Environmental Assessment/Environmental Assessment Worksheet

Interstate 94
State Project: 8680-173
Minnesota Project:
From TH 24 in Clearwater to CSAH 37 in Albertville
Cities: Clearwater, Monticello, and Otsego
Townships: Clearwater, Silver Creek, Monticello
Counties: Wright
Section, Township, Range: See Table 7

Submitted pursuant to 42 USC § 4332 and Minnesota Statutes Chapter 116D by the US Department of Transportation, Federal Highway Administration, and Minnesota Department of Transportation for reconstruction on I-94 eastbound and westbound from TH 24 in Clearwater to the western city limit of Albertville. The total project length is approximately 24.2 miles. This environmental document evaluates the addition of a third lane both eastbound and westbound I-94 between Clearwater and Albertville.

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MnDOT District Engineer — Date: 1/8/19

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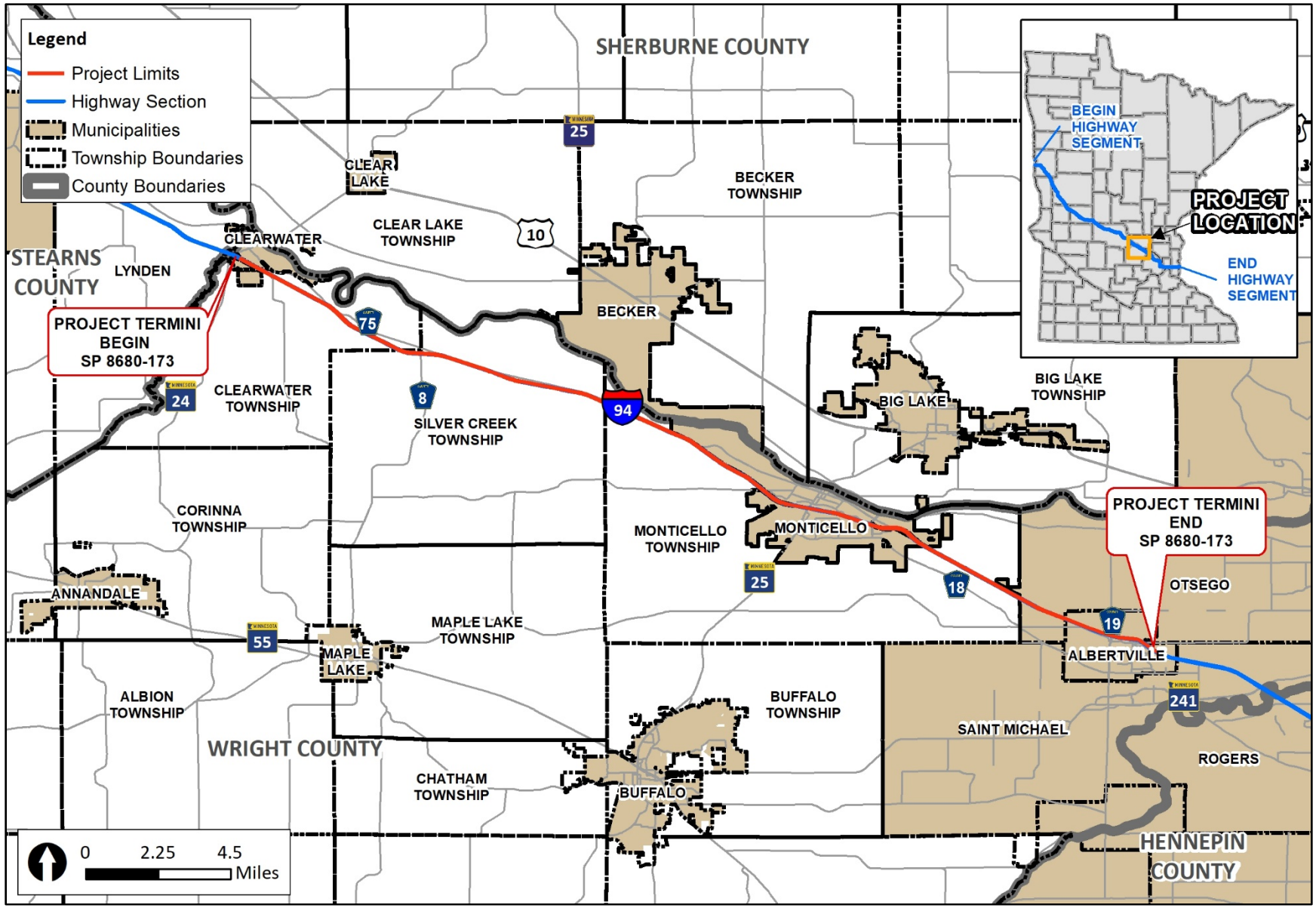
Figure 1: Project Location



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1 Report Purpose

This Environmental Assessment (EA)/Environmental Assessment Worksheet (EAW) provides background information for the proposed road reconstruction project on Interstate 94 (I-94) between the cities of Clearwater and Albertville. This document includes a discussion of:

- Need for the proposed project
- Alternatives considered
- Environmental impacts and mitigation
- Agency coordination and public involvement

This EA/EAW is assessing the I-94 corridor from TH 24 in Clearwater to CSAH 37 in Albertville. This corridor has been divided into four segments as shown in Figure 2 of the EA/EAW. While impacts avoidance and minimization measures are being determined for the whole corridor, not all mitigation measures are being finalized at this time since MnDOT is seeking environmental clearance only for segments 1 and 2, since segments 3 and 4 are not in the currently approved STIP or the current CHIP. Mitigation measures have been determined for most SEE impacts (e.g. wetlands). This is a Type I project for noise per 23 CFR 772. Since segments 3 and are not in the currently approved STIP or the current CHIP, noise abatement measures in these segments that are identified as feasible and reasonable (absent voting by the benefited receptors) will not be voted upon by the benefited receptors at this time. When funds become available for segments 3 and 4, the project proposer will initiate a NEPA reevaluation to seek environmental clearance for those segments. The NEPA reevaluation process will include voting on noise abatement measures by the benefited receptors in those segments as well as any other appropriate updates to SEE impacts and mitigation measures.

This EA was prepared as a part of the National Environmental Policy Act (NEPA) process and state environmental review process to fulfill requirements of both 42 USC § 4332 and Minnesota Statutes Chapter 116D. At the federal level, the EA is used to provide sufficient environmental documentation to determine the need for an Environmental Impact Statement (EIS) or that a Finding of No Significant Impact (FONSI) is appropriate.

This document also serves as an Environmental Assessment Worksheet (EAW). Minnesota Rules, part 4410.1300 allows the EA to take the place of the EAW form, provided that the EA addresses each of the environmental effects identified in the EAW form. This EA includes each of the environmental effects identified in the EAW form. It is used to provide sufficient environmental documentation to determine the need for a state EIS or that a Negative Declaration is appropriate.

The Minnesota Department of Transportation is the proposer and Responsible Governmental Unit (RGU) for this project. Preparation of an EAW is considered mandatory under Minnesota Rules, part 4410.4300, subpart 22, item B.

This document is made available for public review and comment in accordance with the requirements of 23 CFR 771.119(d) and Minnesota Rules, part 4410.1500 through 4410.1600.

2 Project Background

2.1 Background

Interstate 94 (I-94) is a major freeway connecting Fargo, North Dakota with the Twin Cities to western Wisconsin. Regionally, I-94 connects the growing northwest suburbs of the Twin Cities to Saint Cloud and greater Central Minnesota. The limits of the I-94 Albertville to Clearwater project, State Project (SP) 8680-173, extend from Trunk Highway (TH) 24 in Clearwater to County State Aid Highway (CSAH) 37 in Albertville. The total project length is approximately 24.2 miles and crosses the municipalities of Clearwater, Monticello, Otsego, and Albertville and the townships of Clearwater, Silver Creek, and Monticello, and the unincorporated community of Hasty. The location of the I-94 Albertville to Clearwater project is shown in Figure 1.

This section of I-94 was constructed in the late 1960s and early 1970s and is nearing 50 years old. Numerous pavement maintenance, rehabilitation, and preservation projects have been completed over the years to temporarily improve ride quality. Generally, these projects resulted in short-term fixes and need to be conducted every several years. MnDOT has been striving to produce projects that deliver long-term benefits and less construction impacts. The I-94 Albertville to Clearwater project is being designed with this criteria in mind.

2.1.1 Project Segments

Due to the length of the project corridor, the varying degrees of pavement condition, and the current funding available for the project, MnDOT may need to construct this project in segments. The potential segments as shown in Figure 2 include, from west to east:

- Segment 1: Clearwater to Hasty exit (TH 24 to CSAH 8) – 5.4 miles
- Segment 2: Hasty exit to Monticello (CSAH 8 to TH 25) – 8.48 miles
- Segment 3: Monticello to CSAH 18 (TH 25 to CSAH 18) (median barrier was previously completed as part of SP 8680-158) – 3.15 miles
- Segment 4: CSAH 18 to CSAH 37 in Albertville – 7.17 miles

2.1.2 Freight Traffic

The 2018 traffic study completed for this project identified the Average Annual Daily Traffic (AADT) ranges from 41,500 vehicles per day (vpd) west of TH 24 in Clearwater to 65,800 vpd west of CSAH 19 in Albertville. I-94 is a heavy freight corridor, with freight vehicles representing nearly 10 to 15 percent of total traffic (approximately 5,000 to 11,000 vpd); therefore, reliable travel times and efficient mobility along I-94 is crucial to the economic vitality of the region.

2.1.3 Recreational Traffic

Traffic patterns within the project corridor are also heavily influenced by recreational weekend traffic. Despite the relatively low population in the immediate vicinity of the project corridor, I-94 serves as a primary thoroughfare for recreational traffic for travelers from the Twin Cities to greater Minnesota. Weekend traffic (Friday WB and Sunday afternoon EB) during peak recreational season (Memorial Day through Labor Day) can increase traffic by 15% to 20%.

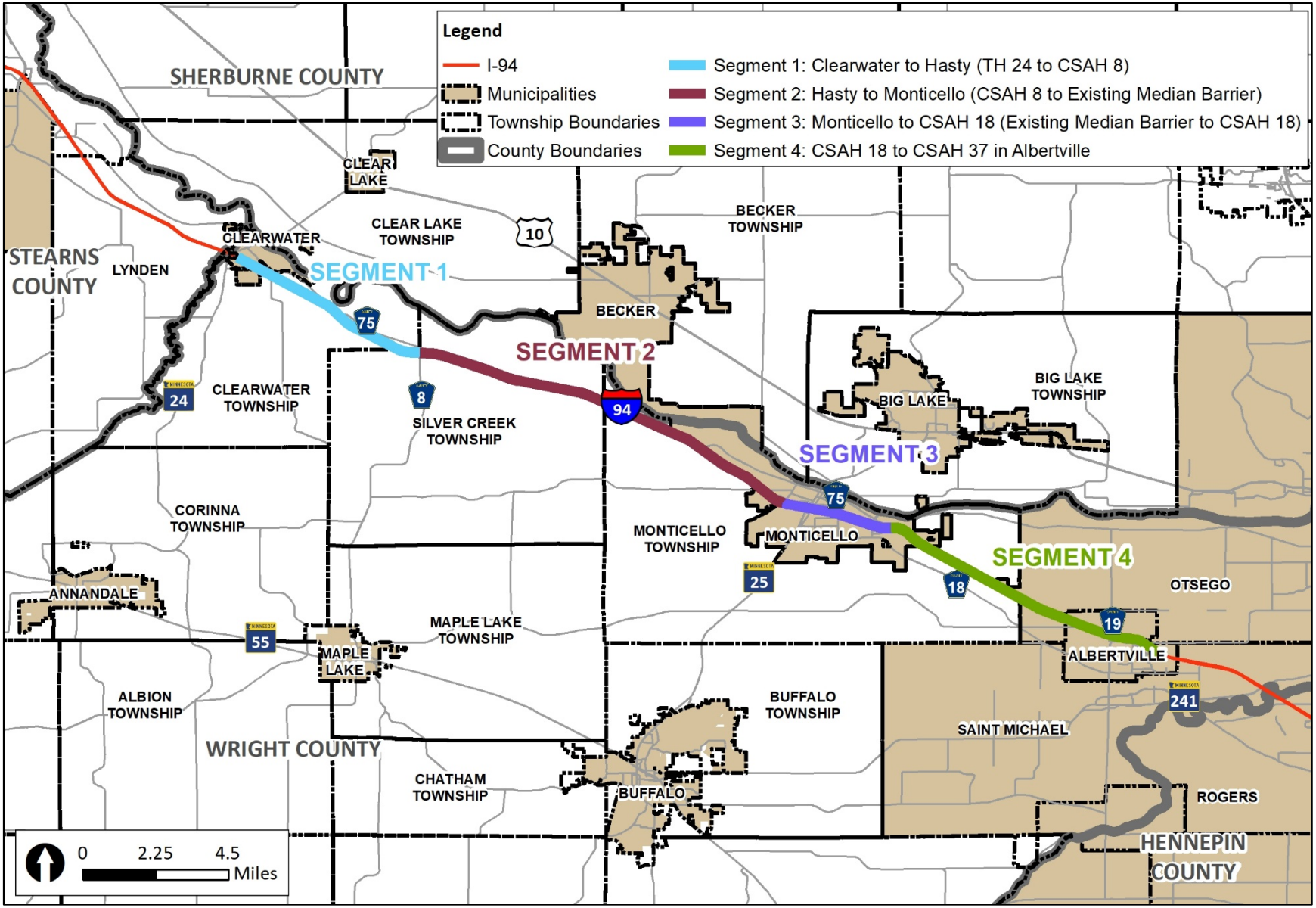
Additionally, when maintenance, construction, or accidents limit capacity to a single lane in either direction, significant backups occur.

When conducting pavement rehabilitation or reconstruction activities on lower volume 4-lane roads with available alternate routes, MnDOT has historically diverted traffic to either the eastbound or westbound lanes via temporary crossovers restricting travel to a single lane in each direction. I-94 between Hasty and Albertville however does not have adequate alternate routes, especially for through traffic. As a result, reducing the interstate to a single lane between Hasty and Albertville in either direction will result in substantial delays.

2.1.4 MnROAD

The MnROAD research facility is located adjacent to the project limits between Monticello and Albertville. MnROAD is a cold region testing facility and laboratory operated by MnDOT and consists of a 3.5 mile I-94 westbound segment with two travel lanes adjacent to the mainline Westbound travel lanes. The facility also includes 2.5 mile track for low volume testing. The facility provides a safe zone to evaluate pavement performance under real, physical conditions (traffic, environment, material). MnRoad will not be modified by this project.

Figure 2: Project Segments



3 Purpose and Need

This section discusses the purpose and need of the I-94 Albertville to Clearwater project. In general, a purpose and need statement of a transportation project aims to define the transportation problems of the system and the intended results and objectives for the project being proposed. The purpose and need builds on Project Background and provides the foundation for the Alternatives developed for the project.

3.1 Purpose

The purpose of this project is to provide a long-term solution for highway users by improving pavement conditions and freight movement, while enhancing traffic mobility on I-94 between Clearwater and Albertville.

3.2 Need

MnDOT has identified a number of factors justifying the need for the I-94 Albertville to Clearwater Project. The needs have been categorized by primary, secondary, and additional considerations. MnDOT recognizes that some of these needs may differ by segment.

Primary needs include the primary transportation problems of the project corridor. The primary needs that have been examined include:

- Improve poor pavement conditions
- Maintain freight mobility

Secondary needs are other transportation problems that may be able to be addressed at the same time as primary needs. The secondary needs that have been examined include:

- Address geometric deficiencies that restrict traffic flow
- Repair or replace degraded stormwater infrastructure

Additional considerations are elements that are not central to the purpose and need of the project but are important criteria for evaluating build alternatives, including:

- Environmental considerations

3.2.1 Primary Needs

3.2.1.1 Improve Pavement Condition

Pavement conditions along segments of I-94 are deteriorating and reaching the end of their service life (i.e. tenting problem).

Pavement management is crucial to prolonged functionality of a highway system. MnDOT uses the following parameters to measure and report the condition of pavement across the state. Each describes a different aspect of pavement conditions that can be used to rank pavement sections and predict the need for future pavement maintenance and rehabilitation. Indices used to analyze pavement for this

project include: Ride quality index (RQI), Surface Rating (SR), Pavement Quality Index (PQI), and Remaining Service Life (RSL).[1]

RQI is intended to represent the rating that a typical road user would give to the pavement's smoothness as felt while driver is in his/her vehicle. RQI ranges from zero to five rating scale (rounded to the nearest tenth); higher the RQI the smoother the ride. Most new construction projects have an initial RQI above 4.0 and pavements are normally designed for a terminal value of 2.5.

SR is used to quantify pavement distress. SR ranges from zero to four (rounded to the nearest tenth); a road with no defects is rated at 4.0 and a road in need a major rehabilitation or reconstruction will generally have an SR near or below 2.5.

PQI is a composite index, equal to the square root of the product of RQI and SR, and provides an overall indication of the condition of the pavement.

RSL is an estimate, in years, until the RQI will reach a value of 2.5.

MnDOT District 3 conducted a pavement assessment in 2016 for project segments of I-94 between Clearwater and Albertville. The following results indicate that the current ride quality has decreased substantially over time. Segments 1 and 2 (TH 24 to the existing median barrier), eastbound and westbound, have the greatest need for improvement with no remaining service life. This stretch is original concrete construction and had its last Concrete Pavement Restoration (CPR) in 2009. Segment 4 (CSAH 18 to Albertville), westbound, is in similar condition. Segment 4 eastbound is bituminous and was last milled and overlaid in 2015, pavement need for this portion is approximately 2027. Pavement improvements were completed or are planned east of the project area; SP 27-8066 (TH 241 in St. Michael to TH 101 in Rogers) was completed in 2016 and SP 8680-172 (CSAH 75 to TH 241) is planned. Table 1 shows the pavement condition of I-94 from Clearwater to Albertville based on MnDOT parameters.

Table 1: I-94 2016 Pavement Condition from Clearwater to Albertville by Segment

Segment	RQI	SR	PQI	RSL
Segment 1 - Clearwater to Hasty	2.4	2.9	2.6	None
Segment 2 - Hasty to Monticello	2.4	2.9	2.6	None
Segment 3 - Monticello (TH 25 to CSAH 18)	4.0	4.0	4.0	10 years
Segment 4 (*westbound*) – Monticello (CSAH 18) to Albertville (CSAH 37)	2.8	2.9	3.1	8 years
Segment 4 (*eastbound*) – Monticello (CSAH 18) to Albertville (CSAH 37)	4.0	4.0	4.0	10 years

3.2.1.2 Maintain Freight Mobility

Two lanes in each direction must remain open during construction in order to maintain efficient traffic flow for freight and commuter traffic.

As discussed in the Project Background, feasible traffic management during construction is a priority for any project in this stretch of I-94. Traffic volumes range from 41,500 vpd to 65,800 vpd (west to east, respectively) and heavy commercial vehicles account for up to 15 percent of this total. This section of I-94 also experiences peaks due to recreational traffic that can increase traffic levels by 15 to 20 percent.

[1] Derived from the MnDOT 2017 Pavement Condition Annual Report, available at https://www.dot.state.mn.us/materials/pvmtmgmtdocs/AnnualReport_2017.pdf (accessed April 2018)

As documented in the traffic study (SRF 2018), I-94 still has capacity, however, anything that happens on the roadway that restricts traffic flow in one lane (accident, emergency vehicles, cable barrier repair, road construction/lane closure) results in substantial traffic delays since there are no viable alternate routes to divert traffic to for expected or unexpected incidents.

In order to assess existing and future traffic mobility, MnDOT completed a traffic study in which operations were evaluated for no-build, build, and construction conditions. The study incorporated 2016 volumes for weekday a.m. and p.m. peaks as well as recreational peaks, the Friday before Labor Day (p.m.) and Labor Day (a.m.). The conclusion of the study suggests the freeway segments within the study area all currently operate acceptably under all four scenarios (weekday a.m., weekday p.m., westbound I-94 recreational peak and eastbound I-94 recreational peak); however, significant operational issues are encountered when travel is restricted to a single lane in either direction.

MnDOT uses Level of Service (LOS) grades to indicate the operational efficiency along mainline roads and intersections. The LOS grades and descriptions, shown in Table 2, quantify and categorize the driver's discomfort, frustration, fuel consumption, and travel times experienced as a result of congestion and the resulting traffic queuing. For freeway segments, LOS results are based on density, vehicles per lane per mile (vplpm), and correspond to density thresholds in Table 2. In general, LOS D or better is the accepted standard for existing and future mainline and intersection operations.

Table 2: Level of Service Descriptions and Density Thresholds

Level of Service	Description[2]	Density (vplpm)
A	Minimal control delay; traffic operates at primarily free-flow conditions; unimpeded movement within traffic stream.	≤ 10
B	Minor control delay at signalized intersections; traffic operates at an unimpeded level with slightly restricted movement within traffic stream.	> 10-20
C	Moderate control delay; movement within traffic stream more restricted than at LOS B; the formation of queues contributes to lower average travel speeds.	> 20-28
D	Considerable control delay that may be substantially increased by small increases in flow; average travel speeds continue to decrease.	> 28-35
E	High control delay; average travel speed no more than 33 percent of free flow speed.	> 35-43
F	Extremely high control delay; extensive queuing and high volumes create exceedingly restricted traffic flow.	≥ 43

[2] Transportation Research Board's Highway Capacity Manual, 6th Edition (2016)

Table 3: Year 2020 and Year 2040 No Build/Build[3] Conditions

Segment[4]	Weekday AM Peak		Weekday PM Peak		Recreational Friday		Recreational Monday[5]	
	2020	2040	2020	2040	2020	2040	2020	2040
Eastbound TH 24 to CSAH 8	A/**A**	B/**A**	B/**A**	B/**B**	B/**B**	B/**B**	C/**B**	C/**B**
Eastbound CSAH 8 to TH 25	A/**A**	B/**A**	B/**A**	B/**B**	B/**B**	B/**B**	C/**B**	C/**B**
Eastbound TH 25 to CSAH 18	B/B	B/B	B/B	B/B	B/B	C/C	D/D	E/E
Eastbound CSAH 18 to CSAH 19	B/B	B/B	B/B	B/B	B/B	C/C	C/D	D/D
Eastbound CSAH 19 to TH 241	B/B	B/B	B/B	B/B	B/B	B/B	C/C	D/D
Westbound CSAH 19 to CSAH 18	B/B	B/B	C/C	C/D	D/D	D/D	B/B	B/B
Westbound CSAH 18 to TH 25	A/A	A/A	B/B	B/B	B/B	B/B	A/B	B/B
Westbound TH 25 to CSAH 8	A/**A**	B/**A**	B/**B**	B/**B**	C/**B**	C/**B**	B/**A**	B/**B**
Westbound CSAH 8 to TH 24	A/**A**	B/**A**	B/**B**	B/**B**	C/**B**	C/**B**	B/**A**	B/**B**

To better understand how potential lane restrictions during construction would impact traffic operations and safety for the I-94 Albertville to Clearwater project, MnDOT analyzed construction staging scenarios in which two travel lanes were maintained in one direction (the direction with higher peak volumes) and restricted travel to one lane in the other direction. They included:

- Construction Scenario #1: Single eastbound lane and two westbound lanes between TH 24 and TH 25; assessed LOS and queues for eastbound traffic during Monday[5] recreational peak
- Construction Scenario #2 Single westbound lane and two eastbound lanes between TH 24 and TH 25; assessed LOS and queues for westbound traffic during Friday recreational peak

The results indicate queues of greater than 10 miles in length on eastbound I-94 during the Monday recreational peak and queues of greater than 20 miles on westbound I-94 during the Friday Recreational peak if zero traffic diverts. In order to achieve an adequate LOS, at least 35 percent of traffic would need to be diverted for construction scenario #1 and at least 40 percent would need to be diverted for scenario #2. Results of this analysis are shown in Table 4.

Table 4: Construction Staging Scenario Traffic Operation Assessment

Construction Scenario	20% Diversion Upstream LOS	20% Diversion Maximum Queue	35% Diversion Upstream LOS	35% Diversion Maximum Queue	50% Diversion Upstream LOS	50% Diversion Maximum Queue
#1 – Monday Recreational Peak	F	8.5 miles	F	1.5 miles	D	0 miles
#2 – Friday Recreational Peak	F	15.6 miles	F	4.1 miles	E	0 miles

The poor operations and excessive queue lengths identified under the construction staging assessment indicate that a single lane in either the eastbound or westbound direction will not be able to accommodate traffic volumes during the recreational peak periods without substantial traffic diversions. MnDOT then assessed potential diversion routes during construction, including TH 10 and CSAH 75. TH

[3] [No-build LOS]/[build LOS]

[4] Bold indicates a segment in which a third lane would be added as the build condition.

[5] Monday refers to Labor Day which was represents eastbound recreational peak.

10 is a four-lane divided highway that runs parallel to I-94, north of the Mississippi River. CSAH 75 is a two-lane highway that runs parallel to I-94 between Monticello and Clearwater. TH 25 and TH 24 are the only two roadways that cross the Mississippi River and connect I-94 with TH 10 and CSAH 75. Existing daily traffic volumes were evaluated on TH 10, CSAH 75, as well as associated roads connected to the corridor (TH 25, CR 11, and TH 24) to determine if the diversion routes could accommodate additional traffic volume.

Table 5: Diversion Route Capacity Analysis and Conclusions

Roadway	Roadway Type	Capacity	85% Capacity	Existing Daily Volume	Exceeds Capacity?
TH 10	4-lane undivided urban	32,000	27,200	18,400	No
TH 10	4-lane divided rural	38,000	32,300	19,300 – 20, 400	No
TH 25	4-lane undivided urban	32,000	27,200	36,500	Yes
TH 25	2-lane undivided urban	17,000	14,450	16,100	No
TH 25	2-lane undivided rural	15,000	12,750	9,900	No
CR 11	2-lane undivided rural	15,000	12,750	12,400 – 11,200	No
TH 24	2-lane undivided rural	15,000	12,750	15,600	Yes
CSAH 75	2-lane undivided rural	15,000	12,750	5,300	No

The analysis indicates that while TH 10 has reserve capacity for approximately 13,000 to 18,000 vehicles, the two roads that would be needed to access TH 10 (TH 24 and TH 25) are approaching or exceeding capacity. CSAH 75 also has reserve capacity for approximately 9,000 vehicles; however, the intersection at TH 25 and CSAH 75 is already operating at capacity during the p.m. Peak Hour; therefore, the intersection or CSAH 75 would not likely function as a viable diversion route for I-94, specifically between Hasty and Monticello. For the five-mile segment between Hasty and Clearwater, CSAH 75 could provide a temporary alternate route during construction for a portion of traffic.

Based on the current and projected traffic levels on I-94 and the lack of feasible diversion routes, I-94 cannot be restricted to a single lane in either direction during construction between Hasty and Monticello.

Streetlight data indicates that only 5% of traffic had an origin and destination within the project corridor, with heavy trucks making up 15% of the total traffic. Therefore, detour of trips destined to or from the immediate vicinity of the project corridor are unlikely, as longer trips will not easily adjust to local streets to avoid portions of the project under construction.

Current ride quality issues, particularly in the right lane, are causing for unusual lane utilization in the corridor. With additional traffic utilizing the left lane, passing opportunities are limited with lack of typical patterns of slower traffic using the right lane. This element is exacerbated by slower vehicles using the left lane.

3.2.2 Secondary Needs

3.2.2.1 Address Geometric Deficiencies that Restrict Traffic Flow

Traffic mobility is being compromised due to narrow inside shoulders

Inside shoulders along entire corridor (width of four feet) currently do not meet interstate design standards. Specifically, inside shoulders are narrower than 10 feet and adjacent inslopes along inside and outside shoulders are steeper than 1:6 within the clear zone in some locations. The narrow shoulders and steep clear zone can create mobility issues during emergency and maintenance situations. Incidents or breakdowns involving vehicles in the inside shoulder can cause a complete or partial blockage of the inside traffic lane. In addition, routine and sometimes unplanned maintenance, including the repair of guardrail, cable barrier, and stormwater infrastructure and snow removal/storage in winter months, often forces closure or blockage of the inside traffic lane. As discussed earlier, shutting down a lane of traffic creates significant operational issues during certain travel times. Although these deficiencies are not the driving factor for the I-94 Albertville to Clearwater reconstruction project, this project represents an opportunity to improve this section of the highway system to interstate design standards which would, in turn, allow for maintenance or emergency situations to be conducted in a safe and efficient manner on the inside shoulder without impeding traffic.

3.2.2.2 Repair or Replace Degraded Stormwater Infrastructure

Stormwater drainage infrastructure along the corridor has reached the end of its service life or needs maintenance.

Culverts along the project corridor were assessed by the District hydraulics unit and it was determined some culverts and associated aprons were either degraded or not functioning as intended. In order to maintain a functioning stormwater system along the highway corridor, drainage modifications and improvements should also be considered.

3.3 Additional Considerations

Additional considerations are elements that are not central to the purpose and need of the project but are important criteria for evaluating build alternatives.

3.3.1 Environmental Considerations Such as Wetland Impacts and Right-Of-Way Acquisition

Due to the size and scope of the project, the potential for environmental impacts exists. These impacts can be natural resource and/or socially related. Examples of natural resource related impacts include loss of wetland or a unique biological resource whereas a social impact might be impacts to a disadvantaged population of people or impacts due to noise generated on the highway. Environmental considerations have been considered in the development of alternatives and were included as evaluation criteria for determining the preferred alternative.

4 Alternatives

This section presents the alternatives evaluation process, alternatives that were evaluated for the project but were rejected from further consideration, and alternatives that remain under consideration. Alternatives were developed and evaluated based on their ability to meet the project purpose and needs and perform across evaluation criteria (i.e. additional considerations). The proposed project maintains I-94 in its current alignment. No alternatives were evaluated that would relocate the freeway as this would have substantial social, environmental, and economic impacts.

4.1 Project Termini

I-94 crosses the entire state of Minnesota between Fargo, ND and Hudson, WI, with the heaviest traffic volumes in the Twin Cities Metro area.

The termini for this project were identified based on primary needs. Pavement conditions vary by the project segments with Segments 1 and 2 (TH 24 to TH 25) representing the most immediate pavement need. As shown in Figure 2, Segments 1 through 2 represent the portion of I-94 that requires pavement improvement in the next 1 to 7 years.

As pavement conditions need to be addressed on an approximately 10-year cycle, the rationale for the project endpoints for this evaluation have included all four project segments, from TH 24 in Clearwater to Albertville. Although funding has not been identified to address the need of the whole project, alternatives were evaluated for the full project to ensure a consistent and efficient solution could be identified and planned for when funding is obtained.

4.2 Alternatives Considered but Rejected

A variety of build alternatives were developed that tried to meet the purpose and need of the project, as shown in Appendix D. In order to maintain two lanes of traffic in each direction during construction, temporary and permanent third lanes were investigated to determine feasible construction staging. As cost estimates were compared along with other design factors such as drainage infrastructure and future maintenance, it was clear that temporary construction lanes were not cost effective if extended along the entire corridor. Thus, the alternatives described here considered a permanent third travel lane in each travel direction, but differed based on the direction of the widening, whether to the inside (toward the median) or to the outside, and to the degree of roadbed disturbance (overlay vs full reconstruction). Due to the project length at 24.2 miles and the variability of environmental conditions present throughout, the build alternatives considered varied by project segment.

4.2.1 Overlay Alternatives

Three alternatives were developed that would have maintained the current road alignment, conducted pavement rehabilitation via an unbonded concrete overlay, and constructed a new third lane. The third lane would have been constructed by building a consistent road base to the existing I-94 lanes and adding a concrete overlay to ensure the road profile was maintained across all travel lanes. The overlay options would have required some full reconstruction, specifically, lowering the road profile at bridges to account for the raised elevation resulting from the overlay. The overlay alternatives were initially considered low-cost options; however, through preliminary engineering and cost estimates, it was discovered they did not provide adequate drainage with a rural ditch section, did not allow room for standard inside shoulder widths, and required greater impacts to right-of-way needed and wetland impacts.

4.2.1.1 Alternative A: Overlay with Widening to the Inside

Alternative A would have added two 12-foot lanes, one eastbound and one westbound, to the inside of the existing road alignment. The alternative was dismissed for all segments because the resulting median would have been narrow, approximately 28 feet wide and less than 2 feet deep, providing limited width and flow capacity for drainage functions.

4.2.1.2 Alternative B: Overlay with Widening to the Outside

Alternative B would have added two 12-foot lanes, one eastbound and one westbound, to the outside of the existing road alignment. The alternative was dismissed for Segments 2, 3, and 4 because the resulting environmental impacts would have been significant (i.e. over 12 acres of wetland impact and approximately 1.35 acres of temporary easements needed for construction). The alternative was viewed as viable in Segment 1 because there were less wetland impacts (less than 0.5 acres) and no right-of-way impacts.

4.2.1.3 Alternative C: Overlay with Widening to the Westbound Inside and Eastbound Outside

Alternative C was developed in response to the drainage issues of Alternative A and the environmental issues of Alternative B. It would have added two 12-foot lanes, one to the inside along the westbound direction and one to the outside of the eastbound direction. Environmental and drainage issues were still present, but to a lesser degree than Alternatives A and B. The alternative was viewed as the best overlay option but was eventually dismissed in favor of a full reconstruction option when considering the maintenance costs associated with an overlay life cycle of pavement.

4.2.2 Full Reconstruction Alternatives

Full reconstruction alternatives were developed with the understanding that they could result in a higher construction cost but result in a greater pavement life, meaning less future pavement rehabilitation costs. The reconstruction would allow roadway alignment shifts if needed to avoid or minimize some environmental impacts which would not be practical with overlay options.

4.2.2.1 Alternative E1: Full Reconstruction with 4-foot Paved Median Shoulder

Alternative E1 was identical to Alternative C in terms of the location of lane additions. This alternative, like overlay options A through C, would have allowed for a 4-foot median shoulder (5.5 feet usable width). In coordination with maintenance and emergency services entities, it was concluded that a 4-foot shoulder was not wide enough to avoid impacts to the inside lane of traffic during emergency and maintenance situations; therefore, this option was dismissed as it would not meet the maintain freight/traffic mobility needs of the project.

4.2.2.2 Alternative E2 Full Reconstruction with 10.5-foot Paved Median Shoulder

Alternative E2 would have resulted in a full realignment of the corridor, centered on the existing median. This reconstruction would have allowed for a 12-foot inside shoulder (including 1.5-foot aggregate) which would allow for all lanes of traffic to remain open, even during maintenance or emergency situations. The alternative was dismissed because the environmental impacts would have been significant (i.e. over 9 acres of wetland impact).

4.2.3 Alternatives Summary

A summary of the alternatives and potential impacts are provided in Table 6. The recommended alternative is discussed in Section 4.3.2.

Table 6: Alternatives Evaluation

Evaluation Criteria	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E1	Alternative E2
Temporary right-of-way impacts (acres)[6]	0.06	1.38	0.93	0	0.31	0.48
Wetland impact (acres)	4.8	12.2	9.4	2.19*	9.4	9.4
Median barrier type	Cable	Cable	Cable	Concrete	Cable	Cable
Requires lane closure for maintenance and repair	Yes	Yes	Yes	No	Yes	No
Crossovers required?	Yes	Yes	Yes	No	Yes	Yes
Pavement Longevity[7]	Low	Low	Low	High	High	High
Minimum usable inside shoulder width (ft)	5.5	5.5	5.5	12	5.5	12
Lane closure likely due to incidents/breakd owns in median?	Yes	Yes	Yes	No	Yes	No
Drainage Implications[8]	Inadequate Median Flow Capacity	Replace and Extend Culverts	Replace and Extend Culverts	New Median Storm Sewer System; Maintain Outside Ditches	Replace and Extend Culverts	Replace and Extend Culverts

*Includes wetlands and wet ditches

4.3 Alternatives Under Consideration

There are two alternatives being considered in this EA, the "No-Build" (i.e. continue pavement management regimen) and "Build" (recommended reconstruction alternative).

4.3.1 No Build Alternative

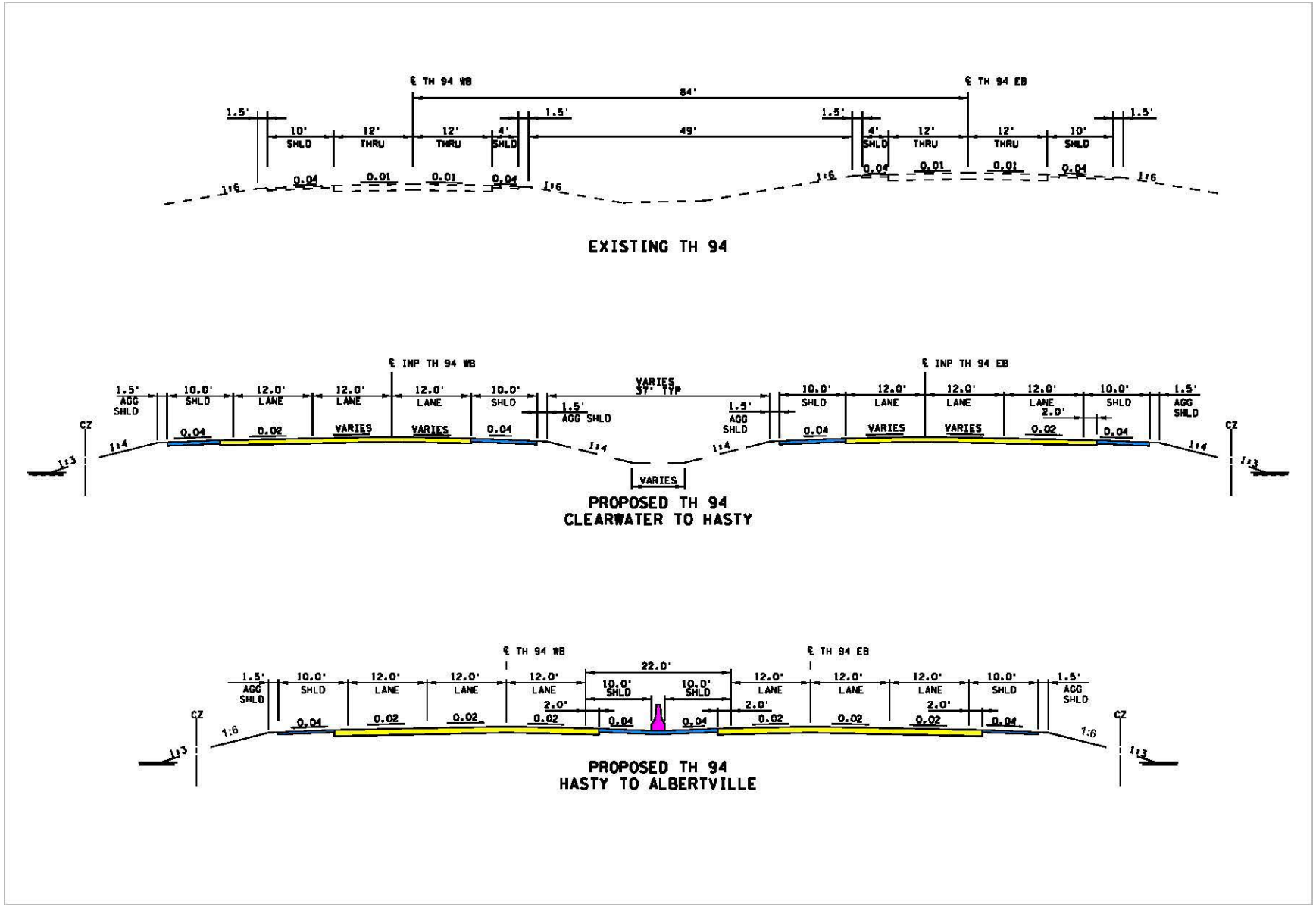
The No Build Alternative assumes I-94 remains as-is and pavement management continues as needed. The No-Build alternative would not maintain two lanes of traffic in each direction during maintenance activities; therefore, does not meet the full purpose of the project and needs of the I-94 corridor.

[6] All build alternatives involve 2.77 acres of right-of-way acquisition for two stormwater ponds
[7] Low pavement longevity is the result of pavement on an overlay life cycle, high pavement longevity indicates a boosted initial pavement life from a new pavement reconstruction
[8] All build alternatives assume stormwater pond construction in same locations

4.3.2 Recommended Alternative – Combination of Alternatives B and D

The recommended alternative assumes a full reconstruction (Alternative D) of I-94 between Albertville and Hasty (Segments 2, 3, and 4) as an urban highway section with a concrete median barrier, and an overlay with widening to the outside (Alternative B) between Hasty and Clearwater (Segment 1). Both would construct an additional 12-foot lane of traffic in each travel direction. The proposed typical section, shown in Figure 3, includes three 12-foot travel lanes, a 10-foot inside shoulder, and a 10-foot paved outside shoulder in each direction. A continuous concrete median barrier would separate the two travel directions from Albertville to Hasty. The existing vegetated median ditch would be maintained between Hasty and Clearwater. Storm sewer would replace the drainage function of the existing median ditch in segments 2, 3, and 4 and drainage functions would remain largely unchanged in Segment 1. Nine stormwater management areas would be constructed. Additionally, the segment between Clearwater and Hasty will have lane additions to the outside and maintain the center grass median. This combination of alternatives B and D provide the least amount of overall environmental impacts as well as lower cost. The build alternative not only meets the purpose and need of the project, it also outperforms the other build alternatives when considering environmental impacts, drainage feasibility, project cost, and provides the most lasting user benefit.

Figure 3: Recommended Alternative Typical Section vs Existing Typical Section



4.4 Benefit Cost Analysis

As required by the State of Minnesota, a benefit-cost analysis is prepared for any trunk highway construction project greater than $10 million (Minnesota Laws 2001, Chapter 10, Article 2, Section 41). The preferred alternative for this project has been estimated to cost more than $10 million, and the benefit-cost analysis for the project is based on determining the present value of all benefits and costs associated with the Build Alternative compared to the No Build Alternative.

Based on preliminary analysis, the recommended alternative has a preliminary benefit-cost ratio of 1.10, indicating that the benefits of the alternative outweigh its costs.

5 Environmental Assessment Worksheet

This section includes the information provided on the standard state EAW form. Section 6 discusses federal environmental regulations not addressed by the EAW.

The EAW form and EAW Guidelines are available on the Minnesota 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.

5.1 Project Title

I-94 Albertville to Clearwater

5.2 Proposer

MnDOT District 3
Dan Anderson
District Engineer
3725 12th St N
St. Cloud, MN 56303
218-828-5703
Daniel.D.Anderson@state.mn.us

5.3 RGU

MnDOT District 3
Claudia Dumont
Project Manager
3725 12th St N
St. Cloud, MN 56303
320-223-6530
Claudia.Dumont@state.mn.us

5.4 Reason for EAW Preparation

Check one:

Required:
☐ EIS Scoping
☒ Mandatory EAW

Discretionary:
☐ Citizen petition
☐ RGU discretion
☐ Proposer initiated

The proposed project includes construction of a third lane to both eastbound and westbound I-94 between TH 24 in Clearwater and the western city limits of Albertville, a distance of approximately 24.2 miles. The proposed project meets a mandatory EAW threshold under Minnesota Rule 4410.4300 subp 22 (B) – for construction of additional travel lanes on an existing road for a length of one or more miles.

5.5 Project Location

County: Wright

Cities: Clearwater, Monticello, Otsego, and Albertville

Townships: Clearwater, Silver Creek (includes unincorporated community of Hasty), and Monticello

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

Table 7: PLS Locations

Township	Range	Section(s)
123N	27W	34
122N	27W	1, 2, 3, 12
122N	26W	7, 17, 18, 20, 21, 22, 23, 25, 26
122N	25W	30, 31, 32, 33
121N	25W	3, 4, 10, 11, 13
121N	24W	18, 19, 20, 21, 27, 28, 34, 35

Watershed (81 major watershed scale): Mississippi River – St. Cloud (17)

GPS Coordinates: Not applicable (N/A)

Tax Parcel Number: (N/A)

At a minimum, attach each of the following:

- County map showing the general location of the project (see Figure 1)
- US Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (see Figure 6)
- Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan (see Figure 7).

5.6 Project Description

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

The project will include the addition of a third lane in both directions of I-94 between Clearwater and Albertville, in Wright County. This project proposes to complete a pavement overlay for the segment of I-94 between TH 24 in Clearwater to CSAH 8 in Hasty and will reconstruct I-94 between CSAH 8 and CSAH 37 in Albertville, MN. The total project length is approximately 24.2 miles. Construction is planned for the 2020 and 2021 construction seasons.

5.6.2 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.

The project corridor, including the proposed project, new construction, and infrastructure needs, is discussed in the Project Background (Section 2), Purpose and Need (Section 3), and Alternatives (Section 4).

5.6.2.1 Construction and Operation Methods and Features that will Cause Physical Manipulation of the Environment or Will Produce Wastes

The majority of project construction will include concrete pavement, including unbonded concrete overlay and full pavement reconstruction. The reconstructed sections will incorporate storm sewer and reconstructed ditches, and several constructed stormwater management basins. Grading work will be contained within the existing right-of-way except in the location of two stormwater ponds.

The completed project will not produce waste. Construction will require temporary storage of materials such as concrete, rebar, chemical containers, culverts, and construction equipment. Excess materials and wastes will be removed from the project corridor upon project completion.

5.6.2.2 Modifications to Existing Equipment or Industrial Processes

The project does not modify existing equipment or industrial processes.

5.6.2.3 Significant Demolition, Removal, or Remodeling of Existing Structures

The project does not propose any demolition, removal, or remodeling of existing structures except for the existing concrete pavement, culverts, guard rail, lighting and signage.

5.6.2.4 Timing and Duration of Construction Activities.

The timing and duration of construction activities will be determined in the future as part of the final design process. Segments 1 and 2 of project are currently planned to be constructed utilizing design-build project delivery method. Segments 1 and 2 of the project are anticipated to begin construction in 2020 and be completed by fall of 2021. A Traffic Management Plan (TMP) is being developed to prepare for construction related traffic impacts. A crucial requirement of the TMP is to maintain two lanes of traffic in each direction to the extent possible on I-94 during project construction to not compromise corridor needs. Any single lane restrictions would occur only in the Clearwater to Hasty segment and limited to the shortest timeframe feasible.

5.6.3 Project magnitude

Table 8: Project Magnitude

Measure	Magnitude
Total Project Acreage	480.11
Linear Project Length	24.2 miles
Number and Type of Residential Units	N/A
Commercial Building Area (square feet)	N/A
Industrial Building Area (square feet)	N/A
Institutional Building Area (square feet)	N/A
Other Uses – specify (square feet)	N/A
Structure Height(s)	N/A

5.6.4 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.

The purpose and need for the project are discussed in the Purpose and Need (Section 3). The project will benefit all users of the I-94 corridor including single-occupancy vehicles and freight traffic. This benefit extends to daily and recreational users of the corridor.

5.6.5 Are future stages of this development, including development on any other property, planned or likely to happen? If yes, briefly describe future stages, relationship to present project, timeline, and plans for environmental review.

This project is a standalone project with unique funding. However, there are two adjacent projects that are being coordinated given they may occur within the same time frame. The construction schedule, staging, and public engagement of these projects are being coordinated to limit the disturbance to users of the I-94 corridor. Each project is undergoing its own independent environmental review and to obtain applicable regulatory approvals and environmental permits; therefore, the environmental impacts of those projects are not evaluated in this EAW except as noted in the Cumulative Impacts section.

These projects are shown on Figure 4 and include:

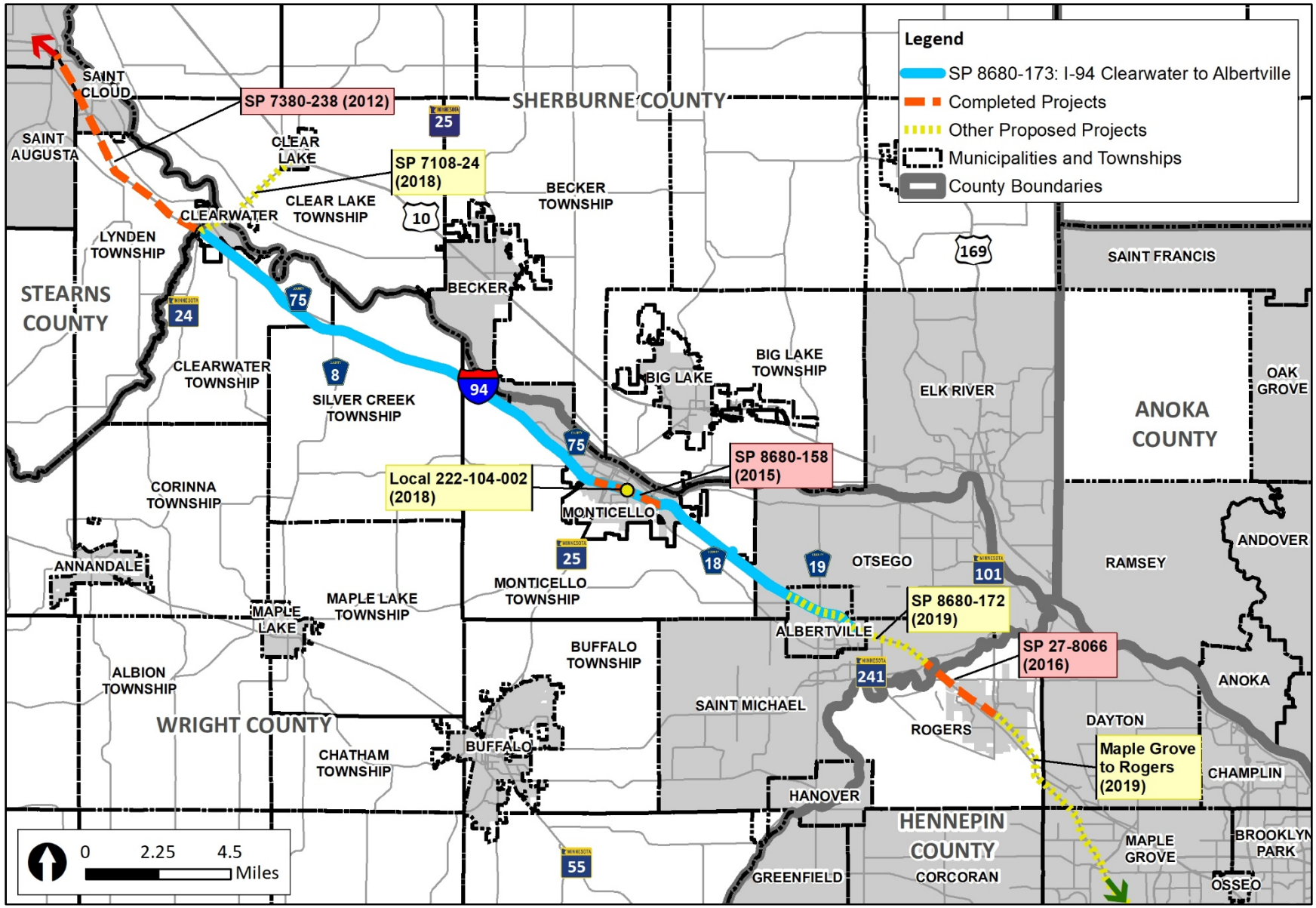
- SP 8680-172 in 2018-2019 (West Albertville city limit to TH 241): is proposing to reconstruct I-94 as an urbanized section, similar to what is being proposed for the I-94 Albertville to Clearwater project, and to allow for a third general purpose lane in each direction; however, only the eastbound direction additional travel lane would be paved. The third lane in the westbound direction would be graded, but not paved until Segment 4 of the I-94 Clearwater to Albertville project is constructed. The project also includes the construction of a collector road adjacent to the eastbound travel lanes for vehicles exiting and entering at CSAH 19 or CSAH 37. The collector road is similar the existing collector road located adjacent to the westbound travel lanes.
- I-94 Maple Grove to Rogers (project number not yet assigned): is proposing to resurface I-94 between the I-494/I-694 interchange in Maple Grove to Highway 100 in Rogers, construct an interchange at Brockton Lane, and evaluate design alternatives to add capacity to I-94.

5.6.6 Is this project a subsequent stage of an earlier project? If yes, briefly describe the past development, timeline, and past environmental review.

This project is not a subsequent stage of an earlier project; however, several independent projects have been completed in the past several years along I-94 in the vicinity of SP 8680-173. Each project went through independent environmental review and was required to receive applicable regulatory approvals and environmental permits. These are also shown in Figure 4 and include:

- SP 7380-238 in 2012 (I-94 between St. Cloud and Clearwater): MnDOT implemented a concrete repair project. Traffic was managed by reducing travel to one lane in each direction.
- SP 8680-158 in 2015 (Monticello TH 25 interchange and median): MnDOT reconstructed eastbound I-94 and associated interchanges. The project was designed to accommodate three lanes but is currently striped for two lanes to match adjacent sections of I-94.
- SP 27-8066 in 2016 (I-94 from TH 241 in St. Michael to TH 101 in Rogers): MnDOT constructed a third general purpose lane in the westbound direction and auxiliary lane in the eastbound direction of I-94.

Figure 4: Completed and Proposed Projects in the Vicinity of SP 8680-173



5.7 Cover Types

5.7.1 Estimate the acreage of the site with each of the following cover types before and after development.

Table 9: Cover Types

Cover Type	Before (acres)	After (acres)
Wetlands	1.09	0
Wet Ditches	1.10	0.48
Deep Water/Tributaries	0.07	0.07
Wooded/Forest	1.50	0
Brush/Grassland	10.67	0
Cropland	0	0
Lawn/Landscaping	276.69	175.67
Impervious Surface	188.99	296.01
Stormwater Pond	0	7.88
Total	480.11	480.11

5.8 Permits and Approvals Required

5.8.1 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 Minnesota Rules, part 4410.3100.

Table 10: Permits and Approvals Required

Agency	Unit of Government	Type of Application	Status
MnDOT	State	Environmental Assessment Worksheet	Complete
MnDOT	State	EIS Need Decision	To be requested
MnDOT	State	Wetland Conservation Act Approval	To be requested
Department of Natural Resources	State	Public Waters Work Permit	To be requested
Department of Natural Resources	State	Groundwater Appropriation Permit (if necessary)	To be requested
Minnesota Pollution Control Agency	State	National Pollutant Discharge Elimination System (NPDES)	To be requested
Minnesota Pollution Control Agency	State	Section 401 Certification	To be requested
FHWA	Federal	Environmental Assessment	Complete
FHWA	Federal	Finding of No Significant Impact (anticipated outcome)	To be requested
MnDOT CRU on behalf of FHWA	Federal	Section 106 (Historic/Archaeological) Determination	Complete
MnDOT OES on behalf of FHWA	Federal	Endangered Species Act Section 7 Determination	Complete
US Army Corps of Engineers	Federal	Section 404 Permit	To be requested

5.9 Land Use

5.9.1 Describe the following:

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

The project is located within the existing MnDOT right-of-way with the exception of two proposed stormwater management areas identified in Figure 7; one located northwest of the Grover Avenue bridge and the other northwest of the 120th Street bridge.

Land Use

There are a variety of land uses within the study area, including commercial, retail, office, park/open space, residential, industrial, agricultural, and undeveloped. The MnROAD facility is located between Monticello and Albertville adjacent to the I-94 westbound travel lanes. Land use maps for the cities of Clearwater, Monticello, and Albertville and for Wright County can be found in Appendix E.

Zoning

Zoning maps for Wright County, Albertville, Monticello, and Clearwater were also reviewed for consistency with the land use maps. The zoning generally matches the corresponding land uses. Zoning maps can be found in Appendix E.

Parks and Trails

Wright County Parcel data,[9] DNR Landview Mapping,[10] City and County Maps,[11] and Google Earth[12] were reviewed for the presence of parks, trails, wildlife refuges, state water trails, and/or recreation areas. The following resources were identified in the project vicinity:

- Locke Lake Public Water Access (Figure 7, Page 11)
- Monticello Savanna – Minnesota Biological Survey Site of Biodiversity Significance (Figure 7, Page 18 to 20)
- City/Xcel Ballfields Park in Monticello (Figure 7, Page 21 and 22)
- Balboul Park in Monticello (Figure 7, Page 23)
- Monticello Country Club (Figure 7, Page 23 and 24)
- Freeway Fields Park in Monticello (Figure 7, Page 29 and 30)
- Trail on 7th Street between Washington Street and CSAH 18 (Fenning Avenue) (Figure 7, Page 27 to 29)
- Existing pedestrian bridge adjacent to CSAH 18 (Fenning Avenue) (Figure 7, Page 29)
- Trail under I-94 (Bridge Nos: 86813 and 86814) along Broadway Street (Figure 7, Page 29 and 30)
- Trail between Mill Run Road and River Forest Drive (Figure 7, Page 30)
- Trail between 94th Street NE and Gingham Court (Figure 7, Page 31)
- Winter Park in Albertville (Figure 7, Page 38 and 39)

[9] Wright County Parcel Data was obtained from Wright County under contract agreement for use with this project; date of availability was October 19, 2017.
[10] Minnesota Department of Natural Resources, Landview Mapping, available at https://www.dnr.state.mn.us/maps/landview/index.html (accessed April 2018)
[11] Various sources including the Cities of Clearwater, Monticello, Otsego, and Albertville and Wright County (accessed April 2018)
[12] Google Earth, available at https://www.google.com/earth/ (accessed April 2018)

- Trail under I-94 along CSAH 19 in Albertville (see Figure 7, Page 40)
- Trail over I-94 along CSAH 37 in Albertville (see Figure 7, Page 40 and 41)

All the identified recreational resources are located outside the existing right-of-way and will not be impacted.

Unique Farmlands

The National Resource Conservation Service (NRCS) Web Soil Survey was used to review the soils within the project limits.[13] According the NRCS, 18 of the 42 soil types within the project limits are classified as prime farmland or farmland of statewide importance (Table 11), which represents approximately 60 percent of soils within the project limits. All of these soils are located within I-94 right-of-way, with the exception of two stormwater management areas. None of the area located within the project limits is currently being used as farmland; however, the soil in both proposed easement areas for stormwater management is classified as 1377B – Dorset-Two Inlets Complex and is rated as farmland of statewide importance. Form AD-1006 has been completed and provided to NRCS for review.

5.9.1.2 Planned land use as identified in comprehensive plans (if available) and any other applicable plan for land use, water, or resource management by a local, regional, state, or federal agency.

Land use plans for Clearwater, Monticello, and Albertville were reviewed for planned changes in land use. The following changes were identified:

- In Clearwater:
  - The undeveloped area north of I-94, east of CSAH 7 and South of CSAH 75 is planned for industrial development
  - The undeveloped area south of I-94 and east of CSAH 7 is planned for commercial development
  - The undeveloped area south of I-94, east and west of TH 24 is planned for commercial use
- In Albertville:
  - The agriculture/vacant land north of I-94, east of Kadler Avenue and south of 70th Street is planned for a business park
  - The agriculture/vacant land south of I-94, east of Kadler Avenue NE and north of 65th Street is planned for a business park
  - The agriculture/vacant land north of I-94, south of 67th Street and west of Keystone Avenue is planned for commercial development
  - Undeveloped land east of CSAH 37 is planned for industrial and commercial development
- In Monticello:
  - A new potential interchange is planned in the northwest quadrant on I-94 near 120th Street
  - A future bridge is planned on Fallon Avenue over I-94
  - Future parkways and greenways are planned to connect to link Bertram Chain of Lakes Regional Park to the Mississippi River

[13] National Resource Conservation Service, Web Soil Survey, available at https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (accessed April 2018)

5.9.1.3 Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

Zoning maps for Clearwater, Monticello, Albertville, and Wright County[14] indicated there are two types of overlay districts that cross the project corridor: the Mississippi Wild, Scenic, and Recreational Overlay District and public water shoreland overlay districts. The following overlays were identified:

- The Mississippi Wild, Scenic, and Recreational Overlay District intersects I-94 in two areas:
  - Approximately one mile total located approximately 3,500 feet northwest of 120th Street in Monticello Township (shown on Figure 7, pages 18 to 20)
  - Approximately 500 feet located approximately 1,400 feet west of Fenning Avenue in the city of Monticello (shown on Figure 7, pages 28 and 29)
- Shoreland overlay districts intersect I-94 in five areas:
  - In Clearwater Township:
    - Fish Lake, PWI #86-183P, classified as Recreational Development by Wright County and the DNR (Figure 7, page 6)
    - Rice Lake, PWI #86-164P, classified as Natural Environment by Wright County and the DNR (Figure 7, page 7)
  - In Silver Creek Township:
    - Locke Lake, PWI #86-168P, classified as General Development by Wright County and the DNR (Figure 7, page 11)
    - Silver Creek, a DNR Altered Natural Watercourse classified as tributary in Wright County zoning ordinance (Figure 7, page 11)
  - In Monticello Township:
    - Otter Creek, a DNR Altered Natural Watercourse classified as tributary in Wright County zoning ordinance (Figure 7, pages 23 and 24)
  - In Albertville:
    - School Lake, PWI #86-25P, classified as Natural Environment by Albertville, Wright County, and the DNR (Figure 7, page 40)
    - Hunters Lake classified as Natural Environment by Albertville, Wright County, and the DNR (Figure 7, page 40)

No Federal Emergency Management Agency (FEMA) 100-year floodplains are located within the project limits.

5.9.2 Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Section 5.9.1, concentrating on implications for environmental effects.

This section discusses compatibility with the Mississippi Wild, Scenic, and Recreational Overlay District and DNR Shoreland Overlay Districts and Wright County Shoreland Protection areas.

Mississippi Wild, Scenic, and Recreational Overlay District

A portion of the existing I-94 alignment is located within the Mississippi Wild, Scenic, and Recreational Overlay District. The project will occur within existing right-of-way within this overlay district and

[14] Wright County, Northwest Quadrant Land Use Plan (includes Clearwater Township and Silver Creek Township) available at https://www.co.wright.mn.us/DocumentCenter/View/244/Northwest-Quadrant-Land-Use-Plan---Adopted-9-1-09?bidId= and the Wright County, Northeast Quadrant Land Use Plan (includes Monticello Township) available at https://www.co.wright.mn.us/DocumentCenter/View/236/Northeast-Quadrant-Land-Use-Plan---Adopted-07-31-07?bidId=

therefore is found compatible given there is no change of land use proposed, thus no direct impact. During construction there is potential for erosion in disturbed areas, however this erosion potential will be addressed as described under Section 5.11.2.2 via erosion and sedimentation control practices in the Stormwater Pollution Prevention Plan (SWPPP).

Shoreland Overlay Districts (DNR and Wright County)

A portion of the existing I-94 alignment is located within the Shoreland Zone of three lakes as noted in Section 5.9.1.1. The project will occur within existing right-of-way within these overlay districts and therefore is found compatible given there is no change of land use proposed, thus no direct impact. During construction there is potential for erosion in disturbed areas. The project will follow appropriate National Pollutant Discharge Elimination System (NPDES) requirements including a Stormwater Pollution Prevention Plan (SWPPP) to minimize such impacts.

5.9.3 Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Section 5.9.2.

The proposed project is located largely within existing MnDOT right-of-way, with the exception of two proposed stormwater management areas, one located northwest of the Grover Avenue bridge and the other northwest of the 120th Street bridge (Figure 7). MnDOT will obtain permanent easements in these two locations which will not preclude any future adjacent planned land uses. The proposed project is compatible with existing and planned land use.

5.10 Geology, Soils, and Topography/Land Forms

5.10.1 Geology – 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.

Surficial Soils

The project corridor is composed mainly of complexes (consisting of two or more dissimilar major components), loams, and loamy sands. From Clearwater to Monticello, surficial soils along I-94 consists of outwash, alluvium, sand/gravelly sand/gravel/silt/clay, and till. Some areas of peat are also present along this section of I-94. From Monticello to Albertville, surficial soils along I-94 consists of outwash, till, and areas of peat.[15]

Depth to Bedrock

Depth to bedrock along I-94 throughout the project corridor is typically between 101 to 250 feet deep. Near Monticello, bedrock depth increases to 301 to 350 feet below land surface.[16]

[15] Minnesota Geological Survey, 2013, Wright County Geologic Atlas, Surficial Geology; available at https://www.dnr.state.mn.us/waters/programs/gw_section/mapping/platesum/wrigcga.html (accessed April 2018)

[16] Minnesota Geological Survey, 2013, Wright County Geologic Atlas, Bedrock Topography and Depth to Bedrock; available at https://www.dnr.state.mn.us/waters/programs/gw_section/mapping/platesum/wrigcga.html (accessed April 2018)

Groundwater

The DNR Water-Table Elevation Map[17] indicates a water table elevation of approximately 900 to 1,000 feet above mean sea level for a majority of the project corridor. Some areas have water table elevations that reach up to 1,100 feet above mean sea level.

The project corridor falls within two Minnesota Ground Water Provinces, as determined from the DNR's Minnesota Ground Water Provinces Map (2001).[18] The Metro Province is located in the eastern portion of Wright County, while the Central Province is located in the western portion. The Metro and Central provinces are characterized by buried sand aquifers and relatively extensive surficial sand plains as part of a thick layer of unconsolidated sediments deposited by glaciers overlying the bedrock. The Metro Province is underlain by sedimentary bedrock that has good aquifer properties, but in Central Province the glacial sediments are thick, sand and gravel aquifers are common, and the deeper fractured bedrock is rarely used as an aquifer.

The project is located in the Mississippi Headwaters, within the Mississippi River-St. Cloud watershed. The Mississippi River runs nearly parallel to I-94 from Clearwater to Monticello.

Karst

A review of the DNR "Karst Feature Inventory Points" and "Regions Prone to Surface Karst Feature Development"[19] GIS mapping did not indicate any karst features near the project corridor. The Minnesota Geological Survey Geologic Atlas of Wright County (2013) Data-Base Map did not plot any karst features. While sedimentary rocks are located within the project corridor, almost all of them are sandstone.[19]

If karst features or sinkholes are encountered within the project corridor during construction, actions will be taken to mitigate potential effects such as soil stabilization, storm water routing, and groundwater protection practices.

5.10.2 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 soil limitations, such as steep slopes or 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 Section 5.11.2.2.

Topography

The topography of the project corridor is relatively flat. The elevation within the project corridor ranges from 910 to 1,020 feet above sea level.

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[17] Minnesota Department of Natural Resources, Water-Table Elevation Map (2016); available at https://www.dnr.state.mn.us/waters/programs/gw_section/mapping/platesum/mha_wt.html (accessed April 2018)

[18] Minnesota Department of Natural Resources, Groundwater Provinces Map; available at https://www.dnr.state.mn.us/groundwater/provinces/data.html (accessed April 2018)

[19] Minnesota Department of Natural Resources, Karts Features; available for download at the Minnesota Geospatial Commons at https://gisdata.mn.gov/ (accessed April 2018)

Soils

Table 11 lists soil types within the project corridor, based on the NRCS Soil Survey for Wright County, Minnesota. 42 different soils were noted within the project corridor. The table also includes information regarding slopes, erosion hazard rating, and drainage class for each map unit. Highlighted soils indicate a soil mapping unit was indicated as prime farmland, farmland of statewide importance or prime farmland if drained, as discussed in Land Use.

The NRCS Erosion Hazard Ratings indicate the hazard of soil loss from off-road areas after disturbance activities that expose soil surface. Within the project limits, the vast majority (approximately 85 percent) have a "slight" rating, meaning that erosion is unlikely under normal climatic conditions.

Table 11: Characteristics of Soils Within the Project Corridor[20] [13]

Map unit symbol	Map unit name	Percent Slopes	Erosion Hazard Rating	Drainage Class[21]	Percent of Study Area [22]
106C2	Lester loam, moderately eroded	6-10	Slight	Well drained	1.90%
106D2	Lester loam, moderately eroded	10-16	Slight	Well drained	0.20%
109	Cordova clay loam	0-2	Slight	Poorly drained	0.20%
114	Glencoe clay loam	0-1	Slight	Very poorly drained	2.30%
169C	Braham loamy fine sand	6-12	Slight	Well drained	0.10%
239	Le Sueur loam	1-3	Slight	Somewhat poorly drained	0.30%
258C	Sandberg loamy sand	2-12	Slight	Excessively drained	0.00%
260	Duelm loamy sand	0-2	Slight	Moderately well drained	0.80%
261	Isan-Isan, frequently ponded, complex	0-2	Slight	Poorly drained	0.50%
406	Dorset sandy loam	0-2	Slight	Somewhat excessively drained	11.80%
441	Almora loam	0-2	Slight	Well drained	0.00%
539	Klossner muck	0-1	Slight	Very poorly drained	1.00%
543	Markey muck, occasionally ponded	0-1	Slight	Very poorly drained	0.40%
708	Rushlake coarse sand	1-4	Slight	Moderately well drained	0.00%
740	Hamel-Glencoe complex	0-2	Slight	Poorly drained	0.30%
1015	Udipsamments (cut and fill land)	--	Not Rated	--	1.80%
1016	Udorthents, loamy (cut and fill land)	--	Not Rated	--	7.20%
1027	Udorthents, wet substratum (fill land)	--	Not Rated	--	3.10%
1030	Pits, gravel-Udipsamments complex	--	Not Rated	--	0.00%
1080	Klossner, Okoboji and Glencoe soils, ponded	0-1	Slight	Very poorly drained	0.50%

[20] National Resource Conservation Service, Web Soil Survey, available at https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx (accessed April 2018)
Highlights indicated prime farmland, farmland of statewide importance, and prime farmland if drained; as discussed in Section 5.9.1.1.
[21] National Resource Conservation Service, Web Soil Survey; Drainage Class, accessed April 4, 2018
[22] Approximate, based on I-94 right-of-way from TH 24 to western city limits of Albertville plus two permanent easement locations.

Map unit symbol	Map unit name	Percent Slopes	Erosion Hazard Rating	Drainage Class[21]	Percent of Study Area[22]
1087B	Angus-Malardi complex	2-6	Slight	Well drained	0.10%
1094B	Angus-Cordova complex	0-5	Slight	Well drained	6.40%
1156	Cordova loam	0-2	Slight	Poorly drained	3.50%
1203	Muskego, Blue Earth, and Houghton soils, ponded	0-1	Slight	Very poorly drained	0.40%
1288	Seelyeville and Markey soils, ponded	0-1	Slight	Very poorly drained	0.60%
1362B	Angus loam	2-6	Slight	Well drained	12.10%
1368	Southhaven loam	0-2	Slight	Well drained	0.00%
1377B	Dorset-Two Inlets complex	2-6	Slight	Well drained	14.50%
1377C	Dorset-Two Inlets complex	6-12	Slight	Well drained	1.20%
1377D	Dorset-Two Inlets complex	12-20	Moderate	Well drained	0.00%
1377E	Dorset-Two Inlets complex	20-35	Moderate	Well drained	0.20%
1379B	Dorset-Almora complex	1-4	Slight	Well drained	0.20%
1380A	Byglandsilt loam, map >25	0-2	Slight	Moderately well drained	0.00%
1381	Lindaas silt loam, morainic	0-2	Slight	Poorly drained	0.00%
1901B	Angus-Le Sueur complex	1-5	Slight	Well drained	4.80%
1942	Forada and Leafriver soils, frequently ponded	0-1	Slight	Very poorly drained	0.30%
1946	Fordum-Winterfield complex, frequently flooded	0-2	Slight	Very poorly drained	0.10%
D61A	Hubbard-Verndale, acid substratum, complex, Mississippi River Valley	0-3	Slight	Excessively drained	2.40%
D62A	Hubbard-Mosford complex, Mississippi River Valley	0-3	Slight	Excessively drained	13.70%
D67A	Hubbard loamy sand	0-2	Slight	Excessively drained	2.40%
D67B	Hubbard loamy sand	1-6	Slight	Excessively drained	2.30%
D67C	Hubbard loamy sand	2-12	Slight	Excessively drained	0.60%
W	Water	--	Not Rated	--	1.70%

Project Impacts

Approximately 325 acres will be graded. A Stormwater Pollution Prevention Plan (SWPPP) will be developed for the project. All areas disturbed during construction would be revegetated in accordance with the SWPPP and related permitting requirements. In areas of steep slopes, special consideration will be given to prevent erosion during construction, such as erosion control blankets and soil reinforcement. No impacts to soils or topography are anticipated once the project is complete.

5.11 Water Resources

5.11.1 Describe surface water and groundwater features on or near the site below.

5.11.1.1 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 one mile of the project. Include DNR Public Waters Inventory number(s), if any.

The project corridor and surrounding area contains an assortment of surface waters including wetlands, stormwater ponds, lakes, and streams.

Wetlands

Aquatic resources within the project right-of-way from TH 24 to the Albertville city limits, were delineated using Level 1[23] and Level 2[24] delineation methodology between the 2016 and 2018 growing seasons. The Level 2 delineation was conducted for a western part of the project (TH 24 in Clearwater to TH 25 in Monticello) in the fall of 2016, for a central part of the project (TH25 to the eastern extents of the MnROAD facility) in the summer of 2018, and an eastern portion of the project (MnROAD facility to Albertville) in the summer of 2017 and included all areas within MnDOT right-of-way. The median was delineated using Level 1 methodology. A total of 152 wetlands, 3 stormwater ponds, 9 tributaries, and 1 lake were identified within the project study area. See Figure 7 for delineated wetland boundaries.

Minnesota Department of Natural Resources Public Waters

Ten Minnesota Department of Natural Resources (DNR) Public Waters were identified within 500 feet of the project limits including four basins, two wetlands, two watercourses, and two ditches. These are listed in Table 12 and shown in Figure 7.

Table 12: Minnesota DNR Public Waters within 500 feet of Project Limits

DNR Public Water	Type	Number	Shoreland Overlay Ordinance
Fish Lake	Basin	86-183P	Recreational Development
Locke Lake	Basin	86-168P	General Development
School Lake	Basin	86-25P	Natural Environment
Hunters Lake	Basin	86-26P	Natural Environment
Unnamed	Wetland	86-418W	N/A
Unnamed	Wetland	86-354W	N/A
Clearwater River	Watercourse	N/A	N/A
Mississippi River	Watercourse	N/A	N/A
Silver Creek	Public Ditch	N/A	N/A
Otter Creek	Public Ditch	N/A	N/A

[23] Level 1 methodology consisted of a desktop analysis utilizing aerial photography, National Wetland Inventory mapping, soil data, and topography, among other data sources.

[24] Level 2 methodology is on-site method established in the 1987 Corps of Engineers Wetlands Delineation Manual (USACE, 1987) and the Midwest Regional Supplement (USACE, 2012).

Minnesota Pollution Control Agency 303d Impaired Waters List

The Minnesota Pollution Control Agency (MPCA) includes eight waters on the draft 2018 303d Impaired Waters[25] list that are within one mile of the project limits, listed in Table 13 and shown on Figure 7.

Table 13: MPCA 303d Impaired Waters within One Mile of Project Limits

Waterbody Name	Beneficial Use	Water Quality Impairment	TMDL Plan
Fish Lake (DNR # 86-183P)	Aquatic Recreation	Nutrient/eutrophication biological indicators	Nutrients
Locke Lake (DNR # 86-168P)	Aquatic Recreation	Nutrient/eutrophication biological indicators	Nutrients
School Lake (DNR # 86-25P)	Aquatic Recreation	Nutrient/eutrophication biological indicators	N/A
Hunters Lake (DNR #86-26P)	Aquatic Recreation	Nutrient/eutrophication biological indicators	N/A
Clearwater River – Clearwater Lake to Mississippi River	Aquatic Life	Dissolved oxygen Fishes bioassessments	Dissolved Oxygen
Mississippi River – Sauk River to Clearwater	Aquatic Consumption	Mercury in fish tissue	Mercury
Mississippi River – Clearwater River to Crow River	Aquatic Consumption Aquatic Recreation	Mercury in fish tissue	Mercury
Silver Creek – Locke Lake to Mississippi River	Aquatic Life Aquatic Recreation	Aquatic macroinvertebrate bioassessments Dissolved oxygen E. coli Fish bioassessments	E. coli

In addition to the listed impairments, Locke Lake and Fish Lake have also been designated as infested with aquatic invasive species by the DNR. Both lakes are infested with Eurasian water milfoil.

5.11.1.2 Groundwater – aquifers, springs, and seeps. Include 1) depth to groundwater; 2) if project is within a MDH well protection area; and 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.

Depth to Groundwater

The DNR Minnesota Hydrogeology Atlas[26] indicates a water table elevation of 920 to 1,020 feet above sea level in the vicinity of the project limits. Some areas have water table elevations that reach up to 1,100 feet above mean sea level.

[25] Minnesota Pollution Control Agency 2018 Proposed Impaired Waters List, available at https://www.pca.state.mn.us/water/minnesotas-impaired-waters-list (accessed April 2018)
[26] Minnesota Department of Natural Resources, Minnesota Hydrogeology Atlas; available at https://www.dnr.state.mn.us/waters/groundwater_section/mapping/status_mha.html (accessed April 2018)

Wellhead Protection Areas and Drinking Water Supply Management Areas

Two Minnesota Department of Health (MDH) Wellhead Protection Areas (WPA) and Drinking Water Supply Management Areas (DWSMA)[27] are located within the project limits. No proposed infiltration practices will be located within these WPA's.

- Clearwater WPA / Clearwater DWSMA
- Monticello North WPA / Monticello DWSMA

The Clearwater DWSMA indicated a high vulnerability and the Monticello DWSMA has an area of medium and an area of low vulnerability.

Wells

Twelve wells were identified on the MDH County Well Index (CWI)[28] within the project right-of-way from TH 24 to the CSAH 37, as listed in Table 14. Four of the wells are listed as active, and their use is indicated as monitoring wells. The four active wells are located near the western loop of the MnRoad facility. These active wells are unlikely to be affected because they are outside of the projects limits and dewatering is not anticipated to be required. The other eight wells are listed as sealed, four of which had uses indicated as piezometers and four of which had uses indicated as boring holes. The wells indicate groundwater depth from 5.6 feet to 64.0 feet.

Table 14: Wells Identified Within the Project Right-of-Way

Unique ID No.	Status	Use	Depth to Groundwater (feet)
577825	Sealed	Piezometer	30.4
577826	Sealed	Piezometer	17.7
577323	Active	Monitor Well	8.5
577322	Active	Monitor Well	11.5
577321	Active	Monitor Well	5.6
577314	Active	Monitor Well	5.6
377287	Sealed	Piezometer	18.1
377288	Sealed	Piezometer	37.0
331201	Sealed	Boring Hole	62.0
331202	Sealed	Boring Hole	64.0
331203	Sealed	Boring Hole	39.0
331204	Sealed	Boring Hole	39.0

Wells that are impacted must either be sealed by a licensed well contractor according to Minnesota Rules, Chapter 4725, or be relocated and coordinated with the MPCA and MDH.

[27] Minnesota Department of Health, Source Water Protection Web Mapping Application; available at http://www.mda.state.mn.us/protecting/waterprotection/waterprotectionmapping.aspx (accessed April 2018)
[28] Minnesota Department of Health, County Well Index, available at https://apps.health.state.mn.us/cwi/ (accessed April 2018)

5.11.2 Describe effects from project activities on water resources and measures to minimize or mitigate the effects below.

5.11.2.1 Wastewater – For each of the following, describe the sources, quantities, and composition of all sanitary, municipal/domestic, and industrial wastewaters projected or treated at the site.

a. If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.

Not applicable.

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

Not applicable.

c. If the wastewater discharge is to surface water, identify the wastewater treatment methods, discharge points, and proposed effluent limitations to mitigation impacts. Discuss any effects to surface or groundwater from wastewater discharges.

Not applicable.

5.11.2.2 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.

Existing Conditions

Existing drainage within Segments 1, 2, and 4 primarily flows from the roadway into vegetated center median ditches and to the outside roadway ditches. Culverts connect the median areas to outside ditches which convey runoff to downstream waters. Segment 3 was recently reconstructed as an urban highway section where runoff is either conveyed toward stormwater infrastructure in the center median (i.e. pipes, catch basins, etc.) or to the roadside ditches along the outside of the roadway. There are a number of offsite ditches, wetlands, and other areas adjacent to I-94 that flow through the MnDOT right-of-way. No stormwater management areas currently exist within the project corridor, except for a few located in interchange areas in Segment 3.

Proposed Stormwater Design

The preliminary drainage plan for the project is summarized below; details of the plan are described in detail in the *I-94 Reconstruction from Clearwater to Albertville Preliminary Drainage Report*, available for review from the MnDOT project manager.

The project would result in approximately 107 acres of increased impervious surface area primarily due to the additional lane of travel in each direction and increased shoulder widths. Segments 2 and 4 of the corridor would be reconstructed as an urban highway with stormwater infrastructure replacing the conveyance function in the center median ditch and culvert system. The system will include a series of storm sewer pipes that collect drainage from inlets in the median and convey it to vegetated ditches

and/or stormwater management areas to the outside of the new road alignment. Segment 1 of the corridor would maintain the existing drainage network but extend culverts where widening is to occur.

Due to the extent of disturbance and amount of impervious surface increase, a National Pollutant Discharge Elimination Permit (NPDES) will be required for the project. The project proposes nine stormwater management areas that will be designed to meet NPDES permit criteria. Five of these areas are currently planned as infiltration practices based on data available during this preliminary stage of design. All infiltration practices will include pretreatment basins consistent with NPDES permitting requirements. These stormwater management areas are shown in Figure 7.

All existing culverts in segments 2 and 4 would need to be removed and replaced with new reinforced concrete storm sewer pipes located in the same general locations as existing culverts. The existing drainage routing would be maintained to the extent possible. Existing stream crossings at Silver Creek and Otter Creek are not anticipated to be reconstructed for this project; however, the stream crossing at Fish Creek will require reconstruction.

Receiving Waters

The ultimate receiving water for the project is the Mississippi River. Other receiving waters upstream of the Mississippi River and that may receive some runoff form the project corridor include the Clearwater River, Rice Lake, Silver Creek, Otter Creek, Otsego Creek, School Lake, and Hunters Lake which all flow into the Mississippi. The Mississippi River, Clearwater River, Silver Creek, School Lake, and Hunters Lake are listed as impaired. The project, as required by the NPDES permit, will be required to follow TMDL specific implementation activities regarding construction stormwater; thus, the project is not anticipated to further contribute to these impairments.

Stormwater Pollution Prevention Plan

As part of the NPDES permit, a Stormwater Pollution Prevention Plan (SWPPP) will be developed for the project. The SWPPP will require erosion control BMPs to be implemented by the contractor during all phases of construction.

5.11.2.3 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.

At this stage of preliminary design, water appropriation is not anticipated; however, if dewatering is required, dewatering BMPs will be identified in the SWPPP, and a project dewatering plan will be attached to the construction documents. Any locations that are determined to require dewatering by the contractor would follow the dewatering plan. If dewatering rates during construction exceed 10,000 gallons per day or a million gallons per year, a DNR water appropriation permit would be obtained by the contractor for these temporary activities.

5.11.2.4 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.

Over 50 acres of aquatic resources were identified within the I-94 right-of-way from TH 24 to the western city limits of Albertville. Based on preliminary construction limits and the wetland boundaries identified for the project, 2.19 acres of permanent wetland impact and 0.10 acres of temporary wetland impact are anticipated. In addition, 0.07 acres of permanent tributary impact and 292 square feet of temporary tributary impact are anticipated. All temporary impacts are due to culvert replacements within wetland areas which would be restored to preconstruction elevations and the same wetland plant community type within 90 days of original disturbance. All permanent impacts included fill from roadway reconstruction or grading resulting from drainage improvements (i.e. culvert reconstruction, stormwater pond construction). Of the permanent wetland impact total, 1.10 acres of impact are to wetlands confined to roadside ditches (referred to as "wet ditches"), 0.62 acres of which are within the median area of I-94. Permanent aquatic resource impact totals are listed in Table 15 and shown on Figure 7. Permanent impacts by plant community are included in Table 16. It is anticipated that wetland avoidance and impact minimization measures will continue to be evaluated as preliminary design advances, which may further reduce impact totals.

Impacts to aquatic resources are regulated by the Minnesota Wetland Conservation Act (WCA) and by the USACE under Section 404 of the Clean Water Act (CWA); permits are required for wetland impacts from both agencies. It is anticipated that wetlands will be replaced at a 2:1 ratio within Bank Service Area 7 (BSA 7). Wet ditches typically would not require mitigation provided that the ditch is replaced and there is no loss of function. The project would maintain ditches along the outside of the proposed toe of slope. Specific credit purchase amounts will be determined through coordination with the USACE and the MnDOT Office of Environmental Stewardship. A Wetland 2-Part Finding Assessment is included in Appendix G, which outlines the alternatives evaluation for wetland avoidance and minimization.

Table 15: Aquatic Resource Impacts by Type and Anticipated Mitigation Requirements

Aquatic Resource Type	Permanent Impact (acres)	Anticipated Compensatory Mitigation Requirements
Wetland	1.09	Minimum 2:1 replacement
Wet Ditch - Median	0.62	Assumed none
Wet Ditch - Outside	0.48	1:1 replacement on site
Tributary	0.07	Mitigation to be determined
TOTAL	2.26	-

Table 16: Wetland Impacts by Community Type (excludes Wet Ditches and Tributaries)

Wetland Type Classification (Circular 39)	Wetland Type Classification (Eggers and Reed)	Anticipated Wetland Impacts
Type 1	Seasonally Flooded Basin	0
Type 2	Fresh (Wet) Meadow	0.56
Type 3	Shallow Marsh	0.53
	Total	1.09

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.

The project is avoiding impacts to DNR Public Waters. Although Fish Creek is not a DNR Public watercourse, the culvert acts as a control structure for nearby Fish Lake (PWI #86-183P). The reconstruction of the culvert will be coordinated with the DNR to avoid impacts to Fish Lake.

5.12 Contamination/Hazardous Materials/Wastes

5.12.1 Pre-project Site Conditions – Describe existing contamination or potential environmental hazards on or in close proximity to the project site, such as soil or groundwater 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 predominantly rural, minimally developed project area (see correspondence in Appendix A). The databases searched included: leaking underground storage tank (LUST) 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 is one inactive LUST facility within 500 feet of the project area.

Given the nature and location of the project area, this project has a low risk of impacting potentially contaminated sites. Currently, the proposed project will require acquisition of 2.77 acres of right-of-way in the two locations identified for stormwater management. Project excavation and grading will be relatively minor for resurfacing work. More extensive excavation work is associated with culvert replacement; however, since the culvert replacement work is primarily in rural, more undeveloped

portions of this project, this decreases the chances of encountering contaminants that may have originated from an off-site source and migrated into the right-of-way. During final design, a Phase 2 investigation will be completed, as necessary, at the stormwater treatment area locations.

Based on the MnDOT CMMT's review of the Early Notification Memo and subsequent additional evaluations noted above and MnDOT's commitment to implementation of any necessary management of contaminated materials during construction, the project will not have a high risk of causing direct or indirect impacts to human health or sensitive environmental resources due to encountering contaminated materials. 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.

5.12.2 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.

Per correspondence with MnDOT's Regulated Materials Environmental Investigations Unit (see Appendix A), a regulated materials survey will need to be completed by MnDOT for any bridges within the project area determined to be rehabilitated in any way (i.e. replacement of top guardrail, repaint, deck replacement, etc.). The correspondence also suggested any culverts impacted within the project area with the potential to be Asbestos Bonded (AB) will need to be investigated further by MnDOT. The project, as currently proposed, includes widening bridges 86813 and 86814. Coordination with the Regulated Materials Unit will continue.

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 corridor will become the property of the contractor and will be disposed of properly in a permitted, licensed solid waste facility, in accordance with state and federal requirements 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. Specifically, treated wood must be disposed of at a MPCA permitted mixed municipal solid waste landfill or MPCA permitted industrial landfill, which will require documentation of the received material.[29]

If a spill of hazardous or toxic substances should occur during or after construction of the proposed project, it is a responsibility of the transport company to notify the Minnesota Department of Public Safety, Division of Emergency Services, to arrange for corrective action. Any contaminated spills or leaks that occur during construction are the responsibility of the contractor, who will notify and work with the

[29] MnDOT Standard SPEC for Construction, 2104 (2018); available at http://www.dot.state.mn.us/pre-letting/spec/ (accessed April 2018)

MPCA to contain and remediate contaminated soil/materials in accordance with state and federal standards.

5.12.3 Project Related Use/Storage of Regulated Materials – Describe chemicals/regulated 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 spills or releases of regulated 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 regulated 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. In addition, a Spill Protection Plan will be developed, which describes planning, prevention and control measures to minimize impacts resulting from spills of fuels, petroleum products, or other regulated substances as a result of construction.

5.12.4 Project Related Generation/Storage of Regulated Wastes – Describe regulated wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from regulated waste handling, storage, and disposal. Identify measures to avoid, minimize, or mitigate adverse effects from the generation/storage of regulated wastes 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.

5.13 Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources (Rare Features)

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

This project will take place almost entirely within I-94 right-of-way. Habitats include mostly manicured and unmanicured grasslands, with some spread out woodland. In general, wildlife species found within the vicinity of the project limits are those species generally adapted to live in areas of mixed development and fragmented rural habitats.

Vegetation and Terrestrial Habitat

The woody vegetation in and around the proposed project consists of mostly naturally occurring native and non-native trees and shrubs, both coniferous and deciduous, with scattered areas within the project that contain planted landscape vegetation of varying types. The majority of woody vegetation is located primarily near the edge of right-of-way or off right-of-way on private properties. The herbaceous

vegetation consists of both native and non- native vegetation, with varying degrees of mowing and maintenance depending on the location. See correspondence with the MnDOT OES Horticulturalist in Appendix A.

This segment of I-94 runs adjacent to the Mississippi River just north of the Monticello city limits, anywhere from approximately 350 feet to 1,500 feet for approximately two miles. This area includes natural communities that are considered a Minnesota Site of Biodiversity Significance.

Surface Waters and Aquatic Habitat

There are several lakes within the vicinity of the project limits (see Table 12); however, they are all located outside the existing I-94 right-of-way with the exception of a very small portion of Locke Lake. Several tributaries cross the project corridor, including Fish Creek, Silver Creek, and Otter Creek. Fish are likely present in any one or all of these lakes or streams.

5.13.2 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 results.

National Heritage Information System

This project is being coordinated with the MnDOT liaison with the DNR who performs National Heritage Information System (NHIS) reviews for MnDOT projects; therefore, no LA or ERDB number has been assigned. Correspondence with the DNR is included in Appendix A. The only listing identified in this review was the Site of Biodiversity Significance adjacent to the Mississippi River just north of Monticello. This site is ranked as 'high' quality, with Pin Oak – Bur Oak Woodland composition. 'High' sites contain very good quality occurrences of the rarest species, high-quality examples of rare native plant communities, and/or important functional landscapes. The site location ranges from directly adjacent to 100 feet from MnDOT right-of-way along the eastbound travel lanes, and 100 to 300 feet from MnDOT right-of-way along the westbound travel lanes.

Federal Species

The project is being coordinated with the MnDOT liaison for the US Fish and Wildlife Service who performs species reviews for species listed on the County Distribution of Federally-Listed Threatened, Endangered, Proposed, and Candidate Species. According to the review, the project is located within the range of the northern long-eared bat *(Myotis septentrionalis)* and the rusty patched bumble bee (*Bombus affinis*). See correspondence in Appendix A.

The northern long-eared bat, federally listed as threatened and state-listed as special concern, can be found throughout Minnesota. During the winter this species hibernates in caves and mines, and during the active season (approximately April-October) it roosts underneath bark, in cavities, or in crevices of both live and dead trees. Pup rearing is during June and July.

Rusty-patched bumble bees prefer grasslands with flowering plants, underground and abandoned rodent cavities or clumps of grasses above ground as nesting sites, and undisturbed soil for hibernating queens to overwinter. They are generally active from mid-March through mid-October. According to information provided by USFWS, the project limits are partially located within the low potential zone for

the species; however, no documented occurrences for this species exist within the right-of-way and suitable habitat is not anticipated to be impacted by this project.

5.13.3 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.

Due to the majority of the project being located within existing right-of-way and the majority of construction taking place within the existing median, the potential for the project to affect nearby habitats and species are low.

Habitats

Based on the work being proposed, there are not likely to be any impacts to rare species, rare native plant communities, or notable trees or other valued woody vegetation from this project. The Minnesota Site of Biodiversity Significance north of Monticello is located outside of the project limits for this project and is not anticipated to be impacted.

Other than the reconstruction of Fish Creek, the project limits exclude all lakes and streams that may harbor fish populations. The reconstruction of Fish Creek will be coordinated with the DNR to avoid potential impacts to fish passage; thus, no impacts to fisheries are anticipated with this project.

Rare Species

The project involves some tree removal, approximately 2 acres. Depending on the timing, tree removal can have an effect on the potential habitat of the northern long-eared bat.

Invasive Species and Noxious Weeds

The project is not anticipated to involve any in-water work within infested waters, so further spread of invasive Eurasian water milfoil within Locke Lake and Fish Lake is not anticipated.

While there are no known specific locations of noxious weeds within the project limits, it is likely they are present. The contractor would be expected to follow guidelines outlined by the MnDOT Horticulturalist as outlined in correspondence included in Appendix A.

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

Although no impacts to wildlife or habitat are anticipated, MnDOT is committed to adopting construction techniques that avoid, minimize, or mitigate any potential adverse effect to these resources. The following discussion summarizes these techniques; however, more information can be found in the correspondences with the MnDOT DNR liaison, MnDOT Horticulturalist, and MnDOT liaison for the US Fish and Wildlife Service found in Appendix A.

Habitats

The Minnesota Site of Biodiversity Significance north of Monticello will be identified on construction plans as an Area of Environmental Sensitivity. Currently, a stormwater pond is shown within or adjacent to this area. MnDOT will coordinate the location of this pond with the DNR during final design with the intent to relocate the proposed pond to avoid high quality habitat and plant communities to the extent possible.

As part of the NPDES permit, any work within 200 feet of and drain to public waters must have erosion prevention stabilization activities initiated immediately after soil disturbing activity has ceased and must be completed within 24 hours.

The reconstruction of Fish Creek will be coordinated with the DNR to avoid impacts to potential fish passage. Some mitigation measures, among others, may include excluding work during fish spawning, from March 15 to June 15, and ensuring clean equipment before work is conducted.

Rare Species

To avoid impacts to the northern long-eared bat, MnDOT is committing to the recommended tree removal guidelines set forth by the USFWS, available in correspondence in Appendix A.

5.14 Historic Properties

5.14.1 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 Cultural Resources Unit (CRU) staff for potential impacts to historic resources. MnDOT CRU determined that there would be no historic properties affected by the proposed project (see correspondence in Appendix A).

5.15 Visual

5.15.1 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.

No significant impact to the visual resources of the natural, cultural, and project environments is anticipated. No significant impact to the ability of the affected population to view visual resources is anticipated. Visual quality will, therefore, not be altered by the proposed project. The proposed project will have no significant adverse impacts to visual quality nor will it create any opportunities to enhance visual quality in the project area.

Noise barriers may be constructed as part of the project (see Noise section for a description of proposed noise barriers and the voting process) which would block the view of the highway from the residential properties near the barrier. The barriers would also block the views of the residential properties from I-94. The proposed barriers would be made of painted wooden planks and concrete posts.

5.16 Air

5.16.1 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 to 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.

5.16.2 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.

Motorized vehicles affect air quality by emitting airborne pollutants. Changes in traffic volumes, travel patterns, and roadway locations affect air quality by changing the number of vehicles in an area and the congestion levels. The air quality impacts from the project are analyzed by addressing criteria pollutants, a group of common air pollutants regulated by the Environmental Protection Agency (EPA) on the basis of criteria (information on health and/or environmental effects of pollution). The criteria pollutants identified by the EPA are ozone, particulate matter, carbon monoxide, nitrogen dioxide, lead, and sulfur dioxide. Potential impacts resulting from these pollutants are assessed by comparing projected concentrations to National Ambient Air Quality Standards (NAAQS).

In addition to the criteria air pollutants, the EPA also regulates a category of pollutants known as mobile source air toxics (MSATs), which are generated by emissions from mobile sources. The Federal Highway Administration (FHWA) provides guidance for the assessment of MSAT effects for transportation projects in the National Environmental Policy Act (NEPA) process. A qualitative evaluation of MSATs has been performed for this project, as documented below. The scope and methods of the analysis performed were developed in collaboration with the Minnesota Department of Transportation (MnDOT), the Minnesota Pollution Control Agency (MPCA), and the Federal Highway Administration (FHWA).

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.

Conformity

The project area is designated by EPA as in attainment (or complying) with the NAAQS for all air pollutants. While the project area is in attainment with the CO NAAQS, part of 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.

The EPA issued final rules on transportation conformity (40 CFR 93, Subpart A) that describe the methods required to demonstrate SIP compliance for transportation projects. It requires that transportation projects that meet the criteria to be classified as regionally significant be included in a regional emissions analysis and are approved as part of a conforming Long Range Transportation Policy

Plan (LRTPP) and four-year Transportation Improvement Program (TIP). This project is currently not in the TIP but will be added once funding becomes available.

CO evaluation is performed by evaluating the worst-operating (hot spot) intersections in the project area. The EPA has approved a screening method to determine which intersections need hot-spot analysis. The hot-spot screening method uses a traffic volume threshold of 82,300 entering vehicles per day. The proposed project does not affect any intersections within the project area. Therefore, no hot-spot analysis or screening procedure was needed nor completed.

Improvements in vehicle technology and in motor fuel regulations continue to result in reductions in vehicle emission rates. The EPA MOVES 2010b emissions model estimates that emission rates will continue to decline from existing rates through year 2040. Consequently, year 2040 vehicle-related CO concentrations in the project area are likely to be lower than existing concentrations even considering the increase in development-related and background traffic.

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 for project emissions over the maintenance period and that "an emission budget may be treated as essentially non-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."[30] Therefore, no regional modeling analysis for the LRTPP 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.

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).[31] 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).[32] These are acrolein, benzene, 1,3-butidiene, 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 MSAT emissions through cleaner fuels and cleaner engines.

[30] US Environmental Protection Agency, Limited Maintenance Plan Option for Nonclassifiable CO Nonattainment Areas (October 6, 1995)
[31] US Environmental Protection Agency, Limited Risk Information System; available at http://www.epa.gov/iris/ (accessed April 2018)
[32] US Environmental Protection Agency, Technical Air Pollution Resources; available at http://www.epa.gov/ttn/atw/nata1999/ (accessed April 2018)

MSAT Analysis

A qualitative analysis provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by FHWA entitled "*A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives*."[33]

FHWA developed a tiered approach with three categories for analyzing MSAT in NEPA documents, depending on specific project circumstances:

1. No analysis for projects without potential for meaningful MSAT effects;
2. Qualitative analysis for projects with low potential for MSAT effects; or
3. Quantitative analysis to differentiate alternatives for projects with higher potential for MSAT effects

According to FHWA guidance for MSAT analysis, in order for a project to fall into category three (quantitative MSAT analysis), the project should:

1. Create new capacity or add significant capacity to urban highways (such as interstates, urban arterials, or urban collector-distributor routes) and have traffic volumes where the annual average daily traffic (AADT) is projected to range from 140,000 to 150,000 or greater by the design year; and
2. Be located in proximity of populated areas

The proposed project is in the proximity of the cities of Albertville, Monticello and Clearwater, but the projected AADTs are well below 140,000 in the affected freeway segments. This project meets the criteria for the second category; therefore, a qualitative assessment of MSAT emissions has been conducted. The MSAT compounds evaluated in this analysis include:

- Acrolein
- Benzene
- 1,3-Butadiene
- Diesel Particulate Matter (Diesel PM)
- Formaldehyde
- Naphthalene
- Polycyclic Organic Matter (POM)

Regardless of the alternative chosen, 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 over 90 percent between 2010 and 2050. Better fuel efficiency, improvements in vehicle technology, and strict regulation dramatically decrease the total MSAT emissions, even with increased vehicle activities.

The Project area is currently meeting all NAAQS for the criteria air pollutants. For the foreseeable future the trend of lower per vehicle emissions is expected to at least offset growth in vehicle volumes.

[33] Federal Highway Administration, Recent Examinations of Mobile Source Air Toxics; available at https://www.fhwa.dot.gov/environment/air_quality/air_toxics/research_and_analysis/mobile_source_air_toxics/msatemissions.cfm

Therefore, the project area is expected to continue meeting NAAQS, without or with implementation of the proposed project. Based on the proposed build volumes, which forecast range between 55,500 to 80,000 vpd, the project does not exceed the FHWA recommended upper threshold of 150,000 vpd in which FHWA recommends a quantitative MSAT analysis; therefore, the project is not expected to adversely affect air quality.

Incomplete or Unavailable Information

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in mobile source air toxic (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 Environmental Protection Agency (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 Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects."[34] 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). A number of HEI studies are summarized in Appendix D of FHWA's Updated Interim Guidance 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[35] or in the future as vehicle emissions substantially decrease.

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.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

[34] Environmental Protection Agency, Integrated Risk Information System; available at: https://www.epa.gov/iris
[35] Health Effects Institute, Special Report 16 – Mobile-Source Air Toxics; available at: https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects

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 (Special Report 16). 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 states that with respect to diesel engine exhaust, "[t]he absence of adequate data to develop a sufficiently confident dose-response relationship from the epidemiologic studies has prevented the estimation of inhalation carcinogenic risk (EPA IRIS database, Diesel Engine Exhaust, Section II.C."[36]

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 an "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 deemed acceptable.[37]

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.

5.16.3 Dust and Odors – Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under Item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

Dust generated during construction will be minimized through standard dust control measures such as applying water to exposed soils and limiting the extent and duration of exposed soil conditions. Construction contractors will be required to control dust and other airborne particulates in accordance with MnDOT specifications in place at the time of project construction. After construction is complete, dust levels are anticipated to be minimal because all soil surfaces exposed during construction would be in permanent cover (i.e., paved or re-vegetated).

[36] Environmental Protection Agency, Diesel Engine Exhaust; available at: https://cfpub.epa.gov/ncea/iris/iris_documents/documents/subst/0642.htm#quainhal

[37] US Court of Appeals, No. 07-1053; available at https://www.cadc.uscourts.gov/internet/opinions.nsf/284E23FFE079CD59852578000050C9DA/$file/07-1053-1120274.pdf

5.17 Noise

5.17.1 Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area; 2) nearby sensitive receptors; 3) conformance to state noise standards; and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

The following answers the EAW question in relation to highway projects and summarizes the findings in the *I-94 Corridor Preliminary Design Traffic Noise Analysis Report*. Summary tables and maps showing noise receptor locations are provided in Appendix F.

Construction Noise

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

Table 17 shows peak noise levels monitored at 50 feet from various types of construction equipment. This equipment is primarily associated with site grading/site preparation, which is generally the roadway construction phase associated with the greatest noise levels.

Table 17: Typical Construction Equipment Noise Levels at 50 Feet[38]

Equipment Type	Manufacturers Sampled	Total Number of Models in Sample	Peak Noise Level (dBA)	Equipment Type
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

Elevated noise levels are, to a degree, unavoidable for this type of project. MnDOT will require that construction equipment be properly muffled and in proper working order. While MnDOT and its contractor(s) are exempt from local noise ordinances, it is the practice to require contractor(s) to comply with applicable local noise restrictions and ordinances to the extent that is reasonable. Advanced notice will be provided to affected communities of any planned abnormally loud construction activities. It is anticipated that night construction may be required to expedite construction, minimize traffic impacts, and improve safety. However, construction will be limited to daytime hours as much as possible.

Any associated high-impact equipment noise, such as pile driving, pavement sawing, or jack hammering, will be unavoidable with construction of the proposed project. Pile driving noise is typically associated with bridge construction and not expected to be necessary for this project. High-impact noise construction activities will be limited in duration to the greatest extent possible. The use of pile drives, jack hammers, and pavement sawing equipment will be prohibited during nighttime hours.

[38] Environmental Protection Agency (EPA) and FHWA.

Traffic Noise Analysis

The project includes the addition of through traffic lanes. As such, this project is considered a federal Type I project[39] requiring a traffic noise analysis. The following is a summary of the *I-94 Corridor Preliminary Design Traffic Noise Analysis Report (Noise Report)* and *Addendum to the Traffic Noise Analysis Report (Noise Report Addendum)*. Summary tables and maps showing receptor locations are included in Appendix F. This report includes background information on noise, information regarding federal traffic noise regulations and 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.

Federal Requirements

The FHWA's traffic noise regulation is located in 23 Code of Federal Regulations (CFR) Part 772 (Procedures for Abatement of Highway Traffic Noise and Construction Noise). 23 CFR 772 requires the identification of highway traffic noise impacts and the evaluation of noise abatement measures, along with other considerations, in conjunction with the planning and design of a federal-aid highway project (i.e., projects funded or approved through the FHWA).

Under federal rules, traffic noise impacts are determined based on land use activities and predicted loudest hourly Leq[40] noise levels under future conditions. For example, for residential land uses (Activity Category B), the Federal Noise Abatement Criterion (NAC) is 67 dBA (Leq). We use the term receptor to refer to land uses that receive traffic noise. 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 traffic receivers 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.

State Requirements

The Minnesota state noise standards are located in Minnesota Rules Chapter 7030. The MPCA is the state agency responsible for enforcing state noise rules. In 2016, the Commissioners of the MPCA and MnDOT agreed that the traffic noise regulations and mitigation requirements from the FHWA are sufficient to determine reasonable mitigation measures for highway noise. By this agreement, existing and newly constructed segments of highway projects under MnDOT's jurisdiction are statutorily exempt from Minnesota State Noise Standard (MN Rule 7030) if the project applies the FHWA traffic noise requirements. As a result, any required noise analysis will follow FHWA criteria and regulations only, as has been completed for this project. This project is not required to address Minnesota Rule 7030.

Methodology

Field measurements of existing noise levels were measured at 7 locations along the I-94 project corridor. These 7 locations were identified because they are representative of the surrounding area and the

[39] Federal Highway Administration, 23 CFR 772.5 and Type I Projects; more information available at https://www.fhwa.dot.gov/Environment/noise/regulations_and_guidance/analysis_and_abatement_guidance/polguide02.cfm

[40] Measured traffic noise levels are characterized as a function of time. The equivalent steady-state sound level which in a stated period contains the same acoustic energy as the time-varying sound level during the same period, with Leq(h) being the hourly value of Leq. In effect, it's analogous to the "average" sound level over a given period.

typical cross section for that section of highway. Field measurements were tested against model results. Noise levels from the field measurements were within 3 dBA (L_{eq}) of modeled noise levels, validating the model.

Traffic noise modeling was completed using the FHWA approved Traffic Noise Model 2.5 (TNM 2.5). Traffic noise levels were modeled for existing conditions (2017), the future (2040) No Build Alternative, and the future (2040) Build Alternative. The 4:00 P.M to 5:00 PM period of a typical Friday afternoon[41] was identified as the loudest hour between Clearwater and CSAH 19 in Albertville and the 12:00 P.M. to 1:00 P.M. period of a typical weekday was identified as the loudest hour west of CSAH 19. Traffic noise levels were modeled at 1088 receptor locations representing residential, commercial, and industrial land uses along the I-94 project corridor. Additional details regarding the noise modeling methodology are described in the *I-94 Corridor Preliminary Design Traffic Noise Analysis Report and Addendum to the Traffic Noise Analysis Report*.

Findings

Detailed analysis results for each modeled receptor location can be found in the *I-94 Corridor Preliminary Design Traffic Noise Analysis Report* and Noise Report Addendum. in Appendix F. The analysis results are summarized below.

- The existing L_{eq} noise levels at modeled receptors varied between 42.0 dBA and 84.1 dBA
- Future 2040 No Build daytime L_{eq} noise levels were predicted to range between 42.9 dBA and 82.3 dBA.
- Future 2040 Build daytime L_{eq} noise levels were predicted to range between 44.3 dBA and 84.0 dBA, approaching or exceeding federal noise abatement criteria at 378 receptors.

The analysis shows that under future No Build Alternative conditions, traffic noise levels are projected to increase by 0.7 dBA to 2.9 dBA (L_{eq}) compared to existing conditions for most modeled receptors. Modeled traffic noise levels under the future Build Alternative are projected to vary by -2.4 dBA to 6.0 dBA (L_{eq}) compared to existing conditions.

Potential Noise Abatement

Noise abatement measures (i.e., noise walls) were evaluated along the I-94 project corridor at receptor locations where modeled noise levels were projected to approach or exceed Federal NAC, or result in a substantial increase (i.e., increase by 5 dBA or greater from existing to future Build Alternative conditions).

The noise wall analysis was completed for 100 potential wall variations along the corridor. Of the 100 wall options analyzed, three walls met the feasibility and reasonableness criteria and are proposed as part of the project (Walls I1, O1 and S1). One existing noise wall will remain in-place and unchanged with the project. A summary description of the proposed noise walls is provided below. Locations of proposed noise walls are shown on Figure 7 and receptors and analyzed walls in Appendix F. Additional details of the noise wall analysis are available in the Noise Report and Noise Report Addendum.

- Wall I1: Wall I1 would be located on the southern side of I-94 between Fenning Avenue and CSAH 75 in Monticello. The wall is proposed with a height of 20 feet and a length of 1,990 feet. There would be a total of 23 benefitted receptors, and the preliminary cost per benefitted receptor is $61,069 (see Appendix F).

[41] "Typical" Friday afternoon represents a non-holiday weekend.

- Wall O1: Wall O1 would be located on the northern side of I-94 between the CSAH 75 and Haug Avenue NE in Monticello. The wall is proposed with a height of 20 feet and a length of 5,655 feet. There would be a total of 66 benefitted receptors, and the preliminary cost per benefitted receptor is $61,263 (see Appendix F).
- Wall S1: Wall S1 would be located on the northern side of I-94, approximately 1,100 feet west of Spruce Drive and approximately 380 feet east of Marvin Elwood Road in Monticello. The wall is proposed with a height of 20 feet and a length of 4050 feet. There would be a total of 70 benefitted receptors, and the preliminary cost per benefitted receptor is $41,254 (see Appendix F).

The traffic noise analysis for the three proposed noise walls is based upon preliminary design studies completed at the time the noise analysis was performed. Final noise mitigation decisions will be subject to final design considerations and the viewpoint of benefited residents and property owners. If conditions substantially change by the time the project reaches the final design stage, noise abatement measures may not be provided.

If that occurs, receptors that would have received benefits from noise walls, and local officials will be notified of plans to eliminate or substantially modify a noise abatement measure prior to the final design process. This notification will explain any changes in site conditions, additional site information, any design changes implemented during the final design process, and noise wall feasibility and reasonableness. When the project's final design and public involvement process have been completed, MnDOT will make the final decision regarding noise wall installation.

5.18 Transportation

5.18.1 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) source of trip generation rates used in the estimates; and 5) availability of transit and/or other alternative transportation modes.

Existing and Proposed Additional Parking Spaces

This project will not have an effect on any existing or proposed parking within the project vicinity.

Estimated Total Average Daily Traffic Generated

The 2018 traffic study completed for this project identified the Average Annual Daily Traffic (AADT) ranges from 41,500 vpd west of TH 24 in Clearwater to 65,800 vpd west of CSAH 19 in Albertville. Additionally, I-94 is a heavy freight corridor, with freight vehicles representing nearly 10 to 15 percent of total traffic (approximately 5,000 to 11,000 vpd). I-94 serves as a primary thoroughfare for recreational traffic for travelers from the Twin Cities to greater Minnesota. Weekend traffic (Friday WB and Sunday afternoon EB) during peak recreational season (Memorial Day through Labor Day) can increase traffic by 15% to 20%.

The study corridor is anticipated to experience growth averaging 1.2 to 1.3 percent along the I-94 corridor. Based on the anticipated growth, the Design Year (2040) ADT is anticipated range from 55,500 vpd west of TH 24 in Clearwater to 80,000 vpd west of CSAH 19 in Albertville. Recreational volumes are anticipated to increase at a similar rate.

Estimated Maximum Peak Hour Traffic Generated and Time of Occurrence

The traffic study incorporated 2016 volumes for weekday a.m. peak, 6:30 a.m. for I-94 EB, and p.m. peak, 3:45 p.m. for I-94 WB, as well as recreational peaks, the Friday before Labor Day (5:15 p.m.) and Labor Day (11:45 a.m.). Specific volumes and a relation to percentage of total traffic volume can be found in Appendix C.

Source of Trip Generation Rates Used in the Estimates

It was determined through the traffic study, using StreetLight data from 2017, that only 5% of traffic had an origin and destination within the project corridor, with heavy trucks making up 15% of the total traffic.

Availability of Transit and/or Other Alternative Transportation Modes

This project will have no impact on transit or other transportation modes.

Traffic Impacts During Construction

The project would be constructed in a way that allows for two travel lanes to remain open in both the westbound and eastbound direction of I-94 to the extent possible, and any single lane restriction would be limited to the shortest period feasible; therefore, minor construction related impacts are expected to result from this project. A Traffic Management Plan (TMP) is being developed for the project and will be finalized during final engineering design.

5.18.2 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.

In order to assess existing and future traffic mobility, MnDOT completed a traffic study in which operations were evaluated for no-build, build, and construction conditions. The study incorporated 2016 volumes for weekday a.m. and p.m. peaks as well as recreational peaks, the Friday before Labor Day (p.m.) and Labor Day (a.m.). The conclusion of the study suggests the freeway segments within the study area all currently operate acceptably under all four scenarios (weekday a.m., weekday p.m., westbound I-94 recreational peak and eastbound I-94 recreational peak); however, substantial operational issues are encountered when travel is restricted to a single lane in either direction, primarily on the eastern end of the corridor (See Table 3).

MnDOT also looked at traffic impact to local streets if any closures were to happen on I-94. The results indicate queues of greater than 10 miles in length on eastbound I-94 during the Monday recreational peak and queues of greater than 20 miles on westbound I-94 during the Friday Recreational peak if zero traffic diverts. Results of this analysis are shown in Table 4. Due to the high queuing and potential impact that diverted traffic would have on local streets, MnDOT is committing to keeping two lanes of traffic open on I-94 during construction to the extent possible; therefore, minimal impacts to local streets are anticipated.

5.18.3 Identify measures that will be taken to minimize or mitigate project related transportation effects.

The purpose of the proposed project is to improve mobility through the corridor during all travel periods and will allow two lanes of traffic in each travel direction during construction; as a result, mitigation is not needed.

5.19 Cumulative Potential Effects

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

Cumulative effects result from the incremental impact of the proposed project when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. The geographic area considered for cumulative potential effects is the area proximate to the construction limits. Projects being considered for cumulative effects are either scheduled for construction between 2018 and 2022 or programmed in local, regional, or state plans. Project related environmental effects that could combine with environmental effects and geographic extent of other projects are summarized in Table 18.

Table 18: Project Related Environmental Effects and Geographic Extent

Document Section	Topic/Issue	Project Related Environmental Effects	Geographic Extent	Mitigation Plan
5.10	Soils and Topography (Erosion and Sedimentation Control)	Disturbed ground/soils during project construction	Throughout project area	NPDES permit and SWPPP
5.11	Water Resources (Stormwater and Aquatic Resources)	Increase in impervious surface (107 acres)	Throughout project area	Address via permit and stormwater mitigation measures
5.11	Water Resources (Stormwater and Aquatic Resources)	Impacts to aquatic resources (3.23 acres)	Throughout project area	Addressed via permit
5.12	Existing Contamination/ Potential Environmental Hazards	One inactive LUST facility within 500 feet of the project area	One Location	Develop plan for the properly handling/removing contaminated materials if encountered
5.17	Noise	Modeled noise levels approaching/exceeding federal standards	Monticello	Propose Construction of 3 Noise Walls

5.19.2 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.

MnDOT 2018-2021 State Transportation Improvement Program (STIP), Wright County, and municipal projects were reviewed and currently there are projects in the reasonably foreseeable future that may interact with environmental effects of the proposed project within the geographic scales and

timeframes listed above. There are five scheduled projects within the geographic area considered for cumulative potential effects:

- Local project 222-104-002 in Monticello, plan to construct an overpass over I-94 at Fallon Ave, to occur in 2018; the I-94 Reconstruction from Clearwater to Albertville project is anticipating minimal grading through this segment, and so no potential cumulative effects on traffic are anticipated.
- SP 7108-24 in 2018 in Clearwater, plan to resurface (mill and overlay) and improve Highway 24 from south of I-94 in Clearwater to Highway 10 in Clear Lake which includes shoulders and turn lanes; repair storm drainage; reconstruct pedestrian sidewalks and approaches in Clear Lake between Clark St and Hwy 10; the I-94 Reconstruction from Clearwater to Albertville project is not anticipated to start until after the scheduled completion of this project and so no potential cumulative effects on traffic are anticipated.
- In Albertville, Mall of Entertainment. Proposed retail, entertainment, business/office, and residential development northwest of the Albertville Outlet Mall on the north side of I-94. Alternative Urban Areawide Review (AUAR) completed in 2017. The initial construction phase could be completed in 2019.
- SP 8680-172 in 2018-2019 (West Albertville city limit to TH 241): is proposing to continue a third general purpose lane in each direction through the city limits of Albertville, tying into the 3-lane section to the east; however, only the additional eastbound travel lane would be paved. The third lane in the westbound direction would be graded, but not paved until Segment 4 of the I-94 Clearwater to Albertville project is constructed. The project also includes the construction of a collector road adjacent to the eastbound travel lanes for vehicles exiting and entering at CSAH 19 or CSAH 37.
- I-94 Maple Grove to Rogers (project number not yet assigned): is proposing to resurface I-94 between the I-494/I-694 interchange in Maple Grove to Highway 100 in Rogers, construct an interchange at Brockton Lane, and evaluate design alternatives to add capacity to I-94.

5.19.3 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.

Environmental effects resulting from the proposed project are summarized in Table 18. Other present and reasonably foreseeable future projects may affect the same environmental resources as those in the I-94 Albertville to Clearwater project. These and all other impacts from the projects listed in Section 5.19.2 will be addressed via regulatory permitting and approval processes; therefore, they will be individually mitigated to ensure minimal cumulative impacts occur.

5.20 Other Potential Environmental Effects

5.20.1 If the project may cause any additional environmental effects not addressed by Sections 5.1 to 5.19, 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.

All known potentially adverse environmental effects are addressed in the preceding EAW items or discussed in Section 6, Additional Federal Issues.

5.21 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 Jon P Solberg Date 9 Jan 2019

Title Chief Environmental officer MnDOT

6 Additional Federal Issues

Discussed below are the federal issues not discussed in the EAW.

6.1 Social Impacts

The project mainly takes place within existing right-of-way; thus, the project is not expected to cause any adverse impact to any community or neighborhood. No categories of people uniquely sensitive to transportation (e.g. children, elderly, minorities, persons with mobility impairments) will be unduly impacted.

6.2 Pedestrians and Bicyclists

The proposed project is limited to I-94 where bicycle and pedestrian access is prohibited. There are no temporary closures of trails anticipated with the construction of this project. No permanent impacts to bicycles or pedestrians are anticipated, and there are no opportunities for bicycle or pedestrian improvements with the project.

6.3 Environmental Justice

6.3.1 Background

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," was issued in 1994. This executive order directs federal agencies to identify and address disproportionately high and adverse human health or environmental effects of their actions on minority and/or low-income populations. An effect is considered disproportionately high and adverse if it:

- Is predominately borne by a minority and/or low-income population, or
- Is appreciably more severe or greater in magnitude for the minority and/or low-income population than the adverse effect suffered by the non-minority or non-low-income population

The Presidential Memorandum accompanying the executive order called for federal agencies to address impacts to minority and low-income populations in the National Environmental Policy Act (NEPA) review process.[42]

6.3.2 Study Area Demographics

Data from the 2012-2016 American Community Survey 5-Year Estimates (ACS) was used to identify minority and low-income populations in the study area. The study area is defined as the block groups adjacent to the project limits.

For the purposes of this analysis, minorities are defined as anyone who identified as Black or African American, American Indian or Alaska Native, Asian American, Native Hawaiian or Pacific Islander, Hispanic, or multiracial in the ACS. Table 19 shows the percentage of minority residents in the 14 block groups in the study area and in Wright County.

[42] For more information, see http://www.epa.gov/nepa/environmental-justice-considerations-national-environmental-policy-act-process.

Table 19: Percentage of Population that Identifies as Minority

Geography	Percentage of Population that Identifies as Minority
Block Group 5 Census Tract 1001	7.3%
Block Group 1 Census Tract 1002.02	7.3%
Block Group 2 Census Tract 1002.03	5.1%
Block Group 1 Census Tract 1002.03	7.5%
Block Group 3 Census Tract 1002.03	1.4%
Block Group 4 Census Tract 1002.03	16.8%
Block Group 1 Census Tract 1002.04	11.3%
Block Group 2 Census Tract 1002.04	8.9%
Block Group 3 Census Tract 1002.04	10.8%
Block Group 1 Census Tract 1003	3.5%
Block Group 3 Census Tract 1003	4.7%
Block Group 2 Census Tract 1003	0.9%
Block Group 4 Census Tract 1003	0.9%
Block Group 1 Census Tract 1008.01	9.7%
Wright County	6.9%

All 14 block groups have some minority residents, and eight of the 14 have percentages higher than Wright County. These eight block groups are considered to have minority populations because they have a higher than average percentage of minority residents as compared to the county.

Low-income populations are those with incomes at or below the federal poverty threshold. Poverty thresholds are updated each year by the Census Bureau and vary based on family size and composition. For example, the 2016 poverty threshold for a family of four with two children is $24,339.[43] Table 20 shows the percentage of the population at or below the poverty threshold in the 14 study area block groups and in Wright County.

Table 20: Percentage of Population at or Below the Poverty Threshold

Geography	Percentage of Population at or Below the Poverty Threshold
Block Group 5 Census Tract 1001	0.0%
Block Group 1 Census Tract 1002.02	2.1%
Block Group 2 Census Tract 1002.03	1.6%
Block Group 1 Census Tract 1002.03	0.0%
Block Group 3 Census Tract 1002.03	19.7%
Block Group 4 Census Tract 1002.03	1.5%
Block Group 1 Census Tract 1002.04	17.7%
Block Group 2 Census Tract 1002.04	6.7%
Block Group 3 Census Tract 1002.04	2.4%
Block Group 1 Census Tract 1003	5.4%

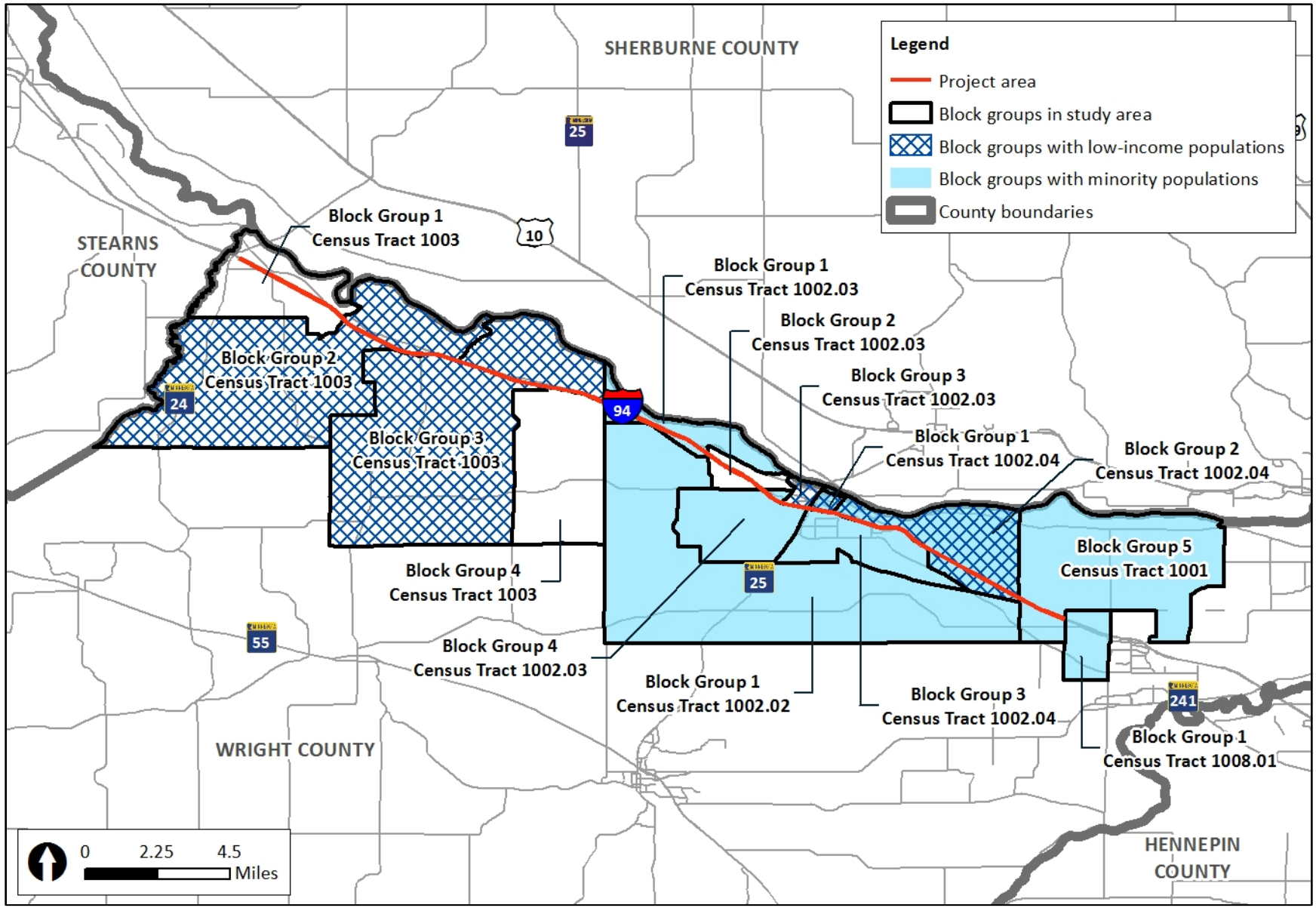
[43] Poverty thresholds are available from the Census Bureau at https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html.

Geography	Percentage of Population at or Below the Poverty Threshold
Block Group 3 Census Tract 1003	6.0%
Block Group 2 Census Tract 1003	7.2%
Block Group 4 Census Tract 1003	1.5%
Block Group 1 Census Tract 1008.01	3.1%
Wright County	5.6%

Of the 14 block groups in the study area, two do not have any residents at or below the poverty threshold. Of the other 12 block groups, five have higher percentages of residents at or below the poverty threshold than Wright County. Because these five block groups have a higher than average percentage of residents at or below the poverty level as compared to the county, they are considered to have low-income populations.

Two block groups have both minority and low-income populations. Out of the 14 block groups in the study area, 11 have minority and/or low-income populations (see Figure 5).

Figure 5: Minority and Low-Income Populations in the Study Area



6.3.3 Environmental Justice Analysis

The potential effects of the proposed project were considered to assess whether the effects fall disproportionately on low-income or minority populations. Issues that were considered included noise impacts and right-of-way impacts.

6.3.3.1 Noise Impacts

In 2040 without the project, noise levels would approach or exceed federal noise abatement criteria at 334 receptors. With the project, noise levels would approach or exceed federal noise abatement criteria at 378 receptors. These receptors are scattered throughout the project vicinity.

6.3.3.2 Right-of-Way Impacts

The project would be constructed almost entirely within I-94 right-of-way. The only permanent easements needed would be located adjacent to existing right-of-way on currently undeveloped vegetated land. No relocations would be required for this project.

6.3.4 Environmental Justice Finding

Based on the analysis presented above, the proposed project would not result in disproportionately high or adverse effects to low-income or minority populations.

6.4 Economics

This project would add a third lane in each direction of I-94 between TH 24 and the western city limits of Albertville. During construction, two lanes of traffic would be allowed to remain open in each travel direction. Therefore, because minimal effect on mobility is anticipated, no economic impacts are anticipated for this project.

6.5 Relocation

There will be no relocations associated with this project.

6.6 Right-of-Way

This project would be constructed almost entirely within I-94 right-of-way. The only permanent easements that are required are for two stormwater management areas, one located northwest of the Grover Avenue bridge and the other northwest of the 120th Street bridge, identified in Figure 7. Both of these locations are adjacent to existing right-of-way and are currently undeveloped vegetated land.

Any build alternative would result in an increase in impervious surface. Due to the extent of disturbance and amount of impervious surface increase, a National Pollutant Discharge Elimination Permit (NPDES) will be required for the project. The project proposes nine stormwater management areas that will be designed to meet NPDES permit criteria. There is no permitting requirement for rate control; however, without attenuation, increases in runoff rates can result in downstream flooding. There should be no increase in discharge rates off MnDOT right-of-way onto off-site properties without approval from project area cities. Therefore, there is a need to include stormwater management features with the project. The location of stormwater management features is determined by many factors, including space limitations (i.e., available right-of-way), drainage patterns and boundaries, grades, discharge points, environmental constraints, etc. As described in Section 5.11, wetlands and other aquatic resources are located throughout the I -94 project corridor; thus, space available for stormwater treatment is limited. Effort has been made to construct stormwater features within existing right o way and outside wetland areas.

Stormwater treatment areas have been designed to use existing stormwater best management practice (BMP) locations and avoid wetland impacts where necessary. In total, 13 areas between Clearwater and Monticello were evaluated for stormwater management. Areas were eliminated due to drainage limitations (i.e. not located in suitable location to receive stormwater runoff), insufficient right-of-way availability, or the presence of wetlands. Nine areas have been identified that met most or all of the siting criteria. In order to limit wetland impacts, two of these areas have been located in areas proposed for right-of-way acquisition.

6.7 Noise

Noise, as it relates to both Minnesota and Federal standards, is discussed in Section 5.17. The *I-94 Corridor Preliminary Design Traffic Noise Analysis Report* is available for review from the MnDOT project manager upon request.

7 Public and Agency Involvement

7.1 Information Process

7.1.1 Public Involvement Plan

A Public Involvement Plan (PIP) was developed, the purpose of which is to provide a framework for how public involvement activities will be conducted for the project. Engagement activities bring awareness of the project to the public and elected officials allowing time for businesses, residents, and other stakeholders to plan ahead and provide input on the details of the proposed roadway alternatives and maintenance of traffic plan for construction. The PIP documents the goals of the public involvement process for the project, the anticipated stakeholders and participants, potential issues, schedule, and specific engagement techniques.

7.1.2 Stakeholders and Participants

Various groups of local governments, organizations, and the community will provide input for the development and implementation of the project.

- State and Local Governments
    - MnDOT
    - FHWA
    - City of Clearwater
    - City of Monticello
    - City of Albertville
    - Wright County
- Regulatory Agencies
    - U.S. Army Corps of Engineers
    - Minnesota Pollution Control Agency
    - Minnesota Department of Natural Resources
- Additional Stakeholders and Participants
    - Private and public utilities
    - Small businesses along the corridor
    - Politicians, including elected officials who represent this area
    - Residents
    - Neighborhood groups
    - Other advocacy groups
    - Motorists/commuters
    - School districts
    - Community centers
    - Emergency medical services

7.2 Public Comment Period and Public Hearing

Comments from the public and agencies affected by this project are requested during the public comment period described on the transmittal letter distributing this EA. A combined public informational meeting/public hearing will be held after this EA has been distributed to the public and to the required and interested federal, state, and local agencies and Native American Tribes for their review.

At the informational meeting/public hearing, preliminary design layouts for the alternatives under consideration along with other project documentation will be available for public review. The public will also be given the opportunity to express their comments, ideas, and concerns about the proposed project. These comments will be received at the hearing and during the remainder of the comment period and will become a part of the official hearing record.

7.3 Report Distribution

Copies of this document have been sent to agencies, local government units, libraries, and others per Minnesota Rules, part 4410.1500.

7.4 Process Beyond the Hearing

Following the comment period, MnDOT and FHWA will make a determination as to the adequacy of the environmental documentation. If further documentation is necessary, it could be accomplished by preparing an EIS, by revising the EA, or providing clarification in the Findings of Fact and Conclusion, whichever is appropriate.

If an EIS is not necessary, as currently anticipated, MnDOT will prepare a Negative Declaration for the state environmental requirements. MnDOT will also prepare a request for a FONSI that will be submitted to FHWA. If FHWA agrees that this finding is appropriate, it will issue a FONSI.

Notices of the federal and state decisions and availability of the above documents will be placed in the *Federal Register* and the *EQB Monitor*.

8 Geometric Design Standards and Exceptions

This project will be designed to MnDOT's highway design standards. See Appendix B for the tables of geometric design standards. There are no design exceptions proposed for this project. For additional information and justification, see Appendix B.