound I-35W single exit lane to eastbound TH 10 is over capacity for 2.5 hours during the 5 am to 10 am peak hour morning commute¹. Exhibit 1 illustrates the location of congestion just north of the project area on I-35W between TH 10 and County Road H, which is causing the congestion on the freeway during the morning peak hour. The added traffic from entrance points onto I-35W; at TH 10 (two lane entrance) and County Road I (one lane entrance), creates a bottle neck in the traffic flow that extends onto the exit lane for TH 10 eastbound.

A 2016 CORSIM traffic model was created to better understand the existing travel lane conditions and future conditions in 2040. The modeling results are measured by Level of Service (LOS), which is a grading system of A-F for congestion on the freeway. The LOS for highway segments is based on vehicle density, as measured in vehicles per lane per hour. The graphic shown in Exhibit 2, on this page, shows this relationship of A-F in terms of density of vehicles on the freeway. The speed of vehicles on the freeway can be maintained at higher densities as illustrated in the speed line, however; as the density increases to LOS E and F the speeds can fluctuate greatly.

¹ MnDOT Metropolitan Freeway System 2015 Congestion Report - <http://www.dot.state.mn.us/rtrmc/reports.html>

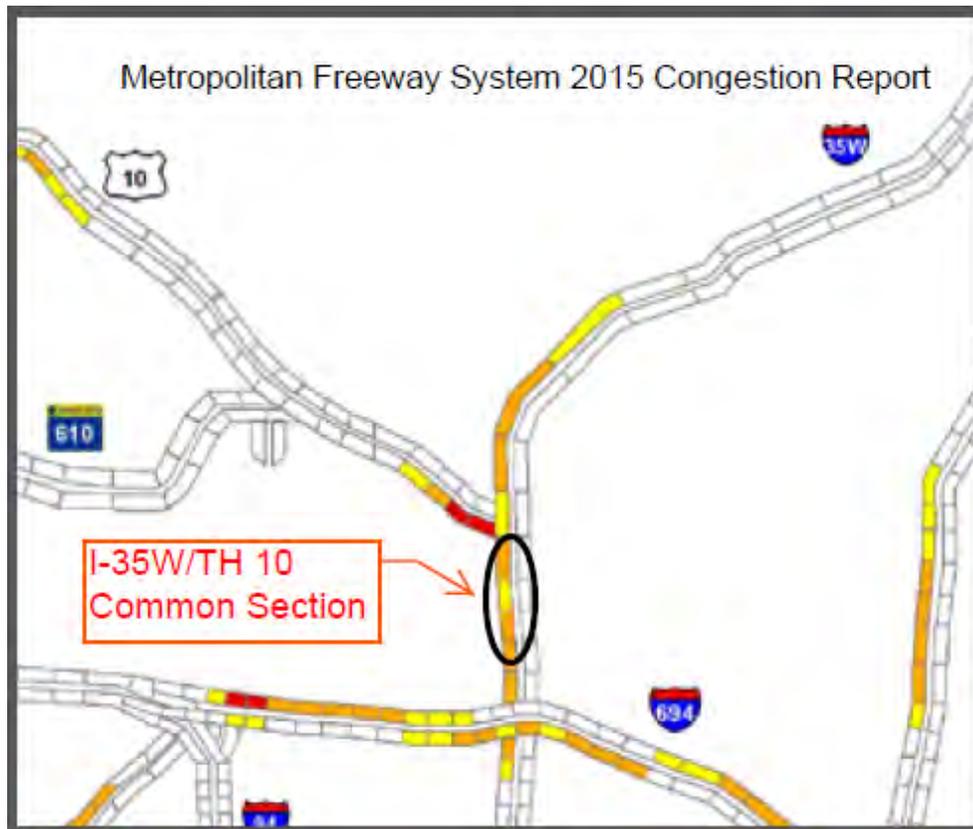


Exhibit 1: I-35W and TH 10 Congestion Area during the AM Peak
<http://www.dot.state.mn.us/rtmc/reports.html>

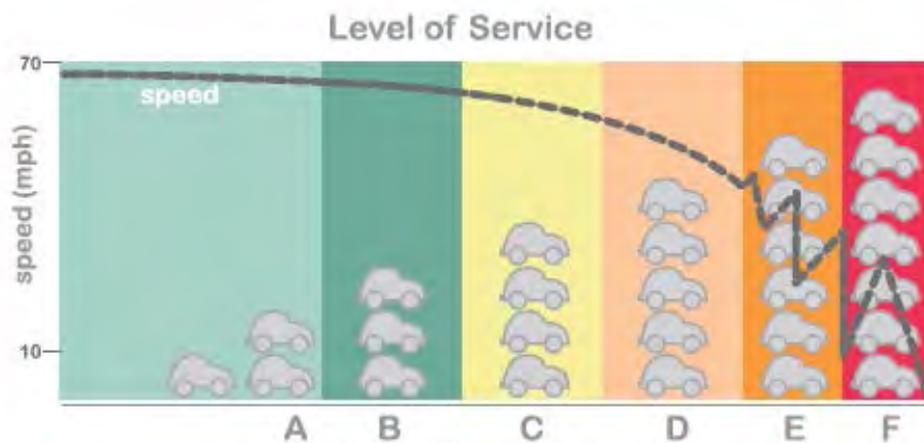


Exhibit 2: Level of Service Depiction

The following graphic illustrated in Exhibit 3, summarizes the results of the CORSIM modeling. Southbound I-35W between County Road I and County Road H, currently experiences LOS D to F during the AM peak period. The 2040 LOS forecast is anticipated to worsen to F, with higher densities and lower speed performance. The CORSIM modeling verifies that the project area is currently at an undesirable level for mobility.

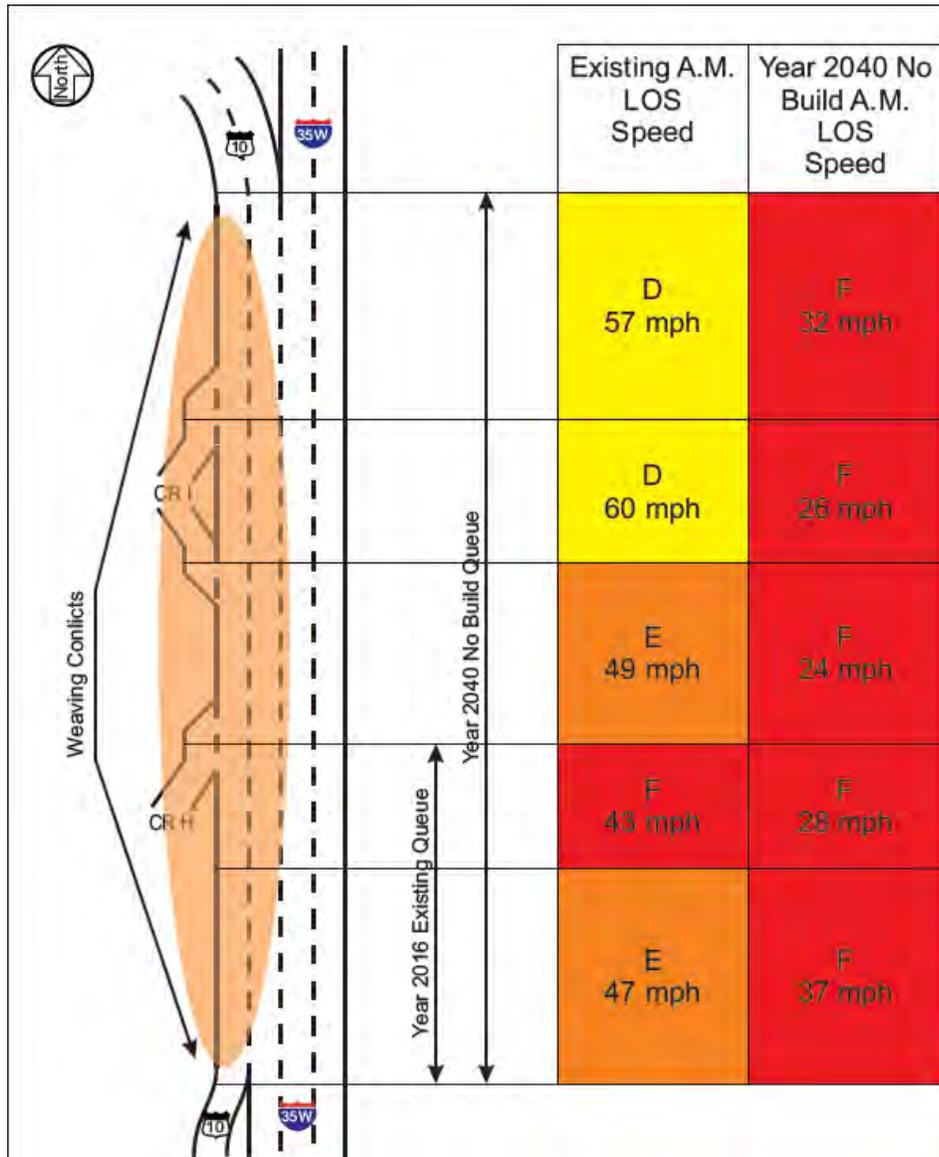


Exhibit 3: I-35W and TH 10 Common Section Operational Issues

Access:

In addition to mobility needs, there is also a need to provide safe local access onto TH 10. Currently the high volumes on TH 10 east of I-35W, combined with the high speeds, creates a difficult entrance onto TH 10 from Prior Avenue/ Frontage Road located at Welsch's Big Ten Tavern, see Exhibit 4 below. The entrance onto the highway does not provide an acceleration lane which would allow drivers to safely meet the main line traffic speeds prior to entering the lane. In addition, there are not gaps in traffic large enough to allow a vehicle starting from a stop condition to accelerate onto the 55 mph highway without causing traffic on the highway to slow down to avoid collisions.

**Exhibit 4: Access at Prior Avenue/Frontage Road**

The purpose of this project is to improve the mobility of this lane on eastbound TH 10 from the exit at I-35W to the exit at County Road 96. An additional consideration to the needs of this project is the safety of local traffic access onto eastbound TH 10.

The reduced congestion will improve mobility for this stretch of highway for all users in the AM peak period. The modified access location for eastbound TH 10 from Prior

Avenue/Frontage Road to County Road 96 ramp will improve the safety for this stretch of highway for all users.

MnDOT completed a benefit cost analysis for the proposed project.² Projects are considered cost-effective if the benefit-cost ratio is greater than 1.0. The larger the ratio number, the greater the benefits per unit cost. Results of the benefit-cost analysis are included in Table 2 below.

Table 2: Benefit Cost Ratio

	Initial Capital Costs (2017 Dollars)	B/C Ratio
Build Alternative vs. No Build Alternative	\$2.7 million	5.8

e. Are future stages of this development including development on any other property planned or likely to happen? Yes No

If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

f. Is this project a subsequent stage of an earlier project? Yes No

If yes, briefly describe the past development, timeline and any past environmental review.

EAW Item 7



Cover types: Estimate the acreage of the site with each of the following cover types before and after development:

Table 3: Cover Types

Cover Type	Before Acres	After Acres
Wetlands	0.04	0.0
Wetland Ditches (USACE)	0.14	0.0
Deep water/streams	NA	NA
Wooded/forest	NA	NA
Brush/Grassland	2.99	2.41
Cropland	NA	NA
Lawn/landscaping	NA	NA
Impervious surface	6.37	6.82
Stormwater Pond	2.52	2.83
Other: Stormwater ditches	NA	NA
Totals	12.06	12.06

² The full Benefit Cost Memorandum and associated workbook may be viewed by contacting MnDOT's Project Manager listed on page 1 of the EAW.



EAW Item 8

Permits and approvals required:

List all known local, state and federal permits, approvals, certifications and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure. All of these final decisions are prohibited until all appropriate environmental review has been completed. See Rules, Chapter 4410.3100.

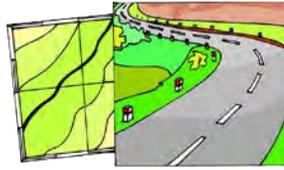
Table 4: Permits and Approvals

Unit of government	Type of application	Current Status		
		To be requested	Requested	Complete
Federal				
FHWA	Categorical Exclusion determination	X		
MnDOT CRU on behalf of FHWA	Section 106 (Historic / Archeological) determination			X
MnDOT OES on behalf of FHWA	Endangered Species Act Section 7 determination	X		
U.S. Corps of Engineers	Section 404 permit	X		
State				
MnDOT	Environmental Assessment Worksheet document			X
Minnesota Pollution Control Agency	National Pollutant Discharge Elimination System (NPDES) - Construction Storm Water Phase II Permit MPCA 401 Certification	X		
MnDOT	Wetland Conservation Act - (Replacement Plan)	X		
Local				
Arden Hills	Municipal Consent	X		
Rice Creek Watershed District	Watershed District Permit	X		

Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos. 9-18, or the RGU can address all cumulative potential effects in response to EAW Item No. 19. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 19

EAW Item 9

Land use:



a. Describe:

i. Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, prime or unique farmlands.

MnDOT's highway right-of-way is located adjacent to a mix of land uses. The Twin Cities Army Ammunition Plant (TCAAP) Site is located along the east side of the project area. Ramsey County recently purchased the site from the federal government and plans to redevelop the area in cooperation with the city of Arden Hills. The redevelopment is zoned as a mixed business district adjacent to TH 10, and as a parks and open space district adjacent to I-35W.

Along the west side of TH 10 in Arden Hills are the following properties: Scherer Brother's Lumber, zoned as a general industrial district; The Big 10 on Tap, zoned as a neighborhood business district; and Arden Manor, zoned as a townhome and low-density multiple dwelling district.

The Ramsey County Rice Creek Regional Trail Corridor is located north of the project along the east side of I-35W and crosses at County Road H. The Long Lake Regional Park is west of the project and connects to County Road H via Rice Creek. The trail currently terminates at County Road H; however, the county has future plans to connect the trail west into Long Lake Regional Park.

The project area is located within a fully-developed urban area, and there are no farmlands located within it.

ii. Plans. Describe planned land use as identified in comprehensive plan (if available) and any other applicable plan for land use, water, or resources management by a local, regional, state, or federal agency.

The city of Arden Hills has plans to redevelop the TCAAP Site. The site will consist of a mix of retail, office, commercial, residential, open space and water infrastructure.³ These changes have been incorporated into the city's comprehensive plan. The land uses in Mounds View and New Brighton do not show changes in areas adjacent to the project. No other planned land uses from other agencies are known.

³ <https://mn-ardenhills.civicplus.com/DocumentCenter/View/1371>

b. Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.

This project is located within existing MnDOT right-of-way, and therefore, will not change the land use of any adjacent property. The project is compatible with adjacent land uses.

The project's erosion control measures including MPCA permits for a National Pollutant Discharge Elimination System (NPDES) and Stormwater Pollution Prevention Plan (SWPP) and the overall drainage design provide compatibility of the proposed project with the Shoreland Management Areas in Rice Creek.

c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.

Noise barriers are proposed along TH 10 adjacent to residential housing areas that exceed noise standards and found cost-effective by MnDOT's Noise Policy; the barriers will provide long-term benefits to the residents closest to TH 10.



EAW Item 10 –

Geology, soils and topography/land forms:

Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.

a. Geology –

Bedrock underlying the project area is Paleozoic aged dolostone (Prairie Du Chien Group) and sandstone (Jordan Sandstone) from the Upper Cambrian to Middle Ordovician. Bedrock depths throughout the project area are variable with as little as 150 feet of overburden cover near the intersection of US 10 & CR 96 to more than 250 feet of overburden within the Phalen Channel, a bedrock valley approximately located under a majority of the US10 & I-35W portion of the project corridor. On average, bedrock depths are more than 200 feet below ground surface. There are no foreseeable limitations to the project due to bedrock/bedrock aquifer features at this stage of preliminary site investigations.

b. Soils and topography -

Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly

permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.

Soils within the project area are Pleistocene aged glacial deposits from the Grantsburg sublobe of the Des Moines lobe. These soils are predominantly associated with glacial till and glacial ice/ meltwater deposits consisting of loam, silt loam, sandy loam, and loamy sand. Natural Resource Conservation Service (NRCS) soils map showing the project corridor area soils and potentially steep slopes (slopes that may exceed 12% have a hachured symbol) are illustrated in Appendix B on Figure B1. The native project area topography has mostly been altered by urban construction with slopes ranging from 1 to 15 percent. The soil permeability across the project area is variable from highly permeable sandy lake sediment to moderate permeability glacial till. The higher permeability soils are associated mostly with the NRCS Zimmerman Complex soils. According to the 'Surficial Hydrogeology' Plate generated by the Minnesota Geological Survey (MGS) for the Ramsey County Geologic Atlas (C-7, 1992) reports a water table elevation below 900 feet above mean sea level (MSL) (creating water table depths on average of 15 feet or less). Water table elevations in the area will likely fluctuate on a seasonal and localized basis.

The project is estimating approximately 14,000 cubic yards of excavation, of which 10,500 is from roadway excavation and 3,500 is from the new pond excavation. The total grading area is approximately 2.41 acres. The project area soils do not pose any unique situation for construction that will necessitate soil stabilization, soil correction or other measures. The project excavation for the roadway is not expected to exceed ten feet for the noise barrier posts.

The contractor will install temporary erosion control measures before grading begins, such as ditch blocks, storm drain inlet protection, sediment control logs, silt fence, and erosion control blankets. These BMPs will be maintained and repaired as necessary throughout project construction.



EAW Item 11

Water resources:

A. Describe surface water and groundwater features on or near the site in A.i. and A.ii. below.

i. Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.

Table 5 identifies surface waters within 1 mile of the project area. The I-35W and TH 10 roadways have rural storm sewer design throughout the project area. MnDOT ditches are located in the project area. Table 6 identifies impaired waters within 1 mile of the project area.

Table 5: Surface Waters within 1 mile of the TH 10 Project Area

Surface Waters	DNR Public Water
Rice Creek	
Rush Lake	62-68P
Long Lake	62-67P
Sunfish Lake	62-65P
Round Lake	62-70P
Valentine Lake	62-71P
Un-named wetland	62-180W
Un-named wetland	62-173W
Un-named wetland	62-66W

Table 6: MPCA Impaired Waters within 1 mile of the TH 10 Project Area

MPCA 303d Impaired Waters List (within 1-mile of project)	Water Quality Impairment	DNR Public Water
Long Lake	Nutrients	62-67P
Rice Creek	M-IBI, F-IBI	62-68P

ii. Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

1. Depth to groundwater: 5-feet below the ground surface at the southbound I-35W exit ramp to eastbound TH 10 and 14.5 feet below ground surface near Scherer Brothers access onto TH 10.
2. The project area is located in a Wellhead Protection Area, based on the September 1, 2014 MDH map within Ramsey County.
3. Review of the Minnesota Department of Health County Well Index⁴ shows several wells along the project corridor and within MnDOT right-of-way and potential area of construction. Data from the MDH Well Index database shows that many of the wells are for monitoring. Some wells were abandoned wells that had been sealed. Five wells along the northbound ramp to I-35W did not have any available data.

⁴ <http://mdh-agua.health.state.mn.us/cwi/cwiViewer.htm>

b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.

1. Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.

Not Applicable

2. If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.

Not Applicable

3. If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.

Not Applicable

ii. Stormwater - Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction.

The existing project site drainage has a high point between the Scherer Brother's entrance and the Frontage Road entrance on the east side of I-35W on TH 10. West of the high point the stormwater ponds drain to Rice Creek. East of the high point the storm water ponds drain to Round Lake. The entire project is within the Rice Creek Watershed District (RCWD).

The project will not contribute to the impairment of receiving waters. Stormwater runoff will be maintained to the existing quantity and quality. The project will add 0.45 acres of impervious surface. This will be treated with a new water quality pond and use of existing filtration/infiltration ponds and swales. BMPs for water quality treatment, volume control, and rate control, will also be incorporated during construction of this project. These BMPs will be designed and constructed to meet the RCWD and NPDES regulatory requirements.

A Stormwater Pollution Prevention Plan (SWPPP) will be developed for this project in conjunction with the NPDES permit. The SWPPP will include MnDOT best management practices for erosion control, sedimentation control, and stabilization measures.

These lakes are all in the Mississippi River Drainage Basin.

iii. Water appropriation - Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.

There is no planned water appropriation on this project.

iv. Surface Waters

a) Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed, and identify those probable locations.

The project area aquatic resources are identified on Figures B2-B4 in Appendix B. The proposed project widening will have minor fill into one wetland and two stormwater ditches. A total of 0.04 acres of fill will be placed into wetland basin 1 and a total of 0.14 acres of fill will be placed into ditches 4 and 14. Table 7 and Table 8 provide details on the wetland impacts and Figures B2 and B4 illustrates the location of the proposed impacts.

Table 7: Wetland Basins

Basin Number	Section, Township, Range	Wetland Circ. 39 Type / Existing Plant Community Type(s) in Impact Area	Permitting Jurisdiction (COE, DNR, WCA)	Basin Size (acres)	Wetland Impact (acres)
1 Mermaid Wetland Mit	8, T30N, R23W	4 / Deep marsh	WCA & COE	4.97	0.04
2	21, T30N R23W	3 / Shallow marsh	WCA & COE	0.28	0.0
				TOTAL	0.04

Table 8: Ditch Basins

Ditch Number	Section, Township, Range	Wetland Circ. 39 Type / Existing Plant Community Type(s) in Impact Area	Permitting Jurisdiction (COE, DNR, WCA)	Basin Size (acres)	Wetland Impact (acres)
1w	8, T30N, R23W	2 / Sedge meadow	WCA & COE	0.04	0
2w	8, T30N, R23W	2 / Sedge meadow	WCA & COE	0.08	0
3w	17, T30N, R23W	2 / Fresh (wet) meadow	WCA & COE	0.11	0
4	17, T30N, R23W	2 / Fresh (wet) meadow	COE	0.10	0.10
5	16, T30N, R23W	2 / Fresh (wet) meadow	COE	0.04	0
6	16, T30N, R23W	3 / Shallow marsh	COE	0.60	0
7	17, T30N, R23W	3 / Shallow marsh	COE	0.21	0
8	16, T30N, R23W	3 / Shallow marsh	COE	0.14	0
9.1	16, T30N, R23W	3 / Shallow marsh	COE	0.24	0
9.2w	16, T30N, R23W	3 / Shallow marsh	WCA & COE	0.22	0
10.1	16, T30N, R23W	2 / Fresh (wet) meadow	COE	0.10	0
10.2w	16, T30N, R23W	2 / Fresh (wet) meadow	WCA & COE	0.08	0
11	16, T30N, R23W	3 / Shallow marsh	COE	0.38	0
12	16, T30N, R23W	2 / Fresh (wet) meadow	COE	0.02	0
13.1	16, T30N, R23W	3 / Shallow marsh	COE	0.10	0
13.2w	16, T30N, R23W	3 / Shallow marsh	WCA & COE	0.05	0
14	16, T30N, R23W	2 / Fresh (wet) meadow	COE	0.04	0.04
15	16, T30N, R23W	2 / Fresh (wet) meadow	COE	0.01	0
16	16, T30N, R23W	3 / Shallow marsh	COE	0.26	0
17	16, T30N, R23W	3 / Shallow marsh	COE	0.06	0
1w	8, T30N, R23W	2 / Sedge meadow	WCA & COE	0.04	0
TOTAL					0.14

Avoidance Measures:

The No-Build Alternative would avoid all wetland impacts (except those due to routine maintenance), but would fail to meet the project purpose and need. It was therefore rejected from further consideration.

Figures B2 through B4 illustrates the many wetlands and stormwater ditches with wetland bottoms that surround the highway. Designing the project to avoid all wetland impacts was not possible due to the large number of surrounding wetlands.

Minimization Efforts:

The slope at wetland basin 1 was steepened to a 1:4 versus a 1:6 to reduce the amount of wetland impact.

Mitigation:

Wetland basin 1 has jurisdiction under both the US Army Corps of Engineers (USACE) and Minnesota's Wetland Conservation Act. The project area stormwater wetland bottoms are only a concern for the USACE. Application for wetland permits will be made to the appropriate agencies with wetland jurisdiction. Wetland mitigation is an on-going development during early stages of project design, and therefore subject to change.

The preferred method of wetland replacement is to use established, federally and state approved wetland bank credits. Efforts will be made to replace wetland losses within the bank service area of the wetland impact. It is anticipated that wetlands will be replaced at a 2.0 ratio within bank service area 7, and 2.5 for out side of the bank service area. The specific wetland bank credits will be determined through consultation with the USACE and the Minnesota Board of Water and Soil Resources.

b) Other surface waters- Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

There are no other anticipated physical effects or alterations to other surface water features.



EAW Item 12

Contamination/Hazardous Materials/Wastes:

a) Pre-project site conditions – Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

MnDOT's Contaminated Materials Management Team (CMMT) reviewed the Minnesota Pollution Control Agency (MPCA) and Minnesota Department of Agriculture (MDA) databases to check for known contaminated sites in the project area, see correspondence in Appendix C. The databases searched included: leaking underground storage tank facilities, landfills, salvage yards, voluntary investigation and cleanup (VIC) sites, Superfund sites and dump sites.

A review of these MPCA files is a component of a Phase I Environmental Site Assessment (Phase I ESA). A complete Phase I ESA includes at least two other components: research on historic land use, and site reconnaissance

Based on the database review, there are five inactive leaking underground storage tank facilities, one inactive leaking underground storage tank/petroleum brownfield site, one active state assessment site, one inactive petroleum brownfield site, one active VIC site, and one inactive VIC site within 500 feet of the project area. VIC sites are sites with known or potential releases of non-petroleum contamination.

Given the nature and location of the project area this project has a low to medium risk of impacting potentially contaminated sites. Currently the proposed project will not require acquisition of additional right-of-way. A Phase 2 drilling investigation was completed at the stormwater detention pond location. The Phase 2 drilling investigation findings did not identify conditions in soil or groundwater which would prohibit siting a pond in this location. Should any contamination be encountered during construction, a plan for properly handling and treating contaminated soil and/or groundwater in accordance with all applicable state and federal requirements will be used.

b) Project related generation/storage of solid wastes – Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

The disposal of solid waste generated by clearing the construction area is a common occurrence associated with road construction projects. During project construction, excavation of soil will need to occur within the construction limits. Design will consider selection of grade-lines and locations to minimize excess materials, and consideration will be given to using excess materials on the proposed project or other nearby projects. If the material is suitable, all clean fill is planned to be reused on-site for the construction of roadway embankments. Any excess soil materials that is not suitable for use on the project site will become the property of the contractor and will be disposed of in accordance with state and federal requirements in place at the time of project construction.

Excess materials and debris from this project such as concrete and bituminous pavement will be disposed of in accordance with MPCA specifications. In particular, excess materials and debris will not be placed in wetlands or floodplains. Debris such as concrete and bituminous pavement, if not recycled or reused, must be disposed of in an MPCA permitted landfill.

If contaminated soils are encountered during construction, the response would be handled according to MPCA requirements.

c) Project related use/storage of hazardous materials – Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any above or below ground tanks to store petroleum or other materials. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

Toxic or hazardous materials will not be present at the construction site, except for fuel and lubricants as necessary for the construction equipment used on the project. If a spill were to occur during construction, the Project Engineer and Minnesota Duty Officer will be contacted and appropriate action to remediate will be taken immediately in accordance with MPCA guidelines and regulations in place at the time of project construction.

d) Project related generation/storage of hazardous wastes –Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling.

No above- or below-ground storage tanks are planned for permanent use in conjunction with this project. Temporary storage tanks for petroleum products may be located in the project area for refueling equipment during roadway construction. A spill kit will be kept near any storage tanks. Appropriate measures will be taken during construction to avoid spills that could contaminate groundwater or surface water in the project area. If a spill or leak were to occur during construction, the Project Engineer and Minnesota Duty Officer will be contacted and appropriate action to remediate will be taken immediately in accordance with MPCA guidelines and regulations in place at the time of project construction.



EAW Item 13

Fish, wildlife, plant communities, and sensitive ecological resources (rare features):

a. Describe fish and wildlife resources as well as habitats and vegetation on or in near the site.

Most of the project area has been previously disturbed by residential, commercial, and industrial development and the entire project limits were previously disturbed by roadway construction.

There are some open park and vacant spaces along the east side of the project area in the Twin Cities Army Ammunition Plant (TCAAP) Site.

Rice Creek North Regional Trail Corridor travels through the TCAAP Site and crosses I-35W beyond the north limits of the project at approximately County Road H. The majority of TCAAP has been open space since the federal government began decommissioning the site between 1974 and 1985. At TCAAP's peak of production in 1941, over 300 buildings were constructed within the 3.7 square-mile site.⁵ Ramsey County and Arden Hills began redevelopment of the site in 2016.

Wildlife in the project area is limited to those species that have adapted to live in developed areas. Fish habitat is present in Rice Creek, which crosses I-35W at the north project limits.

b. Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-____) and/or correspondence number (ERDB _____) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.

MnDOT received correspondence from the DNR in an email on 7/27/17 see Appendix C. The Natural Heritage Information System (NHIS) data base was reviewed. An ERDB number was not provided; however, the email and corresponding materials are provided in Appendix C.

The one-mile query radius of the NHIS There are records of a dozen rare species (Endangered, Threatened, or Special Concern) and two types of native vegetation (Oak – (red maple) Woodland, and Dry Sand – Gravel Prairie) identified in this query. In order to prevent the inadvertent release of the location of specific listed or rare species contained in the NHIS, the DNR did not identify the species or their location on the attached 'DNRbasemap.pdf'.

The noted rare feature identified in the query and may be impacted by the proposed project was the Blanding's turtles (*Emydoidea blandingii*), a state-listed threatened species, which have been reported from the vicinity of the proposed project and may be encountered on site.

c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

The project area is adjacent to Rice Creek and other DNR public waters. The MPCA NPDES general permit for authorization to discharge stormwater associated with construction activities (permit MN R10001) recognizes the DNR "work in water restrictions" during specified fish

⁵ <http://www.cityofardenhills.org/DocumentCenter/View/1338>

migration and spawning time frames for areas adjacent to water. During the restriction period, all exposed soil areas within 200 feet of the water's edge and drain to these waters, must have erosion prevention stabilization activities initiated immediately after construction activity has ceased (and be completed within 24 hours).

MnDOT will have a Stormwater Pollution Prevention Plan (SWPP) that will identify appropriate sediment containment and contaminate prevention measures to Rice Creek and Round Lake if necessary, since the project is not directly adjacent to these waters. MnDOT's Specifications for Cure in Place Pipe (CIPP) lining requires installation shall be in accordance with ASTM F1216, Section 8 which states "All heated water that fills and cures the resin in the liner CANNOT be discharged into the stormsewer system, which discharges to the Mississippi River, or discharged into any area of land that is part of any drainage pattern into the Mississippi River. It must be pumped out and truck-hauled to a sanitary sewer system in the area approved by the Engineer."

If Blanding's turtles (*Emydoidea blandingii*), a state-listed threatened species, are encountered they will be left undisturbed unless in imminent danger, in which case the turtles will be moved by hand.

The project is being coordinated with MnDOT's Wildlife Ecologist regarding the rusty-patch bumble bees (*Bombus affinis*) and the northern long-eared bat (*Myotis septentrionalis*).

d. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.

The proposed project will use the recommended mountable curb design Type D, on the ramp at County Road 96. These curbs are designed shorter in height and allow small animals to navigate off of the roadway more easily. There are no culvert pipe replacements proposed for this project.

Fact sheets describing the habitat use and life history of Blanding's turtles, and the recommendations for avoiding and minimizing impacts to this rare turtle will be given to the contractors on the project and posted on the job site. If Blanding's turtles (*Emydoidea blandingii*), a state-listed threatened species, are encountered they will be left undisturbed unless in imminent danger, in which case the turtles will be moved by hand. Any use of Category 3 or 4 erosion control blanket shall be limited to 'bio-netting' or 'naturalnetting' types (category 3N or 4N), and specifically not allow plastic mesh netting.

Fish exclusion dates for Rice Creek and other surrounding DNR public waters are from March 15 to June 15, to allow for fish migration and spawning. No work will occur adjacent to or in these areas during this time without prior written approval of the DNR.

This project also will install non-native seed mix on the inslopes, medians, and boulevards. Native seed mixes will be planted on the ditch bottoms and backslopes. There may be unique sites that require unique seed mixes, such as infiltration basins, frequently mowed sites, etc. Roadside vegetation serves many functions that are critical to operating highway infrastructure,

such as safety, drainage, erosion control, and stormwater treatment. Native vegetation provides additional benefits such as protecting and enhancing natural resources, support pollinator habitat, providing a sense of place, and enhancing visual quality.

EAW Item 14

Historic properties:

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

The proposed project was reviewed by MnDOT staff from the Cultural Resources Unit for historic and archeologic resources. The Tribal Representatives were also sent a letter inquiring if there was an interest for a consulting party as part of this project. No response was received. The Section 106 determination letter had the finding that there will be no historic properties affected by the project, refer to Appendix C for the correspondence.

EAW Item 15

Visual:

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

The project area is a highway corridor. The proposed project will widen the existing roadway within the established highway right-of-way limits. The area does not include scenic vistas or views. The project is currently proposing noise barriers that will change the visual effects by blocking the view of the highway for residential properties and will block the view of residential areas for drivers on the freeway. The proposed noise barrier is post-and-plank walls, similar to noise barriers on I-35W in the vicinity of the project.



EAW Item 16

Air:

a. Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any

methods used assess the project’s effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.

Not Applicable

b. Vehicle emissions - Describe the effect of the project’s traffic generation on air emissions. Discuss the project’s vehicle-related emissions effect on air quality. Identify measures (e.g. traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.

The following question format answers the EAW question above in relation to highway projects and summarizes the findings in the Air Quality Memorandum provided in Appendix D.

How is air quality evaluated for transportation projects?

In transportation projects, the following air quality elements are addressed: conformity to Minnesota’s State Implementation Plan (SIP), a Carbon Monoxide (CO) Analysis and a Mobile Source Air Toxics (MSAT) analysis.

What is National Ambient Air Quality Standards (NAAQS)?

The United States Environmental Protection Agency establishes maximum allowable levels of six important air pollutants. These limits are called NAAQS, and exceedances of those limits may be harmful to human health. Air pollution has regional consequences, therefore regions are classified as attainment (complying with the limits), non-attainment (not complying with the limits), or maintenance (has now improved and complies, and therefore has to maintain compliance for 20 years before being classified as attainment).

How do the project alternatives address Conformity to the SIP?

The TH 10 Auxiliary Lane project area is designated by the U.S. Environmental Protection Agency (EPA) as in attainment (or complying) with the **National Ambient Air Quality Standards (NAAQS)** for all air pollutants. However, while the project area is in attainment with the carbon monoxide (CO) NAAQS, the project area was formerly a nonattainment area for CO and is currently a “maintenance” area for this pollutant. Therefore, Transportation Conformity rules (40 CFR 93, Subpart A) apply only to vehicle emissions of CO in the project area.

In addition to addressing **hot-spot analysis**, Transportation Conformity rules require that a project be in conformance with the regional emissions budget for CO. When a project has been included in the analysis prepared for the area's 2015 Long Range Transportation Plan (LRTP) and is listed in the Transportation Improvement Program (TIP) list of planned projects, it is presumed to conform with the regional CO emissions budget. The proposed TH 10 Auxiliary Lane project was addressed in the latest approved LRTP and is listed in the latest TIP (draft 2018-2021 TIP), and therefore conforms to the regional emissions budget for CO.

What is a hot-spot analysis?

A hot-spot analysis is defined in by US EPA as an estimation of likely future localized air pollutant concentrations and a comparison of those concentrations to the relevant NAAQS.

How do the project alternatives address CO?

For existing conditions and for both the no-build and build alternatives, the maximum annual average daily traffic (AADT) levels at signalized ramp intersections will be less than the MnDOT CO hot-spot screening threshold of 82,300 entering vehicles per day (vpd) for signalized intersections. Therefore, signalized intersections affected by the project are not required to conduct a hot-spot analysis. The Air Quality Memorandum provided in Appendix D explains the CO hot-spot screening procedures in greater detail.

On November 8, 2010, the EPA approved a limited maintenance plan request for the Twin Cities maintenance area. Under a limited maintenance plan, the EPA has determined that there is no requirement to project emissions over the maintenance period and that "an emission budget may be treated as essentially not constraining for the length of the maintenance period. The reason is that it is unreasonable to expect that our maintenance area will experience so much growth within this period that a violation of CO National Ambient Air Quality Standard (NAAQS) would result." (US EPA Limited Maintenance Plan Option for Nonclassifiable CO Nonattainment Areas, October 6, 1995) Therefore, no regional modeling analysis for the LRTP and TIP is required; however, federally-funded and state-funded projects are still subject to "hot-spot" analysis requirements. The limited maintenance plan adopted in 2010 determines that the level of CO emissions and resulting ambient concentrations will continue to demonstrate attainment of the CO NAAQS.

How do the project alternatives address MSAT?

Due to incomplete and unavailable information, it is not currently feasible to develop a project-specific MSAT health impacts analysis; however, a qualitative assessment of regional MSAT impacts is possible. Please refer to Appendix D for the full qualitative MSAT analysis relative to the project alternatives. In summary, when a highway is widened, the localized level of MSAT emissions for the Build Alternative could be higher relative to the No-build Alternative, but this could be offset due to increases in speeds and reductions in congestion (both of which are associated with lower MSAT emissions). Also, MSAT will be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will cause substantial reductions over time that, in most cases, will cause region-wide MSAT levels to be lower than those of today.



EAW Item 17

Noise

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and by existing and future traffic operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area, 2) effects on nearby sensitive receptors, and 3) conformance to state noise standards. Identify measures that will be taken to minimize or mitigate the effects of noise.

The following question format will answer the EAW question in relation to highway projects and summarizes the findings in the Traffic Noise Study Report provided in Appendix E.

Construction Noise

Will there be **noise** during construction?

The construction activities associated with the proposed project are expected to produce noise levels that are louder than existing conditions. Table 0-9 Typical Construction Equipment Noise Levels at 50 feet, below, shows peak noise levels measured at 50 feet from various types of construction equipment. This equipment is usually used during site grading/site preparation, which is usually the loudest phase of the roadway construction process.

What is noise, what is a decibel and dBA?

Noise is defined as unwanted sound. Decibel is the unit of measure used to quantify sound pressure level (SPL). The terms sound and noise are often interchangeable, although noise is considered unwanted sound.

The human hearing organs do not hear all frequencies of sound equally; we hear some frequencies better than others. The A-weighting scale was created to apply more emphasis or weighting on the frequencies we hear best, and to de-emphasize or apply less weighting to frequencies we don't hear well. A-weighted decibels are abbreviated as dBA.

Table 0-9 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

What can be done to reduce the annoyance associated with construction noise?

Loud construction noise levels are usually unavoidable for this type of project. MnDOT requires that construction equipment be properly muffled and in proper working order. While MnDOT and its contractor(s) are exempt from local noise ordinances, contractors are

instructed to comply with applicable local noise restrictions and ordinances to the extent that it is reasonable.

Nighttime construction activities may sometimes be necessary to minimize traffic impacts and improve safety. However, in this project, construction activities would be limited to daytime hours as much as possible. This project would likely be under construction for one construction season. The staging of construction activities and the need for nighttime construction would be determined during the final design stage of the project. Communities that might be affected by construction noise will be notified in advance of any planned, unusually loud nighttime construction activities.

Construction activities that make loud impulsive noises, such as pavement sawing or jack hammering, will be unavoidable with construction of the proposed project. Pile-driving noise is associated with any bridge construction and sheet piling necessary for retaining wall construction. Pile-driving produces the highest peak noise levels, as shown in Table 0-9. Pile driving is not anticipated with construction of the proposed TH 10 Auxiliary Lane project. The use of jack hammers and pavement sawing equipment would be prohibited during nighttime hours.

Traffic Noise Analysis

Traffic Noise Study Report

A noise analysis was completed for the TH 10 Auxiliary Lane project. The following is a summary of the Traffic Noise Study Report; see Appendix E in this EAW document for the entire text of the Traffic Noise Study Report. This report includes background information on noise, information regarding traffic noise regulations and MPCA noise standards (see Appendix E, Table 2: MPCA State Noise Standards), a discussion of the traffic noise analysis methodology, documentation of the potential traffic noise impacts associated with the proposed project, and an evaluation of noise abatement measures.

How is traffic noise regulated in Minnesota?

The MPCA is the state agency responsible for enforcing state noise rules (see Appendix E, Table 2: MPCA State Noise Standards). Traffic noise impacts in Minnesota are evaluated by measuring and/or modeling the **L10** and **L50** noise levels for different types of land uses during the hours of the day and/or night that have the loudest traffic scenario.

What is L10 and L50?

Measured traffic noise levels are characterized as a function of time. One way to do that is to use a statistical term such as the percent of time a noise level is exceeded. The L10 is the noise level exceeded 10% of the time. The L50 is the noise level exceeded 50% of the time.

The MPCA noise standards are different for daytime and nighttime. MPCA defines daytime as 7:00 a.m. to 10:00 p.m. and nighttime as 10:00 p.m. to 7:00 a.m. The state noise standards also take into account the differing noise sensitivities of different land uses such as residential uses, commercial uses, or industrial uses. Minnesota state noise standards apply to the outdoor environment (i.e., exterior noise levels). The MPCA noise standards also apply to traffic noise from certain highways including the proposed project area of the TH 10 Auxiliary Lane.

The federal noise rules determine traffic noise impacts based on land use activities and predicted loudest hourly **L10** noise levels under future conditions [see Appendix E, Table 3: FHWA Noise Abatement Criteria]. For example, for residential land uses (Activity Category B), the Federal Noise Abatement Criterion (NAC) is 70 dBA (L10). The term receptor is used to refer to a specific location of frequent outdoor use (e.g., a home or a business). Receptor locations where modeled traffic noise levels are “approaching” or exceeding the NAC must be evaluated for noise abatement feasibility and reasonableness. In Minnesota, “approaching” is defined as 1 dBA or less below the Federal NAC. A noise impact is also defined when receptors are projected to experience a “substantial increase” in the future traffic noise levels over the existing modeled noise levels. A “substantial increase” is defined as an increase of 5 dBA or greater from existing to future conditions.

How are traffic noise impacts determined?

Traffic noise is evaluated by modeling the traffic noise levels during the hours of the day and/or night that have the loudest traffic. The traffic noise model uses existing and forecasted traffic volumes, as well as characteristics of the roadway and surrounding environment, to calculate traffic noise levels at representative receptor locations. Modeled traffic noise levels are then compared to state daytime and nighttime noise standards. If modeled traffic noise levels are projected to exceed state daytime and/or nighttime noise standards under the Build Alternative, then a traffic noise impact is identified and noise abatement measures (e.g., noise barriers) are considered.

How was traffic noise evaluated on this project?

Traffic noise levels were modeled for existing (2016) conditions, the future (2040) No-Build Alternative, and the future (2040) Build Alternative using the “MINNOISEV31” model, a version of the FHWA “STAMINA” model adapted by MnDOT. Traffic noise levels were modeled at 143 representative receptor locations along the proposed TH 10 project corridor. These modeled receptor locations represent residential, commercial, recreational, and industrial land uses.

What were the results of the traffic noise analysis?

The Traffic Noise Study Report found in Appendix E provides the detailed analysis for each receptor.

Table 0-10 below provides a summary of the noise level ranges and number of receptors that exceed state noise level standards for existing (2016), future (2040) No Build conditions, and future (2040) Build conditions. The analysis shows that under the future No Build alternative, modeled traffic noise levels vary from 0.9 dBA to 1.4 dBA increase over existing conditions. Modeled noise levels under the future Build Alternative vary from 1.0 dBA to 1.4 dBA increase over existing (2016) conditions.

Table 0-10: 2016 and 2040 Modeling Noise Level Ranges and Receptors Exceeding Standards

Modeled Year	Existing (2016)	No Build (2040)	Build Alternative (2040)
Receptors Exceed MPCA Standards Daytime	L ₁₀ – 99 of 143 L ₅₀ – 136 of 143	L ₁₀ – 121 of 143 L ₅₀ – 137 of 143	L ₁₀ – 121 of 143 L ₅₀ – 139 of 143
Receptors Exceed MPCA Standards Nighttime	L ₁₀ – 134 of 143 L ₅₀ – 129 of 143	L ₁₀ – 135 of 143 L ₅₀ – 135 of 143	L ₁₀ – 135 of 143 L ₅₀ – 135 of 143
Receptors Exceed FHWA Noise Abatement Criteria	40 of 143	43 of 143	43 of 143
Day Time L10 Modeled Noise level ranges (low/high)	61.9 to 74.5 dBA	62.9 to 75.6 dBA	63.0 to 70.2 dBA
Day Time L50 Modeled Noise level ranges (low/high)	58.5 to 68.6 dBA	59.9 to 70.2 dBA	60.0 to 70.2 dBA
Night Time L10 Modeled Noise level ranges (low/high)	57.5 to 71.3 dBA	58.6 to 72.3 dBA	58.6 to 72.3 dBA
Night Time L50 Modeled Noise level ranges (low/high)	53.7 to 65.5 dBA	55.2 to 67.1 dBA	55.2 to 67.1 dBA

What noise abatement measures were considered?

Noise Reduction Design Goal

MnDOT’s Noise Policy establishes a noise reduction design goal of at least **7 dBA**. This design goal must be achieved at a minimum of one benefited receptor for each proposed noise abatement measure to be considered reasonable.

Cost Effectiveness

Cost effectiveness threshold of **\$43,500** per benefited receptor has been established as part of MnDOT’s 2015 Noise Policy, based on an estimated construction cost \$20/sq. ft. for noise walls.

Noise abatement measures were evaluated along the TH 10 project corridor where modeled traffic noise levels are projected to exceed MPCA noise standards; or increase substantially (i.e., increase by 5 dBA or greater from existing to future Build Alternative conditions).

MnDOT modeled three different noise barriers attempting to shield impacted noise receptors throughout the project area. In order for a noise barrier to be proposed as part of a project, it must be both feasible and reasonable. Feasibility refers to physical constraints and engineering considerations (i.e., can a noise wall be constructed at this location). For noise barriers to be considered reasonable, it must meet the following three criteria: 1) it must be acoustically effective by meeting the **Noise Reduction Design Goal**, defined as a 7 dBA reduction by at least one impacted receptor per proposed barrier, 2) it must meet MnDOT’s **cost effectiveness criteria** of \$43,500 per individual **benefitted receptor**, and (3) the viewpoints of benefited residents and property owners must be solicited, recorded, and considered in reaching a decision on the proposed noise abatement measure.

Benefitted Receptor

Benefitted receptors are defined as sites that receive a noise reduction at or above the minimum threshold of 5 dBA from an analyzed noise barrier.

Two of the three analyzed noise barriers meet MnDOT’s feasible and reasonable criteria. Barrier NB1 and NB2 are proposed as part of the project and will move forward to collect the viewpoints of benefitted receptors. (See Table 8 and Table 9 - Noise Mitigation Cost Effectiveness Results in the Traffic Noise Study Report, Appendix E.)

Noise Barrier NB1

Noise Barrier NB1 was investigated attempting to shield the impacts at Receptors N2-N11 in the Arden Manor Manufactured Home Community. An approximately 529-foot long, 20-foot high noise barrier was modeled along eastbound TH 10 between Bayan Street and Prior Avenue (see Figure 2 in Appendix E). The approximately 529-foot long barrier provides a reduction that varies from 0 dBA to 11.5 dBA. The cost-effectiveness of the barrier is \$29,878 per benefited receptor. The approximately 529-foot long, 20-foot high modeled Barrier NB1 meets both MnDOT's 7 dBA noise reduction design goal as well as MnDOT's minimum \$43,500 cost-effectiveness criteria and is proposed as part of the Project.

Noise Barrier NB2

Noise Barrier NB2 was investigated attempting to shield the impacts at residential Receptors N12-N52 in the Arden Manor Manufactured Home Community and a recreational pool that is located within the Arden Manor Park (Receptor N48). An approximately 1,419-foot long, 20-foot high noise barrier was modeled along eastbound TH 10 between Prior Avenue and the existing noise wall along County Road 96, with a gap in the wall to allow for the proposed slip-ramp connection between the frontage road and TH 10 (see Figure 2 in Appendix E). The approximately 1,419-foot long barrier provides a reduction that varies from 0.4 dBA to 10.4 dBA. The cost-effectiveness of the barrier is \$25,057 per benefited receptor. The approximately 1,419-foot long, 20-foot high modeled Barrier NB2 meets both MnDOT's 7 dBA noise reduction design goal as well as MnDOT's minimum \$43,500 cost-effectiveness criteria and is proposed as part of the Project.

Noise Barrier Voting

Owners and renters of properties at the receptors that will receive 5 dBA or more of noise reduction from the proposed barriers are eligible to vote to determine whether the noise barrier is constructed; those receptors are referred to as the benefited receptors.

Voting ballots, as well as information about the proposed noise walls, will be mailed to benefitted receptors. The mailing will include information for a public meeting to discuss the proposed barrier and the voting process. The voting procedure will take place during the environmental review process for this Project, and is anticipated to occur in fall 2017. If approved by eligible voters, the proposed noise barriers would be constructed as early as construction staging would allow. Specific information about MnDOT's noise barrier voting process is provided in Section 5.3.3 of MnDOT's 2015 Noise Policy⁶. Results of noise barrier voting will be provided on the project website at:

<http://www.dot.state.mn.us/metro/projects/hwy10ardenhills/index.html>

⁶ MnDOT's 2015 Noise Policy: <http://www.dot.state.mn.us/environment/noise/pdf/mndot-2015-noise-policy.pdf>

EAW Item 18

Transportation

- a. *Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.*

18.a.1 NA

18.a.2-4. The proposed project will not generate new trips in the same way as a new business because the highway is not a destination or end point like a business. The traffic modeling for the project did not indicate that trips would divert to the highway from surrounding county and local roadways. Because the project will improve the congestion on the highway it is likely that fewer trips will divert to other roadways which originate on the highway.

18.a.5. Metro Transit has bus routes that use TH 10 through the project area. A park and ride is just beyond the north limits of the project at County Road H.

- b. *Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system.*

If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW. Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 (available at: <http://www.dot.state.mn.us/accessmanagement/resources.html>) or a similar local guidance.

This project is a transportation improvement project that has a purpose to improve the mobility of TH 10. The I-35W MnPASS Lane was included in the baseline for the traffic modeling analysis for both the No Build and Build Alternatives. The following Exhibit 5 demonstrates how the Level of Service (LOS)⁷ will improve in the forecast year 2040 for the proposed Build Alternative when compared to the 2040 No Build Alternative.

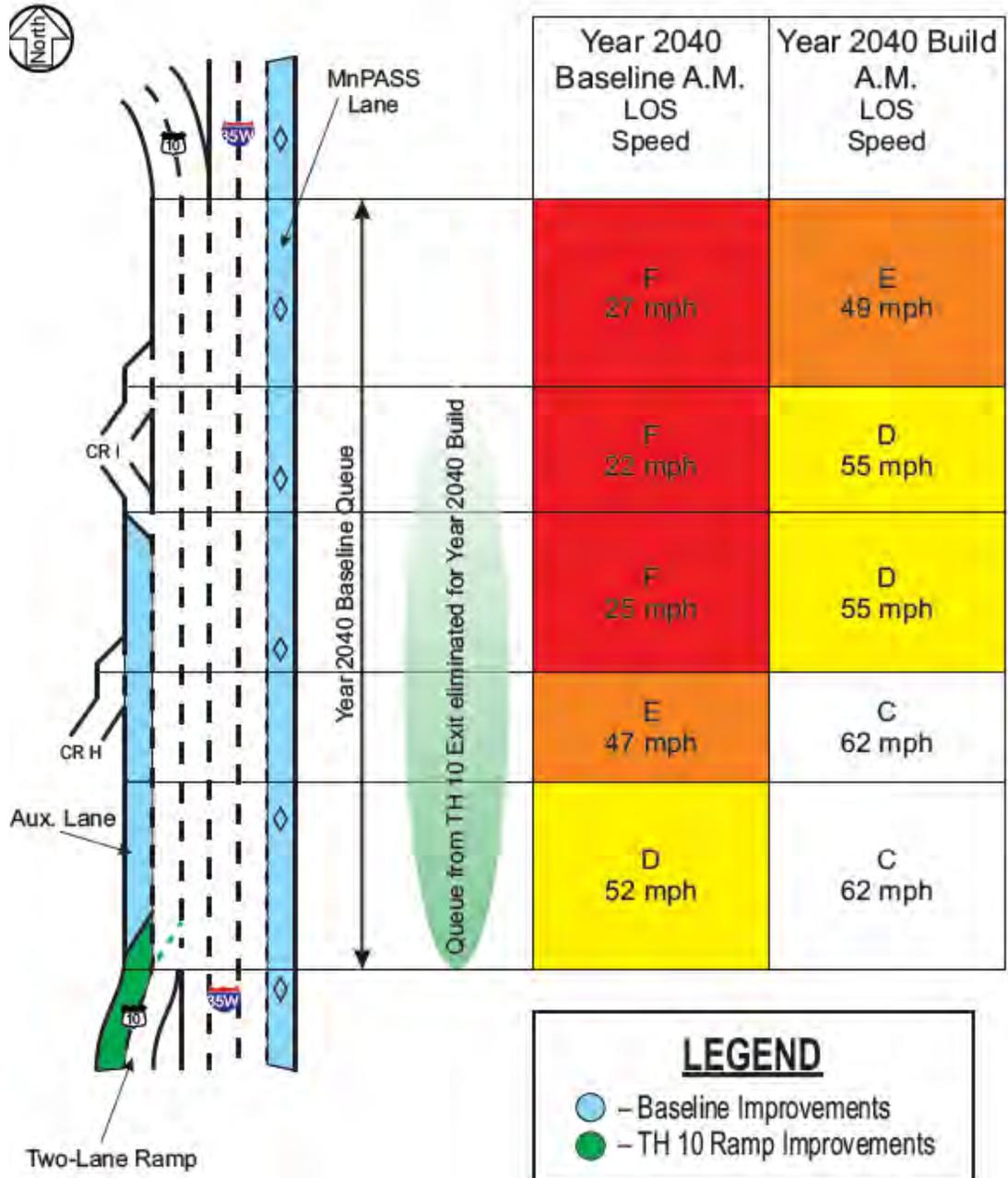


Exhibit 5: 2040 Build Alternative Level of Service

⁷ Level of Service is explained on page 4 under EAW Item 6.

EAW Item 19

Cumulative potential effects:

- a. *Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.*

The geographic scale of the project is limited to the area proximate to the project limits. The temporal scope of the analysis attempts to consider past impacts to the resources, as well as anticipate events extending into the reasonably foreseeable future. The year 2040 is considered the current limit of comprehensive planning activities for the area. The extent of transportation and land use planning efforts are reasonably available up to this time, and can be used as the basis for future cumulative effects assessment.

- b. *Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.*

The Twin Cities Army Ammunition Plant (TCAAP) Site is planned for redevelopment by Ramsey County and the city of Arden Hills. The site was purchased in 2013 by Ramsey County. Rice Creek Commons⁸ is the name of the 427-acre site that will be a mix of retail, office, commercial, residential, open space, and water infrastructure. Roadway work began in 2016 connecting the site to County Road 96 and I-35W. The Spine Road, which is the main connector between County Road H and County Road 96, and the Thumb Road, connecting County Road H to County Road I, is planned for completion in 2017. In addition, utility work, stormwater management and wetland mitigation work is planned for completion in 2017. Private development of the site will follow the completion of utility, water management and roadway infrastructure work. Figure B4 - Twin Cities Army Ammunition Plant (TCAAP) Site Plan in Appendix B, illustrates the roadway and site development of this area.

- c. *Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.*

Cumulative potential effects are not causally linked to the proposed project; rather they are the total effect of all known actions (past, present, and future) in the vicinity of the proposed project, with impacts on the same types of resources. The purpose of the cumulative potential effects analysis is to look for impacts that may be individually minimal, but which could accumulate and become significant and adverse when combined with the effects of other actions.

Past Actions

Past actions in the project area include decades of residential, industrial, and commercial development. In addition, highway and utility infrastructure facilities have also been

⁸ <http://ricecreekcommons.com/>

constructed to support the development. All of these actions have resulted in the current state-of-built environment in the vicinity of the project.

Present

Ramsey County is the Regulating Governmental Unit (RGU) of the Rice Creeks Commons associated roadway infrastructure projects illustrated on the above page that are adjacent to or cross the proposed project on TH 10.

- County Road I roundabout and Thumb Road connection to County Road H.
- Spine Road from County Road I to County Road 96.
- TH 10 northbound two-lane exit to I-35W with a connection to County Road H.

Future Actions Anticipated

The projects listed below that were considered as future actions in this analysis are consistent with the recent Minnesota State Supreme Court Ruling regarding potential cumulative effects. The projects: 1) are either existing, actually planned for, or for which a basis of expectation has been laid; 2) are located in the surrounding area; and 3) might reasonably be expected to affect the same natural resources.

The City of Arden Hills will be the Local Governmental Unit (LGU) for the private development of the TCAAP Site beginning in 2018. The proposed land uses are a mix of retail, office, commercial, residential, open space, and water infrastructure. This area is adjacent to the east side of TH 10 as illustrated in Exhibit B-4.

MnDOT has completed an EAW for the I-35W MnPASS lane that spans from Lexington Avenue in Lino Lakes to TH 36 in Roseville. The project limits overlap in the northern portion of this proposed project on TH 10.

Impacts from the TH 10 Auxiliary Lane project are discussed in previous pages of this document. The main project impacts include wetland impacts and noise impacts.

The projects described above are not anticipated to contribute to cumulative effects on wetlands and noise. Potential impacts can be avoided or minimized through existing regulatory controls such as permits and other mitigation measures. During the development of this EAW, no potentially significant cumulative impacts have been identified.

EAW Item 20

Other potential environmental effects:

If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

No other potential environmental effects have been identified.

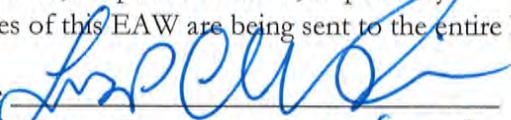
RGU CERTIFICATION

(The Environmental Quality Board will only accept SIGNED Environmental Assessment Worksheets for public notice in the EQB Monitor.)

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

Signature



Date

October 12, 2017

Title

Chief Environmental Officer