Environmental Assessment Worksheet

I-94 St. Michael to Albertville Project

S.P. 8680-172

Cities of St. Michael and Albertville
Wright County, Minnesota

Proposer & RGU: Minnesota Department of Transportation (MnDOT)

March 2018

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Environmental Assessment Worksheet

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at:
http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm.

The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.

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

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

1 EAW Item 1: Project Title

I-94 St. Michael to Albertville Project

2 EAW Item 2: Proposer

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3 EAW Item 3: RGU

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4 EAW Item 4: Reason for EAW Preparation

(Check one)

Required:	Discretionary:
☐ EIS Scoping	☐ Citizen petition
☒ Mandatory EAW	☐ RGU discretion
	☐ Proposer initiated

If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):

The proposed project includes construction of additional lanes on Interstate 94 (I-94) from west of County State Aid Highway (CSAH) 19 in Albertville to Trunk Highway (TH) 241 in St. Michael, a length of approximately 4.6 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 EAW Item 5: Project Location

County: Wright and Hennepin[1]

City/Township: St. Michael, Albertville, and Rogers

PLS (¼, ¼, Section, Township, Range): Sections 5, 6, 8 and 9, Township 120 N, Range 23 W; Section 1, Township 120 N, Range 24 W; Sections 35 and 36, Township 121 N, Range 24 W

Watershed (81 major watershed scale): North Fork Crow River Watershed and Mississippi River – St. Cloud Watershed

GPS Coordinates: Not applicable (N/A)

[1] The project limits would extend approximately 1,100 feet to the east of Wright County/Hennepin County boundary between the TH 241 interchange and the Crow River.

Tax Parcel Number: N/A

At a minimum attach each of the following to the EAW:

- **County map showing the general location of the project**

  See Figure 1, Appendix A (State Location Map) and Figure 2, Appendix A (Project Location Map).

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

  See Figure 3, Appendix A (USGS Map).

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

  See Figure 4A through Figure 4E, Appendix A.

6 EAW Item 6: Project Description

6.1 Project Summary

Item 6.a. Provide a project summary of 50 words or less to be published in the EQB Monitor (Approximately 50 words).

The Minnesota Department of Transportation (MnDOT) proposes reconstruction of Interstate 94 (I-94) from west of County State Aid Highway (CSAH) 19 in Albertville to Trunk Highway (TH) 241 in St. Michael. The project also includes replacement of the I-94 bridges over CSAH 19, construction of an eastbound collector-distributor road between CSAH 19 and CSAH 37, construction of an additional travel lane on eastbound and westbound I-94 between CSAH 37 and TH 241, reconstruction of the I-94/TH 241 interchange, and construction of stormwater basins.

6.2 Complete Description of the Proposed Project

Item 6.b. Give a complete description of the proposed project and related new construction. Attach additional sheets as necessary. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes and significant demolition, 3) removal or remodeling of existing structures, and 4) timing and duration of construction activities.

1) Construction, Operation Methods and Features That Will Cause Physical Manipulation of the Environment or Will Produce Wastes.

I-94 (West of CSAH 19)

The existing I-94 roadway west of CSAH 19 is a rural section roadway. Roadside ditches are along the outside shoulder of eastbound and westbound I-94. A center median ditch separates the eastbound and westbound travel lanes.

The proposed design involves reconstruction of I-94 to include an urban section roadway with curb and gutter to the inside, and includes shifting the alignment of eastbound I-94 to the north towards the center median. The exit to a proposed eastbound collector-distributor road would begin west of the I-94/CSAH 19 interchange. The eastbound collector-distributor road would provide access for eastbound I-94 traffic destined to either CSAH 19 or CSAH 37. A third through lane would be constructed on eastbound I-94 beginning approximately 3,300 feet (0.6 miles) west of CSAH 19. The eastbound I-94 exit ramp to CSAH 19 and entrance ramp from CSAH 19 to westbound I-94 would be reconstructed. This design was identified to accommodate the eastbound collector-distributor road and construction staging, providing MnDOT with the ability to maintain four lanes of traffic on I-94 during construction.

The existing I-94 bridges over CSAH 19 would be demolished and reconstructed as one bridge with no gap between the eastbound and westbound lanes. The proposed I-94 bridge would be constructed as a single-span structure (i.e., no bridge piers under the bridge deck adjacent to CSAH 19). The proposed I-94 bridge over CSAH 19 would be constructed to not preclude a future third lane on westbound I-94, and not preclude future turn-lane improvements on CSAH 19 under I-94. The eastbound collector-distributor road would be carried across the I-94 bridge over CSAH 19.

Reconstruction of I-94 west of CSAH 19 would involve filling in the center median, compacting fill material, and constructing new pavement. Existing pavement along eastbound I-94 and the CSAH 19 interchange ramps would be removed. Concrete barriers would be constructed in the center median between the eastbound and westbound I-94 travel lanes, and between the eastbound I-94 travel lanes and the collector-distributor road. Exhibit 1 illustrates the proposed I-94 typical section west of CSAH 19. Exhibit 2 illustrates the proposed I-94 typical section on the bridge over CSAH 19.

Exhibit 1. Proposed I-94 Typical Section (West of CSAH 19)

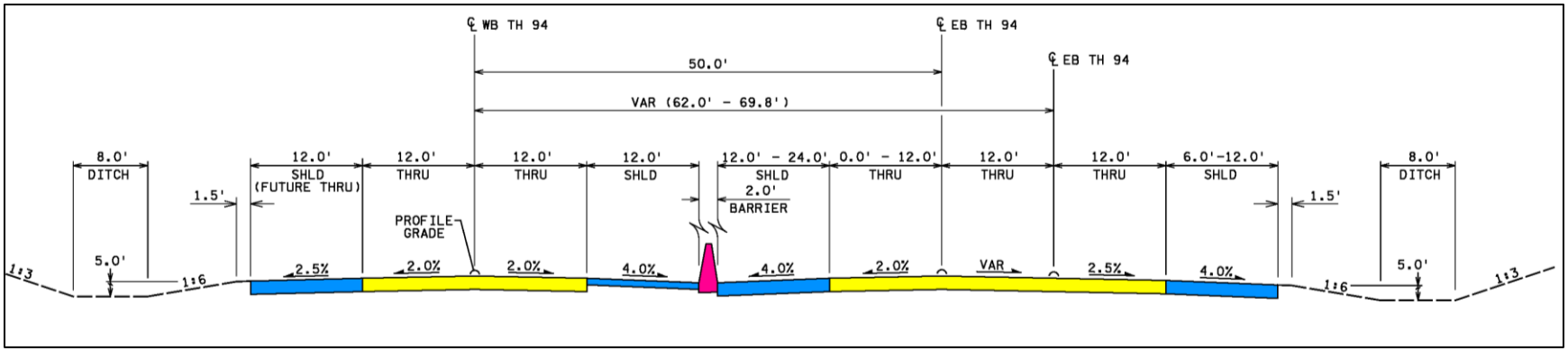
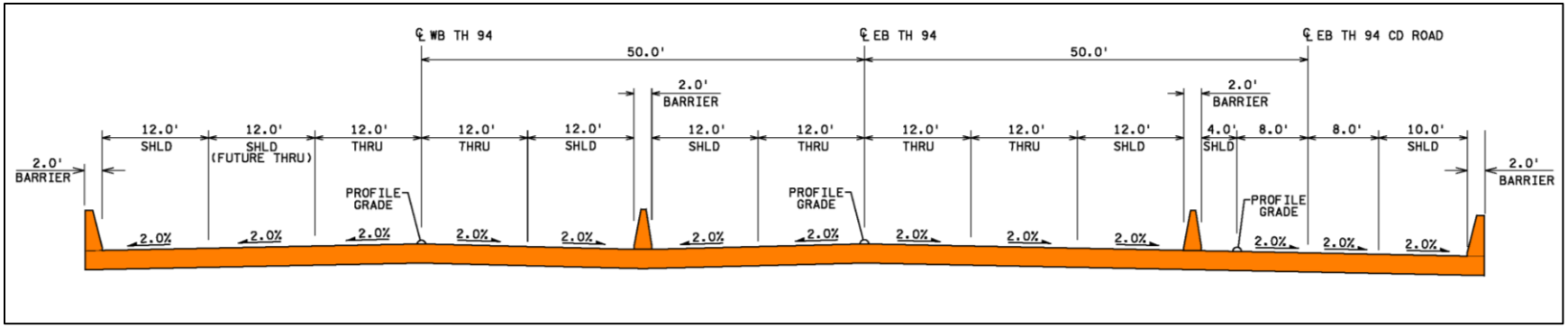


Exhibit 2. Proposed I-94 Typical Section (I-94 Bridge Over CSAH 19)



I-94 (CSAH 19 to CSAH 37)

I-94 Mainline

The existing I-94 roadway between CSAH 19 and CSAH 37 is a rural section roadway with a center median ditch. A raised median with curb and gutter separates the westbound collector-distributor road from the I-94 travel lanes. A ditch is located along the south side of I-94 adjacent to the eastbound travel lanes.

The proposed design involves shifting the westbound and eastbound I-94 travel lanes toward the center median and reconstructing I-94 as a urban section roadway towards the inside. A new third lane would be constructed along eastbound I-94. The existing westbound I-94 collector-distributor road between CSAH 19 and CSAH 37, and existing interchange ramps at CSAH 37 to and from westbound I-94, would not be affected by the project. This design was identified to not preclude a future third lane along westbound I-94 between CSAH 19 and CSAH 37.

Reconstruction of I-94 between CSAH 19 and CSAH 37 would involve filling in the center median, compacting fill material, and constructing new pavement for the inside shoulders, the eastbound and westbound travel lanes, and outside shoulders. New ditches would be graded along the outside shoulder of westbound I-94 and the outside shoulder of the eastbound collector-distributor road to convey stormwater runoff. A concrete barrier would be constructed in the center median between the eastbound and westbound I-94 travel lanes.

Eastbound Collector-Distributor Road

The proposed design includes an eastbound collector-distributor road along the south side of eastbound I-94 between CSAH 19 and CSAH 37. A new entrance ramp from CSAH 19 would merge with the eastbound collector-distributor road east of the CSAH 19 interchange. The entrance ramp from CSAH 37 to eastbound I-94 would merge with the eastbound collector-distributor road east of the CSAH 37 interchange. The eastbound collector-distributor road would then merge with the proposed third lane on eastbound I-94 east of the CSAH 37 interchange.

Construction of the eastbound collector-distributor road between CSAH 19 and CSAH 37 would involve removal of existing topsoil and excavating material from under the proposed roadway, placing and compacting new material for the new roadway embankment, and placing pavement for the new roadway. A median barrier would separate the eastbound collector-distributor road from the eastbound I-94 travel lanes. Exhibit 3 illustrates the I-94 typical section between CSAH 19 and CSAH 37.

Construction of the proposed eastbound collector-distributor road between CSAH 19 and CSAH 37 includes construction of a new interchange ramp from CSAH 19 to eastbound I-94, and reconstruction of the CSAH 37 interchange ramps to and from eastbound I-94. This would include removing the existing pavement, constructing new embankments, and placing new pavement for the interchange ramps.

I-94 (CSAH 37 to TH 241)

The proposed design for I-94 between the CSAH 37 and TH 241 interchanges includes reconstruction of the existing travel lanes and construction of a new third lane in each direction. Reconstruction of the existing travel lanes on eastbound and westbound I-94 between CSAH 37 and TH 241 would involve demolition and removal of the existing pavement. New pavement would be constructed for westbound I-94 along its existing alignment. The eastbound I-94 travel lanes would be shifted to the north towards the westbound lanes. Construction of the eastbound I-94 travel lanes would involve compacting fill material for the new road embankment and constructing new pavement.

Construction of the additional lanes on eastbound and westbound I-94 between CSAH 37 and TH 241 would involve filling in the center median, compacting fill material for the new travel lanes and inside shoulders, and constructing new pavement. A concrete barrier would be constructed in the center median between the eastbound and westbound travel lanes. New storm sewer would be installed to convey stormwater runoff from I-94 to proposed stormwater features. Exhibit 4 illustrates the I-94 typical section between CSAH 37 and TH 241.

I-94/TH 241 Interchange

The existing I-94/TH 241 interchange is a standard diamond interchange. The proposed design includes reconstructing the I-94/TH 241 interchange to include a loop ramp in the northwest quadrant of the interchange. The proposed loop ramp would provide a free-flow movement from westbound I-94 to westbound TH 241 into St. Michael.

Reconstruction of the I-94/TH 241 interchange would involve demolishing the existing bridge over I-94. Constructing the new TH 241 bridge over I-94 would involve excavating and placing new fill material along the north and south sides of the freeway, constructing new bridge abutments, and constructing a new bridge pier in the middle of the freeway.

The existing interchange ramps in the northwest, southwest, and southeast quadrants of the interchange would be removed and new pavement would be constructed for these ramps to match the new interchange configuration. The existing exit ramp from westbound I-94 to TH 241 in the northeast quadrant of the interchange was reconstructed in 2015 and would remain in-place. A new loop ramp for westbound I-94 to southbound TH 241 would be constructed in the northwest quadrant of the interchange. Constructing the new loop ramp would involve placing and compacting new material for the ramp embankment and constructing new pavement for the ramp and shoulders.

The existing four-lane TH 241 highway would be reconstructed south of the interchange to the railroad crossing. CSAH 36 would be reconstructed as a four-lane highway with a concrete center median, tapering into the existing two-lane county highway alignment approximately 0.24 miles north of the interchange.

Exhibit 3. Proposed I-94 Typical Section (West of CSAH 19 to East of CSAH 37)

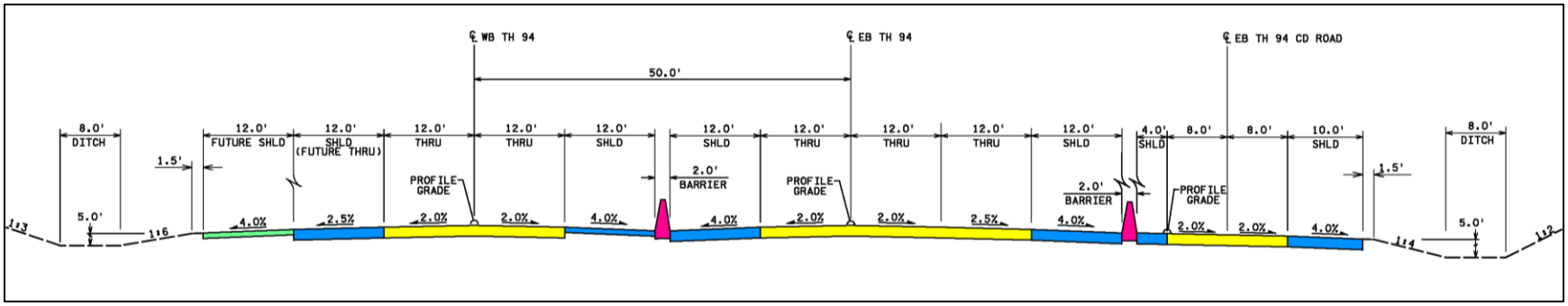
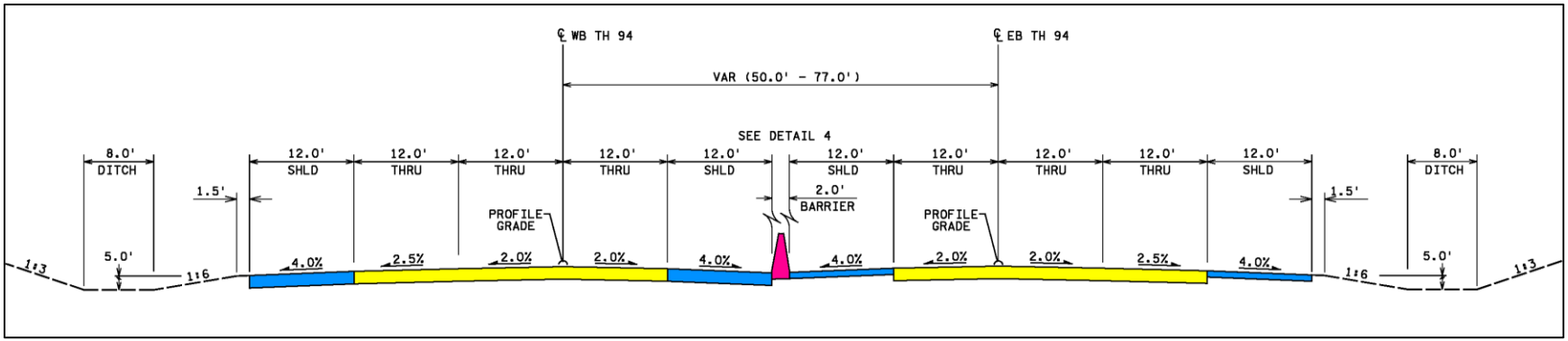


Exhibit 4. Proposed I-94 Typical Section (East of CSAH 37 to TH 241)



Stormwater Management

The proposed project would include construction of stormwater best management practices (BMPs) throughout the project area, including wet ponds and a dry pond. Proposed stormwater BMPs would be located at five locations along the project corridor:

- A wet pond would be constructed in MnDOT right of way in the northeast quadrant of the I-94/CSAH 19 interchange;
- A wet pond would be constructed in the southwest quadrant of the I-94/CSAH 37 interchange outside of exiting MnDOT right of way. Additional land would be graded adjacent to the wet pond for rate control (i.e., temporarily store runoff until water can be conveyed to Hunter's Lake along the north side of I-94);
- A wet pond would be constructed in MnDOT right of way in the southeast quadrant of the I-94/CSAH 37 interchange;
- A wet pond would be constructed in MnDOT right of way along the south side of I-94 between the highway and railroad, approximately 0.5 miles west of the I-94/ TH 241 interchange; and
- A wet pond and dry pond would be constructed in MnDOT right of way in the northwest quadrant of the I-94/TH 241 interchange.

It is anticipated that excavated materials from wet pond and dry pond construction would be used elsewhere on the project. Any material that is not reused will be disposed of in accordance with MnDOT specifications identified in the construction contract.

Other Project Activities

Other construction activities would include installing guardrail, installing signs, re-striping/painting traffic lanes, and re-installing traffic signals at the I-94/TH 241 ramp terminal intersections. Permanent right of way would be acquired along the westbound entrance ramp from TH 241 to westbound I-94, along CSAH 36 north of the TH 241 interchange, along the south side of I-94 adjacent to the proposed eastbound collector-distributor road, and in the southwest quadrant of the I-94/CSAH 37 interchange. Temporary construction easements, if necessary, would be identified as part of the final design process.

Maintenance of Traffic During Construction

Four lanes of traffic would be maintained on I-94 during project construction (two lanes in each direction) matching existing conditions. The project would be constructed in three stages. A preliminary construction staging plan is summarized below.

- Construct the eastbound collector-distributor road between CSAH 19 and CSAH 37 and the southern portion of the I-94 bridge over CSAH 19.

- Existing shoulders on I-94 from west of CSAH 19 to TH 241 are not designed to carry traffic. Therefore, the first stage of construction would include strengthening and widening the existing shoulders on eastbound I-94 between CSAH 37 and TH 241, on a segment of westbound I-94 west of CSAH 19, and on a segment of westbound I-94 east of CSAH 37. The shoulder strengthening and widening is necessary to accommodate traffic shifts while maintaining four-lanes of traffic during construction.
- In stage two, shift eastbound I-94 traffic to the newly constructed eastbound collector-distributor road between CSAH 19 and CSAH 37. Westbound I-94 traffic is on the existing westbound I-94 lanes east of the CSAH 37 interchange. All traffic would use the widened eastbound I-94 lanes between CSAH 37 and TH 241.
- Construct the eastbound I-94 lanes from west of the CSAH 19 interchange to east of the CSAH 37 interchange, and construct the westbound I-94 lanes from the CSAH 37 interchange to the TH 241 interchange.
- In stage three, shift westbound I-94 traffic to the eastbound lanes from west of the CSAH 19 interchange to east of the CSAH 37 interchange. Eastbound I-94 traffic would also use the eastbound lanes from west of CSAH 19 to east of CSAH 37. The eastbound collector-distributor road between CSAH 19 and CSAH 37 would be complete and operational. East of CSAH 37, all traffic would shift to the westbound I-94 lanes to the TH 241 interchange.
- Construct the westbound I-94 lanes from west of the CSAH 19 interchange to east of the CSAH 37 interchange, and construct the eastbound I-94 lanes from east of the CSAH 37 interchange to the TH 241 interchange.
- Temporary crossovers would be constructed throughout the project corridor to shift traffic between the eastbound I-94 lanes and westbound I-94 lanes. Temporary crossovers would also be constructed at the CSAH 19, CSAH 37 and TH 241 interchanges to maintain access during construction.

The I-94/TH 241 interchange would remain open during interchange reconstruction; however, short duration ramp closures may be necessary at certain times during construction. The western half of the interchange would be constructed first while the existing TH 241 bridge remains open to traffic. Traffic on TH 241 would be reduced to one-lane in each direction. Once the western portion of the I-94/TH 241 interchange is constructed, traffic would be shifted to the new bridge, the existing TH 241 bridge would be demolished, and the eastern portion of the new TH 241 interchange would be constructed. Access to businesses adjacent to the I-94/TH 241 interchange will be maintained during construction.

The existing westbound collector-distributor road between CSAH 19 and CSAH 37 in Albertville will remain open during construction and accessible from the existing exit east of the CSAH 37 interchange.

CSAH 19 will remain open to traffic during construction. Temporary lane closures and flagging operations would be utilized as necessary to facilitate construction of the I-94 bridges, I-94 interchange ramps, and proposed CSAH 19 turn lanes.

Stormwater management features will be constructed as early as possible to provide treatment of runoff and sediment control during construction.

Final construction staging plans, maintenance of traffic, and temporary detours, if necessary, will be developed as part of the transportation management plan (TMP) during the final design process.

2) Modifications to Existing Equipment or Industrial Processes.

The project does not modify existing equipment of industrial processes.

3) Significant Demolition, Removal or Remodeling of Existing Structures.

The project includes the demolition, removal, and reconstruction of three bridges along the I-94 project corridor:

- Westbound I-94 bridge over CSAH 19 (MnDOT Bridge No. 86817) in Albertville; and
- Eastbound I-94 bridge over CSAH 19 (MnDOT Bridge No. 86818) in Albertville; and
- TH 241 bridge over I-94 (MnDOT Bridge No. 86812) in St. Michael.

The eastbound and westbound I-94 bridges over CSAH 19 would be reconstructed as a single structure. The eastbound and westbound lanes would be separated by a concrete median barrier (see I-94 bridge over CSAH 19 typical section in **Exhibit 2**). The TH 241 bridge over I-94 would be reconstructed on an alignment to the west of and parallel to the existing bridge. The new TH 241 bridge would be constructed with two westbound lanes and two eastbound lanes separated by a raised center median.

Vibrations are expected to result from any pile driving necessary for bridge construction and sheet piling. While vibration is often a nuisance during roadway projects, actual damage to nearby structures is rare. Construction vibrations may be perceptible and possibly annoying to occupants of buildings within the vicinity of the project area. Any necessary building susceptibility studies will be completed prior to construction following MnDOT standard practices.

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. The project is not currently programmed for construction.

Preliminary engineering and design are being completed now to advance project readiness in anticipation of future funding.

The project may be constructed in phases depending upon funding availability. Potential project phases include:

- Reconstruction of I-94 between CSAH 37 and TH 241, construction of the additional travel lane on eastbound and westbound I-94 between CSAH 37 and TH 241, and reconstruction of the I-94/TH 241 interchange.
- Reconstruction of I-94 from west of the CSAH 19 interchange to CSAH 37, including reconstruction of the I-94 bridges over CSAH 19.
- Construction of the eastbound collector-distributor road between CSAH 19 and CSAH 37.

6.3 Project Magnitude Data

Item 6.c. Project Magnitude Data

Table 1 lists project magnitude data (total project acreage and linear project length).

Table 1. Project Magnitude (1)

Total project acreage	Approximately 172 acres (1)
Linear project length (I-94)	Approximately 5.0 miles
Linear project length (CSAH 19)	Approximately 0.2 miles
Linear project length (TH 241)	Approximately 0.3 miles
Linear project length (CSAH 36)	Approximately 0.2 miles
Number and type of residential units	N/A
Commercial building area (in square feet)	N/A
Industrial building area (in square feet)	N/A
Institutional building area (in square feet)	N/A
Other uses – specify (in square feet)	N/A
Structure height(s)	N/A

(1) Total project acreage includes the approximate area within the preliminary design construction limits.

6.4 Project Purpose

Item 6.d. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

Project Purpose

The purpose of this project is to improve pavement conditions on I-94 between CSAH 19 and TH 241; serve traffic volume demand patters between I-94 and the CSAH 19 and CSAH 37 interchanges; improve mobility on I-94 between the CSAH 37 and TH 241 interchanges; and reduce congestion at the I-94/TH 241 interchange.

Project Need

MnDOT and its partners have identified several factors justifying the need for the I-94 St. Michael to Albertville Project. These needs are summarized below.

- Pavement Conditions. The existing pavement for the project segment of I-94 between TH 241 and CSAH 19 was originally constructed in the early 1970's and is approaching nearly 50 years old. Numerous pavement maintenance, rehabilitation, and preservation projects have been completed along this segment of I-94 to temporarily improve ride quality and prolong the life of the pavement. However, these activities do not address underlying pavement conditions. A longer-term solution is needed to address pavement conditions and preserve the transportation asset.
- I-94/CSAH 19/CSAH 37 Interchanges. CSAH 19 currently has partial access to and from the west of I-94. A westbound collector-distributor road between CSAH 19 and CSAH 37 was constructed in 2012 providing access from I-94 to CSAH 19 from the east. There is no access from CSAH 19 to eastbound I-94. The next full access interchange to I-94 to the east of CSAH 19 is at CSAH 37. CSAH 37 runs through downtown Albertville and connects with CSAH 19 south of I-94.

  CSAH 37 serves the traffic demand patterns between CSAH 19 and eastbound I-94. A sizeable proportion of the traffic (approximately 80 percent based on future traffic volumes) coming to and from I-94 in the City of Albertville has an origin or destination at CSAH 19. Most of this traffic is coming to and from the east. As noted above, access to eastbound I-94 at CSAH 19 does not currently exist. This requires CSAH 37 to function as a "distributor" road for the CSAH 19 traffic demand to eastbound I-94. This traffic demand pattern is projected to eventually result in delays and congestion at the CSAH 19/37 intersection and along CSAH 37 between CSAH 19 and the I-94/CSAH 37 interchange. [2]

[2] Albertville and St. Michael, Minnesota. *Northeast Wright County I-94 Interchange Access Request*. Chapter 2.0. Regional Transportation Needs. Prepared by Short Elliot Hendrickson, Inc. November 10, 2006.

- I-94 Mobility and Congestion. Table 2 lists existing (year 2015) and future (year 2040 No Build Alternative) traffic volumes on the I-94 project corridor. Daily traffic volumes on I-94 in St. Michael and Albertville are projected to increase in the range of approximately 11,700 vehicles per day (vpd) to 22,800 vpd by year 2040.

Table 2. I-94 Existing and 2040 No Build Alternative Traffic Volumes

From	To	I-94 Daily Traffic Volumes Vehicles Per Day Existing Conditions	I-94 Daily Traffic Volumes Vehicles Per Day 2040 No Build Alternative
TH 101	TH 241	70,600	97,000
TH 241	CSAH 37	60,200	83,000
CSAH 37	CSAH 19	43,600	55,300
CSAH 19	MnROAD Facility	52,700	73,000

An operational traffic analysis was conducted as part of the I-94 St. Michael to Albertville Project. A future year 2040 CORSIM traffic model was developed incorporating programmed highway improvements and forecast 2040 traffic volumes. The CORSIM modeling results are measured in terms of a Level of Service (LOS). LOS is a grading system ranging from A to F, which describes the range of congestion on the freeway. LOS A is representative of free-flow conditions, where drivers are virtually unaffected by the presence of other traffic, whereas LOS F represents a break-down in traffic flow and congested conditions.

Peak period travel patterns for the project segment of I-94 are predominately eastbound during the morning and westbound during the afternoon. Therefore, the traffic operations analysis results emphasize eastbound I-94 operations for the morning peak hour and westbound I-94 operations for the afternoon peak hour. Table 3 lists the eastbound (a.m. peak hour) and westbound (p.m. peak hour) I-94 operations analysis results for 2040 No Build Alternative conditions.

Table 3. I-94 Operations Analysis Level of Service (LOS) Results

CORSIM Modeling Location: From	CORSIM Modeling Location: To	Eastbound I-94 2040 No Build Alternative AM Peak Hour	Westbound I-94 2040 No Build Alternative PM Peak Hour
MnROAD	CSAH 19	C	D
CSAH 19	CSAH 37	B	C
CSAH 37	TH 241	E	E
TH 241	TH 101	C	C

Traffic operations on eastbound and westbound I-94 between and CSAH 37 and TH 241 are projected to worsen to LOS E under 2040 No Build Alternative conditions. The segment of eastbound I-94 east of the CSAH 37 entrance ramp is projected to experience congestion during the a.m. peak hour as traffic merges onto the freeway. The segments of westbound I-94 at the CSAH 37 and TH 241 interchanges are projected to experience congestion during the p.m. peak hour as traffic enters and exits the freeway.

- I-94/TH 241 Interchange Operations. An intersection operations analysis for the I-94 ramp terminal intersections with TH 241 was conducted as part of the I-94 St. Michael to Albertville Project. Intersection operations results are also measured in terms of a LOS grading system ranging from A to F, which describes the delay per vehicle, or additional travel time experienced by each vehicle, through an intersection. In general, LOS A through LOS D is considered satisfactory by most motorists.

  Table 4 lists the traffic analysis results for future year 2040 No Build conditions during the a.m. peak hour and p.m. peak hour.

Table 4. I-94/TH 241 Interchange Operations Traffic Analysis Level of Service (LOS) Results

Intersection	2040 No Build Alternative LOS Results AM Peak Hour	2040 No Build Alternative Worst Approach Delay (seconds per vehicle) AM Peak Hour	2040 No Build Alternative LOS Results PM Peak Hour	2040 No Build Alternative Worst Approach Delay (seconds per vehicle) PM Peak Hour
I-94 EB Ramps & TH 241	D/F	150	E/F	312
I-94 WB Ramps & TH 241	C/E	72	F/F	120

Overall intersection LOS is listed first, followed by the worst approach LOS.

The current geometric configuration of the I-94/TH 241 interchange would not be able to accommodate year 2040 traffic volumes. The eastbound I-94 ramps/TH 241 intersection would operate at an overall LOS E during the p.m. peak hour under 2040 No Build conditions. Delays on the eastbound I-94 ramp are anticipated to increase nearly 10-fold from 36 seconds under existing conditions to greater than 300 seconds under 2040 No Build conditions. The westbound I-94 ramps/TH 241 intersection would operate at an overall LOS F under 2040 No Build conditions. The traffic queue on the westbound I-94 ramp is also expected to extend down the ramp onto I-94, affecting interstate operations.

Project Beneficiaries

The proposed project would benefit all users of the I-94 corridor. The pavement rehabilitation would improve pavement conditions and ride quality. The eastbound collector-distributor road would improve access to I-94 and improve mobility on local roadways between the CSAH 19 and CSAH 37 interchanges. The additional lanes between CSAH 37 and TH 241 would improve mobility along I-94. The I-94/TH 241 interchange improvements would reduce congestion and delays at the ramp terminal intersections and improve mobility along I-94.

6.5 Future Stages of Development

Item 6.e. Are future stages of this development including development on any other property planned or likely to happen?

☐ Yes ☒ No

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

Not applicable.

7 EAW Item 7: Cover Types

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

Table 5 lists cover types before the project and after the project.

Table 5. Cover Types (1), (2)

Cover Type	Before (acres)	After (acres)
Wetlands and Other Aquatic Resources	9.4	0
Wooded/Forest	1.4	0
Brush/Grassland	4.5	0
Cropland	0.3	0
Lawn/Landscaping	91.2	64.3
Impervious Surface	65.2	103.9
Other (Stormwater Features)	0	3.8
Total	172.0	172.0

(1) Cover types analysis assumes that all areas within preliminary design construction limits would be converted to transportation uses (e.g., lawn/landscaping, impervious surface, stormwater features).

(2) Cover types analysis assumes areas for proposed stormwater features based on current regulatory requirements as described in EAW Item 11.b.ii.

8 EAW Item 8: Permits and Approvals Required

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

Table 6 lists anticipated permits and approvals required for the project.

Table 6. Permits and Approvals

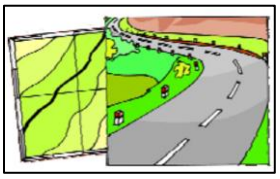
Unit of Government	Type of Application	Status
Federal		
Federal Highway Administration (FHWA)	Interstate Access Modification Request (IAMR)	To be completed
FHWA	National Environmental Policy Act (NEPA) decision	To be completed
U.S. Army Corps of Engineers (USACE)	Section 404 of the Clean Water Act	To be completed
MnDOT Cultural Resources Unit (CRU) on behalf of FHWA	Section 106 (Historic/Archaeological) Determination	Completed
MnDOT Office of Environmental Stewardship (OES) on behalf of FHWA	Section 7 Endangered Species Act Determination	Completed
State		
Minnesota Department of Natural Resources (DNR)	Temporary Water Appropriation Permit	To be acquired by contractor if necessary
MnDOT	Environmental Assessment Worksheet	Completed
MnDOT	EIS Need Decision	To be completed
MnDOT	Wetland Conservation Act (Boundary Approval/Public Road Project Notification)	To be completed
Minnesota Pollution Control Agency (MPCA)	Section 401 Certification	To be completed
MPCA	National Pollutant Discharge Elimination System (NPDES) Permit	To be completed
Local		
City of St. Michael	Municipal Consent	To be completed
City of Albertville	Municipal Consent	To be completed

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

9 EAW Item 9: Land Use

9.1 Describe Existing Land Use, Plans and Zoning

Item 9.a.i. Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, prime or unique farmlands.



Existing Land Use

MnDOT's highway right of way is located adjacent to a many different land uses in Albertville and St. Michael, including residential, retail commercial, business/office, industrial, transportation (railroad right of way), and agricultural/open space uses. Figure 5, Appendix A illustrates the existing land uses in the City of Albertville. Figure 6, Appendix A illustrates the existing land uses in the City of St. Michael.

Parks and Trails

There are no parks adjacent to the project segment of I-94. Parks within the general vicinity of the study area in Albertville include Linwood Park, Linfield Park, Winter Park, and Westwind Park. Parks within the general vicinity of the study area in St. Michael include Becker Big Woods, Gutzwiller Park, and Preserve Park. Trails are located along CSAH 19 and CSAH 37 in Albertville. A trail is also located along Oakwood Parkway and 50th Street Northwest in St. Michael, south of I-94. At the east project limits is the Crow River State Water Trail.

Prime or Unique Farmlands

Prime and unique farmlands are located adjacent to MnDOT's highway right of way. Lands along the north and south sides of I-94 between CSAH 37 and TH 241 are currently in agricultural uses. Figure 7, Appendix A illustrates prime and unique farmlands within the study area.

Item 9.a.ii. Plans. Describe planned land use as identified in comprehensive plan (if available) and any other applicable plan for land use, water, or resources management by a local, regional, state, or federal agency.

The City of Albertville's proposed land use map (January 18, 2010) and the City of St. Michael's comprehensive land use plan (November 13, 2012) were reviewed for lands

adjacent to the I-94 corridor. Undeveloped areas are located in Albertville and St. Michael adjacent to I-94 between the CSAH 37 and TH 241 interchanges. Undeveloped land in Albertville along the I-94 corridor east of CSAH 37 is guided towards industrial and commercial uses. Undeveloped land in St. Michael along the I-94 corridor west of TH 241 is guided towards commercial, business/office park, and industrial uses.

Item 9.a.iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

The Albertville zoning map illustrates a shoreland overlay district adjacent to School Lake and Mud Lake. School Lake and Mud Lake are located along the north side of I-94 between CSAH 19 and CSAH 37. MnDOT's highway right of way between CSAH 19 and CSAH 37 is located with the Albertville shoreland overlay district.

No special zoning districts are indicated on the St. Michael zoning map adjacent to the I-94 project corridor. A 100-year floodplain and floodway are located adjacent to the Crow River at the I-94/TH 241 interchange in St. Michael. MnDOT's highway right of way is located within the 100-year floodplain boundary. The City of St. Michael zoning code establishes guidelines for development within floodway and flood fringe districts.

9.2 Compatibility with Nearby Land Uses, Zoning and Plans

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

The project is located within MnDOT highway right of way, except for land adjacent to CSAH 36 north of the TH 241 interchange. The project would require right of way acquisition from adjacent properties to accommodate the reconstructed TH 241 interchange and the connection back to the existing CSAH 36 alignment. Affected properties are currently zoned for commercial and general agriculture uses. The proposed right of way acquisition consists of strip takings adjacent to the existing roadway and would not preclude future development on affected properties.

Erosion control measures following MnDOT best management practices and as required by National Pollutant Discharge Elimination System (NPDES) permitting will be implemented during project construction. The proposed stormwater management plan provides water quality treatment for runoff prior to discharge to Mud Lake. These measures provide compatibility for the portion of the project within the Albertville shoreland overlay district.

Figure 8, Appendix A shows the Federal Emergency Management Agency (FEMA) flood insurance rate map (FIRM) for St. Michael (Community Panel No. 270534 0032 C). According to the FEMA map, the 100-year flood elevation at I-94 west of the Crow River is between 871 feet and 870 feet. The existing I-94 roadway elevation is located above the FEMA 100-year flood elevation. Design plans from the 2015 I-94 construction between

St. Michael and Rogers identifies the 100-year basic flood headwater elevation at the I-94 bridges over the Crow River at 874.44 feet. Based on this elevation, an area along the TH 241 east ramps at I-94 would be below the 100-year flood elevation.

Using the FEMA 100-year flood elevation, the proposed project would result in a transverse floodplain encroachment along eastbound I-94 of approximately 650 feet. Using the 100-year flood elevation from the 2015 I-94 design plans, the proposed project would result in a transverse floodplain encroachment along eastbound I-94 of approximately 1,000 feet. Fill below the 100-year flood elevation would be from reconstruction of the TH 241 entrance ramp to eastbound I-94 and construction of an adjacent acceleration lane. It is not practical to avoid this transverse encroachment because the proposed project is located along an existing highway and floodplains are located within and adjacent to the existing MnDOT highway right of way. Compensatory floodplain storage would be provided in the southeast quadrant of the I-94/TH 241 interchange. This area is hydraulically connected to the floodplain by an existing culvert under the TH 241 entrance ramp to eastbound I-94.

The project does not include federal-aid funding. MnDOT has adopted a policy for State-funded projects to follow the requirements of Executive Order 11988 – Floodplain Management. EAW Item 20 (Other Potential Environmental Effects) includes a floodplain assessment.

The proposed project is located outside of the FEMA floodway boundary. Impacts to the Crow River floodway are not anticipated.

9.3 Measures to Mitigate Any Potential Incompatibility

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

No incompatibility with existing or planned land use is anticipated; therefore, no mitigation is required.

10 EAW Item 10: Geology, Soils and Topography/Land Forms

10.1 Geology Underlying the Project Area

Item 10.a. 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.

According to the Minnesota Geological Survey (MGS) Geologic Atlas of Wright County, the surficial soils in the project area consist primarily of till deposited by glacial ice and mudflows as the glacial ice retreated. Peat soils are located near the TH 241 interchange in St. Michael. In general, bedrock depths vary from approximately 150 feet to 350 feet below ground surface.

According to information available from the Minnesota Department of Natural Resources (DNR), the project is not located within a karst-prone region.[3] No mitigation measures to address geologic features are required.

10.2 Soils and Topography

Item 10.b. Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.

Project area topography varies from relatively flat at the west end of the corridor in Albertville to gently rolling in the area between CSAH 37 and TH 241. Elevations range from approximately 960 feet above sea level at the west end of the corridor to approximately 870 feet above sea level at the east end of the corridor at the Crow River.

Table 7 lists soil types within the project area, based on the Natural Resources Conservation Service (NRCS) Soil Survey for Wright County. Figure 7, Appendix A illustrates the locations of highly erodible land (HEL) and potentially highly erodible land (PHEL). Soils in the project area are classified in the Group B, Group C, and Group D hydrologic soil groups. These soils are characterized by moderate to very slow infiltration rates when thoroughly wet.

Table 7. Soil Types

Soil Name	Soil Symbol	Percent Slopes	HEL Determination
Lester loam (2)	106C2	6 to 10 %	PHEL

[3] Minnesota Department of Natural Resources. Ecological and Water Resources Division. 2016. *Minnesota Regions Prone to Surface Karst Feature Development* available at http://files.dnr.state.mn.us/waters/groundwater_section/mapping/gw/gw01_report.pdf

Soil Name	Soil Symbol	Percent Slopes	HEL Determination
Lester loam (1)	106D2	10 to 16 %	HEL
Lester loam (1)	106E	16 to 22 %	HEL
Hamel loam (3)	414	0 to 2 %	NHEL
Hamel-Glencoe complex (3)	740	0 to 2 %	NHEL
Udorthents, loamy (cut and fill land) (1)	1016	Udorthents, loamy (cut and fill land)	NHEL
Klossner, Okoboji, and Glencoe soils, ponded (1)	1080	0 to 1 %	NHEL
Cordova loam (3)	1156	0 to 2 %	NHEL
Fordum loam (1)	1378	0 to 2 %, occasionally flooded	NHEL
Lester-Malardi complex (2)	1023C	6 to 12 %	PHEL
Angus-Cordova complex (4)	1094B	0 to 5 %	NHEL
Angus loam (4)	1362B	2 to 6 %	NHEL
Elkriver fine sandy loam (2)	D3A	0 to 2 %, occasionally flooded	NHEL
Water (1)	W	Water	NHEL

Source: U.S. Department of Agriculture (USDA). Natural Resources Conservation Service (NRCS). Soil Survey for Wright County, Minnesota and Hennepin County, Minnesota.

HEL = highly erodible land. PHEL = Potentially highly erodible land. NHEL = Not highly erodible land.

(1) Not prime farmland

(2) Farmland of statewide importance

(3) Prime farmland if drained

(4) All areas are prime farmland

The acreage of soil excavation and/or grading for the proposed project is approximately 172 acres (i.e., area within preliminary construction limits). The estimated volume of soil excavation and/or grading is approximately 277,500 cubic yards.[4] Project area soils do not present any situations that would require unique soil stabilization methods, soil correction, or other measures. Poor soils along the I-94 roadway would be excavated and replaced with material suitable for the roadway subgrades.

A Stormwater Pollution Prevention Plan (SWPPP) will be developed for this project following MnDOT standard best management practices for erosion control and stormwater management. These best management practices will be maintained throughout project construction. All disturbed areas will be revegetated in accordance with the SWPPP and related permitting requirements (see EAW Item 11.b.ii).

NOTE: For silica sand projects, the EAW must include a hydrogeologic investigation assessing the potential groundwater and surface water effects and geologic conditions that could create an increased risk of potentially significant effects on groundwater and surface water. Descriptions of water resources and potential effects from

[4] Assumes excavation up to one foot over the entire project area within preliminary construction limits.

the project in EAW Item 11 must be consistent with the geology, soils and topography/land forms and potential effects described in EAW Item 10.

11 EAW Item 11: Water Resources

11.1 Surface Water and Groundwater Features

Item 11.a. Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.

Item 11.a.i. Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.

DNR Public Waters

Four Minnesota Department of Natural Resources (DNR) Public Water basins, watercourses, or wetlands were identified within 500 feet of the project limits (see Table 8 and DNR correspondence in Appendix B).

Table 8. DNR Public Water Basins, Watercourses, and Wetlands Within 500 Feet of the Project Limits

Surface Water	DNR Public Water Number
Crow River and Crow River Oxbow	N/A (public water watercourse)
Unnamed Wetland	86041500
Hunters (Mud) Lake	86002600
School Lake	86002500

Aquatic Resources

The project area consists of an assortment of wetlands, roadside wetland ditches (wet ditches), and tributaries. Wetland boundaries within MnDOT highway right of way limits were field delineated in summer 2016 using a Level 2, routine, on-site determination method. Wetlands and roadside wetland ditches within center median were identified using a Level 1, routine, off-site determination method. A supplemental wetland delineation was completed in summer 2017 for areas outside of MnDOT right of way at I-94 and CSAH 37 in Albertville. A total of 85 aquatic resources or portions thereof were identified within the investigation area. Figure C2 through Figure C6 in Appendix C illustrates delineated wetland boundaries and other aquatic resources in the project area.

MPCA 303d Impaired Waters List

Table 9 lists the four impaired waters within one mile of the project limits. These four aquatic resources are identified on the Minnesota Pollution Control Agency's (MPCA) 303d Impaired Waters list.

Table 9. MPCA 303d Impaired Waters within One Mile of the Project Limits

Waterbody Name	Beneficial Use (Biology and Recreation, Consumption)	Impairment Cause	TMDL Plan	DNR Public Water Number
School Lake	Aquatic Recreation	Nutrient/eutrophication biological indicators	N/A	86002500
Hunters (Mud) Lake	Aquatic Recreation	Nutrient/eutrophication biological indicators	N/A	86002600
Foster Lake	Aquatic Recreation	Nutrient/eutrophication biological indicators	N/A	86000100
Crow River	Aquatic Life Aquatic Recreation	Aquatic macroinvertebrate assessments Fishes bioassessments Dissolved oxygen, turbidity Fecal coliform	North Fork Crow and Lower Crow TMDL	N/A (public water watercourse)

Item 11.a.ii. Groundwater - aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

Wellhead Protection Areas (WHPA) and Drinking Water Supply Management Areas (DWSMA)

There are no wellhead protection areas (WHPA) or drinking water supply management areas (DWSMA) within the preliminary construction. The Albertville/St. Michael/Hanover Joint Powers Board WHPA and DWSMA are located south of I-94 in Albertville and St. Michael. The Joint Powers Board WHPA is located approximately 0.8 miles south of I-94, whereas the Joint Powers Board DWSMA is located approximately 0.2 miles south of I-94. The Otsego West WHPA and DWSMA are located approximately 0.5 mile north of I-94[5]

[5] Source: Minnesota Department of Health. Environmental Health Division. Source Water Protection Unit. February 19, 2015. Wellhead Protection Areas, Geospatial Data and Drinking Water Management Supply Areas, Geospatial Data available at http://www.health.state.mn.us/divs/eh/water/swp/maps/.

Wells

A search of the Minnesota County Well Index (CWI) indicates that many wells are located along the I-94 project corridor.[6] These wells are located outside of the MnDOT highway right of way and preliminary construction limits. The depth of the wells ranged from 75 feet to 250 feet. Most of these wells were for commercial or domestic uses.

Impacts to wells are not anticipated. If any unused or unsealed wells are discovered in the project area during construction, they will be sealed in accordance with Minnesota Rules Chapter 4725.

11.2 Effects From Project Activities on Water Resources and Measure to Minimize or Mitigate the Effects

Item 11.b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.

Item 11.b.i. Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.

1) 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. The proposed project would not generate wastewater.

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

Not applicable.

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

Not applicable.

Item 11.b.ii. Stormwater - Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges.

[6] Source: Minnesota Department of Health. 2016. Minnesota Well Index available at https://apps.health.state.mn.us/cwi/.

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

Much of the stormwater runoff from the project segment of I-94 currently drains into the center median ditch and outside shoulder ditches. Storm sewer and culvert connections across eastbound and westbound I-94 convey stormwater runoff from the center median to the outside, as well as from one side of the highway to another.

There are few existing stormwater BMP's along the project segment of I-94. An existing two-cell wet pond system is located along the north side of I-94 west of the CSAH 37 interchange. These ponds treat stormwater runoff from the westbound collector distributor road between CSAH 19 and CSAH 37.

Stormwater runoff from the project corridor is conveyed to several different receiving water bodies, including: School Lake, Hunters (Mud) Lake, the Mississippi River, and the Crow River.

Proposed Stormwater Management Plan

The proposed project would increase the amount of impervious surface area within the project area by approximately 38.7 acres compared to existing conditions. Existing drainage patterns will be maintained to the extent that is feasible. The existing center median ditches from CSAH 19 to west of TH 241 would be filled to accommodate the reconstruction of I-94 and the proposed additional lanes between CSAH 37 and TH 241. Soil borings were collected in the project area, and piezometers were installed at proposed pond locations. Results of the soil borings indicate that soils in the project area are not well-suited for infiltration. Piezometer readings also indicates shallow ground water elevations in the project area. Therefore, the proposed stormwater management plan for the project does not include infiltration. The proposed stormwater management plan for the project is summarized below.

- Stormwater runoff from I-94 west of the CSAH 19 interchange would follow existing drainage patterns, discharging to wetlands along the north side I-94 between the freeway and commercial land uses. This water is conveyed through storm sewer under CSAH 19 and discharges to School Lake. A ditch would be constructed along the entrance ramp from CSAH 19 to westbound I-94 to direct some of the highway runoff away from the wetlands and to and existing ditch along the westbound collector-distributor road to avoid overloading the existing drainage system.
- Stormwater runoff from the I-94/CSAH 19 interchange area would be conveyed to a proposed wet pond in the northeast quadrant of the interchange. Runoff from this

wet pond would be conveyed to an existing ditch along the north side of the westbound I-94 collector-distributor road, prior to discharge to School Lake.

- Stormwater runoff from the proposed eastbound collector-distributor road and the I-94 segment between CSAH 19 and CSAH 37 would be conveyed to a proposed wet pond in the southwest quadrant of the I-94/CSAH 37 interchange. Additional land would be graded adjacent to this wet pond to temporarily store runoff for rate control. Runoff would then be conveyed under I-94 existing wet ponds located north of I-94 and west of CSAH 37, prior to discharge to Hunters (Mud) Lake.
- Stormwater runoff from the south side of the CSAH 37 interchange area would be conveyed to a proposed wet pond in the southeast quadrant of the I-94/CSAH 37 interchange. Runoff from this wet pond would be conveyed to the adjacent wetland complex on the north side of I-94. This wetland ultimately discharges to the Mississippi River. This wet pond would be designed to maximize runoff storage volume and maintain existing discharge rates from MnDOT's highway right of way.
- A storm sewer trunk line would be constructed in the middle of I-94 from east of CSAH 37 to TH 241. A proposed wet pond would be constructed along the south side of I-94, approximately 0.5 miles west of the I-94/TH 241 interchange. Stormwater runoff from I-94 east of CSAH 37 would be discharged to this wet pond, and then conveyed back into the storm sewer trunk line in I-94. This runoff, along with runoff from I-94 west of TH 241, would be conveyed to a proposed dry pond and wet pond in the northwest quadrant of the I-94/TH 241 interchange, prior to discharge to the Crow River.

A detailed drainage overview map was prepared for the project corridor. This map illustrates existing culverts; existing ditch flow; aquatic resources (including delineated wetland boundaries); proposed culverts and storm sewer; proposed drainage boundaries and flow directions; discharge points; and proposed BMPs. A copy of this drainage overview map is available from the MnDOT Project Manager (see contact information in EAW Item 2).

The proposed project would not contribute to the impairment of receiving waters. The proposed stormwater management system will support the identified roadway improvements, providing water quality treatment, volume control, and rate control. Figure 4A through Figure 4E, Appendix A illustrate the locations of proposed wet ponds and dry ponds. Stormwater BMPs will be designed and constructed to meet NPDES regulatory requirements.

Stormwater Pollution Prevention Plans

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

Item 11.b.iii. Water appropriation - Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.

If temporary dewatering is necessary during project construction, groundwater appropriation permits would be obtained from the DNR for temporary dewatering activities. Any groundwater appropriations will be treated prior to discharge as per NPDES permitting requirements.

The project would not involve other water uses (e.g., connection to municipal water system, expansion of municipal water infrastructure).

Item b.iv. Surface Waters

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

Physical Effects or Alterations to Aquatic Resources

A total of 85 aquatic resources or portions thereof totaling 23.67 acres were identified within the delineation investigation area. Figure C2 through Figure C6 in Appendix C illustrate aquatic resources in the project area. A copy of the complete wetland delineation reports are available for review from the MnDOT project manager (see contact information in EAW Item 2).

The proposed project would result in approximately 9.40 acres of permanent aquatic resource impacts, including 6.84 acres of wetland impacts, 2.29 acres of wet ditch impacts, and 0.27 acres of tributary impacts. Table 10 summarizes anticipated aquatic resource impacts by resource type. Table 11 summarizes anticipated wetland impacts by wetland community type. The Wetland Impact Assessment and Two-Part Finding form in Appendix C describes sequencing (avoidance, minimization, and mitigation) and anticipated aquatic resource impacts by individual resource.

Table 10. Aquatic Resource Impacts

Aquatic Resource Type	Aquatic Resource Impacts (acres)	Compensatory Mitigation Requirements
Wetlands	6.84 acres	Minimum 2:1 replacement
Wet Ditches (within center median and to the outside)	2.29 acres	Assumes none
Tributaries	0.27 acres (approx. 850 feet)	Mitigation to be determined
Total	**9.40 acres**	--

Table 11. Wetland Impacts by Community Type

Wetland Type Classification (Circular 39)	Wetland Type Classification (Eggers & Reed)	Permanent Wetland Impacts (acres)
1	Seasonally Flooded Basin	0.33
2	Fresh Wet Meadow	2.91
3	Shallow Marsh	2.53
4	Deep Marsh	0.46
5	Open Water Wetland	112 sf
6	Shrub Swamp	0.60
	Total	**6.84 acres**

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). It is anticipated that wetlands will be replaced at a 2:1 ratio within Bank Service Area 7 (BSA 7). Wet ditches would not require mitigation provided that the ditch is replaced and there is no loss of function. In most cases, wet ditches would be reconstructed along eastbound and westbound I-94 along the outside of the fill slope. The specific wetland bank credits will be determined through consultation with the USACE and the MnDOT Office of Environmental Stewardship (OES).

Tributaries

Three tributaries would be impacted by the project totaling approximately 0.27 acres: a tributary in the northeast quadrant of the I-94/CSAH 19 interchange that discharges to School Lake (Aquatic Resource ID "E", see Figure C2, Appendix C); a tributary that crosses I-94 between CSAH 37 and TH 241 (Aquatic Resource ID "D", see Figure C5, Appendix C); and a tributary along the north side of I-94 east of the TH 241 interchange (Aquatic Resource ID "C", see Figure C5 and Figure C6, Appendix C). These three tributaries are not classified as DNR public waters.

Approximately 95 percent of the tributary impacts of the project are to the one tributary along the north side of I-94 east of the TH 241 interchange (Aquatic Resource ID "C", approximately 0.26 acre). Impacts to tributaries would result from fill slope construction. Compensatory mitigation for impacts to tributaries will be determined through consultation with the USACE and the MnDOT OES.

DNR Public Waters

Four DNR Public Water basins, watercourses, or wetlands were identified within 500 feet of the project limits (see Table 8). The project would not result in fill below the ordinary high water level (OHWL) of School Lake, Hunters (Mud) Lake, and an unnamed wetland southeast of the I-94/CSAH 37 interchange.

The eastern terminus of the project is the I-94 bridges over the Crow River. The Crow River oxbow north and south of I-94 and east of TH 241 is part of the Crow River public water watercourse. The DNR identified an OHWL for the Crow River oxbow of 859 feet.

The proposed project includes reconstruction of the TH 241 entrance ramp to eastbound I-94. An acceleration lane would be constructed along eastbound I-94 between the entrance ramp from TH 241 and the bridge over the Crow River. The proposed fill slope south of the eastbound I-94 acceleration lane would result in fill below the OHWL elevation of 859 feet. The impact below the OHWL elevation of 850 feet, based on preliminary design construction limits, is anticipated to be less than 0.01 acre.

The preliminary design for the project includes a fill slope that varies from 1:4 to 1:3 along the south side of eastbound I-94 adjacent to the Crow River oxbow. This fill slope will be steepened in final design to avoid fill impacts below the OHWL elevation of 859 feet. Therefore, a DNR public waters work permit is not anticipated for the project.

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.

No temporary or permanent water body impacts are anticipated because of the proposed project. The proposed project would not impact School Lake or Hunters (Mud) Lake in Albertville. The proposed project would not alter the existing eastbound and westbound I-94 bridges over the Crow River in St. Michael. The project would not change the number or type of watercraft on any water body. Use of the Crow River State Water Trail would not be affected by the project.

12 EAW Item 12: Contamination/Hazardous Materials/ Wastes

12.1 Pre-Project Site Conditions

Item 12.a. Pre-Project Site Conditions. Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

Contaminated Properties

MnDOT's Contaminated Materials Management Team (CMMT) reviewed the Minnesota Pollution Control Agency (MPCA) and Minnesota Department of Agriculture (MDA) databases to check for known contaminated sites in the project area. The databases searched included: leaking underground storage tank facilities, landfills, salvage yards, voluntary investigation and cleanup (VIC) sites, Superfund sites and dump sites. Based on the database review, there is one closed leaking underground storage tank site and one former MDA spill site within approximately 500 feet of the project area.

Given the nature and location of the project area, the proposed project was identified by CMMT to have a low to medium risk of impacting potentially contaminated sites. CMMT will review proposed wet pond and dry pond excavation plans and determine if Phase II drilling investigations are necessary. During a Phase II investigation, sites are evaluated to determine the extent and magnitude of potentially contaminated soil and groundwater and their potential to be impacted by project construction.

Any impacts from contaminated properties established during Phase II investigations will be mitigated by modifying the project design where warranted and/or avoiding encountering contaminated materials during construction. If contaminated materials cannot be avoided, a plan will be developed to properly handle and treat any contaminated materials encountered during project construction in accordance with applicable state and federal regulations.

Regulated Materials/Wastes

The project would include demolition of the I-94 bridges over CSAH 19 in Albertville and the TH 241 bridge over I-94 in St. Michael. Building structures in the southwest quadrant of the I-94/CSAH 37 interchange also would be demolished as part of the project.

Asbestos and regulated waste surveys for the TH 241 bridge over I-94 and the I-94 bridges over CSAH 19 were completed in August 2016. Asbestos, mercury, and polychlorinated biphenyls (PCBs) were not detected. Lead paint and lead plates were observed on each bridge, and treated guardrail posts and blocks are located at the bridge approaches. Copies of the asbestos and regulated waste survey reports are available for review from the MnDOT Project Manager (see contact information in EAW Item 3).

MnDOT will complete a regulated materials assessment for each building in the southwest quadrant of I-94/CSAH 37 prior to demolition. MnDOT will identify and properly handle and dispose of all regulated materials/wastes that are part of building structures.

Regulated materials/waste will be managed on this project in accordance with MnDOT special provisions.

12.2 Project Related Generation/Storage of Solid Wastes

Item 12.b. Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

The disposal of solid waste generated by clearing the construction area is a common occurrence associated with road construction projects. During project construction, excavation of soil would need to occur within the construction limits. Future design studies 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 excavated material would be reused onsite for construction of ramps and roadway embankments. Any excess soil material that is not suitable for use on the project site would become the property of the contractor and will be disposed of in accordance with state and federal requirements in place at the time of project construction.

Excess materials and debris from this project such as concrete and asphalt will be disposed of in accordance with MnDOT specifications. In particular, excess materials and debris will not be placed in wetlands or floodplains.

12.3 Project Related Use/Storage of Hazardous Materials

Item 12.c. Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any above or below ground tanks to store petroleum or other materials. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects

from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

The project would not include permanent hazardous materials storage. 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. Appropriate measures will be taken during construction to avoid spills that could contaminate groundwater or surface water in the project area. In the event a leak or spill occurs during construction, it will be responded to in accordance with MPCA containment and remedial action procedures.

12.4 Project Related Generation/Storage of Hazardous Materials

Item 12.d. Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling.

Not applicable. The project would not generate or store hazardous waste. Temporary storage of fuel for construction equipment is discussed above in Item 12.c.

13 EAW Item 13: Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources (Rare Features)

13.1 Fish and Wildlife Resources

Item 13.a. Describe fish and wildlife resources as well as habitats and vegetation on or in near the site.

Wildlife Resources

Most of the land within the preliminary construction limits have experienced some type of previous disturbance. Land within the project limits have been converted to transportation uses. Residential, commercial, agricultural, and industrial developments have substantially altered the land adjacent to the study area. In general, wildlife species found in the project area are those species adapted to live in areas of mixed development and fragmented or partially fragmented habitats.

Fisheries Resources

There are several DNR public waters within or near the project area (see Table 8 in EAW Item 11). School Lake and Hunters (Mud) Lake are located along the north side of I-94 between CSAH 37 and CSAH 19 in Albertville. The Crow River is located near the eastern project terminus east of the I-94/TH 241 interchange in St. Michael.

13.2 Rare Features

Item 13.b. Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-) and/or correspondence number (ERDB) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.

MnDOT has a liaison with the Department of Natural Resources (DNR) who performs Natural Heritage Information System (NHIS) reviews for trunk highway projects; therefore, no LA or ERDB number has been assigned. See DNR correspondence in Appendix B.

A search of the NHIS database was conducted to identify rare features within the project area. The NHIS database comprises locational records of rare plants, animals, and other features including native plant communities, sites of biodiversity, geologic features, and animal aggregations. To ensure protection of these features, specific location information is not provided in this EAW. The EAW identifies the rare features in the project area and describes measures to avoid, minimize, or mitigate impacts to these resources.

State Listed Threatened and Endangered Species

One state-listed species was identified in the NHIS review. Blanding's turtle (*Emydoidea blandingii*), a state-listed threatened species, has been previously reported in the project area.

MCBS Native Plant Communities

There are no known Minnesota County Biological Survey (MCBS) native plant communities within a one-mile radius of the project area.

MCBS Sites of Biodiversity Significance

One MCBS site of biodiversity significance is located near the study area. A Sugar Maple Forest (Big Woods) site is located approximately 0.3 miles south of I-94 in the southwest quadrant of CSAH 18 (50th Street Northeast) and CSAH 22 (Naber Avenue Northeast). This site is classified as a site of moderate biodiversity significance. See DNR correspondence in Appendix B.

Federally Listed Threatened and Endangered Species

According to the U.S. Fish and Wildlife Service (USFWS) County Distribution of Federally-Listed Threatened, Endangered, Proposed, and Candidate Species (revised October 2016), the project is within the distribution range of the northern long-eared bat (*Myotis septentrionalis*). The northern long-eared bat (*Myotis septentrionalis*) is a federally-listed threatened species. See MnDOT Office of Environmental Stewardship (OES) correspondence in Appendix B.

13.3 Impacts of the Project

Item 13.c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

Fisheries Resources

The project area is located adjacent to three DNR public waters (School Lake, Hunters (Mud) Lake, Crow River). No in-water work is anticipated with the project; however, stormwater runoff from the project discharges to these waters. Work adjacent to these waters will need to incorporate fish spawning restriction dates into the project construction schedule.

Plant Communities/Rare Features

The proposed project would be constructed within existing MnDOT highway right of way and would not directly or indirectly impact the Sugar Maple Forest (Big Woods) site located south of I-94 in St. Michael.

Threatened and Endangered Species

Blanding's turtles (*Emydoidea blandingii*), a state-listed threatened species, have been reported in the project vicinity. Blanding's turtles require both upland and wetland habitats to complete their life cycle. There is the possibility that Blanding's turtles could be encountered during construction as they undertake their seasonal movements between upland and wetland habitats.

The project is within the range of the northern long-eared bat (*Myotis septentrionalis*), a federally-listed threatened species. The project will involve the replacement of several existing highway bridges. There are no documented maternity roost trees or hibernacula in the project area. MnDOT, acting as the non-federal agency for FHWA, has determined that the project would result in a may affect, but will not cause a prohibited incidental take of the northern long-eared bat (*Myotis septentrionalis*). See MnDOT OES correspondence in Appendix B.

Introduction and Spread of Invasive Species from Project Construction and Operation

There is no in-water work associated with the proposed project. The project would not introduce aquatic invasive species (AIS) into nearby water bodies.

During the construction phase of the project, MnDOT best management practices will be used to reduce the spread of invasive species to or from the project location. Native seed mixes will be used for re-vegetation as specified in the Stormwater Pollution Prevention Plan (SWPPP). Contractors will be required to follow all specifications related to re-vegetation and vegetation management as identified in the construction contract.

13.4 Measures to Avoid, Minimize, or Mitigate Adverse Effects

Item 13.d. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.

Threatened and Endangered Species

Blanding's turtles (*Emydoidea blandingii*), a state-listed threatened species, have been reported in the project vicinity, and may be encountered during construction. MnDOT will provide the DNR's *Blanding's Turtle Fact Sheet* to all contractors working on the site so that the appropriate measures can be followed if Blanding's turtles are encountered during construction.

Wildlife Resources

The use of erosion control blanket will be limited to "bio-netting" or "natural netting" type products (category 3N or 4N). Plastic mesh netting will not be allowed on the project.

Fisheries Resources

The MPCA NPDES general permit for authorization to discharge stormwater associated with construction activities (permit MN R10001) recognizes the DNR "work in water restrictions" during specified fish migration and spawning time frames for areas adjacent to water. There are DNR Public Waters within the project vicinity. During the restriction period, all exposed soil areas that are within 200 feet of the water's edge and that drain to these waters must have erosion prevention stabilization activities initiated immediately after soil disturbing activity has ceased (and be completed within 24 hours).

14 EAW Item 14: Historic properties

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the

State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

The proposed project was review 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 MnDOT CRU correspondence in Appendix B).

15 EAW Item 15: Visual

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

The project area is a freeway corridor. The proposed project would widen the existing roadway; construct a new eastbound collector-distributor road between CSAH 19 and CSAH 37; and replace the I-94/TH 241 interchange within the established highway right of way limits. Existing structures outside of MnDOT right of way in the southwest quadrant of the I-94/CSAH 37 interchange would be demolished and a new stormwater basin would be constructed. The project area does not include scenic vistas or views. The project would not introduce visual effects beyond the proposed roadway infrastructure improvements.

The project segment of I-94 between TH 241 in St. Michael and CSAH 19 in Albertville currently does not have highway lighting. The proposed project would not include the installation of highway lighting. Interchange lighting at CSAH 19, CSAH 37, and TH 241 would be maintained.

16 EAW Item 16: Air

16.1 Stationary Source Emissions

Item 16.a. Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.

Not applicable.

16.2 Vehicle Emissions

Item 16.b. 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 as the number of vehicles and the congestion levels in a given area change. The adverse impacts this project could have on air quality have been analyzed by addressing criteria pollutants, a group of common air pollutants regulated by the 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 the project's projected concentrations to National Ambient Air Quality Standards (NAAQS).

In addition to the criteria air pollutants, the EPA also regulates air toxics. The FHWA provides guidance for the assessment of Mobile Source Air Toxic (MSAT) effects for transportation projects in the National Environmental Policy Act (NEPA) process. A quantitative 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 FHWA.

What is National Ambient Air Quality Standards (NAAQS)?

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

Ozone

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

The MPCA, in cooperation with various other agencies, industries, and groups, has encouraged voluntary control measures for ozone concentrations and has begun developing a regional ozone modeling effort. Ozone concentrations in the lower atmosphere are influenced by a complex relationship of precursor concentrations, meteorological conditions, and regional influences on background concentrations. MPCA states in the document, *The Air We Breathe. The State of Minnesota's Air Quality* (2017, page 27), that:

> *On October 1, 2015, the EPA strengthened the ozone standard to 70 parts per billion (ppb), down from the 2008 standard of 75 ppb. All areas of Minnesota currently meet the new standard – but some parts of the state are close. Measured ozone levels in some areas of the state are now within 85% or more of the level of the ozone standard, placing these areas at greater risk for violating the standard in the future. While emissions that help form ozone are decreasing, warmer summers and more frequent wildfires may cause both fine-particle levels and ozone levels to rise.*

Additionally, the State of Minnesota is classified by the EPA as an "ozone attainment area," which means that Minnesota has been identified as a geographic area that meets the national health-based standards for ozone levels. Because of these factors, a quantitative ozone analysis was not conducted for this project.

Particulate Matter

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

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

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

Source**:** https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm

In 2012, the MPCA enrolled in EPA's voluntary Advance Programs for particulate matter. This program helps the states achieve voluntary emission reductions to lower concentrations of *this pollutant. The pro*gram aims at helping state and local governments reduce air pollution in areas that currently meet federal standards for fine particles. As researchers better understand the health impacts of air pollutants, EPA reviews and strengthens national air quality standards. These programs help the states stay ahead of changes to the national standards. Without continued improvements in air quality, Minnesota is at risk for violating air quality standards in the future. Partners in the Clean Air Minnesota Program, including MnDOT, have committed to reducing man-made fine particulate matter ($PM_{2.5}$) by 10% from 2011 levels.

In January 2013, the EPA issued a final rule revising the annual health NAAQS for fine particles ($PM_{2.5}$) to be 12.0 micrograms per cubic meter ($\mu g/m^3$) as the annual $PM_{2.5}$ standard. The EPA retained the 24-hour $PM_{2.5}$ standard at a level of 35 $\mu g/m^3$ (the EPA issued the 24-hour standard in 2006). The agency also retained the existing standards for coarse particle pollution (PM_{10}). The NAAQS 24-hour standard for PM_{10} is 150 $\mu g/m^3$, which is not to be exceeded more than once per year on average over three years.

Source: https://www.epa.gov/pm-pollution/2012-national-ambient-air-quality-standards-naaqs-particulate-matter-pm

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

Nitrogen Dioxide (Nitrogen Oxides)

Nitrogen oxides, or NO_x, is the generic term for a group of highly reactive gases, including Nitrogen Dioxide (NO_2), all of which contain nitrogen and oxygen in varying amounts. Nitrogen oxides are formed when fuel is burned at high temperatures, as in a combustion process. The primary sources of NO_x are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuels. The MPCA's report, *The Air We Breathe. The State of Minnesota's Air Quality* (2017, page 21), indicates that gasoline light-duty vehicles and trucks and diesel on-road heavy-duty trucks, delivery trucks, and buses account for approximately 40% of NO_x emissions in Minnesota. In addition to being a precursor to ozone, NO_x can contribute to potential health effects, including cardiovascular effects (chest tightness, heart attacks, stroke); respiratory effects (wheezing, cough, asthma

attacks, infections, reduced lung function); and irritation (scratchy throat, runny nose, watery eyes, excess mucus).

Exhibit 5 shows that Minnesota currently meets federal nitrogen dioxide standards (Source: MPCA. *Annual Air Monitoring Network Plan for Minnesota, 2018*. July 2017. Figure 21: Average Annual NO_2 Concentrations compared to the NAAQS, 2016). In the MPCA's report *Annual Air Monitoring Network Plan for Minnesota, 2018* (July 2017), the following statement is made on page 33 about NO_2:

> *A monitoring site meets the annual NAAQS for NO2 if the annual average is less than or equal to 53 ppb. Minnesota averages ranged from 5 ppb at Flint Hills Refinery 423 to 13 ppb at the Near Road I-35/I-94 site (962); therefore, Minnesota currently meets the annual NAAQS for NO2 (Figure 21).*

Exhibit 5. Average Annual NO_2 Concentrations Compared to the NAAQS

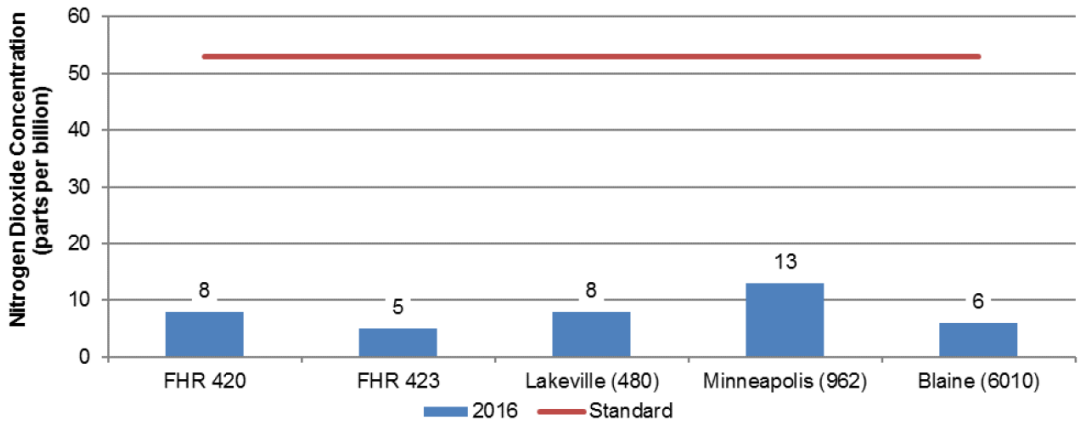


Figure 21: Annual average NO_2 concentrations compared to the NAAQS, 2016

In the *Annual Air Monitoring Network Plan for Minnesota*, 2018, it states the following about the 1-hr NO_2 Standard (Source: MPCA. *Annual Air Monitoring Network Plan for Minnesota, 2018*. July 2017. Page 35):

> *On January 22, 2010 the EPA finalized revisions to the NO2 NAAQS. As part of the standard review process, the EPA retained the existing annual NO2 NAAQS, but also created an additional one-hour standard. The new one-hour NAAQS is intended to protect against adverse health effects associated with short-term exposures to elevated NO2. To meet this standard, the three-year average of the annual 98th percentile daily maximum one-hour NO2 concentration must not exceed 100 ppb. Minnesota averages ranged from 26 ppb at Flint Hills Refinery 423 to 46 ppb at Blaine (6010); therefore, all Minnesota sites currently meet the one-hour NAAQS for NO2 (Figure 22).*

Exhibit 6 depicts the 2012-2014 1-hour NO_2 concentrations at Minnesota sites compared to the 1-hour NO_2 NAAQS (Source: MPCA. *Annual Air Monitoring Network Plan for Minnesota, 2018*. July 2017. Figure 22: 1-hour NO_2 Concentrations compared to the NAAQS, 2014-2016).

Exhibit 6. 1-Hour NO2 Concentrations Compared to the NAAQS

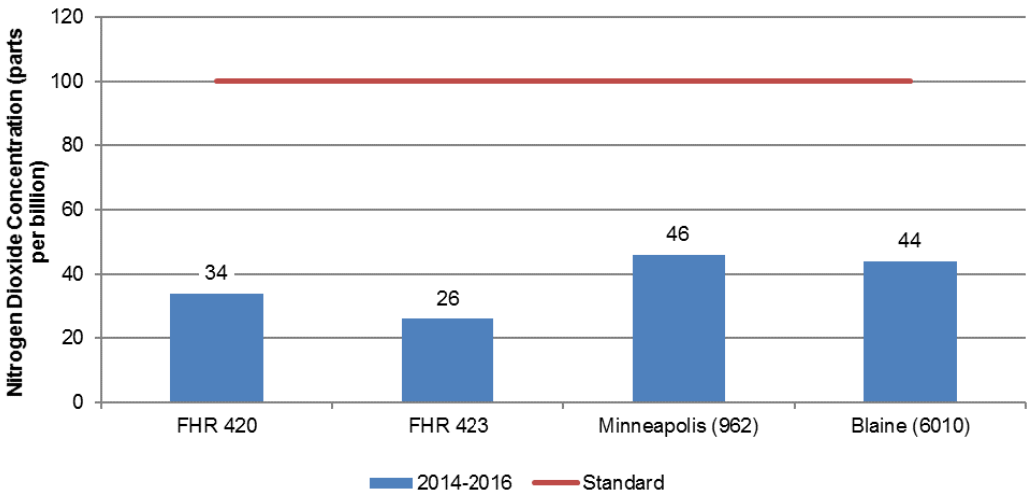


Figure 22: 1-hour NO_2 concentrations compared to the NAAQS, 2014-2016

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

> *The new tailpipe standards are set at an average standard of 0.07 grams per mile for nitrogen oxides for all classes of passenger vehicles beginning in 2004. This includes all light-duty trucks, as well as the largest SUV's. Vehicles weighing less than 6000 pounds will be phased-in to this standard between 2004 and 2007.*
>
> *As newer, cleaner cars enter the national fleet, the new tailpipe standards will significantly reduce emissions of nitrogen oxides from vehicles by about 74 percent by 2030. The standards also will reduce emissions by more than 2 million tons per year by 2020 and nearly 3 million tons annually by 2030.*

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

Sulfur Dioxide

Sulfur dioxide (SO_2) and other sulfur oxide gases (SO_x) are formed when fuel containing sulfur, such as coal, oil, and diesel fuel, is burned. Sulfur dioxide is a heavy, pungent,

colorless gas. Elevated levels can impair breathing, can lead to other respiratory symptoms, and at very high levels, can aggravate heart disease. People with asthma are most at risk when SO_2 levels increase. Once emitted into the atmosphere, SO_2 can be further oxidized to sulfuric acid, a component of acid rain.

Exhibit 7 shows MPCA monitoring for ambient SO_2 concentrations. Ambient SO_2 concentrations were at less than 20 percent of the federal standards over the 3-year period from 2014 through 2016 (Source: MPCA. *Annual Air Monitoring Network Plan for Minnesota, 2018*. July 2017. Figure 24: 1-hour SO2 Concentrations Compared to the NAAQS, 2014-2016*)*. MPCA also states that approximately 57 percent of SO_2 emissions released into the air in Minnesota are generated by electric utilities (Source: MPCA. *2016 Pollution Report to the Legislature.* April 2016. Page 22). A much smaller proportion is of the total SO_2 released into the air in Minnesota is attributable to on-road mobile sources. The MPCA has concluded that long-term trends in both ambient air concentrations and total SO_2 emissions in Minnesota indicate steady improvement.

Exhibit 7. 1-Hour SO2 Concentration Compared to the NAAQS

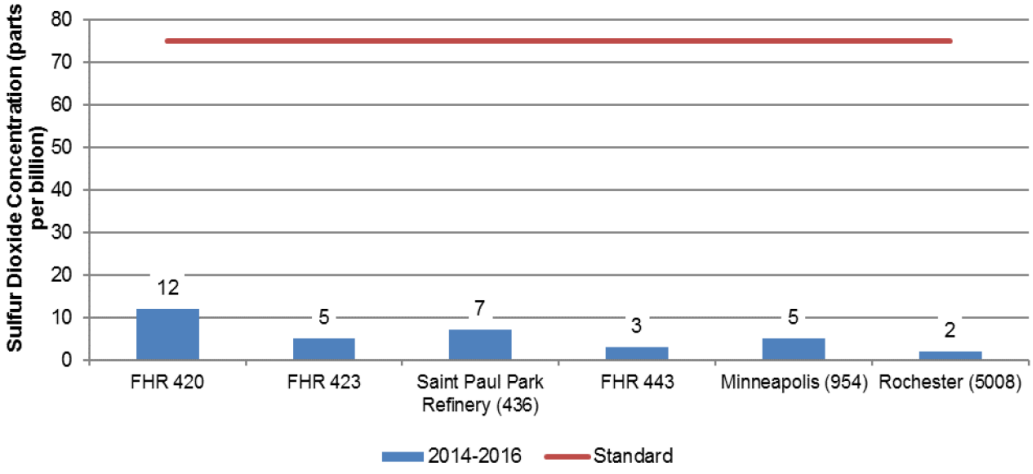


Figure 24: 1-hour SO_2 concentrations compared to the NAAQS, 2014-2016

Exhibit 7 shows that Minnesota currently meets federal SO_2 standards (source: MPCA. *Annual Air Monitoring Network Plan for Minnesota, 2018*. July 2017. Figure 24: 1-hour SO_2 concentrations compared to the NAAQS). In the MPCA's report *Annual Air Monitoring Network Plan for Minnesota, 2018* (July 2017), the following statement is made on page 37 about SO_2:

> *On June 2, 2010, the EPA finalized revisions to the primary SO2 NAAQS. EPA established a new one-hour standard, which is met if the three-year average of the annual 99th percentile daily maximum one-hour SO2 concentration is less than 75 ppb. Previous standards were revoked under the new rule. Minnesota averages from 2014-2016 ranged*

from 2 ppb at Rochester (5008) to 12 ppb at Flint Hills Refinery (420); therefore, all Minnesota sites currently meet the one-hour NAAQS for SO2 (Figure 24).

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

Lead

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

Carbon Monoxide

Carbon monoxide (CO) is the traffic-related pollutant that has been of concern in the Twin Cities Metropolitan area. In 1999, the EPA re-designated all of Hennepin, Ramsey, Anoka, and portions of Carver, Scott, Dakota, Washington, and Wright counties as a maintenance area for CO. This means the area was previously classified as a nonattainment area but has now been found to be in attainment. This area includes the project area, which is located in Wright County. Evaluation of CO for assessment of air quality impacts is required for environmental approval in NEPA documents.

Air Quality Conformity

The EPA issued final rules on transportation conformity (40 CFR 93, Subpart A) which describe the methods required to demonstrate State Implementation Plan (SIP) compliance for transportation projects. It requires that transportation projects meeting criteria to be classified as regionally significant be included in a regional emissions analysis approved as part of a conforming Long Range Transportation Policy Plan (LRTPP) and four-year Transportation Improvement Program (TIP). This project is not currently included in the Metropolitan Council's *2018-2021 TIP for the Twin Cities Metropolitan Area*; however at such time it is added, a conformity analysis will be completed to demonstrate compliance with the SIP.

On November 8, 2010, the EPA approved a limited maintenance plan request for the Twin Cities maintenance area. Under a limited maintenance plan, the EPA has determined that there is no requirement to project emissions over the maintenance period and that "an emission budget may be treated as essentially not constraining for the length of the maintenance period. The reason is that it is unreasonable to expect that our maintenance area will experience so much growth within this period that a violation of CO National Ambient Air Quality Standard (NAAQS) would result" (US EPA Limited Maintenance Plan Option for Nonclassifiable CO Nonattainment Areas, October 6, 1995). Therefore, no

regional modeling analysis for the 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.

What is a hot-spot analysis?

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

Hot Spot Analysis

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. Intersections with traffic volumes above this threshold must be evaluated using EPA-approved emission and dispersion models. Intersections with traffic volumes below this threshold are not expected to result in CO concentrations that exceed state or federal standards, and detailed modeling is not required.

Table 12 shows intersection volumes for TH 241 at the I-94 interchange for the 2040 Build Alternative. Entering traffic volumes at project area intersections are projected to be below the 82,300 vehicle per day hot-spot screening threshold. The results of the screening procedure demonstrate that additional detailed analysis is not required.

Table 12. Intersection Volumes for the 2040 Build Alternative (Vehicles Per Day)

Project Area Intersections	North	East	South	West	Total Entering
O'Day Avenue	14,150	1,250	13,250	2,100	30,750
I-94 South Ramps	10,750	6,000	14,150	--	30,900
I-94 North Ramps	8,450	--	10,750	11,300	30,500

Mobile Source Air Toxics

The Federal Highway Administration (FHWA) provides guidance for the assessment of MSAT effects for transportation projects in the NEPA process. The proposed I-94 St. Michael to Albertville Project is being reviewed through the State of Minnesota environmental review process. A future Interstate Access Modification Request (IAMR) approval will be required from FHWA for the proposed project. A qualitative evaluation of MSAT's following FHWA's *Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents* (October 18, 2016), including references to the National Environmental Policy Act (NEPA) review process, has been incorporated into this EAW. An updated MSAT analysis will be completed as part of the future NEPA review process for the project following FHWA guidance in place at that time.

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the EPA regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS) (http://www.epa.gov/iris/). In addition, EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers or contributors and non-cancer hazard contributors from the 2011 National Air Toxics Assessment (NATA) (https://www.epa.gov/national-air-toxics-assessment). These are *1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, 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.

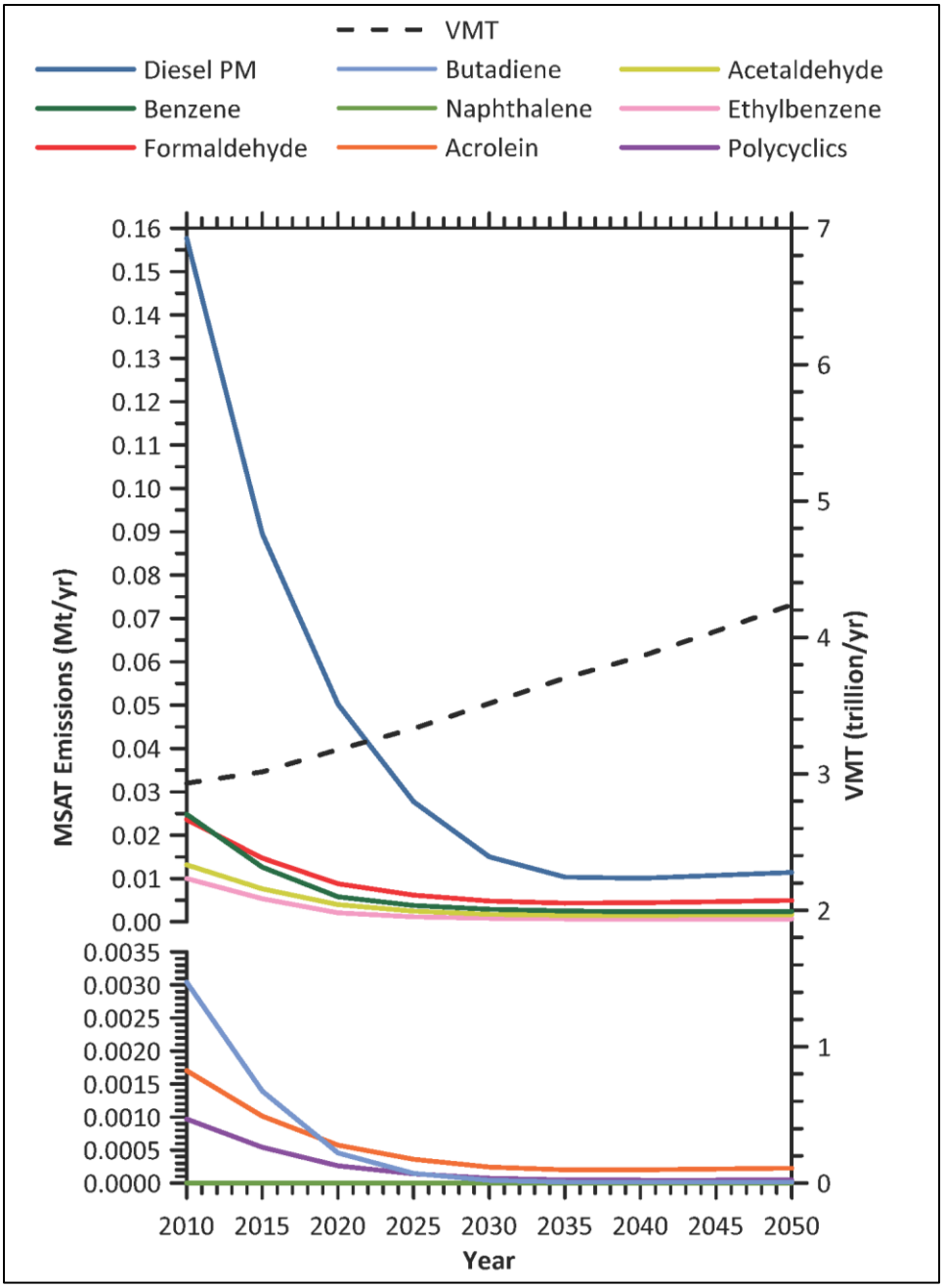
Motor Vehicle Emissions Simulator (MOVES) [7]

According to EPA, MOVES2014 is a major revision to MOVES2010 and improves upon it in many respects. MOVES2014 includes new data, new emissions standards, and new functional improvements and features. It incorporates substantial new data for emissions, fleet, and activity developed since the release of MOVES2010. These new emissions data are for light- and heavy-duty vehicles, exhaust and evaporative emissions, and fuel effects. MOVES2014 also adds updated vehicle sales, population, age distribution, and vehicle miles travelled (VMT) data. MOVES2014 incorporates the effects of three new Federal emissions standard rules not included in MOVES2010. These new standards are all expected to impact MSAT emissions and include Tier 3 emissions and fuel standards starting in 2017 (79 FR 60344), heavy-duty greenhouse gas regulations that phase in during model years 2014-2018 (79 FR 60344), and the second phase of light duty greenhouse gas regulations that phase in during model years 2017-2025 (79 FR 60344). Since the release of MOVES2014, EPA has released MOVES2014a. In the November 2015 MOVES2014a Questions and Answers Guide (https://www.epa.gov/moves/moves2014a-latest-version-motor-vehicle-emission-simulator-moves), EPA states that for on-road emissions, MOVES2014a adds new options requested by users for the input of local VMT, includes minor updates to the default fuel tables, and corrects an error in MOVES2014 brake wear emissions. The change in brake wear emissions results in small decreases in PM emissions, while emissions for other criteria pollutants remain essentially the same as MOVES2014.

[7] FHWA. October 18, 2016. *Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents* available at http://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/index.cfm.

Using EPA's MOVES2014a model, as shown in Exhibit 8, FHWA estimates that even if VMT increases by 45 percent from 2010 to 2050 as forecast, a combined reduction of 91 percent in the total annual emissions for the priority MSAT is projected for the same time period.

Exhibit 8. FHWA Projected National MSAT Emission Trends 2010-2050 For Vehicles Operating On Roadways Using EPA's MOVES2014a Model



Source: EPA MOVES2014a model runs conducted by FHWA, September 2016.

Note: Trends for specific locations may be different, depending on locally derived information representing vehicle-miles travelled, vehicle speeds, vehicle mix, fuels, emission control programs, meteorology, and other factors.

Diesel PM is the dominant component of MSAT emissions, making up 50 to 70 percent of all priority MSAT pollutants by mass, depending on calendar year. Users of MOVES2014a will notice some differences in emissions compared with MOVES2010b. MOVES2014a is based on updated data on some emissions and pollutant processes compared to MOVES2010b, and also reflects the latest Federal emissions standards in place at the time of its release. In addition, MOVES2014a emissions forecasts are based on lower VMT projections than MOVES2010b, consistent with recent trends suggesting reduced nationwide VMT growth compared to historical trends.

MSAT Research

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

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

NEPA Context

The NEPA requires, to the fullest extent possible, that the policies, regulations, and laws of the Federal Government be interpreted and administered in accordance with its environmental protection goals, and that Federal agencies use an interdisciplinary approach in planning and decision-making for any action that adversely impacts the environment (42 U.S.C. 4332). In addition to evaluating the potential environmental effects, FHWA must also take into account the need for safe and efficient transportation in reaching a decision that is in the best overall public interest (23 U.S.C. 109(h)). The FHWA policies and procedures for implementing NEPA are contained in regulation at 23 CFR Part 771.

Incomplete or Unavailable Information for Project Specific MSAT Health Impacts Analysis

When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking. The FHWA has prepared the following summary to demonstrate current limitations in evaluating MSAT effects.

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" (EPA, https://www.epa.gov/iris/). 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 (HEI Special Report 16, https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects) 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.

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, https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects). 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 (https://www.epa.gov/iris)."

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 (https://www.cadc.uscourts.gov/internet/opinions.nsf/284E23FFE079CD59852578000050C9DA/$file/07-1053-1120274.pdf).

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.

Qualitative 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*, found at:

https://www.fhwa.dot.gov/environment/air_quality/air_toxics/research_and_analysis/mobile_source_air_toxics/msatemissions.cfm.

According to FHWA guidance, a highway widening project is considered minor if the design year traffic is predicted to be less than 140,000 – 150,000 vehicles per day (vpd). Table 14 in EAW Item 18 summaries forecast (year 2040) traffic volumes for the project corridor. Because the design year (2040) Build Alternative projection for annual average daily traffic (AADT) would not exceed 150,000 vpd within the project corridor, a qualitative MSAT analysis, rather than a quantitative MSAT analysis, is warranted for the I-94 St. Michael to Albertville Project.

For the purposes of assessing impacts of the I-94 St. Michael to Albertville Project, the alternatives compared will be the No Build Alternative and the proposed Build Alternative. EAW Item 6 describes the Build Alternative in detail.

For each alternative in this EAW, the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. The VMT values within the project corridor would be proportional to the average daily traffic volumes, or ADT. The ADT estimated for the Build Alternative is slightly higher than that for the No Build Alternative, because the additional capacity increases the efficiency of the roadway and attracts rerouted trips from elsewhere in the transportation network. Refer to Table 14 (see EAW Item 18). This increase in ADT would lead to higher MSAT emissions for the Build Alternative along the I-94 corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to the EPA's MOVES2014 model, emissions of all of the priority MSAT decrease as speed increases.

The estimated ADT under No Build Alternative and Build Alternative differ by 2,500 vpd for the segment of I-94 between CSAH 19 and CSAH 37, and by 6,000 vpd for the segment between CSAH 37 and TH 241 (see Table 14, EAW Item 18). It is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions will likely be lower 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 (*Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents*, Federal Highway Administration, October 12, 2016). Local conditions may differ from these national projections in terms of fleet mix and turnover, ADT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for ADT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

The additional travel lanes contemplated as part of the project will have the effect of moving some traffic closer to nearby homes, schools, and businesses; therefore, under each alternative there may be localized areas where ambient concentrations of MSAT could be

higher under the Build Alternative than the No Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the expanded roadway sections that would be built along I-94 between CSAH 37 and TH 241. However, the magnitude and the duration of these potential increases compared to the No Build Alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. In sum, when a highway is widened, the localized level of MSAT emissions for the Build Alternative could be higher relative to the No Build Alternative, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSAT will be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

16.3 Dust and Odors

Item 16.c. 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.

The proposed project will not generate substantial odors during construction. Potential odors will likely include exhaust from diesel engines and fuel storage. 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 the construction contract specifications. After construction is complete, dust levels are anticipated to be minimal because all soil surfaces exposed during construction will be in permanent cover (i.e., paved or re-vegetated areas).

17 EAW Item 17: Noise

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 question format will answer the EAW question in relation to highway projects and summarizes the findings in the *Traffic Noise Analysis Report* provided in Appendix D.

17.1 Construction Noise

Will there be noise during construction?

Construction activities associated with the proposed project would result in increased noise levels relative to existing conditions. These impacts would primarily be associated with construction equipment and pile driving. Table 13 shows peak noise levels monitored at 50 feet from several types of construction equipment. This equipment is usually used during site grading/site preparation, which is usually the loudest phase of the roadway construction process.

Table 13. Typical Construction Equipment Noise Levels at 50 Feet

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

Source: United States Environmental Protection Agency and Federal Highway Administration.

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

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. The duration of construction will be determined during the final design of the project.

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 associated with any bridge construction. High-impact noise construction activities will be limited in duration to the greatest extent possible.

It is anticipated that night construction may be required to expedite construction, minimize traffic impacts, and improve safety. Noisy work at night for I-94 and TH 241 construction will be limited as much as possible, but may need to occur periodically. Construction or maintenance activities that are generally prohibited during 8:30 p.m. and 7:00 a.m. include pile driving/removal, concrete pavement demolition, pavement sawing, concrete crushing operations, and jack hammering. There will be times when noise producing operations will

have to occur at night because of the need for pavement to cure or be sawed, or lanes closures that allow access to the work area.

17.2 Traffic Noise Analysis

What is noise, what is a decibel, and what is a dBA?

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

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

Traffic Noise Analysis Report

The following is a summary of the *I-94 St. Michael to Albertville Traffic Noise Analysis Report*. The complete traffic noise analysis report is included in Appendix D. This report includes background information on noise, information regarding traffic noise regulations (i.e., MPCA 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.

As described in EAW Item 6, the project is not programmed for construction. A traffic noise analysis is required because the project meets the criteria for a mandatory EAW under Minnesota Rules. This traffic noise analysis addresses Minnesota state noise standards and follows current Minnesota Statewide Highway Noise Policy (effective date: June 15, 2015).

A traffic noise analysis will also be completed as part of the future NEPA process for the proposed project to address FHWA requirements.

How is traffic noise regulated in Minnesota?

The MPCA is the state agency responsible for enforcing state noise rules (see Appendix D, Table 1, Minnesota State Noise Standards). The MPCA noise standards are different for daytime and nighttime. MPCA defines daytime as 7:00 A.M. to 10:00 P.M. and nighttime as 10:00 P.M. to 7:00 A.M. The state noise standards also take into account the differing noise sensitivities of different land uses such as residential uses, commercial uses, or industrial uses. Minnesota state noise standards apply to the outdoor environment (i.e., exterior noise levels). The MPCA noise standards apply to traffic noise from certain highways, including I-94 and the I-94/TH 241 interchange.

What are L10 and L50?

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

Under State rules, noise impacts are determined based on land use activities and predicted loudest hourly L10 and L50 noise levels under future conditions. For example, for residential land uses (Noise Area Classification 1, or NAC-1), the state

daytime noise standards are 65 dBA (L10) and 60 dBA (L50). The state nighttime standards for NAC-1 are 55 dBA (L10) and 50 dBA (L50). We use the term receptor to mean a discrete location of a noise sensitive area(s) for any of the land uses defined in Minnesota State Noise Standards (Minnesota Rule 7030). Receptor locations where modeled traffic noise levels are projected to exceed the State daytime and/or nighttime standards must be evaluated for noise abatement feasibility and reasonableness.

How are traffic noise impacts determined?

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

How was traffic noise evaluated on this project?

Traffic noise levels were modeled for existing conditions, the future 2040 No Build Alternative, and the future 2040 Build Alternative using the "MINNOISEV31" model, a version of the FHWA "STAMINA" model adapted by MnDOT. Traffic noise levels were modeled at nearly 450 representative receptor locations within the project area. These modeled receptor locations represent residential, commercial, restaurant, industrial, and recreational (parks and trails) uses. Additional details regarding the traffic noise analysis modeling methodology are described in the *Traffic Noise Analysis Report* in Appendix D.

What were the results of the traffic noise analysis?

Table 14 provides a summary of the noise level ranges and number of receptors that exceed state daytime and nighttime standards for existing conditions, the 2040 No Build Alternative, and the 2040 Build Alternative. The analysis shows that under the 2040 No Build Alternative, modeled traffic noise levels (daytime and nighttime) are projected to increase by 0.9 dBA to 2.8 dBA (L10) over existing conditions. Modeled noise levels under the 2040 Build Alternative (daytime and nighttime) are projected to increase by 0.2 dBA to 2.9 dBA (L10) compared to existing conditions.

Table 14. Traffic Noise Analysis Results (1)

Modeled Year	Existing Conditions	2040 No Build Alternative	2040 Build Alternative
Number of Receptors Exceeding State Daytime Standards	L10 = 256 receptors L50 = 329 receptors	L10 = 285 receptors L50 = 376 receptors	L10 = 294 receptors L50 = 382 receptors
Number of Receptors Exceeding State Nighttime Standards	L10 = 394 receptors L50 = 419 receptors	L10 = 409 receptors L50 = 429 receptors	L10 = 416 receptors L50 = 433 receptors
Modeled Noise Level Ranges (L10, Daytime)	54.7 dBA to 85.9 dBA	55.8 dBA to 87.0 dBA	55.8 dBA to 88.7 dBA
Modeled Noise Level Ranges (L50, Daytime)	52.2 dBA to 78.7 dBA	53.6 dBA to 80.2 dBA	53.9 dBA to 81.3 dBA
Modeled Noise Level Ranges (L10, Nighttime)	54.8 dBA to 84.8 dBA	55.9 dBA to 85.8 dBA	55.8 dBA to 88.0 dBA
Modeled Noise Level Ranges (L50, Nighttime)	52.4 dBA to 77.7 dBA	53.7 dBA to 79.2 dBA	53.9 dBA to 82.5 dBA

(1) Includes modeled noise level results for trail receptor locations along CSAH 19, CSAH 37, and Barthel Industrial Drive in Albertville, at the Preserve Park along 50th Street Northeast in St. Michael, and the proposed trail along TH 241.

What is MnDOT's Noise Reduction Design Goal?

MnDOT's Noise Policy establishes a noise reduction design goal of at least **7 dBA**. This design goal must be achieved at a minimum of one benefited receptor for each proposed noise abatement measure to be considered reasonable. This goal provides that even though the minimum noise reduction required for receptors to be considered as benefited is 5 dBA a minimum 7 dBA reduction must be achieved for at least one benefited receptor.

What noise abatement measures were considered?

Noise abatement measures were evaluated along the project area where modeled traffic noise levels are projected to exceed state daytime and/or nighttime noise standards. In order for a noise abatement measure to be proposed as part of a project, it must be both feasible and reasonable as established in the Minnesota Statewide Highway Noise Policy (effective date: June 15, 2015).

Feasibility

Noise abatement measures must meet acoustic and engineering feasibility criteria to be proposed. For a noise abatement measure to be considered acoustically feasible, it must provide a substantial reduction in noise, defined as a 5 dBA reduction by at least one impacted receptor per proposed barrier. Engineering feasibility addresses whether it is possible to design and construct a proposed noise abatement measure. Potential constructability factors could include safety, topography, drainage, utilities and maintenance.

What is MnDOT's Noise Wall Cost Effectiveness?

Cost effectiveness threshold of **$43,500** per individual benefited receptor has been established as part of MnDOT's 2015 Noise Policy, based on an estimated construction cost of $20/sq. ft. for noise walls. The cost effectiveness threshold and basis for construction cost estimate will be tracked and the cost effectiveness number will be updated every five years.

Reasonableness

Three reasonableness factors or "tests" must be met for a noise abatement measure to be considered reasonable: 1) noise reduction design goal of 7 dBA is met for at least one receptor, 2) cost effectiveness criteria of $43,500 per individual benefited receptor must be met, and 3) the viewpoint of benefited residents and property owners.

Noise Wall Analysis Results

Noise walls were assessed at all locations along the I-94 project corridor where future (2040) modeled noise levels were projected to exceed state daytime or nighttime standards.

The noise wall analysis was completed for 20 potential noise wall locations along the I-94 project corridor. None of the modeled noise walls analyzed meet MnDOT's feasibility and reasonableness criteria; therefore, no noise walls are proposed as part of the I-94 St. Michael to Albertville Project. The *I-94 St. Michael to Albertville Traffic Noise Analysis Report* in Appendix D includes locations of modeled noise walls and additional details of the noise wall analysis.

18 EAW Item 18: Transportation

18.1 Traffic-Related Aspects of Project Construction and Operation

Item 18.a. Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.

1) Existing and proposed additional parking spaces.

Not applicable. The project will not add parking spaces.

2) Estimated total average daily traffic generated.

Not applicable. The proposed project will not generate new trips in the same way as a new residential or commercial development because I-94, the eastbound collector-distributor road, and the I-94/TH 241 interchange are not a destination or end points like a neighborhood or business.

Table 15 lists the change in traffic volumes along I-94 from west of CSAH 19 to east of TH 241 under the 2040 Build Alternative in comparison to the 2040 No Build Alternative.

Table 15. 2040 No Build Alternative and 2040 Build Alternative Average Daily Traffic Volumes

From	To	2040 No Build Alternative Vehicles Per Day	2040 Build Alternative Vehicles Per Day	Change (2040 Build – 2040 No Build)
CSAH 19	MnROAD Facility	73,000	74,400	1,400
CSAH 37	CSAH 19	55,300	57,800	2,500
TH 241	CSAH 37	83,000	89,000	6,000
TH 101	TH 241	97,000	99,000	2,000

3) Estimated maximum peak hour traffic generated and time of occurrence.

As noted above, the proposed project will not generate new trips. Peak period travel patterns on the I-94 project corridor are predominately in the eastbound direction during the a.m. peak hour and in the westbound direction during the p.m. peak hour. The a.m. peak hour represents approximately eight to 10 percent of average daily traffic volumes. The time of the a.m. peak hour is approximately 6:15 a.m. to 7:15 a.m. The p.m. peak hour represents approximately six percent of average daily traffic volumes, and occurs between 4:00 p.m. and 5:00 p.m.

4) Indicate source of trip generation rates used in the estimates.

Future (year 2040) travel demand forecasts were developed using the Metropolitan Council's regional travel demand model (RTDM) dated January 2014, with supplemental information from MnDOT's Collar County model. Traffic forecasts were developed using the guidelines identified in the *Twin City Travel Demand Forecasts Prepared for MnDOT Metro: Model and Parameters for Adjustments to Model Inputs*, April 10, 2006.

5) Availability of transit and/or other alternative transportation modes.

There are no bus transit routes that currently use the I-94 project segment between St. Michael and Albertville.

There is one official park-and-ride facility located along I-94 in Albertville near the CSAH 19 interchange. The facility is owned by the City of Albertville and has 40 spaces. There is no transit service to this site. The Albertville park-and-ride is used as a carpool/vanpool facility. There are no park-and-ride facilities in St. Michael.

Trailblazer Transit provides public transportation with bus services in Sibley, McLeod, and Wright counties, including the study area in St. Michael and Albertville.

Sidewalks and trails are located throughout the study area on local routes near I-94. There is no existing non-motorized facility along TH 241 or CSAH 37 over I-94 in St. Michael and Albertville, respectively. A trail is located along the west side of CSAH 19 under I-94 in Albertville.

18.2 Effect on Traffic Congestion

Item 18.b. Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system. If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW. Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 (available at: http://www.dot.state.mn.us/accessmanagement/resources.html) or a similar local guidance.

The following discussion demonstrates how I-94 mobility, CSAH 37 operations, and I-94/TH 241 traffic operations would improve with the proposed project in comparison to having no improvement in the corridor.

How was traffic analyzed for the I-94 St. Michael to Albertville Project?

I-94 Traffic Analysis

A traffic analysis using the CORSIM traffic model was completed for the I-94, St. Michael to Albertville Project. One of the results of the CORSIM traffic model is level of service (LOS). LOS is a qualitative measurement used to describe traffic density, generally in terms of speed and travel time, maneuverability, comfort, and convenience. LOS ratings range from LOS A (best) to LOS F (worst).

I-94/TH 241 Interchange Traffic Analysis

A traffic operations analysis using the VISSIM traffic model was completed for the I-94/TH 241 interchange ramp terminal intersections. The VISSIM modeling results are also measured in terms of a Level of Service (LOS). The LOS grading system for intersection operations ranges from A to F, which describes the delay per vehicle, or additional travel time experienced by each vehicle, through an intersection.

Will the proposed project improve mobility along the I-94 corridor?

The traffic modeling analyzed the Build Alternative traffic operations for the forecast (year 2040) conditions. The 2040 Build Alternative CORSIM modeling included the proposed additional lanes on I-94 between CSAH 37 and TH 241 and the proposed I-94/TH 241 interchange reconstruction. Table 16 lists the results of the CORSIM analysis for eastbound

I-94 for the 2040 No Build Alternative and 2040 Build Alternative. Table 17 lists the results of the CORSIM analysis for westbound I-94 for the 2040 No Build Alternative and the 2040 Build Alternative.

Table 16. Eastbound I-94 LOS Results (2040 No Build Alternative and 2040 Build Alternative)

CORSIM Modeling Location: From	CORSIM Modeling Location: To	2040 No Build Alternative A.M. Peak Hour	2040 No Build Alternative P.M. Peak Hour	2040 Build Alternative A.M. Peak Hour	2040 Build Alternative P.M. Peak Hour
MnROAD	CSAH 19	C	B	C	B
CSAH 19	CSAH 37	B	B	C	B
At EB I-94 exit to CSAH 37	--	B	B	C	B
At CSAH 37 entrance to EB I-94	--	F	C	C	B
CSAH 37	TH 241	E	B	C	B
TH 241	TH 101	C	B	D	B

Table 17. Westbound I-94 LOS Results (2040 No Build Alternative and 2040 Build Alternative)

CORSIM Modeling Location: From	CORSIM Modeling Location: To	2040 No Build Alternative A.M. Peak Hour	2040 No Build Alternative P.M. Peak Hour	2040 Build Alternative A.M. Peak Hour	2040 Build Alternative P.M. Peak Hour
TH 101	TH 241	A	C	A	C
At TH 241 entrance to WB I-94	--	B	E	A	C
TH 241	CSAH 37	B	E	A	C
At WB I-94 exit to CSAH 37	--	B	E	A	C
CSAH 37	CSAH 19	A	C	A	C
CSAH 19	MnROAD Facility	B	D	B	D

The CORSIM modeling shows that the LOS would improve on the I-94 project corridor under 2040 Build Alternative conditions compared to the 2040 No Build Alternative. The project segment of I-94 from CSAH 19 to TH 241 would operate at LOS C or better under the 2040 Build Alternative during the a.m. and p.m. peak hours.

Eastbound I-94 Between TH 241 and TH 101

The proposed additional lane on eastbound I-94 between CSAH 37 and TH 241 increases the volume of traffic that can get through the project area to the I-94/TH 101 interchange in

Rogers. This additional throughput increases the density of vehicles on eastbound I-94 between TH 241 and TH 101, resulting in a reduction in average speeds (approximately 5 miles per hour) under the 2040 Build Alternative compared to the 2040 No Build Alternative.

Will the proposed project improve CSAH 37 traffic operations?

The traffic operations analysis completed as part of the 2006 *Northeast Wright County I-94 Interchange Access Request* showed that year 2030 traffic operations on CSAH 37 would improve to LOS D or better under a.m. and p.m. peak hours with both the I-94 eastbound and westbound collector-distributor roads between CSAH 19 and CSAH 37. The forecast traffic volume on the eastbound collector-distributor was projected to be greater 1,100 vehicles during the a.m. peak hour, and approaching 1,000 vehicles during the p.m. peak hour. Most of this traffic would otherwise be on CSAH 37 under the No Build Alternative.

Will the proposed project improve I-94/TH 241 traffic operations?

The traffic modeling analyzed traffic operations at the ramp terminal intersections under the Build Alternative traffic operations for the forecast (year 2040) conditions. Table 18 lists the results of the VISSIM analysis for the I-94/TH 241 ramp terminal intersections under the 2040 No Build Alternative and 2040 Build Alternative.

Table 18. I-94/TH 241 Interchange Operational Traffic Analysis LOS Results

Intersection	2040 No Build Alternative LOS Results AM Peak Hour	2040 No Build Alternative LOS Results PM Peak Hour	2040 Build Alternative LOS Results AM Peak Hour	2040 Build Alternative LOS Results PM Peak Hour
I-94 EB Ramps & TH 241	D/F	E/F	B/C	B/D
I-94 WB Ramps & TH 241	C/E	F/F	A/A	A/A

Overall intersection LOS is listed first, followed by the worst approach LOS.

The I-94/TH 241 ramp terminal intersections are projected to operate at LOS B or better under the 2040 Build Alternative. Intersection delays would decrease substantially compared to 2040 No Build Alternative conditions. The loop ramp in the northwest quadrant of the interchange provides a free-flow movement for westbound I-94 to westbound TH 241 traffic, reducing the probability of traffic queues extending back down the ramp and impacting I-94 operations.

18.3 Measures to Minimize or Mitigate Project-Related Transportation Effects

Item 18.c. Identify measures that will be taken to minimize or mitigate project related transportation effects.

Not applicable.

19 EAW Item 19: Cumulative Potential Effects

(Preparers can leave this item blank if cumulative potential effects are addressed under the applicable EAW Items)

19.1 Geographic Scales and Timeframes

Item 19.a. Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.

Cumulative effects result from the incremental impact of the proposed project 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 project limits. The projects considered are planned or programmed for construction between 2018 and 2021.

Table 19 summarizes project related environmental effects that could combine with other environmental effects and the geographic extent of the anticipated impacts.

Table 19. Project Related Environmental Effects and Geographic Extent

EAW Item	Topic/Issue	Project-Related Environmental Effects	Geographic Extent
EAW Item 10	Erosion and Sedimentation Control	Disturbed ground/exposed soils during construction.	Throughout project area
EAW Item 11	Stormwater and Aquatic Resources	• Increase in impervious surface area. • Impacts to aquatic resources. • See EAW Item 11 for a discussion of aquatic resource sequencing	Throughout project area
EAW Item 12	Existing Contamination/ Potential Environmental Hazards	• One closed leaking underground storage tank site. • One former MDA spill site within approximately 500 feet	Throughout project area

EAW Item	Topic/Issue	Project-Related Environmental Effects	Geographic Extent
		of the project area. • Low to medium risk of impacting potentially contaminated sites.	
EAW Item 13	Rare Species	Potential to encounter Blanding's turtle (*Emydoidea blandingii*) within project area.	Throughout project area
EAW Item 17	Construction and Traffic Noise	• Temporary construction noise impacts. • Modeled traffic noise levels would exceed State daytime and nighttime standards.	Throughout project area
EAW Item 18	Transportation	• Increase in traffic volumes on I-94 compared to the 2040 No Build Alternative. • Improved mobility and traffic operations compared to 2040 No Build Alternative.	Throughout project area

19.2 Reasonably Foreseeable Future Projects

Item 19.b. Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.

The MnDOT *2018-2021 State Transportation Improvement Program* (STIP), the Wright County website, the Albertville website, and the St. Michael website were reviewed to identify present and other reasonably foreseeable future projects near the I-94 St. Michael to Albertville project limits. Present and reasonably foreseeable future projects identified in the study area are listed below.

- Wright County. CSAH 19 from Lamplight Drive to north of 70th Street in Albertville (SP 086-619-034). Extend multilane roadway. Programmed for fiscal year 2020.
- City of Albertville. 70th Street Northeast (MSAS 112) from CSAH 19 to Maciver Avenue. Reconstruction with pedestrian/bicycle trail and improvements at the CSAH 19/70th Street Northeast intersection. Programmed for fiscal year 2019.
- City of 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.

- City of St. Michael. Tributary on Foster Lake. Residential development north of I-94 and west of CSAH 36. Initial residential construction began in 2016. Future phases planned.

19.3 Nature of Cumulative Potential Effects

Item 19.c. Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.

Past actions that have occurred recently in the project area include the construction of the westbound collector-distributor road between CSAH 19 and CSAH 37, pavement rehabilitation projects on the project segment of I-94, and reconstruction of I-94 to the east from TH 241 to TH 101 in St. Michael and Rogers. These actions were considered as part of the existing conditions in the project area.

Environmental effects resulting from the proposed I-94 St. Michael to Albertville Project are described in EAW Item 7 through EAW 18. The other present and reasonably foreseeable future projects may also impact these same resources. Future development is taken into consideration in the traffic analysis, and the cumulative impact of future transportation improvements should result in improved traffic conditions. Impacts from the other projects listed above would be addressed via federal and state regulatory permitting and approval processes; therefore, they would be individually mitigated to ensure minimal cumulative impacts occur.

Considering the types of other projects listed above, and considering regulatory permitting and approval processes, the proposed project along with other reasonably foreseeable actions would have a minimal cumulative impact upon the environment.

20 EAW Item 20: Other Potential Environmental Effects

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

Floodplain Assessment

A 100-year floodplain and floodway are located adjacent to the Crow River at the I-94/ TH 241 interchange in St. Michael. The proposed project is located outside of the FEMA floodway boundary. Impacts to the Crow River floodway are not anticipated.

MnDOT's highway right of way is located within the 100-year floodplain boundary. This floodplain would be impacted by reconstruction of the TH 241 entrance ramp to eastbound I-94 and construction of an adjacent acceleration lane. The proposed project would result in a transverse floodplain encroachment along eastbound I-94 of approximately 650 feet based

on the FEMA 100-year flood elevation. The proposed project would result in a transverse floodplain encroachment along eastbound I-94 of approximately 1,000 feet based on the 100-year flood elevation from the 2015 I-94 design plans.

There is no significant potential for interruption of a transportation facility. The proposed acceleration lane along eastbound I-94 would be constructed above the floodplain elevation. Impacts on the natural environment would be minimal. The project would be constructed within existing MnDOT right of way. No significant increased risk of flooding would result because additional storage would be constructed in the southeast quadrant of the I-94/ TH 241 interchange. This area is hydraulically connected to the floodplain by a culvert under the TH 241 entrance ramp to eastbound I-94. The project would not cause incompatible floodplain development because the project does not provide new access to the floodplain area associated with the Crow River. Therefore, no significant floodplain impacts are expected.

Right of Way and Relocation

The project would require approximately 8.1 acres of new highway right of way affecting eight parcels. The project would not result in any relocations.

Acquisitions will be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended.

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

I hereby certify that:

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

Signature _____ Date 3-1-18

Title Chief Environmental Officer