

Appendix G

Wetland Two-Part Finding

Wetland Impact Assessment & Two Part Finding Form

Project Description

S.P. Number: S.P. 8680-173

County: Wright County

Project Name: I-94 Reconstruction from TH 24 in Clearwater to the CSAH 37 in Albertville

Watershed: Mississippi River- St. Cloud (17)

The project will include the addition of a third lane in both directions of I-94 between Clearwater and Albertville, in Wright County. This project proposes to complete a pavement overlay for the segment of I-94 between TH 24 in Clearwater to CSAH 8 in Hasty, and will reconstruct I-94 between CSAH 8 and CSAH 37 in Albertville, MN. The total project length is approximately 24.2 miles. Construction between Clearwater and Monticello is planned to start in 2019 and continue into the 2020 and 2021 construction seasons. Construction timing has not been determined for the segment between Monticello and Albertville.

Purpose and Need

The purpose of this project is to provide a long-term solution for highway users by improving pavement conditions and freight movement, while enhancing traffic mobility on I-94 between Clearwater and Albertville. MnDOT has identified a number of factors justifying the need for the I-94 Albertville to Clearwater Improvement Project. The needs have been categorized by primary, secondary, and additional considerations. MnDOT recognizes that some of these needs may differ by segment.

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

- Improve poor pavement conditions: *Pavement conditions along segments of I-94 are deteriorating and reaching the end of their service life*
- Maintain freight mobility: *Two lanes in each direction must remain open during construction in order to maintain efficient traffic flow for freight and commuter traffic*

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

- Address geometric deficiencies that restrict traffic flow: *Traffic mobility is being compromised due to narrow inside shoulders*
- Repair or replace degraded stormwater infrastructure: *Stormwater drainage infrastructure along the corridor has reached the end of its service life or needs maintenance*

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

- Environmental considerations

Overview: Total Wetland Impacts

This environmental document addresses permanent wetlands impacts. Permanent wetland impacts result in a loss in the quantity, quality or biological diversity of a wetland and will not be restored to pre-project conditions and functions within 90 days of the impact occurrence. Temporary wetland impacts will be repaired, rehabilitated or restored to existing conditions within 90 days of the impact occurrence. The regulatory agencies will determine whether an impact to an aquatic resource is permanent or temporary. Temporary impacts will be addressed through the permitting process.

Table 1. Total Permanent Impacts - Preferred Alternative

	Permanent Impacts (Acres or Square Feet ¹)
Wetland basins	1.09
Ditches with wetlands in the bottom (WCA* and USACE*)	1.10
Ditches with wetlands in the bottom (USACE only)	0
Other Aquatic Resources	0.07
*US Army Corps of Engineers ¹ Wetland Conservation Act	

Location of Wetlands in Project Area

Aquatic resources within the project right-of-way from TH 24 to the Albertville city limits, were delineated using Level 1¹ and Level 2² delineation methodology during the 2017 and 2018 growing seasons. The Level 2 delineation was conducted for a western part of the project (TH 24 in Clearwater to TH 25 in Monticello) in the summer of 2017, for a central part of the project (TH25 to the eastern extents of the MnROAD facility) in the summer of 2018, and an eastern portion of the project (MnROAD facility to Albertville) in the summer of 2018 and included all areas within MnDOT right-of-way. The median was delineated using Level 1 methodology. A total of 152 wetlands, 3 stormwater ponds, 9 tributaries, and 1 lake were identified within the project study area. **Figure 7** of the Environmental Assessment document illustrates the location of delineated aquatic resources in the study area. **Table 2** lists total wetland basins, ditches with wetlands in the bottom and other aquatic resources (lakes, rivers, streams, etc.) located within the right-of-way of the project corridor.

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

² Level 2 methodology is on-site method established in the 1987 Corps of Engineers Wetlands Delineation Manual (USACE, 1987) and the Midwest Regional Supplement (USACE, 2012) as required by both the Minnesota Wetland Conservation Act and Section 404 of the Clean Water Act.

Table 2. Aquatic Resource Overview

	Total Areas (Acres or Square Feet ¹)
Wetland basins	35.52
Ditches with wetlands in the bottom (WCA and USACE)	15.71
Ditches with wetlands in the bottom (USACE only)	0
Other Aquatic Resources	0.74

PART 1: Avoidance Alternatives

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

Alternatives Considered but Rejected

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

Overlay Alternatives

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

drainage with a rural ditch section, did not allow room for standard inside shoulder widths, and required greater impacts to right of way needed and wetland impacts.

Alternative A: Overlay with Widening to the Inside

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

Alternative B: Overlay with Widening to the Outside

Alternative B would have added two 12-foot lanes, one eastbound and one westbound, to the outside of the existing road alignment. The alternative was dismissed for Segments 2, 3, and 4 because the resulting environmental impacts would have been significant (i.e. over 12 acres of wetland impact and approximately 1.35 acres of temporary easements needed for construction). The alternative was viewed as viable between TH 24 and CSAH 8 in Hasty because there were minor wetland impacts (less than 0.15 acres) and no right-of-way impacts.

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

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

Full reconstruction alternatives

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

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

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

Alternative E2 Full Reconstruction with 10.5-foot Paved Median Shoulder

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

Alternatives Summary

A summary of rejected alternatives is provided in Table 6. Alternative D, the recommended alternative is discussed in the next section.

Table 3. Alternatives Evaluation

Evaluation Criteria	Alternatives					
	A	B	C	D	E1	E2
Temporary right-of-way impacts (acres) ³	0.06	1.38	0.93	0	0.31	0.48
Wetland impact (acres)	4.8	12.2	9.4	2.19*	9.4	9.4
Maintenance considerations						
Median barrier type	Cable	Cable	Cable	Concrete	Cable	Cable
Requires lane closure for maintenance and repair	Yes	Yes	Yes	No	Yes	No
Construction considerations						
Crossovers required?	Yes	Yes	Yes	No	Yes	Yes
Pavement Longevity ⁴	Low	Low	Low	High	High	High
Roadway design standard						
Minimum usable inside shoulder width (ft)	5.5	5.5	5.5	12	5.5	12
Lane closure likely due to incidents/breakdowns in median?	Yes	Yes	Yes	No	Yes	No
Drainage Implications⁵	Inadequate Median Flow Capacity	Replace and Extend Culverts	Replace and Extend Culverts	New Median Storm Sewer System; Maintain Outside Ditches	Replace and Extend Culverts	Replace and Extend Culverts

*Includes wetlands and wet ditches

³ All build alternatives involve 2.77 acres of right-of-way acquisition for two stormwater ponds

⁴ Low pavement longevity is the result of pavement on an overlay life cycle, high pavement longevity indicates a boosted initial pavement life from a new pavement reconstruction

⁵ All build alternatives assume stormwater pond construction in same locations

Alternatives Under Consideration

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

No Build Alternative

The No Build Alternative assumes I-94 remains as-is and pavement management continues as needed. The No-Build alternative would not maintain two lanes of traffic in each direction during maintenance activities; therefore, does not meet the full purpose of the project and needs of the I-94 corridor. Complete avoidance of wetlands is not possible along the existing corridor while still meeting the projects purpose and need.

Recommended Alternative – Combination of Alternatives B and D

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

Stormwater Management: The project would increase the amount of impervious surface area compared to existing conditions. This additional impervious surface 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 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. Effort has been made to construct stormwater management features outside existing wetland areas.

PART 2: Minimization Measures

It was not feasible to completely avoid all wetland impacts resulting from this proposed improvement. Wetland impacts that are unavoidable have been minimized to the extent practicable without compromising safety. In order to minimize wetland impacts, the following minimization measures have been used:

- Inside and outside shoulders have been reduced to 10-foot width of paved surface (10.5 feet is standard)
- Inslopes have been reduced to 1:4 from Clearwater to Hasty (1:6 is preferred standard) along outside shoulder to reduce width of overall cross section by eight feet
- Inslopes beyond the clear zone were reduced to 1:2.5 for two wetland locations to minimize fill into Wetland #2 and Wetland #6
- Stormwater treatment areas have been designed to use existing stormwater best management practice (BMP) locations and avoid wetland impacts where possible. In total, 16 areas between Clearwater and Albertville were evaluated for stormwater management. Areas were eliminated due to drainage limitations (i.e. not located in suitable location to receive stormwater runoff), insufficient right-of-way availability, or the presence of wetlands. Nine areas have been identified that met most or all of the siting criteria. In order to limit wetland impacts, two of these areas have been located in areas proposed for right-of-way acquisition.
- One of the remaining management areas is located in proximity to a wetland (Wetland #2). Effort was made to avoid this wetland completely, but, due to the current level of data available at this stage of design, the size of this pond could not be modified to avoid wetland while maintaining BMP functions. The size and orientation of the pond has been reduced to the extent possible. The location of the pond has been situated to avoid larger wetland impacts near Fish Creek.

Table 4 below identifies the anticipated wetland impacts for the preferred alternative concept. Anticipated impacts are based on preliminary construction limits. The preferred alternative is anticipated to result in approximately 2.26 acres of permanent aquatic resource impacts, including: 1.09 acres of wetland impacts, 1.10 acres of wet ditch impacts, and 0.07 acres of tributary impacts. All impacts within preliminary construction limits are identified as permanent impacts. Temporary impacts during construction have been estimated and will be included in the permit application review process with details on restoration plans.

Table 4. Wetlands within the Project Area (Level 1 Wetland Delineation)

Basin ID	Section, Township, Range	Circ 39	Wetland Type/ Existing Plant Community Type(s)	Basin Size (Acres)	Permitting Jurisdiction (USACE, DNR, WCA)	Size of Permanent Impact of the Preferred Alternative (Acres or Square Feet ¹)
Wetland #2	S7, T122N, R26W	2	Fresh (Wet) Meadow	0.20	USACE, WCA	0.11
Wetland #6	S20, T122N, R26W	3	Shallow Marsh	0.52	USACE, WCA	91 SF
Wetland #30	S4, T121N, R25W	3	Shallow Marsh	0.31	USACE, WCA	108 SF
Wetland #32	S3, T121N, R25W	3	Shallow Marsh	0.13	USACE, WCA	0.15
Wetland #33	S4, T121N, R25W	3	Shallow Marsh	0.05	USACE, WCA	0.04
Wetland #65	S18, T121N, R24W	2	Fresh (Wet) Meadow	0.14	USACE, WCA	0.11*
Wetland #68	S19, T121N, R24W	2	Fresh (Wet) Meadow	0.15	USACE, WCA	0.11*
Wetland #76	S28, T121N, R24W	3	Shallow Marsh	0.32	USACE, WCA	0.02
Wetland #77A	S28, T121N, R24W	3	Shallow Marsh	0.65	USACE, WCA	0.02
Wetland #81	S27, T121N, R24W	3	Shallow Marsh	0.12	USACE, WCA	71 SF
Wetland #86	S34, T121N, R24W	3	Shallow Marsh	6.44	USACE, WCA	119 SF
Wetland #93	S35, T121N, R24W	3	Shallow Marsh	0.23	USACE, WCA	0.01
Wetland #94	S35, T121N, R24W	2	Fresh (Wet) Meadow	0.93	USACE, WCA	0.23
		3	Shallow Marsh	0.69	USACE, WCA	0.45
Wetland #95	S35, T121N, R24W	3	Shallow Marsh	1.20	USACE, WCA	0.04
Total Permanent Impacts:						1.09

* Impacts to these resources either entirely or partially due to construction of a potential noise wall; as design progresses, these impacts will be refined

Table 5. Ditches with Wetlands in the Bottom in the Project Area (Level 1 Wetland Delineation)

Ditch ID	Section, Township, Range	Circ 39	Wetland Type/ Existing Plant Community Type(s)	Basin Size (Acres)	Permitting Jurisdiction (USACE, DNR, WCA)	Size of Permanent Impact of the Preferred Alternative (Acres or Square Feet ¹)
Wet Ditch #25	S26, T122N, R26W	3	Shallow Marsh	0.02	Incidental	0.02
Wet Ditch #40	S26, T122N, R26W	3	Shallow Marsh	0.09	Incidental	4 SF
Wet Ditch #54	S22, T122N, R26W	3	Shallow Marsh	0.96	Incidental	0.11
Wet Ditch #55	S22, T122N, R26W	3	Shallow Marsh	0.02	Incidental	0.02
Wet Ditch #56	S22, T122N, R26W	3	Shallow Marsh	0.08	Incidental	0.08
Wet Ditch #57	S22, T122N, R26W	3	Shallow Marsh	0.42	Incidental	312 SF
Wet Ditch #58	S23, T122N, R26W	3	Shallow Marsh	0.11	Incidental	0.11
Wet Ditch #59	S23, T122N, R26W	3	Shallow Marsh	0.01	Incidental	0.01
Wet Ditch #60B	S26, T122N, R26W	3	Shallow Marsh	0.60	Incidental	237 SF
Wet Ditch #67	S19, T121N, R24W	2	Fresh (Wet) Meadow	0.16	Incidental	0.03
Wet Ditch #74A	S20, T121N, R24W	3	Shallow Marsh	0.47	Incidental	0.02
Wet Ditch #75A	S20, T121N, R24W	3	Shallow Marsh	0.33	Incidental	0.02
Wet Ditch #78	S28, T121N, R24W	3	Shallow Marsh	2.65	Incidental	178 SF
Wet Ditch #80	S28, T121N, R24W	3	Shallow Marsh	0.13	Incidental	185 SF
Wet Ditch #83	S27, T121N, R24W	2	Fresh (Wet) Meadow	0.02	Incidental	65 SF
Wet Ditch #84	S27, T121N, R24W	2	Fresh (Wet) Meadow	0.10	Incidental	0.10
Wet Ditch #85	S27, T121N, R24W	2	Fresh (Wet) Meadow	0.05	Incidental	0.05
Wetland Ditch #88	S34, T121N, R24W	2	Fresh (Wet) Meadow	0.10	Incidental	0.10
Wetland Ditch #89	S34, T121N, R24W	2	Fresh (Wet) Meadow	0.09	Incidental	0.09
Wetland Ditch #90	S34, T121N, R24W	2	Fresh (Wet) Meadow	0.17	Incidental	0.17

Wetland Ditch #91	S34, T121N, R24W	2	Fresh (Wet) Meadow	0.02	Incidental	0.02
Wetland Ditch #92	S34, T121N, R24W	1	Seasonally Flooded Basin	0.07	Incidental	0.05
Wetland Ditch #96	S35, T121N, R24W	1	Seasonally Flooded Basin	0.10	Incidental	0.07
Total Permanent Impacts:						1.10

Table 6. Other Aquatic Resources within the Project Area (Level 1 Wetland Delineation)

Resource ID	Section, Township, Range	Wetland Type/ Existing Plant Community Type(s)	Basin Size (Acres)	Permitting Jurisdiction (USACE, DNR, WCA)	Size of Permanent Impact of the Preferred Alternative (Acres or Square Feet ¹)
Tributary #20	S7, T122N, R26W	Riverine	0.1	USACE	0.03
Tributary #64	S18, T121N, T24W	Riverine	0.04	USACE	0.04
Tributary #73	S20, T121N, R24W	Riverine	0.01	USACE	134 SF
Tributary #87	S20, T121N, R24W	Riverine	0.02	USACE	158 SF
Tributary #88	S19, T121N, R24W	Riverine	0.003	USACE	27 SF
Total Permanent Impacts:					0.07

The location of each wetland impact is illustrated in Figure 7 of the EA.

COMPENSATION (REPLACEMENT/ENHANCEMENTS)

Applications for wetland permits are being coordinated with the appropriate agencies with wetland jurisdiction. Expected wetland mitigation needs are refined on a continual basis 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. The specific wetland compensation (bank credits) to be used will be determined through consultation with the US Army Corps of Engineers (USACE) and the MnDOT Office of Environmental Stewardship (OES) as the project proceeds.

For the USACE, ditches with wetland bottoms may be replaced at a different ratio, dependent on the following items:

- If a ditch bottom wetland is filled but a new ditch created (the ditch is shifted) no mitigation is typically required;
- If a ditch bottom wetland is filled but no new ditch is created mitigation may be required at a 1:1 ratio.

The minimum amount of wetland mitigation to be required is estimated at 1.09 acres at a 2:1 ratio or 2.18 acres. The project area is located in Bank Service Area 7.

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 estimated 1.09 acres of permanent wetland basin impacts, 1.10 acres of permanent impacts to USACE/WCA ditches with wetlands in the bottom, and 0.07 acres of permanent impacts to other aquatic resources, it is anticipated that the project will qualify for the following USACE Section 404 General Transportation permit. This finding is subject to change as continued coordination occurs with the USACE as the permitting processes proceeds. The final mitigation plan will be determined during the permit review process.

EXHIBITS

- *See Figure 7 of the EA for delineated wetland boundaries and impact locations*