

Appendix C

Wetland Impact Assessment and Two-Part Finding

June 2017

Wetland Impact Assessment & Two Part Finding Form

S.P. Number: 8680-172

Project Name: I-94 St. Michael to Albertville

Counties: Wright, Hennepin

Watershed: Mississippi River – St. Cloud (17)
North Fork Crow River (18)

Wetland Assessment

The Interstate 94 (I-94) St. Michael to Albertville Project is in Wright County and Hennepin County, Minnesota. The project begins at the I-94 bridges over the Crow River and ends approximately 5,000 feet (approximately 0.95 miles) west County State Aid Highway (CSAH) 19. Figure C1 illustrates the project location.

Purpose and Need

The purpose of this project is to improve pavement conditions on I-94 between Trunk Highway (TH) 241 in St. Michael and west of CSAH 19 in Albertville, improve mobility on I-94 between TH 241 and CSAH 37, reduce congestion at the I-94/TH 241 interchange, and improve access to the regional system at CSAH 19 and CSAH 37 in Albertville. MnDOT and its partners have identified several factors justifying the need for the 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 is at CSAH 37. CSAH 37 runs through downtown Albertville and connects with CSAH 19 south of I-94.

CSAH 37 must serve the traffic demand patterns between CSAH 19 and eastbound I-94. A sizable proportion of the traffic 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.

I-94 Mobility and Congestion. 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. 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. An intersection operations analysis for the I-94 ramp/TH 241 terminal intersections was conducted as part of the I-94 St. Michael to Albertville Project. 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.

Summary of Proposed Improvements

The Minnesota Department of Transportation (MnDOT) proposes reconstruction of I-94 from west of CSAH 19 in Albertville to the I-94 bridges over the Crow River in St. Michael. The project 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, and reconstruction of the I-94/TH 241 interchange. Wet ponds would be constructed at the I-94/CSAH 19 interchange, at the I-94/CSAH 37 interchange, and along the south side of I-94 between CSAH 37 and TH 241. A wet pond and dry pond would be constructed at the I-94/TH 241 interchange.

Wetland Delineation

A wetland delineation was completed for the I-94 project corridor in July 2016. A supplemental wetland delineation was completed in August 2017. A total of 85 aquatic resources or portions thereof were identified in the investigation area. Figure C2 through Figure C6 illustrates the location of delineated aquatic resources in the project area.

On this project, most impacts to aquatic resources would occur where an eastbound collector-distributor road would be constructed along I-94 between CSAH 19 and CSAH 37, where I-94 would be reconstructed to include a third lane between CSAH 37 and TH 241, and at the I-94/TH 241 interchange. Aquatic resources would also be impacted by proposed wet ponds and dry ponds.

See Table 1. Aquatic Resource Assessment

See Figure C1, Project Location Map

See Figure C2 through C6, Aquatic Resource Maps

Part 1: Avoidance Alternatives

No Build Alternative

This alternative would avoid all wetland impacts (except those due to routine maintenance), but would fail to meet the project purpose and need. It was therefore rejected from further consideration.

Alternatives Considered

I-94 Corridor (CSAH 19 to TH 241). The proposed project maintains I-94 within the existing highway alignment. There are no alternatives to relocate the project segment of I-94 to attempt to avoid wetland impacts, as this would result in substantial social, economic, and environmental impacts.

A Least Environmentally Damaging Practicable Alternative (LEDPA) determination will be completed by the US Army Corps of Engineers (USACE) as part of the Section 404 permitting process for the proposed project. Approximately 23.67 acres of aquatic resources were identified within the wetland delineation investigation area.¹ With aquatic resources located throughout the I-94 project corridor, complete avoidance of all impacts is not practicable. Any widening of the I-94 corridor would have resulted in some wetland impacts.

The proposed eastbound collector-distributor road along is along the south side of I-94 between CSAH 19 and CSAH 37 in Albertville. The purpose of the eastbound collector-distributor road is to serve traffic demand patterns between I-94, CSAH 19 and CSAH 37. With wetlands along the north and south sides of I-94 between CSAH 19 and CSAH 37, complete avoidance of all impacts is not practicable. Construction of the eastbound collector-distributor road along the south side of the existing I-94 alignment results in some wetland impacts. Shifting the I-94 alignment to the north and constructing the eastbound collector-distributor road on the existing eastbound I-94 alignment could avoid impacts south of I-94 but would result in greater wetland impacts along the north side of I-94.

I-94/TH 241 Interchange. Complete avoidance of all wetland impacts with reconstruction of the I-94/TH 241 interchange is not practicable. Wetlands and other aquatic resources are in all four quadrants of the I-94/TH 241 interchange. Any reconstruction of the I-94/TH 241 interchange would have resulted in some wetland impacts (see I-94/TH 241 interchange alternatives evaluation in Part Two of this form).

Stormwater Management. The project would increase the amount of impervious surface area by approximately 38.7 acres compared to existing conditions. This additional impervious surface area results in additional stormwater runoff from the project corridor. National Pollutant Discharge Elimination System (NPDES) permitting requires treatment of stormwater runoff from new impervious surfaces prior to discharge to receiving waters (i.e., water quality treatment to remove sediment, pollutants, etc.). There is no permitting requirement for rate control; however, without attenuation, increases in runoff rates can result in downstream flooding. There should be no increase in discharge rates off MnDOT right of way onto off-site properties without

¹ The wetland delineation investigation area extended for approximately 5.5 miles along the I-94 corridor from the east limits of the MnROAD facility in Albertville and Otsego to the Crow River in St. Michael, within MnDOT right of way.

approval from project area cities. Therefore, there is a need to include stormwater management features with the project.

The location of stormwater management features is determined by many factors, including space limitations (i.e., available right of way), drainage patterns and boundaries, grades, discharge points, environmental constraints, etc. As described above, wetlands and other aquatic resources are located throughout the I-94 project corridor. Any construction of stormwater management features would have resulted in some wetland impacts.

Wetland Impacts of Preferred Alternative

Table 1 below identifies the anticipated wetland impacts for the preferred alternative concept. Anticipated impacts are based on preliminary construction limits. Table 1 also identifies other aquatic resource impacts of the preferred alternative concept, including wet ditch impacts and tributary impacts. The preferred alternative is anticipated to 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. All impacts within preliminary construction limits are identified as permanent impacts. Temporary impacts during construction would be identified as part of the final design process.

Table 1. Aquatic Resource Assessment

Aquatic Resource ID	Wetlands and Other Aquatic Resources Located within the Right of Way		Wetland and Other Aquatic Resource Impacts of the Preferred Alternative		
	Classification ¹ (Type of wetland)	Approximate Basin Size (Acres within ROW)	Impact Duration Permanent(P) Temporary (T) ²	Type of Impact (fill, excavate, drain, remove vegetation, no impact)	Size of Impact ³ (Acres)
1	Wet Ditch	0.05	N/A	No Impact	0
2	Wet Ditch	0.02	N/A	No Impact	0
3	Wetland	0.12	N/A	No Impact	0
4	Wet Ditch	0.37	P	Fill	0.19
5	Wetland	0.21	P	Fill	0.07
6	Wet Ditch	0.06	P	Fill	0.07
7	Wet Ditch	0.02	P	Fill	0.02
8	Wetland	1.56	P	Fill/Excavate	1.27

Aquatic Resource ID	Wetlands and Other Aquatic Resources Located within the Right of Way		Wetland and Other Aquatic Resource Impacts of the Preferred Alternative		
	Classification ¹ (Type of wetland)	Approximate Basin Size (Acres within ROW)	Impact Duration Permanent(P) Temporary (T) ²	Type of Impact (fill, excavate, drain, remove vegetation, no impact)	Size of Impact ³ (Acres)
9	Wetland	0.46	N/A	No Impact	0
10	Wet Ditch	0.11	P	Fill	0.11
11	Wet Ditch	0.02	P	Fill	0.02
12	Wetland	0.36	P	Fill	0.16
13	Wet Ditch	0.01	P	Fill	0.01
14	Wetland	0.28	P	Fill	0.22
15	Wetland	1.11	P	Fill	0.73
16	Wet Ditch	< 0.01	P	Fill	119 sf
17	Wetland	0.15	P	Fill	0.14
18	Wet Ditch	0.04	P	Fill	0.05
19	Wet Ditch	0.04	P	Fill	0.04
20	Wet Ditch	< 0.01	P	Fill	199 sf
21	Wetland	0.09	P	Fill	0.02
22	Wet Ditch	0.01	P	Fill	267 sf
23	Wet Ditch	0.04	P	Fill	0.04
24	Wet Ditch	0.05	P	Fill	0.05
25	Wet Ditch	0.01	P	Fill	0.02

Aquatic Resource ID	Wetlands and Other Aquatic Resources Located within the Right of Way		Wetland and Other Aquatic Resource Impacts of the Preferred Alternative		
	Classification ¹ (Type of wetland)	Approximate Basin Size (Acres within ROW)	Impact Duration Permanent(P) Temporary (T) ²	Type of Impact (fill, excavate, drain, remove vegetation, no impact)	Size of Impact ³ (Acres)
26	Wet Ditch	0.06	P	Fill	0.06
27	Wetland	0.08	P	Fill	18 sf
28	Wet Ditch	0.02	P	Fill	0.02
29	Wetland	0.59	P	Fill	0.04
30	Wetland	0.03	N/A	No Impact	0
31	Wet Ditch	0.10	P	Fill	0.10
32	Wetland	0.95	P	Fill	0.31
33	Wetland	0.53	P	Fill	0.53
34	Wetland	0.19	P	Fill	0.12
35	Wetland	1.71	P	Fill	0.70
36	Wet Ditch	0.26	P	Fill	184 sf
37	Wet Ditch	0.23	P	Excavate	0.23
38	Wet Ditch	0.33	P	Fill	0.32
39	Wet Ditch	0.10	P	Fill	0.10
40	Wet Ditch	0.23	N/A	No impact	0
41	Wet Ditch	0.07	N/A	No impact	0
42	Wetland	0.35	P	Fill	171 sf

Aquatic Resource ID	Wetlands and Other Aquatic Resources Located within the Right of Way		Wetland and Other Aquatic Resource Impacts of the Preferred Alternative		
	Classification ¹ (Type of wetland)	Approximate Basin Size (Acres within ROW)	Impact Duration Permanent(P) Temporary (T) ²	Type of Impact (fill, excavate, drain, remove vegetation, no impact)	Size of Impact ³ (Acres)
43	Wetland	0.45	N/A	No impact	0
44	Wetland	0.08	P	Fill	0.08
45	Wetland	0.22	P	Fill	0.22
46	Wetland	0.61	P	Fill/Excavate	0.61
47	Wetland	0.09	N/A	No impact	0
48	Wet Ditch	0.04	P	Fill	0.04
49	Wetland	0.40	N/A	No impact	0
50	Wet Ditch	0.04	N/A	No impact	0
51	Wet Ditch	0.11	P	Excavate	0.11
52	Wet Ditch	0.03	P	Fill	0.03
53	Wet Ditch	0.26	P	Fill	0.04
54	Wet Ditch	0.02	P	Fill	0.02
55	Wet Ditch	0.10	P	Fill	0.10
56	Wet Ditch	0.04	P	Fill	0.04
57	Wetland	0.87	P	Fill	0.12
58	Wetland	0.48	P	Fill	0.42
59	Wetland	0.24	P	Fill	0.18

Aquatic Resource ID	Wetlands and Other Aquatic Resources Located within the Right of Way		Wetland and Other Aquatic Resource Impacts of the Preferred Alternative		
	Classification ¹ (Type of wetland)	Approximate Basin Size (Acres within ROW)	Impact Duration Permanent(P) Temporary (T) ²	Type of Impact (fill, excavate, drain, remove vegetation, no impact)	Size of Impact ³ (Acres)
60	Wetland	0.33	P	Fill	0.14
61	Wet Ditch	0.02	P	Fill	0.02
62	Wet Ditch	0.07	P	Fill	0.07
63	Wet Ditch	0.10	P	Fill	0.10
64	Wetland	1.63	P	Fill	0.18
65	Wetland	1.20	P	Fill	0.19
66	Wetland	0.28	N/A	No Impact	0
67	Wet Ditch	1.40	N/A	No Impact	0
68	Wet Ditch	0.02	N/A	No Impact	0
69	Wet Ditch	0.07	N/A	No Impact	0
70	Wet Ditch	0.17	N/A	No Impact	0
71	Wetland	0.12	N/A	No Impact	0
72	Wet Ditch	0.09	N/A	No Impact	0
73	Wet Ditch	0.10	N/A	No Impact	0
74	Wet Ditch	0.27	P	Fill	0.25
75	Wet Ditch	0.06	P	Excavate	0.06
76	Wetland	0.30	N/A	Fill	0.30

Aquatic Resource ID	Wetlands and Other Aquatic Resources Located within the Right of Way		Wetland and Other Aquatic Resource Impacts of the Preferred Alternative		
	Classification ¹ (Type of wetland)	Approximate Basin Size (Acres within ROW)	Impact Duration Permanent(P) Temporary (T) ²	Type of Impact (fill, excavate, drain, remove vegetation, no impact)	Size of Impact ³ (Acres)
77	Wetland	0.17	N/A	No Impact	0
78	Wetland	0.20	N/A	No Impact	0
79	Wetland	0.89	P	Fill	0.02
80	Wet Ditch	0.03	P	Excavate	0.03
A	Tributary	0.35	N/A	No Impact	0
B	Tributary	0.04	N/A	No Impact	0
C	Tributary	0.28	P	Fill	0.26
D	Tributary	< 0.01	P	Fill	121 sf
E	Tributary	0.14	P	Fill	159 sf
Total Permanent Impacts:					9.40
¹ Denote if a wet-ditch ² Temporary impacts typically last between 90 and 180 days. ³ Impacts less than 0.01 acre should be reported in square feet. Impacts greater than 0.01 acre should be reported as acres and rounded to the nearest 0.01 acre.					

PART 2: WETLAND MINIMIZATION MEASURES

I-94 / TH 241 Interchange

This section describes the alternatives evaluation process for the I-94/TH 241 interchange and rationale for the identification of the preferred alternative interchange design.

Interchange Concept Evaluation. Maintaining the existing I-94/TH 241 interchange configuration (i.e., No Build Alternative) would avoid wetland impacts; however, as discussed above, the No Build Alternative was rejected from further consideration because it would but would fail to meet the project purpose and need.

Four interchange concepts were evaluated for reconstructing the I-94/TH 241 interchange:

- Diamond interchange with signals
- Diamond interchange with northwest loop and signals
- Diamond interchange with northwest loop and roundabouts
- Diverging diamond interchange

The four interchange concepts were evaluated based on their ability to address the project need, other transportation considerations, and potential impacts to the surrounding environment. Table 2 below identifies the results of the interchange concept evaluation. Potential wetland impacts for the four interchange concepts were within 0.2 acres of one another (approximately 1.2 acres for the diamond interchange with signals versus approximately 1.4 acres for the diamond interchange with northwest loop and signals and the diamond interchange with northwest loop and roundabouts).

A diamond interchange with a loop in the northwest quadrant was identified as the preferred alternative for the I-94/TH 241 interchange. The diamond interchange with a loop in the northwest quadrant best addresses the project need. The diamond interchange with a loop in the northwest quadrant provides the best traffic operations at the I-94/TH 241 interchange ramp terminal intersections (LOS B or better during the a.m. and p.m. peak hours under 2040 conditions). The diamond interchange with a loop in the northwest quadrant results in the least amount of overall system delay, and provides the most efficient travel times along TH 241 through the interchange area. The diamond interchange with a loop in the northwest quadrant also provides capacity to avoid traffic queues spilling back on westbound I-94.

Preferred Alternative Design Measures. The proposed loop ramp from westbound I-94 to TH 241 was designed to minimize wetland impacts without compromising safety. Most of the wetland impacts from reconstruction of the I-94/TH 241 interchange would occur in the northwest quadrant; therefore, three designs were evaluated for the proposed northwest loop (westbound I-94 to TH 241):

- Northwest loop with 230-foot radius, higher speed connection to TH 241
- Northwest loop with 230-foot radius, lower speed connection to TH 241
- Northwest loop with 190-foot radius, lower speed connection to TH 241

Table 2. I-94/TH 241 Interchange Alternatives

Interchange Alternatives	Peak Hour	Year 2040 Operations Eastbound Ramps	Year 2040 Operations Westbound Ramps	System Delay (West of O'Day Ave to East of I-94)	Travel Time Through Interchange Eastbound TH 241	Travel Time Through Interchange Westbound TH 241	Spacing to O'Day Avenue	TH 241 Bridge (# of Lanes)	ROW Impact (Parcels)	ROW Impact (Acres)	Construct. Costs (\$ Million)	Operational Costs	Wetlands and Floodplains
No Build	AM Peak	LOS D	LOS C	64 hrs.	106 sec.	77 sec.	450 ft.	3	None	None	2 -3	2 Signals	None
	PM Peak	LOS E	LOS F	276 hrs.	432 sec.	239 sec.							
Diamond Interchange with Signals	AM Peak	LOS B	LOS B	35 hrs.	89 sec.	79 sec.	450 ft.	5	2	< 1	7 - 10	2 Signals	1.2 acres
	PM Peak	LOS B	LOS C	61 hrs.	123 sec.	130 sec.							0.4 acres
Diamond Interchange with Loop and Signals	AM Peak	LOS B	LOS A	27 hrs.	77 sec.	67 sec.	450 ft.	5	2	< 1	8 – 11	1 or 2 Signals	1.4 acres
	PM Peak	LOS B	LOS A	32 hrs.	74 sec.	72 sec.							0.4 acres
Diamond Interchange with Loop and Roundabouts	AM Peak	LOS A	LOS A	23 hrs.	115 sec.	83 sec.	450 ft.	4	2	< 1	8 – 11	0 Signals	1.4 acres
	PM Peak	LOS D	LOS A	73 hrs.	113 sec.	86 sec.							0.4 acres
Diverging Diamond	AM Peak	LOS A	LOS B	30 hrs.	106 sec.	115 sec.	450 ft.	4	2	< 1	8 – 11	2 Signals	1.3 acres
	PM Peak	LOS B	LOS C	54 hrs.	140 sec.	144 sec.							0.4 acres

LOS = level of service

Sec. = seconds

Estimated wetland and floodplain impacts based on concept roadway design, and does not include stormwater management features.

Exhibit 1. I-94/TH 241 Northwest Loop Design Alternatives

Wetland Impacts
ROW Impacts



Northwest Loop with 230-foot radius,
higher speed connection to TH 241

Wetland Impacts
ROW Impacts



Northwest Loop with 230-foot radius,
lower speed connection to TH 241

Wetland Impacts
ROW Impacts



Northwest Loop with 190-foot radius,
lower speed connection to TH 241

The 190-foot radius loop with the lower speed connection to TH 241 would result in approximately 0.4 acres of wetland impacts. This design shifts the loop to the west to a narrower portion of the wetland in the northwest quadrant of the I-94/TH 241 interchange. This alternative presents safety concerns, particularly for instances when motorists do not adequately transition their speed from 70 miles per hour (mph) on I-94 to the lower speed on the 190-foot radius loop (i.e., more susceptible to run off the road crashes). The 190-foot radius loop with the lower speed connection was therefore rejected from further consideration.

The 230-foot radius loop with the lower speed connection to TH 241 would result in approximately 0.5 acres of wetland impacts. This design shifts the loop to the west to a narrower portion of the wetland in the northwest quadrant of the I-94/TH 241 interchange. This alternative presents safety concerns because of the speed differences between traffic on TH 241 (TH 241 is a 55 mph roadway) and the lower speeds for traffic turning right from the loop onto TH 241. Greater speed differentials can result in greater potential safety risks. The 230-foot radius loop with the lower speed connection was therefore rejected from further consideration.

The 230-foot radius loop with the higher speed connection to TH 241 would result in approximately 0.8 acres of wetland impacts. The 230-foot radius loop with the higher speed connection to TH 241 addresses the safety concerns described above. The speed of travel on the 230-foot loop radius is greater than the 190-foot loop radius, reducing the susceptibility of run off the road crashes. The higher speed of travel on the 230-foot loop radius also minimizes the speed differential with through traffic on TH 241. The 230-foot radius loop with the higher speed connection to TH 241 was therefore identified as the preferred alternative design for the I-94/TH 241 northwest loop.

Stormwater Management

The following section describes proposed stormwater management features (wet ponds and dry ponds), wetland impacts resulting from stormwater management features, and measures to minimize these impacts.

I-94/CSAH 37 Interchange. A wet pond would be constructed in the southwest quadrant of the I-94/CSAH 37 interchange. Most of the wetland impacts in the southwest quadrant of I-94/CSAH 37 would result from the eastbound collector-distributor road and reconstruction of the exit ramp to CSAH 37. The wet pond is sized and designed to provide treatment and rate control for runoff from I-94 and the eastbound collector-distributor road between CSAH 19 and CSAH 37, prior to discharge to Hunter's (Mud) Lake. There is no other feasible location along I-94 for this wet pond. School Lake and Hunter's (Mud) Lake are located along the north side of I-94. Commercial and residential development is located along CSAH 37 on the south side of I-94.

A wet pond would be constructed in the southeast quadrant of the I-94/CSAH 37 interchange. This wet pond would result in approximately 0.23 acres of impact to a wet ditch (Wetland #37, see Figure C3). The wet pond is sized and designed to provide treatment and rate control for the I-94/CSAH 37 drainage area, prior to discharge to a wetland north of I-94. There is no other location within MnDOT right of way at the I-94/CSAH 37 interchange where this amount of space is available. Locating this wet pond within the interchange area as opposed to south of the entrance ramp to eastbound I-94 minimizes anticipated impacts to Wetland #35.

I-94 Between CSAH 37 and TH 241 and the I-94/TH 241 Interchange. A wet pond would be constructed along the south side of I-94 between CSAH 37 and TH 241. This wet pond is in an open space in MnDOT right of way between I-94 and the BNSF Railway. This wet pond would not result in any wetland impacts. This wet pond

provides treatment and rate control for runoff from I-94 east of CSAH 37. Runoff from this wet pond is discharged to the I-94/TH 241 interchange area and then the Crow River. Providing this wet pond minimizes the size of the wet pond and dry pond at the I-94/TH 241 interchange needed to provide treatment and rate control, which minimizes wetland impacts in the northwest quadrant of the I-94/TH 241 interchange.

The preferred alternative is anticipated to result in approximately 1.27 acres of wetland impacts in the northwest quadrant of the I-94/TH 241 interchange (Wetland #8, see Table 1 and Figure C6). Most of the impacts to this wetland result from construction of the loop from westbound I-94 to TH 241, reconstruction of the entrance ramp from TH 241 to westbound I-94, and reconstruction of TH 241. Stormwater runoff from I-94 between CSAH 37 and TH 241 is conveyed through the I-94/TH 241 interchange prior to discharge to the Crow River. Stormwater management features are needed within the I-94/TH 241 interchange area to treat this runoff and provide rate attenuation prior to discharge (see Part 1, Avoidance Alternatives, Alternatives Considered).

A wet pond and dry pond would be constructed in the northwest quadrant of I-94/TH 241 between Wetland #8 and westbound I-94. The proposed wet pond and dry pond were sized and designed to accommodate the volume of water from I-94 between CSAH 37 and TH 241. Other locations within the I-94/TH 241 interchange are not feasible. There is not adequate space in the other three quadrants of the interchange to accommodate both a wet pond and dry pond. It is MnDOT practice not to locate a wet pond within exit ramp gore areas because of safety (i.e., increased probability of an errant vehicle running off the ramp and into the wet pond). Therefore, locating a wet pond in the southwest and northeast quadrants of the interchange were eliminated from consideration. An existing dry pond is in the southeast quadrant of the I-94/TH 241 interchange. This dry pond is connected to the Crow River floodplain and provides floodplain storage. Because of the factors listed above, and because most of the impacts to Wetland #8 are the result of road construction, it was decided to locate the wet pond and dry pond in the northwest quadrant of the I-94/TH 241 interchange.

The wet pond and dry pond are located on the south side of Wetland #8, between the wetland and westbound I-94. Locating the wet pond and dry pond as close to westbound I-94 as possible minimizes impacts to Wetland #8. An earthen berm would be constructed between the wet pond and Wetland #8. The berm slopes were steepened to the extent feasible to minimize encroachment into Wetland #8.

The north end of Wetland #8 within the TH 241 loop ramp would be excavated to provide additional water storage. Surface water is currently conveyed from off-site areas north of I-94, under the entrance ramp to westbound I-94 and through Wetland #8 in the northwest quadrant of I-94/TH 241, and discharging to the Crow River in the northeast quadrant of I-94/TH 241. This drainage pattern would be maintained with the project. Stormwater runoff from I-94 would be conveyed from the proposed wet pond to Wetland #8 inside the proposed loop ramp. The additional storage inside the loop ramp would avoid flooding and increases in the high water level (HWL) upstream of the I-94/TH 241 interchange.

Design Measures to Minimize Wetland Impacts/Encroachments

It was not feasible to completely avoid all wetland impacts/encroachments resulting from this roadway improvement. Wetland impacts/encroachments that are unavoidable have been minimized to the extent practicable without compromising safety. Because of minimization measures identified during preliminary design, aquatic resource impacts have been reduced from more than 12 acres to approximately 9.40 acres.

The following design measures were used to minimize these impacts are summarized below. Efforts to further minimize impacts to aquatic resources will be evaluated as part of the final design process.

- I-94 lane addition towards center median with urban section (curb and gutter).
- Steeper inslopes (1:4 or steeper).
- “Broken back” inslopes.
- Reduce ditch widths.
- Steeper backslopes.

Compensation (Replacement/Enhancements)

Application for wetland permits will be made to the appropriate agencies with wetland jurisdiction. Wetland mitigation is an on-going development during early stages of project design, and therefore subject to change. The preferred method of wetland replacement is to use established, federally and state approved wetland bank credits. Efforts will be made to replace wetland losses within the bank service area of the wetland impact. It is anticipated that wetlands will be replaced at a 2:1 ratio, within Bank Service Area 7 (BSA 7). The specific wetland bank credits will be determined through consultation with the Corps of Engineers and the MnDOT Office of Environmental Stewardship (OES).

Conclusion

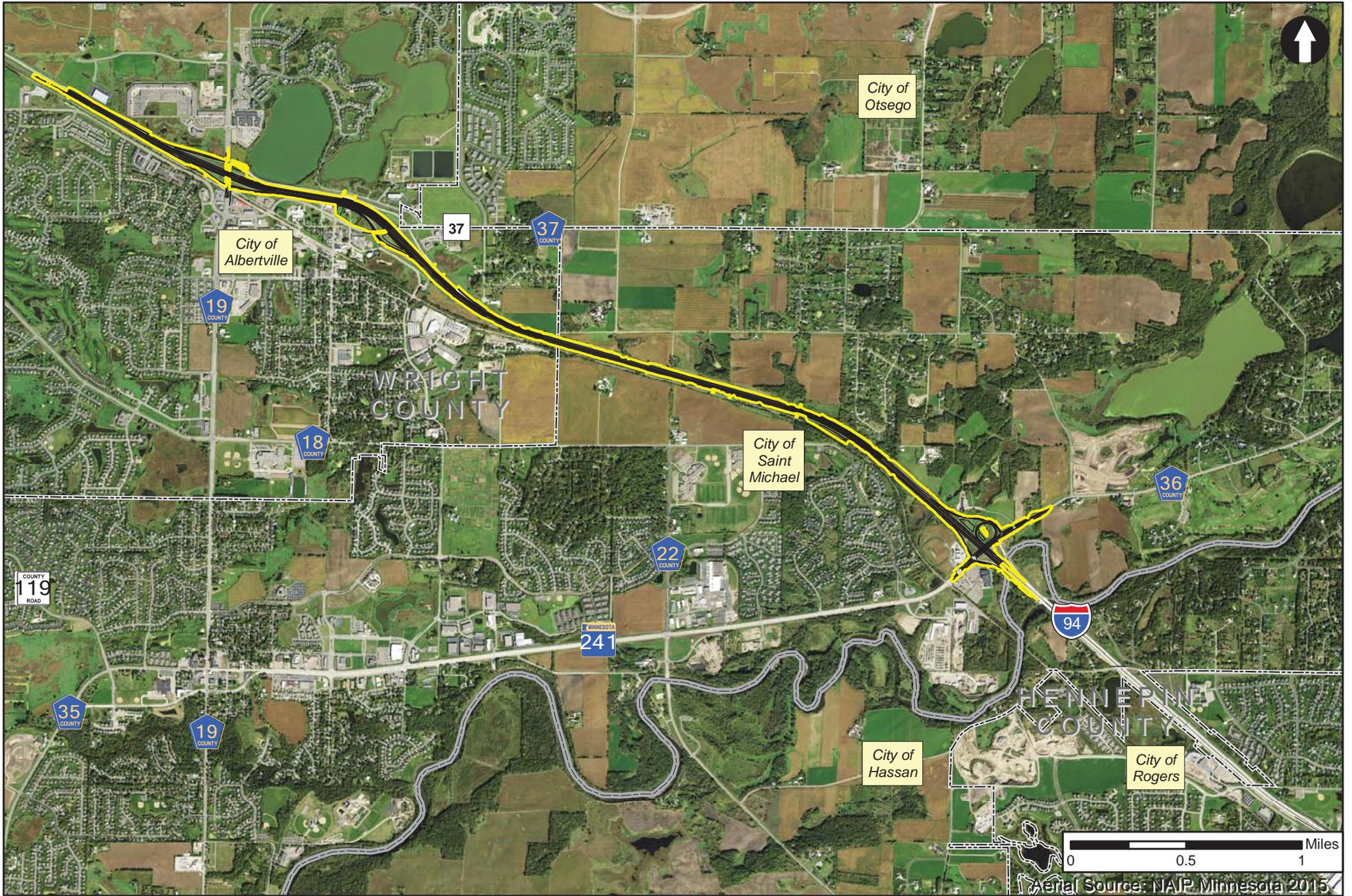
In accordance with Executive Order 11990, based upon the above factors and considerations, it is determined that there is no practicable alternative to the proposed construction in the identified wetlands, and that the proposed action includes all practicable measures to minimize harm to the wetlands.

Based on the findings of 6.84 acres of permanent wetland impacts, 2.29 acres of wet ditch impacts, and 0.27 acres of tributary impacts, it is anticipated that the project qualifies for the following Army Corps of Engineers permit category Standard Individual Permit. However, this finding is subject to change as continued coordination occurs with the US Army Corps of Engineers as the permitting processes proceeds.

ATTACHMENTS

Figure C1, Project Location Map

Figure C2 through C6, Aquatic Resources Maps



Project Location

I-94 St. Michael to Albertville

SP 8680-172

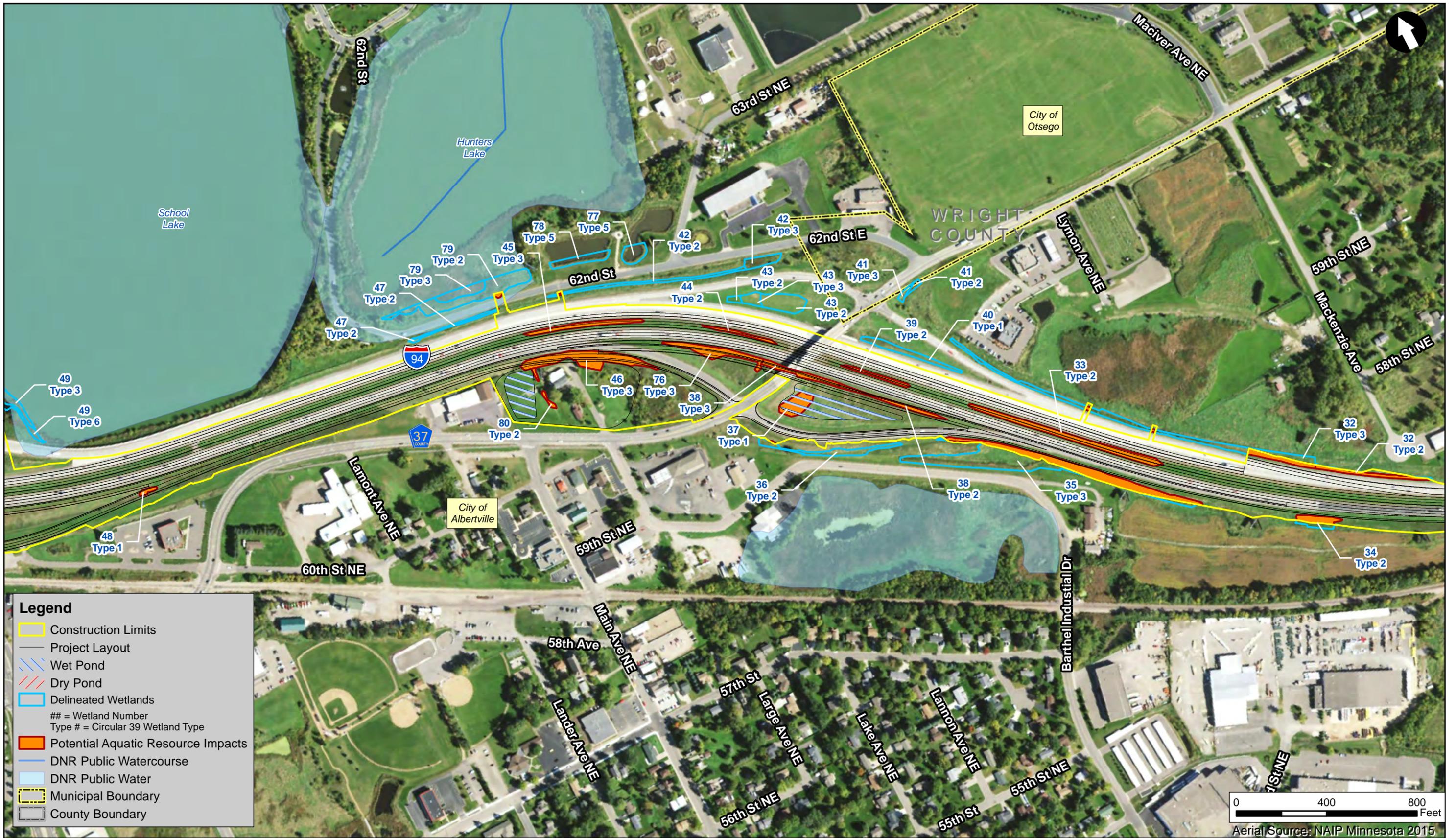
MnDOT District 3

Figure C1



Aquatic Resources
I-94 St. Michael to Albertville
SP 8680-172
MnDOT District 3

Figure C2



Aquatic Resources
 I-94 St. Michael to Albertville
 SP 8680-172
 MnDOT District 3

Figure C3



Aquatic Resources
 I-94 St. Michael to Albertville
 SP 8680-172
 MnDOT District 3

Figure C4



Aquatic Resources
 I-94 St. Michael to Albertville
 SP 8680-172
 MnDOT District 3

Figure C5



Aquatic Resources

I-94 St. Michael to Albertville
 SP 8680-172
 MnDOT District 3

Figure C6