



US 63 River Bridge and Approach Roadways Project

Environmental Assessment & Programmatic Section 4(f) Evaluation

June 2015



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ENVIRONMENTAL ASSESSMENT

US 63 River Bridge and Approach Roadways Project

MN State Project: 2515-21

WI State Project: 7210-00-76 and 7210-00-78

From: Town of Trenton, WI to Red Wing, MN

Town of Trenton, Pierce County, Wisconsin and City of Red Wing, Goodhue County,
Minnesota

Section(s), Township, Ranges: Sections 29 And 30, T113N, R14W (MN) and Sections 10,
11 and 14, T24N, R18W (WI)

Submitted Pursuant To 42 U.S.C 4332, M.S. 116d and Wis. Chapt. Trans 400
by the U.S. Department of Transportation, Federal Highway Administration, Minnesota
Department of Transportation and Wisconsin Department of Transportation
for

Replacement of the existing US 63 bridge over the Mississippi River with a new bridge and
construction of Minnesota and Wisconsin approach roadways

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TABLE OF CONTENTS

I. REPORT PURPOSE	1
II. PURPOSE AND NEED FOR PROJECT.....	2
A. PRIMARY NEEDS.....	2
1. Need for Structurally Sound Bridge Crossing of the Mississippi River Main Channel at Red Wing..	2
2. Need for Structurally Sound Crossing of US 61	4
3. Need to Improve Motorized and Non-Motorized Traffic Mobility on Trunk Highways within the Downtown Red Wing Commercial/Historic District	4
3. Summary	7
B. Secondary Needs	7
1. Need for Continuity of US 63	7
2. Need for Connection to US 61 and MN 58	7
3. Need for Adequate Bridge Capacity	8
4. Need for Maximum Maintenance of Traffic	8
5. Need for Access to Trenton Island	9
6. Need to Maintain or Improve Pedestrian/Bicycle Facilities on the US 63 River Bridge and US 61 Overpass	9
C. Other Considerations	10
1. Structural Redundancy.....	10
2. Wisconsin Corridors 2030 Plan	10
3. Geometrics.....	10
4. Economic Development.....	11
5. Parking	11
6. Regulatory Requirements	11
7. Property Impacts.....	12
D. Statement of Purpose.....	13
III. ALTERNATIVES.....	14
A. Alternatives Development and Evaluation Process.....	14
1. River Bridge.....	16
2. Minnesota Approach	19
3. Wisconsin Approach	27
B. Description of the Alternatives Evaluated in this EA	28
1. River Crossing.....	28
2. Minnesota Approach	28
3. Wisconsin Approach	29
4. Summary of Preferred Alternative & No Build: SEE Impacts	29
C. Cost and Funding	30
D. Benefit-Cost Analysis	31
E. Proposed Project Schedule	31

IV. SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACTS (SEE).....	32
A. Environmental Assessment Worksheet.....	32
1. Project Title.....	32
2. Proposer.....	32
3. RGU.....	32
4. Reason for EAW Preparation.....	32
5. Project Location.....	33
6. Project Description.....	33
7. Cover Types.....	37
8. Permits and Approvals Required.....	38
9. Land Use.....	39
10. Geology, Soils and Topography/Land Forms.....	43
11. Water Resources.....	45
12. Contamination/Hazardous Materials/Waste.....	52
13. Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources (Rare Features).....	56
14. Historic Properties.....	62
15. Visual.....	66
16. Air.....	68
17. Noise.....	78
18. Transportation.....	84
19. Cumulative Potential Effects.....	86
20. Other Potential Environmental Effects.....	92
RGU Certification.....	93
B. Additional Federal Issues.....	94
1. Right-of-Way and Relocation.....	94
2. Economics.....	95
3. Social Impacts.....	95
4. Transit.....	96
5. Considerations Relating to Pedestrians and Bicyclists.....	96
6. Section 4(f) Resources.....	97
7. Section 6(f) Resources.....	97
8. Section 106 Process.....	97
9. Environmental Justice.....	97
10. Air Quality.....	103
11. Traffic Noise Analysis.....	103
12. Construction Impacts.....	103
13. Federal Threatened and Endangered Species.....	103
14. Farmland Protection Policy Act.....	104
15. Accessibility Requirements.....	104
16. Indirect Effects and Cumulative Impacts.....	104
V. PUBLIC AND AGENCY INVOLVEMENT (AND PERMITS/APPROVALS).....	105
A. Public Involvement Plan.....	105
B. Agency Coordination.....	105
1. Technical Advisory Committee (TAC) and Project Advisory Committee (PAC).....	105
2. Federal Highway Administration.....	106

3. Other Agency and Stakeholder Coordination	106
C. Public Participation	107
1. Open Houses	107
2. Listening Sessions	107
3. Other	108
D. Ongoing Communication	108
1. Website	108
2. Newsletters, Project Updates, and Fact Sheets	108
E. Permits and Approval Requirements	108
F. Public Comment Period and Public Hearing	108
G. Report Distribution and EA Notices	109
H. Process Beyond the EA Public Comment Period	109

List of Tables

Table 1: Travel between River Bridge and US 61/Broad Street, Year 2022 and 2042	5
Table 2: Minnesota Approach Alternatives Evaluation Matrix	22
Table 3: Preferred Alternative and No Build Comparison: SEE Impacts	29
Table 4: Cover Types (in acres)*	37
Table 5: Permits and Approvals Required	38
Table 6: Project Area USCS Soil Types	44
Table 7: Project Impervious Areas Summary (in acres)	46
Table 8: Wetland Impacts Summary	49
Table 9: Environmental Sites of Concern Summary	54
Table 10: Identified State-Listed Species Potentially within the Project Area	58
Table 11: Typical Construction Equipment Noise Levels at 50 feet	78
Table 12: Federal noise abatement criteria	80
Table 13: Minnesota state noise standards	80
Table 14: Wisconsin Noise Analysis Results Summary	81
Table 15: Minnesota Noise Analysis Results Summary	82
Table 16: Red Wing Projects within Minnesota's Draft 2015-2018 STIP	87
Table 17: Hager City Projects within Wisconsin's Final 2014-2017 STIP	87
Table 18: Population and Race	101
Table 19: Income and Poverty	102

List of Figures

Figure 1: Alternatives Development and Evaluation Process Diagram	15
Figure 2: One-Hour SO ₂ Concentrations Compared to the NAAQs	72
Figure 3: National MSAT Emissions Trends 1999-2005 for Vehicles Operating on Roadways Using EPA's MOVES2010b Model	74

Appendices

Appendix A: Figures	A
Appendix B: Technical Memoranda and Reports – Supplemental CD.....	B
Appendix C: Agency Correspondence.....	C
Appendix D: Agency Correspondence – Section 106.....	D
Appendix E: Unified Soil Classification System Soils Report.....	E
Appendix F: Programmatic Section 4(f) Evaluation	F
Appendix G: List of Commitments	G

I. REPORT PURPOSE

This Environmental Assessment/Environmental Assessment Worksheet (EA/EAW) for the proposed US 63 River Bridge and Approach Roadways Project in Goodhue County, Minnesota and Pierce County, Wisconsin provides background information and analysis, including:

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

This EA/EAW was prepared as part of the National Environmental Policy Act (NEPA) process and environmental review process to fulfill requirements of 42 USC 4332, Minn Statutes 116D (the Minnesota Environmental Policy Act (MEPA) and Wis. Chapt. Trans 400 (the Wisconsin Environmental Policy Act (WEPA)).

At the federal level, the EA is used to provide sufficient environmental documentation to determine the need for an Environmental Impact Statement (EIS) or that a Finding of No Significant Impact (FONSI) is appropriate.

At the state level, this document also serves as a State of Minnesota Environmental Assessment Worksheet (EAW), and is used by the Minnesota Department of Transportation (MnDOT) to provide sufficient environmental documentation to determine whether or not preparation of a state EIS is required.

The Wisconsin Department of Transportation's (WisDOT's) requirements for WEPA are fulfilled by the federal NEPA documentation.

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

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II. PURPOSE AND NEED FOR PROJECT

The primary needs to be addressed by this project are to provide structurally sound bridge crossings of the Mississippi River Main Channel at Red Wing and of US 61, as well as to provide acceptable mobility conditions for motorized and non-motorized traffic in the downtown Red Wing commercial/historic district. Due to the condition of the existing bridges and maintenance requirements (detailed below), the existing bridges will not adequately meet this need without extensive investment. Furthermore, given forecast growth in motorized and non-motorized traffic levels over the 20-year planning horizon the existing trunk highway network will not be able to address the mobility needs in the downtown commercial/historic district.

The project has secondary needs due to the role of US 63 in the project area transportation system and due to the physical and cultural setting of the project. The project needs to provide for continuity of US 63 between Minnesota and Wisconsin. The crossings, connecting roadways, and intersection(s) need to maintain the connection of US 63 to Trenton Island, Wisconsin, to US 61 and to MN 58 in Red Wing. Maintenance of traffic -- both across the river and on the river -- needs to be maximized (i.e. as short an amount of time with total closure as possible). Pedestrian and bicyclist facilities need to be at least maintained and potentially improved.

Finally, it is desirable, though not essential, for the project to meet other transportation needs, which are described under "Other Considerations" below.

A. PRIMARY NEEDS

1. Need for Structurally Sound Bridge Crossing of the Mississippi River Main Channel at Red Wing

a. Rehabilitation, Maintenance and Inspection History

The existing US 63 bridge (MN Bridge 9040/WI Bridge B470024 and hereafter called the "river bridge") was completed in 1960, has maintenance needs that will require extensive ongoing investment, and is nearing the end of its design life. The bridge still has its original deck, which is approximately 50 years old. In 1978 a 2-inch low slump overlay was added to the bridge deck. The expansion joints were also reconstructed at that time. The bridge received a complete painting (zinc/epoxy/urethane paint system) in 2002. The final coat of paint that was applied in 2002 was poor quality, which will likely negatively impact the life of the paint system.

The north abutment and pier 8 began to experience substantial movement/settlement problems shortly after the bridge was constructed. In 1972 the bearing areas on the abutment and pier were reconstructed. The bridge seat for the north abutment was raised approximately 26-29 inches to restore the bridge to the original grade. The concrete bridge seat was also raised approximately 16 inches on pier 8 to raise the bridge to the original grade on account of the movement and settlement issues. The raised portion of the beam seats is experiencing concrete deterioration and all of the blocks under the five girders are experiencing cracking, spalling, and delamination. Steel supports have also been added to pier 8 in order to raise the bridge to provide support during future maintenance activities. Settlement has slowed in recent years, however the abutment and pier 8 continue to settle. Pier 7 is also experiencing some settling issues. The total settlement of the north abutment is nearly 3.5 feet and the total settlement of pier 8 is approximately 2.5 feet.

Several inspection reports, including the May 2010 bridge inspection report, have noted that many of the tack welds in the superstructure have cracked, however none have been noted to have propagated into the main members thus far. Monitoring of the cracked tack welds will continue during future inspections to verify that cracking has not propagated into the base metal.

Several inspection reports have also noted that the superstructure has been continually moving longitudinally toward the south, likely due to the bearings not working properly. The July 2010 fracture critical inspection confirmed that the bearings on pier 8 have expanded to their limits and are no longer functioning. Several other bearings in other locations of the structure are also nearing their limit. Several of the bearings were re-seated in 1972, however movement has continued and many are in need of re-seating again. This cannot be done without further modification or replacement of the piers and north abutment, since the plates and bearings are reaching the limit of where they can be moved toward the edge of the seat on the top of the piers and abutment.

b. Condition Summary

Overall the bridge is still functional. Activities over the last few decades have assisted in extending the life of the bridge, however it is time for a higher level of investment in the structure as the bridge has reached an age at which substantial maintenance needs are anticipated. Maintenance needs and costs have been relatively low for the bridge up to this point, however, the scope of maintenance work and the costs of that work will be substantially higher in the near future.

The bridge currently has a sufficiency rating of 43.8. The deck has a large amount of cracking and widespread spalling throughout, especially the concrete stools adjacent to the floor beams and stringers. Deck replacement will be needed in the near future to address the problems. The July 2010 fracture critical inspection found that the deck condition is getting worse, likely due to the substantial amount of salt brine that is applied during winter conditions. Concrete delamination and spalling was found under the deck in numerous areas. As a result, many of these areas of delaminated and spalled concrete were knocked down by maintenance crews to prevent safety issues from falling concrete.

The existing finger joints allow a substantial amount of chloride to drain onto the bridge beams and cause corrosion. The finger joints are in need of replacement to help reduce future corrosion. The paint system is functioning adequately at this time, with 5 percent being unsound, but due to the paint that was used in 2002 it is unlikely that it will have a life longer than 15 years.

Pier 2 has vertical cracking, spalling, and large areas of delaminated concrete, due to two separate barge impacts that occurred in 1992 and 1995 and because of the age of the structure. Several other piers also have cracking and spalling concrete noted in the inspection reports. Numerous areas of the superstructure and bearings have been noted as having failed paint and active corrosion. Several of the bearings have pack rust and are not functioning properly, as noted above. Several of the hinges on the stringers have heavy corrosion and large amounts of debris, which is likely restricting movement.

The truss spans appear to be in relatively good condition, especially when compared to other similar structures built during the same time period. They also have adequate load capacity. The north approach spans are in worse condition and do not have the required load capacity. Inspection reports for the bridge do not note any serious deficiencies in the fracture critical members. However, initial assessment of the bridge structure indicated that there are no economical means of correcting the lack of redundancy for the truss spans. Geometrically, the bridge cannot be expanded to provide more travel lanes.

Substantial maintenance activities that have been completed on the existing bridge thus far include pier and abutment repairs due to settlement (1972); the addition of a low-slump concrete wearing course (1978); and truss repainting (1974, 1987, & 2002).

Without a higher level of investment in the river crossing there are extensive maintenance activities that are expected on the existing structure in the near future to keep the bridge functional in the short term. Some of these activities include complete deck replacement; replacement of expansion joint devices; replacement of several bearings; replacement of several approach span girders (to meet load rating requirements); replacement of the north abutment, Pier 8, and potentially Pier 7 to address settlement/movement issues; repainting; concrete surface repairs; channel stabilization at Pier 2; concrete surface repairs to piers; possible stringer and floorbeam replacement (where joint leakage has led to corrosion); and possibly the addition of a containment system for deck run-off.

2. Need for Structurally Sound Crossing of US 61

The existing river bridge over US 61 (MN Bridge 9103 and hereafter called the “US 61 overpass”) on the Minnesota approach to the river bridge was completed in 1960. US 63 functions as a modified facility on the bridge, since northbound US 63 functions as a single lane and southbound US 63 widens from one to two lanes on the bridge. It is a concrete slab span, curved structure, has maintenance needs that will require extensive ongoing investment, and is nearing the end of its design life. It currently has a sufficiency rating of 50.4. In 1978 a low slump overlay was added to the bridge deck. Both of the abutments and most of the piers have map cracking, delaminated areas, and spalling concrete. The concrete deck on several of the spans has numerous spalls that have been knocked off. Many of the rebar are exposed and are rusting. Many of the masonry plates and bearings have active corrosion with some loss of section.

This bridge is located on the Minnesota approach to the river bridge. The US 61 overpass and MN Bridge 9040/WI Bridge B470024 (the existing river bridge) are separated by approximately 350 feet, there are no roadway accesses between the two bridges, and the length of a potential detour for the bridges is identical. The traffic capacities of the two bridges are interrelated, so limiting the capacity of one bridge also limits the capacity of the other. However, the two bridges are structurally independent and as a result it is possible to alter one without physically impacting the other.

3. Need to Improve Motorized and Non-Motorized Traffic Mobility on Trunk Highways within the Downtown Red Wing Commercial/Historic District

Downtown Red Wing has been a focal point of commercial, industrial, retail, tourism, and transportation activity for over 150 years. The long-standing importance of downtown helps explain the unique and challenging trunk highway network that includes the confluence of three highways of regional and state-wide importance; US 61 (Main Street) which parallels the Mississippi River, US 63 that extends across the river bridge into Wisconsin, and MN 58 that connects Red Wing to US 52 and points south and west.

The intersection of these highways is complicated by many factors especially, as illustrated in Figure 1 of Appendix A, traffic to and from Wisconsin via US 63 loops through a portion of the downtown commercial/historic district and combines with MN 58 for one block before accessing US 61 (the destination for most US 63 traffic from Wisconsin). As traffic comes together on these three highways in downtown Red Wing, long traffic queues form during peak hour travel. Field observations by City staff and MnDOT project staff of queues during recent PM peak hour traffic periods included backups extending from the Plum/3rd Street intersection several hundred feet back toward the river bridge, while queues for eastbound traffic on US 61 extended from the Plum Street intersection several blocks through

the downtown. The traffic analysis model limits include the intersections represented as green dots on Figure 1 of Appendix A.

The *Red Wing Bridge Project – Purpose and Need Minnesota Approach Mobility Issues Memo* dated May 29, 2014 (see Appendix B’s supplemental CD) contains additional information about this traffic analysis model.

Traffic analysis modeling was used to assess the extent of highway traffic queuing and to better understand the impediments to motorized traffic flow on the trunk highway system. Figures 2 and 3 of Appendix A illustrate the results of the model analysis for year 2022 (the year after anticipated project completion) and year 2042 (the standard 20-year forecast horizon). Figure 2 shows that in the year 2022 during the PM peak period traffic queues will extend northeast back from the Plum/3rd Street intersection (approximately 600 feet) while queues for eastbound traffic on US 61 will extend 1,200 feet back from the Plum Street intersection. As illustrated in Figure 3, the traffic congestion becomes even greater in the year 2042 with queues at these same intersections projected to extend to 900 feet and 2,000 feet, respectively.

The mobility issues in the downtown commercial/historic district were assessed in a detailed traffic operational analysis recently completed by MnDOT. The analysis estimates that the PM peak hour average travel speeds in the year 2022 would be 14 mph and there would be 75 hours of total travel delay. In 2022 the total travel time for all vehicles during the PM peak hour is projected to be nearly double what it would be without congestion. By the year 2042, the average PM peak hour travel speed decreases to 8 mph and the total travel delay increases to 449 hours which represents a 600 percent increase over year 2022 levels. To better illustrate how this network level data equates to individual trips, “example” trips were defined through the downtown commercial/historic district. Table 1 below details the total traffic queue length and total travel delay for representative trips between the river bridge and US 61/Broad Street on the west side of the downtown area. This 0.6 mile segment was selected because based on the origin-destination study, it is the most common through trip for travel to/from the river crossing.

Table 1: Travel between River Bridge and US 61/Broad Street, Year 2022 and 2042

Year 2022 Travel between River Bridge and US 61/Broad Street

	River Bridge to US 61/Broad Street		US 61/Broad Street to River Bridge	
	Total Traffic	Total Travel Time	Traffic Queue	Total Travel Time
	Queue Length (ft)	(mins)	Length (feet)	(mins)
AM Peak Hour	1,040	0.7	760	0.9
PM Peak Hour	1,290	1.2	2,000	2.7

Year 2042 Travel between River Bridge and US 61/Broad Street

	River Bridge to US 61/Broad Street		US 61/Broad Street to River Bridge	
	Total Traffic	Total Travel Time	Traffic Queue	Total Travel Time
	Queue Length (ft)	(mins)	Length (feet)	(mins)
AM Peak Hour	1,300	0.9	900	1.0
PM Peak Hour	2,100	3.4	2,600	24.1 ¹

¹ Total travel time reflects impact of network breaking down resulting in gridlock through cross-streets.

Through observations and technical analysis collected and conducted by MnDOT, it has become clear the focal points of the motorized mobility issues in downtown that lead to the extensive queuing observed are the US 61 (Main Street)/MN 58 (Plum Street) and MN 58/US 63 (3rd Street) intersections. These intersections are where the three trunk highways come together, and many vehicles are making turning

movements. The congestion resulting from the high traffic volumes and large number of turning movements is further compounded by the grid street network in the commercial/historic district. The right-hand turns with tight turning radii are especially problematic for the large number of trucks using the trunk highway system. Large trucks (e.g., semi-trailers) either have to cut over the sidewalk curbs to make the right turns or, more commonly, they encroach into the oncoming traffic lanes to get the room they need to turn. If there is traffic already in the oncoming lane, trucks may sit through multiple signal cycles waiting for other vehicles to be able to move to make room for them to turn.

Furthermore, over the past 10 years, staff at MnDOT and the City of Red Wing have observed that pedestrian traffic has been compounding the motorized traffic mobility issues through the downtown commercial/historic district. In particular motorized traffic turning onto and off of Plum Street frequently has to yield to pedestrians in the intersection crosswalks, decreasing motor vehicle throughput at the Plum Street intersections.

In addition to the adverse impacts on traffic mobility along the trunk highway network, the long traffic queues and delays compromise the mobility of vehicular traffic on the local intersecting streets. As the trunk highway queues extend through the “up-stream” intersections it becomes increasingly difficult for traffic on the intersecting streets to access or cross-over the congested trunk highways.

The City of Red Wing’s Hiawathaland transit service runs weekday regular route bus operations throughout the community, including the downtown area. The bus routing provides a further illustration of the substantial mobility challenges in the downtown area in that the bus routes have been designed to avoid Highways 58, 61, and 63 in the core downtown commercial/historic district area.

In summary, the extensive amount of technical analysis conducted by MnDOT has concluded that the traffic mobility issues described above result from three factors coming together in the downtown commercial/historic district:

- Trunk highway network convergence and routing;
- Restrictive roadway geometry; and
- Additional motorized vehicle delay due to pedestrian traffic crossing.

Given the broad array of land uses and dense level of development, the downtown commercial/historic district experiences very high levels of non-motorized traffic (i.e. pedestrians and bicyclists). As noted by City staff and documented in several City documents including the *Bicycle and Pedestrian Master Plan* completed in 2011, accommodating and encouraging non-motorized mobility and accessibility is vital for the economic vitality of the downtown and in attaining the community’s livability goals. The trunk highway network is a major impediment for non-motorized traffic mobility because pedestrians and bicyclists must cross the highways to travel between the downtown businesses, the riverfront, parking facilities, and adjacent neighborhoods.

The primary pedestrian crossing locations include US 61 at Bush Street, US 61 at Broad Street, and Plum Street at 3rd Street. Each of these locations is adversely impacted by the high traffic volumes and turning traffic discussed earlier. Furthermore, the impacts to non-motorized mobility are compounded because signal cycle lengths are typically increased and signal phases are added to accommodate the high volume of vehicular traffic. In addition, as motorized traffic increases, pressure to remove on-street parking and to widen intersections to facilitate truck turning movement increases in an effort to improve traffic mobility. However, the loss of on-street parking removes a buffer between motorized and non-motorized

traffic and the widening of intersections increases pedestrian “exposure.” All of these factors contribute to a reduction in the quality of the pedestrian experience in the downtown commercial/historic district. The City has identified that creating a pedestrian-friendly environment in the downtown commercial/historic is important to maintain the viability of this district for work, shopping, and tourism.

It is understood that some bicyclist traffic uses the trunk highway routes, however, given the high levels of motorized traffic, the City has focused the bicycle network on local streets. However, even this bicycle traffic is required to cross one or more trunk highways, and as a result, the pedestrian crossing issues noted above also apply to bicyclist traffic.

Over time, motorized vehicle volumes will continue to increase. Recent grants received by the City of Red Wing for riverfront improvements (including trail improvements and tour boat docking capacity improvements) will likely increase pedestrian traffic generation in the downtown commercial/historic district. The combination of these two increases will increase the conflicts between motorized and non-motorized traffic on downtown in the future.

3. Summary

The motorized and non-motorized mobility issues described above result from the conflict in attempting to address the mobility needs of the trunk highway network as well as the access needs of the non-motorized traffic and downtown land uses. The trunk highway network that was set in place in 1960 with the completion of the existing Eisenhower river bridge is no longer able to accommodate motorized traffic mobility needs. In addition, the current trunk highway network adversely impacts the mobility of non-motorized traffic. As a result, there is a need to improve and better balance the mobility of both motorized and non-motorized traffic in the downtown commercial/historic district.

B. Secondary Needs

1. Need for Continuity of US 63

US 63 is an important regional and interstate route that extends from I-20 (Ruston, LA) to US 2 (Ashland, WI). The river bridge and the US 61 overpass provide a critical connection to maintain the continuity of US 63. Both Wisconsin and Iowa classify US 63 as a Principal Arterial. It is designated as a State of Wisconsin Corridors 2030 Connector Route as well as an Official Designated Long Truck Route. Minnesota classifies US 63 as a principal arterial roadway within the project area, from US 61 to the river bridge. The river bridge and the US 61 overpass serve to connect this important highway.

US 63 is an important freight route between Wisconsin, Red Wing, and southeast Minnesota. A large number of trucks use this interstate route daily. It is a critical hauling route for bringing grain and other loads from Wisconsin to both the CP Rail terminal and the port in Red Wing. It is also an important freight route that is used for hauling between Wisconsin and the Rochester, Minnesota area, with trucks using the US 63 to MN 58 to US 52 route. Truck counts taken in August 2010 from 7:00-10:00 AM and 2:00-6:00 PM indicated approximately 170 trucks crossing from Wisconsin into Red Wing with 27 percent traveling south on MN 58 and 35 percent with destinations to the north on US 61, including the port and the rail terminal. The river bridge and US 61 overpass are an important link in this freight route.

2. Need for Connection to US 61 and MN 58

The US 63 in Wisconsin to US 61 and MN 58 connections are important regional and interstate routes. US 61 is a part of the National Highway System and connects New Orleans, Louisiana to Minneapolis/St. Paul.

It is a portion of the Great River Road and is designated as a National Scenic Byway. It is a principal arterial roadway in the Red Wing area; and is an important route for people commuting for work, shopping, and personal trips, as well as being an important route for commerce, recreation, and tourism. Therefore, the direct connection of US 63 in Wisconsin to US 61 needs to be maintained.

The US 63 in Wisconsin to MN 58 connection is an important commuter and commerce route. MN 58 connects US 63 to US 52, which is a state Interregional Corridor. Commuters utilize US 63 in Wisconsin and MN 58 to travel from communities in Wisconsin to Rochester, home of IBM and the Mayo Clinic, and to other communities in southern Minnesota. A substantial amount of freight is hauled from western Wisconsin to southern Minnesota utilizing US 63 and MN 58. Therefore, the connection of US 63 in Wisconsin to MN 58 needs to be maintained.

3. Need for Adequate Bridge Capacity

Since addressing the primary bridge structural needs could result in substantial improvements, there is a need to consider whether the project investment would meet the bridge traffic-carrying capacity needs for the 20-year planning horizon, at a minimum. Under future No Build conditions, forecast traffic volumes are within the capacity of the existing bridges, based on planning-level thresholds. The two-lane river bridge carried an average daily traffic (ADT) of 12,000 vehicles per day in 2012. The forecast daily traffic volume on the river bridge and the US 61 overpass for year 2042 (20 years after anticipated project completion) is 15,600 vehicles, which is within the capacity of an urban two-lane, controlled access facility.

Wisconsin DOT had also completed traffic forecasts as a part of an EA process completed in 2004 to study upgrading US 63 in Wisconsin. The 2040 traffic forecast for the US 63 river crossing corridor was 19,400 vehicles per day. The Wisconsin EA also stated that public input indicated that traffic congestion on US 63 is currently a problem, especially during AM and PM peak hour periods. The EA determined that the existing two-lane facility in Wisconsin would not be able to handle the projected traffic increases at some point in the future. The outcome of the WisDOT EA process was that US 63 in Wisconsin is planned to be upgraded to a four-lane divided facility in future years. Therefore, there is a need to not preclude the ability to address future continuity of the four-lane section from Wisconsin, across the river, into Minnesota.

4. Need for Maximum Maintenance of Traffic

Sections 2 and 3 above describe the role of the river bridge crossing and connecting roadways in regional and interstate traffic transportation. The river bridge provides the only access across the Mississippi River between Hastings (approximately 25 miles northwest) and Wabasha (approximately 30 miles southeast). Closure of the river bridge necessitates a detour of approximately 58 miles (over one hour) for travelers between Red Wing and Pierce and Pepin Counties in Wisconsin.

Stakeholders have stated the bridge crossing plays an important role for the community on both sides of the river with a large number of people using the bridge to commute between home and work, as well as for shopping and other personal trips. The Red Wing Regional Airport is located in Bay City, WI on Highway 35 across the river from Red Wing. The airport, which averages 38 flights per day and has 57 aircraft based on the field, is an important facility for Red Wing business travelers. Thus it is necessary for travelers from Red Wing to utilize the river bridge in order to access the city airport. The bridge also serves as a regional crossing to move goods and provide roadway access to the river ports in Red Wing. Continuous access is necessary to meet community and economic needs. Both Wisconsin and Red Wing area stakeholders have requested the existing bridge remain open during any construction to the maximum extent possible.

The communities on both sides of the river rely on the river bridge to provide access for emergency response, including fire, law enforcement, and emergency medical vehicles. Without the bridge in place, emergency response times would be substantially slower, which would negatively impact quality of life. In addition, service providers would face personnel complications, as some staff for providers in Red Wing live in Wisconsin.

The river bridge is a critical link in one of the officially designated Prairie Island Nuclear Plant evacuation routes in the event of a nuclear emergency. US 63 is one of only three designated evacuation routes for people in the Red Wing area. It also is the link for people to get to Elmwood, Wisconsin which is one of the two officially designated nuclear evacuation Reception Centers. Maintaining traffic across the river bridge during construction is critical for public safety in the event of a nuclear emergency.

The Mississippi River provides access for barges and other river traffic. According to the Army Corps of Engineers, an average of 5,800 barges a year passed through Lock and Dam 3 (located just upstream from Red Wing) from 2007-2009. An average of 6,500 barges a year passed through Lock and Dam 4 (located south of Wabasha) from 2007-2009. Since Red Wing has the only river ports between these two Lock and Dams, approximately 5,800-6,500 barges a year travel under the river bridge. Several thousand recreational vessels pass under the bridge as well on an annual basis. It is economically important to ensure the river remains open to navigation to the maximum extent possible during construction. The U.S Coast Guard, which has jurisdiction over structures spanning the navigational channel, will also require this.

5. Need for Access to Trenton Island

The connection to Trenton Island located in the Town of Trenton in Pierce County, Wisconsin is necessary to provide access to the Island Campground and Marina. The connection provides access to 108 campsites, 54 boat slips, and boat access to the Mississippi River. The only access to the campsites east of US 63 is provided under the existing river bridge. No other roadway connection to Trenton Island exists, other than what is provided off of US 63. Emergency fire, ambulance, and law enforcement services need to access Island Campground and Marina via/under the river bridge.

6. Need to Maintain or Improve Pedestrian/Bicycle Facilities on the US 63 River Bridge and US 61 Overpass

US 61 through Red Wing and Wisconsin Highway 35 are both a part of the Mississippi River Trail, which courses along from Itasca, Minnesota to the Gulf of Mexico, offering approximately 3000 miles of on-road bicycle trails and pedestrian pathways. The Mississippi River Trail is the only US Bicycle Route in Minnesota. Red Wing is also a popular bicycle destination, with access to the Cannon Valley Trail and the city is looking long-term to connect all of the major city parks with bike trails. The Wisconsin DOT promotes bicycling on the state bike maps for several nearby roadways. Wisconsin Highway 35, which is part of the Great River Road, and several nearby county roads are listed on the state bike map as having the "Best Conditions for Bicycling." US 63 and the river bridge provide a link between these Minnesota and Wisconsin bicycle routes.

The existing bridges provide 2.5-foot wide sidewalks on both sides of the bridges, which does not meet the current MnDOT standard of a minimum 6-foot width for pedestrian use, or minimum 10-foot width for a combined bike/pedestrian facility. The existing right shoulders on US 61 under the river bridge are the width of the gutter, which does not meet current MnDOT standards.

C. Other Considerations

The following describes needs that would be desirable to address.

1. Structural Redundancy

The river bridge is a fracture critical bridge with non-redundant design. Current designs in compliance with MnDOT design standards do not contain fracture critical design components. Chapter 152 of the Minnesota Legislature 2008 Session Laws directs MnDOT to establish a bridge improvement program with an emphasis on structurally deficient and fracture critical bridges. The river bridge is classified as a Tier 1 bridge in Chapter 152, which means that if it is repaired but not replaced, justification for the repair instead of replacement is required.

2. Wisconsin Corridors 2030 Plan

The *Wisconsin Corridors 2030 System* is a statewide plan that identifies the highway corridors that provide critical links for the Wisconsin economy. The intent of a Connector Route is to provide a higher Level of Service (LOS) for the mobility function of the roadway. Wisconsin DOT's goal is to maintain a LOS of "D" or better for Corridors 2030 Connector Routes.

3. Geometrics

a. Bridges

The geometric design of the river crossing bridge does not meet current MnDOT design standards. The roadway width is 30 feet, which includes two 3-foot shoulders. Table 9- 2.03A in the MnDOT Road Design Manual specifies a minimum shoulder width of four feet to barrier rail for low speed, two-lane urban highways. [The existing posted speed on the bridge is 30 mph, which falls in the low speed range.] The inadequate shoulder width does not allow for snow storage and also results in effectively closing a lane of traffic during vehicle breakdowns, emergency stops, or law enforcement stops. Additionally, for occasional over-width loads, the bridge must be restricted to a one-way crossing until the permitted load passes due to overhang and encroachment into the opposing lane. From 2007 to 2009 there were a total of 1,549 (516 annually) oversize trucks requiring permits that crossed the river bridge. Of those, 546 exceeded 12 feet in width.

US 63 is also a route used for hauling oversized permit loads. The existing shoulders on the river bridge are only 3 feet wide, which requires closure of the opposing lane when certain loads go across. Depending on the time of day, this causes various backups for the opposing traffic on US 63. From 2007 to 2009 a total of 1,549 trucks in excess of the legal width of eight feet six inches were issued permits for crossing, with 877 from 10 to 12 feet and 546 of them in excess of 12 feet.

b. Approach Roadways

The right shoulder widths on US 61 under the US 61 overpass do not meet current MnDOT design standards. The right shoulder width in each direction on US 61 is the width of the gutter. Table 4-4.01A in the MnDOT Road Design Manual specifies a right shoulder width of six feet for low-speed, divided urban arterial highways. The location of the bridge piers for the US 63 bridge over US 61 prohibits the widening of US 61 under the bridge, so it is not possible to meet current MnDOT design standards for right shoulder width. US 61 is an important bicycle route, since it is part of the Mississippi River Trail. The inadequate shoulder widths under the bridge also affect safety for bicyclists, since they are forced to ride in the through lanes on US 61.

The design of the US 63/MN 58 intersection is inadequate and is very tight for trucks turning right from 3rd Street onto Plum Street. Several other intersections are also moderately difficult for certain vehicles to navigate on account of the roadway design. Many of the turn lanes do not meet design standards and are shorter and/or narrower than recommended.

4. Economic Development

The amount of congestion in downtown Red Wing makes it undesirable for shoppers and tourists to visit the businesses during certain hours of the day. A portion of the downtown area is comprised of buildings that are vacant and/or in need of maintenance, which is unattractive for businesses. The city has been promoting redevelopment of the area to restore existing or construct new facilities to fit in with the downtown historic district and also to make it more attractive for businesses to locate there. The city has indicated that there is a need to improve traffic flow, increase opportunities for redevelopment, and foster economic development in the downtown area.

5. Parking

Access to nearby parking for businesses in the downtown, for tourists and local people, is critical to maintaining the economic viability of the downtown. Stakeholders in Red Wing have voiced concerns about the lack of parking near businesses in the downtown area and the negative impact that the lack of parking has on businesses. Congestion along several of the streets makes it difficult to utilize on-street parking and the number of nearby parking lots is minimal. Any proposed project alternatives that affect roadways in downtown Red Wing need to consider the availability of on-street parking and/or parking facilities for downtown businesses.

6. Regulatory Requirements

The project must consider numerous regulatory requirements; due to the context of the project, requirements related to historic resources, parklands, navigation, and stormwater management are particularly critical. While these requirements alone do not establish the need for a project to occur, any project (rehabilitation, reconstruction, or both) needs to meet these regulatory requirements to gain regulatory agency approval.

a. Historic Resources

The existing river bridge over the Mississippi River and the US 61 overpass have been reviewed to determine their eligibility for listing on the National Register of Historic Places. It has been determined that the US 61 overpass is eligible for listing, while Bridge 9040 over the Mississippi River is not eligible. The US 61 overpass was determined eligible for listing in the area of engineering at the state level of significance due to its high artistic value and unique design. In addition, Red Wing currently has a total of 25 properties listed on the National Register of Historic Places. Its downtown is comprised of four historic districts and the majority of the commercial buildings that were constructed during the city's early boom period of 1860-1910 have been retained. Barn Bluff, which is immediately adjacent to US 63 on the Minnesota approach to the bridge, is also listed on the National Register of Historic Places.

Existing truck traffic and traffic congestion have a detrimental effect on the historic nature of the downtown historic districts and properties. Access to parking, along with pedestrian and bicycle mobility, is critical to maintain the historic and economic viability of the downtown districts. Noise and pollution from trucks and other friction from traffic congestion all degrade the historic districts. As a magnet for

tourism, the downtown historic districts need to maintain their historic nature, which has been recognized nationally and internationally numerous times.

The project needs to comply with Section 4(f) of the Department of Transportation Act of 1966 which requires avoidance of impacts (e.g. property acquisition and/or demolition) to an historic resource unless no prudent and feasible alternative exists. The project also needs to comply with Section 106 of the National Historic Preservation Act which also provides protection against both direct and indirect (e.g. noise, visual) adverse effects for historic properties, and emphasizes first avoiding impacts. If impacts cannot be avoided, efforts must be made to minimize, and then mitigate for the impacts.

b. Parkland

In addition to protecting historic resources as described above, Section 4(f) provides protections for publicly owned parks, trails, recreational areas, and wildlife and waterfowl refuges. As noted above, Section 4(f) requires avoidance unless there is no prudent and feasible alternative to the use. If avoidance is not possible, then Section 4(f) requires all possible planning to minimize harm to the park property. Section 4(f) protected park or refuge properties in close proximity to the river bridge include Levee Park, Barn Bluff, and Colvill Park.

c. Navigational Channel

The U.S. Army Corps of Engineers maintains a navigational channel on the Mississippi River beneath the river bridge. As noted in Section (f) above, the U.S. Coast Guard has jurisdiction over structures spanning the navigational channel. The U.S. Coast Guard has determined that the project will need to maintain adequate horizontal and vertical clearances. The existing vertical clearance is 64 feet over the normal pool. The existing horizontal clearance is approximately 418 feet, which is the clear distance between the inside faces of the existing piers flanking the navigational channel.

d. Stormwater

Under current conditions, stormwater on the river bridge drains directly to the Mississippi River, to land adjacent to the Mississippi River, or to municipal storm sewer without treatment. Further, since most bridge stormwater empties directly into the Mississippi River, any roadway contaminants (gasoline, oil, salt, etc.) or accidental spills of hazardous materials also directly enter the Mississippi River. The existing infrastructure does not meet current stormwater management practices. Construction of bridge and/or roadway improvements would require incorporation of stormwater management practices consistent with current regulations.

7. Property Impacts

There are numerous residential properties, some of which are currently being investigated for their eligibility on the National Register of Historic Places, near the US 61 overpass that experience noise and traffic impacts related to the nearby highways. Several of these properties are presumed to be lower income housing. Several of the downtown businesses also are affected by the noise and traffic of the highways, as detailed in Section 4(f) of the Other Considerations. The project needs to consider whether any proposed project improvements would affect the noise, property, and traffic impacts to these neighborhoods and properties.

D. Statement of Purpose

The primary purpose of the project is to provide a structurally sound bridge crossing of the Mississippi River Main Channel, a structurally sound crossing of US 61, and to improve motorized and non-motorized mobility in the downtown Red Wing commercial/historic district. In addition, the project needs to maintain the connection between the Red Wing, Minnesota and Wisconsin highway systems, the connection to Trenton Island, and maintain traffic to the maximum extent possible during construction.

III. ALTERNATIVES

This section summarizes the alternatives development and evaluation process and describes the Preferred Alternative that will be advanced, along with the No Build Alternative, to the detailed assessment of social, economic, and environmental (SEE) effects documented in Section IV (SEE Impacts). Details of the steps in the alternatives decision-making process are included in the technical memoranda (key reports included on the supplemental CD in Appendix B) referenced in each of the sections below.

A. Alternatives Development and Evaluation Process

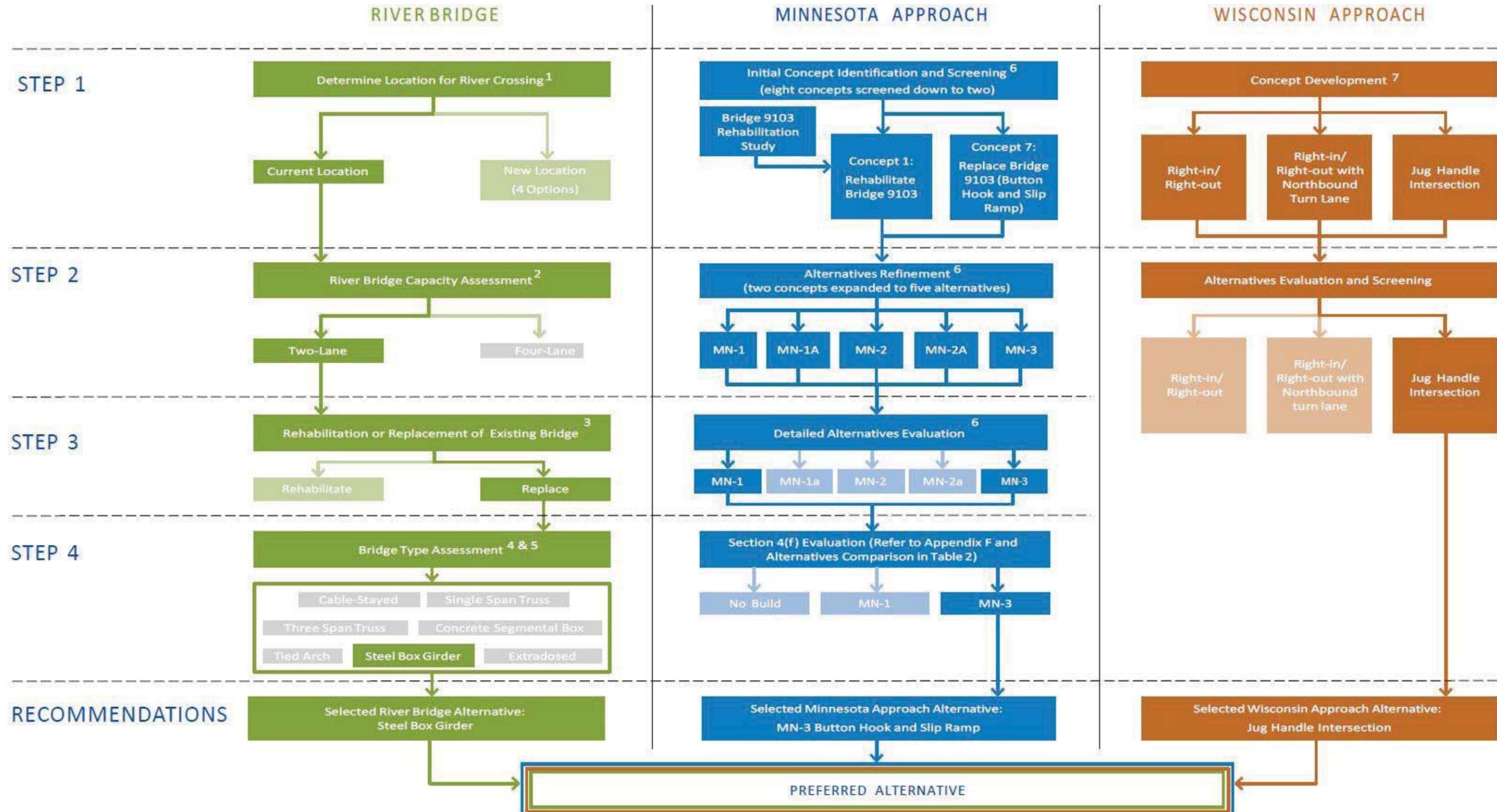
Early in the project development process it was determined that the most logical and efficient way to advance through the alternatives development and evaluation phase would be to divide the overall project into three primary components as follow:

- River Bridge – includes the entire river crossing from the Minnesota abutment to the Wisconsin abutment.
- Minnesota Approach – includes the US 63 approach roadway from the Minnesota river bridge abutment to the intersections of US 61 and MN 58.
- Wisconsin Approach – includes the segment of US 63 from the Wisconsin river bridge abutment through the US 63/825th Street intersection.

This approach allowed the process to advance through three more manageable sub-processes, facilitated more refined analysis, and enabled clearer communication with project stakeholders including the Project Advisory Committee (PAC) and Technical Advisory Committee (TAC) which met regularly through the alternatives development and evaluation process. The composition and purpose of the PAC and TAC are described in Section V (Public and Agency Involvement). A flow diagram depicting the process followed for each of the three project components is presented in Figure 1 below. The remainder of this section describes the steps illustrated in the flow diagram by each project component.

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Figure 1: Alternatives Development and Evaluation Process Diagram



See Additional Information Available in Appendix B (Technical Memoranda & Reports)

- 1) New Bridge Location Feasibility Assessment Memo
- 2) Red Wing TH 63 Bridge Project - Traffic Analysis Report
- 3) River Bridge Options - Screening Considerations Memo
- 4) New Structure Alternative Memo
- 5) Red Wing Bridge Project Concept Report
- 6) Red Wing Bridge Project - Minnesota Approach Alternatives Identification, Evaluation, and Screening Memo
- 7) Red Wing Bridge Project - Approach Roadway Concept Development and Screening Memo

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1. River Bridge

As illustrated in Figure 1 there were four key steps that informed the river bridge alternatives selection process:

- Determine the location of the river crossing
- Determine if the river bridge should be a two-lane or a four-lane facility
- Determine whether to rehabilitate or replace the existing river bridge (Bridge 9040)
- Determine the river bridge structure type

The four steps and their related decision-making processes are summarized below.

1) Determine the Location of the River Crossing

The first step in the alternatives development and evaluation process was to determine whether the US 63 river crossing should remain in its current location or shift to a new location either upstream or downstream. Considering new location alternates is an important element of a comprehensive alternatives development and evaluation process and is consistent with both NEPA and MEPA guidance. The *New Bridge Location Feasibility Assessment Memo* dated July 2, 2012 (see the supplemental CD in Appendix B) contains detailed information regarding the assessment of alternative bridge locations.

The assessment process addressed five primary bridge location alternatives:

- Bench Street location (outside immediate downtown area)
- Broad Street location (within immediate downtown area)
- Bush Street location (within immediate downtown area)
- Plum Street location (within immediate downtown area)
- Existing bridge location

See Figures 4 and 5 in Appendix A for maps of these locations.

It was determined that the Bench Street location should not be selected because of a variety of issues and impacts including, but not limited to, substantial additional wetland and floodplain impacts, increased roadway and bridge length for US 63 traffic, and impacts to the upper harbor conservation lands including Pottery Pond Park.

Each of the three alternate locations within the downtown area had substantial design challenges given the close proximity and vertical grade differences between the river and US 61. In addition, each alternative would introduce substantial impacts to parklands, historic resources, commercial and industrial land uses, and the existing visual setting and sightlines in downtown Red Wing. Furthermore, a May 14, 2012 letter from the U.S. Coast Guard states that the three new downtown location alternatives are not acceptable from a navigational standpoint due to the proximity of the river bend immediately upstream.

Given the substantial issues associated with the range of new river crossing alternatives, as well as the input provided by the PAC and TAC, it was determined that the project should focus on identifying and

evaluating all viable bridge rehabilitation or replacement options within the existing river crossing location.

2) Determine if the River Bridge should be a Two-Lane or Four-Lane Facility

The determination of the number of lanes needed to accommodate traffic volumes at the river crossing was based on comparison of forecast traffic volumes for the river crossing to the capacity of a two-lane bridge.

Traffic forecasts at the US 63 river crossing are 13,200 AADT in 2022 and 15,600 AADT in 2042. Based on these forecasts a two-lane river bridge would operate at a LOS E by the year 2030 and through 2042.

Given a two-lane facility retains acceptable traffic conditions through the 20-year planning horizon, it was decided to proceed with a two-lane facility. Both the PAC and TAC concurred with this decision. See the *Traffic Analysis Report: Red Wing TH 63 Bridge Project Memo* dated March 25, 2014 for additional information (see the supplemental CD in Appendix B). Furthermore, since WisDOT identified their plans to construct four-lanes on the Wisconsin approach in the future (see Section II.B.3 – Purpose and Need), it was decided that the project will be designed to allow for potential expansion to a four-lane facility if at some point in the future traffic levels warrant capacity expansion.

3) Determine whether to Rehabilitate or Replace the Existing River Bridge (Bridge 9040)

The *River Bridge Options – Screening Considerations Memo* dated June 18, 2013 (see the supplemental CD in Appendix B) contains detailed information regarding Bridge 9040 rehabilitation and replacement considerations and analysis. Options to rehabilitate rather than replace Bridge 9040 were considered within the context of purpose and need objectives, SEE factors, and cost considerations. Early on in the process it was concluded that any replacement option would need to be immediately upstream from the existing river bridge, since the proximity of Barn Bluff (which is listed on the National Register of Historic Places) and the need to avoid impacts to the Bluff prohibits downstream options.

The river bridge options screening analysis concluded that rehabilitating Bridge 9040 would:

- Result in very substantial maintenance of traffic impacts during construction (detours, delays, emergency services, economic activity)
- Retain no separated pedestrian/bicyclist facility (not ADA compliant)
- Minimize adverse impacts to natural environmental resources
- Retain a fracture critical structure
- Cost approximately \$67-74 million (2018 dollars) with an estimated service life of 40 years

The analysis further concluded that replacing Bridge 9040:

- Has very minor maintenance of traffic issues
- Would include a 12-foot separated pedestrian/bicyclist facility that is ADA compliant
- Would add pretreatment of stormwater prior to discharging into the Mississippi River
- Would cost approximately \$72-\$144 million (2018 dollars), depending on bridge type, with an estimated service life of 100 years.
- Includes the opportunity to provide a bridge with structural redundancy

- Would not adversely affect river navigation

Based on these considerations, along with input from the PAC and TAC, the decision was made to replace rather than rehabilitate Bridge 9040. This decision was based on the following key elements:

- The replacement options have substantially less construction period impacts, especially related to maintenance of traffic
- The replacement options include alternatives that are structurally redundant
- The replacement options provide a separate pedestrian facility and will be designed to be fully ADA compliant
- The replacement options can be designed to pretreat water runoff prior to being discharged into the Mississippi River
- There are replacement options that are approximately the same cost as the rehabilitation option
- Increased bridge service life and lower maintenance costs and lifecycle costs

4) Determine Type of Bridge Structure

The *Red Wing Bridge Project Bridge Concept Report* dated January 2014 and the *Bridge 9040 New Structure Alternatives* memo dated March 4, 2013 (both included on the supplemental CD in Appendix B) contain detailed information regarding the Bridge 9040 bridge type decision-making process.

The *Bridge 9040 New Structure Alternatives Memo* identifies seven bridge types that were analyzed as bridge replacement alternatives. The seven concepts considered include:

- Alternate 1: Tied Arch
- Alternate 2: Simple Span Truss
- Alternate 3: Three-Span Continuous Truss
- Alternate 4: Extradosed Bridge
- Alternate 5: Cable-Stayed Bridge
- Alternate 6: Concrete Segmental Box Girder
- Alternate 7: Steel Box Girder

Each alternative was evaluated based on the following criteria:

- Approach roadway grade raise requirements
- Future maintenance and inspection requirements
- Aesthetic considerations
- Constructability
- Redundancy and fracture critical issues
- Future expansion capabilities
- Estimated cost

The evaluation process concluded with the decision to advance the following three bridge types for more detailed consideration.

- Alternate 1: Tied Arch
- Alternate 6: Concrete Segmental Box Girder
- Alternate 7: Steel Box Girder

The *Red Wing Bridge Project Bridge Concept Report* details the major differences among the remaining three alternates. The major advantages and disadvantages of each are summarized below:

- Alternate 1: Tied Arch – Advantage: shallow structure depth. Disadvantages: potential steel price volatility; the highest construction cost; the highest maintenance costs; and difficult inspection characteristics.
- Alternate 6: Concrete Segmental Box Girder – Advantages: non-complex erection; relatively straightforward inspection; low long term maintenance costs; and the lowest construction cost. Disadvantages: substantial profile increase requirement; the greatest visual impacts; and the longest distance at maximum grade for US 63 (4 percent).
- Alternate 7: Steel Box Girder – Advantages: conventional erection and construction; relatively straightforward inspection; modest profile impacts; and a low construction cost (comparable to the concrete segmental box girder alternative). Disadvantages: potential volatility of steel prices and periodic painting requirements.

Based on the technical details, along with input provided by the PAC and TAC, MnDOT and WisDOT concluded that the steel box girder alternative be moved forward as the recommended alternative. This conclusion was based on the following:

- Lower construction cost than the tied arch and comparable to the concrete segmental box;
- Lower maintenance cost compared to the tied-arch;
- Shallower profile and reduced approach grades compared to the concrete segmental box girder; and
- Aesthetic qualities that complement stakeholder values and the historic character of the project area.

2. Minnesota Approach

The *Minnesota Approach Alternatives Identification, Evaluation, and Screening Memo* dated September 8, 2014 (see the supplemental CD in Appendix B) contains detailed information regarding the process followed to develop and assess a range of Minnesota approach options. Information from this document is summarized below.

Building from the Purpose and Need and working with the PMT, the TAC, the PAC, and other public input, eight concept alternatives for the Minnesota approach to the river crossing were developed:

- Concept 1: Rehabilitate Bridge 9103
- Concept 2: Three Leg At-Grade Signalized Intersection (US 61 Direct Connection)
- Concept 3: Three Leg At-Grade Signalized Intersection (US 63 Direct Connection)
- Concept 4: Four Leg At-Grade Signalized Intersection
- Concept 5: Four Leg At-Grade Roundabout Intersection
- Concept 6: Buttonhook Signalized Intersection
- Concept 7: Buttonhook Signalized Intersection with Slip Ramp
- Concept 8: Buttonhook Intersection (Roundabout)

The eight concepts were assessed against the following feasibility screening criteria:

- Traffic operations and mobility

- Traffic safety
- Environmental considerations
- Property impacts
- Design standards
- Estimated construction cost
- Construction staging and complexity
- Compatibility with a parallel river bridge (if Bridge 9040 was rehabilitated and a new river bridge was built immediately adjacent to accommodate four traffic lanes)

Based on consideration of the screening evaluation, Concept 1 and Concept 7 were retained for further consideration given the following:

- Concept 1: Rehabilitate the US 61 overpass – This concept retains the US 61 overpass (Bridge 9103) and its eligibility for the National Register of Historic Places and has minimal environmental effects.
- Concept 7: Buttonhook Signalized Intersection with Slip Ramp – This concept provides the best traffic operations, improves downtown operations, and works with either a two-lane or four-lane river crossing.

Following the selection of Concepts 1 and 7 to advance for further consideration the recommended alternative for the river bridge (i.e., replacement with a steel box girder bridge) was identified. This decision helped guide the development of sub-options within Concepts 1 and 7 for the Minnesota approach alternatives.

Moving forward with the recommended concepts, additional design work was completed and coordination between MnDOT and FHWA staff was conducted. Much of these efforts focused on ensuring full consideration of concepts that would enable Bridge 9103 to be retained given its National Register eligibility. Other important factors included considering sub-options that could help address traffic and mobility needs in downtown Red Wing.

Consideration of these issues ultimately led to the identification of five Minnesota approach alternatives, as follows:

- Alternative MN-1 (former Concept 1): This alternative involves rehabilitating Bridge 9103 as documented in the *Bridge 9103 Rehabilitation Study* (see Figure 6 in Appendix A).
- Alternative MN-1A: This alternative includes rehabilitating Bridge 9103. This alternative also includes modifications to the downtown Red Wing street network to retain reasonable traffic operations through the 2042 forecast year (see Figure 7 in Appendix A).
- Alternative MN-2 (new alternative, not studied in the feasibility phase): This alternative allows retaining the existing roadway network, minimizes most environmental impacts, but requires removal of Bridge 9103 and replacing it with a new bridge structure. This alternative was added to allow for comparison of costs between Alternative MN-1 (rehabilitation of Bridge 9103) and a new bridge (see Figure 8 in Appendix A).
- Alternative MN-2A: Similar to Alternative 2, this option involves replacement of Bridge 9103 with a new bridge and also includes the modifications to the downtown Red Wing street network as proposed with Alternative MN-1A (see Figure 7 in Appendix A).

- Alternative MN-3 (former Concept 7): This alternative includes replacing Bridge 9103 with a new bridge and button-hook ramp configuration that reorients the connection of US 63 to US 61 to the east of downtown Red Wing. This alternative also includes a one-way slip-ramp which provides an option for southbound US 63 traffic to have a direct access to downtown Red Wing and MN 58 via 3rd Street (see Figure 9 in Appendix A).

The evaluation of the five approach alternatives centered on evaluation criteria that included the purpose and need statement, SEE factors, and cost considerations. MnDOT and FHWA staff met several times to review the criteria and discuss the evaluation process and results. Based on the analysis and coordination it was concluded that Alternatives MN-1A and MN-2A should be eliminated from further consideration because:

- They would introduce a Section 106 adverse effect (and a resulting Section 4(f) use) to the Downtown Commercial/Historic District;
- They would introduce a Section 4(f) impact to Dankers Park in Downtown Red Wing;
- They do not adequately address the network mobility needs through the year 2042.

MnDOT and FHWA staff also concluded given full consideration of the purpose and need, SEE impacts, and cost factors that Alternative MN-2 should be removed from further consideration because it does not meet the primary need related to mobility and because it requires removal of Bridge 9103 which results in an adverse effect under Section 106 and a Section 4(f) use. Compared to Alternatives MN-1 and MN-3, Alternative MN-2 met fewer components of the project purpose and need and had greater Section 106 and Section 4(f) impacts. As a result of the detailed evaluation, Alternatives MN-1 and MN-3 along with the No Build Alternative were selected to carry forward for further consideration since alternative MN-1 is the only project alternative that avoids a Section 4(f) use of Bridge 9103 and alternative MN-3 is the only alternative that meets all of the project primary needs.

To facilitate selecting the recommended MN approach alternative and to ensure all issues were fully vetted, MN-1, MN-3 and the No Build Alternative were assessed against the purpose and need statement, the full range of SEE factors, as well as cost considerations. Table 2 below details the results of this comprehensive evaluation process. The table below is sourced from Table 2 of the *Minnesota Approach Alternatives Identification, Evaluation, and Screening Memo* dated September 8, 2014 (see the supplemental CD in Appendix B).

Table 2: Minnesota Approach Alternatives Evaluation Matrix

EVALUATION CRITERIA		No-Build Alternative	MN-1 - Rehab Bridge 9103 (includes cathodic protection & TL-2 railing)	MN-3 - Replace Bridge 9103 plus Button-hook with Slip-Ramp
PRIMARY NEEDS				
Structurally sound crossing of the Mississippi River	Ability to meet structural requirements	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives
Structurally sound crossing of US 61	Ability to meet structural requirements	Future load restrictions will eventually be required.	Yes	Yes
Improve motorized and non-motorized traffic mobility on THs in downtown commercial/historic district	Year 2042 trunk highway network delay	564 hours; NOTE: Estimated delay is underestimated, due to limitations in model's ability to reflect adverse effects of grid street network, tight geometrics, & pedestrian conflicts.	564 hours; NOTE: Estimated delay is underestimated, due to limitations in model's ability to reflect adverse effects of grid street network, tight geometrics, & pedestrian conflicts.	84 hours
	Network motor vehicle traffic queue lengths; 2042 PM peak hour maximum queues at the seven analyzed intersections	8,795 feet	8,795 feet	5,361 feet; NOTE: reduction in queues at critical approaches is muted by reporting total queue length on all intersection approaches. Queues on trunk highways show a substantial reduction.
	Year 2042 total trunk highway network travel time	643 hours; NOTE: Estimated travel time is underestimated, due to limitations in model's ability to reflect adverse effects of grid street network	643 hours; NOTE: Estimated travel time is underestimated, due to limitations in model's ability to reflect adverse effects of grid street network	173 hours
	Year 2042 PM peak hour travel time for a representative trip between the River Bridge and US 61/Broad Street	- River Bridge to US 61/Broad Street = 2 mins, 25 secs - US 61/Broad Street to River Bridge = 21 mins, 31 secs	- River Bridge to US 61/Broad Street = 2 mins, 25 secs - US 61/Broad Street to River Bridge = 21 mins, 31 secs	- River Bridge to US 61/Broad Street = 1 min, 15 secs - US 61/Broad Street to River Bridge = 1 min, 24 secs
	Change in trunk highway volumes on roadway segments within commercial/historic district, compared to No-Build	No Change	No Change	3rd Street between Plum and Potter, approximately 70% Reduction; Plum Street between Main and 3rd, 30% to 50% Reduction
	Turning movement volumes compared to No-build at key intersections (US 61/MN 58 and MN 58/3rd Street)	No Change	No Change	Main at Plum, 30% to 50% reduction; 3rd at Plum, 35% to 45% Reduction
	Change in peak hour truck right turn volumes compared to No-Build at key intersections with inadequate RT radii: US 61/MN 58 and MN 58/3rd Street	No Change	No Change	Main/Plum = 63% AM and 68% PM reduction; Plum/3rd = 93% AM and 96% PM reduction
	Pedestrian level of service (HCM analysis)	LOS B	LOS B	LOS B

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EVALUATION CRITERIA		No-Build Alternative	MN-1 - Rehab Bridge 9103 (includes cathodic protection & TL-2 railing)	MN-3 - Replace Bridge 9103 plus Button-hook with Slip-Ramp
	Pedestrian crossing delay at US 61/MN 58 and MN 58/3rd Street	No Change	No Change	Reduction in vehicle traffic enables changing signal cycles to increase pedestrian crossing times; Removal of SB LT phase at MN 58/3rd will increase the east side crossing time by up to 30 seconds per cycle.
	Change in intersection width for ped crossing compared to No Build	No Change	No Change	No change
	Change in number of traffic lanes crossed by pedestrians, compared to No Build	No Change	No Change	Reduction in vehicle traffic enables changes in lane striping which will decrease the number of approach lanes on the east and north legs of the MN 58 & 3rd Street intersection, reducing ped exposure
	Other changes in pedestrian and bicyclist 'quality of experience' (qualitative assessment)	No Change	No Change	Reduced turning traffic volumes decreases pedestrian/vehicle conflict potential and enhances pedestrian environment and walkability in commercial/historic district.
SECONDARY NEEDS				
Continuity of US 63	Ability to maintain continuity	Maintains continuity	Maintains continuity	Maintains continuity
US 63 connection to US 61 and TH 58	Ability to provide connection of US 63 to US 61	US 63 connection overlaps with MN 58	US 63 connection overlaps with MN 58	Improved by providing direct US 63 connection to US 61
	Ability to provide connection to MN 58	NB/SB connection provided via 3rd St.	NB/SB connection provided via 3rd St.	SB connection provided via 3rd St.; NB connection provided via US 61
Adequate Bridge Capacity	Ability to accommodate forecast year traffic volumes	Yes	Yes	Yes
Maximum maintenance of traffic	Duration of full closure of US 63	No closure required	No full closure required	No full closure required
Access to Trenton Island	Ability to maintain access to Trenton Island	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives
Maintain or improve pedestrian/bicycle facilities on US 63 River Bridge and US 61 Overpass	Ability to maintain or improve pedestrian/bicycle facilities	Maintains existing connectivity.	Widens west side curb to a five foot sidewalk. 12 foot river crossing trail needs to be reduced to five feet at Bridge 9103. No separated bicycle facility. Maintains narrow right shoulder (used by bicyclists) on SB US 61 below Bridge 9103.	Provides 12 foot separated multi-use trail at US 63 MN approach. Right shoulder (used by bicyclists) on SB US 61 below bridge can be widened to current standards.
OTHER CONSIDERATIONS				
Structural redundancy	Provide a structurally redundant river crossing	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives
Wisconsin Corridors 2030 Plan	Ability to meet stated LOS D or better objective	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives

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EVALUATION CRITERIA		No-Build Alternative	MN-1 - Rehab Bridge 9103 (includes cathodic protection & TL-2 railing)	MN-3 - Replace Bridge 9103 plus Button-hook with Slip-Ramp
Geometrics	Ability to accommodate truck turning paths	No improvement to the substandard turning radii at US 61/Plum Street and Plum Street/3rd Street	No improvement to the substandard turning radii at US 61/Plum Street and Plum Street/3rd Street	Substantial improvement associated with reduction in turning truck traffic at the problem intersections
Economic development	Ability to maintain or improve traffic flow, based on City's goals/recommendations for promoting economic development	Continued degradation of downtown traffic flow and pedestrian environment not consistent with City's plans for economic development	Continued degradation of downtown traffic flow and pedestrian environment not consistent with City's plans for economic development	Reduction of truck and commuter traffic through downtown provides greater improvement in motorized and non-motorized mobility, consistent with City's plans for enhancing economic development
Parking	Increase or reduction of parking spaces	No change	No change	No change
Regulatory Requirements:				
Section 106	Potential for adverse effects on historic properties	No adverse effects.	No likely adverse effects identified.	Removes Bridge 9103 = Likely adverse effect.
Section 4(f) Compliance (parklands and historic properties)	Section 4(f) impacts	No impacts	No impacts	Section 4(f) Impacts: Requires removal of Bridge 9103 = adverse effect would be a Section 4(f) use
Navigational channel	Ability to maintain navigational clearance requirements	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives
Section 404 water quality requirements	Accommodations to treat storm water runoff and meet required practices	No accommodations required to treat runoff from Bridge 9103.	No accommodations required to treat runoff from Bridge 9103, however new ponding will be required to address Bridge 9040 runoff.	Yes
OTHER SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACTS				
Prime or Unique Farmland	Impacts to Farmland	No impacts	No impacts	No impacts
Floodplains	Impact to Existing Floodplains	No impacts	No impacts	No impacts
Geology	Impacts to Susceptible Features	No impacts	No impacts	No impacts
Soils	Impacts to Highly Erodible or Permeable Soils	No impacts	No impacts	No impacts
Groundwater	Impacts to Groundwater or Wellhead Protection Areas	No impacts	No impacts	No impacts
Wetlands	Impacts to Identified Wetland Resources	No impacts	No impacts	<0.5 acres
Hazardous Materials/Contamination	Contaminated materials impacts	No impacts	Acquisition of a moderate to high risk contaminated parcel may be required for stormwater ponding	Acquisition of a moderate to high risk contaminated parcel will be required
Fish and Wildlife/Vegetation	Impacts to T&E Resources	No impacts	No impacts	No impacts
Visual Quality	Change in visual environment/change in views	No change	No change	More substantial change with new buttonhook and slip ramp to 3rd Street.
Air Quality	Impacts to adjacent receptors	No impacts	No differentiating impacts anticipated	No differentiating impacts anticipated

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EVALUATION CRITERIA		No-Build Alternative	MN-1 - Rehab Bridge 9103 (includes cathodic protection & TL-2 railing)	MN-3 - Replace Bridge 9103 plus Button-hook with Slip-Ramp
Noise	Potential change in noise levels at adjacent receptors	No impacts	No change in proximity to noise receptors. No substantial changes in noise levels are anticipated.	Includes new roadway segment in closer proximity to residential receptors. May result in increased noise levels for these receptors.
Cumulative Effects	Incremental SEE impacts from alternative plus foreseeable future actions	No impacts	No cumulative SEE impacts anticipated, beyond the direct SEE impacts of the proposed alternative.	No cumulative SEE impacts anticipated, beyond the direct SEE impacts of the proposed alternative.
Right-of-way impacts	Number of parcels impacted	No impacts	1 (for stormwater pond)	4 (for stormwater pond and button-hook)
	Number of structures impacted; Number of relocations	No impacts	1 (for stormwater pond); 0 relocations	4 (for stormwater pond and button-hook); 2 residential relocations
Economic	Potential loss of property tax revenue from property acquisitions	No impacts	No impacts	Minor loss of property tax collection due to removal of one residential property and a former warehouse now used for storage.
Social and Community	Cohesion [1] changes in street configurations; 2) connectivity within city]	1) No changes in street configurations. 2) Connectivity: No change to existing TH's looping through the downtown commercial historic district that City staff indicate 'sever' pedestrian access within downtown and between some residential neighborhoods and downtown.	1) No changes in street configurations. 2) Connectivity: No change to existing TH's looping through the downtown commercial historic district that City staff indicate 'sever' pedestrian access within downtown and between some residential neighborhoods and downtown.	1) Street configuration change: Requires severing East 3rd Street connection to Bluff Street. But similar level of access to Bluff Street from the neighborhood will be retained via 4th Street. 2) Connectivity: Beneficial change from decreases in TH traffic through downtown commercial historic district, decreasing the 'severing' effect identified by City staff.
	Community facilities impacted	No impacts	No impacts	May impact Bluff Community Garden.
Transit	Impacts to Existing or Planned Transit Service	No impacts	No impacts	No impacts
Environmental Justice	Any disproportionate high and adverse impacts to minority or low income populations	No impacts	No impacts	City has identified the Bluff neighborhood as having a higher concentration of low income individuals as compared to the entire City. One residential acquisition identified in this neighborhood would not be a 'significant' impact. The EA will conduct a detailed assessment to determine whether any impacts, direct or indirect, (e.g., noise) are disproportionately high and adverse.

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EVALUATION CRITERIA		No-Build Alternative	MN-1 - Rehab Bridge 9103 (includes cathodic protection & TL-2 railing)	MN-3 - Replace Bridge 9103 plus Button-hook with Slip-Ramp
Relationship to Other Proposed Transportation Improvements	Relationship to Year 2015 Main Street Reconstruction Project	No substantive positive or negative impacts.	No substantive positive or negative impacts.	This alternative plus the City of Red Wing's Main Street project provide complementary benefits by MN-3 shifting traffic volumes at the US 61/MN 58 intersection from approach legs where bump-outs/ped crossing improvements are not being made to legs where bump-outs are being constructed as part of the Main Street Reconstruction project (years 2015 & 2016). Traffic volumes due to MN-3 alternative would increase on US 61 east of Plum Street, which is outside of the downtown commercial historic district and outside the area where pedestrian improvements are being made with the Main Street reconstruction project. The two projects together would result in additive benefits to pedestrian traffic in the downtown commercial historic district.
COST				
Construction Cost Estimate 1/	2018\$	\$0	\$7,700,000	\$25,875,000
On-going Maintenance (20 years)	2018\$	\$2,300,000 - 2,900,000	\$105,000	\$35,000
Bridge Service Life	Number of years until major rehabilitation would be required	15 years 2/	20 years 2/	75 years 3/

Notes

1/ Cost estimate reflects Minnesota approach improvements (to Minnesota-side river bridge abutment), right-of-way and contamination clean-up

2/ Bridge 9103

3/New bridge associated with the buttonhook

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The following findings have been drawn based on the information provided in Table 2:

- The No Build and MN-1 are very similar across most of the criteria;
- The No Build will eventually require load restrictions to be put in place on Bridge 9103;
- MN-3 addresses the traffic mobility primary need, while the No Build and MN-1 alternatives do not;
- In terms of secondary needs, the primary differentiation is with traffic connectivity and ped/bike accommodations which MN-3 better addresses;
- The No Build and MN-1 do not require removal of Bridge 9103 which is eligible for the National Register;
- The differentiators regarding SEE impacts include:
 - MN-1 and MN-3 require acquisition of a contaminated parcel;
 - MN-1 and MN-3 include stormwater ponding to treat runoff from the river bridge;
 - MN-3 introduces additional visual and noise effects on the residential neighborhood adjacent to the project;
 - MN-3 includes acquisition of four parcels (including 2 residential relocations), MN-1 requires acquisition of one parcel, and the No Build has no property impacts;
 - MN-3 includes acquisition of at least one residential parcel in the Bluff neighborhood, which has been identified as having a higher percentage of low income and/or minority residents than the City average. Therefore, environmental justice impacts would need to be assessed in the EA;
- MN-3 has the highest cost (\$25.9 million) followed by MN-1 (\$7.7 million);
- MN-3 has the lowest on-going maintenance costs (\$35,000) followed by MN-1 (\$105,000), and the No Build (\$2.3-2.9 million); and
- MN-3 has the longest bridge service life (75 years), followed by MN-1 (20 years), and the No Build (15 years).

After reviewing the results of the assessment with the PAC and TAC, MnDOT determined and FHWA concurred to advance MN-3 as the recommended alternative for the Minnesota approach roadway. Alternative MN-3 was selected because – although it results in greater costs and some additional environmental impacts – the additional environmental impacts would not preclude project implementation and it is the only alternative that meets all of the primary project needs.

Since Alternative MN-3 would result in a Section 106 adverse effect and, therefore, a Section 4(f) impact, assessment of avoidance alternatives was required by Section 4(f) regulations. The Programmatic Section 4(f) Evaluation in Appendix F describes the comparison of the preferred alternative to avoidance alternatives (including Alternative MN-1 and the No Build), which resulted in a finding that there are no prudent avoidance alternatives. This allowed Alternative MN-3 to move forward as the preferred alternative.

3. Wisconsin Approach

The Wisconsin approach assessment focused on the US 63/825th Street intersection located at the base of the river bridge. The scope of the project does not extend further into Wisconsin because US 63 extending north to the Wisconsin Channel Bridge and WIS 35 was studied in the US 63 EA prepared by WisDOT in 2004. As a result, no alteration to the existing US 63 causeway or Wisconsin channel bridge approximately one mile to the north will be required.

Three alternatives were defined and evaluated as part of the Wisconsin approach assessment. The *Approach Roadway Concept Development and Screening Memo* dated September 18, 2012 (see the supplemental CD in Appendix B) describes each alternative. The three included:

- Right-in/Right-out (RIRO) Access (see Figure 10 in Appendix A)
- Northbound Left Turn Lane (see Figure 11 in Appendix A)¹
- Jughandle Intersection (see Figure 12 in Appendix A)

Ultimately, the jughandle intersection was selected as the recommended alternative for the Wisconsin approach because it provides full access at the intersection of US 63 and 825th Street and eliminates the need to cross conflicting traffic. It also maintains and enhances access to properties along the Wisconsin banks of the Mississippi River.

B. Description of the Alternatives Evaluated in this EA

1. River Crossing

a. No Build Alternative

The No Build Alternative maintains the current facility. Extensive maintenance activities are expected on the existing structure in the near future to keep the bridge functional. Some of these activities include complete deck replacement; replacement of expansion joint devices; replacement of several bearings; replacement of several approach span girders (to meet load rating requirements); replacement of the north abutment, Pier 8, and potentially Pier 7 to address settlement/movement issues; repainting; concrete surface repairs; channel stabilization at Pier 2; concrete surface repairs to piers; and possible stringer and floorbeam replacement (where joint leakage has led to corrosion).

b. Preferred Alternative

The river crossing Preferred Alternative is to replace the existing river bridge with a two-lane steel box girder bridge immediately upstream from the current crossing. Section IV.A.6.b (Project Description) provides additional details of the preferred alternative features.

See Figure 14 within Appendix A for the overall project layout.

2. Minnesota Approach

a. No Build Alternative

The existing US 61 overpass would continue to serve as the southern approach to the river bridge and the bridge would be maintained using standard maintenance practices (i.e., not a substantial structural rehabilitation). The US 61 overpass is currently in “fair” condition, but substantial damage exists in the form of delaminated and deteriorated concrete, spalling, and high levels of chloride content contributing to corroding steel.

¹ Note: Since completion of the 2012 evaluation, WisDOT completed an intersection improvement project which included adding a painted left-turn lane for northbound US 63 traffic.

b. Preferred Alternative

The Minnesota approach Preferred Alternative is to construct a button-hook intersection with a slip ramp. This alternative includes replacing the US 61 overpass with a new three-lane structure and button-hook ramp configuration that reorients the connection of US 63 to US 61 immediately east of downtown Red Wing. This alternative also includes a one-way slip-ramp which provides an option for southbound US 63 traffic to continue to have a direct access to downtown Red Wing and MN 58 via 3rd Street. Section IV.A.6.b (Project Description) provides additional details of the preferred alternative concept.

See Figure 15 within Appendix A for Minnesota approach project layout details.

3. Wisconsin Approach

a. No Build Alternative

The No Build Alternative is to maintain the existing intersection configuration at the base of Bridge 9040 providing access to 825th Street.

b. Preferred Alternative

The Wisconsin approach Preferred Alternative is to construct a jughandle intersection at 825th Street. This design provides a four-legged intersection with a median on US 63.

See Figure 16 within Appendix A for Wisconsin approach project layout details.

4. Summary of Preferred Alternative & No Build: SEE Impacts

Table 3 below provides an overview comparison of social, environmental, and economic impacts between the Preferred Alternative and No Build options. Detailed information for each SEE component is located within Section IV (SEE Impacts).

Table 3: Preferred Alternative and No Build Comparison: SEE Impacts

SEE Component	Preferred Alternative	No Build
Land Use	Compatible with existing land uses;	Compatible with existing land uses
Floodplain	“No-Rise Certificate” issued; No significant floodplain impacts anticipated	Existing conditions continue; No impacts
Geology/Soils/Topography	No impacts and/or project limitations anticipated	Pier settlement issues
Water Resources	Approx. 6.5 acres wetland impacts (3.0 permanent, 3.5 temporary); 3.2 acres new impervious surface; stormwater treatment will be provided	Existing conditions continue; No water resources/wetlands physical impacts; no improved stormwater treatment
Contamination/Hazardous Materials/Waste	7 identified sites of concern within preliminary construction limits	Existing asbestos, lead paint, creosote on river bridge structure; 7 identified sites of concern within preliminary construction limits

SEE Component	Preferred Alternative	No Build
Fish/Wildlife/Plants	Potential impacts to fish, wildlife, and vegetation resources, especially at river crossing. Impacts can be mitigated.	Existing conditions continue; No impacts
Cultural Resources	Removal of Bridge 9103	Existing conditions continue; No impacts
Visual	Aesthetic treatments of elevated structures	No impacts anticipated
Air	Potentially lower MSAT impacts resulting from enhanced traffic operations	No MSAT impacts anticipated
Noise	Noise levels on Wisconsin side do not exceed noise standards; Noise levels on Minnesota side exceed noise standards and meet noise barrier criteria at one location (noise barrier voting opportunity at this location)	Noise levels on Wisconsin side do not exceed noise standards; Noise levels on Minnesota side exceed noise standards
Transportation	2-lane river crossing bridge facility with expansion capability; Substantial improvement to traffic operations in downtown Red Wing	Existing conditions continue; Does not meet identified transportation needs
Pedestrian and Bicycle Facilities	Addition of bike/ped facility on bridge; downtown Red Wing enhancements	Existing conditions continue; Minimal pedestrian accommodations on Minnesota approach only
Right-of-Way	5 acquisitions (2 relocations); Approximately 2.9 acres; Potential temporary easements of 1.2 acres	No impacts
Farmland	No impacts anticipated	No impacts
Cumulative Potential Effects	No substantial impacts anticipated	No substantial impacts anticipated

C. Cost and Funding

The project will utilize a shared funding arrangement between MnDOT and WisDOT, with potential local funding for specific elements. In general, project costs related to the replacement of the bridge structure will be shared equally between the agencies. The bridge approaches within each state will be funded separately by the appropriate state agency.

Estimate of Cost

Estimated costs below are separated by the Minnesota approach, Wisconsin approach, and bridge crossing structure components. Estimated costs are in 2018 dollars and include structures, surfacing, subbase/base, grading/drainage, miscellaneous, right-of-way, contingency, and engineering costs.

- Minnesota approach: Approximately \$24,800,000 to \$27,400,000
- Wisconsin approach: Approximately \$4,500,000 to \$4,900,000
- River bridge structure: Approximately \$63,400,000 to \$70,500,000
- Total: Approximately \$92,700,000 to \$102,800,000

Anticipated Funding

State of Minnesota Chapter 152 bond and Federal Aid funds will cover the majority of Minnesota costs. State and Federal Aid funds will fund the Wisconsin portion. Some project elements that benefit local municipalities would likely be funded by local agencies.

D. Benefit-Cost Analysis

The purpose of a benefit-cost analysis is to express the effects of an investment (or closure) into a common measure (dollars). This allows for the fact that the benefits or costs of a project are often accrued over a long period of time, while the initial investment is incurred during the initial years of the project. In this approach, any quantified benefits that are greater than or equal to the quantified costs (a benefit-cost ratio greater than one) represents an economically viable project.

The preliminary analysis indicates that the build alternative has benefit-cost ratio of approximately 3.2. Since this is greater than 1.0, it indicates that the vehicle miles traveled (VMT), vehicle hours traveled (VHT), and crash reduction benefits of the project are estimated to be greater than the costs associated with the construction of the project.

At this level of analysis, the magnitude of the benefit-cost ratio is not as important as the overall finding that the ratio is greater than one. Further refinements to the VMT and VHT values are possible using different traffic models and methods. However, this basic analysis indicates that the proposed build alternative is economically viable. Changes in project cost for the Preferred Alternative would not likely lower the benefit-cost ratio below 1.0.

E. Proposed Project Schedule

The following is a tentative schedule of activities for the project:

Action	Timeline
Publish EA for Review and Comment	June 2015
EA Public Hearing	July 2015
Complete Environmental Review Process	Summer-Fall 2015
Final Design	Fall 2015 to Winter 2016
Construction	2017-2019

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IV. SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACTS (SEE)

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website.² 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 addressed 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 the information, potential impacts that warrant further investigation and the need for an EIS.

A. Environmental Assessment Worksheet

1. Project Title

US 63 River Bridge and Approach Roadways Project

2. Proposer

Contact Person: Greg Paulson, PE
Title: MnDOT District 6 District Engineer
Address: 2900 48th Street NW
City, State, ZIP: Rochester, MN 55901
Phone: 507.286.7502
Fax: 507.281.7780
Email: greg.paulson@state.mn.us

3. RGU

Contact Person: Chad Hanson, PE
Title: MnDOT Project Manager
Address: 2900 48th Street NW
City, State, ZIP: Rochester, MN 55901
Phone: 507.286.7637
Fax: 507.285.7355
Email: chad.hanson@state.mn.us

4. Reason for EAW Preparation

Required:

- EIS Scoping
- Mandatory EAW

Discretionary:

- Citizen petition
- RGU discretion
- Proposer initiated

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

² <http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm>

5. Project Location

County: Goodhue (MN), Pierce (WI)

City/Township: City of Red Wing (MN), Town of Trenton (WI)

PLS Location (¼, ¼, Section, Township, Range): Minnesota portion: T113N, R14W, Sections 29 and 30;
Wisconsin portion: T24N, R18W, Sections 10, 11, 14

Watershed (81 major watershed scale): 38 (Mississippi River and Lake Pepin)

GPS Coordinates: N/A

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 13 in Appendix A);
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable) (See Figure 13 in Appendix A); and
- Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan. (See Figures 14-16, 18-30, and 33-35 in Appendix A)

6. Project Description

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

The US 63 River Bridge and Approach Roadways Project includes the Mississippi River bridge and the bridge approaches in Red Wing, Minnesota and Hager City, Wisconsin. The project will replace the existing Eisenhower Bridge river bridge with a new bridge structure. The Wisconsin approach includes a jughandle intersection at 825th Street and the Minnesota approach includes reconfiguration of the connection to US 61 as a buttonhook intersection.

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

The project encompasses three components: the river bridge, the Wisconsin approach to the river bridge, and the Minnesota approach to the river bridge. See Figures 14-16 in Appendix A for project layouts.

- The Wisconsin approach to the river bridge would be constructed as a jughandle intersection at 825th Street. This design provides a four-legged intersection with a median on US 63.
- The Minnesota approach to the river bridge would be constructed as a buttonhook intersection with a slip ramp. This Preferred Alternative would include removing the existing US 61 overpass (Bridge 9103), which is a slab span bridge constructed in 1960, creating a new at-grade intersection of US 63 and US 61 east of downtown Red Wing approximately 1,100 feet east of Potter Street. The design allows southbound US 63 traffic to access downtown Red Wing and MN 58 along a new one-way slip ramp to 3rd Street.

The existing river bridge, Bridge 9040, is a two-lane structure constructed in 1960. The main three spans are a through-truss structure and the six approach spans are made up of steel plate girders for a total length of 1,632 feet. It will be replaced by a new steel box girder structure. The new river bridge will be

located immediately upstream of the existing river bridge. The proposed new structure will include two 12-foot wide lanes, two 6-foot shoulders, and a 12-foot wide pedestrian/bicyclist facility on the west side (upstream side) of the bridge. This results in a total width, including barriers, of 52 feet and 4 inches. Once the new structure is complete, the existing river bridge will be removed. It was decided to design the project to allow for potential expansion to a four-lane facility if at some point in the future traffic levels warrant capacity expansion.

It is proposed that a bypass and temporary bridge carrying US 63 over US 61 be constructed to facilitate traffic movement while the new permanent slip ramp over US 61 is constructed. A temporary bypass facility could be constructed to the east of the existing US 61 overpass such that it does not impact the limits of historic Barn Bluff and also provides for reasonably unconstrained bridge removal operations. With comparable costs compared to a staged construction, the utilization of a bypass and temporary bridge would eliminate movements of traffic lanes for construction operations, reduce driver confusion, and improve constructability. See Figure 17 in Appendix A for additional proposed temporary bypass and temporary bridge proposals for the Minnesota approach to the river bridge.

Construction is anticipated to begin in 2017, with substantial completion by the end of 2019. Because the existing bridge will remain open during construction of the new bridge, substantial traffic disruption to users is not expected. Additional construction information is presented below.

Construction: Potential Staging Areas

See Figure 18 in Appendix A for potential construction staging locations.

Construction staging totaling approximately 3.5 acres on the Minnesota portion of the project will potentially be located within several areas near the proposed US 61 overpass. The interior of the loop space that will ultimately hold a stormwater pond is a potential staging area. A parcel acquisition adjacent to the proposed intersection of US 63 and US 61 will also be utilized.

Construction staging on the Wisconsin portion of the project will potentially focus on the southeastern area of the approach roadway, extending northwest toward the project terminus. Construction staging is anticipated to avoid more sensitive ecological areas in the western portions of the Wisconsin approach. These potential construction staging areas in Wisconsin consist of approximately 7.7 acres. Within Wisconsin, staging and access will likely all take place in the floodway. A contingency plan will be in place for removal and temporary structures for the high water events that may occur during the course of the project.

In addition, two temporary construction causeways are recommended to be utilized during construction. These causeways help facilitate the construction of the new river bridge structure and demolition of the existing bridge structure. The construction causeways would be built within the floodplain of the Wisconsin approach and above the 10-year flood elevation. They would function as rock roads and generally extend from the proposed north abutment to Pier 3 and be approximately 20 feet wide and approximately 750 feet long. Per the Wisconsin DNR (WDNR), NR 116 Floodplain Management standards must be met and the causeway must be clearly marked for safety as coordinated and approved by the U.S. Coast Guard.

Construction staging details will be developed in the final design stages. Maintenance of traffic (MOT) plans are currently under development. Final MOT plans will address construction phasing, maintenance of traffic, traffic signal operations, work zone access, lane closures, and traffic detours. Safe access for non-motorized users during the construction phases will also be included in phasing and MOT plans.

Construction: River Impacts

Due to the need to get construction materials and construction equipment into or onto the river to build the bridge, river impacts are expected including dredging, building temporary cofferdams around piers, dewatering, fill, and removal of cofferdams after construction. In addition, two crane benches or dock walls within the river are anticipated to assist with construction staging. Any necessary environmental permits will be obtained prior to construction.

Construction would involve temporary interruption to the navigational channel, including a reduced channel width and/or short-term closures, at various stages of construction to allow for pier construction, launching of materials, and construction of the superstructure. These temporary interruptions would need to be coordinated with the U.S. Army Corps of Engineers, the U.S. Coast Guard, and barge operators. Recreational boating activities may also be temporarily impacted, and notification would be provided at local marinas and public access. The timing and duration of temporary interruptions would vary.

Demolition plans for the existing river bridge will need to be consistent with requirements of the Minnesota and Wisconsin DNR. For example, WisDOT in correspondence that existing bridge demolition should adhere to Wisconsin's STSP 203-020, *Removing Old Structure Over Water With Minimal Debris*.

See Section IV.A.11.b.iii (Water Resources) for information regarding dewatering. Dewatering may be required during construction.

Construction: Noise, Vibration, and Dust

Pile driving and other components of project construction would result in noise, vibration, and dust impacts, as would heavy equipment (dozers, front-end loaders, backhoes, and vibratory rollers) for these activities. Noise impacts related to the operation of construction equipment would vary in location and duration. MnDOT would require that construction equipment be properly muffled and in proper working order. Advanced notice would be provided to the affected communities prior to any planned loud construction activities. It is anticipated that night construction may sometimes be required to minimize traffic impacts and to improve safety. However, construction would be limited to daytime hours as much as possible.

The location and magnitude of construction vibration will be assessed further during final design. In areas where there is a potential for vibration impacts, susceptible structures would be monitored by performing pre-construction assessment of existing buildings, susceptibility of vibration analysis of these buildings, coordination with owners, monitoring during the vibration-causing activity, and post-construction assessment of buildings. Vibration impacts to structures in the project area are not anticipated to result from the project. Construction methods and existing geological conditions are anticipated to help lower the risk of adverse impacts on historic structures within the downtown Red Wing area.

Any associated high-impact equipment noise, such as pavement sawing or jack hammering, would be unavoidable with construction of the proposed project. The use of jack hammers, pile drivers, and

pavement sawing equipment would be prohibited during nighttime hours. Pile-driving noise is typically associated with any bridge construction and sheet piling necessary for retaining wall or other construction activities.

Air quality impacts during construction could include increased dust and airborne particulates caused by grading, filling, building removals, and other construction activities. Dust impacts would be minimized through standard dust control measures such as watering.

Construction: Erosion

This project will result in some potential for erosion as existing ground cover will be disturbed. A NPDES Construction Storm Water Permit will be required for this project. Wisconsin's Trans 401 and NR 151 form the NPDES compliance requirements within the Wisconsin portion of the project. A Stormwater Pollution Prevention Plan (SWPPP) will be developed for the project. Erosion prevention and sediment control requirements will be followed in accordance with the NPDES permit, which includes both temporary and permanent erosion and sediment control plans as well as other BMPs to protect the resource waters. BMPs contained in MnDOT's standard specifications, details, and special provisions will be used. WisDOT standard specifications, details, and special provisions will be followed for work conducted on the Wisconsin side of the river.

Construction: Tree Removal

The proposed project would remove trees during construction. There are an anticipated 1.4 acres of tree removal impacts associated with the proposed project; approximately 1.1 acres on the Wisconsin side of the project and 0.3 acres on the Minnesota side of the project. Tree removal impacts are largely anticipated between the north abutment and the Wisconsin river bank.

Construction: Wetland Impacts

Construction of the new river bridge and demolition of the old bridge are expected to have some construction-related temporary wetland impacts and permanent wetland fill impacts. Temporary wetland impacts within construction staging areas are anticipated to total approximately 3.5 acres and may include temporary fill placed within wetlands in order to accommodate access by construction equipment or tree clearing. The recommended temporary construction causeways on the Wisconsin side of the project are anticipated to result in temporary wetland impacts.

Permanent wetland impacts are anticipated to total approximately 3.0 acres and would result from construction of new piers, abutments, and approaches. Wetland impacts, temporary or permanent, may have a fill impact component or a wetland functional impact component. See Section IV.A.11.b.iv.1 (Water Resources) for additional information on wetland impacts, including the sequencing process to avoid, minimize, and/or provide compensation for impacts.

Construction: Rail Coordination

Project coordination with Canadian Pacific Railway and Archer Daniels Midland Company is ongoing to ensure adequate construction staging and railroad compatibility on the Minnesota side of the project. Coordination has been ongoing throughout project development to conduct various surveys, including geotechnical boring analyses. In addition, preliminary design plans have been shared with Canadian Pacific

for review. It is anticipated construction equipment will need to be temporarily placed on railroad property to erect one or more bridge sections, requiring a temporary easement. Flaggers will be required. Temporary interruption of rail operations will likely be needed at various stages of construction. Construction staging plans will be coordinated with the railroad prior to letting the project to minimize disruption. The project will require a railroad agreement.

c. Project magnitude:

Total Project Acreage	28.4
Linear Project Length	US 63: Approx. 4,440 feet; US 61: 1,950 feet
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

* Total project acreage encompasses preliminary construction limits

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.

See Section II for the project’s Purpose and Need. Beneficiaries of this project will include all roadway users of the proposed river crossing.

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.

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

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

7. Cover Types

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

*Table 4: Cover Types (in acres)**

Cover Type	Before	After
Wetlands	3.0	0.0
Deep Water/Streams	3.0	3.0
Brush/Grassland	2.3	2.4
Lawn/Landscaping	12.1	11.1
Impervious Surface	8.0	11.3
Stormwater Pond	0.0	0.6
Total	28.4	28.4

* Impervious surface acreage is sourced from preliminary design/project layout. Wetland acreage is sourced from delineated wetlands. Remaining cover types determined visually via aerial photography. Minnesota Land Cover Classification System (MLCCS) is not available for project area. All estimates are approximate and subject to change throughout the final design process.

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 5: Permits and Approvals Required

Permit/Approval Type	Unit of Government	Action Required
Federal		
Environmental Assessment document	FHWA	Approval
EIS Need Decision	FHWA	Decision
Section 4(f)	FHWA	Determination
Section 106 (Historical/Archaeological)	FHWA (MnDOT CRU on behalf of FHWA)	Determination
Endangered Species Act (Section 7 Consultation)	FHWA (MnDOT OES/FHWA)	Determination of Affect, Not Likely to Adversely Affect
	USFWS	Concurrence
Section 404 Permit – Individual Permit; Section 10 Permit	U.S. Army Corps of Engineers	Approval
Section 9 Permit	U.S. Coast Guard	Approval
Project Compatibility Determination	U.S. FWS	Determination
State		
EA/EAW Document	MnDOT/WisDOT	Approval
EIS Need Decision	MnDOT	Decision
Construction Plans – Bridge Preliminary Plan	MnDOT; WisDOT	Approval
Construction Plans – Roadway/Geometric Layout	MnDOT; WisDOT	Approval
MN Wetland Conservation Act (No Loss)	MnDOT	
Design Exceptions	MnDOT	Approval
WDNR/WisDOT Cooperative Agency Agreement	WDNR, WisDOT	Concurrence
Public Waters Work Permit (General Permit 2004-0001)	MnDNR	Permit
Water Appropriations Permit for Temporary Projects (Construction Dewatering; General Permit 1997-0005)	MnDNR	Permit
Notice of Demolition and/or Removal and Application for Permit Exemption	WDNR	Approval
State Historical Preservation Office Review (Historic/Archaeological)	MnSHPO; WisSHPO	Consultation
Threatened and Endangered Species Take Permit (mussels)	MnDNR; WDNR	Permit, if required
Incidental Take Authorization	MnDNR; WDNR	Authorization (if required)

Permit/Approval Type	Unit of Government	Action Required
Section 401 Water Quality Certification	MPCA; WDNR	Certification
NPDES Construction Stormwater Permit; Trans 401 and NR 151 compliance	MPCA; WDNR	Permit
Local		
Municipal Consent	City of Red Wing	Approval

9. Land Use

a. Describe: i) Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, prime or unique farmlands; 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; iii) Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

Land Use and Development

The Minnesota portion of the project area contains a diverse mix of land uses typical of urban locations. Zoning details are located within the zoning section below. Land uses within the City of Red Wing portion of the project vicinity include recreational (Levee Park and Barn Bluff), industrial (Archer Daniels Midland facility), commercial (downtown area and Red Wing Shoes facilities), residential single family, and residential multi-family parcels. The Mississippi River shoreline of the Minnesota approach contains the CP rail line. See Figure 19 in Appendix A for additional City of Red Wing land use information.

Compared to the Minnesota portion of the project area, the Wisconsin side is more rural. This is primarily because all land within the Wisconsin approach to the river crossing is within a Special Flood Hazard Area according to Flood Insurance Rate Maps (FIRMs). Commercial and recreational land uses exist within Wisconsin's project area Mississippi River shoreline. Businesses offering boat slips, camping, and food service are located at the base of Bridge 9040. See Figure 20 in Appendix A for additional Pierce County land use information.

Prime or Unique Farmlands

No agricultural land will be acquired, no farmland will be severed or triangulated. The project will not have any adverse effect upon agricultural production in Goodhue County or Pierce County. Therefore, the proposed project would not cause any adverse impact to agricultural land or operations.

While the Natural Resources Conservation Service's Web Soil Survey indicates the presence of prime farmland soils within the Minnesota portion of the project area in the City of Red Wing, the entire area is currently developed with urban land uses. The Wisconsin portion of the project is located within a Special Flood Hazard Area and is not suited for agricultural land uses. According to the Natural Resources Conservation Service's Web Soil Survey, no prime farmland soils exist within the Wisconsin portion of the project area.

See Figure 21 in Appendix A and Appendix E for additional soil information.

Parks and Trails

City-designated parks within or near the project area in the City of Red Wing include Levee Park, Barn Bluff, Red Wing Gateway Garden Park (Del Dankers Park), and Bluff View Park.³ City-designated recreational trails exist within Barn Bluffs and Levee Park. Goodhue County's Cannon Valley Trail extends into downtown Red Wing near the project area.⁴ The city is also in the planning phase for developing a riverfront trail that would connect the Cannon Valley Trail with these three parks. No parks or trails will be affected by the proposed project.

See Figure 22 in Appendix A for additional parks and trails information.

The Mississippi River within the project area is part of the Mississippi River State Water Trail, a designated Minnesota state water trail (formerly termed a Canoe and Boating Route). The river bridge will not affect canoe and recreational boat use. Although there may be temporary impacts to recreational boating access during construction (see Section IV.A.6.b (Project Description) for additional information), there would not be any permanent impacts.

Zoning

The Minnesota approach encompasses several zoning districts within the City of Red Wing. The buttonhook ramp and intersection is within the RM 1-Residential Multi-Family One zoning district. The slip-ramp is adjacent to RF-Riverfront, B3-Central Business, I1-Light Industrial and 12-General Industrial zoning districts consisting of Barn Bluff, Red Wing Shoes parcels and ADM facilities.

The Red Wing Commercial Historic District, Red Wing Mall Historic District, Red Wing Residential Historic District, and the St. James Hotel Complex Historic District are all located west of the Minnesota approach within the City of Red Wing. These districts are National Register-Listed or National Register-Eligible.

The Wisconsin approach is located within Pierce County's Commercial and General Rural Flexible zoning districts. The Rural Residential-20 zoning districts are located east and west of the existing approach.

Shoreland Districts

The Minnesota side of the project is within a Goodhue County Shoreland District per the Goodhue County Zoning Ordinance⁵. Language related to public roads and parking areas is located within Article 30, Section 11, Subsection 3. These zoning regulations address considerations such as erosion control measures, compatibility with natural vegetation and topography, and structure setbacks. Although MnDOT is not subject to local zoning ordinances, efforts to minimize erosion and vegetation impacts will be considered in the project design development.

Per the Floodplain Zoning Ordinance for Pierce County, Wisconsin⁶, floodplain zoning regulations apply to the Wisconsin side of the project because it is located within a Special Flood Hazard Area. However, the floodplain zoning ordinances pertain to site developments and do not apply to bridge or road approach projects that cross public waters.

³ Source: http://www.red-wing.org/media/files/departments/public_works/City_Parks_Map.jpg

⁴ Source: http://cannonvalleytrail.com/images/CVT_MAP_2006_2.pdf

⁵ Source: <http://www.co.goodhue.mn.us/DocumentCenter/View/2428>

⁶ Source: <http://www.ecode360.com/9818396>

Wild and Scenic Rivers and Nationwide Rivers Inventory

No rivers exist within the project limits that are designated as part of the National Wild and Scenic Rivers System or the Nationwide Rivers Inventory.

Floodplain Finding

The most recent Federal Emergency Management Agency (FEMA) FIRMs have been examined for this project (Map number 27049C0185E in Goodhue County, MN dated September 25, 2009 and map number 55093C0383E in Pierce County, WI dated November 16, 2011). In addition, the *Waterway Analysis Memo* authored by MnDOT's Bridge Office and dated October 16, 2014 contains detailed information about flood level information and other hydraulics analyses.

The project will span the Mississippi River, connecting Red Wing in southeast Minnesota to Hager City, Wisconsin. The project area encompasses the river crossing itself and the bridge approaches in both states. The project will replace the existing Eisenhower Bridge with a new and structurally sound river crossing structure and approach roadways. The proposed bridge has six piers, two piers in the main channel and four piers in the floodplain.

The project will transversely encroach on the Mississippi River floodplain. The river bridge itself and the entire Wisconsin approach roadway will encroach the floodplain. Approximate encroachment length is 1,600 feet. See Figure 23 in Appendix A for details regarding Special Flood Hazard Areas (SFHAs) subject to inundation by the 1 percent annual chance flood and regulatory floodways. The floodplain is currently designated as Zone AE with a defined regulatory floodway.

Improvements to 825th Street on the Wisconsin side of the bridge and extending under the bridge will require work within the FEMA designated SFHA (1 percent floodplain). This area is also designated as Floodway for the Mississippi River on the Wisconsin side of the channel. If any areas of fill were within the Floodway, it would trigger the need for floodplain related permitting to ensure compliance with FEMA National Flood Insurance Program regulations along with the need to demonstrate no impacts to the floodplain/floodway elevations and certification of no-rise conditions.

This project will not result in any significant floodplain impacts for the following reasons.

There will be no significant interruption or termination of a transportation facility needed for emergency vehicles or providing a community's only evacuation route.

- All roadway grades would be designed above the 100-year flood elevation. The 100-year flood elevation at the Mississippi river is 683.94 feet (1988 NAVD datum).
- There is no recorded evidence of flooding or overtopping of the existing bridge or roadways at the river crossing.

No significant adverse impact on natural and beneficial floodplain values should result from this project.

- No substantial fisheries impacts are anticipated. Construction operations that may impact the river bed would not occur during fish spawning and migration periods without approval from WDNR and MnDNR. Exact dates and allowable work in the river during this time period would be subject to DNR permit conditions.

- No changes in public access (boat or canoe) would result from the project.
- The Wisconsin approach and associated modifications would require fill in wetlands surrounding the roadway system. Impacts would be minimized to the greatest extent practicable. See Section IV.A.11.b.iv.1 (Water Resources – Wetlands) for additional information.
- Section IV.A.13.b (Fish/Wildlife/Ecological Resources) describes the potential impacts to fish and wildlife from the project. No substantial impacts have been identified.

No significant increased risk of flooding will result.

- A “No-Rise Certificate” was issued on October 16, 2014 by a Hydraulic Design Engineer from the MnDOT Bridge Office. This verifies the proposed project will not impact the floodway width or 100-year flood elevation (will not raise or lower by more than 0.00 feet) on the Mississippi River at published sections in the Flood Insurance Study or at unpublished cross-sections in the vicinity of the proposed project.
- Any temporary stage increase as a result of construction staging, like the anticipated temporary construction causeway, will have to be analyzed for compliance with the 100-year flood stage requirement.

The project should not result in any incompatible floodplain development.

- No new access to a floodplain area is being created.
- Pierce County, Wisconsin and Goodhue County, Minnesota maintain floodplain and shoreland ordinances that regulate floodplain development.

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 proposed improvements support nearby land uses, zoning, and local plans in the project area.

Coordination with local government planning has occurred to ensure the bridge and approaches are compatible with existing land uses. The Minnesota approach, in particular, has received increased consideration because of its location in downtown Red Wing, which includes historic districts. While state highways are not subject to local plans, ensuring the project’s compatibility with local planning efforts has resulted in ongoing collaboration with the City of Red Wing and the general public.

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

The proposed action is compatible with nearby land uses, zoning, and local plans in the project area.

As part of the Mississippi River State Water Trail (Minnesota designation), the river within the project area is used by recreational boat traffic. As noted within Section IV.A.20 (Other Potential Environmental Effects), construction would involve temporary interruptions to the navigational channel at various stages of construction to allow for pier construction and work on the bridge structure. These closures would also impact recreational water users. The timing and duration of closures would vary and will be coordinated

with the DNR as well as the U.S. Army Corps of Engineers, U.S. Coast Guard, and other relevant stakeholders as required by rules and regulations.

10. Geology, Soils and Topography/Land Forms

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

Additional geological and soil information can be found in the *Subsurface Investigation Memo*. Summary information is provided below.

Surficial soils on the south end of the project are underlain by Paleozoic Bedrock of the St. Lawrence Formation, an intermixed Siltstone and Sandstone with some dolomitic zones. The Saint Lawrence ranges from 5 feet to almost 20 feet thick. Below the St. Lawrence is the Franconia Formation. The Franconia Formation is a variably glauconitic, fine to medium grained Sandstone with thin seams of Shale and has zones where the Sandstone has become cemented with dolomite.

Bedrock depths become deeper just north of Red Wing within the scoured river valley of Glacial River Warren. Borings within the river for Pier 2 are approximately 7 feet to 30 feet of sand overlaying a marly organic silty clay ranging 20 feet to 45 feet thick. Below the organic zone is a 10-foot to 20-foot zone of sand and gravel with bedrock of the Franconia Formation below.

Bedrock depths become progressively deeper as you head into Wisconsin ranging from 85 feet to over 145 feet below ground/water surface (approximately 588 feet to 537 feet in elevation).

According to the MPCA website⁷, the City of Red Wing and the project area is likely located within a karst area. However, though the MPCA identifies the project area as a potential karst area, approximately 50 feet of sedimentary deposit is located on top of limestone bedrock. In addition, no signs of sinkholes or karst features have been identified in the project area as supported by test borings drilled for the subsurface investigation. As a result, karst-related susceptibility is not anticipated.

b. Soils and Topography – Describe the soils on the site, giving NRCS (SCS) classifications and description, 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.

A Unified Soil Classification System soils report of the approximate project area can be found in Appendix E. In addition, Figure 21 in Appendix A highlights soil erodibility information for the project area. Substantial soils and topographic limitations are not anticipated.

⁷ Source: <http://www.pca.state.mn.us/index.php/water/water-types-and-programs/groundwater/groundwater-basics/karst-in-minnesota.html>

Surficial soils within the project area consist of coarse sand and gravel alluvial deposits from Glacial River Warren and modern river channel deposits of sand and gravel with areas of silt, clay, and organics. Surficial soils on the south end of the project, within the City of Red Wing, are relatively shallow, 4 feet to 10 feet thick, and consist of loamy sand and gravel with some Sandstone colluvium.

Table 6 below summarizes soil type information within the project area. According to the NRCS Soil Survey, the Wisconsin side of the project area consists of fine sandy loam and loamy fine sand soils with high permeability.

On the Minnesota side of the project, approximately 16,000 cubic yards of excavation and 47,000 cubic yards of fill will be required. On the Wisconsin side of the project, approximately 2,600 cubic yards of excavation and 57,000 cubic yards of fill will be required.

Table 6: Project Area USCS Soil Types

Symbol	Location	Name	Texture	Permeability
1658A	WI	Alganssee-Kalmarville complex	Fine sandy loam	High
656A	WI	Scotah loamy fine sand	Loamy fine sand	High
N608C2	MN	Malardi loam	Loam	Moderately high
N640G	MN	Lacrescent, flaggy-Frontenac-Rock outcrop complex	Flaggy silt loam	Moderately high
N638G	MN	Brodale	Channery loam	Moderately high
N586D2	MN	Ridgeton, sandy substratum-Eden Prairie Complex	Loam	Moderately high
N607A	MN	Meridian silt loam	Silt loam	Moderately high
N518C2	MN	Lindstrom silt loam	Silt loam	Moderately high

As noted in Section II.A (Purpose and Need), settlement issues have developed over time with the river bridge structure. The existing north abutment has settled approximately 3.5 feet and Pier 8 has settled approximately 2.5 feet over the structure’s lifetime. To address potential settlement issues, final design considerations will include the feasibility of a surcharge with wick drains to accelerate the settlement of the Wisconsin approach prior to constructing the road surface and the north abutment. In addition, recommended pile lengths will extend through the layer of poor soil down to sandstone.

11. Water Resources

a.i. Describe surface water features on or near the site – 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 miles of the project. Include DNR Public Waters Inventory number(s), if any.

The Minnesota Public Waters Inventory (PWI) identified the following surface waters as being located within one mile of the project:

No.	Name	PWI ID/Assessment Unit	Public Water	303d Impaired Water	Other Special Designation
1	Mississippi River	07040001-531	Yes	Yes	N/A

The Mississippi River is ultimately the receiving water body for the proposed project area. The MPCA has identified this portion of the river as impaired for mercury, PCB in fish tissue and TSS. A Total Maximum Daily Load (TMDL) Plan is approved for mercury in fish and mercury in water column impairments. Although impaired for mercury, the MPCA does not require additional design or construction measures to be taken because mercury is not generally associated with stormwater discharges from roadway construction projects. The MPCA would require that an NPDES permit be obtained for this project and all design and construction would follow the NPDES permitting requirements including additional measures relating to the TSS impairment. In addition, Wisconsin's Trans 401 and NR 151 form the NPDES compliance requirements within the Wisconsin portion of the project. Therefore, the project would not negatively impact the quality of receiving waters.

a.ii. Describe 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.

Depth to groundwater is approximately 10 feet near the project site. There are no wellhead protection areas within two miles of the project area.

b.i. Wastewater: Describe effects from project activities on water resources and measures to minimize or mitigate the effects of 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.

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.

No impacts to existing wastewater treatment or conveyance systems are anticipated.

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

The project will result in a net increase of approximately 3.2 acres of new impervious area across the entire project. The portion of existing and new impervious areas in Minnesota and Wisconsin is summarized in Table 7.

Table 7: Project Impervious Areas Summary (in acres)

Area	Minnesota			Wisconsin		
	Existing	Future	Net Increase	Existing	Future	Net Increase
Roadway	4.6	6.0	1.4	2.0	3.3	1.3
Bridge	0.3	0.4	0.1	1.2	1.6	0.4
Totals	4.9	6.2	1.5	3.1	5.1	1.7

This added impervious surface will increase the rate and volume of runoff. To mitigate for runoff rate/volume increases, BMPs will be installed on both the Minnesota and Wisconsin sides of the project. There will not be any substantial changes to the current drainage patterns. Drainage from the high point on the bridge to the north will route to the Wisconsin side and to the south will route to the Minnesota side.

On the Minnesota side, a filtration basin would be installed as part of the Minnesota roadway improvements just south of US 61 and east of the bridge approach. This BMP will provide for rate control and the removal of total suspended solids (TSS), phosphorous and other pollutants. If underlying soils are suitable for infiltration, the basin would be constructed in that manner. If poor soils, contaminated soils or shallow bedrock exist, the system would function as a filtration basin with an under drain. The outlet from the filtration basin would route to the storm sewer tunnel system located just under Bluff Street. The basin would treat both existing and new impervious areas to a level necessary to meet the MPCA NPDES Stormwater Permit requirements.

Runoff from the main bridge deck on the Minnesota side cannot be routed to this basin due to physical constraints. However, pretreatment devices such as sump manholes or other BMPs will be installed to

capture large sediment and debris prior to discharge into the river. Storm sewer from most of the roadway improvements will be routed to the basin for treatment.

On the Wisconsin side, runoff from the bridge deck will be routed through pretreatment devices prior to discharge into the grassed swales in the roadway loops between US 63 and north and south sections of the 825th Street connections. Grassed swales will provide for removal of TSS to at least a 40 percent removal level to meet the requirements of the Wisconsin post-construction performance standards. Specific erosion control, sediment control and site stabilization measures will comply with the WDNR Stormwater Rules.

b.iii. Water Appropriation: Describe effects from project activities on water resources and measures to minimize or mitigate the effects of 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. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.

Temporary dewatering may be required during construction. While dewatering is not expected to exceed more than 10,000 gallons of water per day or 1 million gallons per year, a Temporary Water Appropriations General Permit 1997-0005 will still be required. Dewatering will comply with Wisconsin State Regulations (Trans 401 and NR 151) and the MPCA and WDNR NPDES Construction Stormwater Permit, and shall be discharged in a manner that does not create nuisance conditions or adversely affect the receiving water or downstream properties.

b.iv.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.

See Figures 24 and 25 in Appendix A for the wetland delineation boundaries and wetland impacts in the project area.

Wetlands are afforded federal protection (the Clean Water Act – Section 404, Executive Order 11990 – Protection of Wetlands), and state protection (Minnesota Wetland Conservation Act (WCA) in Minnesota and Chapters 30, 31, 281, 282 of Wisconsin Statutes and Chapter NR 103, Wisconsin Administrative Code, among others in Wisconsin) that mandate a “no net loss” concept of wetland functions and values. In Minnesota, MN Rule 6115 affords further protection to Public Waters, including the Mississippi River. These laws further require that projects seek to avoid, then minimize, and finally mitigate any potential impacts (referred to as “sequencing”). The following information summarizes the project’s anticipated wetland impacts and mitigation processes taken into consideration throughout the project’s development.

Wetland Delineation, Assessment, and Classification

The project site was examined on August 21, 2014 for areas meeting the technical wetland criteria in accordance with the U.S. Army Corps of Engineers *Wetlands Delineation Manual* (USACE 1987) and the *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Midwest Region* (USACE 2012). Field notes, samples, and photographs were taken at representative locations in each wetland basin. One transect of two sampling pits (an upland sampling pit and a wetland sampling pit) was established perpendicular to the edge of all delineated wetlands in the project area. Wetland boundaries were located and marked with pin flags to allow for field review. The wetland edge is considered the highest extent of the wetland basin; areas above the boundary fail to meet the three required wetland parameters while areas below the edge meet the wetland parameters required by the field delineation methodology.

Soils were also observed for hydric soil characteristics. Soils were examined in cores taken with a soil probe and soil profiles were observed at a depth necessary to confirm hydric soil characteristics. In addition, primary and secondary indicators of hydrology were identified in the field to determine the presence or absence of wetland hydrology. Subsurface wetland hydrology indicators were examined using the soil cores and/or soil pits as deep as 24 inches to confirm soil saturation in the 12 inches of the soil profile.

Wetland classification follows the methods described in the *Wetlands and Deepwater Habitats of the United States* (Cowardin, et al. 1979). Wetland classification is also provided following *Wetland Plants and Plant Communities of Minnesota & Wisconsin* (Eggers and Reed 2011) and the Wisconsin Wetland Inventory (WWI) classification system.

Antecedent precipitation data from the Minnesota Climatological Working Group (University of Minnesota), analyzed using prescribed methods, show the project area to have received a normal amount of precipitation. However, 5.95 inches of rain fell in the vicinity of the project area in the first 21 days of August 2014. Approximately 5.56 inches of rain fell on August 18, 2014, just three days prior to fieldwork. All vegetation was identifiable, including all dominant species. Two wetlands and one ditch was identified, delineated, and classified. See following sections for summary information.

Wetland Impacts

See Table 8 below for a summary of wetland impacts. Additional information is depicted in Figures 24 and 25 in Appendix A. Two of the three delineated wetlands (Wetlands #1 and #2 in Wisconsin) have measurable impacts pursuant to the Wisconsin's Administrative Code Natural Resources (NR) 103 and 299. An additional wetland in Minnesota, a roadside ditch (Ditch #1) is potentially considered a Water of the United States. This determination will be made by the U.S. Army Corps of Engineers within the permitting phase. Of these three wetlands, approximately 3.0 acres are of permanent wetland impacts are anticipated. In addition, approximately 3.5 acres of temporary wetland impacts are anticipated due to construction staging area. Total wetland impacts are anticipated to exceed five acres. Due to the multistate nature of the project, a Section 404 individual permit will be required regardless of total wetland impact average. Section 404 general permits carry no provisions for multistate work. Final wetland impacts will be determined during the permitting process.

Construction of the new river bridge and demolition of the old bridge are anticipated to have some construction-related temporary wetland impacts and permanent wetland fill impacts. Permanent wetland

impacts may result from construction of new piers, abutments, and approaches. Temporary wetland impacts may include temporary fill placed within wetlands in order to accommodate access by construction equipment or tree clearing.

Table 8: Wetland Impacts Summary

Wetland ID	Cowardin Type	C-39 Type	Wetland Type	Est. Perm. Impact (acs)	Est. Temp. Impact (acs)	Est. Total Wetland Size (acs)
1	PABG	4	Deep marsh	0	1.7	Contiguous w/ vast Miss. River floodplain
1	PF01C	7	Hardwood wetland	0	0.3	Contiguous w/ vast Miss. River floodplain
2	PEM1F	3	Shallow marsh	0.6	0.1	Contiguous w/ vast Miss. River floodplain
2	PEM1C	3	Shallow marsh	1.0	0.9	Contiguous w/ vast Miss. River floodplain
2	PF01/SS1C	7	Hardwood wetland/Shrub wetland	0.5	0.5	Contiguous w/ vast Miss. River floodplain
2	PABG	4	Deep marsh	0.02	0.02	Contiguous w/ vast Miss. River floodplain
2	PF01C	7	Hardwood wetland	0.5	0.02	Contiguous w/ vast Miss. River floodplain
Ditch 1	PEMA/PEMC	2	Fresh (wet) meadow	0.3	0	0.40 acres
Piers	N/A	N/A	N/A	0.05	0	N/A
Total Impact				3.0*	3.5*	

Notes: * = Individual permanent and temporary impacts do not equal "Total Impact" sum due to rounding

Based on the overlay of preliminary construction limits and delineated wetland boundaries, the following provides an estimate of potential wetland fill impacts associated with the bridge replacement and roadway approaches.

On the Minnesota side, a potential jurisdictional wetland area (Ditch #1) is located in a ditch that runs along the north side of US 61 below Barn Bluff. See Figure 24 in Appendix A for location information. The high end of the ditch is 59 feet above the normal pool elevation of the river and the low end is 37 feet above the normal pool elevation. Portions of the ditch are vegetated limestone. Other portions have accumulated some soil and have small patches of cattail growing in them. The ditch flows to a point just east of the bridge approach, at which point it drains into a culvert under US 61 where it joins an underground storm water tunnel that parallels the bridge before emptying into the river. Because the ditch was created in uplands to convey roadway drainage, it is outside of the scope of the Wetland Conservation Act and its conversion to an urban section will constitute a "No Loss" situation under the Wetland Conservation Act. This ditch may be considered jurisdictional per the U.S. Army Corps of

Engineers because of its intermittent hydrologic connection with the Mississippi River. If the ditch is determined to be a Water of the United States per the U.S. Army Corps of Engineers, it will be incorporated into the Section 404 permitting process. Permanent impacts to the potential jurisdictional wetland area of Ditch #1 is approximately 0.3 acres.

Total permanent wetland impacts in Wisconsin are mostly associated with the bridge approach and are estimated to be 2.6 acres to Floodplain Forest/Type 1L/PF01C/T3RW wetland. Wetlands #1 and #2, as shown on Figures 25, are frequently flooded by the Mississippi River. The dominant tree and sapling species is silver maple. A majority of the wetland impacts on the Wisconsin side are within a single wetland, identified as Wetland #2 within Figure 25 of Appendix A. These wetland impacts result from roadway embankment fill. Total temporary wetland impacts in Wisconsin are partly associated with anticipated temporary construction causeways described in Section IV.A.6.b (Project Description). The portion of the temporary construction causeways within Wetland #1 will result in approximately 2.0 acres of temporary wetland impact. Two temporary construction causeways would be built within the floodplain of the Wisconsin approach above the 10-year flood elevation. They would function as rock roads and extend from the proposed north abutment to Pier 3 and be approximately 20 feet wide and approximately 750 feet long. Other temporary wetland impacts in Wetland #2 would result from staging areas. See Figure 25 within Appendix A for additional information.

Sequencing: Avoidance Alternatives

No Build: The No Build Alternative would not impact wetlands; however, it does not address the project purpose and need.

Sequencing: Potential Bridge Alignment Alternatives

Early in the planning process several bridge crossing locations were evaluated with respect to potential environmental impacts. These included upstream relocations of the US 63 crossing at Bench Street and downtown alignments at Plum Street, Bush Street, and Broad Street.

Of the four bridge location alternatives that were evaluated, the Bench Street location had potential wetland impacts that were considerably larger than the other proposed bridge location alternatives. The remaining bridge location alternatives (e.g. Broad Street, Bush Street, and Plum Street) each had similar potential wetland impacts. The downtown bridge location alternatives each had potential wetland impacts greater than impacts associated with the preferred bridge location, just upstream from the existing US 63 bridge.

Given the ubiquity of wetlands in the Mississippi River floodplain, complete avoidance of wetland impacts is not feasible with any proposed bridge location alternative. However, the preferred new bridge location has the least potential for wetland impacts.

Sequencing: Bridge Type and Wetland Impacts

Several bridge types for the proposed location alternative were evaluated in the planning process with respect to potential environmental impacts. The three bridge types carried forward and evaluated were the tied arch, concrete segmental box girder, and steel box girder. The preferred bridge type is the steel box girder. For all proposed bridge types the footprint of each pier would be similar. However, the number of piers within wetlands or the designated 100-year floodplain would be six for the steel box girder and

concrete segmental girder design and five for the tied-arch design. Thus, as a result of the number of required piers for each type, the preferred steel box girder bridge type would have a negligibly higher wetland footprint impact than the tied-arch design. Each of the three primary bridge concepts would have one in-stream pier below the normal pool elevation of 666.64 feet (NAVD 1988).

Sequencing: Preferred Alternative Minimization

The project will attempt to minimize potential wetland footprint impacts through the use of several structural and non-structural BMPs. While bridge pier and abutment footprints are dictated by structural requirements, bridge approaches can, to some extent, be minimized through embankment slope steepening. Embankment slopes are also dictated by road design guidelines and safety considerations. For the purpose of estimating impacts in this EA, standard design features and preliminary construction limits were assumed. Possible minimization measures will be explored in final design and permitting.

Mitigation and Regulatory Context

Unavoidable wetland impacts resulting from bridge demolition and construction of the proposed river bridge, associated roadway approaches, construction staging activities, heavy equipment access, and tree clearing will be mitigated through the purchase of wetland mitigation credits (as in Minnesota) or debited from existing mitigation bank sites (as in Wisconsin) from an existing bank as near to the impacts as possible. Wetland acreage impacts resulting from fill, shading effects, changes in hydrology, and tree clearing will be mitigated at a maximum ratio of 2:1 (mitigated:impacted). It is assumed that the purchased mitigation credits would be of a wetland type and quality that would sufficiently compensate for wetland functional impacts. As noted above, wetland impacts mostly occur on the Wisconsin side of the Mississippi River. However, impacts to the ditch on the Minnesota side running along the north side of US 61 may also require mitigation. Appropriate wetland mitigation credits will be purchased or debited within appropriate bank service areas in Wisconsin and Minnesota. Wetland impacts in Wisconsin will be mitigated as described in the WDNR/WisDOT Wetland Mitigation Technical Guideline. It is anticipated that required mitigation credits on the Minnesota side would derive from the MnDOT Wetland Mitigation Bank located near Hokah, Minnesota. If necessary, it is anticipated a purchase of private mitigation credits from a variety of banks in Minnesota and Wisconsin could be utilized to satisfy wetland mitigation requirements. More details on wetland mitigation requirements will be known as the project proceeds into final design and wetland impacts can be more accurately quantified, and disclosed in required wetland permits.

The intent of the wetland mitigation plan will be to replace lost wetland functions and restore wetland area to fulfill the regulatory mitigation requirements. Replacement of lost wetlands will be in accordance with Section 404 of the Clean Water Act, Executive Order 11990: Protection of Wetlands, and all state wetland protection regulations (Minnesota Wetland Conservation Act, Wisconsin State Statutes and Administrative Code, etc.).

b.iv.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 of type of watercraft on any water body, including current and projected watercraft usage.

No substantial water body impacts are anticipated as a result of the project. Other than piers in the Mississippi River, described in Section IV.A.6.b (Project Description), there are no other anticipated permanent physical alterations to surface water features such as lakes, streams, and ponds. The temporary construction causeways will temporarily impact river backwaters surfaces in Wisconsin.

For in-stream pier work, the proper installation of silt curtains can potentially control sediment plumes. Curtailing in-stream work when river flow velocities exceed a pre-defined threshold can minimize the extent of silt plumes. For pier work within wetlands and floodplains, measures to rapidly stabilize disturbed soils can minimize the potential for sediment-related water quality impacts to the Mississippi River. Temporary sedimentation basins can be used during construction to settle runoff before entering receiving water bodies. BMPs will be coordinated with MnDNR and WDNR, as appropriate, during final design to determine the best methods for minimizing the project's effects on water quality.

Work in the Mississippi River below the ordinary high water mark will comply with all stormwater permits and WDNR and MnDNR water permits by providing appropriate sediment control BMPs and perimeter control methods.

The project will not change the number or type of watercraft on any waterbody. See Section IV.A.6.b (Project Description) and Section IV.A.20 (Other Potential Environmental Effects) for information on temporary construction impacts to the Mississippi River navigation channel.

12. Contamination/Hazardous Materials/Waste

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.

Potential environmental hazards were reviewed both on existing bridge structures and within the surrounding project area. Summaries of these reviews are provided below. The complete Limited Phase I Environmental Site Assessment is available upon request from the MnDOT Project Manager.

Existing Contamination or Potential Environmental Hazards on Existing Bridge Structures

On the existing river bridge there is potential for asbestos to exist, particularly on its underside. Approximately 7,000 linear feet of wiring and 10 junction boxes may contain asbestos. This wiring must be tested prior to being disturbed for the demolition of the structure. If found to contain asbestos, it must be removed by a licensed asbestos-abatement control from OES's list of Certified Contractors. Any Transite pipe found along guardrail must be handled in the same manner.

The existing river bridge also contains lead materials that must be handled per rules and regulations. 45 lead sheets are located under the spans and 436 lead sheets are located under the guardrail posts. These materials must be separated out and taken to a lead smelter or other recycling facility for proper handling. Documentation is required showing the recycler received the material.

In addition, 20 square feet of lead paint was found on the angles and seams of the trusses. The peeling lead paint must be encapsulated by contractors with an elastomer product that meets the U.S. Environmental Protection Agency's definition as "barrier coating."

Additionally, there are approximately 121 creosote-treated timbers on the guardrail leading to the existing river bridge. Treated wood must be disposed of at an MPCA-approved sanitary or industrial waste landfill. Documentation of proper wood disposal must be kept on file.

On the existing US 61 overpass, there is potential for asbestos to exist, particularly on its underside. Approximately 500 linear feet of wiring and 3 junction boxes may contain asbestos. This wiring must be tested prior to being disturbed for the demolition of the structure. If found to contain asbestos, it must be removed by a licensed asbestos-abatement control from OES's list of Certified Contractors. Any Transite pipe found along guardrail must be handled in the same manner.

The existing US 61 overpass also contains lead materials that must be handled per rules and regulations. 96 lead sheets are located under the spans and 86 lead sheets are located under the guardrail posts. These materials must be separated out taken to a lead smelter or other recycling facility for proper handling. Documentation is required showing the recycler received the material.

Existing Contamination or Potential Environmental Hazards within Surrounding Project Area

As part of the Limited Phase I Environmental Site Assessment, 32 sites of potential concern were identified in the project vicinity and ranked into three risk categories based on the potential for contamination from site/use activities, without regard to proposed construction activities. Additional site assessment for specific locations will be conducted, as necessary, when site access becomes available in final design stages. Seven of these 32 sites are existing contamination or potential environmental hazards within preliminary construction limits of the project. Resources used to identify the sites include the Environmental FirstSearch™ database, the MPCA's "What's In My Neighborhood" web application⁸, the WDNR's Remediation and Redevelopment Program "RR Sites Map" web site⁹, MPCA files, city records, and well records. Information on these 32 sites can be found in Table 9 below.

⁸ Source: <http://pca-gis02.pca.state.mn.us/wimn2/index.html>

⁹ Source: <http://dnr.wi.gov/topic/Brownfields/rasm.html>

Table 9: Environmental Sites of Concern Summary

Site ID	Site Name	Site Address	Site Description	Ranking
▲ 1	Former Red Wing Gas Manufacturing	Bluff St and E 4th St	VCP, NFRAP, Fed Brownfield	High
2	AC DC Industrial Inc	412 Potter St	Former Filling Station	Medium
▲ 3	Archer Daniels Midland (ADM)	118 Main St	Large AST Facility, LUST, Spills	High
4	Behrens Supply Co.	211 Main St	RCRAGN	Low
5	Busy B Cleaners	425 Plum St	Dry Cleaners	Medium
6	Gementz Auto Service	328 Bush	UST, Auto Repair	Medium
7	Colvill Family Center	269 East 5th St	RCRAGN	Low
8	Kask Electric Co.	436 West 3rd St	Former Auto Garage	Medium
9	Nelson Printing Co.	313 West 5th St	RCRAGN	Low
10	Noesen George, Dr.	210 Bush Ste 301 St	RCRAGN	Low
12	Red Wing Fire Station	420 Plum St	Closed LUST	Medium
13	Red Wing Publishing Co.	433 West 3rd St	RCRAGN	Low
■ 14	Red Wing Shoe Co	129 Main St	RCRAGN	Low
15	The Sherwin Williams Co.	305 Bush St	RCRAGN	Low
16	Valliant, Dennis DDS	316 Bush St	RCRAGN	Low
■ 18	WTD Environmental Drilling	East 3rd and Bluff St	Closed Spill Site	Low
19	WWTP - Creosote	230 Levee St	Open Spill Site	Medium
● 20	F and D Supply Co Inc	4th and Bluff St	Removed UST	Medium
21	Abandoned UST	213 East Ave	Open LUST, UST	High
22	Johnson Tire	420 Main St	UST/AST	Medium
24	Red Wing City Hall	315 West 4th St	Removed UST	Medium
● 25	Former Red Wing Manufacturing	109 Main St	Closed in Place USTs	Medium
26	Red Wing YMCA	Main and Broad St	Closed LUST	Medium
29	Riester Refridgeration	503 Bush St	Closed LUST	Medium
30	Siewert Construction	419 Plum St	Closed LUST	Medium
31	Red Wing Blocks 23 and 24	Plum St and 4th St	VCP, Closed LUST	High
73	Former Red Wing Iron Works	406 Main St	Industrial Land Use	Medium
74	Taco Johns	604 Main St	Former Filling Station	Medium
75	American Thermal Imaging	301 Plum St	Former Filling Station	Medium
76	Former Standard Oil Company	404 Bush St	Former Filling Station	Medium
77	Econofoods Parking Lot	609 Main St	Former Auto Garage	Medium
▲ 78	North Bridge Approach Area	NA	Suspect Dumping	High

Notes: Triangle = High risk site located within potential construction area; Circle = Medium risk sites located within potential construction area; Square = Low risk site located within potential construction area

Five high risk sites were identified within the project area, three of which (sites 1, 3, and 78 within Table 9) are located within preliminary construction limits. High risk sites are summarized below and depicted in Figure 26 of Appendix A.

Site 78: North Bridge Approach – During construction within the river bottom area adjacent to the north approach of the Hastings Bridge Project, dump debris was discovered requiring management as solid waste. The north approach of the river bridge presents the same physiographic and demographic scenario: a largely undeveloped river bottom area located directly across the river from an urban center. Based on the minor solid waste observed during site reconnaissance, the potential for solid waste and potential regulated waste within the north approach area of the river bridge is considered high.

Site 3: Archer Daniels Midland – ADM and its predecessors feature prominently in the history of industrial land use adjacent to the river bridge. Continuous industrial agribusiness on the ADM property predates construction of the original High Bridge in 1895. A laundry and dry cleaning facility formerly operated adjacent to the river bridge, at the approximate site of ADM’s existing AST area. Active railroad tracks

(Canadian Pacific Railway) are also located along the southern bank of the Mississippi River through the project area. The rail line serves the ADM facility.

Site 1: Former Red Wing Gas Manufacturing Plant (GMP) – The former Red Wing (GMP) operated within the project area southeast of the US 61 overpass for approximately 77 years. The contaminant legacy of MGP processes was substantial in soil and groundwater both on and off the property. Although the site was remediated as a federal brownfield under the direction of the EPA and closed with No Further Remedial Action Plan (NFRAP), residual soil contamination may be encountered during construction adjacent to buried facilities and within nearby buried utility corridors. During implementation of remedial actions, tarry materials removed from the site were disposed as hazardous waste.

Eighteen medium risk sites were identified within the project area, two of which (sites 20 and 25 within Table 9) are located within potential construction areas. Medium risk sites are summarized below and depicted in Figure 27 of Appendix A. These sites consist primarily of petroleum related properties including closed LUST sites, UST/AST sites, and former filling station properties. One dry cleaning facility and an historical railroad site present a medium risk for CERCLA-regulated substances (i.e., non-petroleum products) to impact construction.

Nine low risk sites were identified within the project area, two of which (sites 14 and 18 within Table 9) are located within potential construction areas. A depiction of low risk sites can be found in Figure 28 Appendix A.

Measures to Avoid, Minimize, or Mitigate Adverse Effects

Further evaluation of properties identified within the preliminary construction limits of the project is in the process of being completed, to inform the final design for the identified Preferred Alternative and right-of-way acquisition. The results of this investigation would be used to determine whether the impacted property can be designed around or whether the construction activities on these properties can be minimized. Findings of any necessary further evaluation, like a Phase II Environmental Site Assessment, could result in the need to prepare a response action plan or to include special provisions in construction specifications for properly handling contaminated materials during construction. Any soil and groundwater handling activities would be coordinated with appropriate local, state, and federal regulatory agencies.

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

Other than demolition debris resulting from the two bridge structures and their approaches, there would not be substantial generation of solid waste from project construction. Most of the bridge/approach structural components (steel, concrete, etc.) can be recycled, substantially reducing the amount of material that would need to go to a landfill.

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

The proposed project involves limited use of contaminants, primarily for refueling. Therefore, there is limited potential for soil contamination from project construction. Appropriate safety measures will be followed during construction to avoid spills. Leaks, spills, or other releases will be responded to in accordance with MPCA and/or WDNR spill, containment and remedial action procedures.

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 or hazardous waste including source reduction and recycling.

Any regulated wastes encountered during the project's construction phase will be handled and disposed of according to applicable state, federal, and MnDOT policies and regulations. As discussed in Section IV.A.12.a above, bridge demolition and other removals will require the removal and disposal of asbestos-containing waste, lead, treated wood, or other hazardous materials. These will be handled in accordance with MnDOT and/or WisDOT guidelines.

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

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

Aquatic Species

The project area lies within Pool #4 of the Mississippi River between Lock and Dam #3 near Hager City, Wisconsin and Lock and Dam #4 at Alma, Wisconsin.

A SCUBA-based mussel survey was completed within the project area by MnDNR staff during the week of August 5, 2013. A total of 18 live mussel species and 12 additional dead mussel species were identified in the survey. A total of 162 live specimens were recovered and identified. See Appendix A Figure 29 for location information of the identified live listed mussel species. Information about identified state-listed threatened or endangered species in the survey is discussed later within this section. See Section IV.B.13 (Additional Federal Issues) for information regarding federal threatened and endangered species documentation.

Generally, the mussel survey revealed that mussels were most abundant in relatively shallow waters upstream, under and downstream of the existing bridge on the Minnesota and Wisconsin side of the bridge. Habitat is not suitable for mussels in deeper portions of the Mississippi River.

Approximately 66 species of fish have been documented from Pool #4 based on annual sampling since 1993.

Wildlife

Birds

Over 300 species of birds migrate along the Mississippi River Flyway annually through the project area. Intact and diverse habitats within the Mississippi River Flyway provide important feeding and nesting habitat for neotropical migratory songbirds, raptors and waterfowl. As noted in the Part a Vegetation section below, only the Mississippi River bottomlands and backwaters on the Wisconsin side of the river contain relatively undisturbed habitat.

Mammals

The urbanized landscape of much of the project area is attractive to habitat generalists such as white-tailed deer, raccoon, red fox, gray fox, coyote, gray squirrel and opossum. Aquatic habitat associated with the Mississippi River is attractive to beaver, otter, and muskrat.

A bat population could potentially exist near the existing river bridge (see WDNR correspondence in Exhibit 1 of Appendix C). WDNR noted the existing bridge structure will need to be inspected and surveyed for bats and bat roosting habitat. If the survey identifies a roosting bat population on the bridge, MnDOT will work with WDNR (and other agencies, if applicable) to ensure that appropriate measures are taken to minimize impacts to any roosting population.

Vegetation

Specific Habitats within the US 63 Bridge Project Area

Generally, habitats on the Minnesota side of the river bridge are highly urbanized and include city streets, infrastructure, residences and manicured lawns. Areas adjacent to the Mississippi River are occupied by railroad tracks and steeply sloped rip-rap and concrete rubble. Some disturbed shrubland is present under the existing river bridge upslope from the railroad tracks. Disturbed urban plant communities are present on the Minnesota side of the Mississippi River and are attractive to common habitat generalist animal species.

Habitats on the Wisconsin side of the existing river bridge include developed land built on fill such as the campground and marina and the elevated US 63 and associated embankment. Floodplain forest (Type 1L) wetland and fresh (wet) meadow (Type 2 wetland) are abundant in backwater areas of the Mississippi River that are not developed. The mosaic of natural habitats in the Mississippi River bottoms (Type 1L and Type 2 wetlands) provide important habitat for a wide variety of animals.

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-722) and/or correspondence number (ERDB 20100712) 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.

Potential State-Listed Species That May Be Present within the Project Area

Correspondence from the Minnesota and Wisconsin DNR agencies contains detailed information on listed species as documented in the Natural Heritage Information System (NHIS). Table 10 summarizes specific listed state-species identified in project documentation that have the potential to be in the project area. In addition to those species identified within Table 10 below, the WDNR notes the known occurrence of 13 state-listed fish species in the project area or its vicinity. The Minnesota DNR also notes the known occurrence of a state-listed endangered plant in the project area or its vicinity.

Table 10: Identified State-Listed Species Potentially within the Project Area

Classification	Scientific Name	Common Name	Listed Status		State Rank	Global Rank
			Minnesota	Wisconsin		
Birds	<i>Falco peregrinus</i>	Peregrine falcon	SPC	END	S3B	G4
Mussel	<i>Arcidens confragosus</i>	Rock pocketbook	END	THR	S1	G4
Mussel	<i>Quadrula nodulata</i>	Wartyback	THR	THR	S2	G4
Mussel	<i>Quadrula</i>	Mapleleaf	N/A	SPC	S3	G5

Notes: END = Endangered; THR = Threatened; SPC = Special concern; State and Global Ranks utilize NatureServe/Natural Heritage Program system

See Section IV.B.13 (Additional Federal Issues) for information regarding federal threatened and endangered species documentation.

Wildlife

Peregrine falcon: The peregrine falcon is a state-listed threatened species in Minnesota that has been documented in the vicinity of the existing US 63 river bridge during the breeding season and have nested on a grain elevator in Red Wing (see MnDNR correspondence, Exhibit 2 in Appendix C). Typically the nesting season is roughly from May to July. Prior to bridge demolition, the bridge will be inspected for falcon nests. If the survey identifies falcon nesting on the bridge, MnDOT will work with the Minnesota and Wisconsin DNR agencies to identify measures to avoid falcon nesting impacts. See Part d in this section for a discussion of peregrine falcon identification and mitigation measures.

Aquatic Species

As noted in the response to Section IV.A.13.a a SCUBA-based mussel survey was completed by the MnDNR within the project area in the week of August 5, 2013. Of the live mussel species identified in the project area, two species are state-listed in Minnesota and Wisconsin; *Arcidens confragosus* (rock pocketbook) – Minnesota Endangered (Wisconsin Threatened) and *Quadrula nodulata* (wartyback) – Minnesota Threatened (Wisconsin Threatened).

Generally, the mussel survey revealed that mussels were most abundant in relatively shallow waters upstream, under and downstream of the existing bridge on the Minnesota and Wisconsin side of the bridge. Habitat is not suitable for mussels in deeper portions of the Mississippi River. Additional information about the two identified and listed live mussel species is described below.

Rock pocketbook: The rock pocketbook mussel favors a slow current and substrates that vary from silt to sand. Measures to minimize impacts to the rock pocketbook include an effort to relocate individuals to suitable habitat away from where construction may have footprint impacts or water quality impacts.

Wartyback: The wartyback mussel prefers a slow to moderate current with fine or coarse substrates. Measures to minimize impacts to the rock pocketbook include an effort to relocate individuals to suitable habitat away from where construction may have footprint impacts or water quality impacts.

A WDNR review of the NHIS also indicated the presence of thirteen state-listed fish species that are threatened, endangered, or of special concern. Minimization strategies for protected fish species is provided in Part d below.

Vegetation/Sites of Outstanding Biodiversity Significance

Several outstanding remnants of plant communities such as Dry Bedrock Bluff Prairies and Sugar Maple – Basswood forest have been identified in various locations on Barn Bluff. These remnants plant communities provide a refuge for several listed plant species. Since project construction avoids impacts to Barn Bluff, there would not be any impacts to these communities.

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.

Invasive Species

The Mississippi River is designated as ‘infested’ with aquatic invasive species (zebra mussels – *Dreissena polymorpha* and Eurasian watermilfoil – *Myriophyllum spicatum*). MnDOT will incorporate into the project specifications all appropriate Wisconsin and Minnesota DNR rules for controlling the spread of invasive species.

Fish

In order to minimize the potential for impacts to fishery resources, MnDOT will continue to work with the Minnesota and Wisconsin DNRs to identify practices and/or work restrictions to minimize fishery impacts. Additional discussion is located in Part d below.

Wildlife

Birds

The Mississippi River Flyway is an important route for bird migration including waterfowl and neotropical migratory songbirds. Therefore, resource agencies and the National Audubon Society recommend consideration of migratory birds in bridge design, including use of lower profile bridge types (like the proposed steel box girder) and lighting design. See Appendix C Exhibit 2 for additional information.

Some types of bridge lighting elements appear to disorient migratory birds and disrupt feeding patterns. Several BMPs have been developed to minimize potential lighting impacts to migratory birds. The

proposed bridge is recommended to have LED lighting wired such that all non-essential lighting can be switched off during spring migration and the mayfly hatch, consistent with National Audubon Society recommendations. The City of Red Wing will maintain the capability to control non-essential lighting. In addition, the LED lighting will be white and recent studies have indicated white LED lighting does not tend to attract birds.

Vegetation

Approximately 0.3 acres of Fresh (Wet) Meadow (Ditch #1 on the Minnesota side of the Mississippi River) would be directly impacted through placement of fill on the Minnesota side and 2.6 acres of Floodplain Forest would be impacted through fill placement on the Wisconsin side. These are anticipated to be permanent wetland impacts.

Additional temporary construction-related impacts would occur as a result of staging areas, heavy equipment access, and tree clearing beneath the existing and proposed river bridge. Temporary wetland impacts are anticipated to be approximately 3.5 acres. Wetland tree clearing can lead to a temporary or permanent conversion of wetland type. Soils disturbed from earthmoving can provide conditions suitable for infestations of invasive plant species. Temporary fill needed for heavy equipment access for bridge construction would be removed to original grade and re-planted with appropriate plant species soon after construction is complete.

See Section IV.A.11.b.iv.a (Water Resources – Wetlands) for additional information.

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

Fish

Demolition and construction associated with bridge replacement projects often conflicts with fish spawning dates. In order to avoid/minimize impacts to fish spawning, MnDOT will work with Wisconsin and Minnesota DNR staff to identify practices and/or work exclusion dates to incorporate into the project specifications.

Construction techniques that can help to minimize water quality impacts and, therefore, minimize fishery impacts, include:

- Installation of silt curtains around coffer dams or in-stream piers modified appropriately for anticipated streamflow velocity
- Proper installation of silt fences at construction limits of bridge approaches can prevent silt from entering the Mississippi River during high water events.
- Avoiding the use of explosive practices during demolition of the existing river bridge

Wildlife

Part c above discusses bridge design elements that can minimize potential impacts to migratory birds, and how they have been incorporated into the project design.

The existing bridge will be inspected for evidence of past migratory bird nesting on the existing structure. Under the U.S. Migratory Bird Treaty Act, destruction of swallows and other migratory birds or their nests is unlawful unless a permit has been obtained from the U.S. Fish and Wildlife Service. Therefore, if evidence of past nesting on the bridge structure is observed, the project would either utilize measures to prevent nesting (e.g., remove unoccupied nests during the non-nesting season and install barrier netting prior to May 1), or bridge removal would occur only between August 30 and May 1 (non-nesting season). If netting is used, it will be properly maintained and removed as soon as the nesting period is over. If these measures are not practicable, then the U.S. Fish and Wildlife Service will be contacted to apply for a depredation permit.

In addition, as noted in Part a above, the existing structure will need to be inspected and surveyed for bats and bat roosting habitat. Depending on the survey results, there may be a need for additional coordination with DNR staff to develop strategies to minimize potential nesting season impacts. See WDNR correspondence, Exhibit 1 in Appendix C, for additional information.

Vegetation

Minimizing the construction footprint to the extent practicable including construction staging areas and heavy equipment access routes will diminish potential impacts to plant communities in the project area. Rigorous weed control in construction areas will help to minimize the potential for infestations of invasive plant species. Post-construction re-grading and rapid establishment of appropriate native vegetation will minimize potential impacts. At areas adjacent to Public Waters, disturbed soils will be revegetated with native plant species suitable to the local habitat. In addition, weed-free mulch will be used.

Per the WDNR, if burning brush will occur as part of this project, the contractor will be informed that it is illegal to burn materials other than clean wood. In addition, a permit may be required to burn any material during the wildland fire season. Contractors would be required to follow MnDOT Standard Specification 2572.3.A.9, which says that wounding of trees during April, May, June, and July should be avoided to prevent the spread of oak wilt. If it is determined that work must take place near oak trees during those months, the resulting wounds will immediately be treated with a wound dressing material consisting of latex paint or shellac.

Invasive Species

Adequate precautions will be taken to prevent transporting or introducing invasive species and/or aquatic diseases via construction equipment as required by Wisconsin and Minnesota DNR regulations. For example, MnDNR BMPs include draining all water from equipment where water may be trapped and removing all visible aquatic remnants prior to transportation along roads into or out of any worksite, or between water bodies. On-site precautions also include removal of invasive species by handscraping or powerwashing all accessible areas and killing invasive species via hot water, air drying, freezing, or crushing.

Threatened and Endangered Species

As noted in Part b above, the existing river bridge will be inspected prior to demolition for falcon nests. If the bridge is determined to be actively used by peregrine falcons for nesting during the year of demolition, MnDOT will work with Minnesota and Wisconsin DNR agencies to identify measures to avoid nesting impacts.

The aforementioned mussel survey completed in August 2013 may need to be revised dependent on construction start date. The existing mussel survey expires in 2018. In addition, a revised mussel survey would also be required if potential areas of impact defined for the original survey change. MnDNR and WDNR are coordinating efforts to address mussel mitigation as appropriate.

See Section IV.B.13 (Additional Federal Issues) for information on determinations of effect for federal threatened and endangered species.

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 project has undergone extensive historic properties assessment and coordination to help make decisions that meet objectives outlined in the project's Purpose and Need identified in Section II. The project is being reviewed pursuant to Section 106 of the National Historic Preservation Act of 1966 and Section 4(f) of the Department of Transportation Act of 1966 (Section 4(f) may apply if a historic property is adversely affected by the project). A Section 106 Programmatic Agreement (PA) has been drafted and the final agreement will be included the Findings of Fact and Conclusions later in the environmental review documentation process. A draft PA is located within Appendix D Exhibit 10. The review includes findings related to archaeological, historic, and architecturally significant properties (i.e., properties listed or eligible for listing on the National Register of Historic Places (NRHP)). Preliminary findings are discussed in the sections that follow.

Technical studies that informed the identification of historic properties and/or evaluation of impacts included:

- *Red Wing Bridge and Route Improvement Project Phase I Architecture-History Investigation, US Hwy 63, Bridge 9040, Goodhue County, Minnesota and Pierce County, Wisconsin (SP 2515-21)*
- *Red Wing Bridge Project Phase II Architecture – History Investigation, US Hwy 63, Goodhue County, Minnesota and Pierce County, Wisconsin (SP 2515-21)*
- *Bridge 9103 Rehabilitation Study, Final Report, Red Wing, Minnesota TH 63 Red Wing Bridge Project, Phase I Archaeological Study, Goodhue County, MN and Pierce County, Wisc (SP 2515-21)*
- *Pre-Evaluation Study for the Archaeological Potential for the Trunk Highway 63 Red Wing Bridge Project, Goodhue County, Minnesota and Pierce County, Wisconsin*
- *Geomorphic Investigation of State Trunk Highway 63 Bridge over the Mississippi River, Red Wing, MN (SP 2515-21)*
- *Programmatic Section 4(f) Evaluation – US 63 River Bridge and Approach Roadways Project*

Appendix D includes correspondence related to historic and cultural resources.

Archaeology

Archaeological investigations performed for the project to date include a pre-evaluation archaeology study (Terrell and Vermeer, 2012) that identified portions of the project area of potential effect (APE)

having the potential to contain intact archaeological resources; a geomorphological investigation in conjunction with the pre-evaluation archaeology study to assess the potential for deeply buried archaeological resources within the APE (Foth Infrastructure and Environment, 2011); and Phase 1 archaeological investigations (Terrell and Vermeer, 2015) which included geomorphological deep site testing. However, not all of the archaeological resources within the APE could be assessed due to lack of landowner permission and physical constraints. Archaeological survey of some of the areas will not be possible until the properties can be acquired, so assessment of potential project impacts to archaeological resources cannot be completed until the investigations are complete. Therefore, MnDOT proposed and the SHPOs concurred that the archaeological assessment and determinations will be addressed through a process defined in a PA among the agencies (FHWA, MnDOT, WisDOT, MnSHPO and WisSHPO) for this project. A draft PA is included in Appendix D Exhibit 10.

Historic Properties

The information below focuses on two primary historic property considerations that helped direct the alternatives decision-making process. A complete list of these properties and districts are identified within the *Red Wing Bridge Project Phase II Architecture-History Investigation* document's "Summary of Findings" chapter. See Figure 30 in Appendix A for a map of identified historic properties (i.e., listed or eligible for listing on the National Register of Historic Places) within the greater project APE.

In addition to the two historic properties – Bridge 9103 (the US 61 overpass) and the downtown Red Wing Historic Districts – discussed in detail below, there are other properties listed or eligible for listing on the NRHP within the project APE (see Figure 30 in Appendix A). These properties include:

- Barn Bluff: Listed on the NRHP; this property will not be impacted by the proposed project. Avoiding impacts to this property was a key consideration in the development of project alternatives, as discussed in Section III (Alternatives).
- Red Wing Shoe Company property: Eligible for listing on the NRHP; the project is located adjacent to the property but will not acquire this property.
- CMSTPP Railroad Corridor Historic District: Eligible for listing on the NRHP; the project will span over this corridor.
- Mississippi River 9-Foot Channel: Eligible for listing on the NRHP; the project will span over this resource.

Because some of these properties are located adjacent to the project, the potential for project impacts will continue to be considered as project plans are developed/refined, consistent with the terms of the PA described above. A draft PA is included within Appendix D Exhibit 10.

It should be noted that the existing river bridge over the Mississippi River was determined to not be a historic resource, based on a review/evaluation of 1955-1970 bridges for MnDOT completed in 2011. The evaluation concluded:

The bridge does not have a direct and significant association with an important historic transportation system, program, or policy identified through contextual research, nor does it illustrate the evolution of a bridge type or represent an important variation in the design,

fabrication, and construction of a bridge type. Additionally, it is not a distinguishable representation of a master's work and does not possess high artistic value as identified through contextual research. Therefore, this bridge is recommended not eligible for the National Register under Criterion A and C.

While the bridge provides an important connection between Red Wing and Wisconsin, the existing river bridge was not the original bridge at the crossing, but is a replacement bridge that maintained the crossing rather than creating it.

From the State of Wisconsin perspective, the existing river bridge is also ineligible for the National Register. This was most recently reviewed in August 2011 when the Wisconsin State Historic Preservation Office and the Wisconsin Department of Transportation concurred that the bridge does not meet National Register eligibility criteria. The bridge does not have historical significance and is not considered a contributing resource. Therefore, it is not subject to federal Section 106 regulations.

The sections below focus on two primary historic resource considerations that influenced the alternatives development and decision-making process.

Historic Properties: Bridge 9103

The existing US 61 overpass, Bridge 9103, carries US 63 over US 61 as part of the Minnesota approach to the existing river crossing.

The existing US 61 overpass, including related approach features, has a State level of significance. It has a period of significance of one year, 1960. It is eligible for the National Register under Criterion C (design and construction) in the area of Engineering. Character-defining features include a continuous and horizontally curved concrete slab structure, the only curved continuous concrete slab bridge in the state from the subject period of 1955-1970. The horizontal curve of 14 degrees is the greatest degree of curve for any extant bridge in Minnesota from the period of 1955-1970. The bridge is exceptionally long when compared to other similar structures and demonstrates the complex design issues the engineers faced to meet the site challenges and road requirements for a bridge at this location. The bridge does not exhibit physical alterations and it retains its history integrity of location, design, materials, workmanship, setting, feeling and association.

The bridge's approach roadway qualities are also considered character-defining features. The 220 feet long southern approach was comprehensively designed and built with the bridge. The approach roadway's smooth vertical retaining walls with curved coping and ornamental railing are contributing resources. Because the existing US 61 overpass has a State level of significance and is determined to be eligible for listing within the NRHP, further analysis was undertaken to assess a range of alternatives for the Minnesota approach of the proposed new river bridge. Per Section 4(f) legislation, the FHWA may not approve the use of land from a significant publicly owned park, recreation area, or wildlife and waterfowl refuge, or any significant historic site unless a determination is made that there is no feasible and prudent alternative to the use of land from the property and the action includes all possible planning minimize harm to the property resulting from such use.¹⁰ The proposed action of removing the US 61 overpass and replacing it with a buttonhook signalized intersection and slip ramp would result in an "adverse effect" under Section 106 (see the determination letter dated February 23, 2015 in Appendix D) and, therefore,

¹⁰ Source: 23 CFR 774.3

a Section 4(f) “use.” The Programmatic Section 4(f) Evaluation, located in Appendix F, determined there is no feasible and prudent alternative to the use (i.e., the removal) of the US 61 overpass (Bridge 9103) and its approaches. See the Programmatic Section 4(f) Evaluation for a more detailed discussion of Section 4(f) process decision-making and findings.

Although the Minnesota approach of the MN-3 Preferred Alternative results in an adverse effect to Bridge 9103 under Section 106 and results in a Section 4(f) use, the parties with jurisdiction over this resource have agreed that adequate measures were taken to minimize harm to the resources (to the extent possible), and that the mitigation measures are acceptable compensation for impacts. See the SHPO letter of concurrence in Appendix D Exhibit 4 for additional information.

Mitigation measures for impacting the existing US 61 overpass will be documented in a PA among the SHPOs, FHWA, WisDOT, and MnDOT (see the draft PA in Appendix D Exhibit 10).

Historic Properties: Downtown Red Wing

An architecture-history investigation was performed within a 490 acre Modified Environmental Site Assessment Investigation Area (MESAIA). The MESAIA formed an intensive-level survey area that inventoried all properties except those built after 1970. Within a larger Visual APE that surrounds the MESAIA, only those properties that were listed on, or potentially eligible for, the National Register and were geographically situated such they might experience substantial visual effects from the undertaking were inventoried. All but two of the 291 inventoried properties are located entirely within the City of Red Wing. Of these 289 properties, many are located within downtown Red Wing.

The City of Red Wing maintains four local historic districts. These are the Downtown District, the Historic Mall District, the Historic West Residential District, and the St. James District. There are three historic districts listed within the NHRP. These are the Red Wing Mall District, the Red Wing Residential Historic District, and the St. James Hotel Complex. These three NRHP-listed historic districts have boundaries similar but not identical to three of the local historic districts. See Figure 30 within Appendix A for the locations of these Districts. The fourth local district, the Downtown Historic District, has boundaries similar but not identical to the National Register eligible Red Wing Commercial Historic District (see Figure 30 in Appendix A) whose boundaries were established, as were the contributing and non-contributing status of each resource, during the Phase II historic structures investigation for this undertaking. The MnSHPO has concurred with the determination that the Red Wing Commercial Historic District is eligible for the NRHP; therefore, this District is considered to be a historic resource, subject to Section 106 regulations.

The Red Wing Commercial Historic District has a state level of significance and is also important locally. The district’s period of significance is 1858-1945, a span of about 87 years. Architecturally the district includes excellent examples of historic architectural styles and construction techniques.

The Red Wing Commercial Historic District has particular significance because it is a district, or a collection of resources, rather than a single structure. National Register historic commercial districts are rarer than individual historic commercial buildings and, because of the depth and breadth of their historic fabric, can provide particularly strong connections with our past. This complex historic fabric helps a historic district convey appearance, associations, and significance in a way that an individual building often cannot.

The Red Wing Commercial Historic District is an exceptionally rich cultural resource. The collection of buildings, encompassing six square blocks, were mostly built between the 1850s and 1930s and illustrate

the work of local architects and contractors who used local sawmills, stone quarries, brickyards, terra cotta factories, and metal foundries in construction. Many buildings have been skillfully rehabilitated so the storefronts once again display recessed entrances, cast iron lintels, large display windows, transom lights, and paneled bulkheads. The District is unique in the state for its very early resources, including two of Minnesota's oldest commercial buildings built in 1858 and 1859. In addition, very few secondary buildings and utility structures such as fences, walls, steps, and street furnishings are located in the area, enhancing the quality of the District. Collectively, the resources create one of the most well-preserved historic central business districts in Minnesota. Public involvement and agency coordination throughout the project development process emphasized the need to preserve the character of this Historic District. Project components, like the recommended Minnesota approach alternative, were driven in part by the need to preserve the Historic District's character for motorized and non-motorized users of the area.

As described in the Programmatic Section 4(f) Evaluation (see Appendix F) and in Table 2 within Section III.A.2 (Alternatives Analysis), two of the Minnesota Approach Build alternatives considered – Alternatives MN-1A and MN-2A – were dismissed from further consideration because they would have resulted in Section 106 “adverse effects” to the Red Wing Commercial Historic District.

Preferred Alternative MN-3 (the buttonhook intersection with slip ramp) would not physically impact any of the downtown Red Wing Historic Districts. However, due to the proximity of the project to these Districts and their contributing resources, the potential for project impacts will continue to be considered as project plans are developed/refined, consistent with the terms of the PA described above.

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 impacts.

The project area spans across the Mississippi River and weaves through a range of sensitive natural and historic built environments between Red Wing, Minnesota and Wisconsin. There are dozens of scenic views and vistas both looking toward and away from the project area. The context surrounding the project ranges from the very natural, wooded floodplains and backwaters at the Wisconsin approach, to the scenic Mississippi River, the steeply sloped Barn Bluff, and historic downtown Red Wing and residential neighborhoods at the Minnesota approach. Due to the presence of these scenic features within and adjacent to the project area, a Visual Quality Advisory Committee (VQAC) was established for this project to provide input regarding the visual resources, potential impacts, and to recommend project features to address visual concerns. The Committee's assessment of potential impacts is the basis for the discussion that follows.

A “Context Settings Map” was developed by project staff and the VQAC to analyze the existing context of the project and identify vantage points outside of the immediately adjacent context settings. Figures 31A, 31B, and 31C in Appendix A contain the context settings map and photos of context settings. Figures 32A and 32B in Appendix A contain various draft renderings of the proposed project components (river bridge, Wisconsin approach, and Minnesota approach).

Visual Effects: River Bridge

The proposed river crossing bridge replaces an existing bridge and therefore the project does not introduce a new river crossing where none existed. The bridge type over the Mississippi River will change

from the existing truss bridge (structural support is visible above the roadway) to a new steel box girder bridge (structural support beams are all below the roadway) located immediately upstream from the existing bridge. The new bridge roadway surface would be approximately 9 feet higher than the existing bridge roadway surface to accommodate the additional thickness required to support it from below while also maintaining vertical clearance over the Mississippi River required by the U.S. Coast Guard. However, without a truss overhead, the new bridge will be at least 20 feet lower than the peak of the existing truss, with the exception of proposed vertical spires recommended by the visual quality committee that would reach approximately the same maximum height as the existing truss. The new bridge will include the addition of bike and pedestrian facilities and will be wider than the existing bridge. The existing bridge will be removed after the new bridge is constructed, although a potential future parallel bridge may be built in that vacated location.

The lighting concept for the bridge includes careful consideration of cultural and natural resources surrounding the project area, and strives to avoid light pollution and context-degrading elements. The fixtures will be lower and more frequent than typical highway lighting in order to provide a more comfortable, pedestrian-friendly lighting environment. Bridge piers in the main river channel will be identified with red and green lights according to U.S. Coast Guard requirements. Additional aesthetic lighting has been recommended through the visual quality committee that includes: linear fixtures in the fascia to provide a soft light wash on the face of the steel box girders, additional illumination at overlooks, and illuminated writing within the spires. These and other aesthetic features identified by the committee are recommendations, rather than required project features (e.g., requirements under Section 106, Section 4(f), etc.), and these recommended features will be included only if adequate funding is available.

Visual Effects: Minnesota Approach

At the Minnesota approach, the roadways will be reconfigured into a buttonhook with slip ramp and a new US 63 intersection with US 61. Where the existing US 63 alignment curves into downtown today will become a slip ramp onto 3rd Street with a new Red Wing Shoe Company driveway access bridge. The proposed reconfiguration of the Minnesota approach will be noticeably different than the current configuration and will require the taking of several buildings, grade changes, and retaining walls.

There will be no glare from intense lights on the approach to the river bridge, or at the ramps/intersection for the US 58/61 intersection. There is the potential to introduce vehicle headlight glare from the new Minnesota Approach buttonhook ramp onto the Bluff Neighborhood residents. Densely planted landscape improvements of varying heights and species are recommended throughout the approach area to screen out potential sound, light, and visual impacts to surrounding areas. The VQAC has been involved in aesthetic considerations of the Minnesota approach throughout the project development process, including consideration of potential for visual impacts to historic properties under Section 106.

Aesthetic components will be integrated into the proposed Minnesota approach alternative to ensure Section 106 compliance with the adjacent and NRHP-eligible Red Wing Shoe Company building. Aesthetic design considerations of the Minnesota approach (e.g., retaining wall surface, landscaping, railing heights, etc.) will integrate recommendations of the VQAC to complement the simple and modern context of the Red Wing Shoe Company building. Design details of Section 106 compliance will be addressed as discussed within the Programmatic Agreement noted in Section IV.A.14 (Historic Properties). Final Minnesota approach design components related to Section 106 compliance will be implemented as address

Visual Effects: Wisconsin Approach

The Wisconsin approach will be realigned slightly and the intersection with 825th Street will be reconfigured into a jughandle design that will realign 825th Street and introduce an access road on the east side of US 63 where it currently does not exist today. This would not include any ramps or high structural elements that would be strong visual elements.

Visual Impacts During Construction

Visual impacts associated with construction would include the introduction of construction equipment and disruption of the landscape and waterway. These impacts would be noticeable to drivers traveling through the area; Riverfront visitors, businesses, and residents; and boaters and barge traffic on the river.

Role of the Visual Quality Advisory Committee

The proposed project will alter scenic views and vistas. A Visual Quality Management Process involving the VQAC documented, studied and recommended how best to avoid, minimize, and mitigate potential adverse effects to visual resources. The last scheduled meeting of the VQAC was held in April 2015. However, it is anticipated that ongoing design refinements occurring during final design may have visual quality impacts that could benefit from the review and feedback of the committee. All of the committee members have volunteered to reassemble as needed and offer additional feedback. A Visual Quality Manual that documents the Visual Quality Management Process through April 2015 was completed in spring of 2015 and will be posted to the project website.

16. Air

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

This project will not have stationary source air emissions concerns because all of the emission sources are mobile.

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

National Ambient Air Quality Standards (NAAQS) – Criteria Pollutants

Motorized vehicles affect air quality by emitting airborne pollutants. Changes in traffic volumes, travel patterns, and roadway locations affect air quality by changing the number of vehicles and the congestion levels in a given area. The air quality impacts from the project are 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 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 NEPA process. A qualitative evaluation of MSATs has been performed for this project as documented below. The scope and methods of the analysis performed were developed in collaboration with MnDOT and the MPCA.

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 cause people to be more susceptible to respiratory infection, resulting in lung inflammation, and aggravating respiratory diseases, such as asthma. Ozone is not emitted directly from vehicles but is formed when volatile organic compounds (VOCs) and nitrogen oxides (NOx) react in the presence of sunlight. Transportation sources emit NOx 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 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 *Air Quality in Minnesota: 2013 Report to the Legislature*¹¹ that:

All areas of Minnesota currently meet the federal ambient 8-hour standard for ozone but Minnesota is at risk for being out of compliance. In 2008, EPA tightened the federal eight-hour ambient air standard for ozone to 75 parts per billion (ppb). EPA plans to propose a revised ozone standard in September 2013, with a final standard planned for 2014. Preliminary documents indicate that EPA believes the scientific evidence on the health impacts of ozone shows that the current ambient standard is insufficient to protect public health. EPA's Clean Air Scientific Advisory Committee has recommended that a new ambient standard be set in the range of 60-70 ppb to ensure public health protection with an adequate margin of safety. In 2010, EPA proposed a revised ozone standard in the range of 60-70 ppb but withdrew the proposal in fall 2011. Many areas of Minnesota would not meet the revised standard if the EPA sets the standard at the lowest end of the advisory committee's recommended range.

The project is located in an area that has been designated as an unclassifiable/attainment area for ozone. This means that the project area has been identified as a geographic area that meets the national health-based standards for ozone levels, and therefore is exempt from performing further ozone analyses.

¹¹ Source: <http://www.pca.state.mn.us/index.php/view-document.html?gid=18909>

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. PM₁₀ 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 reentrained, 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 volatile organic compounds. 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, including¹²:

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

On December 14, 2012, the EPA issued a final rule revising the annual health NAAQS for fine particles (PM_{2.5}). The EPA website states¹³:

With regard to primary (health-based) standards for fine particles (generally referring to particles less than or equal to 2.5 micrometers (mm) in diameter, PM_{2.5}), the EPA is strengthening the annual PM_{2.5} standard by lowering the level to 12.0 micrograms per cubic meter (µg/m³). The existing annual standard, 15.0µg/m³, was set in 1997. The EPA is revising the annual PM_{2.5} standard to 12.0µg/m³ so as to provide increased protection against health effects associated with long- and short-term exposures (including premature mortality, increased hospital admissions and emergency department visits, and development of chronic respiratory disease), and to retain the 24-hour PM_{2.5} standard at a level of 35µg/m³ (the EPA issued the 24-hour standard in 2006). The EPA is revising the Air Quality Index (AQI) for PM_{2.5} to be consistent with the revised primary PM_{2.5} standards.

The EPA also retained the existing standards for coarse particle pollution (PM₁₀). The NAAQS 24-hour standard for PM₁₀ is 150 µg/m³ which is not to be exceeded more than once per year on average over three years.

The Clean Air Act conformity requirements include the assessment of localized air quality impacts of federally-funded or federally-approved transportation projects that are located within PM_{2.5}

¹² Source: <http://www.epa.gov/air/particlepollution/health.html>

¹³ Source: <http://www.epa.gov/pm/actions.html>

nonattainment and maintenance areas and deemed to be projects of air quality concern. The project is located in an area that has been designated as an unclassifiable/attainment area for PM. This means that the project area has been identified as a geographic area that meets the national health-based standards for PM levels, and therefore is exempt from performing PM analyses.

Nitrogen Dioxide (Nitrogen Oxides)

Nitrogen oxides, or NO_x, are the generic term for a group of highly reactive gases, all of which contain nitrogen and oxygen in varying amounts. Nitrogen oxides form 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 Air Quality in Minnesota: 2013 Report to the Legislature* indicates that:

On road gasoline vehicles and diesel vehicles account for 44% of NO_x emissions in Minnesota. In additions to being a precursor to ozone, NO_x can worsen respiratory irritation, and increase risk of premature death from heart or lung disease.

Nitrogen dioxide (NO₂), which is a form of nitrogen oxide (NO_x), is regularly monitored. Minnesota currently meets federal nitrogen dioxide standards, according to the *2013 Annual Air Monitoring Network Plan*¹⁴. A monitoring site meets the annual NAAQS for NO₂ if the annual average is less than or equal to 53 parts per billion (ppb). The 2011 Minnesota NO₂ monitoring site averages ranged from 5 ppb to 9 ppb; therefore, Minnesota currently meets the annual NAAQS for NO₂.¹⁵ The EPA's December 1999 regulatory announcement, EPA420-F-99-051¹⁵, 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 SUVs. 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 NO₂ standards will be approached or exceeded based on the relatively low ambient concentrations of NO₂ in Minnesota and on the long-term trend toward reduction of NO_x emissions. Because of these factors, a specific analysis of NO₂ was not conducted for this project.

Sulfur Dioxide

Sulfur dioxide (SO₂) 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.

¹⁴ Source: <http://www.pca.state.mn.us/index.php/view-document.html?gid=17855>

¹⁵ Source: <http://www.epa.gov/tier2/documents/f99051.pdf>

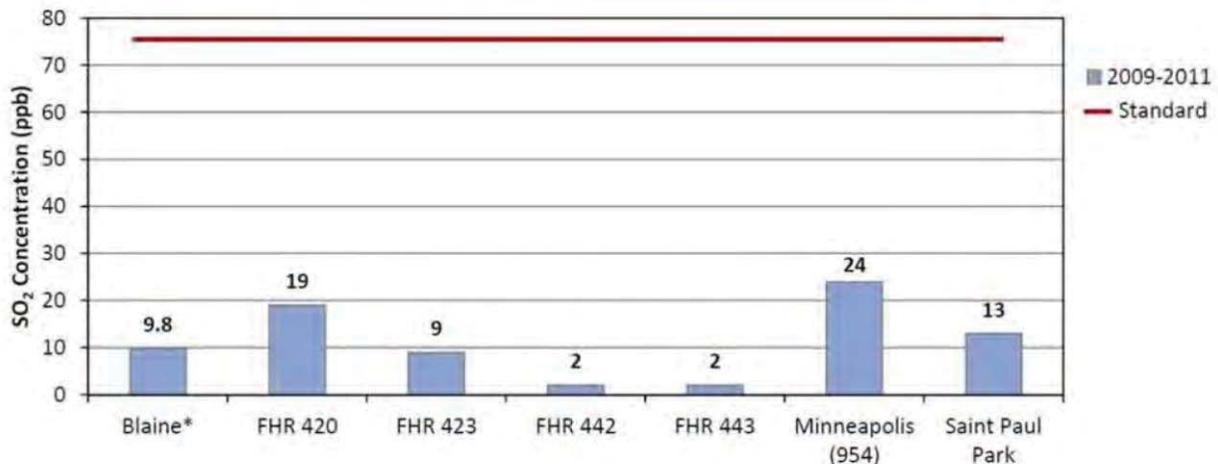
Elevated levels can impair breathing, lead to other respiratory symptoms, and at very high levels aggravate heart disease. People with asthma are most at risk when SO₂ levels increase. Once emitted into the atmosphere, SO₂ can be further oxidized to sulfuric acid, a component of acid rain. Emissions of sulfur oxides from transportation sources are a small component of overall emissions and continue to decline due to the desulphurization of fuels.

According to *Air Quality in Minnesota: 2013 Report to the Legislature*, MPCA monitoring shows ambient SO₂ concentrations at 32 percent of federal standards in 2011, in other words consistently below state and federal standards. MPCA also states that about 70 percent of SO₂ released into the air comes from electric power generation. Therefore a much smaller proportion is attributable to on-road mobile sources. The MPCA has concluded that long-term trends in both ambient air concentrations and total SO₂ emissions in Minnesota indicate steady improvement. In the *2013 Annual Air Monitoring Network Plan for Minnesota*, it states the following with regard to SO₂:

On June 2, 2010, the EPA finalized revisions to the primary SO₂ NAAQS. EPA established a new 1-hour standard which is met if the three-year average of the annual 99th percentile daily maximum 1-hour SO₂ concentration is less than 75 ppb. In addition to creating the new 1-hour standard, the EPA revoked the existing 24-hour and annual standards. Figure 24 [Figure 2 below] describes the 2009-2011 average 99th percentile 1-hour SO₂ concentration and compares them to the 1-hour standard. Minnesota averages ranged from 2 ppb at FHR 442 and FHR 443 to 24 ppb in Minneapolis (954); therefore, all Minnesota sites currently meet the 1-hour NAAQS for SO₂.

Because of these factors, an analysis for sulfur dioxide was not conducted for this project.

Figure 2: One-Hour SO₂ Concentrations Compared to the NAAQS



* The monitoring site did not meet the minimum completeness criteria for design value calculations. A site meets the completeness requirement if 75% of required sampling days are valid for each calendar quarter included in the design value calculation. SO₂ at Duluth was part of a one year assessment and not intended to collect 3 years of data for design value calculations.

Lead

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

Carbon Monoxide

This project is not located in an area where conformity requirements apply, and the scope of the project does not indicate that air quality impacts would be expected. Furthermore, the EPA has approved a screening method to determine which intersections need a carbon monoxide (CO) hotspot analysis. The results of the screening procedure demonstrate that traffic volumes are below the threshold of 79,400 ADT and do not require a detailed hotspot analysis. Therefore, no further air quality analysis is necessary.

Improvements in vehicle technology and in motor fuel regulations continue to result in reductions in vehicle emission rates. The EPA MOVES 2010b emissions model estimates that emission rates will continue to fall from existing rates through year 2030. Consequently, year 2030 vehicle-related CO concentrations in the study area are likely to be lower than existing concentrations even considering any increase in development-related and background traffic.

Mobile Source Air Toxics

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the EPA regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources¹⁶, and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS).¹⁷

In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National-Scale Air Toxics Assessment (NATA).¹⁸ These are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

Motor Vehicle Emissions Simulator (MOVES)

According to EPA, MOVES improves upon the previous MOBILE model in several key aspects: MOVES is based on a vast amount of in-use vehicle data collected and analyzed since the latest release of MOBILE, including millions of emissions measurements from light-duty vehicles. Analysis of this data enhanced EPA's understanding of how mobile sources contribute to emissions inventories and the relative effectiveness of various control strategies. In addition, MOVES accounts for the significant effects that vehicle speed and temperature have on PM emissions estimates, whereas MOBILE did not. MOVES2010b includes all air toxic pollutants in NATA that are emitted by mobile sources. EPA has incorporated more recent data into

¹⁶ Source: Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007; <http://www.gpo.gov/fdsys/pkg/FR-2007-02-26/pdf/E7-2667.pdf>

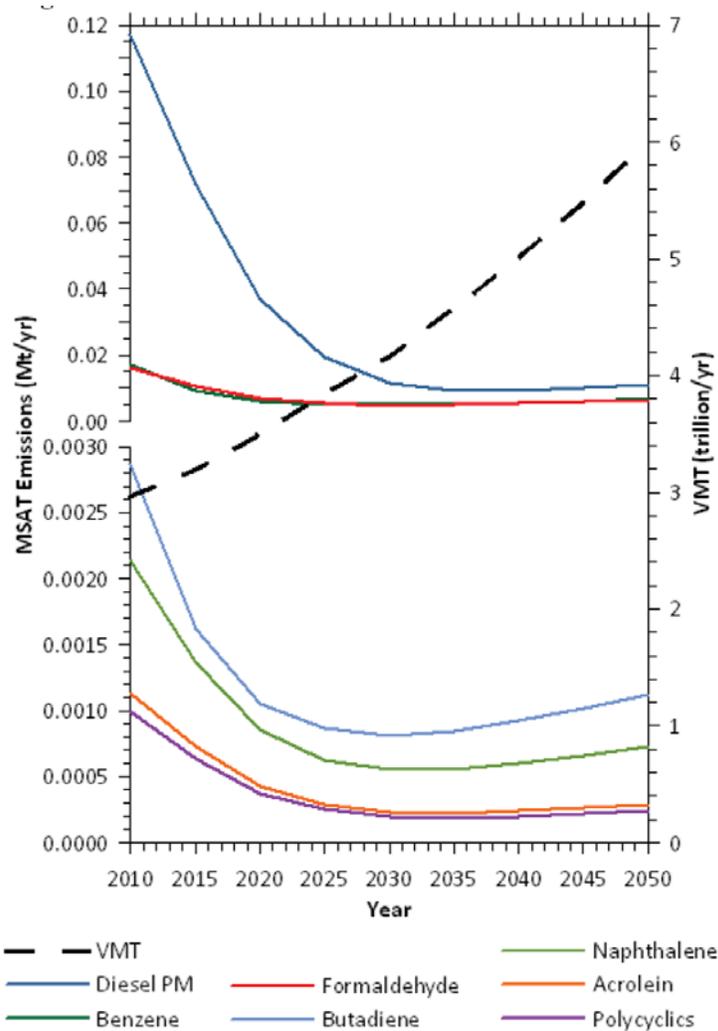
¹⁷ Source: <http://www.epa.gov/iris/>

¹⁸ Source: <http://www.epa.gov/ttn/atw/nata1999/>

MOVES2010b to update and enhance the quality of MSAT emission estimates. These data reflect advanced emission control technology and modern fuels, plus additional data for older technology vehicles.

Based on an FHWA analysis using EPA's MOVES2010b model, as shown in Figure 3 below, even if vehicle-miles travelled (VMT) increases by 102 percent as assumed from 2010 to 2050, a combined reduction of 83 percent in the total annual emissions for the priority MSAT is projected for the same time period.

Figure 3: National MSAT Emissions Trends 1999-2005 for Vehicles Operating on Roadways Using EPA's MOVES2010b Model



Source: EPA MOVES2010b model runs conducted during May - June 2012 by FHWA.
http://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/nmsatetrends.cfm

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.

The implications of MOVES on MSAT emissions estimates compared to MOBILE are: lower estimates of total MSAT emissions; significantly lower benzene emissions; significantly higher

diesel PM emissions, especially for lower speeds. Consequently, diesel PM is projected to be the dominant component of the emissions total.¹⁹

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 be raised on highway projects during the NEPA process. Even as the science emerges, we are duly expected by the public and other agencies to address MSAT impacts in our 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. The NEPA also requires Federal agencies to use an interdisciplinary approach in planning and decision-making for any action that adversely impacts the environment. The NEPA requires and FHWA is committed to the examination and avoidance of potential impacts to the natural and human environment when considering approval of proposed transportation projects. In addition to evaluating the potential environmental effects, we must also take into account the need for safe and efficient transportation in reaching a decision that is in the best overall public interest. The FHWA policies and procedures for implementing NEPA are contained in regulation at 23 CFR Part 771²⁰.

Incomplete or Unavailable Information for Project Specific MSAT Health Impacts Analysis

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in 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 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

¹⁹ Source: http://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/aqintguidmem.cfm

²⁰ Source: http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title23/23cfr771_main_02.tpl

posed by air pollutants. They maintain the IRIS, which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects."²¹ 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). Two HEI studies are summarized in Appendix D of FHWA's *Interim Guidance Update 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 concentrations²² 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 HEI²³. 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 and the HEI have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

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.

²¹ Source: EPA, <http://www.epa.gov/iris/>

²² Source: Health Effects Institute, *Mobile-Source Air Toxics: A Critical Review of the Literature on Exposure and Health Effects*, 2007; <http://pubs.healtheffects.org/view.php?id=282>.

²³ Source: Health Effects Institute, *Mobile-Source Air Toxics: A Critical Review of the Literature on Exposure and Health Effects*, 2007; <http://pubs.healtheffects.org/view.php?id=282>.

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.

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

For the Preferred Alternative, the amount of MSAT emitted would be proportional to the average daily traffic, or ADT, assuming that other variables such as fleet mix are the same. The ADT estimated for the Preferred Alternative does not differ from that for the No Build Alternative because the proposed project is intended to provide a structurally sound bridge crossing and provide acceptable mobility conditions, not to increase capacity. Since no change in ADT is expected through the project corridor, or along parallel routes, no changes in MSAT emissions are expected compared to the No Build Alternative. There is a potential for lower MSAT emission rates due to increased speeds and reduction in congestion/delays in downtown Red Wing; according to EPA's MOVES2010b model, emissions of all of the priority MSAT decrease as speed increases. 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 80 percent between 2010 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA- projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

The Minnesota approach to the proposed bridge will have the effect of moving some traffic closer to nearby residential development; therefore, under each alternative there may be localized areas where ambient concentrations of MSAT could be higher under the Preferred Alternative than the No Build Alternative. The localized increases in MSAT concentrations would likely occur within proximity of the Minnesota approach. 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, with the operational efficiencies and realignment of the Minnesota approach, the localized level of MSAT emissions for the Preferred 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). 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.

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

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

17. Noise

A summary of the traffic noise analysis report is included below. The complete *Traffic Noise Analysis Report* dated December 2014 is on Appendix B's supplemental CD.

a. 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.

Noise During Construction

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

Table 11 shows peak noise levels monitored at 50 feet from various types of construction equipment. This equipment is primarily associated with site grading/site preparation and project construction.

Table 11: Typical Construction Equipment Noise Levels at 50 feet²⁴

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

²⁴ Source: United States Environmental Protection Agency and Federal Highway Administration

Any associated high-impact equipment noise, such as pavement sawing, pile driving, or jack hammering, will be unavoidable with construction of the proposed project. High-impact noise construction activities will be limited in duration to the greatest extent possible.

Traffic Noise Analysis Requirement

This project is a federal Type 1 noise project requiring a traffic noise analysis. The *Traffic Noise Analysis Report* includes background information on noise, information regarding traffic noise regulations (i.e., federal and Minnesota traffic noise regulations, standards, and criteria), a discussion of the traffic noise analysis methodology, documentation of the traffic noise impacts associated with the proposed project, and an evaluation of noise abatement measures. Information is summarized below.

Federal and State Noise Regulations

The FHWA's traffic noise regulation is described in 23 CFR 772 of the Code of Federal Regulations²⁵. 23 CFR 772 requires the identification of highway traffic noise impacts and the evaluation of noise abatement measures, along with other considerations, in conjunction with the planning and design of a federal-aid highway project.

Under federal rules, traffic noise impacts are determined based on land use activities and predicted worst hourly L10 noise levels under future conditions. For example, for residential land uses (Activity Category B), the Federal Noise Abatement Criterion is 70 dBA (L10). Receptor locations where noise levels are "approaching" or exceeding the criterion level must be evaluated for noise abatement feasibility and reasonableness. See Table 12 below for federal noise abatement criteria details.

In Minnesota and Wisconsin, "approaching" is defined as 1 dBA or less below the Federal Noise Abatement Criteria. A noise impact is also defined as a "substantial increase" in the future modeled noise levels over the existing modeled noise levels. In Minnesota, a "substantial increase" is defined as an increase of 5 dBA or greater from existing to future conditions. In Wisconsin, a "substantial increase" is defined as an increase of 15 dBA from existing to future conditions.

In Minnesota, noise standards have been established for daytime and nighttime periods. The MPCA is the state agency responsible for enforcing state noise rules. The 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 for daytime and nighttime periods are based on land use activities such as residential uses, commercial uses, or industrial uses. See Table 13 below for Minnesota state noise standards. Minnesota state noise standards apply to the outdoor environment (i.e., exterior noise levels). Because state noise standards apply to trunk highway facilities, they apply to this project.

²⁵ Source: http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title23/23cfr772_main_02.tpl

Table 12: Federal noise abatement criteria

Activity Category	Activity Criteria ⁽¹⁾⁽²⁾		Evaluation Location	Activity Description
	L _{eq} (dBA)	L ₁₀ (dBA)		
A	57	60	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B ⁽³⁾	67	70	Exterior	Residential
C ⁽³⁾	67	70	Exterior	Active sport areas, amphitheatres, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings
D	52	55	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios
E ⁽³⁾	72	75	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F
F	--	--	--	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources water treatment, electrical), and warehousing
G	--	--	--	Undeveloped lands that are not permitted

- (1) In Minnesota, traffic noise impacts are determined using the hourly L₁₀ value. In Wisconsin, traffic noise impacts are determined using the hourly L_{eq} value.
- (2) The L_{eq}(h) and L₁₀(h) Activity Criteria values are for impact determination only, and are not design standards for noise abatement measures.
- (3) Includes undeveloped lands permitted for this activity category.

Table 13: Minnesota state noise standards

Land Use	Code	Daytime (7 a.m. – 10 p.m.)		Nighttime (10 p.m. – 7:00 a.m.)	
		dBA		dBA	
Residential	NAC-1 ⁽¹⁾	L10 of 65	L50 of 60	L10 of 55	L50 of 50
Commercial	NAC-2 ⁽²⁾	L10 of 70	L50 of 65	L10 of 70	L50 of 65
Industrial	NAC-3 ⁽³⁾	L10 of 80	L50 of 75	L10 of 80	L50 of 75

- (1) NAC-1 includes household units, transient lodging and hotels, educational, religious, cultural entertainment, camping, and picnicking land uses
- (2) NAC-2 includes retail and restaurants, transportation terminals, professional offices, parks, recreational, and amusement land uses.
- (3) NAC-3 includes industrial manufacturing, transportation facilities (except terminals), and utilities land uses.

Traffic Noise Analysis Methodology

Traffic noise impacts are evaluated by modeling the traffic noise levels during the hours of the day and/or night that have the loudest traffic scenario. Traffic noise modeling uses existing and forecast traffic volumes, as well as characteristics of the roadway and surrounding environment, to predict traffic noise

levels at representative receptor locations. In the Minnesota portion of the project, modeled traffic noise levels at receptor locations along a project corridor are then compared to state daytime and nighttime standards. If modeled traffic noise levels are projected to exceed state daytime and/or nighttime standards with the future Build Alternative, then an impact is identified and noise abatement measures (e.g., noise barriers) are considered. In the Minnesota portion of the project, modeled, traffic noise levels are also compared with federal NAC criteria (L10) in order to determine impacts. Additionally, if the difference between existing and future builds (no mitigation) traffic noise levels equals, or exceeds, the prescribed “substantial increase” criteria an impact exists.

Noise modeling for the Wisconsin portion of the project was done using the FHWA noise prediction program Traffic Noise Model (TNM) version 2.5. TNM is similar to the MINNOISE model described below in that it also uses traffic volumes, speed, class of vehicle, and the typical characteristics of the roadway being analyzed (e.g., roadway horizontal and vertical alignment). Traffic data input in the TNM noise model input files for the proposed project included existing year (2010) and future year (2042) Preferred Alternative forecast traffic volumes.

For Minnesota portions of the project, traffic noise levels were modeled for existing (2010) conditions, the future (2040) No Build Alternative, and the future (2042) Build Alternative using the “MINNOISEV31” model, a version of the FHWA “STAMINA” model adapted by MnDOT. Traffic noise levels were modeled at 112 representative receptor locations along the project corridor. These modeled receptor locations represent residential, commercial, and industrial land uses.

Traffic Noise Analysis Results

See Tables 14 and 15 below for a summary of Wisconsin and Minnesota noise analysis results. Discussion follows after the tables. See the complete *Traffic Noise Analysis Report* within the Appendix B supplemental CD.

Table 14: Wisconsin Noise Analysis Results Summary

Criteria²⁶	Total Number of Receptors	Existing (2010) Condition Receptors Approaching/Exceeding Criteria	Future (2042) Preferred Alternative Receptors Approaching/Exceeding Criteria
Federal	20	0	0

Table 15, the Minnesota noise analysis results summary, is located on the following page.

²⁶ In Wisconsin, “approaching” is defined as 1dBA or less below the Federal Noise Abatement Criteria. Independent State standards are not utilized.

Table 15: Minnesota Noise Analysis Results Summary

Standard²⁷	Total Number of Receptors	Existing (2010) Condition Receptors Exceeding Standard	Future (2042) No Build Condition Receptors Exceeding Standard	Future (2042) Preferred Alternative Condition Receptors Exceeding Standard
State L10 Daytime²⁸	92	8	21	27
State L50 Daytime	92	0	1	10
State L10 Nighttime	92	67	67	69
State L50 Nighttime	92	61	67	68

Existing (2010) modeled noise levels at receptor locations in the Wisconsin portion of the project area range from 50.5 dBA (Leq) to 65.9 dBA (Leq). Modeled noise levels do not approach or exceed Federal Noise Abatement Criteria under existing conditions (≥ 66 dBA, Leq for Activity Category B).

Future (2042) modeled noise levels under the river crossing bridge for the Preferred Alternative range from 51.7 dBA (Leq) to 59.9 dBA (Leq). In general, most modeled receptor locations (50 feet to 500 feet on each side of the bridge in the marina) are projected to experience an increase in traffic noise levels from existing conditions to the future Preferred Alternative. This change is predicted to range from -6.5 dBA to 1.5 dBA. Some receptor locations are expected to experience a decrease in traffic noise levels as traffic shifts from the existing bridge to the proposed bridge under the Preferred Alternative.

Traffic noise levels at modeled receptor locations at the Wisconsin approach to the river crossing bridge do not approach or exceed Federal Noise Abatement Criteria for Activity Category B with the future Preferred Alternative. Modeled traffic noise levels are projected to range from 7.1 dBA to 15.3 dBA less than the Federal Noise Abatement Criteria for Activity Category B (67 dBA, Leq). In addition, none of the modeled receptor locations within Wisconsin are projected to experience a substantial increase in traffic noise levels from existing conditions to the Preferred Alternative. As such, WisDOT procedures for evaluating noise barrier feasibility and reasonableness are not discussed within this document. Descriptions of noise model results below are for Minnesota receptors only.

Existing (2010) daytime modeled noise levels at receptor locations in the Minnesota portion of the project range from 57.2 dBA (L10) to 70.1 dBA (L10) and 51.7 dBA (L50) to 59.3 (L50), whereas nighttime modeled noise levels range from 55.9 dBA (L10) to 68.9 dBA (L10) and 43.3 dBA (L50) and 57.8 dBA (L50).

Modeled daytime traffic noise levels for existing conditions exceed State daytime L10 standards at 8 of the 92 modeled receptor locations and State daytime L50 standards at 0 of the 92 modeled receptors; whereas modeled nighttime traffic noise levels for existing conditions exceed State nighttime L10

²⁷ In Minnesota, state noise standards have been established by the Minnesota Pollution Control Agency independent of the Federal Noise Abatement Criteria. Information on Minnesota state noise standards is found in Table 13.

²⁸ One receptor approaches Federal Noise Abatement Criteria (receptor ID 22 located at Potter Street and Main Street)

standards at 67 of 92 modeled receptor locations and State nighttime L50 standards at 61 of the 92 modeled receptors.

Future (2042) daytime modeled noise levels under the No Build Alternative are predicted to range from 58.3 dBA (L10) to 72.7 dBA (L10) and 53.4 dBA (L50) to 62.4 dBA (L50), whereas nighttime modeled noise levels range from 56.3 dBA (L10) to 69.5 dBA (L10) and 50.1 dBA (L50) to 58.1 dBA (L50). In general, modeled daytime traffic noise levels are predicted to increase by 0.1 dBA to 2.7 dBA under the No Build Alternative compared to existing conditions.

Modeled traffic noise levels are predicted to exceed State daytime L10 standards at 21 of 92 modeled receptor locations and State daytime L50 standards at 1 of 92 modeled receptor locations with the No Build Alternative. Modeled nighttime traffic noise levels are predicted to exceed State nighttime L10 standards at 67 of 92 modeled receptor locations and State nighttime L50 standards at 67 of 92 modeled receptors with the No Build Alternative.

Daytime modeled noise levels are predicted to range from 58.7 dBA (L10) to 74.4 dBA (L10) and 53.6 dBA (L50) to 65.6 dBA (L50) under the future (2042) Preferred Alternative. Nighttime modeled noise levels are predicted to range from 56.5 dBA (L10) to 71.1 dBA (L10) and 44.4 dBA (L50) to 60.9 dBA (L50) under the future Preferred Alternative. In general, modeled daytime traffic noise levels are predicted to change by -9.8 dBA to 6.7 dBA compared to existing conditions, whereas modeled nighttime traffic noise levels are predicted to change by -9.0 dBA to 4.7 dBA compared to existing conditions.

Some modeled receptor locations are projected to experience a decrease in traffic noise levels with the Preferred Alternative. These decreases were generally observed at locations where the new ramp alignment will shift traffic volumes to different routes. Modeled noise levels are predicted to exceed State daytime L10 standards at 27 of the 92 modeled receptor locations and State daytime L50 standards at 10 of the 92 modeled receptors under the future Preferred Alternative. Modeled noise levels are predicted to exceed State nighttime L10 standards at 69 of the 92 modeled receptor locations and State nighttime L50 standards at 68 of the 92 modeled receptors under the future Preferred Alternative.

Modeled future L10 noise levels for the Preferred Alternative are projected to approach Federal Noise Abatement Criteria for Activity Category B (Residential) at one modeled receptor location (receptor ID 51 located at East 3rd Street and Sanderson Road in Appendix A Figure 33). Receptor ID 55 located on East 4th Street immediately adjacent to the existing community garden is also projected to experience a substantial increase in traffic noise levels from existing conditions to the future Preferred Alternative. Two residential noise receptors (receptor IDs 46 and 47 located on East 3rd Street in Figure 33 of Appendix A) are proposed for acquisition related to right-of-way needs.

Commercial land uses are located in downtown Red Wing, Minnesota. Commercial land uses fall under Federal Activity Category E. The Federal Noise Abatement Criterion for Activity Category E is 75 dBA (L10) (see Table 12). None of the modeled noise levels at receptor locations representing commercial land uses were identified to approach or exceed Federal Noise Abatement Criteria under existing and future No Build conditions. One modeled noise receptor representing commercial land uses was identified to approach or exceed Federal Noise Abatement Criteria with the future Preferred Alternative (receptor ID 22 located at Potter Street and Main Street in Figure 34 of Appendix A). One commercial noise receptor (receptor ID 45 located on East 3rd Street in Figure 33 of Appendix A) is proposed for acquisition related to right-of-way needs.

Evaluation of Noise Abatement Measures

Noise abatement measures were evaluated along the proposed project corridor adjacent to receptor locations, where modeled traffic noise levels are projected to: 1) exceed state standards; 2) approach or exceed Federal Noise Abatement Criteria; or 3) increase substantially (i.e., increase by 5 dBA or greater from existing to future Build Alternative conditions).

As described under “Noise Model Results”, none of the modeled receptor locations in the Wisconsin portion of the project are predicted to experience a traffic noise impact as a result of the project. Modeled traffic noise levels under the future Preferred Alternative are predicted to be below the Federal Noise Abatement Criteria for Activity Category B uses, and increases in traffic noise levels from existing to future conditions are predicted to be less than 15 dBA. Noise abatement measures are not required for the Wisconsin portion of the project.

Based on the traffic noise analysis, one potential noise barrier on the Minnesota portion of the project meets “feasibility” and “reasonability” criteria outlined in Chapter 5 of the MnDOT Highway Noise Policy (Analysis of Noise Abatement Measures). This potential 20 feet high noise barrier is approximately 1,290 feet long and was modeled along the south side of US 61 beginning immediately east of the newly proposed US 61/US 63 intersection. See Figure 33 within Appendix A for additional information. Receptors adjacent to the potential noise barrier for the Preferred Alternative show increased noise levels ranging from 0.0 to 1.1 dBA compared to the No Build condition. However, final noise abatement measures will be subject to final design considerations, potential impacts on the feasibility and reasonability criteria, and input from benefited residents and property owners, as ascertained by the voting process.

See Figures 33-35 in Appendix A for maps relating to the noise study, including the location for the identified potential noise barrier within Minnesota on Figure 33.

Statement of Likelihood

The traffic noise analysis described above is based upon preliminary design studies completed to-date. Final mitigation decisions will be subject to final design considerations and the input from benefited residents and property owners, as ascertained by the voting process. If it subsequently develops during the final design stage that conditions have substantially changed, noise abatement measures may or may not be provided. Affected benefited receptors and local officials will be notified of plans to eliminate or substantially modify a noise abatement measure prior to the final design process. This notification will explain any changes in site conditions, additional site information, any design changes implemented during the final design process, and noise barrier feasibility and reasonableness. A final decision regarding barrier installation will be made upon completion of the project’s final design and the public involvement process.

18. Transportation

The *Red Wing Bridge Traffic Report* dated March 25, 2014 (see the supplemental CD in Appendix B) contains detailed information on traffic and transportation impacts. Selected information from this memo is included below.

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 estimates, and 5) availability of transit and/or alternative transportation modes.

Adverse parking impacts are not anticipated with the Preferred Alternative. Parking is a critical component of the economic vitality of the downtown Red Wing area and played an important role in evaluating the positive and negative attributes of the considered alternatives. The buttonhook with slip ramp Preferred Alternative was chosen in part because of no adverse parking impacts and the preservation of existing parking within the vicinity of the project. It is likely that additional on-street parking will be provided along 3rd Street as part of the recommended alternative. Other considered alternatives would have had adverse parking impacts within the Red Wing Commercial Historic District area.

Estimated total average daily traffic generated is not applicable. Traffic is not generated by the proposed project. However, a primary need of the project is to improve motorized and non-motorized traffic mobility on trunk highways within the Red Wing Commercial Historic district. Identified secondary needs of the project include adequate bridge capacity and maximum maintenance of traffic. In addition, MnDOT and the City of Red Wing were contacted to determine if any new developments would substantially change any forecast assumptions. No developments were noted. However, an increase in truck traffic resulting from potential growth in the region's silica sand industry was incorporated into traffic forecast models.

Three Rivers Community Action is a nonprofit human service organization that provides transit service throughout the Red Wing area. The Three Rivers Community Action Hiawathaland Transit service includes Red Route, Green Route, and Blue Route services through downtown Red Wing.²⁹ The Blue Route currently utilizes Potter Street between West 4th Street and West 5th Street and West 5th Street/East 5th Street between Potter Street and Centennial Street. The Blue Route runs adjacent to the location of the proposed buttonhook and slip ramp facilities but it is not expected to impact the route as it currently operates. Transit service is not available in the project area in Wisconsin's Pierce County. The proposed project would not adversely impact the use of existing transit services.

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 Minnesota approach to the river bridge is a complex component of the overall project and received substantial attention related to traffic congestion impacts and traffic operations. The Preferred Alternative includes the buttonhook with slip ramp option for the Minnesota approach. Compared to other alternatives, the buttonhook with slip ramp option shows a substantial reduction in traffic along Plum Street and 3rd Street at the Plum Street and 3rd Street intersection. Along US 61, there is only a slight increase in demand west of Plum Street. East of Plum Street there is a large increase in traffic between

²⁹ Source: http://www.threeriverscap.org/sites/default/files/new_red_wing_brochure_0.pdf

Plum Street and the buttonhook intersection. Additional information is provided in the section immediately below.

Though traffic increases in certain locations with this option, the major benefit to the roadway network comes in the form of reduced turning traffic at each intersection. Left and right turning traffic proceed through an intersection at a much slower speed than a through vehicle. This is especially true with large trucks. The improved speeds make better use of the green time provided for each approach at the intersections, making the intersection more efficient.

See Figure 36 in Appendix A for additional information on anticipated traffic reductions under the Minnesota approach preferred alternative.

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

By constructing the proposed buttonhook with slip ramp Minnesota approach alternative, it is estimated turning traffic will be reduced by 50 percent in the AM peak hour and 30 percent in the PM peak hour at the main intersection of US 61 and Plum Street. At the intersection of Plum Street and 3rd Street there is a major reduction in turning traffic of 75 percent in the AM peak hour and 53 percent in the PM peak hour. See Figure 36 in Appendix A. This alternative targets the identified primary need to improve motorized and non-motorized traffic mobility on trunk highways within the downtown Red Wing commercial and historic district.

Because closure either of the existing US 63 bridges over the Mississippi River and US 61 necessitates a detour of approximately 58 miles for travelers between Red Wing and Pierce and Pepin Counties in Wisconsin, the existing crossings of the Mississippi River and US 61 will remain open throughout construction, with the possibility of a limited number of short-term closures to facilitate construction activities.

19. Cumulative Potential Effects

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

Cumulative effects are defined as “the impact on the environment which result from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions regardless of what agency or persons undertakes such actions.”³⁰ The planning efforts and potential projects discussed within this section are consistent with the Minnesota State Supreme Court ruling regarding cumulative potential effects inquiry under state statute, i.e., the projects: 1) are either existing, actually planned for, or for which a basis of expectation has been laid; 2) are located in the surrounding area; and 3) might reasonably be expected to affect the same natural resource. The findings below pertain to both cumulative potential effects and cumulative impacts; the term “cumulative potential effects” is interchangeable with “cumulative impacts.”

Cumulative potential effects are not casually linked to the project and related improvements, but are the total effect of all known actions (past, present, and future) in the vicinity of the proposed action with similar impacts to the proposed action. The purpose of a cumulative potential effects analysis is to look for impacts that may be minimal, and therefore, neither significant nor adverse when examined within

³⁰ Source: 40 CFR 1508.7, <http://www.gpo.gov/fdsys/pkg/CFR-2012-title40-vol34/pdf/CFR-2012-title40-vol34-sec1508-7.pdf>

the context of the proposed action, but that may accumulate and become significant and adverse when combined with other actions.

The geographic areas considered are those within the City of Red Wing in Minnesota and Hager City in Wisconsin. Planning documents utilized to identify applicable projects include Minnesota’s final 2015-2018 State Transportation Improvement Plan (STIP), Wisconsin’s final 2014-2017 STIP, and existing city and county comprehensive plans and capital improvement plans. The City of Red Wing Planning Department and Pierce County Land Management and Zoning were contacted to identify reasonably foreseeable future projects included within this analysis.

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.

See Tables 16 and 17 below for identified projects within state STIPs.

Table 16: Red Wing Projects within Minnesota's Draft 2015-2018 STIP³¹

Sequence #	Project #	Year	Route	Length (mi)	Primary Work	Cost Estimate
815	*156-122-008	2015	MSAS 122	0.6	Pavement resurface and rehabilitation	\$1,894,000
824	156-591-002	2015	Ped/Bike	N/A	Grade and surface	\$49,083
825	156-591-003	2015	Ped/Bike	N/A	Grade and surface	\$479,492
843	*2514-122	2015	US 61	0.7	Grade and surface	\$5,390,000
844	2513-93	2015	US 61	1.0	Grade and surface	\$1,193,323
845	*2514-120	2015	US 61	7.7	Mill and overlay	\$4,484,800
883	*TRS-7284-16C	2016	Three Rivers	N/A	Transit	\$146,000

Notes: * = located within downtown area and in close proximity to project

Table 17: Hager City Projects within Wisconsin's Final 2014-2017 STIP³²

Project #	Year	Route	Length (mi)	Primary Work	Cost Estimate
7650-01-62	2017	STH 35	10.0	Construction/roadway maintenance	\$2,000,000 to \$2,999,999

Within the City of Red Wing, Projects 156-122-008, 2514-122, 2514-120, and TRS-7284-16C are located in close proximity to or are in the downtown area and therefore require additional consideration. Projects are currently scheduled to be completed before the proposed river bridge replacement. Therefore, it is important to consider cumulative potential effects given the importance of maintaining downtown Red Wing’s mobility and economic vitality.

³¹ Source: <http://www.dot.state.mn.us/planning/program/pdf/STIP/For%20Public%20Review%202015-2018%20Draft%20STIP%20for%20Web2.pdf>

³² Source: <http://www.dot.state.wi.us/localgov/highways/docs/stip.pdf>

- 156-112-008 will reconstruct Levee Road from Broad Street to Jackson Street and implement an intersection improvement.
- 2514-122 will include total roadway reconstruction, including utility replacements, signal modifications, median construction, streetscape improvements, and pedestrian safety improvements from Potter Street to Old West Main Street.
- 2514-120 will include a mill and overlay on US 61 NB and SB from the Ready Mix entrance south of Red Wing to the easterly termini of the US 61 reconstruction planned as part of this project (2515-21) and from Old West Main Street to MN 19.
- TRS-7284-16C includes the purchase of one Class 500 bus for transit needs

The *City of Red Wing Comprehensive Plan*³³ calls for redevelopment efforts that further enhance the pedestrian-oriented downtown district with attractive streetscapes and historic preservation and restoration.

The *City of Red Wing Bicycle and Pedestrian Master Plan*³⁴ highlights future multi-use paved trails and future on-street bike routes, several of which are within or near the project area. Specific project names are not identified but are located within the downtown and Barn Bluff areas.

In addition, the City of Red Wing and the Red Wing Port Authority have received state bonding funding to construct the first phase of a two-phase dock improvement project in Levee Park. Phase I of this dock improvement project will consist of marina improvements to accommodate large excursion riverboats. Riverboat dockage will include 10 mooring piles and fender system, gangways, safety ladders, fire protection, and other improvements. In addition to riverboat dockage, Phase I will also include improvements for transient dockage. Transient dockage improvements include a 540 foot floating pier to accommodate approximately 14 boats plus small excursion boats. Phase I is planned to be constructed in 2015.

Pierce County and the Pierce County Parks Committee are completing a Trenton Island Boat Ramp Improvement Project in 2015 at the existing boat ramp site on Trenton Island. This project will construct an additional ramp and provide a small increase in area parking. The project will enhance the usability of the existing boat launch providing access to the Wisconsin channel of the Mississippi River.

Pierce County and the Pierce County Land Management Committee also issued a conditional use permit of January 2015 to Wisconsin Industrial Sand Company, LLC to build a silica sand washing facility located at the intersection of State Trunk Highway (STH) 35 and 770th Street, approximately 1.25 miles from the project area. This washing facility will provide direct access to rail connections located on the property.

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.

Impacts from the Preferred Alternative for the US 63 River Bridge and Approach Roadways Project have been discussed previously. The main project impacts are wildlife/vegetation, wetlands, stormwater,

³³ Source: <http://www.red-wing.org/comprehensiveplan.html>

³⁴ Source: <http://www.red-wing.org/comprehensiveplan.html>

cultural resources, contaminated properties, and noise. Cumulative impacts to these resources from the proposed project and anticipated future projects listed above are discussed in the following sections.

Wetlands

Existing Conditions and Impacts from Proposed and Future Actions

Existing wetland conditions consist of floodplain and drainage way wetlands. Impacts to wetlands within the project area are described in Section IV.A.11.b.iv.1 (Water Resources – Wetlands). Wetlands in the project vicinity may be affected by the foreseeable future actions. However, these impacts will be mitigated, as required by state and federal regulations.

Cumulative Potential Effects

Wetlands are protected by Federal and State laws that mandate “no net loss” of wetland functions and values. These Federal and State laws require the avoidance of wetland impacts when possible, and when avoidance is not possible, impacts must be minimized and compensated. Both Federal and State laws require permits. As a result of these laws and regulations, no substantial cumulative wetland impacts are anticipated to result from the river bridge and approach roadways project.

Stormwater

Existing Conditions and Impacts from Proposed and Future Actions

Under current conditions, stormwater on the existing river bridge drains directly to the Mississippi River, to land adjacent to the Mississippi River, or to municipal storm sewer without treatment. Impacts to stormwater from the proposed action are described in Section IV.A.11.b.ii (Water Resources – Stormwater). Identified foreseeable actions may result in increased impervious surfaces and stormwater effects. However, these projects will be required to provide mitigation in conformance with NPDES and/or watershed regulations, minimizing surface water impacts.

Cumulative Potential Effects

Federal, state, and local surface and groundwater regulations require mitigation be provided in conjunction with proposed actions. Given the design standards and management controls available for protecting the quality of surface waters, it is likely that potential impacts of the project, along with other future actions, will be minimized or mitigated to a substantial degree. Therefore, substantial adverse cumulative effects on stormwater are not anticipated.

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

Existing Conditions and Impacts from Proposed and Future Actions

See Section IV.A.13 (Fish/Wildlife/Ecological Resources) for the existing conditions and impacts from the proposed action. Impacts from identified foreseeable actions include substantial in-river work related to the dock improvement project in the City of Red Wing. Less intense in-river work will occur to complete the Trenton Island boat ramp improvement project. Fisheries and other aquatic species may be impacted. None of the foreseeable future actions are anticipated to result in substantial impacts to other wildlife,

including birds and their migration routes. Identified foreseeable future roadway projects are improve existing facilities and do not expand capacity or substantially change existing alignments, thus limiting anticipated impacts to wildlife habitats.

Cumulative Potential Effects

Impacts to fisheries and other aquatic species resulting from in-river work of foreseeable future actions will be minimized through project coordination with the U.S. Army Corps of Engineers. Substantial cumulative effects to wildlife are not anticipated.

Contamination/Hazardous Materials/Waste

Existing Conditions and Impacts from Proposed and Future Actions

Existing conditions and impacts from the proposed action can be found in Section IV.A.12 (Contamination/Hazardous Materials/Waste). Hazardous materials are present on the existing river bridge and will be disposed of per all rules and regulations upon bridge demolition. Several sites carrying risk of contamination are also located within the project area. Construction activities related to the foreseeable future actions listed above in Section IV.A.19.b may encounter existing hazardous materials, regulated waste, or contaminated properties.

Cumulative Potential Effects

Any hazardous materials and regulated waste encountered as part of the proposed and future actions would be handled and disposed of according to applicable state and federal rules and regulations. As a result, substantial cumulative effects resulting from hazardous materials or regulated waste are not anticipated within the project area.

Cultural Resources

Existing Conditions and Impacts from Proposed and Future Actions

Cultural resources in the project area include several historic structures like the Red Wing Shoe Company and the existing US 61 overpass. See Section IV.A.14 (Historic Properties) and Appendix F (Programmatic Section 4(f) Evaluation) for additional information. No substantial impacts to cultural resources are anticipated to result from the identified foreseeable future actions.

Cumulative Potential Effects

Impacts to existing cultural resources resulting from the proposed river bridge and approach roadways project are identified in Section IV.A.14 (Historic Properties) and Appendix F (Programmatic Section 4(f) Evaluation). Substantial cumulative impacts to cultural resources are not anticipated in conjunction with the identified foreseeable future actions. If federal funds, licenses, or permits are required on future actions, the Section 106 process and associated federal requirements would apply.

Transportation

Existing Conditions and Impacts from Proposed and Future Actions

Existing and projected traffic conditions resulting from the proposed river bridge and approach roadways project is discussed in Section IV.A.18 (Transportation). Impacts from identified foreseeable future transportation projects in downtown Red Wing are anticipated to improve traffic operations of motorized and non-motorized users. The identified silica sand washing facility in Pierce County may increase heavy truck traffic across the proposed river bridge. However, the adjacent rail connection on the washing facility site is expected to play a central role in its operations, minimizing potential for substantially increased heavy truck traffic within the project area.

Cumulative Potential Effects

The proposed river bridge and approach roadways project, in conjunction with identified foreseeable transportation projects in downtown Red Wing, are expected to complement the City's ongoing efforts to improve the vitality of the downtown core. A portion of the bridge project layout is immediately adjacent to the western terminus of the US 61 reconstruction.³⁵ Likewise, the pedestrian and bicyclist improvements resulting from better traffic operations and the construction of a shared use facility on the proposed river bridge will meet objectives identified within City of Red Wing planning documents.

Noise

Existing Conditions and Impacts from Proposed and Future Actions

See Section IV.A.17 (Noise) for detailed existing noise conditions. In summary, the Preferred Alternative results in one potential noise barrier within the Minnesota portion of the project meeting the feasibility and reasonability criteria for the installation of a noise barrier. The Wisconsin portion of the project does not approach or exceed noise standards warranting the consideration of a noise barrier.

Impacts from proposed actions could include increases in truck traffic, particularly related to the silica sand washing facility on the Wisconsin side of the project. Other proposed actions are not anticipated to substantially increase traffic noise levels.

Cumulative Potential Effects

Roadway projects identified within the Wisconsin and Minnesota STIPs are reconstruction and/or maintenance and preservation projects not anticipated to generate additional traffic volume. The adjacent rail connection on the washing facility site is expected to play a central role in its operations, minimizing potential for substantially increased heavy truck traffic and relate noise within the project area. In addition, traffic noise levels are predicted to decrease in areas on the Minnesota side of the project where the new slip ramp alignment will shift existing traffic volumes to different routes. Adverse cumulative potential effects on noise are not anticipated.

³⁵ A final roadway layout for the US 61 reconstruction project is located on the City of Red Wing website at http://www.red-wing.org/media/files/departments/engineering/TH_61_Reconstruction/08-15-14%20-%20Level%20%20Layout.pdf

Conclusion

The potential impacts to resources identified can be avoided or minimized through existing regulatory controls, as described above. During the development of this EA/EAW, no potentially substantial cumulative potential effects to the resources affected by this project have been identified.

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 how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

Navigational Channel

Coordination is ongoing with the U.S. Coast Guard and U.S. Army Corps of Engineers regarding the Mississippi River channel. Per the U.S. Coast Guard approval dated November 27, 2013, vertical clearance has been approved at a minimum of 60 feet above normal pool at each channel pier due to the haunch in the girder for 35 feet at either end of the channel span. A clearance of 62 feet above normal pool is required for the remaining 362 feet at the center of the span. This approval serves as a relaxation of the existing vertical clearance of 64.7 feet above normal pool. The total clearance envelope of the navigational span will be 432 feet.

The U.S. Coast Guard also provided input on bridge replacement locations early in the project development process. These bridge replacement locations are discussed within Section III.A.1 (River Bridge Alternatives). Per a May 14, 2012 U.S. Coast Guard correspondence, the proposed new river crossing locations were deemed unacceptable from a navigational standpoint due to the proximity of the bend in the river west of downtown Red Wing. As a result, the U.S. Coast Guard recommended a bridge replacement location immediately upstream of the existing river bridge to satisfy reasonable needs of navigation.

Construction would involve temporary impacts to the navigational channel, including a reduced channel width and/or short-term closures, at various stages of construction to allow for pier construction, work on the new bridge superstructure, and removal of the existing river bridge. These closures would need to be coordinated with the U.S. Army Corps of Engineers, U.S. Coast Guard, and barge operators, and would impact commercial and recreational water users. The timing and duration of closures would vary.

All construction impacts to the navigational channel will be coordinated with the U.S. Army Corps of Engineers, U.S. Coast Guard, and other relevant stakeholders as required by rules and regulations.

Aviation Coordination

MnDOT's Office of Aeronautics has participated in project coordination. The Office of Aeronautics generally seeks to ensure project compatibility with airport operations. Given the proximity to the Red Wing Regional Airport in Bay City, Wisconsin, the MnDOT Office of Aeronautics has noted if cranes will be used for construction, the Federal Aviation Administration will need to be notified to complete an airspace obstruction analysis and FAA Form 7460-1 will be required. Terrain height will factor into whether projects affect the navigable airspace.

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: 6/11/15

Title: Chief Environmental officer

B. Additional Federal Issues

1. Right-of-Way and Relocation

Consideration of potential for right-of-way impacts played an important role throughout the alternatives development process. In some instances, substantial right-of-way acquisition requirements influenced the decision to eliminate an alternative from further consideration. In general, design development attempted to minimize right-of-way acquisition (especially full acquisition) to the extent possible.

The project would require the acquisition of five properties totaling approximately 2.9 acres for highway right-of-way. Four property acquisitions are anticipated on the Minnesota side of the project within or adjacent to the proposed buttonhook intersection with slip ramp approach. An additional acquisition is located on the Wisconsin side of the project.

In Minnesota, one of the four properties is classified as commercial. This property is approximately 0.7 acre in size.

The City of Red Wing also holds the deed to an impacted property. This property is classified as tax exempt and has an area of approximately 1.4 acres.

The two remaining properties in Minnesota are classified as residential and will include relocations. These properties total approximately 0.3 acre.

The single acquisition on the Wisconsin side is an approximate 0.5 acre partial commercial acquisition of the marina/campground property. This acquisition will not affect the overall business operation.

Temporary easements are also anticipated to be required for project construction. Potential temporary easements totaling approximately 0.7 acre may be required for temporary construction causeways on the Wisconsin side of the river. Potential temporary easements on railroad property totaling approximately 0.5 acre may be required on the Minnesota side of the river. Additional minor temporary easements may be needed adjacent to the Minnesota approach's buttonhook facility.

See Figure 18 in Appendix A for a map depicting parcel acquisition information.

The acquisition and relocation of property due to the proposed project would be conducted in accordance with the Uniform Relocation and Real Property Acquisition Act of 1970, as amended by the Surface Transportation and Uniform Relocation Assistance Act of 1987 and 49 Code of Federal Regulations, Part 24, and effective April 1989 (revised January 2005). Relocation resources are available to all relocates without discrimination.

Two booklets titled *Relocation Assistance: Your Rights and Benefits*³⁶ and the *Guidebook for Property Owners*³⁷ have been produced by MnDOT to provide information to potential displaces on their rights and benefits under the Relocation Assistance Program. These documents are available to provide information on programs and benefits and to develop individual relocation plans to relocates. Relocation resources are available to all residential relocates without discrimination.

³⁶ See <http://www.dot.state.mn.us/row/pdfs/relo-booklet.pdf>

³⁷ See <http://www.dot.state.mn.us/row/pdfs/property-owners-guide-graphics.pdf>

Those whose housing is displaced as part of the project are entitled to reimbursements for certain expenses such as moving costs, replacement housing costs, appraisal fees, and relocation assistance services. Replacement housing units must be “decent, safe, and sanitary” and must be at least functionally equivalent to the present dwelling with respect to the number of rooms and living space, location, and general improvements. Although an adequate supply of comparable replacement housing sites can generally be found, an administrative process called Last Resort Housing is available to address situations where the supply of replacement sites is inadequate. MnDOT is committed to Last Resort Housing, which guarantees that comparable housing would be provided before the owner is required to move.

2. Economics

The permanent loss of tax base associated with property acquisitions is negligible and Minnesota impacts are anticipated to be offset by future development in downtown Red Wing. As noted above, the partial Wisconsin property acquisition will not affect the overall business operation. Overall, the proposed project is expected to provide positive economic benefits to the project area and surrounding communities by facilitating traffic flow for local and interstate commerce.

3. Social Impacts

Community facilities and resources typical of urban downtowns are located in downtown Red Wing immediately adjacent to the project’s Minnesota approach. These facilities include, but are not limited to, institutional buildings like the Red Wing Public Library, the Red Wing Fire and Police Departments, and the Goodhue County Justice Center, worship-related facilities like the Cornerstone Community Church and the Landmark Missionary Baptist Church, and recreational facilities like the Red Wing Family YMCA.

These types of community facilities help create the vitality of the downtown Red Wing area. As noted in Section II (Purpose and Need), the need to improve motorized and non-motorized traffic mobility on trunk highways within the downtown Red Wing area is a primary need of the project. The proposed river bridge replacement and accompanying Minnesota approach was selected as the Preferred Alternative, in part, to benefit the downtown area by re-routing traffic out of core pedestrian-based economic areas. Based on input from the City of Red Wing, the proposed project is expected to provide positive social impacts throughout downtown Red Wing by decreasing vehicular/pedestrian conflicts within the downtown area.

A community garden is located at the corner of Bluff Street and East 4th Street in the East End neighborhood. This community garden resides on a parcel owned by the City of Red Wing and identified for acquisition in order to construct the bridge approach. MnDOT and the City of Red Wing are aware of the garden and will continue to investigate options for its relocation during the right-of-way acquisition process.

The proposed project requires severing 3rd Street between Sanderson Street and Bluff Street in Red Wing. This local street alternative will require four residential parcels that front on 3rd Street to access and egress their neighborhood via 4th Street whereas today they have the option of either 3rd or 4th Street, a maximum one-block increase in travel distance for motorized and non-motorized travel. Otherwise, the neighborhood access to/from the downtown area will not change. Access to the Red Wing Shoe Company property will be maintained via Bluff Street underneath the proposed Bridge 25035.

Community facilities on the Wisconsin side of the project are located within Hager City north of the proposed project area. The proposed project is not anticipated to substantially impact these facilities, which include a recreational playing field and postal office.

4. Transit

See Section II.A.18.a (Transportation) for transit information.

5. Considerations Relating to Pedestrians and Bicyclists

Bicycle and pedestrian considerations are contained within the primary and secondary needs of the Purpose and Need Statement. Listed as a primary need is “the need to improve motorized and non-motorized traffic mobility on trunk highways within the downtown Red Wing commercial/historic district.” As this primary need states, the primary crossing locations include US 61 at Bush Street, US 61 at Broad Street, and Plum Street at 3rd Street. Each of these locations is adversely impacted by the high traffic volumes and turning traffic. The impacts to non-motorized mobility are compounded because signal cycle lengths are typically increased and signal phases are added to accommodate the high volume of vehicular traffic. In addition, as motorized traffic increases, pressure to remove on-street parking and to widen intersections to facilitate truck turning movement increases in an effort to improve mobility. These factors contribute to a reduction in the quality of the pedestrian experience in the downtown Red Wing area.

Listed as a secondary need is “the need to maintain or improve pedestrian/bicycle facilities on the river bridge and US 61 overpass.” Existing pedestrian and bicyclist accommodations are not adequate. The existing bridges provide 2.5-foot sidewalks on both sides of the bridges, which does not meet the current MnDOT standard of a minimum 6-foot width for pedestrian use, or a minimum 10-foot width for a combined bicycle/pedestrian facility. The existing right shoulders on US 61 underneath the existing US 61 overpass are the width of the gutter (approximately 2 feet), which does not meet MnDOT standards. Bicyclists are currently forced to ride in the through lanes of US 61. This secondary need as described highlights the objective to meet or exceed bicycle and pedestrian accommodation standards given the popularity of biking and walking to access businesses in the downtown commercial district and other destinations in the project area. Bicycle and pedestrian facilities are being designed per rules and regulations at various levels of government, including Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act of 1990, MnDOT’s *Public Rights of Way Accessibility Guidance*, and MnDOT’s *Minnesota Bikeway Facility Manual*.

Red Wing is also one of the cities on a popular circular on-road biking route around Lake Pepin. From Red Wing, the route crosses US 63 to Wisconsin’s TH 35, follows TH 35 until it crosses TH 25 to enter back into Minnesota, and then follows Minnesota’s US 61 on the return, ultimately ending back in Red Wing. US 61 is also the Minnesota Great River Road National Scenic Byway and TH 35 is Wisconsin’s Great River Road. In addition, the Mississippi River Trail (MRT), a 10-state bicycle route from the Mississippi Headwaters to the Gulf of Mexico, is routed on US 61 in Red Wing. Wisconsin’s MRT follows TH 35, which intersects with US 63 in Hager City. The Cannon Valley Regional Trail, originating in Cannon Falls, Minnesota connects to waterfront bike routes in the downtown Red Wing area. The City is currently in the planning phase to develop a riverfront trail connecting three parks, including Barn Bluff, to the Cannon Valley Regional Trail. The Goodhue-Pioneer State Trail is also planned to connect with the Cannon Valley Regional Trail.

The relatively high pedestrian and bicycle traffic in the downtown Red Wing area was taken into account when developing alternatives throughout the project process and have resulted in substantial bicycle and pedestrian design components in the project layout. A shared pedestrian and bicycle facility will be included on the river crossing and approach structures, offering a fully accessible 12 feet wide shared use facility with two scenic overlooks on the bridge. This shared facility will extend from 825th Street in

Wisconsin to the 3rd Street and Plum Street intersection in Red Wing. The project will ultimately enhance the safety, usability, and connections of trail systems throughout the area.

6. Section 4(f) Resources

Section 4(f) legislation, as established under the Department of Transportation Act of 1966, provides protection for publicly owned parks, recreation areas, historic sites, wildlife and/or waterfowl refuges from conversion to transportation use. The FHWA may not approve the use of land from a significant publicly owned park, recreation area, or wildlife and/or waterfowl refuge, or any significant historic site unless a determination is made that there is no feasible and prudent alternative to the use of land from the property and the action includes all possible planning to minimize harm to the property resulting from such use.

The proposed action of removing the US 61 overpass and replacing it with a buttonhook signalized intersection and slip ramp would result in an 'adverse effect' under Section 106 and, therefore, a Section 4(f) 'use'. The Programmatic Section 4(f) Evaluation, located in Appendix F, determined there is no feasible and prudent alternative to the use (i.e., the removal) of the US 61 overpass Bridge 9103 and its approaches. See the Programmatic Section 4(f) Evaluation for a more detailed discussion of Section 4(f) process decision-making and findings.

7. Section 6(f) Resources

The project has been reviewed for potential Section 6(f) involvement.³⁸ The project will not cause the conversion of any land acquired, planned, or developed with funds from the Land and Water Conservation Fund (LAWCON). Therefore, there is no Section 6(f) involvement on this project.

8. Section 106 Process

See Section IV.A.14 (Historic Properties) for information regarding the Section 106 process and project impacts to historic resources and SHPO coordination regarding determination of effects and other Section 106 process issues.

9. Environmental Justice

Executive Order (EO) 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations," dated February 1, 1994, requires that environmental justice be addressed in all federal planning and programming activities. The purpose of EO 12898 is to identify, address, and avoid disproportionately high and adverse human health or environmental effects of programs, policies, and activities on minority populations and low-income populations. The proposed project has potential federal permit requirements and will utilize federal funding. As such, it is considered a federal project for the purpose of compliance with this Executive Order. EO 12898 requires that the proposed actions be reviewed to determine if there are "disproportionately" high or adverse impacts on minority or low-income populations. "Disproportionate" is defined in two ways: the impact is "predominantly borne" by the minority or low-income population group, or the impact is "more severe" than that experienced by non-minority or non-low-income populations. The steps for defining environmental justice impacts include the following:

³⁸ Source: MnDNR, "Grant-Funded Parks and Natural Areas Subject to Permanent Grant Program Requirements," Page 6, 7.18.2014, http://files.dnr.state.mn.us/aboutdnr/lawcon/lawcon_1.pdf

- Step 1: Determine if an identifiable low income and/or minority population exists in the project area;
- Step 2: Determine if there are potentially high and adverse environmental impacts disproportionately borne and appreciably greater for the low income and/or minority populations;
- Step 3: If the determination in Step 2 is ‘Yes’, then determine if further mitigation is possible to avoid or reduce the adverse effect to the population; or are other alternatives to avoid or reduce impacts practicable?

Step 1: Assessment of Project Area Demographics

The first step in the environmental justice determination process is to determine whether any minority and/or low-income populations are present within the project area. For the purposes of environmental justice, a low-income population or minority population is defined as a population of people or households located in close geographic proximity meeting the racial or income criteria set forth in EO 12898.

Information on population characteristics of the project area was obtained from 2010 Census Redistricting data and the 2008-2012 American Community Survey data. For purposes of this analysis, data were examined at the following geographic levels: the Block Group level for 2010 Census Redistricting data and the Census Tract level for the 2008-2012 American Community Survey data.

For this project, Census Tracts and Block Groups were included in the environmental justice analysis if the proposed project layout intersected Census Tract or Block Group boundaries. This results in two Census Tracts and three Census Block Groups. Of the three Census Blocks, two are within Pierce County, Wisconsin and one is within Goodhue County, Minnesota. See Figure 37 in Appendix A for Census Tract and Block Group locations.

a. Identification of Minority Populations

The term “minority” is defined using race and ethnicity definitions from the 2010 Census. Minority populations are identified when the percentage of minority persons in a given block group exceeds the percentage of minority persons in the county. For this analysis, the presence of minority populations was assessed using block group level data. Table 18 outlines population and race information for the three Census Block Groups.

According to the minority criteria definition outlined above, Census Block Group 1, Census Tract 802 within the City of Red Wing (see Figure 37 in Appendix A) indicates minority populations are located in the project vicinity. Within the Census Block Group in the City of Red Wing, data indicates 14 percent of the population is minority and 10 percent of the population is Hispanic/Latino. These percentages are higher than the total Goodhue County minority and Hispanic/Latino population percentages of 5 percent and 3 percent, respectively. Based on this data, for the purpose of this environmental justice assessment, it is assumed that a minority population is in the vicinity of the proposed Minnesota approach portion of the project.

Within the Wisconsin portion of the project area (Town of Trenton, Pierce County), 99 percent and 98 percent of Census Tract 9606 Block Groups 1 and 2 are white, respectively. This is a higher percentage

than the total Pierce County population that is 97 percent white. No minority populations exist within the Wisconsin portion of the project area.

b. Identification of Low-Income Populations

For the purposes of this study, the term “low-income” is defined as persons with income below the 2012 poverty level. Data for Table 19 came from the 2008-2012 American Community Survey five-year estimates. Because this data is not available at the block group level, data from the census tracts within the project area are reported. Low-income populations are identified when the percentage of low-income persons in a given census tract exceeds the percentage of low-income persons in the county.

Census Tract 802 in Red Wing, Goodhue County is the only location in the project area where the percentage of low-income persons (12.2 percent) exceeds Goodhue County’s total percentage of 9.9 percent. In addition, City staff were contacted to determine if more detailed information on the Bluff Neighborhood, the residential area in the vicinity of the Minnesota approach, was available. Information provided by the City indicated that the neighborhood is primarily single family residential units, with some multi-dwelling units; and that there are a number of rental properties in the neighborhood.

Given the data presented above, it is reasonable to conclude that minority and/or low-income populations exist in the Bluff Neighborhood in the vicinity of the project in Red Wing. Outreach was coordinated within this area. Project staff met with residents of the City of Red Wing’s Bluff Neighborhood (i.e., the neighborhood adjacent to the project) on September 22, 2012. This meeting functioned as a targeted listening session focused on discussing alternatives that could directly affect the neighborhood and learn about the specific questions and concerns of the area residents. Seven individuals signed in at the meeting; no comment cards were submitted at or following the meeting.

Step 2: Determination of Effect

The determination of effect includes two steps:

- Is the anticipated adverse impact high?
- Is the high and adverse impact anticipated to fall disproportionately on low income or minority populations?

If no high levels of adverse impacts are anticipated the consideration of potential disproportionate impacts does not apply.

a. Is the anticipated adverse impact high?

This EA documents the range of beneficial and adverse impacts associated with the Preferred Alternative along with proposed mitigation measures to address adverse effects. The following subject areas were considered when determining whether the collective adverse impacts to the identified minority and low income populations are high:

- Right-of-Way and Relocation
- Noise
- Transportation/Access

Right-of-Way and Relocation – The Preferred Alternative requires acquisition of two residential properties, one commercial/industrial structure, and one vacant tax forfeited property within the City of Red Wing, and one commercial partial acquisition within Pierce County. These acquisitions are required

to accommodate the proposed Minnesota approach roadway configuration and the new river bridge. Both residential property impacts are located in the Bluff Neighborhood (adjacent to the proposed buttonhook). However, given the size of the neighborhood (approximately 309 parcels within an area bounded by Bluff Street, 7th Street East and US 61), two residential acquisitions is not considered a proportionately “high” adverse impact. The properties acquired are located on the northwestern corner of the Bluff Neighborhood. As a result, the proposed right-of-way acquisitions will not bisect or sever the neighborhood. Furthermore, commitments to address these adverse effects, including the provisions of the Uniform Relocation and Real Property Acquisition Act of 1970, as amended, mitigate the effects on these residents.

Noise – A detailed traffic noise analysis was conducted for the Preferred Alternative (see Section IV.A.17 – Noise). Analysis concluded that numerous residential properties in the Bluff Neighborhood currently experience noise levels that exceed state and federal standards. However, the analysis concludes these exceedances are linked to growth in traffic along US 61 that will occur regardless of the build or No Build options. The proposed project could benefit this neighborhood because it provides an opportunity for the residents to determine if they want a noise wall included with the Preferred Alternative to mitigate the increases in traffic noise levels that will occur regardless of whether the proposed project is constructed.

In accordance with the Minnesota Statewide Highway Noise Policy implemented in May 2011, MnDOT will engage the property owners and residents of those parcels with noise standard exceedances to inform them of the process for determining whether to build a noise wall and specifically solicit their preference through a formalized voting process. The process will conclude with majority consensus from property owners and residents to construct (*or not*) the noise wall segment along US 61 as defined in the technical noise analysis. Affected benefited receptors and local officials will be notified of plans to eliminate or substantially modify a noise abatement measure prior to the final design process. This notification will explain any changes in site conditions, additional site information, any design changes implemented during the final design process, and noise barrier feasibility and reasonableness. A final decision regarding barrier installation will be made upon completion of the public voting process. Since mitigation is proposed, the noise impact would not be considered a high impact to the adjacent population.

Transportation/Access – The Preferred Alternative, specifically the buttonhook with slip ramp, requires severing 3rd Street between Sanderson Street and Bluff Street. This local street alteration will require four parcels that front on 3rd Street to access and egress their neighborhood via 4th Street whereas today they have the option of either 3rd or 4th Street. This effect was determined to be non-substantial because the trip distance on average for the four parcels is nearly equidistant via 3rd Street and 4th Street.

Based on consideration of the direct and indirect impacts (both beneficial and adverse), the net adverse impact of the Preferred Alternative on the identifiable minority and low income populations is not “high.” Given this conclusion, the remainder of Step 2 as well as Step 3 does not need to be addressed.

Environmental Justice Finding

The proposed action will not introduce high levels of adverse impacts that would have disproportionately high and adverse human health or environmental effects to any minority population or low income population.

The proposed action is not anticipated to result in disproportionately high and adverse human health or environmental effects to minority or low-income populations.

Table 18: Population and Race

County/City Totals

Demographic Group	Pierce County	% of Population	Goodhue County	% of Population	City of Red Wing	% of Population
Households	15,190	N/A	18,623	N/A	7,017	N/A
Population	41,019	100%	46,183	100%	16,459	100%
White	39,614	97%	43,684	95%	15,064	92%
Minorities	1,405	3%	2,499	5%	1,395	8%
African American	232	1%	445	1%	312	2%
AIAN (1)	151	0%	533	1%	366	2%
Asian	301	1%	274	1%	129	1%
NHPI (2)	7	0%	17	0%	5	0%
Some other	201	0%	511	1%	198	1%
Two or More	513	1%	719	2%	385	2%
Hispanic / Latino (3)	632	2%	1,318	3%	607	4%

Census Block Group Totals within Project Area

Demographic Group	Pierce County: Census Tract 9606, Block Group 1	% of Population	Pierce County: Census Tract 9606, Block Group 3	% of Population	City of Red Wing: Census Tract 802, Block Group 1	% of Population
Households	654	N/A	619	N/A	428	N/A
Population	1,633	100%	1,590	100%	947	100%
White	1,611	99%	1,552	98%	812	86%
Minorities	22	1%	38	2%	135	14%
African American	6	0%	5	0%	46	5%
AIAN (1)	3	0%	15	1%	21	2%
Asian	5	0%	3	0%	12	1%
NHPI (2)	2	0%	0	0%	0	0%
Some other	2	0%	1	0%	36	4%
Two or More	4	0%	14	1%	20	2%
Hispanic / Latino (3)	15	1%	3	0%	93	10%

Source: P1, PH12H - 2010 Census Redistricting data

(1): American Indian or Alaska Native

(2): Native Hawaiian & Other Pacific Islander

(3): Those of Hispanic Origin may also consider themselves white or of another race; therefore, population totals and percentages will be greater than 100 percent.

Table 19: Income and Poverty

County Totals

Demographic Group	Goodhue County, MN	City of Red Wing, MN	Pierce County, WI
Total Households	18623	7024	15190
Total Families	12648	4236	9935
Median Household income (2012 inflation adjusted dollars)	\$55,047	\$51,290	\$57,586
Median family income (2012 inflation adjusted dollars)	\$62,345	\$66,143	\$74,481
Per Capita income in 2012 (dollars)	\$28,412	\$27,924	\$27,263
Percentage of Families whose income in the past 12 months is below the poverty level	6.2%	7.3%	6.5%
Percentage of People whose income in the past 12 months is below the poverty level	9.9%	10.6%	13.2%

Census Tract Totals within Project Area

Demographic Group	Goodhue County: Census Tract 802	Pierce County: Census Tract 9606
Total Households	2886	1983
Total Families	1808	1493
Median Household income (2012 inflation adjusted dollars)	\$54,017	\$69,963
Median family income (2012 inflation adjusted dollars)	\$66,059	\$77,054
Per Capita income in 2012 (dollars)	\$26,856	\$30,023
Percentage of Families whose income in the past 12 months is below the poverty level	9.1%	3.8%
Percentage of People whose income in the past 12 months is below the poverty level	12.2%	4.2%

Source: Census Tract - Table DP03 American Community Survey 5-Year Estimates

10. Air Quality

See Section IV.A.16 (Air) for information about air quality.

11. Traffic Noise Analysis

See Section IV.A.17 (Noise) for information about traffic noise impacts.

12. Construction Impacts

See Section IV.A.6.b (Project Description) for information regarding construction impacts.

There will be noise and dust associated with the construction activities. No unique concerns have been identified. Standard noise and dust specifications will be followed. Substantial traffic detours (i.e., river crossing closures), are not anticipated. Any existing river bridge closures would be limited in number and short-term operations to facilitate construction activities. Disposal of excess material will be in compliance with guidelines listed in the standard specifications, and will not occur in wetlands, floodplains, or other sensitive areas. Erosion and sedimentation will be controlled in accordance with an erosion control plan and MnDOT and WisDOT standard specifications.

13. Federal Threatened and Endangered Species

Section 7 of the Endangered Species Act of 1973, as amended, requires each federal agency to review any action that it funds, authorizes, or carries out to determine whether it may affect threatened, endangered, or proposed species, or affect listed critical habitat.

See Appendix C Exhibit 3 for Section 7 correspondence from MnDOT to the U.S. Fish and Wildlife Service dated February 4, 2015 that describes MnDOT's determinations made on behalf of FHWA, and the rationale for those determinations, including:

- A determination that project impacts are not of a magnitude that would result in jeopardizing the continued existence of the northern long-eared bat, a species proposed for federal listing as endangered at the time of EA/EAW publication;
- Determination of No Effect for the dwarf trout lily and prairie bush clover since there are no known occurrences of these species in the project area; and
- A determination that the proposed project may affect, but is not likely to adversely affect, the Higgins eye pearl mussel, spectaclecase, and the snuffbox mussels, since none of these species was found alive or recently deceased during the mussel survey conducted for this project by the MnDNR [Note: old weathered dead shells of the federal-listed Higgins eye pearl mussel (*Lampsilis higginsii*) and winged mapleleaf (*Quadrula fragosa*) were identified during the survey. However, given the weathered appearance of their shells they likely died decades ago and, therefore, their presence alive in the project area is unlikely].

MnDOT requested U.S. Fish and Wildlife Service concurrence with these determinations, and USFWS concurred in correspondence dated March 10, 2015 (see Appendix C Exhibit 4).

Since the correspondence between MnDOT and USFWS in early 2015, the northern long eared bat (NLEB) has been officially listed by the USFWS (effective May 4, 2015). The USFWS is still accepting public comments on the interim 4(d) rules regarding activities in NLEB habitat through July 1, 2015. MnDOT is working with USFWS to update the determination based on the change in species status.

14. Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) is intended to minimize the extent to which federal activities contribute to the unnecessary and irreversible conversion of agricultural land to nonagricultural uses. The policy also seeks to ensure that federal policies are administered in a manner that will be compatible with state, local, and private policies that protect farmland.

The project is not anticipated to cause any adverse impact to agricultural land or operations. No agricultural land will be acquired; no farm will be severed or triangulated. The project will not affect agricultural production in Goodhue County or Pierce County. See Section IV.A.9 (Land Use) for additional information.

15. Accessibility Requirements

The proposed project must comply with provisions set by the Americans with Disabilities Act of 1990 or by state or local access codes if they contain more stringent requirements. The future project would comply with the required accessibility provisions.

See Section IV.B.5 (Considerations Relating to Pedestrians and Bicyclists) for additional information on the new bridge's fully accessible shared used facility.

16. Indirect Effects and Cumulative Impacts

See Section IV.A.19 (Cumulative Potential Effects) for information regarding cumulative impacts.

Because this project would provide infrastructure improvements that allow for continued functioning of US 63 between Red Wing, Minnesota and Pierce County, Wisconsin, and therefore, would not introduce any new roadways that would affect/induce development patterns in the project vicinity, no potential indirect effects have been identified.

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V. PUBLIC AND AGENCY INVOLVEMENT (AND PERMITS/APPROVALS)

A. Public Involvement Plan

A public involvement plan (PIP) was developed and implemented early in the project development process. This plan has helped establish guidance and expectations of communications between MnDOT and the public. It has also given MnDOT a better understanding of concerns the public and other agencies have about the project. The document outlines project goals, public involvement goals, and the methods in which these goals can be achieved. It includes a stakeholder involvement matrix that highlights involvement tools that can be utilized to serve stakeholder populations and their interests in the project. These stakeholder groups, including the general public, government bodies, permitting agencies, the business community, and emergency service providers have many unique interests and perspectives to include within the project development process. The plan identifies a series of open houses, listening sessions, business and neighborhood organization meetings, and communications efforts to inform the public on the project development process. Additional information about these efforts is discussed throughout this section.

A shared interest between these groups is the establishment of public trust throughout the project development process. Successful public involvement is about building trust, understanding and consensus. Public involvement is necessary to reach a broad consensus on public infrastructure investments. This requires a process that is characterized by technical competence, honesty, integrity, transparency, and good listening. These principles created the framework within which public involvement occurred for the US 63 River Bridge and Approach Roadways Project.

The fundamental objectives of the public involvement plan are to ensure that the concerns and issues of those with a stake in the US 63 River Bridge and Approach Roadways Project are identified; that stakeholders are given opportunities to review and comment on findings of the study; and that stakeholder concerns are reflected in the analysis process.

B. Agency Coordination

1. Technical Advisory Committee (TAC) and Project Advisory Committee (PAC)

The Technical Advisory Committee (TAC) consists of professional and technical staff from MnDOT, the consulting team, WisDOT, the City of Red Wing, Goodhue County, FHWA, and others. The Project Advisory Committee (PAC) consists primarily of regulatory agency representatives and external stakeholder group representatives (i.e., Chamber of Commerce), and local elected officials. Participating agencies include, but are not limited to, MnDOT, WisDOT, City of Red Wing, Goodhue County, Pierce County, FHWA, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, MnDNR, WDNR, Red Wing Manufacturing Association, Red Wing Downtown Main Street, the Town of Trenton, Prairie Island Indian Community, and Live Healthy Red Wing. The purpose of PAC involvement was to maintain good communication channels to interested parties throughout project development and to keep key constituency group representatives updated regarding project schedule and development.

The PIP described that the TAC would be responsible for reviewing and commenting on technical aspects of the project development process (i.e. Purpose and Need review, traffic analysis and projections, alignment concept development, etc.) and would meet approximately every-other month. The PIP further

envisioned that the PAC would function as the venue to vet key decisions prior to presenting information to the general public and also serve as a communications medium in between major public information meetings and newsletter releases. As the process progressed, it became evident that the groups functioned more effectively and efficiently as a joint-committee. As a result, joint PAC-TAC meetings occurred regularly through the alternatives development and analysis process and into the EA process.

2. Federal Highway Administration

In addition to participating in the PAC/TAC meetings, the FHWA has been actively engaged throughout the process to discuss ongoing federal considerations, share relevant information, and ensure all Federal regulations and guidelines were appropriately accounted for and incorporated into the project development process.

3. Other Agency and Stakeholder Coordination

Environmental Agency Workshop

An Environmental Agency Workshop was held on April 30, 2012. The purpose of the workshop was to engage federal and state regulatory agencies early in the study process to inform them about the project, provide a project area tour, and learn about their respective priorities and concerns. Issues discussed included bridge location feasibility, downtown traffic operations, and cultural resources considerations.

City Council Meetings

Project staff attended and presented at three City of Red Wing City Council meetings. The dates of these City Council meetings were:

- August 26th, 2013
- November 12th, 2013
- February 24th, 2014

Emergency Service Providers Meeting

In addition, project staff met with emergency service providers on October 22, 2012 to discuss how to best accommodate emergency service and public safety agency needs within recommended alternatives and throughout the construction phase of the project. Attendees of this meeting included representatives from various Minnesota and Wisconsin county sheriff's offices, emergency management departments, utility companies, police departments, fire departments, and others.

Tribal Coordination

Indian tribes and associated Tribal Historic Preservation Offices (THPOs) in Wisconsin and Minnesota have been involved in project planning and development. Tribal consultation letters were distributed by MnDOT's Cultural Resources Unit in February of 2011 to solicit comments about historic, cultural, and archaeological resources potentially located within the project area. Of these Indian tribes, the Prairie Island THPO responded with an interest in further involvement and, as a result, has participated in project development and planning. Wisconsin tribal consultation letters were also distributed to request project comments. None of the tribes responded with concerns regarding their tribal interests in the proposed project area. See Appendix D for applicable tribal consultation correspondence.

United States Coast Guard

U.S. Coast Guard coordination is discussed within Section IV.A.20 (Other Potential Environmental Effects).

Purpose and Need Refinement

A project purpose and need statement was developed early in the project (in 2012). However, subsequent traffic studies performed in conjunction with concept feasibility analyses detailed a network mobility problem in the downtown Red Wing area previously believed to be a more confined intersection mobility problem. Building from this technical analysis, MnDOT met with City of Red Wing staff to discuss these issues and to ensure the community's perspectives and concerns regarding traffic mobility were clearly understood. Through this coordination, City staff indicated that in addition to the motorized traffic issues, non-motorized travel is a major challenge in the downtown area. The trunk highway segments (e.g., Main Street and Plum Street) are substantial impediments to pedestrian and bicyclist circulation.

Thorough review of this information led to discussions centered on refining the purpose and need to better account for motorized and non-motorized mobility issues. In addition, mobility issues and concerns identified in technical studies were consistent with public input received through the project's public engagement process.

Given this information, MnDOT and FHWA concurred that the need to improve motorized and non-motorized traffic mobility should become a primary need. Project stakeholders were given an opportunity to comment on these changes to the purpose and need through ongoing public engagement efforts. Stakeholders were supportive of mobility being designated as a primary need. The Purpose and Need statement in Section II of this EA/EAW reflects the issues defined during this additional traffic analysis and stakeholder engagement.

C. Public Participation

1. Open Houses

Three public open houses were conducted to provide an opportunity for attendees to view display boards and graphics and talk one-on-one with project staff. Presentations were also conducted to provide project updates. Attendees had the opportunity to submit concerns, suggestions, comments, and any other information in written form on comment cards. The input obtained through the conversations and comment cards at these open houses provided guidance and direction throughout the design process.

The dates of the public open houses were:

- April 12th, 2012
- July 25th, 2013
- October 1st, 2014

2. Listening Sessions

Five listening sessions have been held to date. This forum provided an informal opportunity for the public, business community, and other stakeholders to visit with project staff. Project materials including graphics and alternatives options were displayed, and attendees were invited to submit written comments on cards.

The dates of the listening sessions were:

- May 17th, 2012
- September 20th, 2014
- February 21st, 2013
- November 11th, 2013
- May 27th, 2014

3. Other

Project staff met with residents of the City of Red Wing's Bluff Neighborhood on September 22, 2012. This meeting functioned as a targeted listening session focused on discussing alternatives that could directly affect the neighborhood and learn about the specific questions and concerns of the area residents. Project staff have also made presentations to several local groups throughout the project, including the Red Wing Heritage Preservation Commission, Red Wing Lions Club, and the Red Wing Kiwanis.

D. Ongoing Communication

1. Website

A project website was established and maintained on the MnDOT website.³⁹ Website materials include a project overview and schedule, updated status reports, maps, graphics, design concepts, PAC/TAC meeting notes and presentations, opportunities for public comment, and other elements as appropriate to build understanding of the proposed project. The City of Red Wing also has a webpage about the project on their home site, which also has links to the MnDOT website.

2. Newsletters, Project Updates, and Fact Sheets

Project updates in the form of e-newsletters, printed newsletters, and fact sheets were provided to key stakeholders, the media, and general public. Newsletters were made available through the project website, the project Constant Contact database, PAC/TAC members, Red Wing City Hall, and other public locations where they could be posted for viewing. These documents educated stakeholders about the need and goals of the project, kept stakeholders apprised of new information and milestones, announced upcoming project meetings and events, and shared project conclusions and decisions.

E. Permits and Approval Requirements

See Section IV.A.8 (Permits and Approval Required) for information.

F. Public Comment Period and Public Hearing

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

At the informational meeting/public hearing, preliminary design layouts for the alternatives under consideration along with other project documentation will be available for public review. The public will also be given the opportunity to ask questions and express their comments, ideas and concerns about the

³⁹ Source: <http://www.dot.state.mn.us/d6/projects/redwing-bridge/index.html>

proposed project. These comments will be received at the hearing and during the remainder of the comment period, and will become a part of the official project record.

G. Report Distribution and EA Notices

Notices of EA availability and copies of this document have been sent to agencies, local government units, libraries, and others as per requirement in federal 23 CFR 771.119 and Minnesota Rule 4410.1500 (Publication and Distribution of EAW).

H. Process Beyond the EA Public Comment Period

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

When the environmental documentation is determined adequate, if an EIS is not necessary as currently anticipated, MnDOT would prepare the FOFC as the basis for a "Negative Declaration" for the state environmental requirements. MnDOT would also prepare a request for a "Finding of No Significant Impacts" (FONSI) that would be submitted to the FHWA. If the FHWA agrees that this finding is appropriate, it would issue a FONSI.

Notices of the federal and state decisions and availability of the above documents will be placed in the Federal Register and the Minnesota Environmental Quality Boards (MEQB) Monitor. MnDOT will also distribute the Negative Declaration and FONSI to the Environmental Assessment Worksheet (EAW) distribution list and publish notices in local newspapers announcing the environmental and project alternative decisions that were made.

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Appendix A: Figures

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US 63 River Bridge and Approach Roadways Project

Traffic Analysis Model
Intersection Locations
EA Appendix A

Figure: 1



US 63 River Bridge and Approach Roadways Project

Traffic Analysis Model Results
Year 2022, No Build/MN-1
EA Appendix A

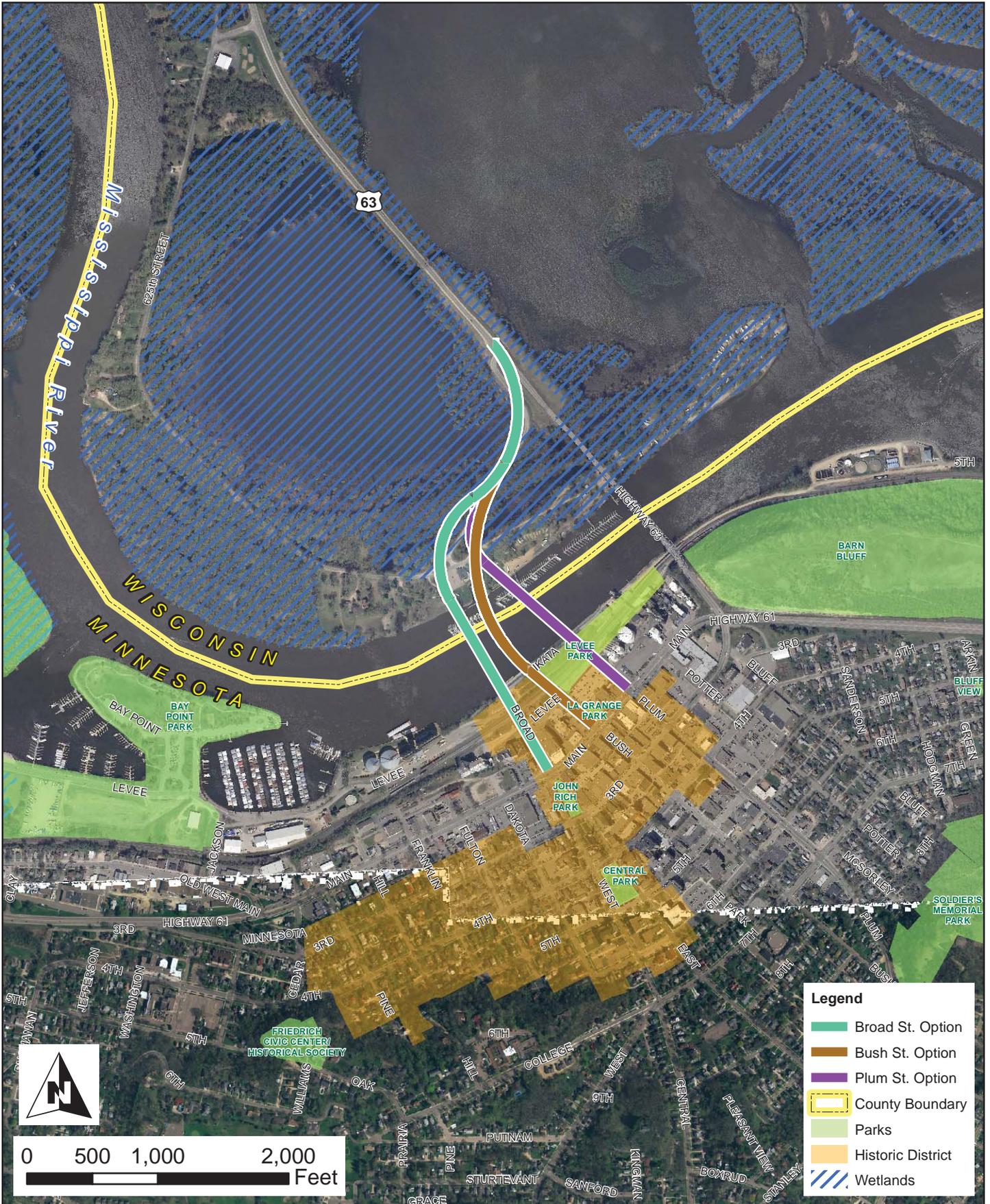
Figure: 2



US 63 River Bridge and Approach Roadways Project

Traffic Analysis Model Results
 Year 2042, No Build/MN-1
 EA Appendix A

Figure: 3



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US 63 River Bridge and Approach Roadways Project

Downtown New Bridge Location Options
EA Appendix A

Figure: 4



US 63 River Bridge and Approach Roadways Project

Bench Street New Bridge Location Option
EA Appendix A

Figure: 5

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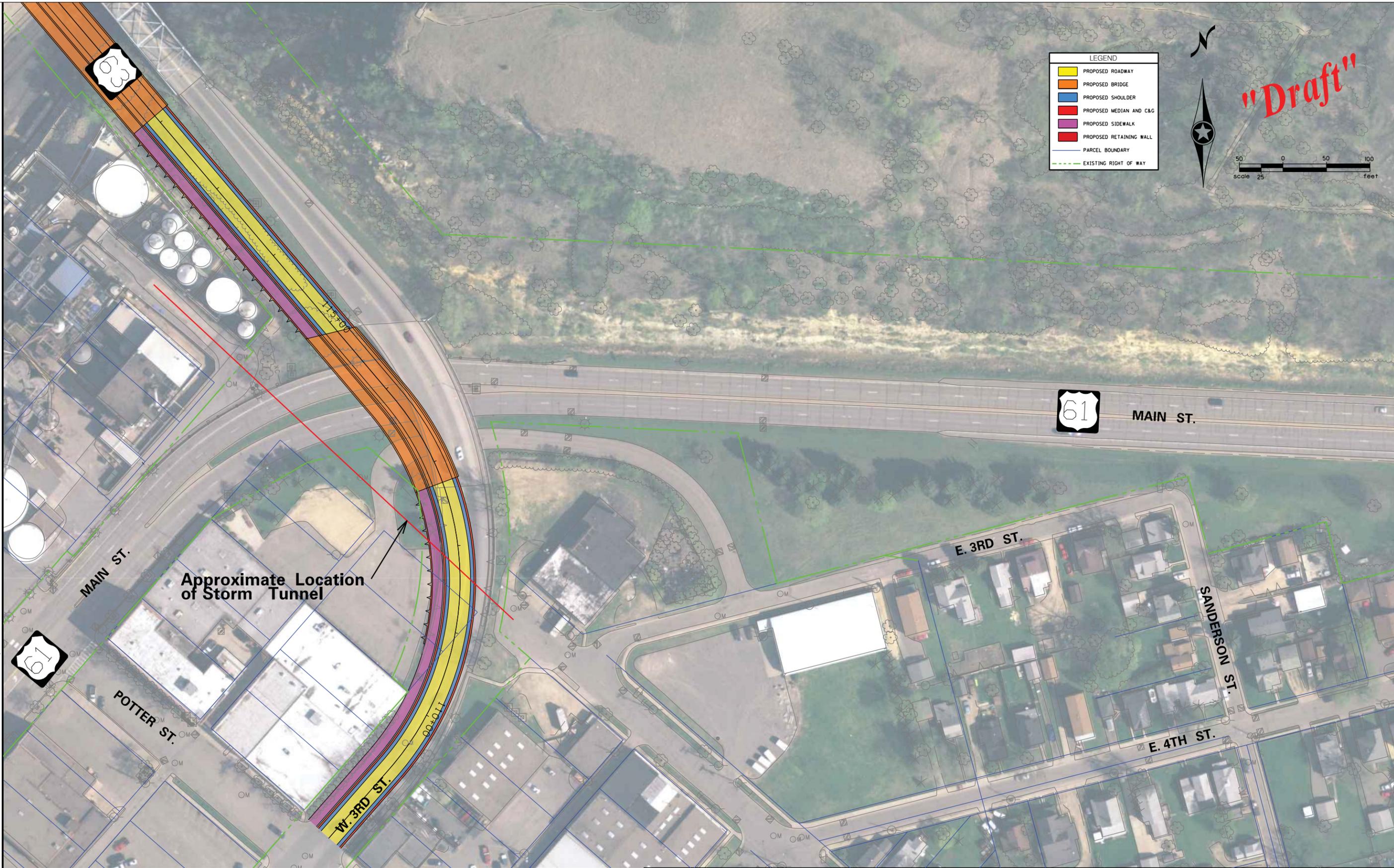
US 63 River Bridge and Approach Roadways Project

Alternative MN-1
 Bridge 9103 Rehabilitation
 EA Appendix A

Figure: 6

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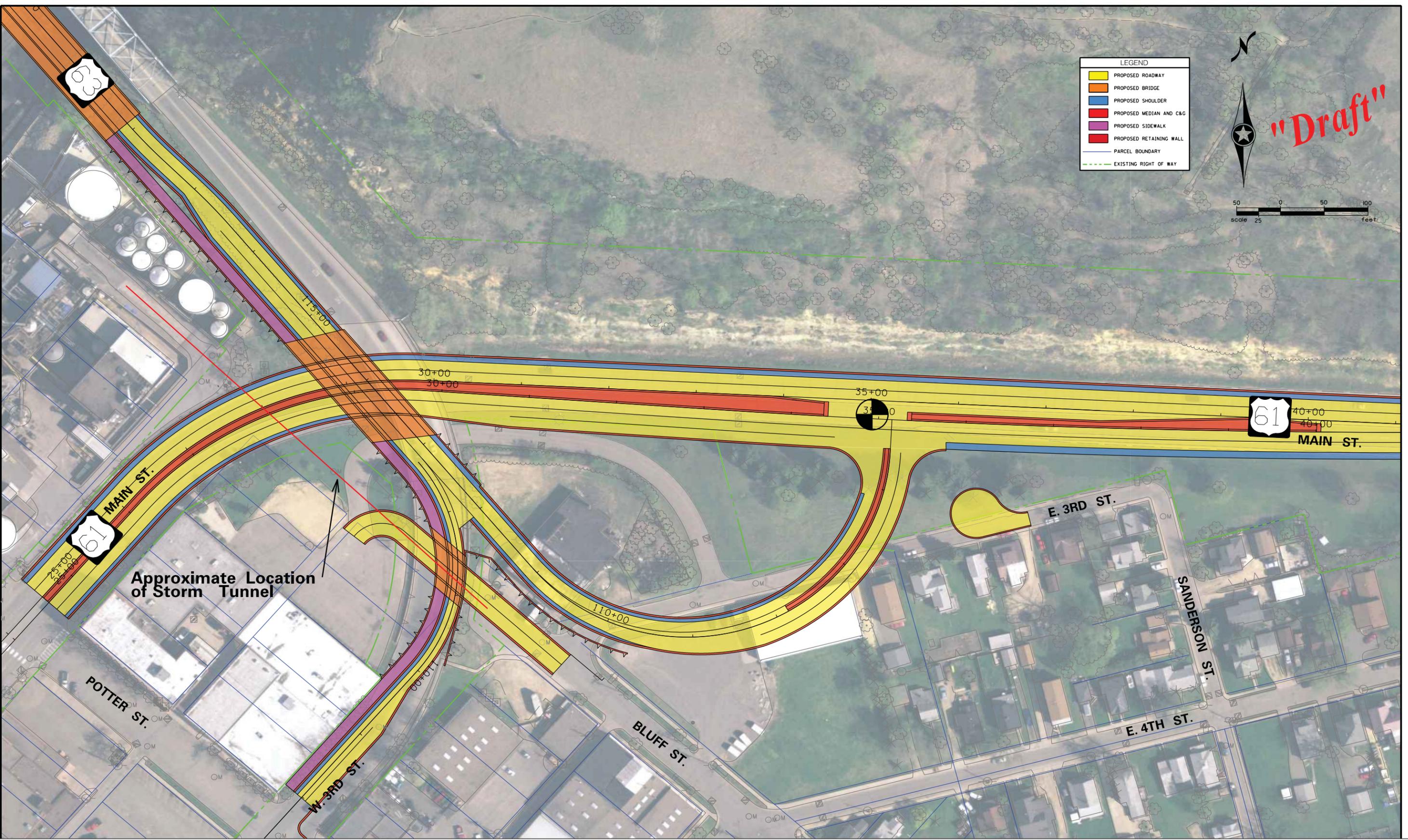


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LEGEND

- PROPOSED ROADWAY
- PROPOSED BRIDGE
- PROPOSED SHOULDER
- PROPOSED MEDIAN AND C&G
- PROPOSED SIDEWALK
- PROPOSED RETAINING WALL
- PARCEL BOUNDARY
- EXISTING RIGHT OF WAY



Approximate Location of Storm Tunnel

US 63 River Bridge and Approach Roadways Project

Alternative MN-3
 Replace Bridge 9103; Button-hook
 and Slip Ramp
 EA Appendix A

Figure: 9



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**US 63 River Bridge and
Approach Roadways Project**

Wisconsin Approach Concepts
Right-in Right-out
EA Appendix A

Figure: 10

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US 63 River Bridge and Approach Roadways Project

Wisconsin Approach Concepts
Northbound Left Turn Lane
EA Appendix A

Figure: 11

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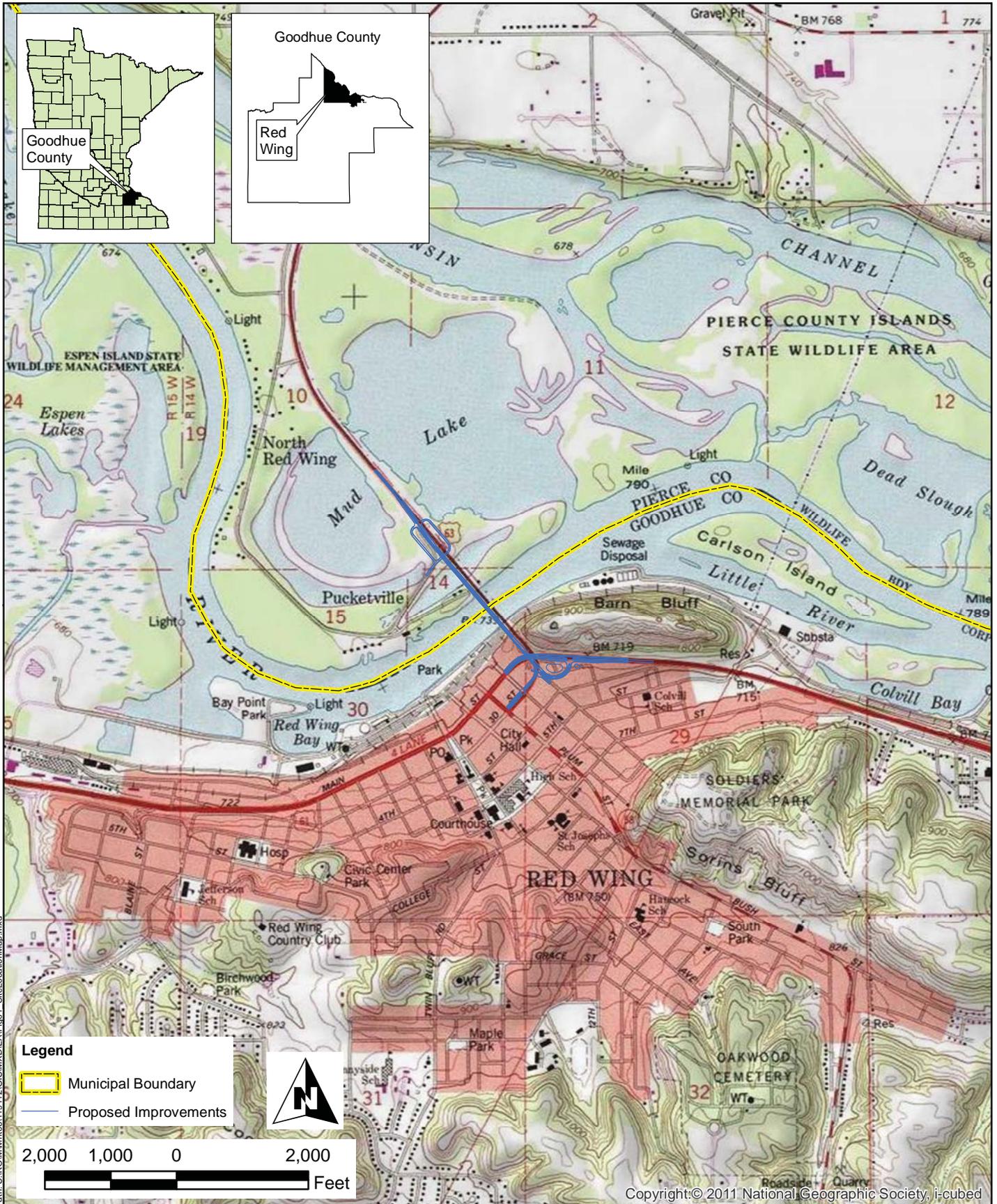


**US 63 River Bridge and
Approach Roadways Project**

Wisconsin Approach Concepts
Jughandle Intersection
EA Appendix A

Figure: 12

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US 63 River Bridge and Approach Roadways Project

Project Location
EA Appendix A

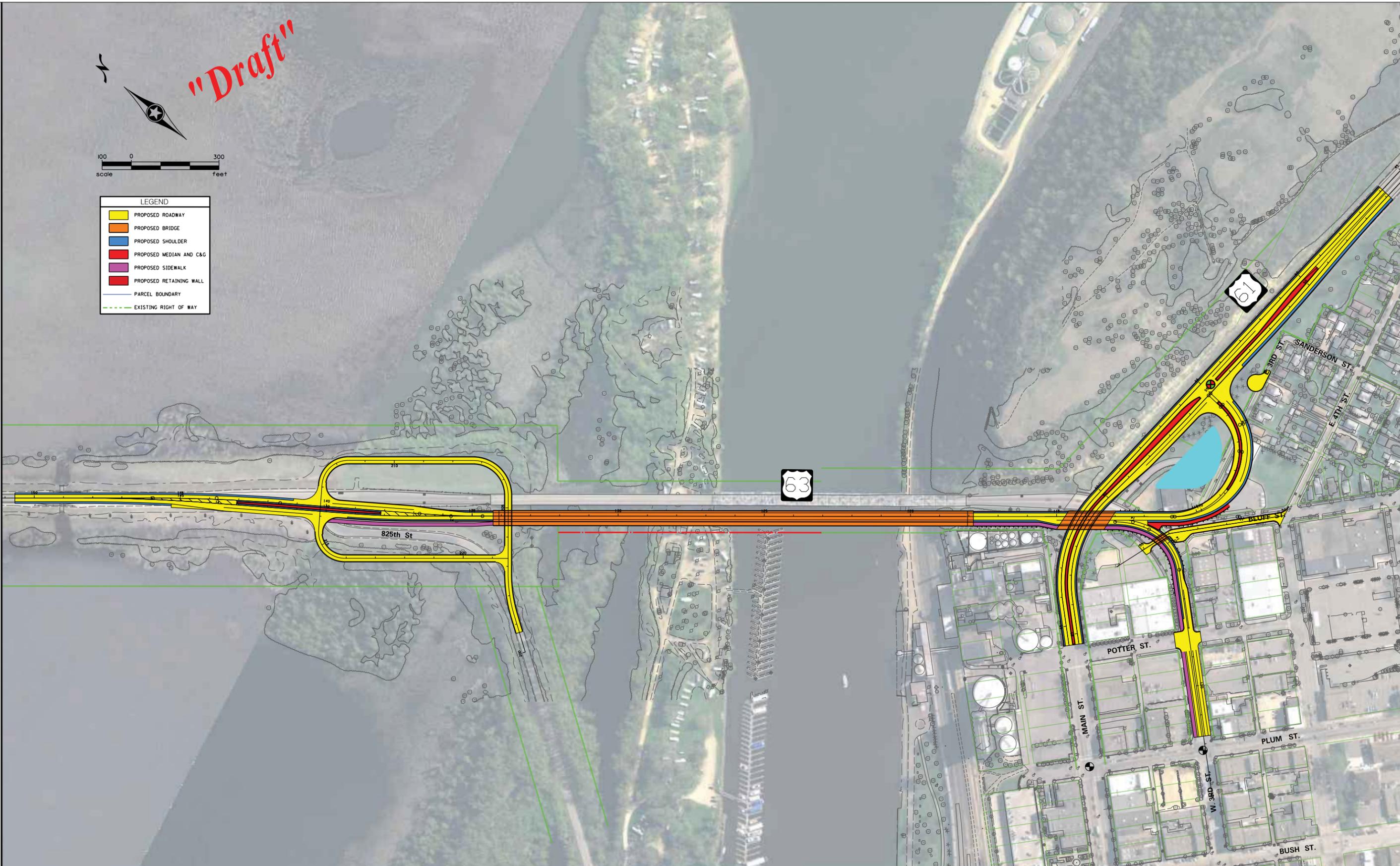
Figure: 13

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LEGEND	
	PROPOSED ROADWAY
	PROPOSED BRIDGE
	PROPOSED SHOULDER
	PROPOSED MEDIAN AND C&G
	PROPOSED SIDEWALK
	PROPOSED RETAINING WALL
	PARCEL BOUNDARY
	EXISTING RIGHT OF WAY

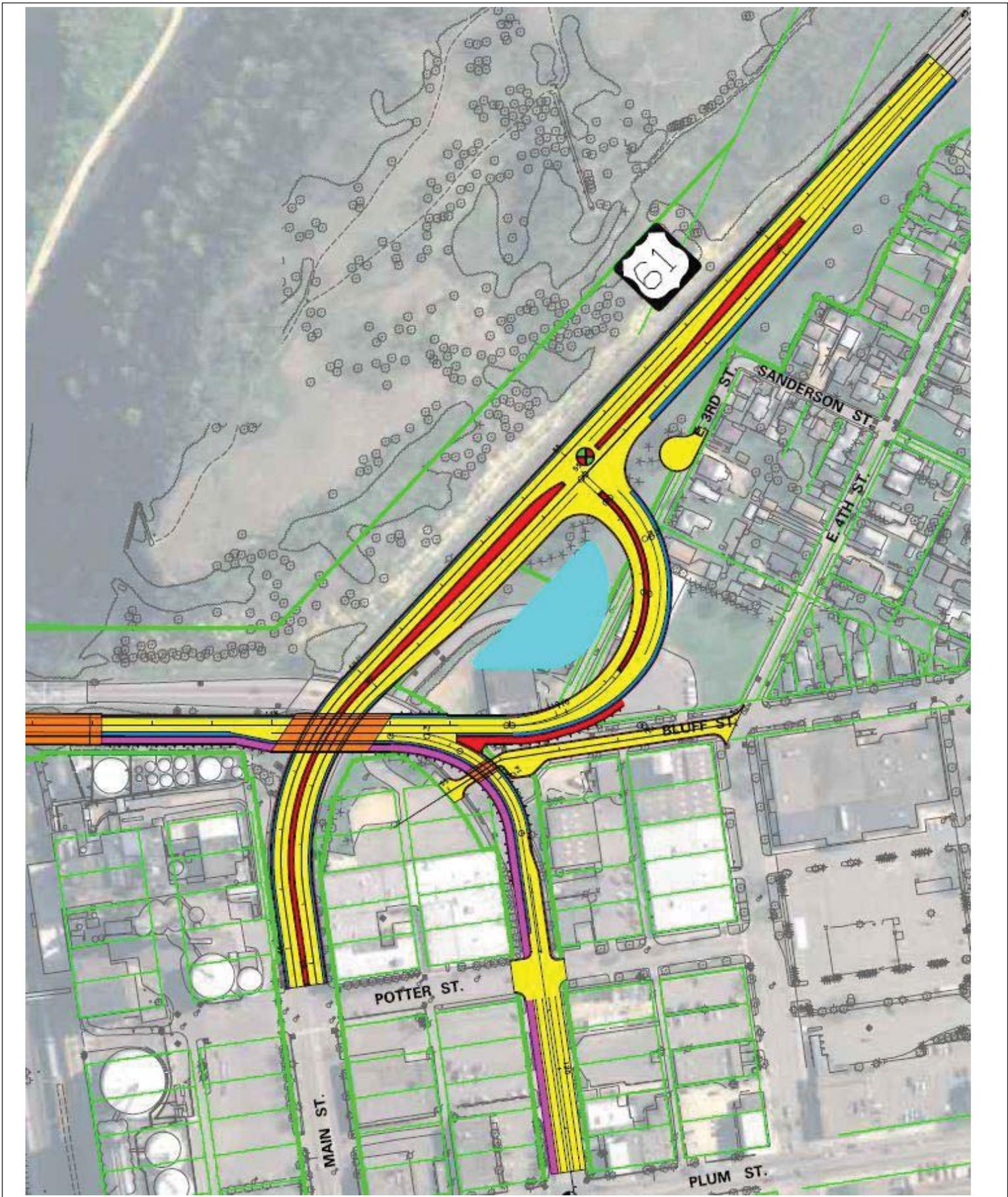


US 63 River Bridge and Approach Roadways Project

Project Layout Preferred Alternative
EA Appendix A

Figure: 14

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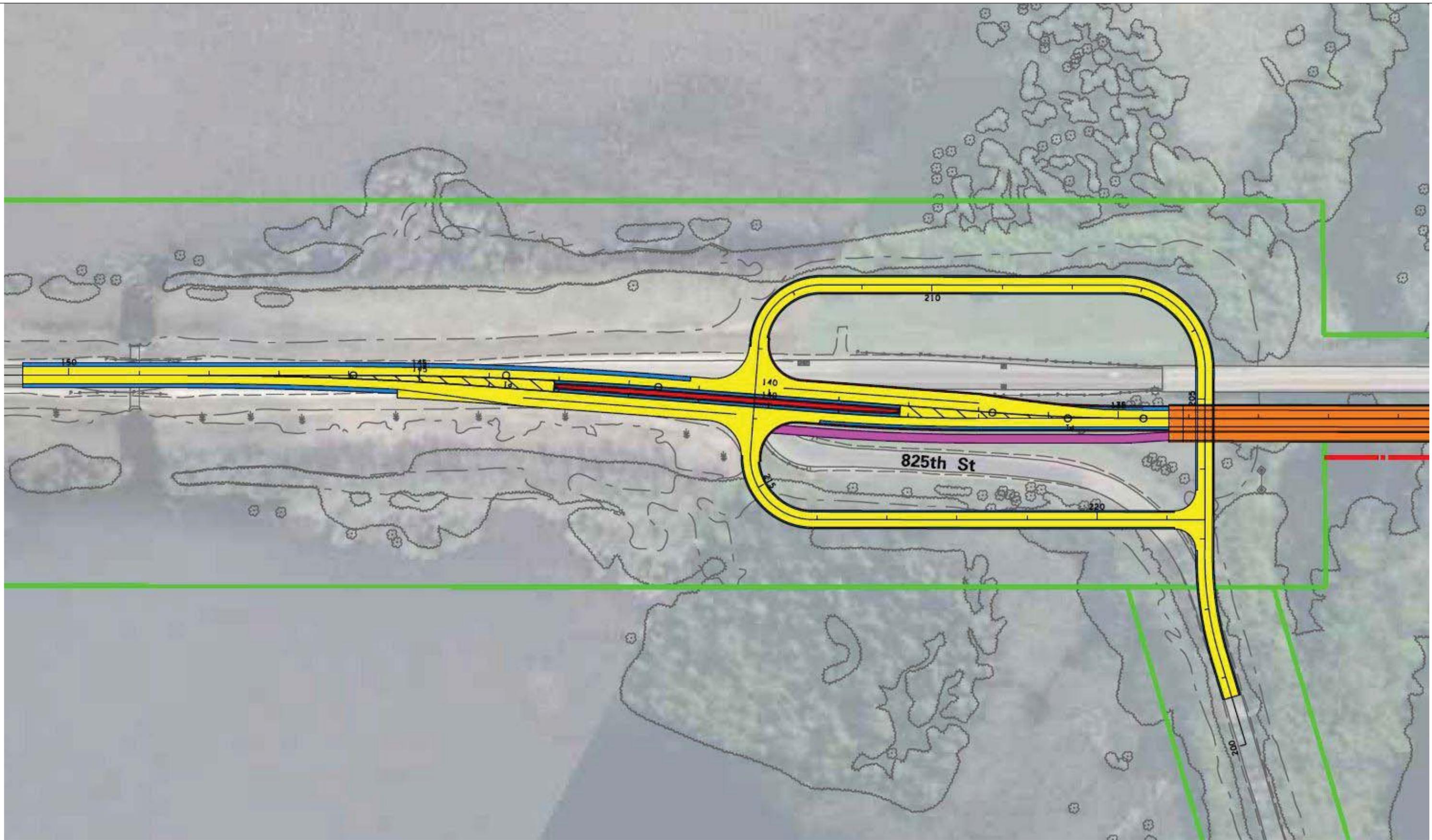


US 63 River Bridge and Approach Roadways Project

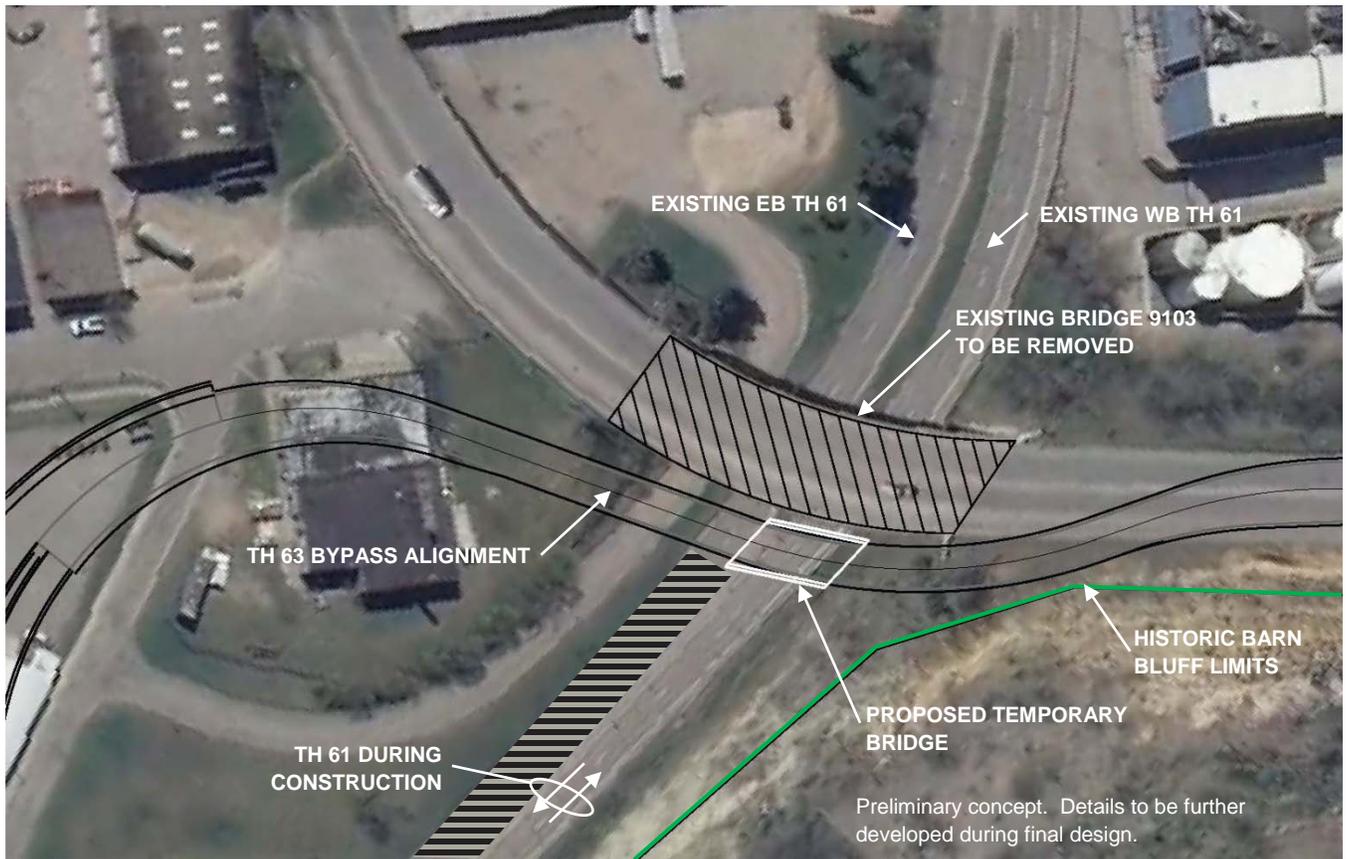
Minnesota Approach Preferred Alt.
Project Layout
EA Appendix A

Figure: 15

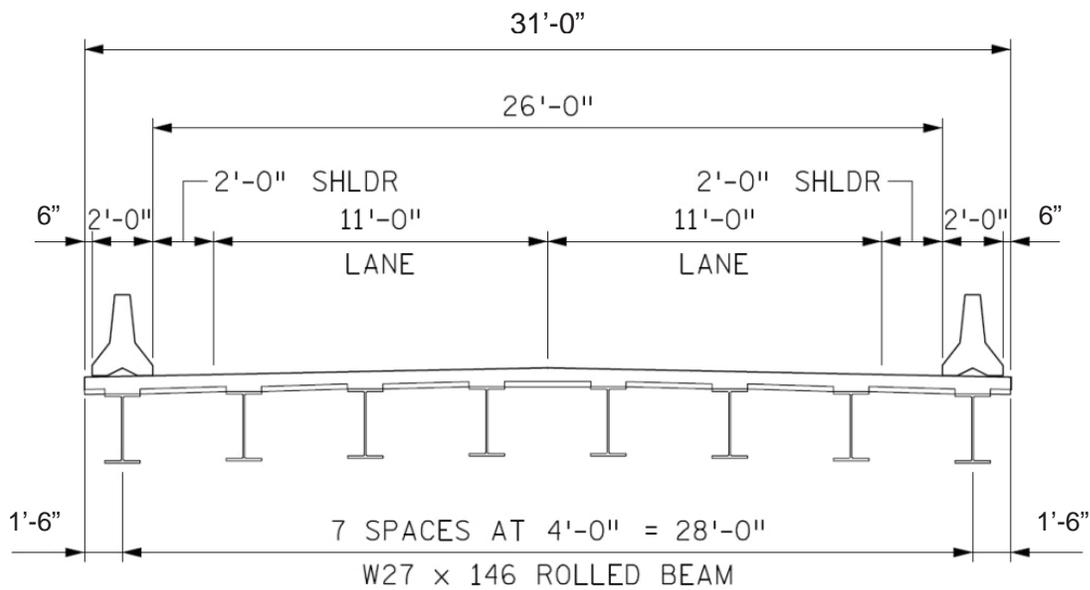
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Proposed Temporary Bypass Layout



Temporary Bypass Typical Section



US 63 River Bridge and Approach Roadways Project

Proposed Temporary Bypass
Minnesota Approach
EA Appendix A

Figure: 17

0 225 450 900 Feet



Temporary construction causeway impacts anticipated to extend approximately 50 feet from the edge of existing and proposed river bridges.

Wisconsin
Minnesota

Crane Bench

Crane Bench

Legend

ROW Impacts

- Commercial Parcel Impacts
- Residential Parcel Impacts
- Tax-Exempt Parcel Impacts
- Potential Staging Areas
- Potential Temporary Easement
- Proposed Project

Path: S:\KOW\Min08\1912\GIS\MXD\EA\Fig03_ROW_Impacts_Expanded_Without_Red_Wing_Shoe_041015.mxd

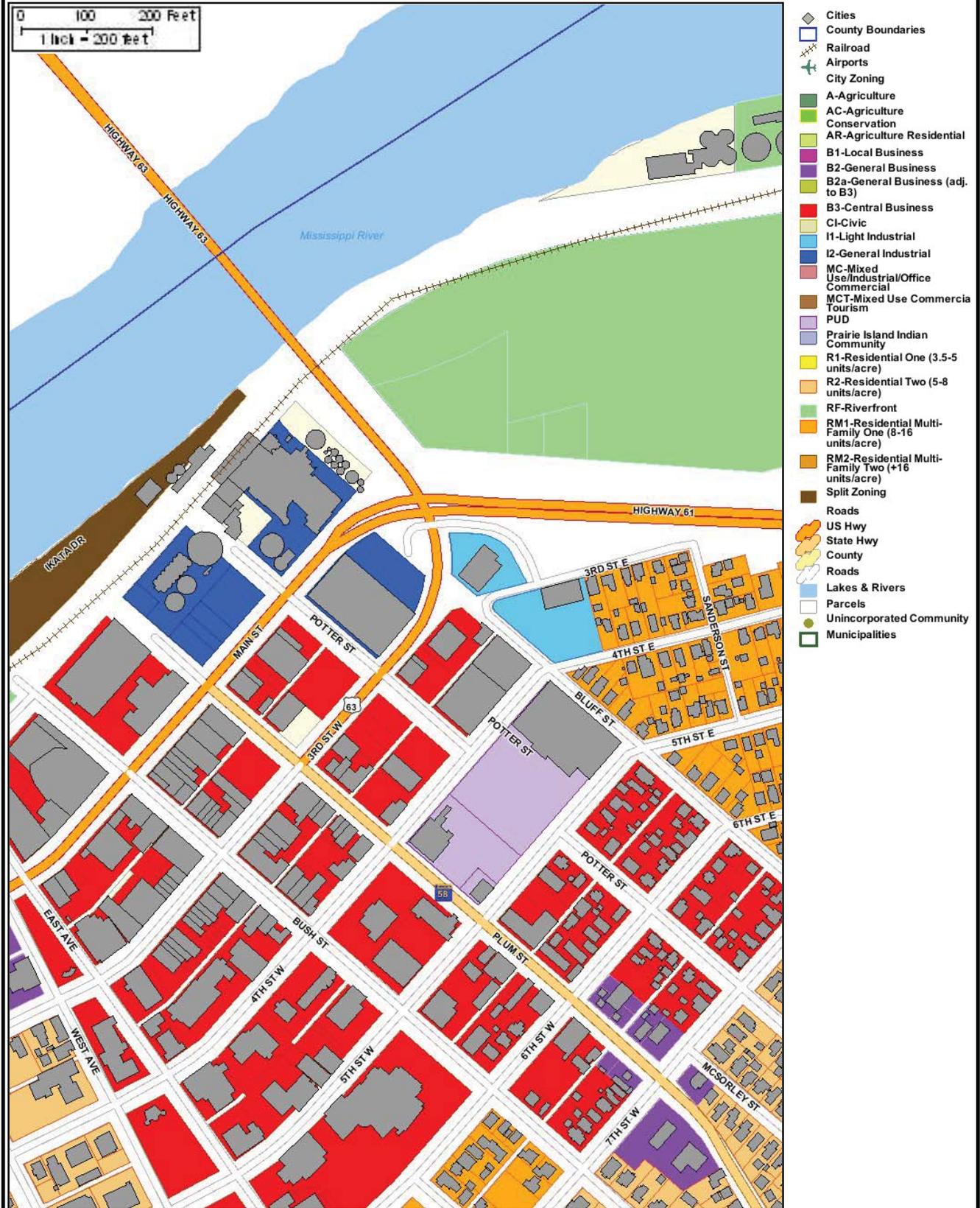


US 63 River Bridge and Approach Roadways Project

Right-of-Way Impacts & Potential Construction Staging Areas
EA Appendix A

Figure: 18

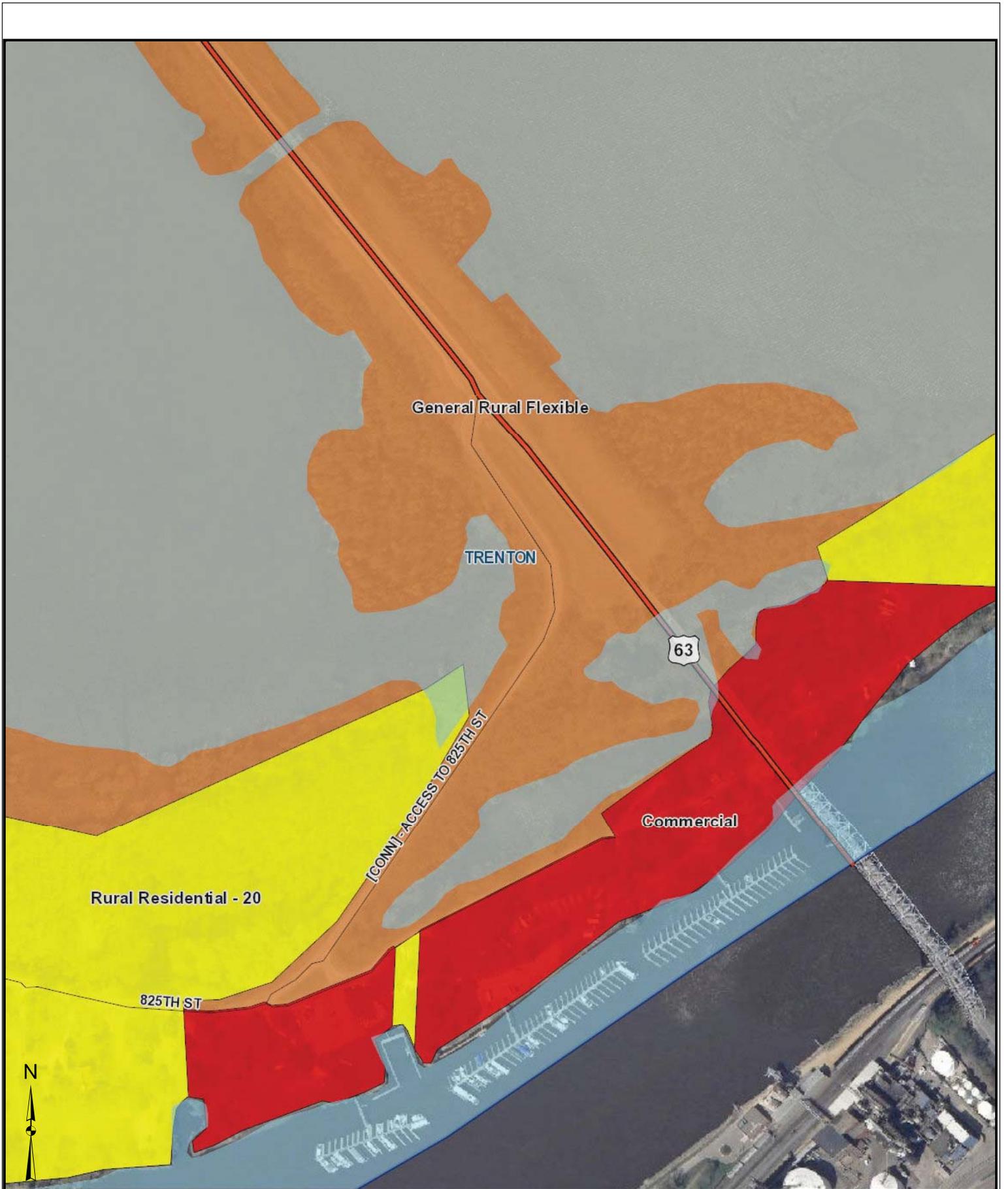
City of Red Wing Zoning/Land Use



US 63 River Bridge and Approach Roadways Project

City of Red Wing Zoning/Land Use
EA Appendix A

Figure: 19

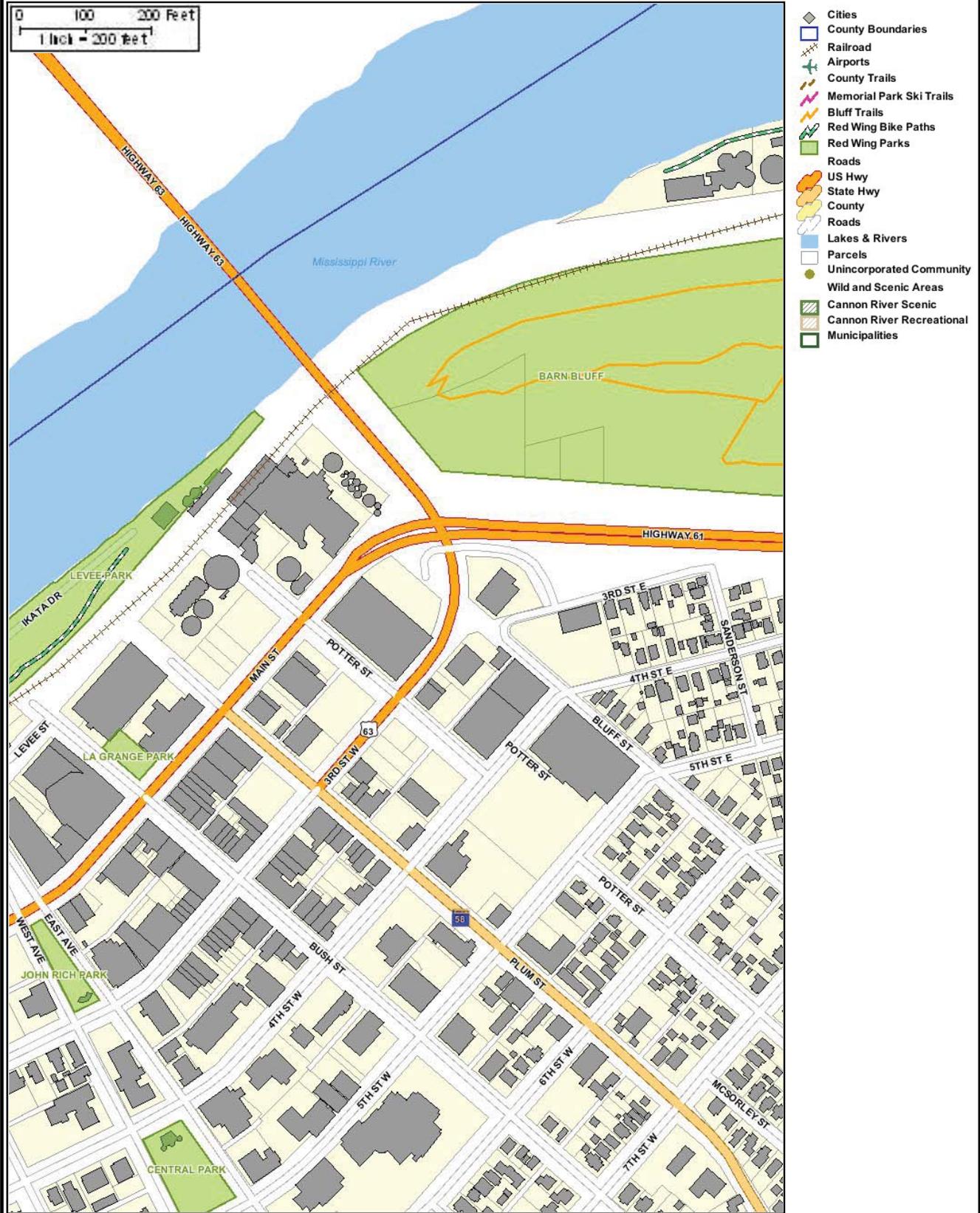


US 63 River Bridge and Approach Roadways Project

Pierce County Zoning/Land Use
EA Appendix A

Figure: 20

City of Red Wing Parks and Trails

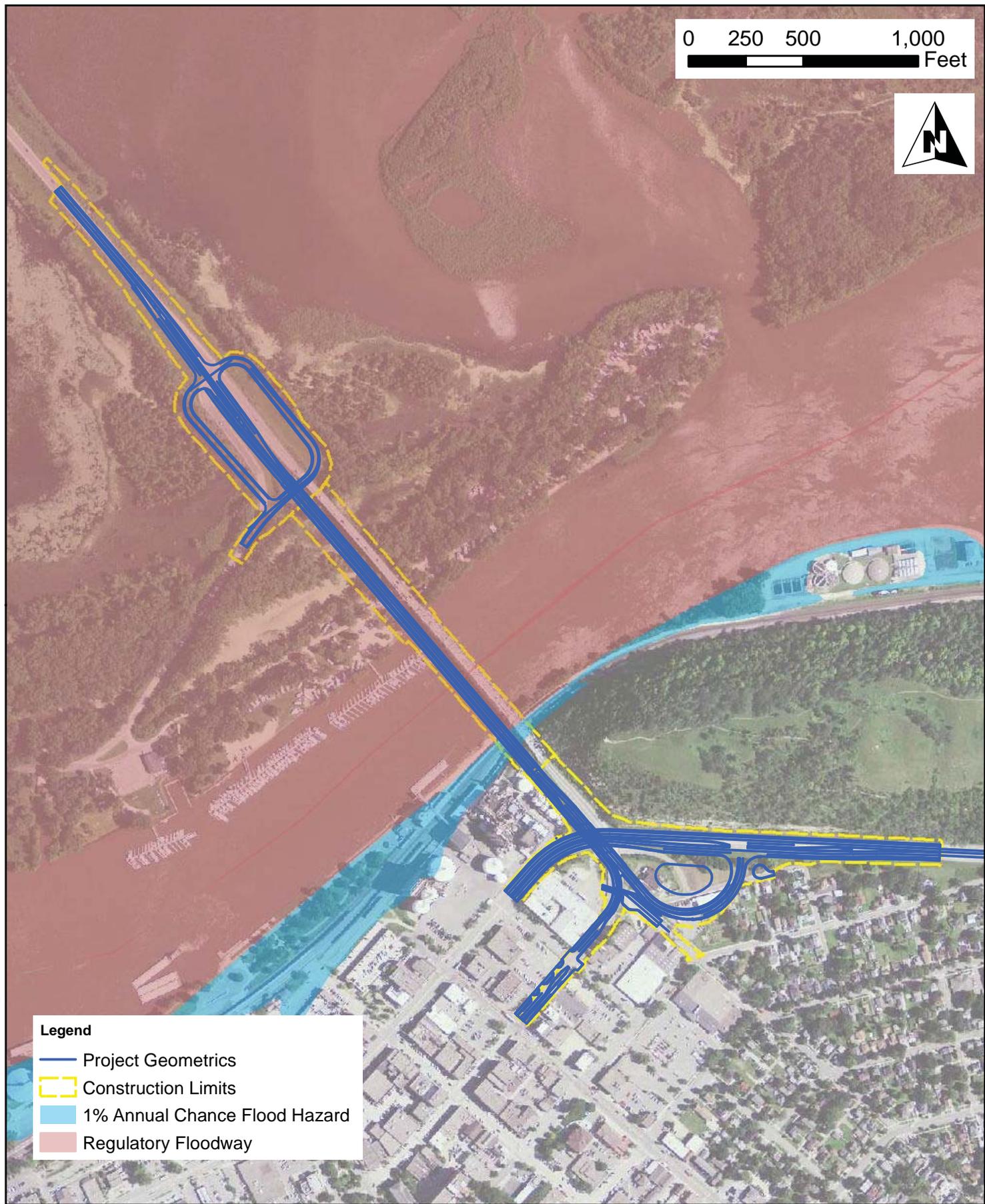


US 63 River Bridge and Approach Roadways Project

City of Red Wing Parks and Trails
EA Appendix A

Figure: 22

0 250 500 1,000
Feet



- Legend**
- Project Geometrics
 - - - Construction Limits
 - 1% Annual Chance Flood Hazard
 - Regulatory Floodway

Path: S:\KOWM\008119112\GIS\MXD\EA\Fig05_Flood.mxd



US 63 River Bridge and Approach Roadways Project

Floodway
EA Appendix A

Figure: 23

Legend

- Wetland Delineation
- Proposed Project
- Piers
- Preliminary Construction Limits
- Potential Staging Areas
- Temporary Wetland Impacts
- Permanent Wetland Impacts

Wisconsin
Minnesota

River Bridge Piers
- Permanent impacts: 0.05 acres

Ditch #1
- Permanent impacts 0.3 acres



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US 63 River Bridge and Approach Roadways Project

Wetland Impacts
Minnesota
EA Appendix A

Figure: 24



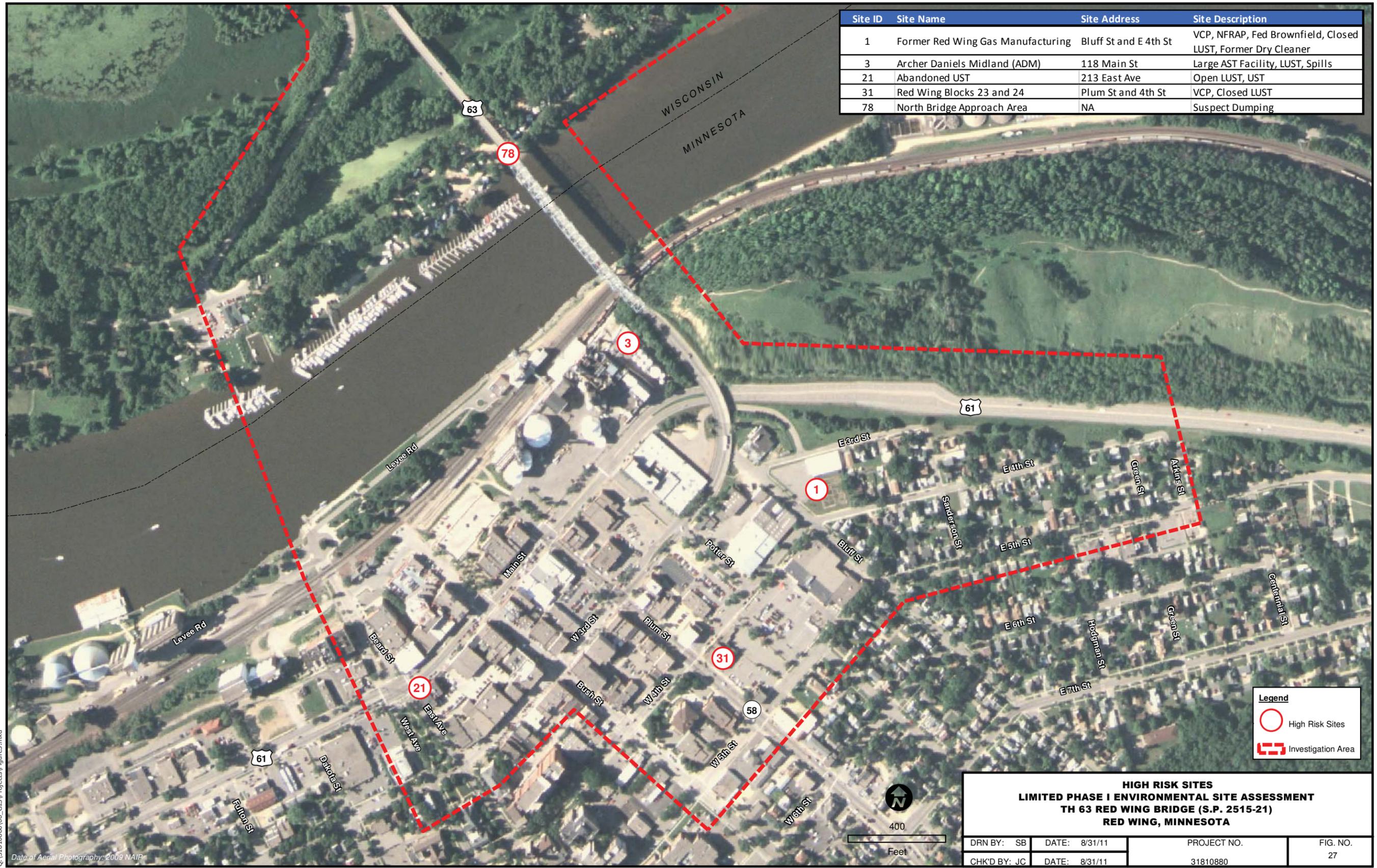
US 63 River Bridge and Approach Roadways Project

Wetland Impacts
 Wisconsin
 EA Appendix A

Figure: 25

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Site ID	Site Name	Site Address	Site Description
1	Former Red Wing Gas Manufacturing	Bluff St and E 4th St	VCP, NFRAP, Fed Brownfield, Closed LUST, Former Dry Cleaner
3	Archer Daniels Midland (ADM)	118 Main St	Large AST Facility, LUST, Spills
21	Abandoned UST	213 East Ave	Open LUST, UST
31	Red Wing Blocks 23 and 24	Plum St and 4th St	VCP, Closed LUST
78	North Bridge Approach Area	NA	Suspect Dumping



**HIGH RISK SITES
LIMITED PHASE I ENVIRONMENTAL SITE ASSESSMENT
TH 63 RED WING BRIDGE (S.P. 2515-21)
RED WING, MINNESOTA**

DRN BY: SB	DATE: 8/31/11	PROJECT NO.	FIG. NO.
CHK'D BY: JC	DATE: 8/31/11	31810880	27

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Date of Aerial Photography: 2009 NAIP



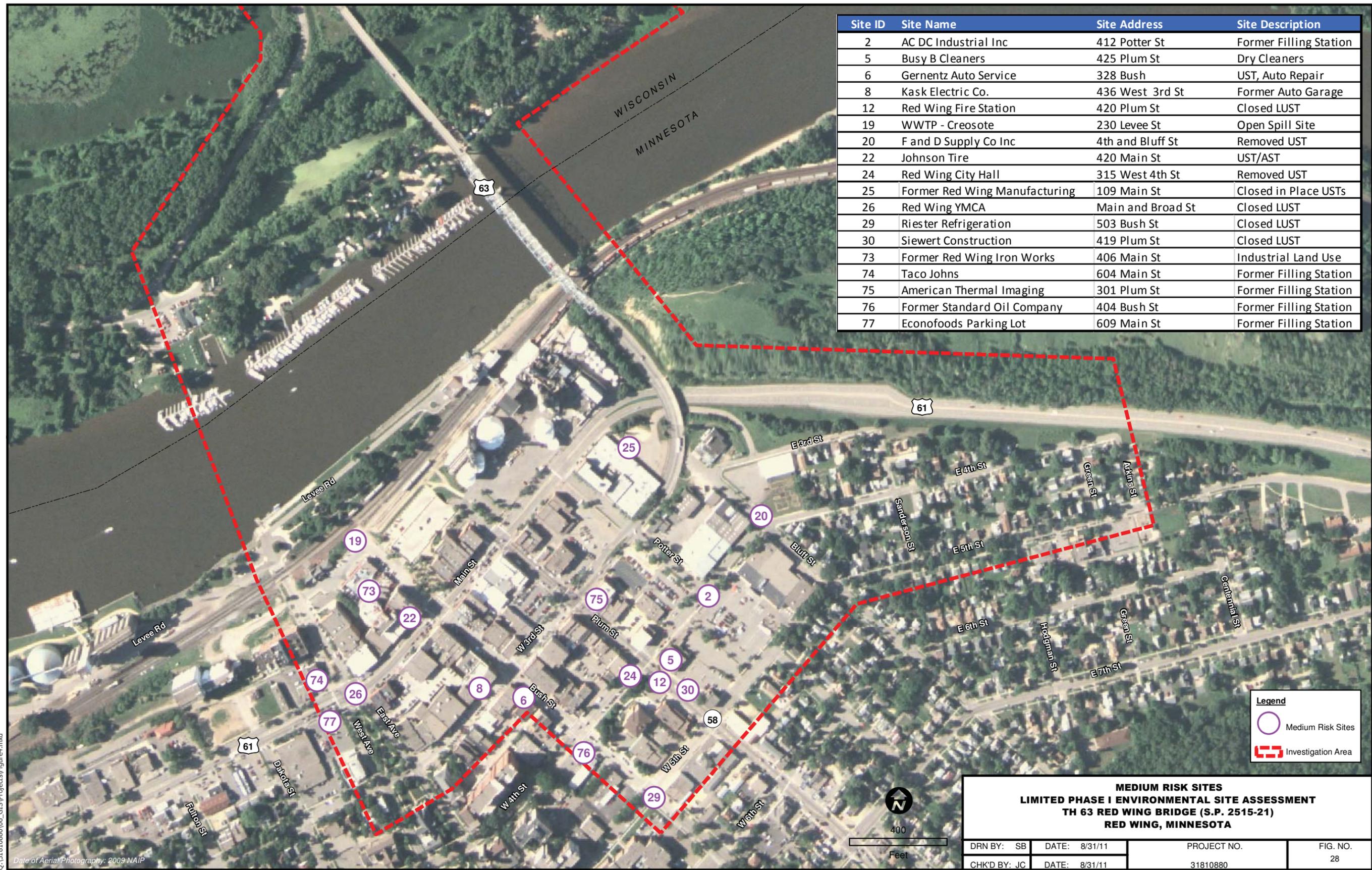
US 63 River Bridge and Approach Roadways Project

High Risk Sites
Environmental Site Assessment
EA Appendix A

Figure: 26

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Site ID	Site Name	Site Address	Site Description
2	AC DC Industrial Inc	412 Potter St	Former Filling Station
5	Busy B Cleaners	425 Plum St	Dry Cleaners
6	Gernentz Auto Service	328 Bush	UST, Auto Repair
8	Kask Electric Co.	436 West 3rd St	Former Auto Garage
12	Red Wing Fire Station	420 Plum St	Closed LUST
19	WWTP - Creosote	230 Levee St	Open Spill Site
20	F and D Supply Co Inc	4th and Bluff St	Removed UST
22	Johnson Tire	420 Main St	UST/AST
24	Red Wing City Hall	315 West 4th St	Removed UST
25	Former Red Wing Manufacturing	109 Main St	Closed in Place USTs
26	Red Wing YMCA	Main and Broad St	Closed LUST
29	Riester Refrigeration	503 Bush St	Closed LUST
30	Siewert Construction	419 Plum St	Closed LUST
73	Former Red Wing Iron Works	406 Main St	Industrial Land Use
74	Taco Johns	604 Main St	Former Filling Station
75	American Thermal Imaging	301 Plum St	Former Filling Station
76	Former Standard Oil Company	404 Bush St	Former Filling Station
77	Econofoods Parking Lot	609 Main St	Former Filling Station



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Date of Aerial Photography: 2009 NAIP

**MEDIUM RISK SITES
LIMITED PHASE I ENVIRONMENTAL SITE ASSESSMENT
TH 63 RED WING BRIDGE (S.P. 2515-21)
RED WING, MINNESOTA**

DRN BY: SB	DATE: 8/31/11	PROJECT NO.	FIG. NO.
CHK'D BY: JC	DATE: 8/31/11	31810880	28



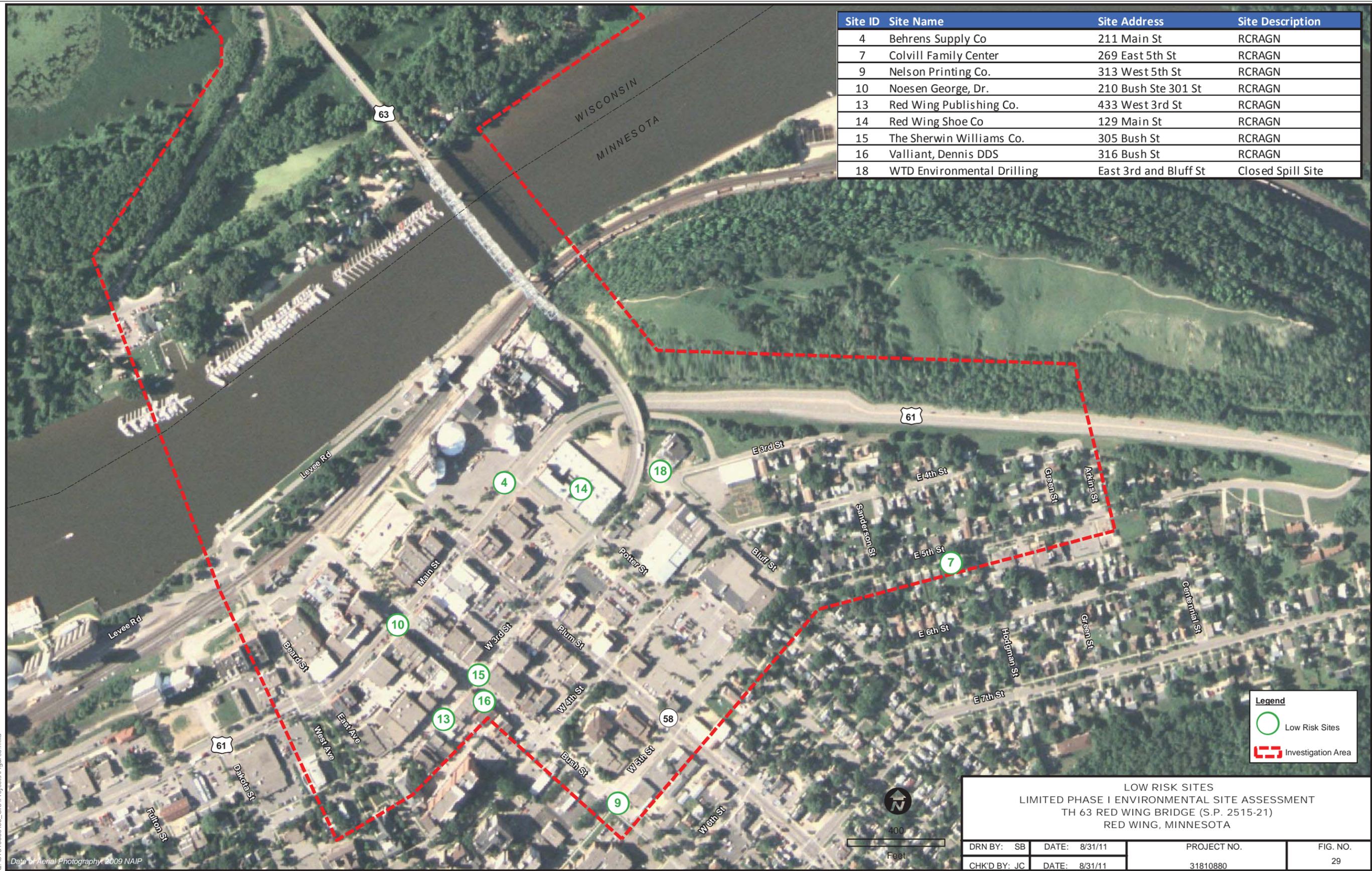
US 63 River Bridge and Approach Roadways Project

Medium Risk Sites
Environmental Site Assessment
EA Appendix A

Figure: 27

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Site ID	Site Name	Site Address	Site Description
4	Behrens Supply Co	211 Main St	RCRAGN
7	Colvill Family Center	269 East 5th St	RCRAGN
9	Nelson Printing Co.	313 West 5th St	RCRAGN
10	Noesen George, Dr.	210 Bush Ste 301 St	RCRAGN
13	Red Wing Publishing Co.	433 West 3rd St	RCRAGN
14	Red Wing Shoe Co	129 Main St	RCRAGN
15	The Sherwin Williams Co.	305 Bush St	RCRAGN
16	Valliant, Dennis DDS	316 Bush St	RCRAGN
18	WTD Environmental Drilling	East 3rd and Bluff St	Closed Spill Site



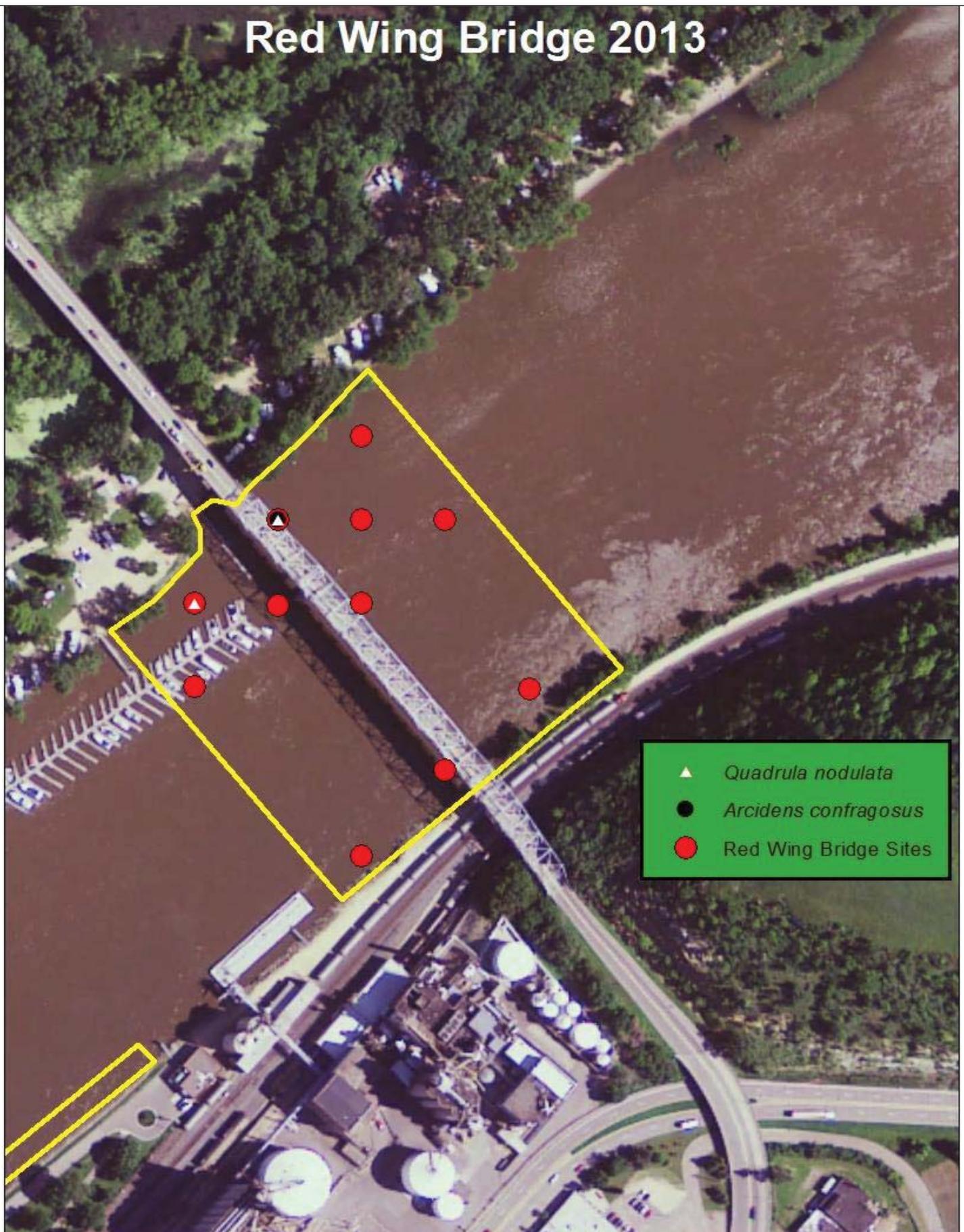
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Date of Aerial Photography: 2009 NAIP



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Red Wing Bridge 2013



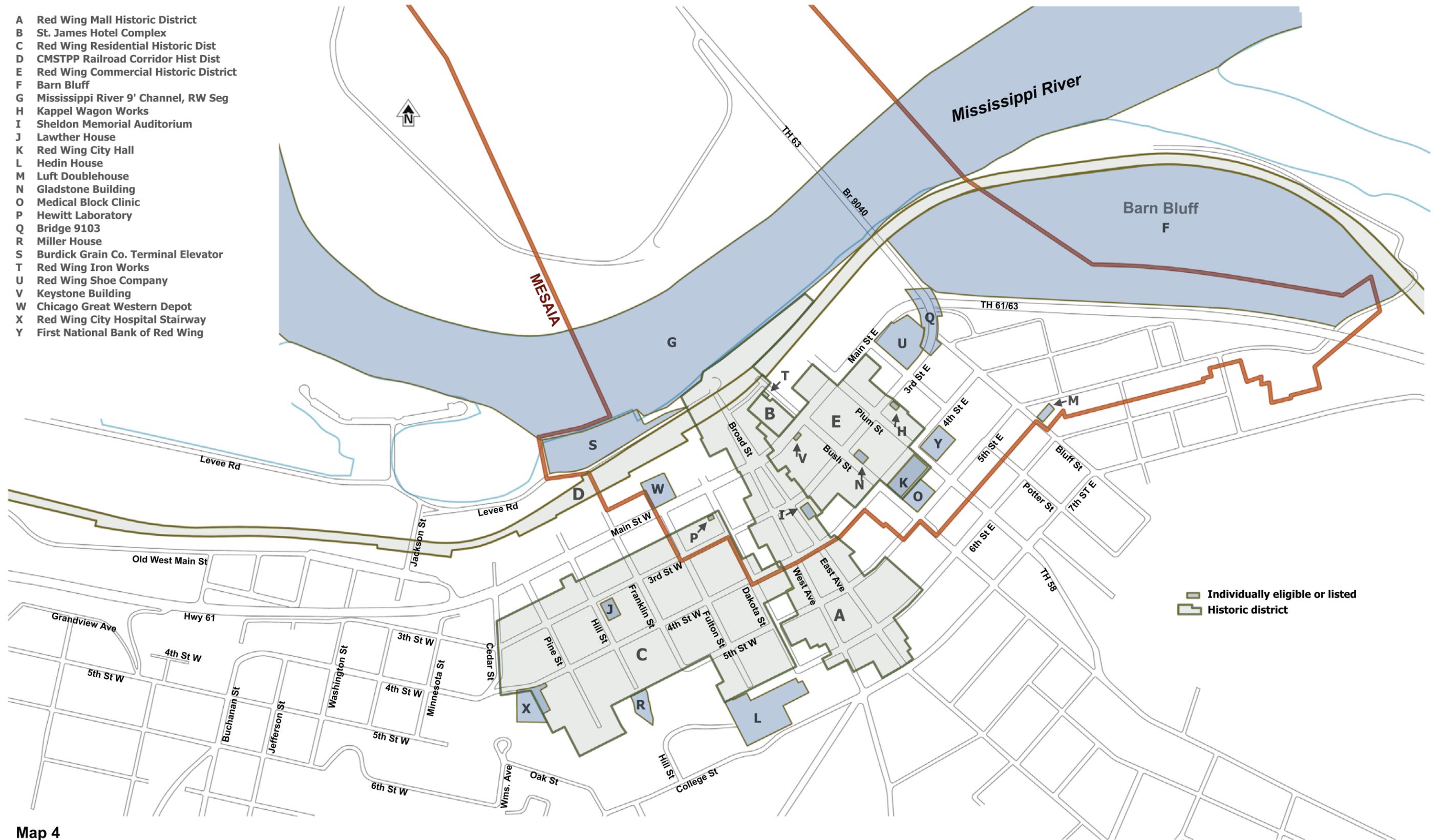
US 63 River Bridge and Approach Roadways Project

Mussel Survey Results
EA Appendix A

Figure: 29

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- A Red Wing Mall Historic District
- B St. James Hotel Complex
- C Red Wing Residential Historic Dist
- D CMSTPP Railroad Corridor Hist Dist
- E Red Wing Commercial Historic District
- F Barn Bluff
- G Mississippi River 9' Channel, RW Seg
- H Kappel Wagon Works
- I Sheldon Memorial Auditorium
- J Lawther House
- K Red Wing City Hall
- L Hedin House
- M Luft Doublehouse
- N Gladstone Building
- O Medical Block Clinic
- P Hewitt Laboratory
- Q Bridge 9103
- R Miller House
- S Burdick Grain Co. Terminal Elevator
- T Red Wing Iron Works
- U Red Wing Shoe Company
- V Keystone Building
- W Chicago Great Western Depot
- X Red Wing City Hospital Stairway
- Y First National Bank of Red Wing

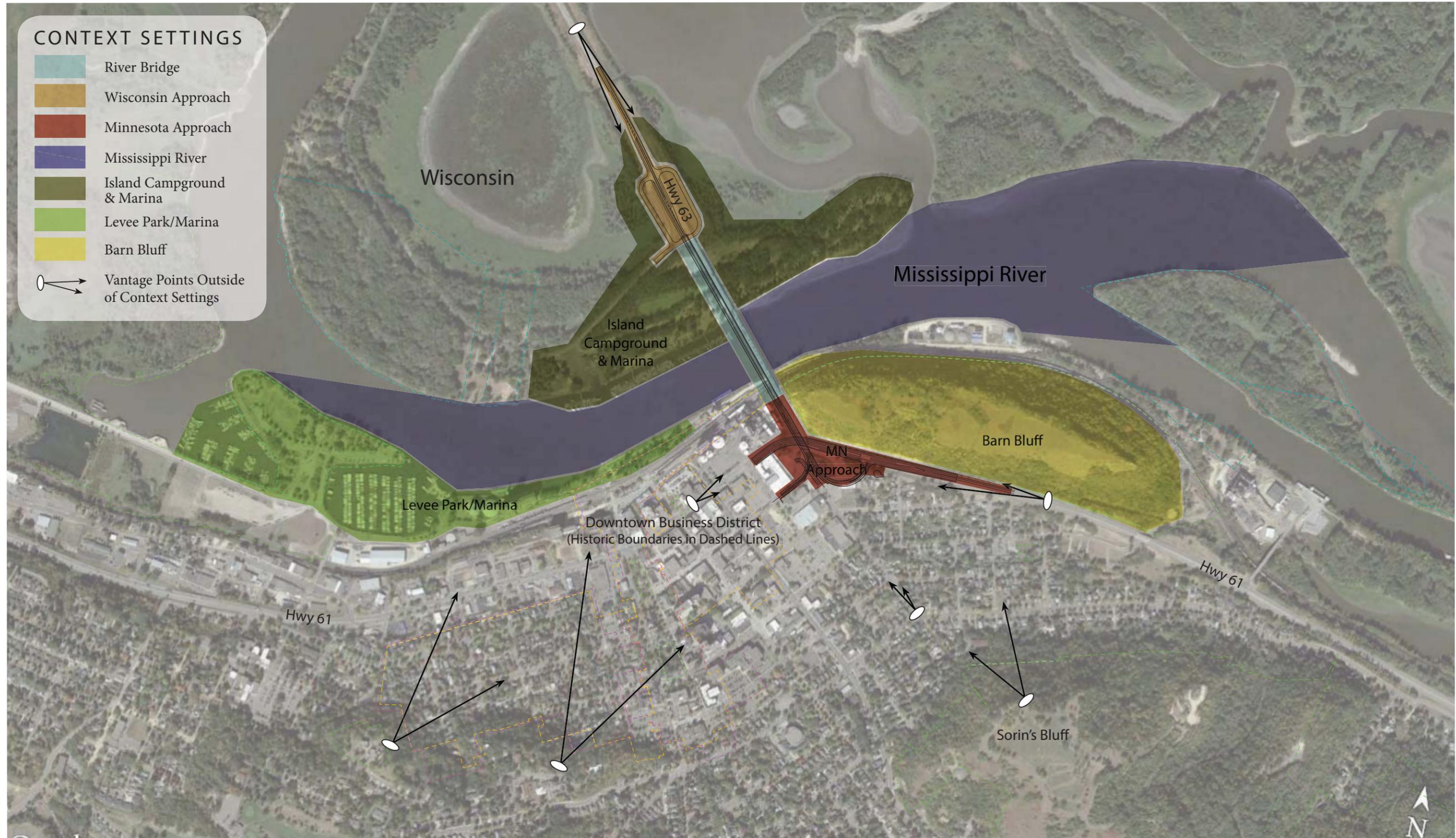


Map 4
Properties in the APE Listed on or Eligible for the National Register

Prep by Gemini Research 02-2014



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9/11/2014

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DRAFT 2/13/2014



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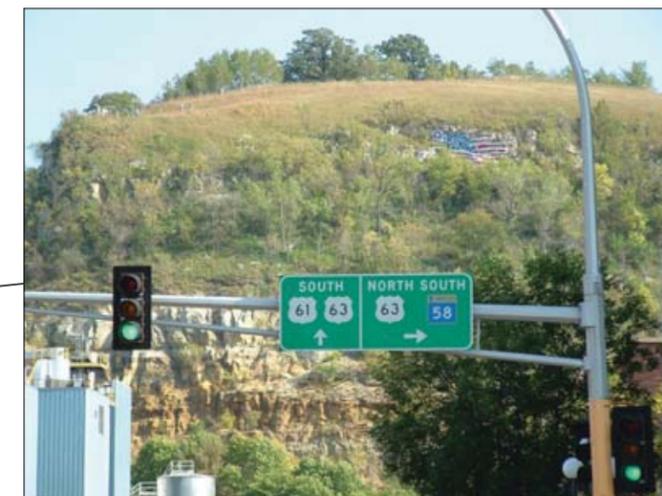
Wisconsin Approach



Island Campground & Marina



Mississippi River



Barn Bluff



Bay Point Park and Red Wing Marina



Levee Park



Minnesota Approach

DRAFT 2/13/2014



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Proposed Project Renderings

Proposed river bridge (looking upstream)



Proposed river bridge (Minnesota in foreground, Wisconsin in background)



US 63 River Bridge and Approach Roadways Project

Proposed Project Renderings
River Bridge
EA Appendix A

Figure: 32A

Proposed Wisconsin approach



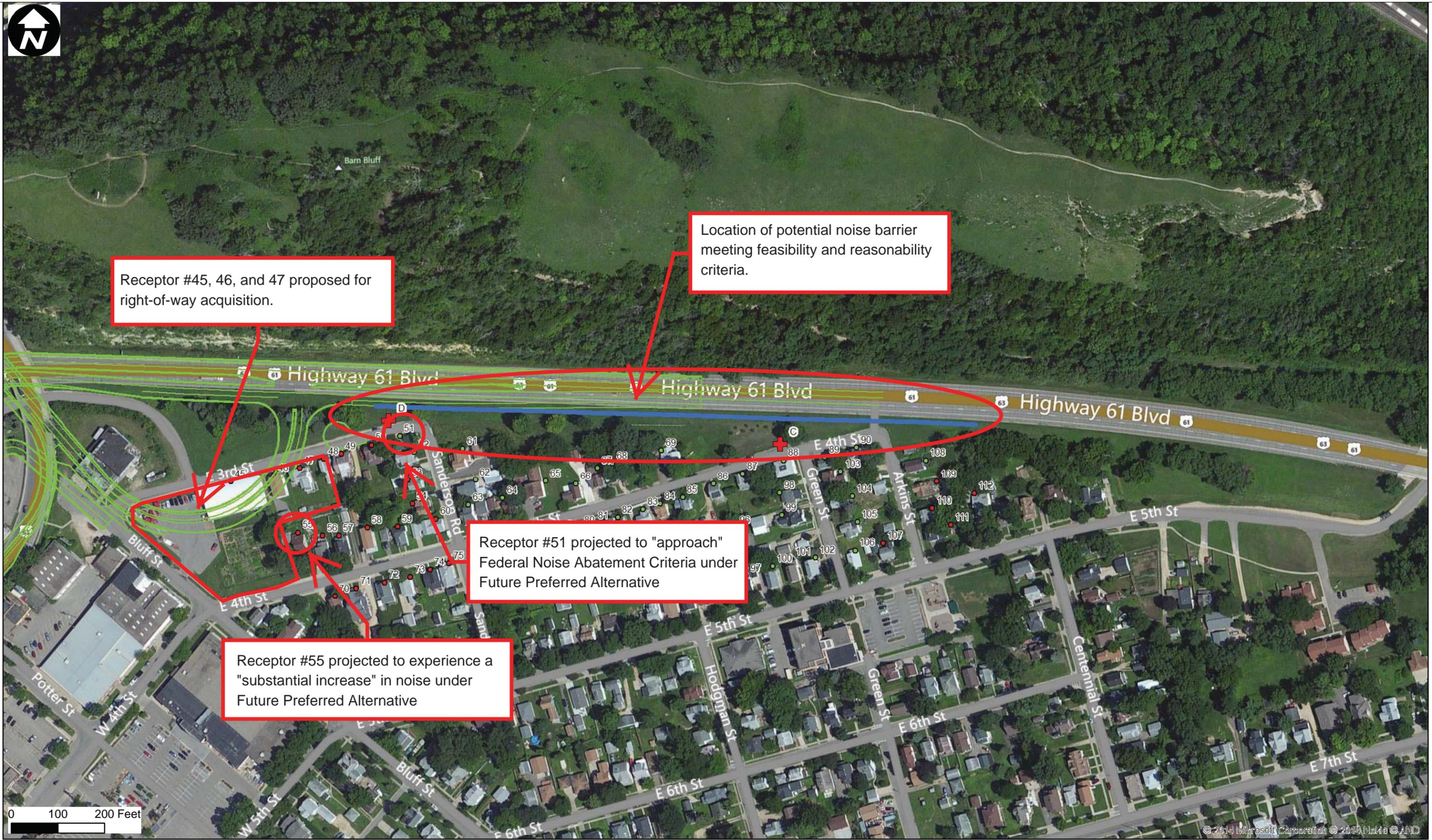
Proposed Minnesota approach



US 63 River Bridge and Approach Roadways Project

Proposed Project Renderings
Approach Roadways
EA Appendix A

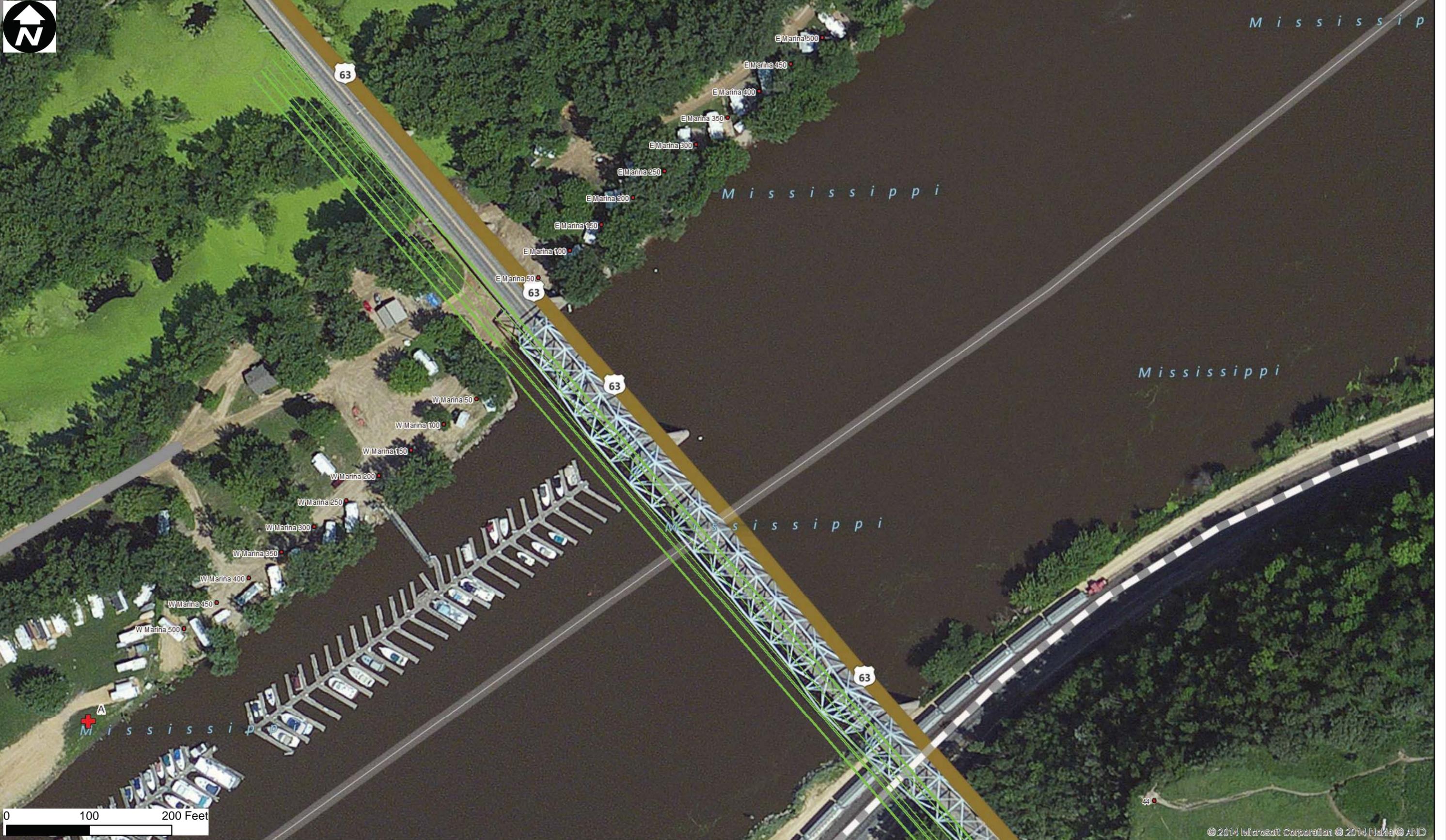
Figure: 32B



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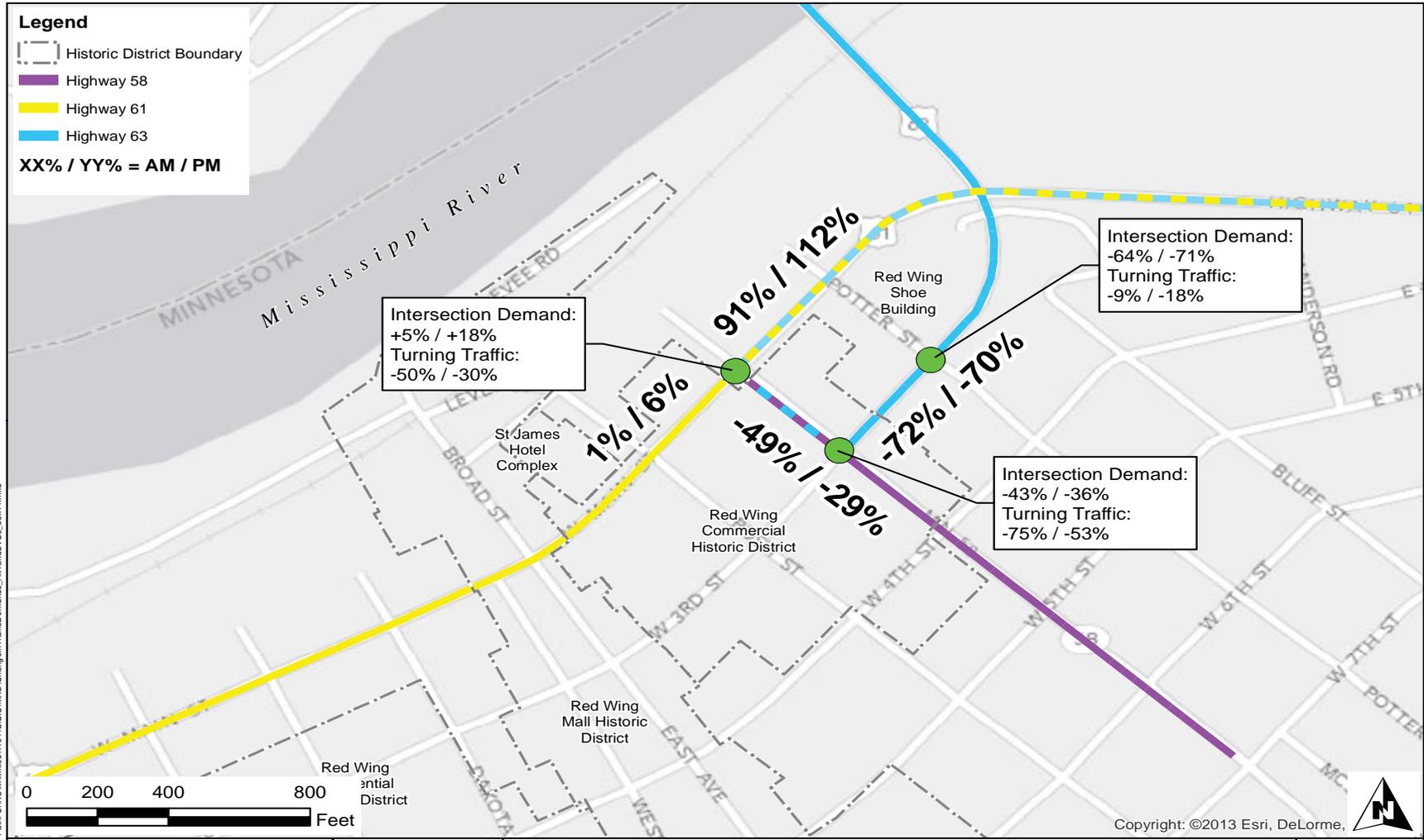


US 63 River Bridge and Approach Roadways Project

Noise Analysis
Wisconsin
EA Appendix A

Figure: 35

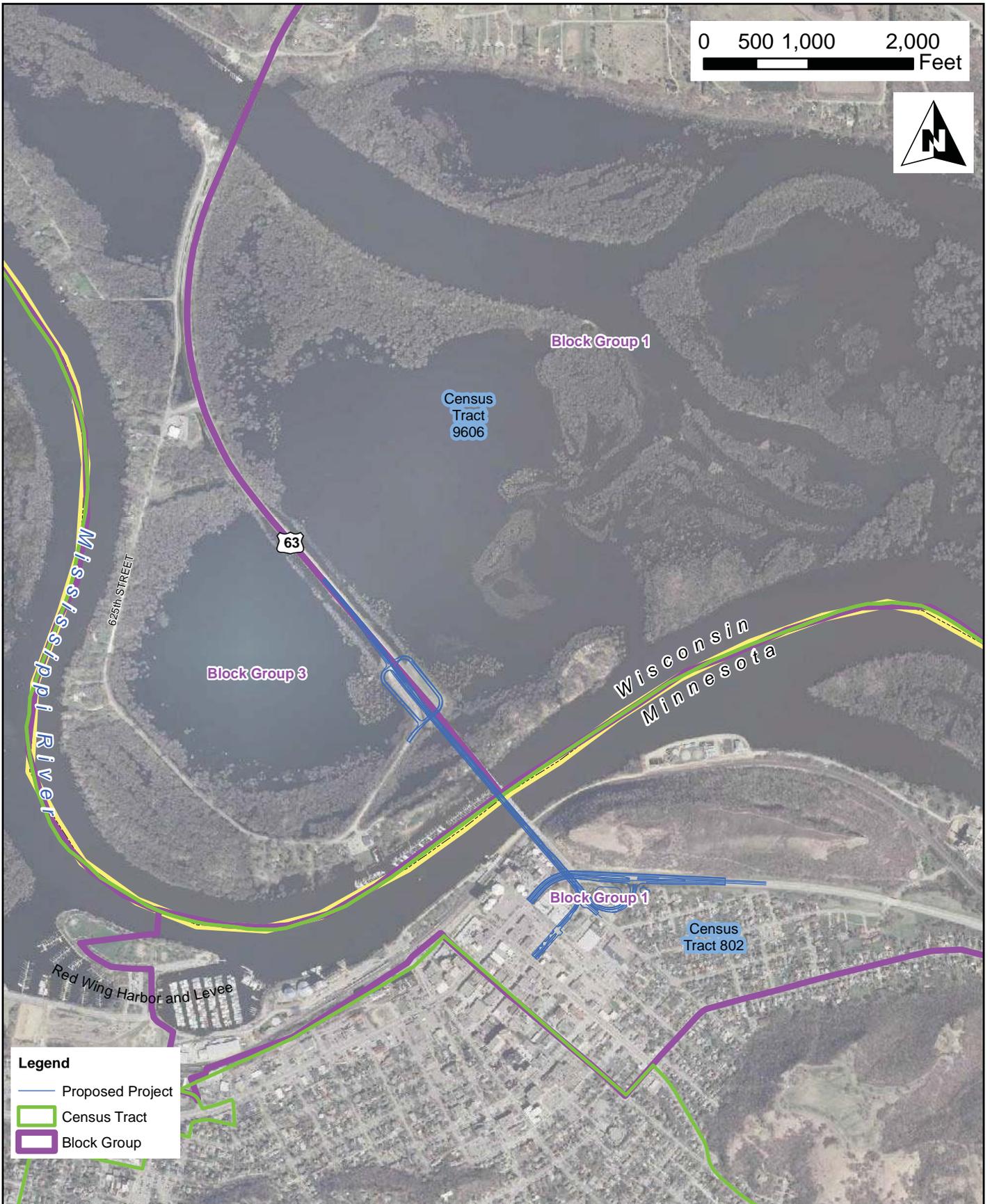
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US 63 River Bridge and Approach Roadways Project

Peak Hour Turning Traffic Reduction Downtown Red Wing, Preferred Alternative
EA Appendix A

Figure: 36



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US 63 River Bridge and Approach Roadways Project

Environmental Justice Study Area
EA Appendix A

Figure: 37

Appendix B: Technical Memoranda and Reports – Supplemental CD

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US 63 River Bridge and Approach Roadways Project

Technical Memoranda and Reports Informing the Alternatives Development and Evaluation Process

Bibliography¹

Bridge Structure Documents

New Bridge Location Feasibility Assessment. July 2, 2012. SEH.

Bridge 9040 New Structure Alternatives. March 4, 2013. HDR.

River Bridge Options – Screening Considerations. June 18, 2013. SEH.

Red Wing Bridge Project Bridge Concept Report. January 2014. HDR.

Approach Roadway Documents

Approach Roadway Concept Development and Screening. September 18, 2012. SEH.

Bridge 9103 Rehabilitation Study, Final Report, Red Wing, Minnesota. August 2013. HDR and Gemini Research.

Red Wing Bridge Project – Purpose and Need Minnesota Approach Mobility Issues. May 29, 2014. SEH.

Minnesota Approach Alternatives Identification, Evaluation, and Screening. September 8, 2014. SEH.

Cultural Resources Documents

Red Wing Bridge and Route Improvement Project Phase I Architecture-History Investigation, US Hwy 63, Bridge 9040, Goodhue County, Minnesota and Pierce County, Wisconsin (SP 2515-21). November 2011. Gemini Research.

Pre-Evaluation Study for the Archaeological Potential for the Trunk Highway 63 Red Wing Bridge Project, Goodhue County, Minnesota and Pierce County, Wisconsin. 2012. Terrell and Vermeer.

Red Wing Bridge Project Phase II Architecture-History Investigation, US Hwy 63, Bridge 9040, Goodhue County, Minnesota and Pierce County, Wisconsin (SP 2515-21). May 2014. Gemini Research.

TH 63 Red Wing Bridge Project, Phase I Archaeological Study, Goodhue County, MN and Pierce County, Wisc (SP 2515-21). 2015. Terrell and Vermeer.

Other Technical Memoranda

Geomorphic Investigation of State Trunk Highway 63 Bridge over the Mississippi River, Red Wing, MN (SP 2515-21). 2011. Foth Infrastructure and Environment.

¹ Shading = Document located on supplemental Appendix B CD; All documents listed are available upon request from the MnDOT Project Manager.

Limited Phase I Environmental Site Assessment, TH 63 Red Wing Bridge, Red Wing, Minnesota and Pucketville, Wisconsin, S.P.: 2515-21. September 2, 2011. URS.

Traffic Analysis Report: Red Wing TH 63 Bridge Project. March 25, 2014. SEH.

Traffic Noise Analysis Report – Red Wing US 63 Bridge and Approach Roadways. June, 2015. HDR.

SP 2515-21 Bridge 25033, TH 63 over Mississippi River in Red Wing, Subsurface Investigation. December 17, 2014. MnDOT Office of Materials and Road Research.

Appendix C: Agency Correspondence

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January 26, 2015

Scott Janowiak, Planner
SEH Inc.
3535 Vadnais Center Drive
St. Paul, MN 55110

Subject: **DNR Initial Project Review:**
Project I.D. 7210-00-08/76
STH 63
Red Wing - Ellsworth
Redwing - Mississippi River Bridge
Pierce County, WI & Goodhue County, MN

Dear Mr. Janowiak:

The Department has received the information you provided for the proposed above-referenced project on January 9, 2015. According to your proposal, the purpose of this project is to replace the STH 63 Bridge over the Mississippi River.

Preliminary information has been reviewed by DNR staff for the project under the DOT/DNR Cooperative Agreement. Initial comments on the project as proposed are included below and assume that additional information will be provided that addresses all resource concerns identified.

A. Project-Specific Resource Concerns

Wetlands:

Wetland impacts will occur as a result of this project, as proposed. Wetland impacts should be avoided and/or minimized to the greatest extent possible. Unavoidable wetland impacts must be mitigated for in accordance with the DOT/DNR Cooperative Agreement and the Wisconsin Department of Transportation Wetland Mitigation Banking Technical Guideline. The Department requests information regarding the amount and type of unavoidable wetland impacts.

Waterways:

Fisheries/Stream work

In order to protect developing fish eggs and substrate for aquatic organisms, all in-stream work that could adversely impact water quality should be undertaken between May 15th and March 15th.

Dredging

The width and depth of the Mississippi River must not be altered. However, a minor amount of dredging necessary to place the structure elements is permissible.

Navigation

Commercial and recreational navigation occurs, and the placement of navigational aids will be necessary. Coordination and approvals from the US Coast Guard will be necessary for construction and demolition.

Endangered Resources:

Endangered Resources are present: Based upon a review of the Natural Heritage Inventory (NHI) and other Department records on 1/21/2015, there are numerous Endangered Resources that are, or have been known to occur in the project area or its vicinity and could be impacted by this project.

Mussels – There are twelve state listed mussel species that are threatened, endangered, or of special concern. Two of these species are federally listed endangered species. A mussel survey will be required due to anticipated disturbance to the riverbed. The Department will initiate coordination with Lisie Kitchel, Bureau of Endangered Resources.

Fish – There are thirteen state listed fish species that are threatened, endangered, or of special concern. Timing restrictions will be required, to protect these species and other game fish species during spawning and the development of their eggs.

Bats – The existing structure will need to be inspected and surveyed for bats and bat roosting habitat. Depending on the survey results, there may be timing restrictions on demolition, and additional requirements for incorporating habitat structures on the new bridge. The Department will initiate coordination with Lisie Kitchel, Bureau of Endangered Resources.

Migratory birds:

The bridge should be inspected for evidence of past migratory bird nesting on the existing structure. Under the U.S. Migratory Bird Treaty Act, destruction of swallows and other migratory birds or their nests is unlawful unless a permit has been obtained from the U.S. Fish & Wildlife Service. Therefore, the project should either utilize measures to prevent nesting (e.g., remove unoccupied nests during the non-nesting season and install barrier netting prior to May 1), or should occur only between August 30 and May 1 (non-nesting season). (If netting is used, ensure it is properly maintained, then removed as soon as the nesting period is over.) If neither of these options is practicable then the U.S. Fish & Wildlife Service must be contacted to apply for a depredation permit.

Invasive species & VHS:

The Mississippi River is infested by the invasive zebra mussel species.

Adequate precautions should be taken to prevent transporting or introducing invasive species via construction equipment, as provided under NR 40, Wis. Administrative Code. This website provides further information and lists those species classified as Restricted or Prohibited under NR 40:

<http://dnr.wi.gov/topic/Invasives/classification.html>

The Department will work with project managers to help identify specific locations of problem areas across the project site and to recommend preventive measures. The following Best Management Practices (BMPs) for rights-of-way provide a series of measures that will ensure reasonable precautions are taken throughout the stages of construction: <http://council.wisconsinforestry.org/invasives/transportation/pdf/ROW-Manual.pdf>

In particular, the following measures will be important for this project:

http://dnr.wi.gov/topic/fishing/documents/vhs/disinfection_protocols.pdf

For work involving waterbodies:

All equipment must be properly cleaned and disinfected to address the spread of invasive species and viruses. Special provisions should require contractors to implement the following measures before and after mobilizing in-water equipment to prevent the spread of Viral Hemorrhagic Septicemia (VHS), Zebra Mussel, and other invasive species. Follow **STSP 107-055** Environmental Protection – Aquatic Exotic Species Control, which includes the protocol found here:

For up to date information on invasive species and infested waters go to

<http://dnr.wi.gov/lakes/invasives/AISByWaterbody.aspx>

Seeding and mulching recommendations:

- The appropriate native seed mix should be used.
- Use weed-free mulch: <http://wcia.wisc.edu/mulch.pdf>

Floodplains:

The project lies within the floodway of the Mississippi River. In order to meet the standards of NR 116, Floodplain Management, a hydraulic and hydrologic analysis must be conducted for the 100-year flood event for any new structures (including temporary structures). Plans for the structure must comply with the provisions of the local community's floodplain zoning ordinance. DNR requires submittal of the results of a 100-year flood analysis for the structure(s).

If the new structure(s) will create an increase of 0.01 feet or more in the 100-year backwater condition, DNR requires that all affected upstream landowners be notified, appropriate legal arrangements made, and the local floodplain ordinance must be amended. For project-specific information, please consult with the Pierce County Zoning Administrator.

Staging and access will likely all take place in the floodway. A contingency plan should be in place for removal of equipment and temporary structures, for the high water events that may occur during the course of the project.

Burning:

If burning of brush will occur as part of this project, the contractor should be informed that it is illegal to burn materials other than clean wood. In addition, a permit may be required to burn any material during the wildland fire season. For information regarding current fire danger and burning permit restrictions please refer to the DNR Forestry website at <http://dnr.wi.gov/topic/ForestFire/restrictions.asp>

Burning permits are available through the local DNR ranger or fire warden.

Other Issues/Unique Features:

- **Oak Wilt:**
If this project involves work that may involve cutting or wounding of oak trees, please avoid cutting or pruning of oaks from April through September, to prevent the spread of oak wilt disease,. See the DNR webpage at: <http://dnr.wi.gov/topic/foresthealth/oakwilt.html>
- **Lighting:**
Architectural lighting should be aimed down and minimized to lighting the structure. Please refer to the guidance from Peter Leete with the Minnesota DNR.

B. Construction Site Considerations:

The following issues may be addressed in the Special Provisions and the contractor will be required to outline their construction methods in the Erosion Control Implementation Plan (ECIP).

Erosion control

Erosion control devices should be specified on the construction plans. All disturbed bank areas should be adequately protected and restored as soon as feasible.

An adequate erosion control implementation plan (ECIP) for the project must be developed by the contractor and submitted to this office for review at least 14 days prior to the preconstruction conference.

If erosion mat is used along stream banks, the department recommends that biodegradable and non-netted mat be used (e.g., Class I Type A Urban, Class I Type B Urban, or Class II Type C). Long-term netted mats may cause animals to become entrapped while moving in and out of the stream. Avoid the use of fine mesh matting that is tied or bonded at the mesh intersection such that the openings in the mesh are fixed in size.

Stormwater

A storm water management plan must be designed, and it must meet the post-construction performance standards as stated in TRANS 401.

Structure removal/Bridge demolition

Due to the characteristics of this section of the Mississippi River, STSP 203-020, *Removing Old Structure Over Waterway With Minimal Debris*, will be adequate for this project. Please coordinate with DNR early in the design phase of the project if the bridge must be dropped into the waterway before removal.

Demolition timing may be an issue, and should be coordinated with the DNR and the U.S. Coast Guard.

Temporary structure

It appears that a causeway may be required to build this bridge. Please provide DNR with details describing the dimensions of the causeway, and what materials would be used to construct it. In addition, the DOT must meet the standards of NR 116, Floodplain Management, for the causeway. If a causeway is needed, clearly marking the causeway for safety should be coordinated and approved by the U.S. Coast Guard. Additionally, detailed bathymetric data for the area of the causeway may be required, so the aquatic bed can be restored to the original condition.

Asbestos

A Notification of Demolition and/or Renovation and Application for Permit Exemption, DNR form 4500-113 (NR 406, 410, and 447 Wis. Adm. Code) may be required. Please refer to DOT FDM 21-35-45 and the DNR's notification requirements web page: <http://dnr.wi.gov/topic/Demo/Asbestos.html> for further guidance on asbestos inspections and notifications. Contact Mark Davis, Air Management Specialist 608-266-3658, with questions on the form. The DNR's online notification system is available at <http://dnr.wi.gov/topic/Demo/Asbestos.html>. The notification must be submitted 10 working days in advance of demolition projects.

The above comments represent the Department's initial concerns for the proposed project and do not constitute final concurrence. Final concurrence will be granted after review of plans and further consultation if necessary. If any of the concerns or information provided in this letter requires further clarification, please contact this office at (715) 839-1609.

Sincerely,



Environmental Analysis & Review Specialist

CC: Nick Schaff, DOT Regional Environmental Coordinator
Wendy Maves, DOT
Mohamad Hayek, DOT
Lisie Kitchel, DNR

From: [Scott Janowiak](#)
To: [Scott Janowiak](#)
Subject: Fw: Revision/update to MnDNR comments on MnDOT Early Notification Memo: RE: US 63 River Bridge (Red Wing Bridge) and Approach Roadways Project (SP 2515-21)
Date: 02/02/2015 12:00 PM
Attachments: [DNR Early Notification Response.pdf](#)
[AIS \(from Chapter 1\).pdf](#)
[RE Red Wing Bridge - lighting.pdf](#)

From: "Leete, Peter (DOT)" <peter.leete@state.mn.us>
 To: Bob Rogers <brogers@sehinc.com>,
 Cc: "Hanson, Chad (DOT)" <chad.hanson@state.mn.us>, "Moynihan, Debra (DOT)" <Debra.Moynihan@state.mn.us>, "Wingert, Sarah E MVP (Sarah.E.Wingert@usace.army.mil)" <Sarah.E.Wingert@usace.army.mil>, "Phil Delphey (Phil_delphey@fws.gov)" <Phil_delphey@fws.gov>, "Joyal, Lisa (DNR)" <Lisa.Joyal@state.mn.us>, "Haworth, Brooke (DNR)" <Brooke.Haworth@state.mn.us>, "Stauffer, Kevin W (DNR)" <kevin.stauffer@state.mn.us>, "Blommer, Craig J (DNR)" <craig.blommer@state.mn.us>, "Huber, Bill P (DNR)" <bill.huber@state.mn.us>, "Alcott, Jason (DOT)" <jason.alcott@state.mn.us>
 Date: 01/26/2015 02:18 PM
 Subject: Revision/update to MnDNR comments on MnDOT Early Notification Memo: RE: US 63 River Bridge (Red Wing Bridge) and Approach Roadways Project (SP 2515-21)

Bob,

The original letter dated November 3, 2010, is still valid. However there are a few points that can be refined now that more is known about the project.

1. A mussel survey was conducted in August 2013. The survey shows that there are rare species (both WI and MN listed species) in the area. What is not known is the level of impact within the construction zone identified as the Potential Area of Impact. Project start dates are going to be close to the limit (currently set for 2018). This project may need to be resurveyed closer to construction start dates. The need for a resurvey would also be triggered if there are change to the Potential Area of Impact that was defined for the survey. Please contact Jason Alcott, MnDOT Biologist, as to the status of the project in regards to native mussel impacts.
2. The Mississippi River is designated as 'infested' with Aquatic Invasive Species (zebra mussels and Eurasian watermilfoil). These waters should be identified as infested on project plans. No work should be allowed in them if avoidable (including pumping water for construction purposes). Any equipment that comes in contact with the waters should be inspected for vegetation and zebra mussels, and if present, removed prior to transport on roads. I have attached best practices that have been developed for construction equipment to prevent their spread.
3. There has been discussion in regards to birds and aesthetic lighting of the structure. Our general guidance was further refined for the Winona Bridge project and we have the same expectations for the Red Wing Bridge project (copy of that email is attached). In short all non-essential lighting should be able to be turned off during the Mayfly hatch and

also follow the Audubon 'lights out' program. This a program that darkens all buildings and structures during the bird migration from midnight to dawn March 15-May31 and August 15 - Oct 31.... Information on this program is here: <http://mn.audubon.org/what-do-when-and-why>

I am a member of the projects Technical Advisory Committee (TAC), and these points have been presented during those sessions. So this is not new information. However I realize it is needed separately for completion of environmental documentation.

DNR folks, the latest on project development can be found on the projects website:

<http://www.dot.state.mn.us/d6/projects/redwing-bridge/>

Contact me if you have questions

Peter Leete

Transportation Hydrologist (DNR-MnDOT Liaison)

DNR Ecological & Water Resources

Peter.Leete@state.mn.us

Ph: 651-366-3634

Office location: MnDOT's Office of Environmental Stewardship





Minnesota Department of Natural Resources

500 Lafayette Road
St. Paul, Minnesota 55155-4010

November 3, 2010

Chad Hanson
MnDOT District 6
2900 48th St
Rochester, MN 55901

RE: Response to MnDOT Early Notification Memo Requesting Information and Early Coordination Regarding TH63 Mississippi River bridge replacement (SP2515-21) Goodhue County

Dear Mr. Hanson:

The Minnesota Department of Natural Resources (DNR) has completed review of the information submitted in the MnDOT Early Notification Memo regarding a proposed proposed replacement of the TH 63 bridge over the Mississippi River and TH61 at the City of Red Wing, Goodhue County. The following comments were submitted to me during DNR field review of the project:

1. The Mississippi River is a Public Watercourse and as such a Public Waters Work Permit will be required for work within the Ordinary High Water Elevation (OHW) of the river. As the project moves forward, design of the crossing should meet the conditions listed in GP 2004-0001 (copy attached to cover email). Authorization for the project under this permit will require final review of the project at a later date. Guidance for conditions of the GP (including guidance on construction methods) may be found in the Manual "Best Practices for Meeting DNR General Public Waters Work Permit GP 2004-0001". A pdf version of this manual may be found at:
http://www.dnr.state.mn.us/waters/watermgmt_section/pwpermits/gp_2004_0001_manual.html

Additional design considerations and information on specific GP conditions are:

- a. It is unknown how much of the proposed project will require work within the OHW of the river. However acceptable criteria for permanent and/or temporary impacts (including demolition/construction methods) should be identified in project documents.
- b. The Mississippi River is listed as 'infested' with zebra mussels being the primary species to address. Suitable precautions against their spread will be required.
- c. Commercial and recreational navigation occurs in the area. The demolition and/or construction phases should recognize the possibility of boaters in the area and plan accordingly so their safety is not compromised. The DNR may defer to the US Coast Guard regarding this issue.
- d. Hydraulic/Hydrologic reporting is required. All temporary or permanent fill/structures will be required to be modeled for 100yr flood elevation impacts. Detailed Flood Studies exist for this reach of the Mississippi River and new approaches and bridge design must meet those requirements.
- e. A primary issue we see with bridge replacement projects is that the demolition/construction often conflicts with fish spawning dates. For construction purposes, Work Exclusion dates for the Mississippi River at this location is March 15 through May 15. These dates are to allow for fish migration and spawning. A waiver may be possible should methods of demolition/construction be determined not to adversely affect fish migration or spawning. However, work during these dates shall not occur adjacent to, or in the water during this time without prior written approval of the DNR.
- f. Due to habitat, flood elevation, and sediment concerns, the DNR prefers that barges be utilized to the maximum extent possible for demolition and construction. Any temporary structures proposed in the water must also be approved by the DNR (EG causeways, workpads, staging areas, etc.). In addition to habitat concerns, these structures would be required to be modeled for flood elevation impacts, and/or provide a Removal Contingency Plan. This plan would detail how the contractor would plan on removing the temporary structures before flooding, how the contractor will ensure all construction equipment and materials are removed from these structures to prevent being swept away by the river, and restoration plans upon complete removal.
- g. At areas adjacent to Public Waters, revegetate disturbed soil with native plant species suitable to the local habitat.

2. There are currently no bicycle or pedestrian accommodations on the bridges. While it is likely that they would be included as a part of the project, we encourage that this be incorporated into the project. Also, when the existing bridges were built, access was cut off to the stairway to the top of the adjacent Barns Bluff. Consideration for reconnecting this feature should also be considered.
3. The Minnesota Natural Heritage Information System has been queried to determine if any rare plant or animal species, native plant communities, or other significant natural features are known to occur within an approximate one-mile radius of the project area. Based on this query, rare features have been documented within the search area. Please note that the following **rare features may be impacted** by the proposed project:
 - a. The Minnesota County Biological Survey (MCBS) has identified and Site of Outstanding Biodiversity Significance adjacent to the project area (GIS shapefiles of MCBS Sites of Biodiversity Significance and MCBS Native Plant Communities can be downloaded from the DNR Data Deli at <http://deli.dnr.state.mn.us>). Sites of Biodiversity Significance have varying levels of native biodiversity and are ranked based on the relative significance of this biodiversity at a statewide level. Sites ranked as Outstanding contain the best occurrences of the rarest species, the most outstanding examples of the rarest native plant communities, and/or the largest, most intact functional landscapes present in the state. This particular Site contains Sugar Maple – Basswood Forest, Dry Bedrock Bluff Prairie, and known occurrences of a state-listed endangered plant. Actions to avoid or minimize disturbance to this ecologically significant area should be taken. Actions to minimize disturbance to this site of ecological significance should be taken. A standard guidance sheet for the protection of Areas of Environmental Sensitivity is included in the manual "Best Practices for Meeting DNR General Public Waters Work Permit GP 2004-0001". See Chapter 1, page 10. I have attached page 1-10 to the cover email. This page may be used in your projects documents. A pdf version of the entire manual may be found at: http://www.dnr.state.mn.us/waters/watermgmt_section/pwpermits/gp_2004_0001_manual.html
 - b. Peregrine falcons (*Falco peregrinus*), a state-listed threatened species, have been documented in the vicinity of the TH 63 bridge during the breeding season, and in the last few years have nested on a grain elevator in Red Wing. In urban areas, peregrine falcons nest on tall buildings, bridges, and smokestacks. Construction activities at the TH 63 bridge site will not affect these birds as long as the birds do not choose the bridge as a nest site. If construction activities will take place during the breeding season (April through July), the bridge should be inspected (during the construction year) prior to the onset of any construction work to determine whether the falcons are using the bridge as a nesting site (please see the enclosed list of surveyors for consultants who may be able to perform this service). **Please contact me if the bridge is being actively used by peregrine falcons** during the year of construction, as seasonal work restrictions may be required.
 - c. Several state-listed mussels have been documented in the Mississippi River in the vicinity of the bridge, and a mussel survey may be required if the project will include disturbance to the riverbed. Given that this project is seven years out, this issue will need to be re-evaluated closer to the letting date.

The Natural Heritage Information System (NHIS), a collection of databases that contains information about Minnesota's rare natural features, is maintained by the Division of Ecological Resources, Department of Natural Resources. The NHIS is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, native plant communities, and other natural features. However, the NHIS is not an exhaustive inventory and thus does not represent all of the occurrences of rare features within the state. Therefore, ecologically significant features for which we have no records may exist within the project area.

If you have questions regarding this letter, please e-mail me at peter.leete@state.mn.us or call at (651) 366-3634.

On behalf of the DNR

Sincerely,



Peter Leete
 DNR Transportation Hydrologist
 (DNR-MnDOT OES Liaison)
 @ Office of Environmental Services, mail stop 620
 Minnesota Department of Transportation
 395 John Ireland Blvd. St. Paul, MN 55155

C: ERDB file 20100712



Best Practices for Preventing the Spread of Aquatic Invasive Species

All equipment¹ being transported on roads or placed in Waters of the State shall be free of prohibited and regulated invasive species and unlisted non-native species (any other species not native to Minnesota)

1. **Project plans or documents should identify Designated Infested Waters²** located in or near the project area.
2. **Prior to transportation along roads into or out of any worksite, or between water bodies within a project area, all equipment** must be free of any aquatic plants, water, and prohibited invasive species.
 - A. **Drain** all water from equipment where water may be trapped, such as tanks, pumps, hoses, silt curtains, and water-retaining components of boats/barges (see Figures 5 & 6) **AND**
 - B. **Remove** all visible aquatic remnants (plants, seeds and animals). Removal of mud & soil is not required at all sites, though is encouraged as a Best Practice. Removal of mud and soil may be required on sites designated as infested (see #4).
3. **Prior to placing equipment into any waters**, all equipment must be free of aquatic plants and non-native animals.
4. **Additional measures are required on Designated Infested Waters to remove and kill prohibited species such as zebra mussels, quagga mussels, New Zealand mudsnails, faucet snails, or spiny waterfleas.**

Note: The DNR is available to train site inspectors and/or assist in these inspections. Contact the appropriate Regional Invasive Species Specialist: www.mndnr.gov/invasives/ais/contacts.html

 - A. For day use equipment (in contact with the water for 24 hours or less); Perform #2 above or,
 - B. For in-water exposure greater than 24 hours: Perform #2 above, and inspect all equipment for the prohibited invasive species present (see Figure 1).



Figure 1. Invasive species may not be readily visible on equipment. Some species are less than 1/4 inch in size.

Photo credit: Brent Wilber, Lunda Construction

Then choose one of the following three: **on-site treatment**, **off-site treatment**, or **customized alternative**.

On-Site Treatment

Remove by handscraping or powerwashing (minimum 3000 psi) all accessible areas (Figures 1 and 2) **AND**

Kill Prohibited Aquatic Invasive Species in non-accessible areas using one or more of the following four techniques:

- **Hot Water (minimum 140°F) for ten seconds** (Figure 2) for zebra mussels, quagga mussels, New Zealand mudsnails, faucet snails **OR**
- **Air Dry** (Figures 3 & 4)
 - Spiny waterfleas – air dry for a minimum of 2 days
 - New Zealand mudsnails – air dry for a minimum of 7 days
 - zebra or quagga mussels, faucet snails – air dry for a minimum of 21 days **OR**
- **Freezing Temperatures**
 - zebra mussels - expose to continuous temperature below 32°F for 2 days **OR**
- **Crush**
 - Crush rock, concrete, or other debris by running it through a crushing plant to kill prohibited species



Figure 2. Removal of aquatic remnants is required before transporting.

Photo credit: Peter Leete, DNR

Off-Site Treatment

Under certain conditions, the DNR will allow transportation of equipment off-site after partial removal of prohibited species (for example, after “removal” has been done and equipment will be taken to a facility to complete final treatment [i.e., “kill”]) This is a ‘one-way pass’ to allow transport to a storage area or disposal facility. This option can only be utilized if the receiving site is at least 300 feet from riparian areas, wetlands, ditches, stormwater inlets or treatment facilities, seasonally-flooded areas, or other waters of the state. To be allowed to use the off-site treatment option you must do the following:

- Read, complete, and comply with the appropriate authorization form for transportation of Prohibited Invasive Species at www.mndnr.gov/invasives/ais_transport.html (Note that a completed form is required to be in every vehicle that is transporting equipment containing infested species) **AND**
- Complete on-site treatment described in 4B above prior to re-use in or adjacent to water.

Best Practices for Preventing the Spread of Aquatic Invasive Species

Contact a DNR Invasive Species Specialist for authorization of a customized alternative

There may be situations due to time of year, length of exposure, type of equipment, or site conditions that a DNR Invasive Species Specialist could approve alternative methods or requirements for treatment. Contact the appropriate Regional Invasive Species Specialist:
www.mndnr.gov/invasives/contacts.html

5. Temporary appropriations of water from Designated Infested Waters to utilize elsewhere (such as for dust control, landscaping, bridge washing, etc.) is not allowed except by permit, thus should be avoided.

If use of Designated Infested Waters is unavoidable, permit information is located at www.mndnr.gov/waters/watermgmt_section/appropriations/permits.html



Figure 3. Drying will also kill aquatic organisms. Lay out materials to dry in the proper time. Drying times vary by species. Inspect after drying period is over.
 Photo credit: Dwayne Sterlund, MnDOT



Figure 4. Drying techniques must not trap water. This equipment will not dry adequately.
 Photo credit: Peter Leete, DNR



Figure 5. Pumping from designated infested waters for use elsewhere on the project is prohibited without a permit.
 Photo credit: Peter Leete, DNR



Figure 6. Drain all water from equipment where water may be trapped. Remove drain plugs and drain hoses prior to transport.
 Photo Credit: Peter Leete, DNR

Document Information

www.mndnr.gov/waters/watermgmt_section/pwpermits/gp_2004_0001_manual.html

Best Practices for Meeting DNR GP 2004-0001 (published 5/11, updated 12/12) – Chapter 1/Page 8

More on the DNR Invasives Species Program can be found at: www.mndnr.gov/AIS

¹ **'Equipment'** is defined as any implement utilized in construction. This includes boats, barges, heavy machinery, light machinery, or other material that may be moved on-site or off-site, including but not limited to rock (riprap) or timber for temporary workpads, backhoes, pumps, hoses, worksite isolation materials (eg, sheet pile or jersey barriers), boats, barges, temporary staging materials, erosion prevention products, sediment control products (eg, silt curtain), water trucks that take water from open bodies of water (eg, dust control), or dewatering components.

² **List of Designated Infested Waters:** http://files.dnr.state.mn.us/eco/invasives/infested_waters.pdf

DNR Contact Information



DNR Ecological and Water Resources lists area office staff at www.mndnr.gov/waters

DNR Ecological and Water Resources
 500 Lafayette Road, Box 32, St. Paul, MN
 55155-4032, (651)259-5700 or 5100

DNR Ecological and Water Resources website provides information at www.mndnr.gov or by calling (651) 259-5700 or 5100.

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DNR Information Center

Twin Cities: (651) 296-6157
 Minnesota toll free: 1-888-646-6367
 Telecommunication device for the deaf (TDD): (651) 296-5484
 TDD toll free: 1-800-657-3929

This information is available in an alternative format on request

Equal opportunity to participate in and benefit from programs of the Minnesota Department of Natural Resources is available regardless of race, color, national origin, sex, sexual orientation, marital status, status with regard to public assistance, age, or disability. Discrimination inquiries should be sent to Minnesota DNR, 500 Lafayette Road, St. Paul, MN 55155-4049; or the Equal Opportunity Office, Department of the Interior, Washington, DC 20240.



Minnesota Department of Transportation

395 John Ireland Boulevard
Saint Paul, MN 55155

February 4, 2015

Andrew Horton
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Twin Cities ES Field Office
4101 American Blvd East
Bloomington, MN 55425-1665

State Project 2515-12, Trunk Highway 63, Bridge and Approach Roadway Project, City of Red Wing, Goodhue County Minnesota, Pierce County Wisconsin

Request for Concurrence – May Affect, Not Likely to Adversely Affect Determination – Higgins eye pearlymussel (*Lampsilis higginsii*)
Request for Concurrence – May Affect, Not Likely to Adversely Affect Determination – snuffbox (*Epioblasma triquetra*)
Request for Concurrence – May Affect, Not Likely to Adversely Affect Determination – spectaclecase (*Cumberlandia monodonta*)
No Effect Determination – dwarf trout lily - (*Erythronium propullans*)
No Effect Determination – prairie bush clover- (*Lespedeza leptostachya*)
No Jeopardy Determination – northern long-eared bat - (*Myotis septentrionalis*)

Project Description

The project encompasses three components: the Wisconsin approach to the US 63 bridge, the Minnesota approach to the US 63 river crossing bridge and the US 63 river bridge itself.

The Wisconsin approach to the US 63 bridge will be constructed as a jug-handle intersection at 825th Street. This design provides a four-legged intersection with a median on US 63.

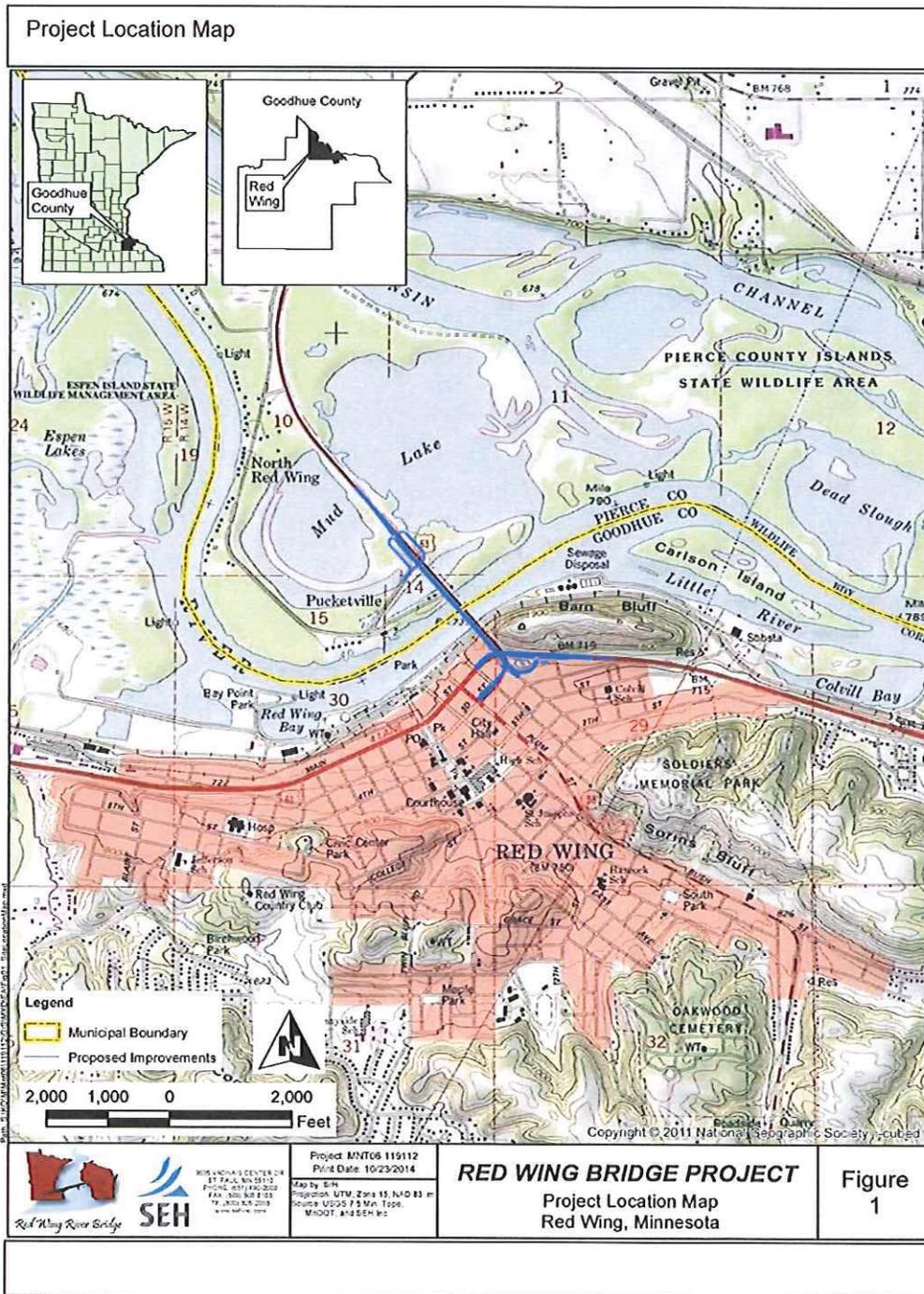
The Minnesota approach to the US 63 bridge will be constructed as a buttonhook intersection with a slip ramp. This recommended alternative replaces Bridge 9103 over US 61 and creates a new at-grade intersection of US 63 and US 61 east of downtown Red Wing. Bridge 9103 will be removed as part of the project. The concept allows southbound US 63 traffic to access downtown Red Wing and MN 58 along a new one-way slip ramp to 3rd Street. It provides approximately 1,100 feet between the new intersection and Potter Street in downtown Red Wing. . See Figure 1 on the next page for the project location map.

The existing US 63 river bridge, Bridge 9040, will be replaced by a new steel box girder structure. The existing structure will be replaced due to a variety of factors including it is fracture critical and not structurally redundant, has low sufficiency ratings due to uneven foundation settlement, excessive longitudinal movement, and poor deck condition. The new US 63 river bridge will be located immediately upstream of the in-place river bridge. The proposed new structure will include two 12 feet wide lanes, two 6 feet shoulders, and a 12 feet wide trail on the west side (upstream side) of the bridge. This results in a total width, including barriers, of 52 feet and 4 inches.

Construction: River Impacts - Due to the need to get construction materials and construction equipment into or onto the river to build the bridge, river impacts are expected including dredging, building temporary cofferdams around piers, dewatering, fill, and removal of cofferdams after construction.

Construction would involve temporary interruption to the navigation channel at various stages of construction to allow for pier construction, launching of materials, and construction of the superstructure. These temporary interruptions would need to be coordinated with the USACE, USCG, and barge operators. Recreational boating activities would also be impacted and notification would be provided at local marinas and public access. The timing and duration of temporary interruptions would vary. The majority of the project will occur in previously developed areas within the City of Red Wing and previously disturbed areas on the Wisconsin approach.

Project Schedule - Construction is anticipated to begin in 2017 and be completed by fall of 2018. Because the existing bridge will remain open during construction of the new bridge, substantial traffic disruption to users is not expected.



Species List for the Project Counties

According to the official County Distribution of Minnesota and Wisconsin's Federally-Listed Threatened, Endangered, Proposed, and Candidate Species list (revised in January 2015), maintained by the Service, the project counties are within the distribution range of the following:

County	Species	Status	Habitat
Goodhue Minnesota	Northern long-eared bat <i>Myotis septentrionalis</i>	Proposed as Endangered	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests during spring and summer.
	Dwarf trout lily (<i>Erythronium propullans</i>)	Endangered	North facing slopes and floodplains in deciduous forests
	Higgins eye pearl mussel (<i>Lampsilis higginsii</i>)	Endangered	Mississippi River
	Prairie bush clover (<i>Lespedeza leptostachya</i>)	Threatened	Native prairie on well-drained soils
Pierce Wisconsin	Northern long-eared bat <i>Myotis septentrionalis</i>	Proposed as Endangered	Hibernates in caves and mines - swarming in surrounding wooded areas in autumn. During summer, roosts and forages in upland forests.
	Higgins eye pearly mussel <i>Lampsilis Higginsii</i>	Endangered	Mississippi and St. Croix Rivers
	Snuffbox <i>Epioblasma triquetra</i>	Endangered	Small to medium-sized creeks and some larger rivers, in areas with a swift current
	Spectaclecase <i>Cumberlandia monodonta</i>	Endangered	Large rivers
	Prairie bush-clover <i>Lespedeza leptostachya</i>	Threatened	Dry to mesic prairies with gravelly soil

Species Proposed for Federal Listing in the Action Area

Section 7(a)(4) requires Federal agencies to confer with the Services on any agency action that is likely to jeopardize the continued existence of any species proposed for listing or result in the adverse modification of critical habitat proposed to be designated. A conference may involve informal discussions between the Services, the action agency, and the applicant. Following informal conference, the Services issue a conference report containing recommendations for reducing adverse effects. These recommendations are discretionary, because an agency is not prohibited from jeopardizing the continued existence of a proposed species or from adversely modifying proposed critical habitat. However, as soon as a listing action is finalized, the prohibition against jeopardy or adverse modification applies, regardless of the stage of the action.

In reviewing the project impacts, it was determined that the proposed action has minimal potential for impacting the northern long-eared bat. Therefore, based on the current species information and due to the minor amount of vegetation removal required, MnDOT, on behalf of FHWA, has determined that these impacts are not of a magnitude that would result in jeopardizing the continued existence of this species. Currently there is no critical habitat proposed for this species.

Federally-Listed Species – No Effect Determinations

Section 7 of Endangered Species Act of 1973, as amended (Act), requires each Federal agency to review any action that it funds, authorizes or carries out to determine whether it may affect threatened, endangered, proposed species or listed critical habitat. Federal agencies (or their designated representatives) must consult with the U.S. Fish and Wildlife Service (Service) if any such effects may occur as a result of their actions. Consultation with the Service is not necessary if the proposed action will not directly or indirectly affect listed species or critical habitat. If a federal agency finds that an action will have no effect on listed species or critical habitat, it should maintain a written record of that finding that includes the supporting rationale.

Dwarf Trout Lily – Determination of No Effect

There are no known occurrences of this species within the action area. There has been no critical habitat designated for this species. **Therefore, MnDOT on behalf of the FHWA has made a determination of no effect for this species.**

Prairie Bush Clover – Determination of No Effect

There are no known occurrences of this species within the action area. There has been no critical habitat designated for this species. **Therefore, MnDOT on behalf of the FHWA has made a determination of no effect for this species.**

Federally-Listed Species - Concurrence RequestsHiggins Eye Pearlymussel, Snuffbox, Spectaclecase – Request for Concurrence

MnDOT contracted with the Minnesota Department of Natural Resources (MNDNR) to conduct a mussel survey for this project in 2013. No federally-listed species were found alive or recently deceased. The MNDNR concluded that the presence of federally-listed species within the area of impact is very unlikely. The final survey report describing the methodology and summarizing the data is attached to this request.

MnDOT on behalf of the FHWA has determined that the proposed action may affect, but is not likely to adversely affect the Higgins eye pearlymussel (*Lampsilis higginsii*), spectaclecase (*Cumberlandia monodonta*) and the snuffbox (*Epioblasma triquetra*) and is requesting concurrence for these determinations

Please do not hesitate to contact me if there are any questions or concerns,



Jason Alcott
Minnesota Department of Transportation
Office of Environmental Stewardship
395 John Ireland Boulevard
St. Paul, MN 55155
Phone: 651-366-3605
Email: Jason.alcott@state.mn.us



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Twin Cities Field Office
4101 American Blvd E.
Bloomington, Minnesota 55425-1665

March 10, 2015

Mr. Jason Alcott
Natural Resource Specialist
Minnesota Department of Transportation
395 John Ireland Boulevard
St. Paul, Minnesota 55155-1899

RE: Trunk Highway 63 Bridge and Approach Roadway Project
FWS No. 03E1900-2015-I-0081

Dear Mr. Alcott:

We have received your February 4, 2015, letter regarding the proposed Trunk Highway 63 Bridge and Approach Roadway Project (Project) for the Federal Highway Administration (FHWA) and its effects on Higgins eye pearlymussel (*Lampsilis higginsii*), Snuffbox (*Epioblasma triquetra*), Spectaclecase (*Cumberlandia monodonta*), and the Northern long-eared bat (NLEB; *Myotis septentrionalis*), in accordance with Section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C., 1531 et seq.). The Northern long-eared bat was proposed as federally-endangered on October 2, 2013. Additional information regarding forested habitat for NLEB was received by phone on March 4, 2015.

The Minnesota Department of Transportation (MnDOT) on behalf of FHWA proposes to replace the existing U.S. 63 river bridge with a new steel box girder structure located immediately upstream in Goodhue County, Minnesota. Construction activities will occur on both the Minnesota and Wisconsin approach to meet the new alignment as well as in-water work for construction of the new bridge and removal of the existing U.S. 63 bridge. River impacts include dredging, building temporary cofferdams around piers, dewatering, fill, and removal of cofferdams after construction. Forested habitat impacts are anticipated to consist of less than 0.20 acres of tree removal located in previously developed and urbanized areas within the City of Red Wing and previously disturbed areas along the Wisconsin approach.

The MnDOT requested concurrence with a "may affect but not likely to adversely affect" determination for Higgins eye pearlymussel, Snuffbox and Spectaclecase. The MnDOT also requested an informal conference on the NLEB with a non-jeopardy determination. A complete administrative record of this consultation is on file in this office.

Federally listed mussels

Your February 4, 2015, letter included a 2013 survey report conducted by the Minnesota Department of Natural Resources (MNDNR) for the proposed action area. This report made the determination that no federally-listed mussel species were found alive or recently dead, indicating that their presence within the impact area is very unlikely. We concur with your

determination that the proposed project may affect but will not likely adversely affect the Higgins eye pearl mussel, Snuffbox and Spectaclecase. Our concurrence is based on the recent survey results conducted by MNDNR indicating the low likelihood for species presence and that potential effects are discountable.

Northern Long-eared Bat

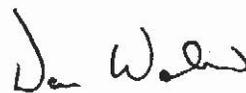
The NLEB was proposed for federal listing under the ESA (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) on October 2, 2013. No critical habitat has been proposed at this time. Pursuant to Section 7(a)(4) of the ESA, federal action agencies are required to confer with the Service if they determine that the proposed federal action is likely to jeopardize the continued existence of the NLEB (50 CFR 402.10(a)). Action agencies may also voluntarily confer with the Service if the proposed action may affect a proposed species. To confer or conference on a species that is proposed for listing is similar to "consultation" on species that is listed under the ESA.

Although species proposed for listing are not afforded protection under the ESA, when a species is listed, the prohibitions against jeopardizing its continued existence and unauthorized "take" are effective immediately, regardless of an action's stage of completion. Therefore, if implementation of the proposed project occurs after a Northern long-eared bat final listing decision is made (a final listing decision is expected by April 2, 2015), consultation will likely be required under Section 7 of the Act. If the NLEB is listed as federally-threatened or endangered under the Act, and the proposed action "may affect" Northern long-eared bat, consultation will be required under Section 7 of the Act.

Your February 4, 2015, letter has made the determination that the proposed project is not likely to jeopardize the continued existence of this species and has requested informal conferencing. Our office will continue to assist the action agency in determining effects and will advise on ways to avoid or minimize adverse effects to the proposed species. The primary recommendation at this time to avoid and/or minimize impacts to NLEB is to conduct tree clearing outside of the summer roost season. The species is not anticipated to be present within the action area between October 15th and March 30th.

This concludes consultation under Section 7 of the Endangered Species Act, as amended, for the Higgins eye pearl mussel, Snuffbox and Spectaclecase and informal conferencing for the NLEB. Please contact the Service if the project changes or new information reveals effects of the action to proposed or listed species or critical habitat to an extent not covered in your biological assessment. If you have questions, please contact Mr. Andrew Horton, Fish and Wildlife Biologist, at 612-725-3548, extension 2208, or via email at andrew_horton@fws.gov.

Sincerely,



FOR Peter Fasbender
Field Supervisor

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
Eighth Coast Guard District

1222 Spruce Street
St. Louis, MO 63103-2832
Staff Symbol: dwb
Phone: (314) 269-2379
FAX: (314) 269-2737
Email: rodney.l.wurgler@uscg.mil
www.uscg.mil/d8/westernriversbridges

16593/790.61 UMR
May 14, 2012

Mr. Keith Molnau
Preliminary Bridge Plans Engineer
MnDOT Bridge Office
3485 Hadley Avenue North
Oakdale, MN 55128

Subj: PROPOSED RED WING HIGHWAY BRIDGE REPLACEMENT, MILE 790.61,
UPPER MISSISSIPPI RIVER

Dear Mr. Molnau:

This is in reply to your email dated April 19, 2012 concerning the proposed new Red Wing Highway Bridge replacement. I have reviewed your potential three new alignments and after consulting with the marine industry, the proposed new alignments will not be acceptable from a navigational standpoint due to the proximity of the bend in the river.

A new companion bridge located immediately upstream of the existing Red Wing Highway Bridge would satisfy the reasonable needs of navigation. The navigational opening of the new companion bridge must match the existing bridge.

We appreciate this opportunity to be involved with the project development and the effects on navigation. If there are any questions, please contact Mr. Rodney Wurgler at the above phone number.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric A. Washburn".

ERIC A. WASHBURN

Bridge Administrator Western Rivers
By direction of the District Commander

U.S. Department of
Homeland Security

United States
Coast Guard



Commander
Eighth Coast Guard District

1222 Spruce Street, Room 2.102D
St. Louis, MO 63103-2832
Staff Symbol: dwb
Phone: (314) 269-2379
FAX: (314) 269-2737
Email: rodney.l.wurgler@uscg.mil
www.uscg.mil/d8/westernriversbridges

16593/790.61 UMR
November 27, 2013

Mr. Daniel Prather, P.E.
Assistant Preliminary Bridge Plans Engineer
MnDOT Bridge Office
3485 Hadley Avenue North
Oakdale, MN 55128

Subj: PROPOSED RED WING HIGHWAY BRIDGE REPLACEMENT, MILE 790.61,
UPPER MISSISSIPPI RIVER

Dear Mr. Prather:

The Coast Guard reviewed the required navigational clearances for this project. Although the existing vertical clearance is 64.7 feet above normal pool, it was determined that the proposed clearance may be a minimum of 60 feet above normal pool at each channel pier due to the haunch in the girder for 35 feet of the channel span at either end. A clearance of 62 feet above normal pool is required for the remaining 362 feet at the center of the span. The total clearance envelope of the navigation span will be 432 feet.

If there are any questions, please contact Rodney Wurgler at the above phone number.

Sincerely,

A handwritten signature in blue ink, appearing to read "Eric A. Washburn".

ERIC A. WASHBURN
Bridge Administrator Western Rivers
By direction of the District Commander

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Appendix D: Agency Correspondence – Section 106

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Using the Power of History to Transform Lives
PRESERVING > SHARING > CONNECTING

STATE HISTORIC PRESERVATION OFFICE

June 13, 2013

Ms. Teresa Martin
MnDOT Cultural Resources Unit
395 John Ireland Boulevard
St. Paul MN 55155

RE: SP 2515-21; Red Wing Bridge Project
Red Wing, Goodhue County
SHPO Number: 2011-1361

Dear Teresa:

Thank you for sending us the Bridge No. 9103 Rehabilitation Study Final Report. Our review of this report is based on the responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and implementing regulations at 36 CFR 800. Our comments are below.

1. We agree that Alternates 3 and 4 do not meet Standards. Replacement of the entire deck pretty much replaces the entire bridge and anything historically important about it.
2. We also agree that Alternates 1 and 2 will meet Standards.
3. Our architect thinks the additional railing in Alternative 2 is rather unobtrusive and acceptable.
4. We assume that the widening of the sidewalk would come out of the shoulders and is not an addition to the deck width.

Thank you for considering a wide range of rehabilitation alternatives. We look forward to consulting with you further on this project. If you have any questions about our design review, please contact Natascha Wiener at 651-259-3462

Sincerely,

A handwritten signature in blue ink, appearing to read 'Mary Ann Heidemann', written over a printed name and title.

Mary Ann Heidemann, Manager
Government Programs and Compliance

cc: Steve Kohn, Red Wing Heritage Preservation Commission



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STATE HISTORIC PRESERVATION OFFICE

November 15, 2013

Ms. Teresa Martin
MnDOT Cultural Resources Unit
395 John Ireland Boulevard
St. Paul MN 55155

RE: SP 2515-21; Red Wing Bridge Project
Rehabilitation Study – Final Report
Red Wing, Goodhue County
SHPO Number: 2011-1361

Dear Ms. Martin:

Thank you for submitting the Bridge No. 9103 Rehabilitation Study Final Report (dated August 2013). Our review of this report is based on the responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and implementing federal regulations at 36 CFR 800 and per the terms of the general Section 106 Programmatic Agreement and the Historic Bridge Programmatic Agreement negotiated between the FHWA and SHPO.

We have reviewed this document and are not seeing any substantial changes from the earlier draft report (dated April 2013) for which we reviewed and provided comments to your office on 13 June 2013. Please see below for our comments:

1. We agree that Alternates 3 and 4 **do not** meet the Secretary of the Interior's Standards for the Treatment of Historic Properties (Standards). Replacement of the entire deck does not meet the Standards.
2. We also agree that Alternates 1 and 2 **do** meet the Standards.
3. The additional railing in Alternative 2 is acceptable.

We look forward to further consultation regarding this project. If you have any questions regarding our review, please contact Kelly Gragg-Johnson at (651) 259-3455.

Sincerely,

A handwritten signature in black ink that reads 'Sarah J. Beimers'.

Sarah J. Beimers, Manager
Government Programs and Compliance

cc: Steve Kohn, Red Wing Heritage Preservation Commission



Office of Environmental Stewardship

Mail Stop 620
395 John Ireland Boulevard
St. Paul, MN 55155

Office Tel: (651) 366-3620
Fax: (651) 366-3603

February 23, 2015

Sarah J. Beimers
Government Programs & Compliance Manager
State Historic Preservation Office
Minnesota Historical Society
345 Kellogg Blvd. W.
St. Paul, MN 55102-3391

Re: SP 2512-21, Red Wing Bridge Project
Phase I Archaeology and Adverse Effect to Bridge 9103
SHPO No. 2011-1361

Dear Ms. Beimers:

I am writing to continue consultation with your office regarding our Section 106 review of the above-referenced undertaking on behalf of the FHWA.

As you are aware, MnDOT, in cooperation with WisDOT, has been studying alternatives for rehabilitation/replacement of the Mississippi River crossing in Red Wing. The existing river crossing Eisenhower Bridge (bridge 9040) is a fracture critical structure meeting Chapter 152 criteria and is slated for replacement in 2017-2019. After considering a range of rehabilitation and replacement options, MnDOT has identified a recommended alternative, which is the only option that meets the project's purpose as well as all of its primary needs. The recommended alternative is a new, two-lane, steel box girder structure that will be constructed adjacent to (on the west side) the existing crossing.

The selected alternative includes a new US 63 overpass of US 61 (replacing 9103), a buttonhook loop, which will establish a new US 61/US 63 at-grade intersection east of the downtown area, and a one-way slip ramp enabling traffic from Wisconsin to access downtown and TH 58 more directly via W. 3rd Street. I have enclosed draft conceptual layouts illustrating the recommended alternative (dated 10/1/2014) and the Minnesota approaches (dated 9/19/2014).

Summary of Cultural Resources Work

To date, MnDOT has completed the following cultural resources work:

- Phase I and II architecture-history investigations (Granger and Kelly 2011, 2014). Your office has concurred with our determination of the area of potential effects (APE) and our determinations of eligibility (10/28/2014 letter from Sarah L. Beimers to Teresa Martin).
- A rehabilitation alternatives study for Bridge 9103 (HDR Engineering, Inc., and Gemini Research 2013). Your office concurred with the study's recommendations

concerning which rehabilitation alternatives met or did not meet the Secretary of the Interior's Standards (11/15/2013 letter from Sarah L. Beimers to Teresa Martin).

- A pre-evaluation archaeology study identifying the portions of the project APE having the potential to contain intact resources (Terrell and Vermeer 2012). This study addresses our preliminary APE, which your office concurred with (10/28/2014 letter from Sarah L. Beimers to Teresa Martin). A copy of this study is enclosed for your review.
- A geomorphological investigation in conjunction with the pre-evaluation archaeology study to assess the potential for deeply buried archaeological resources within the preliminary APE (Foth Infrastructure and Environment 2011). I have enclosed a copy of this investigation.
- Phase I archaeological investigations which included geomorphological deep site testing by Stratamorph. Phase I investigations addressed the refined APE, which we have revised as project design has become more detailed. I have enclosed a copy of the Phase I investigations report (Terrell and Vermeer 2015). This copy is marked draft but no changes will be made before finalizing the document (in process). Because of the project schedule, we are requesting that you base your comments on the enclosed version of the report. We will provide you a finalized copy of the report by the end of March.

We concur with Two Pines Resource Group's recommendations concerning archaeological resources:

- Sites 21GD291, 21GD292, 21GD293, 21GD294 and 21GD295 warrant Phase II investigations to assess National Register eligibility.
- The following areas that could not be fully assessed due to physical constraints or lack of landowner permission require further investigation:
 - the YMCA locality
 - undeveloped portions of Blocks 41-44
 - Site lead 21GDbj (Area 10-Red Wing Shoe locality)
 - Area 25-Viking Coca Cola locality
 - 233 Bluff Street (Light Industrial locality)
 - 231 Bluff Street (Gas Works locality)
 - 228 E. 4th Street
 - 232 E. 4th Street
 - 236 E. 4th Street
 - 240 E. 4th Street
 - 250 E. 4th Street

Assessment of Effects

We have identified the National Register-listed and National Register-eligible architecture-history properties within the project APE. Removal of National Register-eligible Bridge #9103 (which forms the southern approach to the existing Eisenhower Bridge crossing) will be an adverse effect. However, there are features of the new crossing still being developed that have the potential to adversely affect (directly or indirectly) other historic properties. These project features include the new TH 63/TH 61 bridge, ramps, retaining walls, noise walls,

pond, bicycle-pedestrian trail, and landscaping. In addition, MnDOT has not yet completed a study to assess the potential effects of vibration during construction to historic properties.

We have not yet evaluated all archaeological resources within the APE as some areas remain to be assessed due to the lack of landowner permission and physical constraints that cannot be addressed at this stage of the project. Archaeological survey of some areas will not be possible until the properties can be acquired and we will not be able to fully assess project effects to archaeological resources until investigations are completed.

MnDOT, as the lead state agency, is completing an Environmental Assessment/ Environmental Assessment Worksheet for the project in compliance with the National Environmental Policy Act (NEPA). The letting date for the project is February 2017. Final plan turn in will be late 2016. FHWA needs the NEPA document completed before MnDOT can start final design. As the MnDOT CRU cannot fully determine the effects of the undertaking on historic properties before a NEPA decision is required, we are proposing to develop a Programmatic Agreement per 36 CFR 800.14(b)(1)(ii).

At this time we are requesting the following:

- Your concurrence with our finding that removal of National Register-eligible Bridge #9103 is an adverse effect.
- Your comments on the enclosed Pre-Evaluation Archaeological Study.
- Your concurrence with the refined archaeology APE (described on pages 1-3 of the enclosed Phase I report) and your comments on the Phase I archaeological survey.
- Your comments regarding development of a Section 106 Programmatic Agreement.

If you have any questions, you can contact me at 651-366-3620. We look forward to continuing consultation with your office in developing a programmatic agreement.

Sincerely,



Teresa Martin, Archaeologist
Cultural Resources Unit (CRU)

Enclosures

cc: Chad Hanson, MnDOT D-6
Abby Ginsberg, FHWA
Phil Forst, FHWA



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STATE HISTORIC PRESERVATION OFFICE

March 26, 2015

Ms. Teresa Martin
 MnDOT Cultural Resources Unit
 395 John Ireland Boulevard, MS 620
 St. Paul MN 55155

RE: SP 2515-21; Red Wing Bridge Project
 Red Wing, Goodhue County
 SHPO Number: 2011-1361

Dear Ms. Martin:

Thank you for continuing consultation on the above project. Information recently received in our office has been reviewed pursuant to responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and implementing federal regulations at 36 CFR 800 and per the terms of the general Section 106 Programmatic Agreement and the Historic Bridge Programmatic Agreement negotiated between the FHWA and SHPO.

We have completed our review of your correspondence dated 23 February 2015 and the accompanying reports including:

- *Geomorphic Investigation of the State Trunk Highway 63 Bridge over the Mississippi River, Red Wing, Minnesota*, Foth Infrastructure and Environment LLC, December 2011
- *Pre-Evaluation Study for Archaeological Potential for the Trunk Highway 63 Red Wing Bridge Project, Goodhue County, Minnesota and Pierce County, Wisconsin*, Two Pines Resource Group LLC, FINAL June 2012
- *TH 63 Red Wing Bridge Project Goodhue County, Minnesota and Pierce County, Wisconsin: Phase I Archaeological Survey*, Two Pines Resource Group LLC, Draft 2 January 2015

As requested, our comments and recommendations are as follows:

- ◀ We agree that the archaeological area of potential effect (APE), as defined and documented on pages 1-3 of the Phase I survey report, is generally appropriate for the proposed undertaking as we currently understand it. As the project is further designed, or if it is significantly altered from the current design, additional consultation with our office may be necessary in order to revise the archaeological APE.
- ◀ From our perspective, both the *Pre-Evaluation Study* and the *Phase I Archaeological Survey* appear to meet the "reasonable and good faith effort" for historic property identification pursuant to 36 CFR 800.4(b)(1) and we agree with the recommendations for additional field survey of archaeological sites as summarized on page 2 of your 2/23/2015 letter, specifically:
 - Archaeological sites 21GD291, 21GD292, 21GD293, 21GD294 and 21GD295 warrant Phase II investigations to evaluate for National Register eligibility;

- Localities described as YMCA, Blocks 41-44, Site Lease 21GDbj (Area 10-Red Wing Shoe), Area 25-Viking Coca Cola, Light Industrial (233 Bluff St), Gas Works (231 Bluff St), and parcels located at 228-232-236-240-250 East 4th St warrant Phase I survey.
- ◀ Per 36 CFR 800.4(a) and (b), please provide information regarding your agency's approach to identification and evaluation efforts in regards to properties within the APE which may be of religious or cultural significance to American Indians.
- ◀ We agree with your agency's determination that the removal of Bridge 9103, a historic property previously determined eligible for listing in the National Register of Historic Places, constitutes an **adverse effect**.

Due to the fact that your agency has made, and we have provided concurrence in this letter, a determination that the project will have an adverse effect on Bridge 9103 thus requiring continued consultation in order to resolve the adverse effect pursuant to 36 CFR 800.6, and that further identification and evaluation of historic properties within the APE will need to be completed as well as additional assessment of adverse effects to historic properties, we agree with your agency's suggestion that we continue to consult specifically in an effort to develop an agreement document which will establish a process for completion of the Section 106 review for this undertaking. Please notify the Advisory Council on Historic Preservation regarding this determination of "adverse effect" pursuant to 36 CFR 800.6(a)(1).

As we move forward into consultation on an agreement document, we recommend that your agency provide information regarding identification of consulting parties who may wish to participate in this process. Also, please provide an update regarding your agency's public participation in this review, including efforts completed thus far and plans for continued public participation.

We look forward to further consultation on this project. If you have any questions regarding this letter, please feel free to contact me at 651-259-3456 or by e-mail at sarah.beimers@mnhs.org.

Sincerely,



Sarah J. Beimers, Manager
Government Programs and Compliance

cc: Steve Kohn, Red Wing Heritage Preservation Commission
Michelle Terrell, Two Pines Resource Group
Susan Granger, Gemini Research



Office of Environmental Services

Mail Stop 620
395 John Ireland Boulevard
St. Paul, MN 55155

Office Tel: (651) 366-3620

Fax: (651) 366-3603

Cultural Resources Unit
teresa.martin@dot.state.mn.us
Mail Stop 620

February 2, 2011

To: Interested Tribal Representative

From: Teresa Martin, Mn/DOT Cultural Resources Unit

Re: S.P. 2515-21, Red Wing Bridge Project, Early Planning Stages

Mn/DOT D-6 is in the very early planning stages for the potential replacement rehabilitation of Bridge #9040 which carries TH 61 over the Mississippi River in Red Wing, Minnesota. This undertaking is subject to review under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and under the National Environmental Policy Act (NEPA). Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties (i.e., those properties eligible for or listed on the National Register of Historic Places). This process involves efforts to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. On behalf of the FHWA, which has designated its Section 106 responsibilities to the Minnesota Department of Transportation (Mn/DOT) Cultural Resources Unit (CRU), we are now initiating review to determine the possible effects of the undertaking (if any) on historic properties. In accordance with 36 CFR 800.2(c) of the NHPA we are contacting you to see if you know of any historic properties of religious or historic significance in the area, and to see if you would like to participate in the Section 106 process for this project (i.e., to be a consulting party).

Mn/DOT is in the early stages of determining the disposition of Bridge #9040. Estimates show the bridge will not be adequate to accommodate increased traffic over the next 20 years. Several options are being considered including removing the current bridge and building a new crossing in the same or a different location, or constructing a new crossing and rehabilitating the current bridge for pedestrian or other use. The project may also redesign traffic patterns in downtown Red Wing to improve flow.

The area of potential effects (APE) for cultural resources is defined as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. Mn/DOT will consider viewshed impacts and how they affect the APE when the project scope is sufficiently developed.

The project APE for architectural history and archaeology was set deliberately large to include the many potential project scenarios (see attached map). There are hundreds of known historic properties in Red Wing and many areas with high potential for archaeological resources. The Mn/DOT Cultural Resources Unit (CRU) has retained Gemini Research to carry out a Phase I architectural survey of the APE.

The Mn/DOT CRU is currently contracting with Two Pines Resource Group, LLC, to complete any necessary archaeological studies for the project. The potential project APE is large and there are many potential archaeological impacts to consider, therefore, Mn/DOT and Two Pines will assess the presence/absence of archaeological potential before scoping a Phase I survey. The preliminary assessment of archaeological potential will be based on intensive background research as well as soils data. A soils scientist will collect 3-inch soil cores from

various portions of the APE to determine where there is potential both for surface and for buried archaeological resources. Once the preliminary assessment is completed and the APE has been refined based on engineering decisions, we will move forward to a Phase I archaeological investigation.

Mn/DOT is anticipating the consideration of Barnes Bluff as a Traditional Cultural Property (TCP). Two Pines has previous experience in nominating a TCP to the National Register of Historic Places (i.e., Pilot Knob in Dakota County, Minnesota). The Mn/DOT CRU will be working closely with the Prairie Island Community on this project and in particular with their new THPO, Whitney White. Ms. White is currently carrying out in-depth genealogical work for the community and has graciously offered to work with us on incorporating some of this information into the Mn/DLOT study as she deems appropriate. Whitney will be gathering oral histories related to Red Wing and to Barnes Bluff that will be key information in the TCP study.

As we move forward we would appreciate any comments you may have about historic, cultural, and archaeological resources and other concerns regarding this project. If you would like to be a consulting party to this undertaking please let us know within 30 days.

Thank you for your attention to this request. We look forward to working with you on this project.

cc: Prairie Island THPO
Shakopee Mdewakanton CRD
Lower Sioux THPO
Upper Sioux THPO
Santee Sioux THPO
Sisseton-Wahpeton Oyate THPO
Fort Peck CRD
Chad Hanson, Mn/DOT D-6
Joe Hudak, Mn/DOT CRU
Mn/DOT CO File



Office of Environmental Services

Mail Stop 620
395 John Ireland Boulevard
St. Paul, MN 55155

Office Tel: (651) 366-3620

Fax: (651) 366-3603

Cultural Resources Unit
teresa.martin@dot.state.mn.us
Mail Stop 620

February 8, 2011

To: Interested Tribal Representative

From: Teresa Martin, Mn/DOT Cultural Resources Unit

Re: S.P. 2515-21, Red Wing Bridge Project, Early Planning Stages

Mn/DOT D-6 is in the very early planning stages for the potential replacement rehabilitation of Bridge #9040 which carries TH 63 over the Mississippi River in Red Wing, Minnesota to Wisconsin. This undertaking is subject to review under Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and under the National Environmental Policy Act (NEPA). Section 106 of the NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties (i.e., those properties eligible for or listed on the National Register of Historic Places). This process involves efforts to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. On behalf of the FHWA, which has designated its Section 106 responsibilities to the Minnesota Department of Transportation (Mn/DOT) Cultural Resources Unit (CRU), we are now initiating review to determine the possible effects of the undertaking (if any) on historic properties. In accordance with 36 CFR 800.2(c) of the NHPA we are contacting you to see if you know of any historic properties of religious or historic significance in the area, and to see if you would like to participate in the Section 106 process for this project (i.e., to be a consulting party).

Mn/DOT is in the early stages of determining the disposition of Bridge #9040. Estimates show the bridge will not be adequate to accommodate increased traffic over the next 20 years. Several options are being considered including removing the current bridge and building a new crossing in the same or a different location, or constructing a new crossing and rehabilitating the current bridge for pedestrian or other use. The project may also redesign traffic patterns in downtown Red Wing to improve flow.

The area of potential effects (APE) for cultural resources is defined as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. Mn/DOT will consider viewshed impacts and how they affect the APE when the project scope is sufficiently developed.

The project APE for architectural history and archaeology was set deliberately large to include the many potential project scenarios (see attached map). There are hundreds of known historic properties in Red Wing and many areas with high potential for archaeological resources. The Mn/DOT Cultural Resources Unit (CRU) has retained Gemini Research to carry out a Phase I architectural survey of the APE.

The Mn/DOT CRU is currently contracting with Two Pines Resource Group, LLC, to complete any necessary archaeological studies for the project. The project APE is large and there are many potential archaeological impacts to consider, therefore, Mn/DOT and Two Pines will assess the presence/absence of archaeological potential before scoping a Phase I survey. The preliminary assessment of archaeological will be based on intensive background research as well as soils data. A soils scientist will collect 3-inch soil cores from various

portions of the APE to determine where there is potential both for surface and for buried archaeological resources. Once the preliminary assessment is completed and the APE has been refined based on engineering decisions, we will move forward to a Phase I archaeological investigation.

Mn/DOT is anticipating the consideration of Barnes Bluff as a Traditional Cultural Property (TCP). Two Pines has previous experience in nominating TCP's to the National Register of Historic Places (i.e., Pilot Knob in Dakota County, Minnesota). The Mn/DOT CRU will be working closely with the Prairie Island Community on this project and in particular with their new THPO, Whitney White. Ms. White is currently carrying out in-depth genealogical work for the community and has graciously offered to work with us on incorporating some of this information into the Mn/DLOT study as she deems appropriate. Whitney will be gathering oral histories related to Red Wing and to Barnes Bluff that will be key information in the TCP study.

As we move forward we would appreciate any comments you may have about historic, cultural, and archaeological resources and other concerns regarding this project. If you would like to be a consulting party to this undertaking please let us know within 30 days.

Thank you for your attention to this request. We look forward to working with you on this project.

cc: Northern Cheyenne
Ho-Chunk Nation
St. Croix Chippewa
Spirit Lake Band
Sokagon Chippewa
Three Affiliated Tribes
Lac Vieux Desert Band
Lac Courte Oreilles Band
Lake Superior Band
Bad River Band
White Earth Band
Red Lake Band
Bois Forte Band
Standing Rock Sioux
Mille Lacs Band
Leech Lake Band
Grand Portage band
Fond du Lac Band
Chad Hanson, Mn/DOT D-6
Joe Hudak, Mn/DOT CRU
Mn/DOT CO File



Office of Environmental Services

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395 John Ireland Boulevard
St. Paul, MN 55155

Office Tel: (651) 366-3620

Fax: (651) 366-3603

Cultural Resources Unit
teresa.martin@dot.state.mn.us
Mail Stop 620

September 8, 2014

Michael Bergervoet
Prairie Island THPO
5636 Sturgeon Lake Road
Welch, MN 55089

Re: S.P. 2515-21, Red Wing Bridge Project, Potential Impacts of New Bridge Design

Dear Mike,

This letter is a follow-up to our discussion of the new Red Wing Bridge design. MnDOT is currently hosting meetings with a group of residences from Red Wing and our consultants to plan for the design of the new Mississippi River crossing bridge in Red Wing. Marc Mogan, has been attending these meetings on behalf of the Prairie Island Community.

A consultation request concerning the Red Wing Bridge project was sent to the THPO in February of 2011 when the project was in its early planning stages. No formal response was received back from the tribe at that time. We are now much further down the road in project planning and we are making design decisions about the new river crossing bridge. I want to reach out to your office again for a discussion about any potential impacts to the sacred Barnes Bluff and the burial areas on top of that bluff. There will be no physical impacts to the bluff but there could potentially be secondary effects from lighting for example.

It has been decided that the bridge will be a concrete box girder making it a simple overall design. The designs for the piers, rails, lighting and any façade applications are now under discussion. Our next meeting is Thursday September 11th from 9:00-2:00 at the Ignite Building at 419 Bush Street in Red Wing.

We value your insights as to any potential impacts to cultural properties important to the Community. Please let me know, in writing, of any concerns your office or Tribal Council may have with respect to the bridge design. I am also happy to meet with the elders at their next breakfast get together to present our concepts if you think it would be helpful. If you have any questions, please call me at (651) 366-3620.

Sincerely,

A handwritten signature in cursive script that reads 'Teresa Martin'.

Teresa Martin
MnDOT Cultural Resources Unit

cc. Ed Fairbanks, MnDOT CO
Chad Hanson, MnDOT D-6



**Division of Transportation
Systems Development**
Northwest Region – Eau Claire Office
718 W. Clairemont Ave.
Eau Claire, WI 54701-5108

Scott Walker, Governor
Mark Gottlieb, P.E., Secretary
Internet: www.dot.wisconsin.gov

Telephone: 715-836-2891
Toll Free: 800-991-5285
Facsimile (FAX): 715-836-2807
E-mail: eauclaire.dtd@dot.state.wi.us

February 5, 2015

TRIBAL CONTACT
TRIBAL ADDRESS

Re: Opportunity for comment

Project Number:	7210-00-06/76	Project Name:	Red Wing/Mississippi River Bridge
Project Termini:	Red Wing – Ellsworth	Project Highway:	USH 63
Counties:	Pierce County		

In partnership, the Wisconsin Department of Transportation (WisDOT) and Minnesota Department of Transportation (MnDOT) are currently investigating alternatives to replace the US Highway 63 (Eisenhower) Bridge over the Mississippi River between Red Wing, MN and Pierce County, WI. MnDOT is the sponsoring lead agency and is responsible for ensuring environmental obligations are fulfilled and recorded in the environmental document. The Eisenhower Bridge provides the only regional crossing of the river for approximately 30 miles upstream and downstream for several communities on both the Wisconsin and Minnesota sides of the river.

Laws passed by the Minnesota legislature following the I-35W Bridge collapse provide funding for rehabilitation or replacement of certain types of bridges in the state. The Eisenhower Bridge is “fracture critical” by nature of its truss design and therefore is eligible for funding through the new State funding program.

Your tribe has requested to be notified of undertakings in this area of Wisconsin. Therefore, attached are the ‘draft/interim’ results of the archaeological investigations completed for this project (undertaking) by MnDOT’s archaeological contractor. WisDOT would be pleased to receive any comments your tribe wishes to share regarding the information contained in this report, the area of potential effect (APE), and any potential impacts to historic properties and/or burials. These comments will be shared with the MnDOT Cultural Resources program delivery manager and taken under consideration. Upon request, a copy of the final Phase II architecture/structure study will be provided.

Currently, the Departments are in the preliminary design and environmental review phase, with a recommended alternative of replacing the bridges and realigning the approach roadways in Minnesota and Wisconsin. Progress is continuing to be made as MnDOT and WisDOT work toward completing the preliminary design and environmental review tasks and look ahead to construction anticipated to begin in late 2017 or 2018.

The Departments are beginning to finalize a draft Environmental Assessment (EA) document. To ensure your comments are considered during this early phase of project development, WisDOT is requesting a response within 30 days receipt of this letter.

Additional information regarding the project is available on-line at <http://www.dot.state.mn.us/d6/projects/redwing-bridge/>.

If you would like a copy of the draft EA or would like to receive additional information regarding this proposed project, please contact: **Mohamad Hayek, WisDOT Project Manager at 718 W. Clairemont Ave., Eau Claire, WI 54701, (715) 836-2065.**

Sincerely,



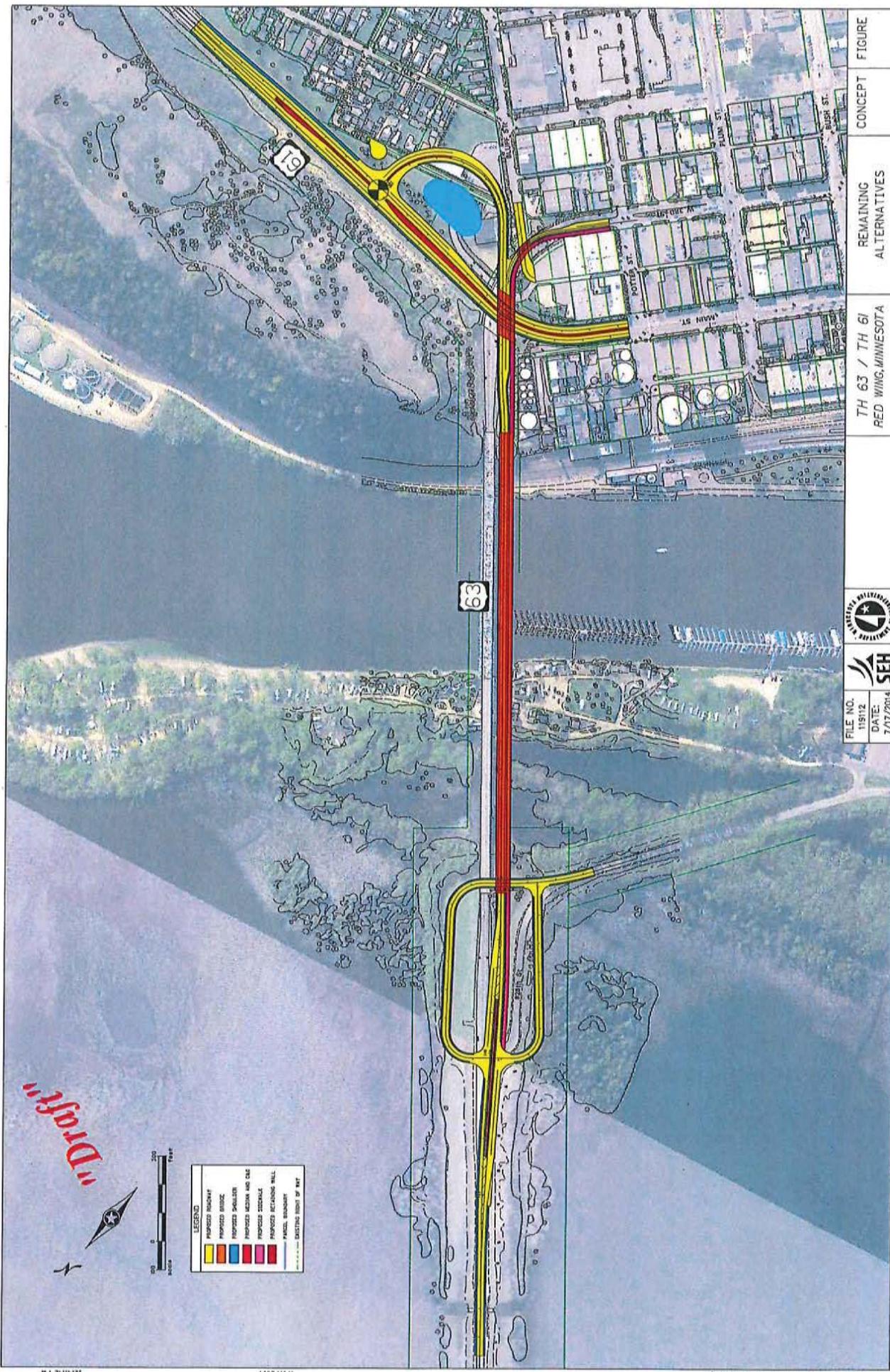
Mohamad Hayek
WisDOT Project Leader



Teresa Martin
MnDOT Cultural Resources Mgr.

Cc: James Becker, WisDOT Environmental Services
Nick Schaff, WisDOT NW Region Environmental Coordinator
Brent Pickard, WisDOT NW Region Tribal Liaison

Enclosures:



FILE NO. 118112	TH 63 / TH 61	REMAINING ALTERNATIVES	CONCEPT	FIGURE
DATE: 7/17/2014	RED WING, MINNESOTA			



"Draft"

12/14/12 PM 17/17/2014 5:\0\N\M\108\11912\CAD\11912_R1.dgn



Lac du Flambeau Band of Lake Superior Chippewa Indians
Tribal Historic Preservation Office

February 13, 2015

Mohamad Hayek
WisDOT Project Leader
718 W. Clairemont Ave.
Eau Claire, WI 54704

**Project ID: 7210-00-16/76; Red Wing - Ellsworth; Red wing/Mississippi River
Bridge; USH 63; Pierce County, WI**

Dear Mr. Hayek:

The lac du Flambeau Tribal Historic Preservation Office received your requests for comments or interest concerning the National Historic Preservation Act, Section 106 request for review and comment to the effect on historic and cultural sites within the proposed project area. The Lac du Flambeau Tribal Historic Preservation Office has no interests documented at this time in the proposed project areas. Lac du Flambeau has conducted its database research, file research and find no sites within the project area at this time. However that does not mean that they do not exist. It is Lac du Flambeau's belief that many prehistoric sites and Indian historic sites in the area have not yet been identified or documented. Lac du Flambeau is among the many Tribes initiating the process of assisting in this endeavor. Lac du Flambeau urges you to consult other Indian Tribes in your immediate area that may have interests in your project area, if you have not already done so.

Please forward any future request for review of historic and cultural properties according to the National Historic Preservation Act Section 106 to Melinda J. Young, Tribal Historic Preservation Officer. Please keep us informed of future projects as Lac du Flambeau plans to increase our efforts to identify and document sites in the area. If the scope of work changes in any way, or if artifacts or human remains are discovered, please notify Lac du Flambeau immediately so we can assist in making an appropriate determination

Sincerely,

Sarah Schuman for

Melinda J. Young ←
Tribal Historic Preservation Officer

P.O. Box 67
Lac du Flambeau, WI 54538
EA Appendix D Exhibit 9

Phone: (715) 588-2139 or (715) 588-2270

Fax: (715) 588-2419

Email: ldftppo@ldftribe.com

EA Appendix D Exhibit 9

PROGRAMMATIC AGREEMENT PURSUANT TO SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT, AS AMENDED, AMONG THE FEDERAL HIGHWAY ADMINISTRATION, THE MINNESOTA DEPARTMENT OF TRANSPORTATION, THE WISCONSIN DEPARTMENT OF TRANSPORTATION, THE MINNESOTA STATE HISTORIC PRESERVATION OFFICE, THE WISCONSIN STATE HISTORIC PRESERVATION OFFICE, THE U.S. ARMY CORP OF ENGINEERS, REGARDING THE REPLACEMENT OF THE EISENHOWER BRIDGE IN RED WING, GOODHUE COUNTY, MINNESOTA, AND PIERCE COUNTY, WISCONSIN (Minnesota State Project [S.P.] 2515-21)

WHEREAS, the Federal Highway Administration (FHWA) is providing funding to the Minnesota Department of Transportation (MnDOT) and the Wisconsin Department of Transportation (WisDOT) for replacement of the Eisenhower Bridge over the Mississippi River in Red Wing, Goodhue County, Minnesota, and Pierce County, Wisconsin (Project); and

WHEREAS, FHWA has determined that the Project may affect historic properties listed in or eligible for the National Register of Historic Places and requires review under Section 106 of the National Historic Preservation Act and its implementing regulations at 36 CFR 800; and

WHEREAS, the Project will require permits from the St. Paul District U.S. Army Corps of Engineers (Corps) pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 USC Sect. 403) and Section 404 of the Clean Water Act (33 USC Sect. 1344); and

WHEREAS, in accordance with 36 CFR 800.2(a)(2) and as per the terms of the 2015 Section 106 Programmatic Agreement (2015 Statewide PA) among FHWA, the Corps, the Minnesota Historic Preservation Office (MnSHPO), and the Advisory Council on Historic Preservation (ACHP) regarding implementation of the Federal-Aid Highway Program in Minnesota, FHWA is the lead Federal agency for the purposes of Section 106 review; and

WHEREAS, FHWA has delegated its responsibilities, to a certain extent, for compliance with Section 106 in accordance with Federal law to the professionally qualified staff (as per 36 CFR 61) in the MnDOT Cultural Resources Unit (CRU), although the FHWA remains legally responsible for all findings and determinations charged to the agency official in 36 CFR 800; and

WHEREAS, FHWA has determined that Bridge No. 9103 is eligible for the National Register of Historic Places and the Project will have an adverse effect on this historic property by demolishing the structure, and MnSHPO has concurred with FHWA's finding; and

WHEREAS, FHWA cannot fully determine all of the effects of the Project on historic properties before a decision is required under the National Environmental Policy Act (NEPA); therefore, execution of this Programmatic Agreement (Agreement) is appropriate pursuant to 36 CFR 800.14(b)(1)(ii); and

WHEREAS, FHWA has consulted with MnSHPO and the Wisconsin State Historic Preservation Office (WisHPO) and they are signatories to this Agreement; and

WHEREAS, FHWA has consulted with Project sponsors MnDOT and WisDOT, and MnDOT, as the lead state agency, has agreed to certain responsibilities stipulated in this Agreement; and

FHWA has invited MnDOT and WisDOT to be signatories to this Agreement; and

WHEREAS, FHWA has consulted with the City of Red Wing (City) pursuant to 36 CFR 800.2(c)(1)(i), and has invited them to concur with this Agreement; and

WHEREAS, FHWA has consulted with the Red Wing Heritage Preservation Commission (HPC) pursuant to 36 CFR 800.2(c)(1)(i), and has invited them to concur with this Agreement.

NOW, THEREFORE, FHWA, MnSHPO and WisSHPO agree the undertaking will be implemented in accordance with the following stipulations in order to satisfy the responsibilities of FHWA and the Corps under Section 106 of the National Historic Preservation Act:

STIPULATIONS

The FHWA will ensure that the following measures are carried out:

STIPULATION I. IDENTIFICATION OF HISTORIC PROPERTIES

A. As Project activities are further defined, the MnDOT CRU, on behalf of the FHWA, will refine the APE in consultation with MnSHPO, as needed.

B. If the APE is revised to include areas not previously subject to historic property identification efforts conducted as part of this Project' MnDOT CRU will conduct additional investigations in those areas pursuant to Stipulation 3 of the 2015 Statewide PA.

C. Once MnDOT acquires the Project right-of-way, MnDOT CRU will conduct additional archaeological investigations for areas that were not accessible due to lack of landowner permission. Similar investigations will be conducted if during the design process additional parcels are identified that may be impacted or acquired. If archaeological sites are identified within the APE, FHWA will reopen consultation with Indian tribes that might attach religious and cultural significance to those properties under 36 CFR 800.2(c).

D. Any historic properties newly identified within the APE by MnDOT CRU will be added to the list of properties included in Appendix A upon written concurrence by the MnSHPO. An amendment to this Agreement under Stipulation VI is not necessary unless agreed upon by the signatories to the Agreement.

STIPULATION II. DISCOVERY DURING CONSTRUCTION

A. If previously unidentified historic properties are encountered during the Project construction, all ground-disturbing activities will cease in the area where any property is discovered, as well as in the immediately adjacent area. The contractor will immediately notify the MnDOT project manager and the MnDOT CRU of the discovery. The MnDOT CRU will record, document and evaluate the National Register

eligibility of resources in accordance with 36 CFR 800. If eligible properties are identified, the MnDOT CRU, in consultation with the MnSHPO (and WisSHPO as appropriate), will design a plan for avoiding or mitigating any adverse effects prior to resuming ground-disturbing work in the area of discovery.

B. If any previously unidentified human remains are encountered during the Project construction, all ground-disturbing activities will cease in the area where such remains are discovered as well as in the immediately adjacent area. The contractor will immediately notify the MnDOT CRU of the discovery of human remains. The FHWA (with the assistance of the MnDOT CRU) will work with the Office of the State Archaeologist (OSA) to perform any necessary tribal consultation in order to meet FHWA's responsibilities under Section 106. The MnDOT CRU will develop a reburial plan in consultation with the FHWA, the OSA, the MnSHPO, and, if appropriate, the Minnesota Indian Affairs Council (MIAC), prior to ground-disturbing work being allowed to proceed in the area of discovery. The FHWA will ensure that the terms of any reburial plan are fully implemented.

C. MnDOT will include in appropriate construction contracts provisions to ensure that items established in this stipulation are carried out by the contractor.

STIPULATION III. BRIDGE 9103 (GD-RWC-1387)

A. The Project will require the removal of Bridge 9103 (GD-RWC-1387) and its associated approach ramp. MnDOT CRU, in consultation with MnSHPO, will complete Minnesota Historic Properties Record (MHPR) documentation for Bridge 9103 and its approach ramp, in accordance with current MHPR Guidelines. The documentation will be completed prior to the start of construction on the new river crossing bridge and before any alterations are made to Bridge 9103 or its approaches. The draft MHPR documentation will be completed in consultation with MnSHPO and submitted to MnSHPO for review and acceptance. MnDOT CRU will submit final copies of the documentation to MnSHPO, the CITY, and the HPC.

STIPULATION IV. MEASURES TO MINIMIZE EFFECTS TO HISTORIC PROPERTIES

Plans for the new river crossing bridge and its Minnesota approach are still under development. These new structures including the new TH63/TH61 bridge, ramps, retaining walls, noise walls, pond, bicycle-pedestrian trail, and landscaping, have the potential for adverse effects (direct or indirect) on the Red Wing Mall District, St. James Hotel Complex, CMSTPP Railroad Corridor Historic District, Red Wing Commercial Historic District, Barn Bluff, Kappel Wagon Works, Hedin House, Miller House, Burdick Grain Company Terminal Elevator, Red Wing Iron Works, Red Wing Shoe Company and other historic properties (as listed in Attachment A). Measures to minimize effects to historic properties include the following:

A. Project Design Development and Plan Review

The Project design will effectively meet the project purpose and need, while avoiding, minimizing, and/or mitigating adverse impacts to historic properties. Avoidance of adverse effects is preferable and will be considered to the extent feasible.

1) MnDOT District 6 and its design team shall consult with MnDOT CRU throughout the project design of those project elements near the identified historic properties. Concepts for these design elements are currently under development through MnDOT's Visual Quality Advisory Committee (VQAC) process. Staff from MnDOT CRU and representatives from the CITY and HPC attended the VQAC meetings and the Visual Quality process took into consideration compliance with the Secretary of the Interior's Standards and Guidelines for the Treatment of Historic Properties (SOI Standards) for new construction adjacent to or near historic properties.

2) MnDOT CRU contracted with an historian to help ensure, throughout the design process, compliance with the SOI Standards for new construction adjacent to or near historic properties. These designs include the new river crossing bridge and elements of the Minnesota approach, including the new TH63/TH61 bridge ramps, retaining walls, noise walls, pond, bicycle-pedestrian trail, and landscaping.

3) MnDOT CRU and the historian have been and will continue to, review the initial plans and document any concerns or issues. MnDOT CRU has been and will continue to consult with the MnDOT District 6 Project Manager and submit documentation of concerns or issues; the District 6 Project Manager has been and will continue to work with CRU to address the changes and comments in the plans.

4) MnDOT CRU will again review draft final plans to ensure design elements agreed upon have been incorporated into the plans, and to determine if any areas beyond the reviewed APEs require survey work to determine if previously unidentified historic properties are present.

5) MnDOT CRU will submit final design plans and its findings of effect to MnSHPO for review and concurrence at the 30%, 60%, and 95% completion stage. The plans will be submitted to the other signatories and parties to this Agreement for review and comment. MnSHPO will have 30 days to review the plans.

6) If during Design Development and Plan Review, MnDOT CRU determines the SOI Standards are not able to be met and there are additional adverse effects, MnDOT CRU will provide any additional determinations to the MnSHPO, who will have 30 days to review and comment as per 36 CFR 800.3(c)(4). Any additional adverse effects identified will be addressed by amendment to this Agreement between MnDOT CRU and MnSHPO, after appropriate consultation with all signatories to the Agreement, the public, and the ACHP.

7) MnDOT CRU will submit final plans (i.e., 100% completion) to MnSHPO for the project record.

B. Design Changes After the Project is Underway

1) The project will be bid-built so changes to the plans are not anticipated. However, MnDOT District 6 will notify MnDOT CRU of any proposed changes to the final plans after the Project is underway. MnDOT CRU will determine the effect of these changes to historic properties and will provide any

additional determinations to the MnSHPO, who will have 30 days to review and comment as per 36 CFR 800.3(c)(4). Any additional adverse effects identified will be addressed by amendment to this Agreement between MnDOT CRU and MnSHPO, after appropriate consultation with all signatories to the Agreement, the public, tribes, and the ACHP.

C. Vibration Monitoring

MnDOT will develop and implement a Vibration Monitoring and Control and Mitigation Plan for Historic Properties, including Barn Bluff, to address potential issues related to vibrations caused by the project. MnDOT District 6 and its design team will consult with the MnDOT CRU, MnSHPO, the CITY, and HPC in the development of the plan. The plan will include a baseline vibration study to be conducted prior to any construction work. The plan will specify thresholds for vibration during construction and will include details about the preconstruction and post-construction building surveys, process, equipment (including crack-monitoring gauges), documentation standards, and frequency of monitoring. The draft plan will be submitted to MnDOT CRU for review and approval. MnDOT CRU will submit the plan to MnSHPO for review and concurrence, and to the CITY and HPC for review and comments.

STIPULATION V. STANDARDS

A. MnDOT CRU shall ensure that any products developed as mitigation for adverse effects to historic properties will meet the SOI Standards for Archaeology and Historic Preservation. Such products may include, but are not necessarily limited to, archaeological data recovery plans and final reports and MHPR documentation.

B. MnDOT CRU shall ensure that all work carried out pursuant to this Agreement will be done by or under the direct supervision of historic preservation professionals who meet the Secretary of the Interior's Professional Qualifications Standards (36 CFR 61).

STIPULATION VI. AMENDMENTS

The FHWA, MnSHPO, and the invited signatories to this Agreement may request in writing that it be amended, whereupon the parties shall consult to consider the proposed amendment. The regulations at 36 CFR 800 shall govern the execution of any such amendment.

STIPULATION VII. DISPUTE RESOLUTION

A. Should the FHWA, MnSHPO, or the invited signatories object at any time to any action proposed or the manner in which the terms of this Agreement are implemented, FHWA shall consult with such party to resolve the objection. FHWA consultation shall take place within 10 days of receipt of said objection and shall be documented in the form of meeting notes and/or written letter of response. If FHWA

determines, within 30 days of documenting consultation efforts with the objecting party, that the objection cannot be resolved, FHWA shall:

1) Forward all documentation relevant to the dispute, including the FHWA's proposed resolution, to the ACHP. The ACHP shall provide FHWA with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FHWA shall prepare a written response that takes into account any advice or comments from the ACHP, signatories, and concurring parties, and provide them with a copy of this written response. FHWA will then proceed according to its final decision.

2) If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period after receipt of adequate documentation, FHWA may render a final decision regarding the dispute and proceed accordingly. In reaching its decision, FHWA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the Agreement, and provide them and the ACHP with a copy of such written response.

3) FHWA's responsibilities to carry out all other actions subject to the terms of the Agreement that are not the subject of the dispute remain unchanged.

STIPULATION VIII. TERMINATION

The FHWA, MnSHPO, and the invited signatories to this Agreement may terminate the agreement by providing thirty (30) days' written notice to the other signatories, provided the signatories consult during the period prior to termination to agree on amendments or other actions that would avoid termination. If the agreement is terminated and the FHWA elects to continue with the undertaking, the FHWA will reinstate review of the undertaking in accordance with 36 CFR 800.3 through 800.13.

STIPULATION IX. DURATION

This agreement will terminate December 30, 2021 or upon mutual agreement of the FHWA, MnSHPO, and the invited signatories. Prior to such time, FHWA may consult with the other signatories to reconsider the terms of the Agreement and revise, amend, or extend it in accordance with Stipulation VI.

Execution of this agreement by the FHWA and the MnSHPO and implementation of its terms is evidence that the FHWA has taken into account the effects of its undertaking on historic properties and has afforded the Advisory Council on Historic Preservation opportunity to comment.

Signatories:

FEDERAL HIGHWAY ADMINISTRATION

_____ Date: _____

Dave Scott, Acting Division Administrator

MINNESOTA STATE HISTORIC PRESERVATION OFFICE

_____ Date: _____

Barbara M. Howard, Deputy State Historic Preservation Officer

WISCONSIN STATE HISTORIC PRESERVATION OFFICE

_____ Date: _____

XXXXXXXXXXXXX, Deputy State Historic Preservation Officer

MINNESOTA DEPARTMENT OF TRANSPORTATION

_____ Date: _____

Charles A. Zellie, Commissioner

WISCONSIN DEPARTMENT OF TRANSPORTATION

_____ Date: _____

Mark Gottlieb, P.E., Secretary of the Wisconsin Department of Transportation

UNITED STATES ARMY CORP OF ENGINEERS, ST. PAUL DISTRICT

_____ Date: _____

Daniel C. Koprowski, District Engineer and Comander

Concurring:

CITY OF RED WING

_____ Date: _____

Kay Kuhlmann, City Council Administrator

RED WING HERITAGE PRESERVATION COMMISSION

_____ Date: _____

Annette Martin, Chairperson

ATTACHMENT A

LIST OF NATIONAL REGISTER-LISTED AND –ELIGIBLE ARCHITECTURAL HISTORY PROPERTIES IN THE APE

LETTERS CORRESPOND TO MAP 4 IN PHASE II REPORT

- A. Red Wing Mall District (GD-RWC-001)
- B. St. James Hotel Complex (GD-RWC-004)
- C. Red Wing Residential Historic District (GD-RWC-022)
- D. CMSTPP Railroad Corridor Historic District (GD-RWC-1371)
- E. Red Wing Commercial Historic District (GD-RWC-1451)
- F. Barn Bluff (GD-RWC-280)
- G. Mississippi River 9' Channel (GD-RWC-1452)
- H. Kappel Wagon Works (GD-RWC-008)
- I. Sheldon Memorial Auditorium (GD-RWC-002)
- J. Lawther House (GD-RWC-023)
- K. Red Wing City Hall (GD-RWC-009)
- L. Hedin House (GD-RWC-1407)
- M. Luft Doublehouse (GD-RWC-746)
- N. Gladstone Building (GD-RWC-007)
- O. Medical Block Clinic (GD-RWC-1417)
- P. Hewitt Laboratory (GD-RWC-026)
- Q. Bridge 9103 (GD-RWC-1387)
- R. Miller House (GD-RWC-1422)
- S. Burdick Grain Company Terminal Elevator (GD-RWC-1383)
- T. Red Wing Iron Works (GD-RWC-005)
- U. Red Wing Shoe Company (GD-RWC-019)
- V. Keystone Building (GD-RWC-006)
- W. Chicago Great Western Depot (GD-RWC-015)
- X. Red Wing City Hospital Stairway (GD-RWC-1423)
- Y. First National Bank of Red Wing (GD-RWC-1439)

LIST OF ARCHAEOLOGICAL PROPERIES THAT WILL NEED ASSESSMENT OF ELIGIBILITY IF POTENTIALLY IMPACTED

SITE AREAS ARE DEPICTED IN THE FIGURE 62. OF FINAL REPOT

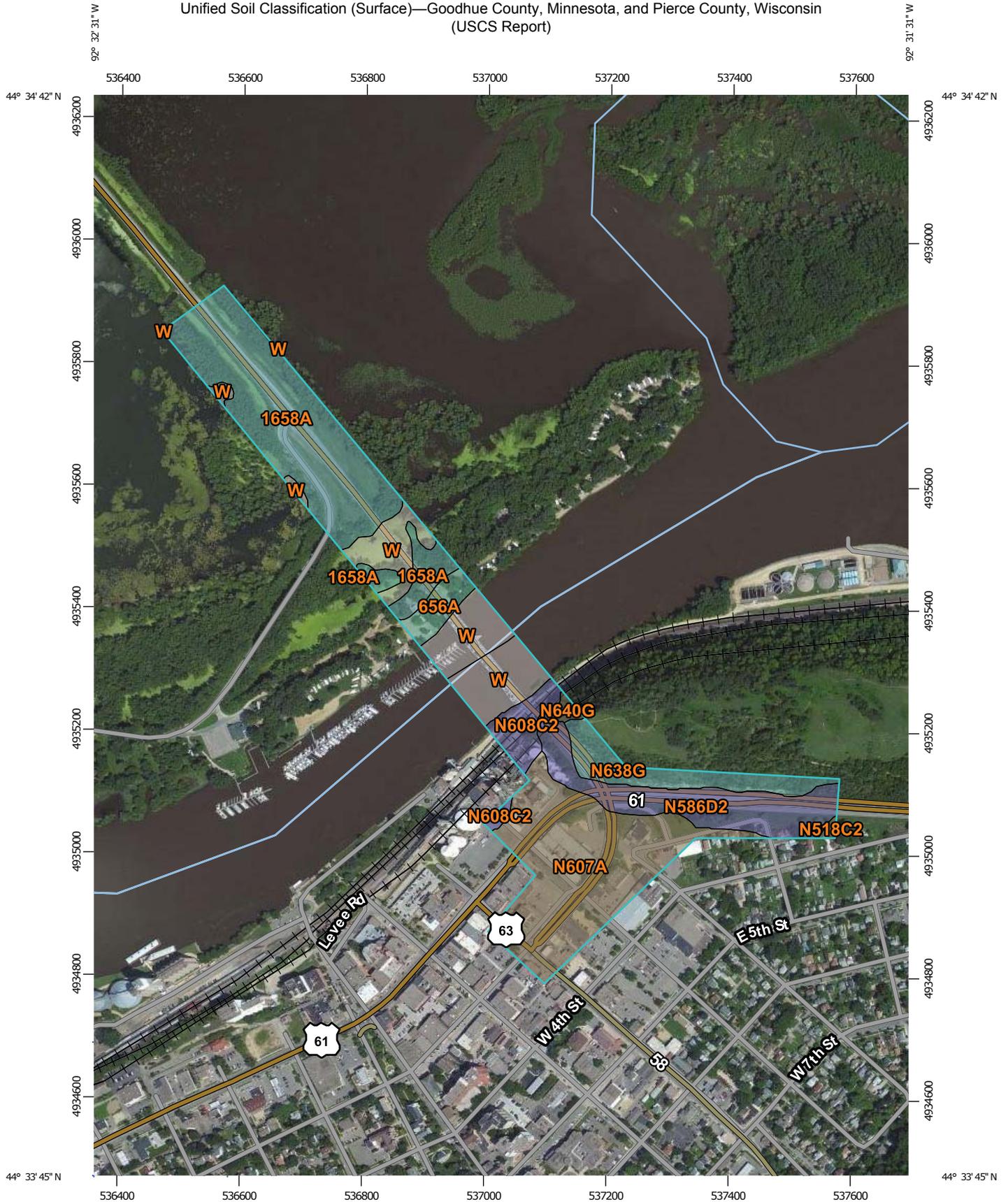
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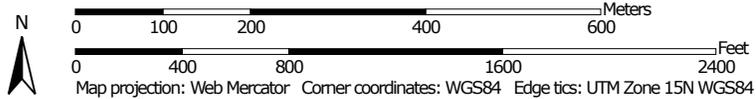
Appendix E: Unified Soil Classification System Soils Report

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Unified Soil Classification (Surface)—Goodhue County, Minnesota, and Pierce County, Wisconsin (USCS Report)



Map Scale: 1:8,590 if printed on A portrait (8.5" x 11") sheet.



Unified Soil Classification (Surface)—Goodhue County, Minnesota, and Pierce County, Wisconsin
(USCS Report)

MAP INFORMATION

-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads
- Background**
-  Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Goodhue County, Minnesota
Survey Area Data: Version 10, Sep 16, 2014

Soil Survey Area: Pierce County, Wisconsin
Survey Area Data: Version 14, Sep 16, 2014

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 6, 2011—Jul 20, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Unified Soil Classification (Surface)

Unified Soil Classification (Surface)— Summary by Map Unit — Goodhue County, Minnesota (MN049)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
N518C2	Lindstrom silt loam, 6 to 12 percent slopes, moderately eroded	ML	0.2	0.3%
N586D2	Ridgeton, sandy substratum-Eden Prairie complex, 12 to 20 percent slopes, moderately eroded	CL	7.3	12.9%
N607A	Meridian silt loam, 0 to 3 percent slopes	ML	15.5	27.6%
N608C2	Malardi loam, 6 to 12 percent slopes, moderately eroded	CL	2.3	4.1%
N638G	Brodale, flaggy-Bellechester complex, 30 to 70 percent slopes	SM	3.9	7.0%
N640G	Lacrescent, flaggy-Frontenac-Rock outcrop complex, 45 to 90 percent slopes	ML	0.3	0.6%
W	Water		3.2	5.6%
Subtotals for Soil Survey Area			32.6	58.0%
Totals for Area of Interest			56.3	100.0%

Unified Soil Classification (Surface)— Summary by Map Unit — Pierce County, Wisconsin (WI093)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
656A	Scotah loamy fine sand, 0 to 3 percent slopes, occasionally flooded	SC-SM	1.6	2.8%
1658A	Alganssee-Kalmarville complex, 0 to 3 percent slopes, frequently flooded	SM	16.5	29.2%
W	Water		5.6	10.0%
Subtotals for Soil Survey Area			23.6	42.0%
Totals for Area of Interest			56.3	100.0%

Description

The Unified soil classification system classifies mineral and organic mineral soils for engineering purposes on the basis of particle-size characteristics, liquid limit, and plasticity index. It identifies three major soil divisions: (i) coarse-grained soils having less than 50 percent, by weight, particles smaller than 0.074 mm in diameter; (ii) fine-grained soils having 50 percent or more, by weight, particles smaller than 0.074 mm in diameter; and (iii) highly organic soils that demonstrate certain organic characteristics. These divisions are further subdivided into a total of 15 basic soil groups. The major soil divisions and basic soil groups are determined on the basis of estimated or measured values for grain-size distribution and Atterberg limits. ASTM D 2487 shows the criteria chart used for classifying soil in the Unified system and the 15 basic soil groups of the system and the plasticity chart for the Unified system.

The various groupings of this classification correlate in a general way with the engineering behavior of soils. This correlation provides a useful first step in any field or laboratory investigation for engineering purposes. It can serve to make some general interpretations relating to probable performance of the soil for engineering uses.

For each soil horizon in the database one or more Unified soil classifications may be listed. One is marked as the representative or most commonly occurring. The representative classification is shown here for the surface layer of the soil.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)

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Appendix F: Programmatic Section 4(f) Evaluation

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Programmatic Section 4(f) Evaluation

U.S. 63 River Bridge and Approach Roadways Project

State Project No. 2515-21

May 1, 2015

Figure 1 – Location Map



Path: S:\COM\Mnt06\119112\GIS\MXD\Evaluation\Figures\Fig01_LocationMap.mxd



Project: MNT06 119112
 Print Date: 10/10/2014
 Map by: SHI
 Projection: Goodhue HARN NAD83 FT
 Source: City of Red Wing, MnDOT,
 Goodhue County, SEH Inc,
 MnGEO Aerial 2011

RED WING BRIDGE PROJECT
 Location Map

Figure
 1

This map is neither a legally recorded map nor a survey map and is not intended to be used as one. This map is a compilation of records, information, and data gathered from various sources listed on this map and is to be used for reference purposes only. SEH does not warrant that the Geographic Information System (GIS) Data used to prepare this map are error-free, and SEH does not represent that the GIS Data can be used for navigational, tracking, or any other purpose requiring exacting measurement of distance or direction or precision in the depiction of geographic features. The user of this map acknowledges that SEH shall not be liable for any damages which arise out of the user's access or use of data provided.

Figure 2 – Project Area Section 4(f) Resources

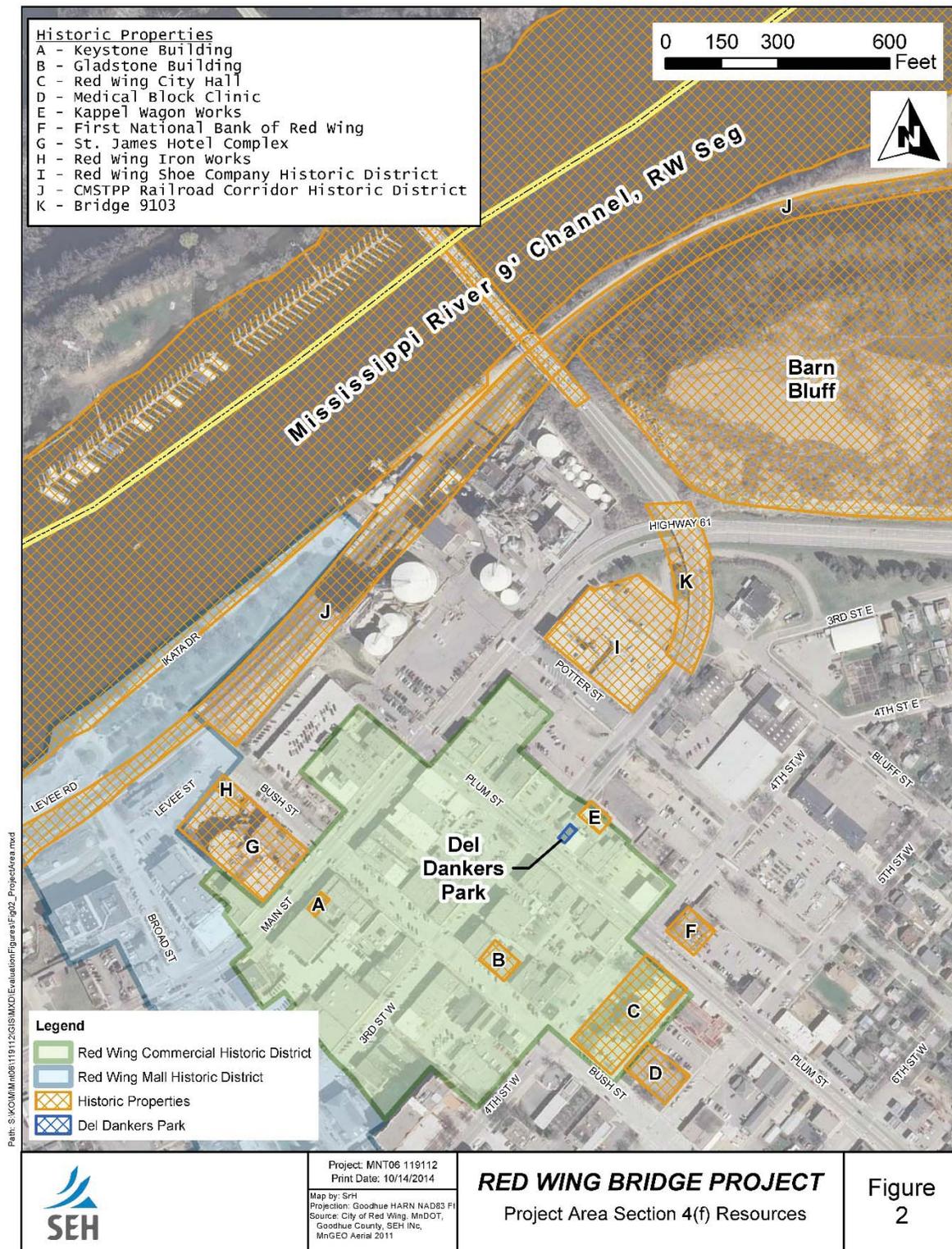


Figure 3 – Bridge 9103 and Proposed Improvements

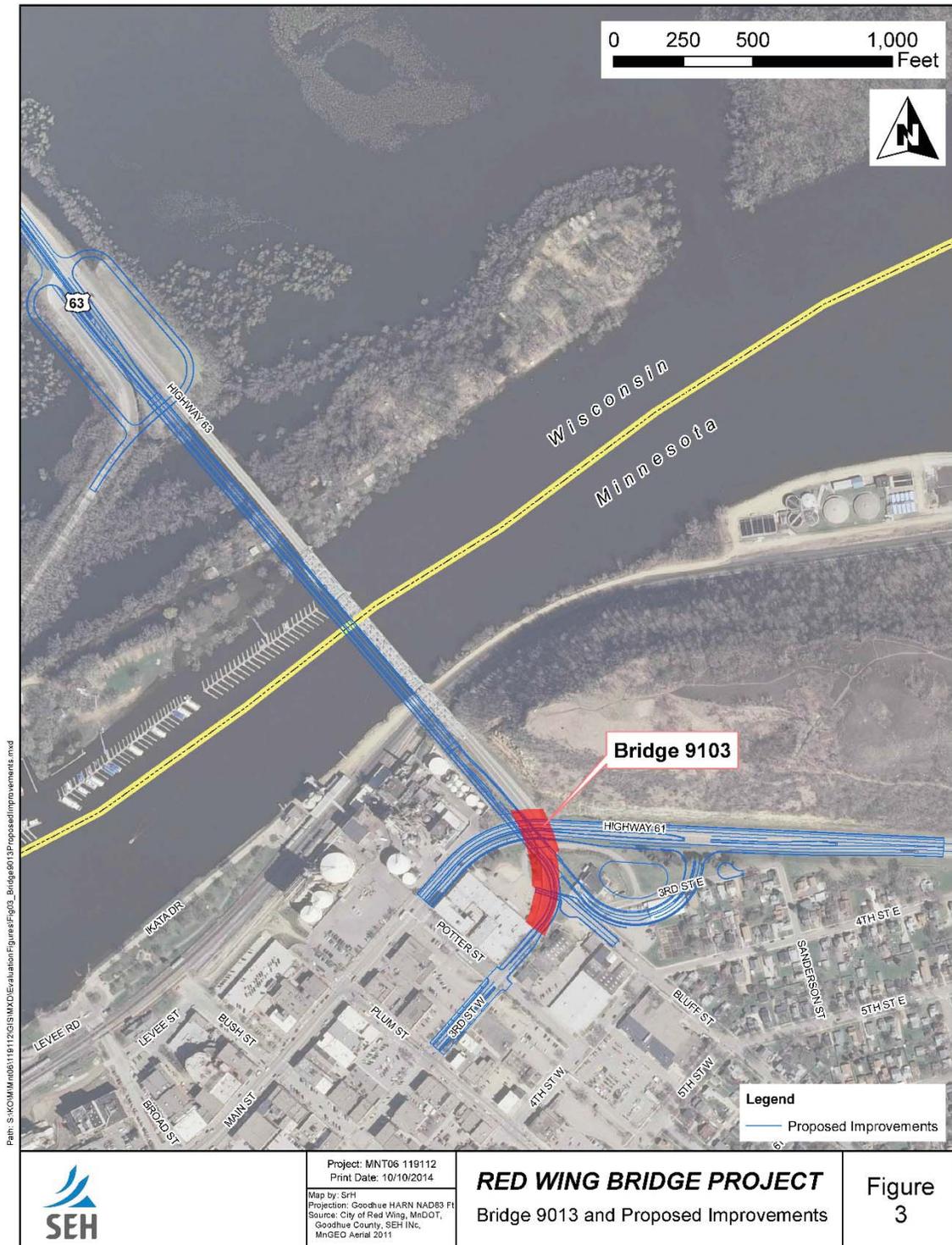


Table of Contents

	Page
1.0 Introduction	1
2.0 Proposed Action and Need for Project	2
3.0 Description of Affected Section 4(f) Resource	3
3.1 Bridge No.9103.....	3
4.0 Impacts to the Section 4(f) Resource – Bridge 9103	4
4.1 Preferred Alternative.....	4
5.0 Avoidance Alternatives – Bridge 9103	4
5.1 No-Build	6
5.2 Build a new structure at a different location without affecting the historic integrity of the old bridge	6
5.2.1 Build a new structure at a different location (i.e. parallel to the existing bridge) without affecting the historic integrity of the bridge	6
5.2.2 Build on Alternative Alignment Location without affecting the historic integrity of the bridge.....	7
5.3 Rehabilitate Bridge 9103 Without Affecting Historic Integrity.....	8
5.3.1 Rehabilitate Bridge 9103 and Retain Its Current Function.....	8
5.3.2 Rehabilitate Bridge 9103 as Part of Buttonhook Design	8
5.4 Avoidance Alternatives: Summary of Findings.....	9
6.0 Measures to Minimize Harm – Bridge 9103	9
7.0 Coordination – Bridge 9103	9
8.0 Least Overall Harm Analysis of Alternatives That Use Section 4(f) Property ...	10
9.0 Conclusion	10

List of Figures

Figure 1 – Location Map.....	a
Figure 2 – Project Area Section 4(f) Resources.....	b
Figure 3 – Bridge 9103 and Proposed Improvements.....	c

List of Appendices

Appendix A	Section 106 Programmatic Agreement (PA)
Appendix B	Minnesota Approach Alternatives Identification, Evaluation, and Screening Memorandum
Appendix C	New Bridge Location Feasibility Assessment Memorandum

Programmatic Section 4(f) Evaluation - Review Draft

U.S. 63 River Bridge and Approach Roadways Project

1.0 Introduction

The Section 4(f) legislation as established under the Department of Transportation Act of 1966 (49 USC 303, 23 USC 138) provides protection for publicly owned parks, recreation areas, historic sites, wildlife and/or waterfowl refuges from conversion to a transportation use. The FHWA may not approve the use of land from a significant publicly owned park, recreation area, or wildlife and waterfowl refuge, or any significant historic site unless a determination is made that:

- There is no feasible and prudent alternative to the use of land from the property; and
- The action includes all possible planning to minimize harm to the property resulting from such use (23 CFR 774.3).

Additional protection is provided for outdoor recreational lands under the Section 6(f) legislation (16 USC 4602-8(f) (3)) where Land and Water Conservation (LAWCON) funds were used for the planning, acquisition or development of the property. These properties may be converted to a non-outdoor recreational use only if replacement land of at least the same fair market value and reasonably equivalent usefulness and location is assured. There are no Section 6(f) properties within the project impact area, therefore this document will not address Section 6(f) issues or process.

The purpose of this Section 4(f) Evaluation is to provide the information required by the Secretary of Transportation to make the decision regarding the proposed Section 4(f) use of Bridge 9103, a property protected by Section 4(f) legislation and which would be affected as a result of the construction of the Red Wing Bridge Project.

This Section 4(f) Evaluation describes all identified Section 4(f) properties which would be “used” by the proposed project alternative, potential impacts on those properties, and possible mitigation measures to minimize impacts. A “use” occurs (1) when land from a Section 4(f) site is acquired for a transportation project, (2) when there is an occupancy of land that is adverse in terms of the statute's preservationist purposes, or (3) when the proximity impacts of the transportation project on the Section 4(f) sites, without acquisition of land, are so great that the purposes for which the Section 4(f) site exists are substantially impaired (referred to as a constructive use).

The Section 4(f) process requires that any impacts from use of a park, recreation area, historic site, wildlife or waterfowl refuge for highway purposes be evaluated in context with the proposed highway construction/reconstruction activity. An inventory of these types of properties was completed based on a review of the design concept drawings. The project's

potential impacts on these properties were assessed. The following Section 4(f) property will be impacted by the proposed project:

- Bridge 9103 (U.S. 63 bridge over U.S. 61)

The proposed use of Bridge 9103 satisfies the requirements for use of a Programmatic Section 4(f) Evaluation for FHWA projects that necessitate the use of historic bridges by meeting the following criteria:

- **The bridge is to be replaced or rehabilitated with Federal funds.** The project is programmed in the 2015-2018 Minnesota STIP. The programmed funding includes approximately \$51-57 million of Federal funds which includes both the Minnesota and Wisconsin components of the project. Implementation of the preferred alternative would result in the replacement of Bridge 9103.
- **The resource is a historic bridge that is not a National Historic Landmark.** The bridge has been determined to be eligible for the National Register of Historic Places (NRHP). It is not a National Historic Landmark.
- **If the bridge is replaced, the existing bridge must be made available for alternative use.** The Minnesota Department of Transportation (MnDOT) will comply with the Surface Transportation and Uniform Relocation Assistance Act of 1987, Section 123(f), Historic Bridges. Bridge 9103 is a curved concrete slab structure that cannot remain on its current alignment. In addition, (as described in Section 3.1 below), the historic property includes not just the bridge, but the curved approach features. Relocating the bridge and its approaches is not feasible, since the bridge is a continuous concrete slab and cannot be separated into pieces and moved. Therefore, the bridge will not be marketed for sale.
- **A Programmatic Section 4(f) Evaluation cannot be used for projects that require an Environmental Impact Statement (EIS).** The project does not cross a threshold that would require preparation of an EIS in 23 CFR 771.115.
- **The State Historic Preservation Office (SHPO) must concur in writing with the assessment of impacts and proposed mitigation.** SHPO has concurred with the Section 106 determination of effect and is a signatory to the Programmatic Agreement (PA) stipulating mitigation for the impact to Bridge 9103 (see Appendix A).

2.0 Proposed Action and Need for Project

The primary purposes of the Red Wing Bridge project are to continue providing a structurally sound bridge crossing of the Mississippi River Main Channel at Red Wing and of U.S. 61, as well as to provide acceptable mobility conditions for motorized and non-motorized traffic in the Downtown Red Wing Commercial/Historic District. Due to the condition of the existing bridges and maintenance requirements, the existing bridges will not adequately meet this need without extensive investment. Furthermore, given forecast growth in motorized and non-motorized traffic levels over the 20-year planning horizon the existing trunk highway network will not be able to address the mobility needs in the Downtown Red Wing Commercial/Historic District.

The project has secondary needs due to the role of U.S. 63 in the area transportation system and due to the physical and cultural setting of the project. The project needs to provide for continuity of U.S. 63 between Minnesota and Wisconsin. The crossings, connecting roadways, and intersection(s) need to maintain the connection of U.S. 63 to Trenton Island, Wisconsin, to U.S. 61 and to MN 58 in Red Wing. Maintenance of traffic -- both across the river and on the river -- needs to be maximized (i.e. as short an amount of time with total

closure as possible). Pedestrian and bicyclist facilities need to be at least maintained and potentially improved.

3.0 Description of Affected Section 4(f) Resource

3.1 Bridge No.9103

Maps of Section 4(f) property

See Figures 1, 2, and 3 at the front of this report.

Size and location:

Bridge 9103 was completed in 1960 to serve as the approach bridge for the Eisenhower Bridge (Bridge 9040), which crosses the Mississippi River. The bridge carries U.S. 63 over U.S. 61. The same designers and builders worked on both bridges. Bridge 9103 is a 211 foot-long continuous concrete slab span. The longest span is 47' 6". Connected to the south end is a 220 foot long curving approach roadway that is supported on retained fill with cast-in place concrete retaining walls. Together the bridge and southern approach curve nearly 90-degrees from Red Wing's 3rd Street to the river crossing and lift traffic up to the elevation of the river bridge.

Ownership and type of Section 4(f) property:

The State of Minnesota is the owner of the bridge. The bridge and southern approach were designed and built together, and the boundaries of the National Register-eligible property include both (see Figures 2 and 3).

Bridge 9103 is eligible for the National Register under Criterion C (design and construction) in the area of Engineering. The bridge was determined eligible for the National Register as part of a statewide evaluation of post-1955 highway bridges conducted in 2010. Bridge 9103's National Register eligibility is based on two principal factors:

Engineering Significance. Bridge 9103 is the only horizontally-curved, continuous concrete slab bridge from the period 1955-1970 standing in Minnesota. In addition, the horizontal curve of 14 degrees is the greatest curvature for any extant bridge in Minnesota from the period.

Exceptional Aesthetic Qualities. Bridge 9103 is one of only four bridges identified in the post-1955 statewide bridge study that are eligible for the National Register for "high artistic value." The bridge and its southern approach were given special aesthetic consideration because of proximity to the new Eisenhower Bridge and to downtown Red Wing. Bridge 9103 and its southern approach are essentially unaltered. The property retains strong historic integrity in all seven categories cited in National Register eligibility criteria: location, design, setting, materials, workmanship, feeling, and association.

Some of the resources character defining features include:

- A long and continuous curved form created by the bridge superstructure and southern approach;
- Smooth concrete surfaces that emphasize the lean, sculpted design;
- A slim deck slab formed with shallow haunched arches over each bay;
- The approach roadway's smooth vertical retaining walls;
- Curved coping along the bridge fascia and approach walls;
- Distinctive piers, comprised of five evenly spaced columns;

- A continuous ornamental railing on the bridge and southern approach that emphasizes the length and shape of the horizontal curve.

Function of property and available activities:

This bridge provides a grade-separated crossing of U.S. 61 for the U.S. 63 approach to the Eisenhower Mississippi River Bridge, maintaining continuity for US 63 between Minnesota and Wisconsin and north-south continuity of US 61. Available activities include driving vehicles, walking or biking on the bridge.

Description and location of all existing and planned facilities:

The existing bridge facility is described above. Prior to the proposed action (described in Section 4.1 and shown in Figure 3), there were no plans for modifying the existing facility.

Access:

U.S. 63 provides access to the bridge.

Applicable clauses affecting the ownership:

None

Unusual characteristics reducing or enhancing the value of the property:

None

4.0 Impacts to the Section 4(f) Resource – Bridge 9103

4.1 Preferred Alternative

The preferred alternative includes replacing the existing river bridge (Bridge 9040) with a two-lane steel box girder bridge adjacent and immediately upstream. The preferred alternative also includes reconfiguring the Minnesota approach to establish a new U.S. 61/U.S. 63 at-grade intersection to the east of existing Bridge 9103, replacing Bridge 9103 over U.S. 61 with a new two-lane bridge. The preferred alternative would have direct impacts on the Section 4(f) property (Bridge 9103) by removal and replacement of the entire bridge and approaches. See Figure 7 in Appendix B.

5.0 Avoidance Alternatives – Bridge 9103

Development and evaluation of alternatives for this project included a range of alternatives to address the transportation needs (see Section 2.0 above), and to avoid/minimize impacts to Section 4(f) resources. The alternatives development and evaluation process is described in the 'Minnesota Approach Alternatives Identification, Evaluation and Screening Memorandum' ("Alternatives Memorandum", see Appendix B). The process included development of an initial range of alternatives for the Minnesota approach to the U.S. 63 river crossing (Concepts 1 through 8, described in Appendix B) that were assessed for how well they met the project needs and for construction feasibility. Two alternative concepts were recommended to be carried forward for further consideration: Rehabilitate Bridge 9103 (hereafter referred to as Alternative MN-1) and Button Hook Intersection with Slip Ramp (hereafter referred to as MN-3), which is also the preferred alternative described in Section 4.1 above. Alternative MN-1 (see Figure 5 in Appendix B) would avoid impacts to Bridge 9103. An additional alternative – MN-1A Rehabilitate Bridge 9103 plus making transportation improvements in downtown Red Wing (see Figure 5 in Appendix B) – was developed to avoid impacts to Bridge 9103, while trying to meet more of the transportation needs. These alternatives are referenced, where applicable, and compared to Section 4(f) criteria in Sections 5.1 through 5.3 below. An additional alternative – MN-2 Replace Bridge 9103 at its existing location – was also evaluated and described in the Alternatives Memorandum, but

was eliminated from consideration because it was not a Section 4(f) avoidance alternative and did not meet the transportation needs for the project, so it is not discussed in the avoidance alternatives discussion below.

Each of the alternatives described below were considered (as required for use of a Programmatic Section 4(f) Evaluation for the Use of a Historic Bridge) to avoid use of Bridge 9103. Sections 5.1 through 5.3 below describe the assessment of the avoidance alternatives with respect to the findings factors identified by FHWA at the Section 4(f) website at: <http://environment.fhwa.dot.gov/4f/4fbridge.asp>. The guidance states the following:

- For **'Build on New Location Without Using the Old Bridge'**: Describe investigations that have been conducted to construct a bridge on a new location or parallel to the old bridge (allowing for a one- way couplet), but, for one or more of the following reasons, this alternative is not feasible and prudent:
 - a. Terrain - The present bridge structure has already been located at the only feasible and prudent site.
 - b. Adverse Social, Economic, or Environmental Effects (Adverse SEE Effects)- Building a new bridge away from the present site would result in social, economic, or environmental impact of extraordinary magnitude.
 - c. Engineering and Economy - Where difficulty associated with the new location is less extreme than those encountered above, a new site would not be feasible and prudent where cost and engineering difficulties reach extraordinary magnitude.
 - d. Preservation of Old Bridge - It is not feasible and prudent to preserve the existing bridge, even if a new bridge were to be built at a new location.
- For **'Rehabilitation Without Affecting the Historic Integrity of the Bridge'**: Describe studies that have been conducted of rehabilitation measures, but, for one or more of the following reasons, this alternative is not feasible and prudent:
 - a. The bridge is so structurally deficient that it cannot be rehabilitated to meet minimum acceptable load requirements without affecting the historic integrity of the bridge.
 - b. The bridge is seriously deficient geometrically and cannot be widened to meet the minimum required capacity of the highway system on which it is located without affecting the historic integrity of the bridge.

In addition to the factors identified in the FHWA Programmatic Section 4(f) guidance, definitions of 'feasible' and 'prudent' from 23 CFR 774 are also considered when assessing avoidance alternatives. An alternative is not feasible if it cannot be built as a matter of sound engineering judgment (see 23 CFR 774.17). The six factors of prudence as detailed in FHWA's Section 4(f) Policy Paper (also based on prudence definition in 23 CFR 774.17) are as follow:

1. Does the alternative compromise the project to a degree that it is unreasonable to proceed in light of the project's stated purpose and need (i.e., the alternative doesn't address the purpose and need of the project);
2. Does the alternative result in unacceptable safety or operational problems;
3. After reasonable mitigation, does the alternative still cause severe social, economic, or environmental impacts; severe disruption to established communities; severe or

disproportionate impacts to minority or low-income populations; or severe impacts to environmental resources protected under other Federal statutes;

4. Does the alternative result in additional construction, maintenance, or operational costs of extraordinary magnitude;
5. Does the alternative cause other unique problems or unusual factors; or
6. Does the alternative involve multiple factors as outlined above that, while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

5.1 No-Build

The No-Build Alternative, as presented in the EA, would avoid any impacts to Bridge 9103. However, this alternative does not address the following primary project purpose and need objectives:

- Continue to provide a structurally sound crossing of U.S. 61;
- Improve Motorized and Non-Motorized Traffic Mobility on Trunk Highways within the Downtown Red Wing Commercial/Historic District

Since this alternative does not meet the project's stated purpose and need (prudence factor 1), this alternative was determined to not be a prudent avoidance alternative, and was not considered further. However, the No Build alternative will be described in the Environmental Assessment (EA) for this project, for comparison to the preferred alternative.

5.2 Build a new structure at a different location without affecting the historic integrity of the old bridge

5.2.1 Build a new structure at a different location (i.e. parallel to the existing bridge) without affecting the historic integrity of the bridge

This avoidance alternative would involve building a new US 61 overpass adjacent to Bridge 9103 which would allow retaining the structure of Bridge 9103, but its functionality would be replaced by the new bridge. Possible parallel locations would be to the east or west of Bridge 9103. Constructing a parallel bridge to the west would result in impacts to the Red Wing Shoe Historic District [see location of this District and Bridge 9103 in Figure 2]. This would result in Section 106 and Section 4(f) impacts [not 'prudent' based on 'Adverse SEE' Factor (b)].

Constructing a parallel bridge to the east would result in impacts to Barn Bluff [see location of this Section 106 resource in Figure 2] This would result in Section 106 and Section 4(f) impacts, and therefore would not be 'prudent' based on 'Adverse SEE' Factor (b). Also, in order for a new bridge/approach to be constructed adjacent to Bridge 9103, the existing approach to Bridge 9103 would be impacted. Since the approach is also a character defining feature, this would result in an adverse effect to Bridge 9103 under Section 106. In addition, existing Bridge 9103 would not serve any function, and would remain standing out of context and without any funding available to maintain the structure, since it would no longer be part of the Trunk Highway system, which is not prudent based on the 'Preservation of Old Bridge' Factor (d). This avoidance alternative would also not be prudent because it would not address the primary project need to improve traffic mobility in downtown Red Wing (prudence Factor 1 in Section 5.0 above).

5.2.2 Build on Alternative Alignment Location without affecting the historic integrity of the bridge

This section addresses avoidance alternatives that would relocate U.S. 63 to a new location which would allow existing Bridge 9103 to remain in place while shifting its functionality (carrying U.S. 63 traffic over U.S. 61 to connect to the river crossing bridge) to a different location. Given the existing interconnected functionality of Bridge 9103 and the U.S. 63 river crossing, there is no 'different' alignment (other than parallel to existing Bridge 9103, described in Section 5.2.1) that would provide the same function. So, based on assessment of the Terrain 'Findings' Factor (a) criteria (see Section 5.0 above), there is no prudent avoidance alternative that would achieve this function, since the present bridge structure has already been located at the only prudent location that would provide this function.

The only option for the Alternative Location avoidance alternative would involve moving the U.S. 63 river crossing and leaving the existing Bridge 9103 and approaches in place (but no longer serving a connection function, since the river bridge would be removed). As documented and illustrated in the New Bridge Location Feasibility Assessment, July 2, 2012 (see Appendix C), there were four river crossing alternative alignment locations addressed early in the project development process:

- Bench Street location (outside immediate downtown area)
- Broad Street location (within immediate downtown area)
- Bush Street location (within immediate downtown area)
- Plum Street location (within immediate downtown area)

See Figures 4 and 5 in Appendix C for maps of these locations.

During the evaluation of these alternatives, it was determined that the Bench Street (outside of downtown Red Wing) location should not be carried forward for consideration because of a variety of issues and impacts including, but not limited to, substantial additional wetland and floodplain impacts [not prudent with respect to the 'Adverse SEE Effects Factor (b),' described in Section 5.0 above], increased roadway and bridge length for US 63 traffic [not prudent with respect to the 'Engineering and Economy' Factor(c)], and impacts to the upper harbor conservation lands including Pottery Pond Park, which would be a Section 4(f) impact [not prudent with respect to the 'Adverse SEE Effects Factor (b)']. In addition, Bridge 9103 and its approaches would not serve any function, and would remain standing out of context and without any funding available to maintain the structures, since they would no longer be part of the Trunk Highway system, which is not prudent based on the 'Preservation of Old Bridge' Factor (d).

Each of the three alternate locations within the downtown area had substantial design challenges given the close proximity and vertical grade differences between the river and US 61 [not prudent with respect to Engineering and Economy Factor (c) and Terrain Factor (a)]. In addition, each alternative would introduce substantial impacts to parklands, historic resources, commercial and industrial land uses, and the existing visual setting and sightlines in downtown Red Wing [i.e., would result in Section 4(f) impacts to other resources and not prudent with respect to Adverse SEE Effects Factor (b)]. Furthermore, a May 14, 2012 letter from the United States Coast Guard states that the three new downtown location alternatives are not acceptable from a navigational standpoint due to the proximity of the river bend immediately upstream [not prudent with respect to Engineering Factor (c)] In addition, existing Bridge 9103 and its approaches would not serve any function, and would remain standing out of context and without any funding available to maintain the structures, since

they would no longer be part of the Trunk Highway system, which is not prudent based on the 'Preservation of Old Bridge' Factor (d).

5.3 Rehabilitate Bridge 9103 Without Affecting Historic Integrity

Two options, described and assessed below, were considered for rehabilitating Bridge 9103:

1. Rehabilitate Bridge 9103 and retain its current transportation function
2. Rehabilitate Bridge 9103 and incorporate it into a button-hook intersection

5.3.1 Rehabilitate Bridge 9103 and Retain Its Current Function

MnDOT completed a Bridge 9103 Rehabilitation Study in August 2013. This study examined potential rehabilitation alternatives that would avoid adverse effects to the bridge and approach structure. The report identified two feasible rehabilitation alternatives which maintained the Bridge's historic eligibility and provided a functional design solution for at least 20 years. The only difference between the two rehabilitation alternatives was the inclusion of TL-2 railing on the outside of the traffic lanes to improve safety.

The *Minnesota Approach Alternatives Identification, Evaluation, and Screening Memorandum* (Alternatives Memo)] dated September 8, 2014 (Appendix B) documents the extensive evaluation of the rehabilitation alternative, Alternative MN-1 (see Figure 4 in Appendix B), as well as a rehabilitation alternative (Alternative MN-1A, shown in Figure 5 in Appendix B) that included roadway modifications in the Downtown Red Wing Commercial Historic District to improve traffic operations to better meet the project primary need for improved mobility. Neither of these alternatives would be eliminated from consideration based on the two prudence factors – loading and capacity -- identified in the FHWA guidance [see Factors a and b listed in Section 5.0 above]. However, these alternatives were not prudent based on 23 CFR 774 criteria. Based on the analysis, Alternative MN-1A was eliminated because 1) the roadway modifications did not adequately address the need to improve motorized and non-motorized traffic mobility in the Downtown Red Wing Historic/Commercial District (prudence factor 1) and 2) because it would result in a Section 106 adverse effect to the Downtown Historic District and would impact Dankers Park in downtown Red Wing (both would be Section 4(f) impacts), therefore, Alternative 1A is not a Section 4(f) avoidance alternative. The Alternatives Memo also describes the rationale for eliminating rehabilitation Alternative MN-1 because it does not meet the project's primary mobility need (prudence factor 1). Therefore, it was concluded that avoidance alternative MN-1 for the rehabilitation of Bridge 9103 was not prudent, and it was eliminated from further consideration.

5.3.2 Rehabilitate Bridge 9103 as Part of Buttonhook Design

As part of an early project alternatives feasibility assessment [documented in *Minnesota Approach Alternatives Identification, Evaluation, and Screening Memo* dated September 8, 2014 and also summarized in *Minnesota Approach Alternatives Identification, Evaluation and Screening Memorandum*, included in Appendix B)], an alternative (Option 8) was considered which involved rehabilitation of Bridge 9103 and incorporating it into a buttonhook design. Unlike Alternative MN-1 and 1A described in Section 5.3.1, this alternative would address the primary mobility need. However, this alternative would require removal of the character-defining Bridge 9103 approach elements, which would result in a Section 106 adverse effect and also a Section 4(f) impact, so it is not an avoidance alternative.

5.4 Avoidance Alternatives: Summary of Findings

As described in Sections 5.1 through 5.3 above, there are no feasible and prudent alternatives that avoid impacts to Bridge 9103. The only remaining project alternative is the preferred alternative, MN-3, which does not affect any other Section 4(f) resources.

6.0 Measures to Minimize Harm – Bridge 9103

The FHWA Programmatic Section 4(f) guidance includes the following measures to minimize harm for historic bridges that are to be replaced:

1. The existing bridge is to be made available for an alternative use provided a responsible party agrees to maintain and preserve the bridge.
2. For bridges that are to be rehabilitated to the point that the historic integrity is affected or that are to be moved or demolished, the FHWA ensures that, in accordance with the Historic American Engineering Record (HAER) standards, or other suitable means developed through consultation, fully adequate records are made of the bridge.
3. For bridges that are adversely affected, agreement among the SHPO, ACHP, and FHWA is reached through the Section 106 process of the NHPA on measures to minimize harm and those measures are incorporated into the project. This programmatic Section 4(f) evaluation does not apply to projects where such an agreement cannot be reached.
4. For bridges that are to be rehabilitated, the historic integrity of the bridge is preserved, to the greatest extent possible, consistent with unavoidable transportation needs, safety, and load requirements.

With respect to minimization item 1 above, as detailed in Section 5.2.1, given the extremely constrained project site and scope of the proposed improvements it is not feasible to keep Bridge 9103, including the approach features, (historic property) in place. Furthermore, it is not feasible or practical to relocate the bridge and its approach features to another location for alternative use (see discussion in Section 1.0).

With respect to minimization items 2 and 3 above, the guidance regarding measures to minimize harm further indicates that for bridges which are adversely affected, agreement among SHPO, ACHP, and FHWA needs to be reached through the Section 106 process. MnDOT and the FHWA have been coordinating with SHPO, as part of the Section 106 process, to develop appropriate mitigation for the bridge. This mitigation will also be applicable to the Section 4(f) process. The agreed-upon mitigation is detailed in a Programmatic Agreement (PA) among MnDOT, FHWA and SHPO [see Appendix A]

Minimization item #4 is not applicable to this project, since the bridge is not proposed for rehabilitation.

7.0 Coordination – Bridge 9103

MnDOT completed the Bridge 9103 Rehabilitation Study in August 2013 in close coordination with FHWA and in consultation with SHPO. MnDOT and FHWA met several times to:

- Review the project purpose and need;
- Review the Bridge's background and significance;
- Establish the character defining features;
- Conduct a condition analysis;
- Define and assess rehabilitation alternatives;

- Develop recommendations and conclusions.

In addition, coordination has occurred and will continue with SHPO and the Red Wing Historic Preservation Commission regarding impacts, effects, and mitigation.

8.0 Least Overall Harm Analysis of Alternatives That Use Section 4(f) Property

As described in Section 5.0, there are no feasible and prudent alternatives that avoid impacts to Bridge 9103. The only remaining project alternative that meets all the project's primary needs is the preferred alternative, MN-3, which does not affect any other Section 4(f) resources. Therefore, no least harm analysis is required for this project.

9.0 Conclusion

In summary the key findings are as follows:

1. MN-1 (Bridge 9103 rehabilitation) and the No-Build avoidance alternatives do not meet the primary mobility need and therefore are not prudent;
2. Avoidance Alternative MN-1A addresses more of the mobility needs than Alternative MN-1, but results in impacts to other Section 4(f) resources (i.e. Downtown Commercial/Historic District and Dankers Park). Also, Alternative MN-1A does not fully meet the project mobility needs (a primary need), like the preferred alternative does;
3. Per the provisions of Section 106, there has been extensive coordination between MnDOT, FHWA, and SHPO and agreement has been reached among these parties with respect to all possible planning to minimize harm; project impacts to Bridge 9103; and mitigation, as outlined in the PA

Based upon the above considerations, there is no feasible and prudent alternative to the use of Bridge 9103. The proposed action includes all possible planning to minimize harm to this resource resulting from such use, including mitigation agreed to by the officials with jurisdiction over the resource.

Appendix A

Section 106 Programmatic Agreement

PROGRAMMATIC AGREEMENT PURSUANT TO SECTION 106 OF THE NATIONAL HISTORIC PRESERVATION ACT, AS AMENDED, AMONG THE FEDERAL HIGHWAY ADMINISTRATION, THE MINNESOTA DEPARTMENT OF TRANSPORTATION, THE WISCONSIN DEPARTMENT OF TRANSPORTATION, THE MINNESOTA STATE HISTORIC PRESERVATION OFFICE, THE WISCONSIN STATE HISTORIC PRESERVATION OFFICE, THE U.S. ARMY CORP OF ENGINEERS, REGARDING THE REPLACEMENT OF THE EISENHOWER BRIDGE IN RED WING, GOODHUE COUNTY, MINNESOTA, AND PIERCE COUNTY, WISCONSIN (Minnesota State Project [S.P.] 2515-21)

WHEREAS, the Federal Highway Administration (FHWA) is providing funding to the Minnesota Department of Transportation (MnDOT) and the Wisconsin Department of Transportation (WisDOT) for replacement of the Eisenhower Bridge over the Mississippi River in Red Wing, Goodhue County, Minnesota, and Pierce County, Wisconsin (Project); and

WHEREAS, FHWA has determined that the Project may affect historic properties listed in or eligible for the National Register of Historic Places and requires review under Section 106 of the National Historic Preservation Act and its implementing regulations at 36 CFR 800; and

WHEREAS, the Project will require permits from the St. Paul District U.S. Army Corps of Engineers (Corps) pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 USC Sect. 403) and Section 404 of the Clean Water Act (33 USC Sect. 1344); and

WHEREAS, in accordance with 36 CFR 800.2(a)(2) and as per the terms of the 2015 Section 106 Programmatic Agreement (2015 Statewide PA) among FHWA, the Corps, the Minnesota Historic Preservation Office (MnSHPO), and the Advisory Council on Historic Preservation (ACHP) regarding implementation of the Federal-Aid Highway Program in Minnesota, FHWA is the lead Federal agency for the purposes of Section 106 review; and

WHEREAS, FHWA has delegated its responsibilities, to a certain extent, for compliance with Section 106 in accordance with Federal law to the professionally qualified staff (as per 36 CFR 61) in the MnDOT Cultural Resources Unit (CRU), although the FHWA remains legally responsible for all findings and determinations charged to the agency official in 36 CFR 800; and

WHEREAS, FHWA has determined that Bridge No. 9103 is eligible for the National Register of Historic Places and the Project will have an adverse effect on this historic property by demolishing the structure, and MnSHPO has concurred with FHWA's finding; and

WHEREAS, FHWA cannot fully determine all of the effects of the Project on historic properties before a decision is required under the National Environmental Policy Act (NEPA); therefore, execution of this Programmatic Agreement (Agreement) is appropriate pursuant to 36 CFR 800.14(b)(1)(ii); and

WHEREAS, FHWA has consulted with MnSHPO and the Wisconsin State Historic Preservation Office (WisHPO) and they are signatories to this Agreement; and

WHEREAS, FHWA has consulted with Project sponsors MnDOT and WisDOT, and MnDOT, as the lead state agency, has agreed to certain responsibilities stipulated in this Agreement; and

FHWA has invited MnDOT and WisDOT to be signatories to this Agreement; and

WHEREAS, FHWA has consulted with the City of Red Wing (City) pursuant to 36 CFR 800.2(c)(1)(i), and has invited them to concur with this Agreement; and

WHEREAS, FHWA has consulted with the Red Wing Heritage Preservation Commission (HPC) pursuant to 36 CFR 800.2(c)(1)(i), and has invited them to concur with this Agreement.

NOW, THEREFORE, FHWA, MnSHPO and WisSHPO agree the undertaking will be implemented in accordance with the following stipulations in order to satisfy the responsibilities of FHWA and the Corps under Section 106 of the National Historic Preservation Act:

STIPULATIONS

The FHWA will ensure that the following measures are carried out:

STIPULATION I. IDENTIFICATION OF HISTORIC PROPERTIES

A. As Project activities are further defined, the MnDOT CRU, on behalf of the FHWA, will refine the APE in consultation with MnSHPO, as needed.

B. If the APE is revised to include areas not previously subject to historic property identification efforts conducted as part of this Project' MnDOT CRU will conduct additional investigations in those areas pursuant to Stipulation 3 of the 2015 Statewide PA.

C. Once MnDOT acquires the Project right-of-way, MnDOT CRU will conduct additional archaeological investigations for areas that were not accessible due to lack of landowner permission. Similar investigations will be conducted if during the design process additional parcels are identified that may be impacted or acquired. If archaeological sites are identified within the APE, FHWA will reopen consultation with Indian tribes that might attach religious and cultural significance to those properties under 36 CFR 800.2(c).

D. Any historic properties newly identified within the APE by MnDOT CRU will be added to the list of properties included in Appendix A upon written concurrence by the MnSHPO. An amendment to this Agreement under Stipulation VI is not necessary unless agreed upon by the signatories to the Agreement.

STIPULATION II. DISCOVERY DURING CONSTRUCTION

A. If previously unidentified historic properties are encountered during the Project construction, all ground-disturbing activities will cease in the area where any property is discovered, as well as in the immediately adjacent area. The contractor will immediately notify the MnDOT project manager and the MnDOT CRU of the discovery. The MnDOT CRU will record, document and evaluate the National Register

eligibility of resources in accordance with 36 CFR 800. If eligible properties are identified, the MnDOT CRU, in consultation with the MnSHPO (and WisSHPO as appropriate), will design a plan for avoiding or mitigating any adverse effects prior to resuming ground-disturbing work in the area of discovery.

B. If any previously unidentified human remains are encountered during the Project construction, all ground-disturbing activities will cease in the area where such remains are discovered as well as in the immediately adjacent area. The contractor will immediately notify the MnDOT CRU of the discovery of human remains. The FHWA (with the assistance of the MnDOT CRU) will work with the Office of the State Archaeologist (OSA) to perform any necessary tribal consultation in order to meet FHWA's responsibilities under Section 106. The MnDOT CRU will develop a reburial plan in consultation with the FHWA, the OSA, the MnSHPO, and, if appropriate, the Minnesota Indian Affairs Council (MIAC), prior to ground-disturbing work being allowed to proceed in the area of discovery. The FHWA will ensure that the terms of any reburial plan are fully implemented.

C. MnDOT will include in appropriate construction contracts provisions to ensure that items established in this stipulation are carried out by the contractor.

STIPULATION III. BRIDGE 9103 (GD-RWC-1387)

A. The Project will require the removal of Bridge 9103 (GD-RWC-1387) and its associated approach ramp. MnDOT CRU, in consultation with MnSHPO, will complete Minnesota Historic Properties Record (MHPR) documentation for Bridge 9103 and its approach ramp, in accordance with current MHPR Guidelines. The documentation will be completed prior to the start of construction on the new river crossing bridge and before any alterations are made to Bridge 9103 or its approaches. The draft MHPR documentation will be completed in consultation with MnSHPO and submitted to MnSHPO for review and acceptance. MnDOT CRU will submit final copies of the documentation to MnSHPO, the CITY, and the HPC.

STIPULATION IV. MEASURES TO MINIMIZE EFFECTS TO HISTORIC PROPERTIES

Plans for the new river crossing bridge and its Minnesota approach are still under development. These new structures including the new TH63/TH61 bridge, ramps, retaining walls, noise walls, pond, bicycle-pedestrian trail, and landscaping, have the potential for adverse effects (direct or indirect) on the Red Wing Mall District, St. James Hotel Complex, CMSTPP Railroad Corridor Historic District, Red Wing Commercial Historic District, Barn Bluff, Kappel Wagon Works, Hedin House, Miller House, Burdick Grain Company Terminal Elevator, Red Wing Iron Works, Red Wing Shoe Company and other historic properties (as listed in Attachment A). Measures to minimize effects to historic properties include the following:

A. Project Design Development and Plan Review

The Project design will effectively meet the project purpose and need, while avoiding, minimizing, and/or mitigating adverse impacts to historic properties. Avoidance of adverse effects is preferable and will be considered to the extent feasible.

1) MnDOT District 6 and its design team shall consult with MnDOT CRU throughout the project design of those project elements near the identified historic properties. Concepts for these design elements are currently under development through MnDOT's Visual Quality Advisory Committee (VQAC) process. Staff from MnDOT CRU and representatives from the CITY and HPC attended the VQAC meetings and the Visual Quality process took into consideration compliance with the Secretary of the Interior's Standards and Guidelines for the Treatment of Historic Properties (SOI Standards) for new construction adjacent to or near historic properties.

2) MnDOT CRU contracted with an historian to help ensure, throughout the design process, compliance with the SOI Standards for new construction adjacent to or near historic properties. These designs include the new river crossing bridge and elements of the Minnesota approach, including the new TH63/TH61 bridge ramps, retaining walls, noise walls, pond, bicycle-pedestrian trail, and landscaping.

3) MnDOT CRU and the historian have been and will continue to, review the initial plans and document any concerns or issues. MnDOT CRU has been and will continue to consult with the MnDOT District 6 Project Manager and submit documentation of concerns or issues; the District 6 Project Manager has been and will continue to work with CRU to address the changes and comments in the plans.

4) MnDOT CRU will again review draft final plans to ensure design elements agreed upon have been incorporated into the plans, and to determine if any areas beyond the reviewed APEs require survey work to determine if previously unidentified historic properties are present.

5) MnDOT CRU will submit final design plans and its findings of effect to MnSHPO for review and concurrence at the 30%, 60%, and 95% completion stage. The plans will be submitted to the other signatories and parties to this Agreement for review and comment. MnSHPO will have 30 days to review the plans.

6) If during Design Development and Plan Review, MnDOT CRU determines the SOI Standards are not able to be met and there are additional adverse effects, MnDOT CRU will provide any additional determinations to the MnSHPO, who will have 30 days to review and comment as per 36 CFR 800.3(c)(4). Any additional adverse effects identified will be addressed by amendment to this Agreement between MnDOT CRU and MnSHPO, after appropriate consultation with all signatories to the Agreement, the public, and the ACHP.

7) MnDOT CRU will submit final plans (i.e., 100% completion) to MnSHPO for the project record.

B. Design Changes After the Project is Underway

1) The project will be bid-built so changes to the plans are not anticipated. However, MnDOT District 6 will notify MnDOT CRU of any proposed changes to the final plans after the Project is underway. MnDOT CRU will determine the effect of these changes to historic properties and will provide any

additional determinations to the MnSHPO, who will have 30 days to review and comment as per 36 CFR 800.3(c)(4). Any additional adverse effects identified will be addressed by amendment to this Agreement between MnDOT CRU and MnSHPO, after appropriate consultation with all signatories to the Agreement, the public, tribes, and the ACHP.

C. Vibration Monitoring

MnDOT will develop and implement a Vibration Monitoring and Control and Mitigation Plan for Historic Properties, including Barn Bluff, to address potential issues related to vibrations caused by the project. MnDOT District 6 and its design team will consult with the MnDOT CRU, MnSHPO, the CITY, and HPC in the development of the plan. The plan will include a baseline vibration study to be conducted prior to any construction work. The plan will specify thresholds for vibration during construction and will include details about the preconstruction and post-construction building surveys, process, equipment (including crack-monitoring gauges), documentation standards, and frequency of monitoring. The draft plan will be submitted to MnDOT CRU for review and approval. MnDOT CRU will submit the plan to MnSHPO for review and concurrence, and to the CITY and HPC for review and comments.

STIPULATION V. STANDARDS

A. MnDOT CRU shall ensure that any products developed as mitigation for adverse effects to historic properties will meet the SOI Standards for Archaeology and Historic Preservation. Such products may include, but are not necessarily limited to, archaeological data recovery plans and final reports and MHPR documentation.

B. MnDOT CRU shall ensure that all work carried out pursuant to this Agreement will be done by or under the direct supervision of historic preservation professionals who meet the Secretary of the Interior's Professional Qualifications Standards (36 CFR 61).

STIPULATION VI. AMENDMENTS

The FHWA, MnSHPO, and the invited signatories to this Agreement may request in writing that it be amended, whereupon the parties shall consult to consider the proposed amendment. The regulations at 36 CFR 800 shall govern the execution of any such amendment.

STIPULATION VII. DISPUTE RESOLUTION

A. Should the FHWA, MnSHPO, or the invited signatories object at any time to any action proposed or the manner in which the terms of this Agreement are implemented, FHWA shall consult with such party to resolve the objection. FHWA consultation shall take place within 10 days of receipt of said objection and shall be documented in the form of meeting notes and/or written letter of response. If FHWA

determines, within 30 days of documenting consultation efforts with the objecting party, that the objection cannot be resolved, FHWA shall:

- 1) Forward all documentation relevant to the dispute, including the FHWA's proposed resolution, to the ACHP. The ACHP shall provide FHWA with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FHWA shall prepare a written response that takes into account any advice or comments from the ACHP, signatories, and concurring parties, and provide them with a copy of this written response. FHWA will then proceed according to its final decision.
- 2) If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period after receipt of adequate documentation, FHWA may render a final decision regarding the dispute and proceed accordingly. In reaching its decision, FHWA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the Agreement, and provide them and the ACHP with a copy of such written response.
- 3) FHWA's responsibilities to carry out all other actions subject to the terms of the Agreement that are not the subject of the dispute remain unchanged.

STIPULATION VIII. TERMINATION

The FHWA, MnSHPO, and the invited signatories to this Agreement may terminate the agreement by providing thirty (30) days' written notice to the other signatories, provided the signatories consult during the period prior to termination to agree on amendments or other actions that would avoid termination. If the agreement is terminated and the FHWA elects to continue with the undertaking, the FHWA will reinstate review of the undertaking in accordance with 36 CFR 800.3 through 800.13.

STIPULATION IX. DURATION

This agreement will terminate December 30, 2021 or upon mutual agreement of the FHWA, MnSHPO, and the invited signatories. Prior to such time, FHWA may consult with the other signatories to reconsider the terms of the Agreement and revise, amend, or extend it in accordance with Stipulation VI.

Execution of this agreement by the FHWA and the MnSHPO and implementation of its terms is evidence that the FHWA has taken into account the effects of its undertaking on historic properties and has afforded the Advisory Council on Historic Preservation opportunity to comment.

Signatories:

FEDERAL HIGHWAY ADMINISTRATION

_____ Date: _____

Dave Scott, Acting Division Administrator

MINNESOTA STATE HISTORIC PRESERVATION OFFICE

_____ Date: _____

Barbara M. Howard, Deputy State Historic Preservation Officer

WISCONSIN STATE HISTORIC PRESERVATION OFFICE

_____ Date: _____

XXXXXXXXXXXXX, Deputy State Historic Preservation Officer

MINNESOTA DEPARTMENT OF TRANSPORTATION

_____ Date: _____

Charles A. Zellie, Commissioner

WISCONSIN DEPARTMENT OF TRANSPORTATION

_____ Date: _____

Mark Gottlieb, P.E., Secretary of the Wisconsin Department of Transportation

UNITED STATES ARMY CORP OF ENGINEERS, ST. PAUL DISTRICT

_____ Date: _____

Daniel C. Koprowski, District Engineer and Comander

Concurring:

CITY OF RED WING

_____ Date: _____

Kay Kuhlmann, City Council Administrator

RED WING HERITAGE PRESERVATION COMMISSION

_____ Date: _____

Annette Martin, Chairperson

ATTACHMENT A

LIST OF NATIONAL REGISTER-LISTED AND –ELIGIBLE ARCHITECTURAL HISTORY PROPERTIES IN THE APE

LETTERS CORRESPOND TO MAP 4 IN PHASE II REPORT

- A. Red Wing Mall District (GD-RWC-001)
- B. St. James Hotel Complex (GD-RWC-004)
- C. Red Wing Residential Historic District (GD-RWC-022)
- D. CMSTPP Railroad Corridor Historic District (GD-RWC-1371)
- E. Red Wing Commercial Historic District (GD-RWC-1451)
- F. Barn Bluff (GD-RWC-280)
- G. Mississippi River 9' Channel (GD-RWC-1452)
- H. Kappel Wagon Works (GD-RWC-008)
- I. Sheldon Memorial Auditorium (GD-RWC-002)
- J. Lawther House (GD-RWC-023)
- K. Red Wing City Hall (GD-RWC-009)
- L. Hedin House (GD-RWC-1407)
- M. Luft Doublehouse (GD-RWC-746)
- N. Gladstone Building (GD-RWC-007)
- O. Medical Block Clinic (GD-RWC-1417)
- P. Hewitt Laboratory (GD-RWC-026)
- Q. Bridge 9103 (GD-RWC-1387)
- R. Miller House (GD-RWC-1422)
- S. Burdick Grain Company Terminal Elevator (GD-RWC-1383)
- T. Red Wing Iron Works (GD-RWC-005)
- U. Red Wing Shoe Company (GD-RWC-019)
- V. Keystone Building (GD-RWC-006)
- W. Chicago Great Western Depot (GD-RWC-015)
- X. Red Wing City Hospital Stairway (GD-RWC-1423)
- Y. First National Bank of Red Wing (GD-RWC-1439)

LIST OF ARCHAEOLOGICAL PROPERIES THAT WILL NEED ASSESSMENT OF ELIGIBILITY IF POTENTIALLY IMPACTED

SITE AREAS ARE DEPICTED IN THE FIGURE 62. OF FINAL REPOT

21GD291
 21GD292
 21GD293
 21GD294
 21GD295
 21GDDbj

Appendix B

Minnesota Approach Alternatives Identification, Evaluation, and Screening Memorandum



Building a Better World
for All of Us®

MEMORANDUM

TO: Chad Hanson, MnDOT

FROM: Chris Hiniker, AICP

DATE: September 8, 2014

RE: Red Wing Bridge Project
Minnesota Approach Alternatives Identification, Evaluation, and Screening
SEH No. MNT06 119112 14.00

The purpose of this memorandum is to document the rationale followed to identify, evaluate, and screen the range of Minnesota Approach alternatives considered as part of the Red Wing River Bridge Project. The Minnesota Approach is the last segment of the larger project to be defined. The other primary project components already defined include:

- River Crossing: Replace the existing river bridge with a two-lane steel box girder bridge immediately upstream from the current crossing;
- Wisconsin Approach: Construct a “jug-handle” intersection at 825th Street. This design provides a four-legged intersection with a median on US 63.

The remainder of this memorandum details the process that was used to develop, evaluate and screen alternatives to identify the most feasible, practical, and responsive Minnesota roadway approach option(s). Central to the process were multiple meetings involving MnDOT and FHWA staff, as well as meetings with project stakeholders, City staff, Project Advisory Committee (PAC) and listening sessions). The meetings were held at regular intervals as the process advanced. The memo is structured to follow the iterative process that was applied and included the following major steps:

- Developed Purpose and Need Statement;
- Identified Initial Minnesota Approach Concepts;
- Conducted Initial Feasibility Assessment;
- Refined Minnesota Approach Alternatives;
- Updated Purpose and Need Statement;
- Reviewed Range of Minnesota Approach Alternatives;
- Conducted Alternatives Evaluation and Screening.

PURPOSE AND NEED STATEMENT

The Red Wing Bridge Project is being developed in accordance with the National Environmental Policy Act (NEPA). Developing a project’s purpose and need statement is an important element of the NEPA process. Early in the Red Wing Bridge project development process, MnDOT and WisDOT worked closely with FHWA to define the project’s purpose and need. As with many projects, the purpose and need has been a working document which has evolved as new/more detailed information became available as the project has progressed. The original purpose and need was dated August 15, 2012 and was updated on October 16, 2013. It included the following key elements:

Primary Needs:

- Need for Structurally Sound Crossing of the Mississippi River Main Channel at Red Wing
- Need for Structurally Sound Crossing of US 61

Secondary Needs:

- Need for Continuity of US 63
- Need for Connection to US 61 and MN 58
- Need for Adequate Bridge Capacity
- Need for Acceptable Traffic Operations and Safe Design
- Need for Maximum Maintenance of Traffic
- Need for Access to Trenton Island
- Need to Maintain or Improve Pedestrian/Bicycle Facilities

Other Considerations:

- Structural Redundancy
- Wisconsin Corridors 2030 Plan
- Geometrics
- Economic development
- Parking
- Regulatory Requirements
- Property Impacts

IDENTIFICATION OF INITIAL MINNESOTA APPROACH CONCEPTS

Building from the October 16, 2013 Purpose and Need statement and working with the Project Management Team (PMT), Technical Advisory Committee (TAC), and other public input; eight concept alternatives were developed as described and illustrated below.

Concept 1 – Rehabilitate Bridge 9103

This concept assumes Bridge 9103 is retained and rehabilitated as detailed in the Bridge 9103 Rehabilitation Study. No other roadway modifications are included with this concept.

Concept 1

Concept 2 - Three Leg At-Grade Signalized Intersection

This concept would remove the existing U.S. 63 Bridge (Bridge 9103) over U.S. 61 and create an at-grade T-intersection at the junction. The concept provides approximately 500 feet between the new intersection and Potter Street. The new intersection would require dual left turn lanes from U.S. 61 to U.S. 63. All other intersections would remain unchanged from the No Build conditions.

Concept 2**Concept 3 - Three Leg At-Grade Signalized Intersection (U.S. 63 Direct Connection)**

This build alternative would remove Bridge 9103 over U.S. 61 and create an at-grade T-intersection at the junction; U.S. 63 would become the major movement with the east leg of U.S. 61 becoming the minor approach. This alternative provides approximately 500 feet between the new intersection and Potter Street.

Concept 3



Concept 4 - Four Leg At-Grade Signalized Intersection

This concept would remove the Bridge 9103 over U.S. 61 and create an at-grade four-leg signalized intersection. This alternative provides approximately 500 feet between the new intersection and Potter Street.

Concept 4



This concept is comparable to the Concept 2 except it retains the connection to and from 3rd Street. All other intersections would remain unchanged from the No Build conditions.

Concept 5 - Four Leg At-Grade Roundabout Intersection

This concept would remove the Bridge 9103 over U.S. 61 and create an at-grade four-leg roundabout at the new junction of U.S. 61 and U.S. 63.

Concept 5

This concept provides approximately 600 feet between the new intersection and Potter Street and is comparable to Concept 4 described earlier except the intersection control is a roundabout rather than a traffic signal. All other intersections would remain unchanged from the No Build conditions.

Concept 6 - Buttonhook Signalized Intersection

This concept would replace the Bridge 9103 over U.S. 61 and create a new at-grade signalized intersection east of downtown. It provides approximately 1,100 feet between the new intersection and Potter Street.

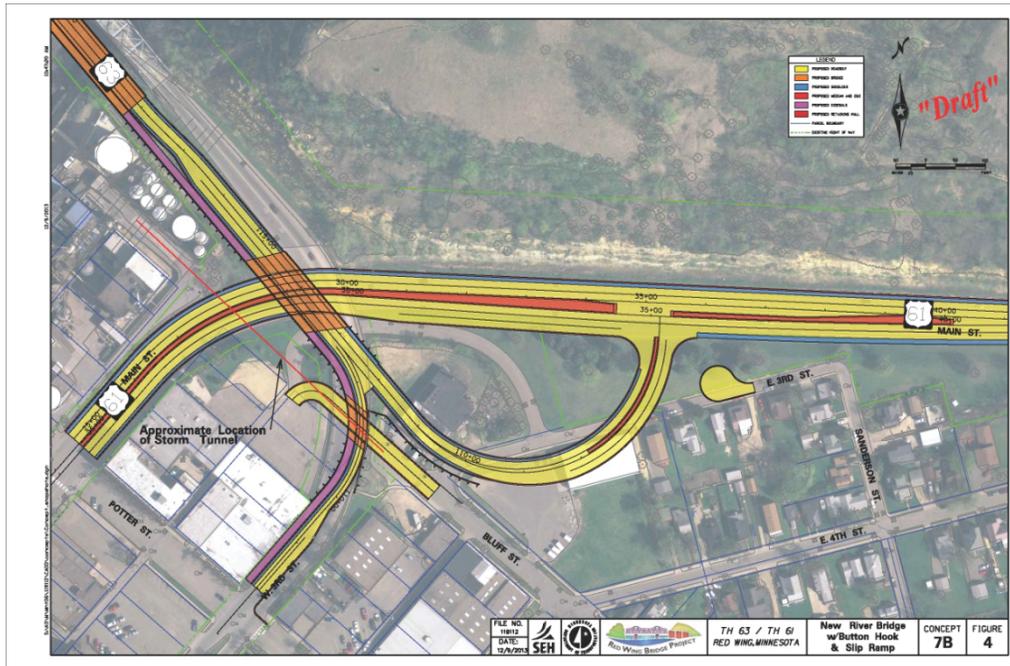
Concept 6

With this concept all river crossing traffic would flow through the new signalized intersection east of existing Bridge 9103. All other trunk highway intersections would remain unchanged from the No Build conditions.

Concept 7 - Buttonhook Signalized Intersection with Slip Ramp

This concept would replace the Bridge 9103 over U.S. 61 and create a new at-grade intersection east of downtown. In addition, the concept allows southbound U.S. 63 traffic to access downtown and MN 58 along a new one-way slip ramp to 3rd Street. This concept provides approximately 1,100 feet between the new intersection and Potter Street.

Concept 7



All other intersections would remain unchanged from the No Build conditions.

Concept 8 - Buttonhook Intersection (Roundabout) Retain Bridge 9103

This concept would retain Bridge 9103 over U.S. 61 and create a new at-grade intersection east of downtown. This intersection could either be a roundabout (as shown) or a signalized intersection. This alternative provides approximately 1,100 feet between the new intersection and Potter Street. This alternative is comparable to Concept 6 described earlier except the intersection control is a roundabout and the design assumes retaining Bridge 9103.

Concept 8



FEASIBILITY ASSESSMENT OF CONCEPTS

With the concepts defined each were analyzed with respect to traffic operations, safety, key environmental considerations, right-of-way impacts, design standards, estimated costs, complexity, and compatibility with a potential future parallel river crossing bridge. Table 1 presents the evaluation results reflecting these criteria.

A summary of the conclusions drawn from the evaluation are listed below. It is important to note that this evaluation was conducted in 2012. Since then additional analysis has been completed and decisions have been made. One key decision is that the river crossing will be a two lane facility.

- Concept 1: Rehabilitate Bridge 9103
 - Retains Bridge 9103 (eligible for National Register)
 - Poorest traffic operations of all concepts
 - Minimal right-of-way and environmental effects
 - Recommendation – retain for further consideration.
- Concept 2: Three Leg At Grade Intersection (U.S. 61 Direct Connection)
 - Poor traffic operations
 - U.S. 61 grade raise might require fill next to Barn Bluff
 - Would require a four-lane U.S. 63 Bridge
 - Recommendation – remove from consideration because of very poor traffic operations and it requires a four-lane river crossing.
- Concept 3: Three Leg At Grade Intersection (U.S. 63 Direct Connection)
 - Major impacts to ADM facility
 - U.S. 61 grade raise might require fill next to Barn Bluff
 - Recommendation – remove from consideration given substantial right-of-way impacts and poor geometry.
- Concept 4: Four Leg At Grade Intersection
 - Good traffic operations (assuming a four-lane river crossing)
 - U.S. 61 grade raise might require fill next to Barn Bluff
 - 3rd Street connection improves downtown operations
 - Would require four-lane U.S. 63 Bridge
 - Recommendation – remove from consideration because it requires a four lane river crossing.
- Concept 5: Four Leg At Grade Intersection – Roundabout
 - Good traffic operations
 - Does not accommodate large trucks
 - Requires extensive right-of-way acquisition
 - Would require four-lane U.S. 63 Bridge
 - Recommendation – remove from consideration because it requires a four lane river crossing and does not accommodate large trucks.
- Concept 6: Button Hook Intersection
 - Improved traffic operations compared to over No-Build

- U.S. 61 at Plum Street Intersection still congested
 - Works with either two-lane or four-lane U.S. 63 Bridge
 - Recommendation – remove from consideration in lieu of Concept 7 which has much better traffic operations and retains more favorable access to MN 58 and downtown.
- Concept 7: Button Hook Intersection with Slip Ramp
 - Best traffic operations
 - 3rd Street connection improves downtown operations
 - Works with either two-lane or four-lane U.S. 63 Bridge
 - Recommendation – retain for further consideration.
- Concept 8: Button Hook Intersection – Roundabout
 - Decent traffic operations
 - U.S. 61 at Plum Street Intersection still congested
 - Does not accommodate large trucks
 - Works with either two-lane or four-lane U.S. 63 Bridge
 - Recommendation – remove from consideration because of substantial right-of-way impacts and it does not accommodate large trucks.

In summary, based on this initial assessment and stakeholder input, the following concepts were identified to be carried forward for further consideration:

- Concept 1 – Rehabilitate Bridge 9103
- Concept 7 – Button Hook Intersection with Slip Ramp

REFINED MINNESOTA APPROACH ALTERNATIVES

Moving forward with the recommended concepts, additional design work was completed and coordination between MnDOT and FHWA staff was conducted. Much of these efforts focused on ensuring a full consideration of concepts that would enable Bridge 9103 to be retained given its National Register status. The additional sub-options to Concept 1 include:

Sub-Option A

This concept was developed as an attempt to better address the downtown commercial historic district traffic issues while avoiding substantial right-of-way impacts. It includes signal timing modifications as well as capacity improvements including turn lane modifications, removal of some on-street parking, some sidewalk narrowing, curb radii modifications, and additional through lanes through restriping (Figure 1 - attached).

Sub-Option B

This concept builds from Sub-Option A and attempts to more fully address the network related traffic issues referenced above. It includes even more substantial modifications to the downtown street network including additional through lanes and longer turn lanes. These modifications would require removal of additional on-street parking, further sidewalk impacts, and impact Dankers Park in the southeast quadrant of the Plum Street/3rd Street intersection. (Figure 2 - attached).

Sub-Option C

Given Sub-Options A and B do not fully address the issues associated with the overlapping trunk highway system in downtown Red Wing, even more substantial changes to the downtown street network were considered. It was concluded the only effective solution to address all of the issues would be to redirect the majority of traffic from Main Street to 3rd Street. This would be accomplished by constructing a new

road segment from Main Street to 3rd Street between Dakota Street and West Avenue. In turn, Main Street would be realigned near West Avenue to connect with the newly realigned Main Street to 3rd Street connection (Figure 3 - attached). With this modification 3rd Street through downtown would become Highway 63 and traffic destined to the river crossing and Highway 58 south, would use 3rd Street rather than Main Street.

MnDOT and FHWA staff concluded that Sub-Option A was the only potentially viable sub-option to carry forward given the substantial right-of-way impacts and increased social, economic, and environmental (SEE) impacts to the downtown commercial historic district associated with Sub-Options B and C.

As a result of the extensive refinement efforts, five Minnesota Approach alternatives were defined for more detailed evaluation.

The alternatives are illustrated in Figures 47 (attached) and defined in detail as follows:

- Alternative MN-1 (former Concept 1): This alternative involves rehabilitating Bridge 9103 as documented in the Bridge 9103 Rehabilitation Study, August 2013. For purposes of this evaluation it is assumed this alternative includes cathodic protection and installation of a TL-2 railing. Cathodic protection is assumed because it is necessary to extend the service life of the rehabilitation project to the 20 year planning horizon. The TL-2 railing is assumed because it does not affect the historic eligibility of Bridge 9103, is relatively low cost, and represents a substantial safety benefit.
- Alternative MN-1A (former Concept 1 with Sub-Option A): This alternative includes rehabilitating Bridge 9103 as documented in the Bridge 9103 Rehabilitation Study, August 2013. For purposes of this evaluation it is assumed this alternative includes cathodic protection and the TL-2 railing. This alternative also includes modifications to the downtown Red Wing street network proposed to retain reasonable traffic operations through the 2042 forecast year (see Figures 4 and 5). The improvements identified in Figure 2 reflect a balance between maximizing opportunities to improve traffic flow and minimizing right-of-way, parking, and sidewalk impacts. The proposed improvements were defined through an iterative process which involved developing incremental changes and testing their effectiveness using the detailed traffic model developed for the overall project. This iterative process resulted in the improvements reflected in Figure 5.

The collective adjustments to lane configurations and on-street parking, as well as the curb and sidewalk modifications illustrated in Figure 5, do improve existing and forecast traffic operations. However, substantial roadway network issues associated with the tight urban grid pattern and overlapping trunk highway system result in substantial queuing, conflicting turning movements, congestion, and delays.

- Alternative MN-2 (new alternative, not studied in feasibility concepts): This is an additional alternative that allows retaining the existing roadway network, minimizing most environmental impacts, but removing Bridge 9103 and replacing it with a new bridge structure (see Figure 3). This alternative was added to allow for comparison of costs between Alternative MN-1 (rehabilitation of Bridge 9103) and a new bridge [with longer service life and lower on-going maintenance costs].
- Alternative MN-2A: Similar to Alternative 2, this option involves replacement of Bridge 9103 with a new bridge that maintains the existing approach roadway system with US 63 connecting into downtown Red Wing via 3rd Street. This alternative also includes modifications to the downtown Red Wing street network proposed to retain reasonable traffic operations through the 2042 forecast year (see Figures 5 and 6). The identified downtown street improvements are the same as Alternative MN-1A.
- Alternative MN-3 (former Concept 7): This alternative includes replacing Bridge 9103 with a new structure and button-hook ramp configuration that reorients the connection of US 63 to US 61 immediately east of downtown Red Wing. This alternative also includes a one-way slip-ramp which provides an option for southbound US 63 traffic to continue to have a direct access to downtown Red Wing and MN 58 via 3rd Street (see Figure 7).

UPDATED PURPOSE AND NEED STATEMENT

Since completing the original project purpose and need statement in 2012, additional traffic studies performed as part of the concept/feasibility analysis highlighted more substantial traffic mobility issues than what was initially evident from the analysis completed in 2011 and 2012. The more recent traffic analyses showed that operational issues were more of a network mobility problem rather than an intersection problem, as previously documented. The shift in focus from an intersection perspective to a network perspective was important because it highlighted that the primary traffic issues were tied to the trunk highway network in the downtown area, not a specific intersection or intersections. Building from the expanded technical analysis, MNDOT met with City of Red Wing staff to ensure the community's perspectives and concerns were clearly understood. Through this coordination, City staff indicated that in addition to the motorized traffic issues, that nonmotorized travel is a major challenge in the downtown area, In particular the trunk highway segments (Main Street, Plum Street) are major challenges for pedestrian and bicyclist circulation.

Thorough review of this information led to discussions centered on refining the purpose and need to better account for motorized and non-motorized mobility issues along the trunk highway segments that extend through downtown Red Wing and connect to the river crossing. In addition, the mobility issues and concerns identified in the technical studies were consistent with public input received through the project's public engagement process. Given this information, MnDOT and FHWA concurred that "Need to Improve Motorized and Non-motorized Traffic Mobility on Trunk Highways within the Downtown Red Wing Commercial/Historic District" should become a primary need. Project stakeholders were given an opportunity to comment on these changes to the purpose and need through ongoing public engagement efforts. Stakeholders were supportive of mobility being designated as a primary need.

The major elements of the refined/updated purpose and need are as follows (additions are in italics and deletions are strike-through text):

Primary Needs:

- Need for Structurally Sound Crossing of the Mississippi River Main Channel at Red Wing
- Need for Structurally Sound Crossing of US 61
- *Need to Improve Motorized and Non-Motorized Traffic Mobility on Trunk Highways within the Downtown Red Wing Commercial/Historic District*

Secondary Needs:

- Need for Continuity of US 63
- Need for Connection to US 61 and MN 58
- Need for Adequate Bridge Capacity
- ~~Need for Acceptable Traffic Operations and Safe Design~~
- Need for Maximum Maintenance of Traffic
- Need for Access to Trenton Island
- Need to Maintain or Improve Pedestrian/Bicycle Facilities *on the US 63 River Bridge and US 61 Overpass*

Other Considerations:

- Structural Redundancy
- Wisconsin Corridors 2030 Plan
- Geometrics
- Economic development
- Parking

- Regulatory Requirements
- Property Impacts

REVIEW RANGE OF MINNESOTA APPROACH ALTERNATIVES

Following the update of the purpose and need, it was necessary to determine whether the alternatives defined previously should be modified and/or if additional alternatives needed to be considered. This step included a review of the technical information and reaching out to the public to provide an opportunity to review the refined purpose and need and potentially suggest new alternatives. The revised purpose and need was presented at a project listening session on May 27, 2014 and attendees were provided the opportunity to suggest different alternatives.

No written public input was received at the listening session regarding the refined purpose and need and no additional Minnesota approach alternatives were identified for consideration.

In addition, a separate meeting was held with City planning/engineering staff to discuss mobility issues downtown, including options the City has considered to address non-motorized traffic mobility, to determine if additional non-motorized alternative elements should be considered. Two concepts for potential improving pedestrian mobility were reviewed with City staff: 1) restricting pedestrian crossing opportunities [i.e., identifying 1 or 2 legs at the intersection as 'no ped crossing'] at high volume intersections, to decrease turning conflicts and 2) posting high volume intersections as 'No Turn on Red' for motor vehicles. City staff indicated that these options had been considered by the City before and rejected as not being feasible or effective. Therefore, these were not considered further for the Minnesota approach alternatives.

Since no new/additional feasible alternatives were identified in this review process, the five alternatives documented earlier in this memorandum were retained and carried forward for evaluation and screening. The alternatives include:

- MN-1
- MN-1A
- MN-2
- MN-2A
- MN-3

ALTERNATIVES EVALUATION AND SCREENING

The alternatives evaluation and screening process centered on assembling a comprehensive list of evaluation criteria and applying the criteria to the Minnesota approach alternatives discussed above. The criteria were developed to account for and reflect the purpose and need statement, social, economic, and environmental (SEE) factors, and cost considerations. The evaluation criteria and five approach alternatives were organized into a comprehensive evaluation matrix to facilitate the evaluation and screening process (see Table 2 - attached).

MnDOT and FHWA staff met several times to review the matrix and discuss the screening process and results. The outcomes of these discussions are summarized below.

Alternatives Not Carried Forward for Further Consideration After Screening

It was concluded that Alternatives MN-1A and MN-2A should be eliminated from further consideration after initial screening because:

- They would introduce a Section 106 adverse effect (and a resulting Section 4(f) use) to the Downtown Commercial/Historic District;

- They would introduce a Section 4(f) impact to Dankers Park in Downtown Red Wing;
- The alternatives were originally developed in an effort to address the operational ‘needs’ related to geometrics (i.e., turning radii and turn lanes); however, the subsequent traffic analysis concluded they do not adequately address the overall trunk highway network mobility needs through the year 2042 forecast period. This, plus the identified Section 106 and 4(f) impacts with no other potential SEE benefits that would warrant retaining these alternatives, were the basis for dismissing these alternatives.

MnDOT and FHWA staff also concluded given full consideration of the purpose and need, SEE impacts, and cost factors included in the evaluation matrix that Alternative MN-2 should be removed from further consideration because it does not meet the primary need related to mobility, and results in removal of Bridge 9103, which would result in an adverse effect under Section 106 and result in a Section 4(f) use.

Alternatives to be Carried Forward for Further Documentation Following Screening

Following screening, only MN-1 and MN-3 remained as potential Minnesota approach alternatives. Staff discussed in great detail the relative trade-offs between the alternatives, which can be summarized as follows:

- MN-1
 - Positive attributes (compared to MN-3):
 - Retains Bridge 9103, thereby avoiding a Section 106 adverse effect and Section 4(f) impact;
 - Fewer right-of-way impacts;
 - No substantial changes in noise levels anticipated;
 - Lower capital cost
 - Negative attributes (compared to MN-3):
 - Greater motorized traffic mobility issues (network delay, longer queuing, longer travel times); Does not address mobility issues related to traffic volumes and pedestrian circulation/safety in the downtown commercial/historic district – therefore, this alternative does not meet the primary need to address mobility issues. Mobility issues are discussed in greater detail in the March 25, 2014 Traffic Analysis Report; also,
 - Higher on-going bridge maintenance costs; and
 - Shorter bridge service life
- MN-3
 - Positive attributes (compared to MN-1):
 - Improved mobility issues (reduced network delay, shorter queues, shorter travel times); the only alternative that meets the primary needs and fully addresses mobility issues related to traffic volumes and pedestrian circulation/safety in the commercial/historic district. Figure 8 illustrates the mobility benefits of MN-3, including the reduction in traffic volumes on Plum Street (MN 58) between U.S. 61 and 3rd Street (nearly 50% in the AM peak hour and 30% in the PM peak hour respectively). Mobility issues are discussed in greater detail in the March 25, 2014 Traffic Analysis Report;
 - Lower on-going bridge maintenance costs;
 - Longer bridge service life
 - Negative attributes (compared to MN-3):
 - Removes Bridge 9103 (a Section 106 adverse effect and Section 4(f) impact);
 - Greater right-of-way impacts;

- Potential increase in noise levels at residences adjacent to button hook loop;
- Higher capital cost;

Reflecting on these trade-offs, staff concurred with the following recommendations:

- Advance MN-3 as the recommended alternative, because it is the only alternative that addresses all of the primary purpose and need elements;
- Obtain input from SHPO and other Section 106 process stakeholders;
- Complete the Section 4(f) evaluation/decision-making and documentation process, including detailed consideration of Alternative MN-1, since it is the Section 4(f) avoidance alternative;
- Provide detailed documentation of the alternatives evaluation and decision-making process in the Environmental Assessment document

ah

Attachments:

Table 1 - Red Wing Roadway Initial Concepts Matrix

Figure 1 – Sub-Option A

Figure 2 – Sub-Option B

Figure 3 – Sub-Option C

Figure 4 - Concept MN-1

Figure 5 - Downtown Red Wing Street Network Improvements

Figure 6 - Concept MN-2

Figure 7 - Concept MN-3

Table 2 - Minnesota Approach Alternatives Evaluation Matrix

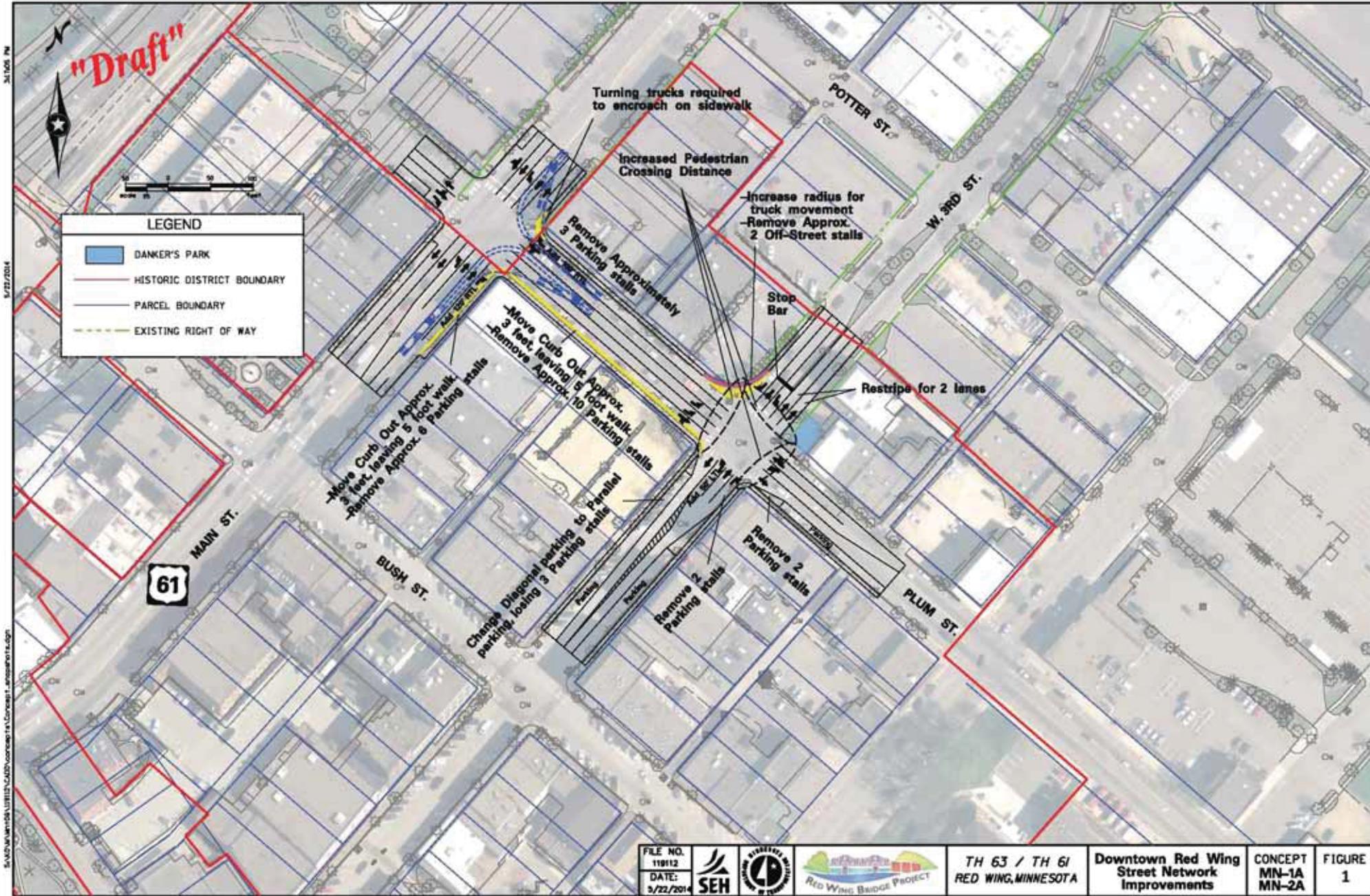
Figure 8 – Change in Traffic Demand Alternative 1 and 2 vs. Alternative 3

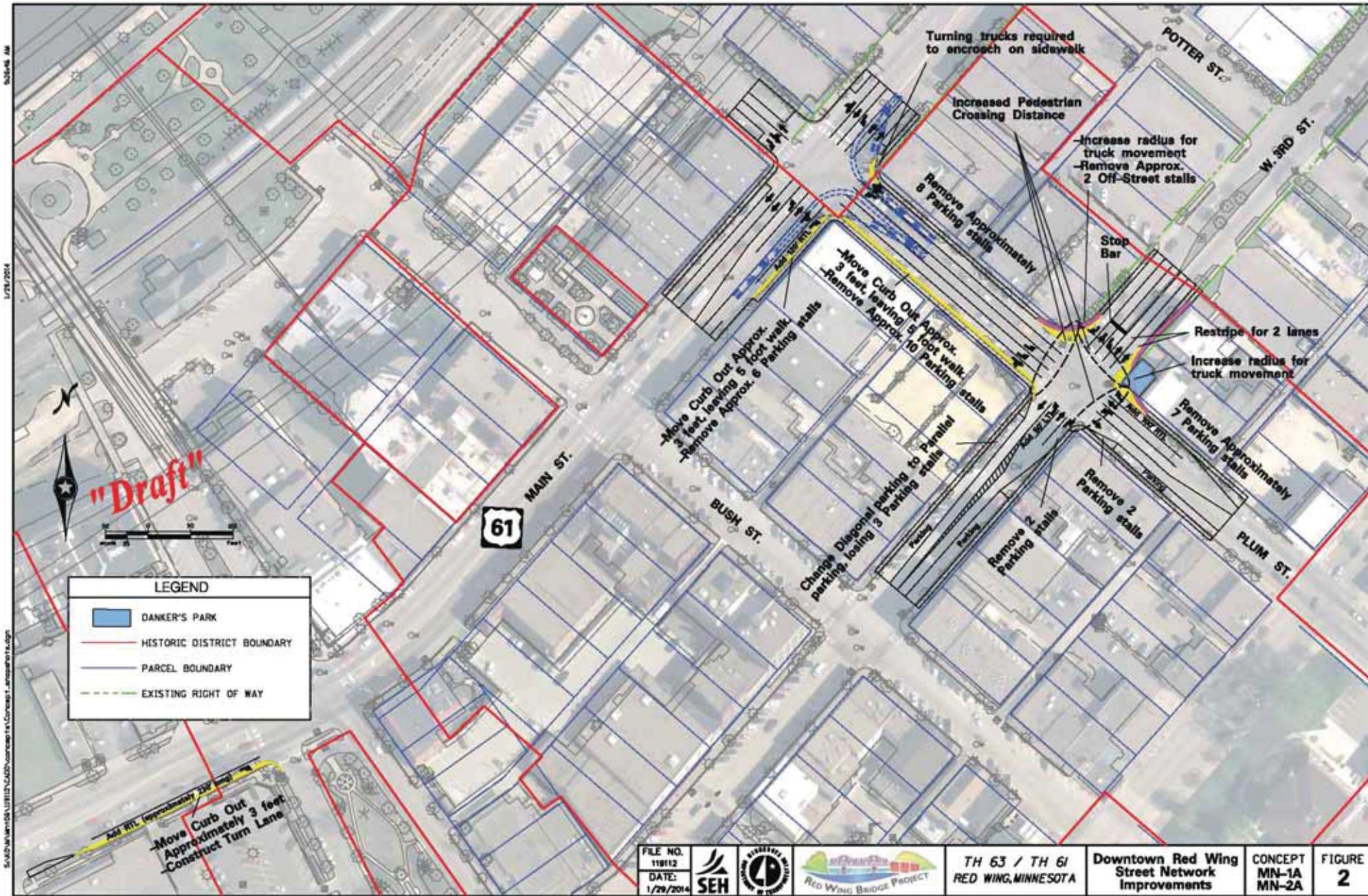
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Table 1 - Red Wing Bridge Project Approach Roadway Concept Alternative Evaluation Matrix – 7/11/12

Evaluation Criteria	Concept 1 Rehabilitate Bridge 9103	Concept 2 Three-Leg At Grade Intersection	Concept 3 Three-Leg At Grade Intersection (63 Direct Connection)	Concept 4 Four-Leg At Grade	Concept 5 Four-Leg At Grade with Roundabout	Concept 6 Buttonhook Intersection	Concept 7 Buttonhook Intersection with Slip Ramp	Concept 8 Buttonhook Intersection with Roundabout
Traffic Operations/Mobility <ul style="list-style-type: none"> TH 63 TH 61 Downtown Red Wing Access for Local Businesses 	Poorest traffic operations in year 2042	Poor operations in year 2042. Does not work with two-lane river crossing. Directs TH 63 traffic out of downtown Red Wing Shore access reconfigured Reduces traffic congestion at 3 rd /Plum Increased traffic at US 61/Plum	Directs TH 63 traffic out of downtown Promotes primary river crossing movement Red Wing Shoe access reconfigured Reduces traffic congestion at 3 rd /Plum Increased traffic at US 61/Plum	More favorable year 2042 traffic operations assuming a four lane river crossing Greater impact to Red Wing Shoe access Reduces traffic congestion at 3 rd /Plum More direct connection to TH 58 compared to Concepts 2 and 3	Favorable year 2042 traffic operations Truck path overlap between lanes might reduce capacity Greater impact to Red Wing Shoe access Reduces traffic congestion at 3 rd /Plum	Acceptable 2042 traffic operations, though queuing problems exist Directs TH 63 traffic out of downtown Red Wing Shoe access reconfigured Reduces traffic congestion at 3 rd /Plum Increased traffic at US 61/Plum	Most favorable year 2042 traffic operations Directs portion of TH 63 traffic out of downtown Red Wing Shoe access reconfigured Reduces congestion at 3 rd /Plum More direct connection to TH 58 compared to Concept 6	Favorable year 2042 traffic operations Truck path overlap between lanes might reduce capacity Directs TH 63 traffic out of downtown Greater impact to Red Wing Shoe access Reduces traffic congestion at 3 rd /Plum
Safety <ul style="list-style-type: none"> Driver Expectancy Pedestrian/Bicycle Friendliness 	As currently exists	Standard intersection Sidewalk/Trail provided	Standard intersection Sidewalk/Trail provided	Standard 4-Leg intersection Sidewalk/Trail provided	Roundabout Sidewalk/Trail provided	Controlled intersection Sidewalk/Trail provided	Controlled intersection Sidewalk/Trail provided	Controlled intersection Sidewalk/Trail provided
Environmental Impacts <ul style="list-style-type: none"> Section 106 Section 4(f) Soil Conditions (Geotech/Contamination) 	Minimal	Bridge 9103 removal (Section 106 and 4f) TH 61 grade raise may require fill next to Barn Bluff Unknown soil conditions at warehouse building site	Bridge 9103 removal (Section 106 and 4f) TH 61 grade raise may require fill next to Barn Bluff Unknown soil conditions at warehouse building site	Bridge 9103 removal (Section 106 and 4f) TH 61 grade raise may require fill next to Barn Bluff Unknown soil conditions at warehouse building site	Bridge 9103 removal (Section 106 and 4f) TH 61 alignment pulled away from Barn Bluff; TH 63 alignment shifted closer Unknown soil conditions at warehouse building site	Bridge 9103 removal (Section 106 and 4f) Minimal Unknown soil conditions at warehouse building site	Bridge 9103 removal (Section 106 and 4f) Minimal Unknown soil conditions at warehouse building site	Able to maintain Bridge 9103 Minimal Unknown soil conditions at warehouse building site
Right-of-Way/Property Impacts <ul style="list-style-type: none"> Proximity to Housing Visual/Noise Access Acquisitions 	Minimal/As currently exists	Staging would likely require acquisition of warehouse building	Major impacts to ADM	Staging would likely require acquisition of warehouse building	Extensive R/W acquisition	Closer to residential development with extensive R/W acquisition	Closer to residential development with extensive R/W acquisition	Closer to residential development with R/W acquisition
Design Standards	As currently met	Meets 30 mph design	Meets 30 mph design	Meets 30 mph design	Meets 30 mph design	Meets 30 mph design	Meets 30 mph design	Meets 30 mph design
Estimated Construction Cost (not TPC)	TBD	\$3.6M	\$3.4M	\$4.3M	\$4.0M	\$6.4M	\$6.6M	\$3.9M
Construction Staging and Complexity/MOT	Minor impact for Bridge Rehab	Divert TH 61 via temp alignment/Construct TH 63 in halves	Construct TH 61 in halves/under traffic	Divert TH 61 via temp alignment/Construct TH 63 in halves	Complex – non-closure requires shifted roundabout; several stages	Moderate – buttonhook constructed off-line and bridge in halves	Moderate – buttonhook constructed off-line and bridge in halves	Moderate – buttonhook constructed off-line and bridge in halves
Compatibility with Parallel Bridge	Compatible – walls required	Compatible – walls required	Non-compatible without extensive R/W impacts	Compatible – walls required	Compatible – walls required	Less compatible – would require wider bridge over TH 61	Less compatible – would require wider bridge over TH 61	Compatible – would likely require exception on bridge over TH 61

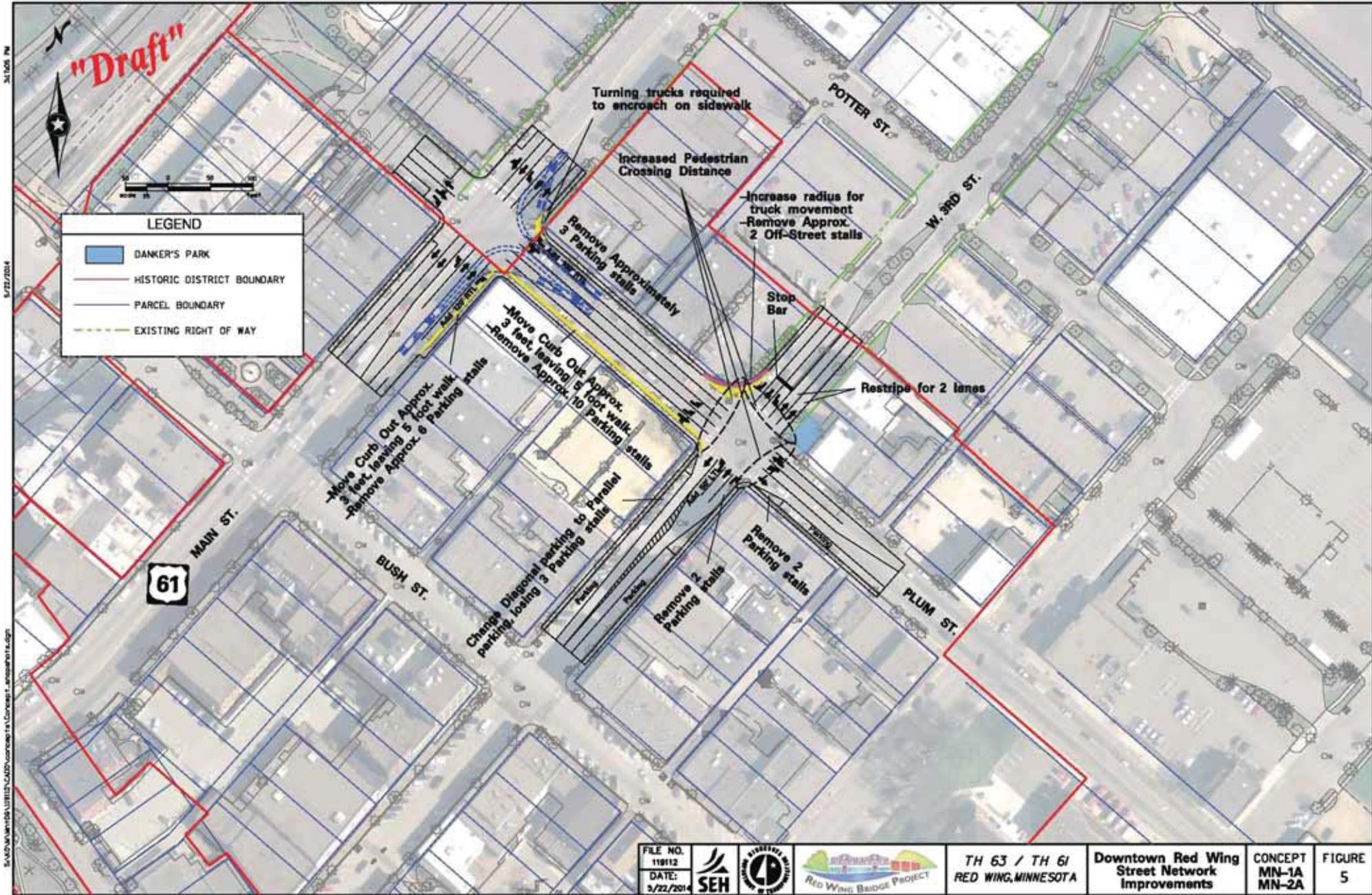
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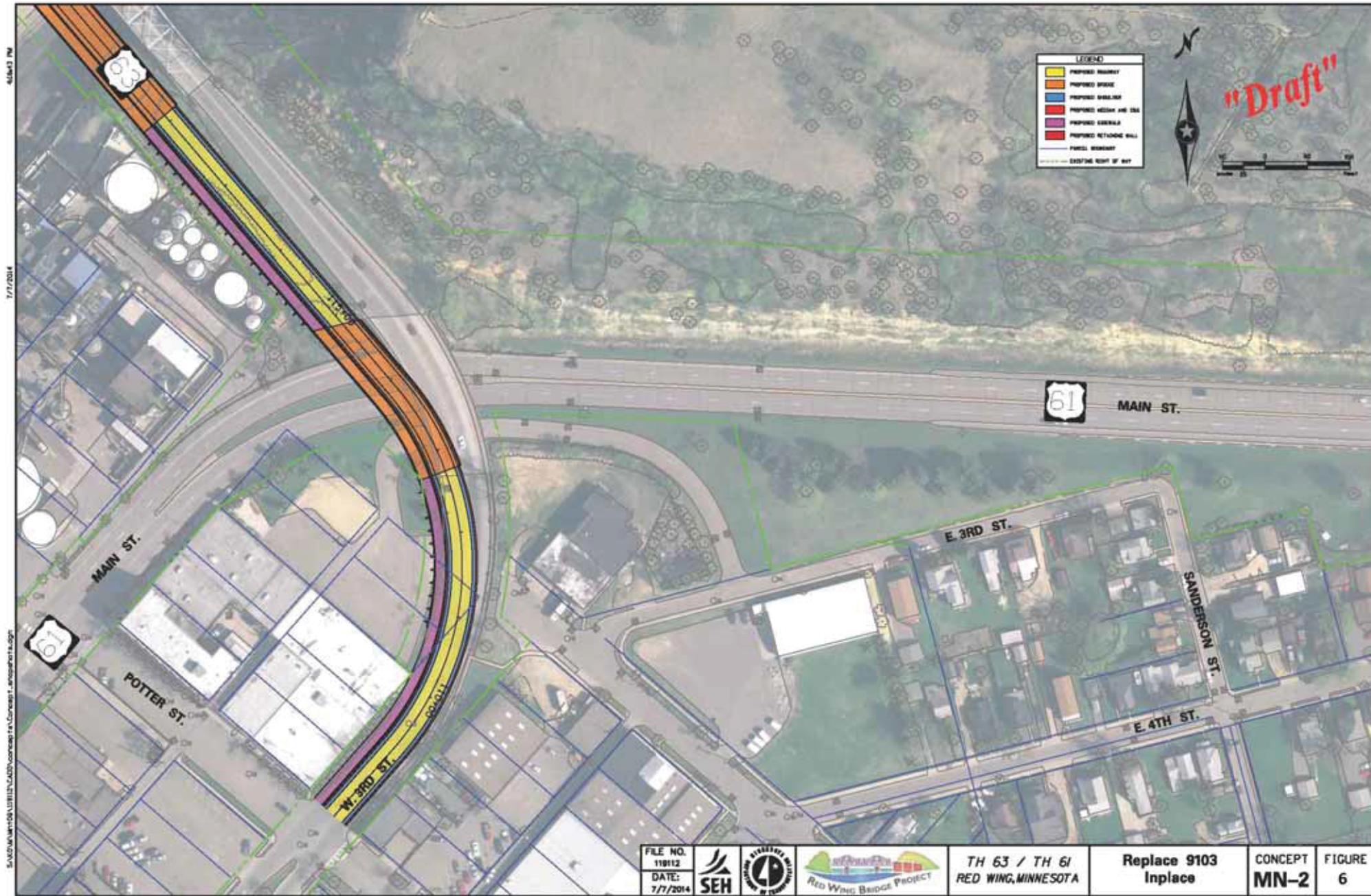


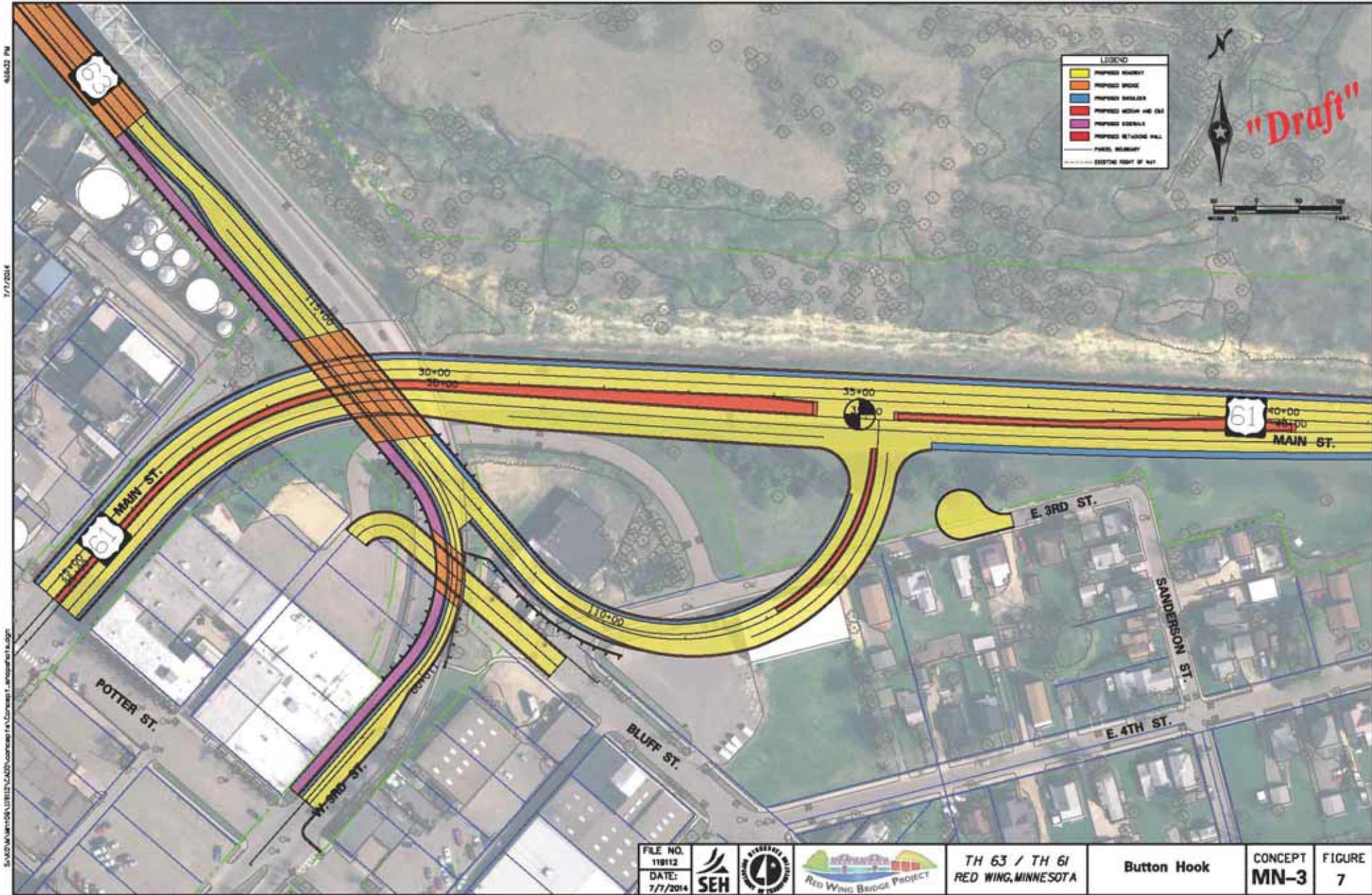












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Table 2 - Red Wing Bridge Project - Minnesota Approach Alternatives Evaluation Matrix

EVALUATION CRITERIA		MN-1 - Rehab Bridge 9103 (includes cathodic protection & TL-2 railing)	MN-1A - Rehab Bridge 9103 with CBD Street modifications	MN-2 - Replace Bridge 9103 In-Place	MN-2A - Replace Bridge 9103 In-Place with CBD Street Modifications	MN-3 - Replace Bridge 9103 plus Button-hook with Slip-Ramp
PRIMARY NEEDS						
Structurally sound crossing of the Mississippi River	Ability to meet structural requirements	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives
Structurally sound crossing of US 61	Ability to meet structural requirements	Yes	Yes	Yes	Yes	Yes
Improve motorized and non-motorized traffic mobility on THs in downtown commercial/historic district	Year 2042 trunk highway network delay	564 hours; NOTE: Estimated delay is underestimated, due to limitations in model's ability to reflect adverse effects of grid street network, tight geometrics, & pedestrian conflicts.	133 hours; NOTE: Estimated delay is underestimated, due to limitations in model's ability to reflect adverse effects of grid street network, tight geometrics, & pedestrian conflicts.	564 hours; NOTE: Estimated delay is underestimated, due to limitations in model's ability to reflect adverse effects of grid street network, tight geometrics, & pedestrian conflicts.	133 hours; NOTE: Estimated delay is underestimated, due to limitations in model's ability to reflect adverse effects of grid street network, tight geometrics, & pedestrian conflicts.	84 hours
	Network motor vehicle traffic queue lengths; 2042 PM peak hour maximum queues at the seven analyzed intersections	8,795 feet;	6,163 feet; NOTE: reduction in queues at critical approaches is muted by the collective queue length of all intersection approaches	8,795 feet;	6,163 feet; NOTE: reduction in queues at critical approaches is muted by the collective queue length of all intersection approaches	5,361 feet; NOTE: reduction in queues at critical approaches is muted by reporting total queue length on all intersection approaches. Queues on trunk highways show a substantial reduction.
	Year 2042 total trunk highway network travel time	643 hours; NOTE: Estimated travel time is underestimated, due to limitations in model's ability to reflect adverse effects of grid street network	227 hours; NOTE: Estimated travel time is underestimated, due to limitations in model's ability to reflect adverse effects of grid street network	643 hours; NOTE: Estimated travel time is underestimated, due to limitations in model's ability to reflect adverse effects of grid street network	227 hours; NOTE: reduction in travel time exaggerated by limitations in model to reflect adverse effects of grid street network	173 hours
	Year 2042 PM peak hour travel time for a representative trip between the River Bridge and US 61/Broad Street	- River Bridge to US 61/Broad Street = 2 mins, 25 secs - US 61/Broad Street to River Bridge = 21 mins, 31 secs	- River Bridge to US 61/Broad Street = 1 min, 19 secs - US 61/Broad Street to River Bridge = 3 mins, 50 secs	- River Bridge to US 61/Broad Street = 2 mins, 25 secs - US 61/Broad Street to River Bridge = 21 mins, 31 secs	- River Bridge to US 61/Broad Street = 1 min, 19 secs - US 61/Broad Street to River Bridge = 3 mins, 50 secs	- River Bridge to US 61/Broad Street = 1 min, 15 secs - US 61/Broad Street to River Bridge = 1 min, 24 secs
	Change in trunk highway volumes on roadway segments within commercial/historic district, compared to No-Build	No Change	No Change	No Change	No Change	3rd Street between Plum and Potter, approximately 70% Reduction; Plum Street between Main and 3rd, 30% to 50% Reduction
	Turning movement volumes compared to No-build at key intersections (US 61/MN 58 and MN 58/3rd Street)	No Change	No Change	No Change	No Change	Main at Plum, 30% to 50% reduction; 3rd at Plum, 35% to 45% Reduction
	Change in peak hour truck right turn volumes compared to No-Build at key intersections with inadequate RT radii: US 61/MN 58 and MN 58/3rd Street	No Change	No Change	No Change	No Change	Main/Plum = 63% AM and 68% PM reduction; Plum/3rd = 93% AM and 96% PM reduction
	Pedestrian level of service (HCM analysis)	LOS B	LOS D	LOS B	LOS D	LOS B
	Pedestrian crossing delay at US 61/MN 58 and MN 58/3rd Street	No Change	No Change	No Change	No Change	Reduction in vehicle traffic enables changing signal cycles to increase pedestrian crossing times; Removal of SB LT phase at MN 58/3rd will increase the east side crossing time by up to 30 seconds per cycle.
	Change in intersection width for ped crossing compared to No Build	No Change	Increased walking distance for peds crossing the south leg of the US 61 at MN 58 intersection; and crossing the south, north, and east legs of the MN 58 at 3rd Street intersection	No Change	Increased walking distance for peds crossing the south leg of the US 61 at MN 58 intersection; and crossing the south, north, and east legs of the MN 58 at 3rd Street intersection	No change
	Change in number of traffic lanes crossed by pedestrians, compared to No Build	No Change	Increased number of approach lanes on the west and south legs of the US 61 & MN 58 intersection and at the east and north legs at the MN 58 & 3rd Street intersection increase ped exposure	No Change	Increased number of approach lanes on the west and south legs of the US 61 & MN 58 intersection and at the east and north legs at the MN 58 & 3rd Street intersection increase ped exposure	Reduction in vehicle traffic enables changes in lane striping which will decrease the number of approach lanes on the east and north legs of the MN 58 & 3rd Street intersection, reducing ped exposure
	Other changes in pedestrian and bicyclist 'quality of experience' (qualitative assessment)	No Change	1) Removal of on-street parking stalls eliminates "buffer" effect between pedestrians and vehicular traffic; 2) Narrower sidewalks reduce walkability & separation distance between motorized and non-motorized traffic.	No Change	1) Removal of on-street parking stalls eliminates "buffer" effect between pedestrians and vehicular traffic; 2) Narrower sidewalks reduce walkability & separation distance between motorized and non-motorized traffic.	Reduced turning traffic volumes decreases pedestrian/vehicle conflict potential and enhances pedestrian environment and walkability in commercial/historic district.

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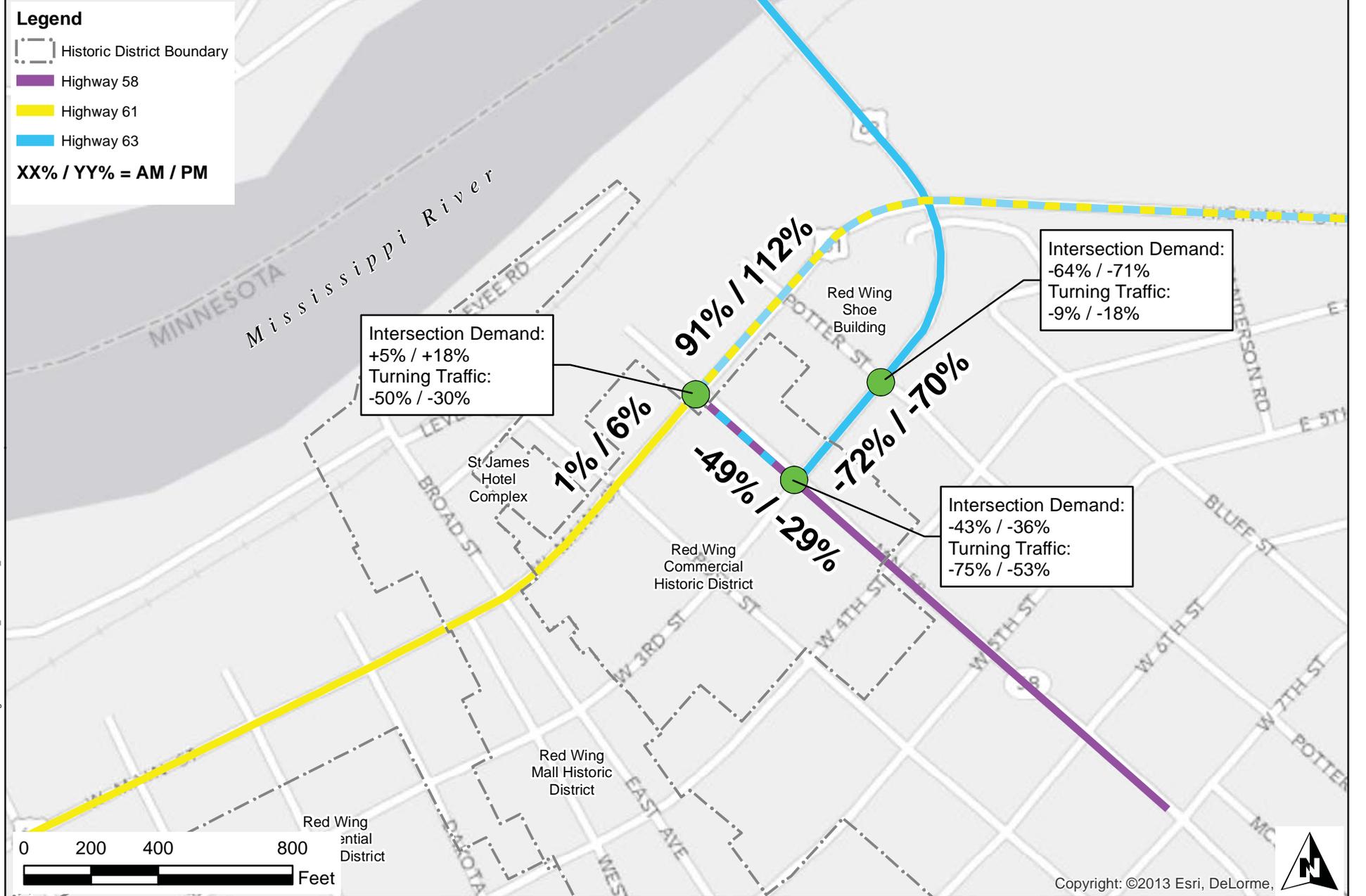
SECONDARY NEEDS						
Continuity of US 63	Ability to maintain continuity	Maintains continuity	Maintains continuity	Maintains continuity	Maintains continuity	Maintains continuity
US 63 connection to US 61 and TH 58	Ability to provide connection of US 63 to US 61	US 63 connection overlaps with MN 58	US 63 connection overlaps with MN 58	US 63 connection overlaps with MN 58	US 63 connection overlaps with MN 58	Improved by providing direct US 63 connection to US 61
	Ability to provide connection to MN 58	NB/SB connection provided via 3rd St.	NB/SB connection provided via 3rd St.	NB/SB connection provided via 3rd St.	NB/SB connection provided via 3rd St.	SB connection provided via 3rd St.; NB connection provided via US 61
Adequate Bridge Capacity	Ability to accommodate forecast year traffic volumes	Yes	Yes	Yes	Yes	Yes
Maximum maintenance of traffic	Duration of full closure of US 63	No full closure required	No full closure required	No full closure required	No full closure required	No full closure required
Access to Trenton Island	Ability to maintain access to Trenton Island	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives
Maintain or improve pedestrian/bicycle facilities on US 63 River Bridge and US 61 Overpass	Ability to maintain or improve pedestrian/bicycle facilities	Widens west side curb to a five foot sidewalk. 12 foot river crossing trail needs to be reduced to five feet at Bridge 9103. No separated bicycle facility. Maintains narrow right shoulder (used by bicyclists) on SB US 61 below Bridge 9103.	Widens west side curb to a five foot sidewalk. 12 foot river crossing trail needs to be reduced to five feet at Bridge 9103. No separated bicycle facility. Maintains narrow right shoulder (used by bicyclists) on SB US 61 below Bridge 9103.	Provides 12 foot separated multi-use trail at US 63 MN approach. Right shoulder (used by bicyclists) on SB US 61 below bridge can be widened to current standards.	Provides 12 foot separated multi-use trail at US 63 MN approach. Right shoulder (used by bicyclists) on SB US 61 below bridge can be widened to current standards.	Provides 12 foot separated multi-use trail at US 63 MN approach. Right shoulder (used by bicyclists) on SB US 61 below bridge can be widened to current standards.
OTHER CONSIDERATIONS						
Structural redundancy	Provide a structurally redundant river crossing	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives
Wisconsin Corridors 2030 Plan	Ability to meet stated LOS D or better objective	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives
Geometrics	Ability to accommodate truck turning paths	No improvement to the substandard turning radii at US 61/Plum Street and Plum Street/3rd Street	No major improvements to the substandard turning radii at US 61/Plum Street and Plum Street/3rd Street	No improvement to the substandard turning radii at US 61/Plum Street and Plum Street/3rd Street	Minor improvements to the substandard turning radii at US 61/Plum Street and Plum Street/3rd Street	Substantial improvement associated with reduction in turning truck traffic at the problem intersections
Economic development	Ability to maintain or improve traffic flow, based on City's goals/recommendations for promoting economic development	Continued degradation of downtown traffic flow and pedestrian environment not consistent with City's plans for economic development	Continued degradation of pedestrian environment, however, less degradation of motorized mobility compared to MN-1	Continued degradation of downtown traffic flow and pedestrian environment not consistent with City's plans for economic development	Continued degradation of pedestrian environment, however, less degradation of motorized mobility compared to MN-2	Reduction of truck and commuter traffic through downtown provides greater improvement in motorized and non-motorized mobility, consistent with City's plans for enhancing economic development
Parking	Increase or reduction of parking spaces	No change	Loss of 38 on-street stalls	No change	Loss of 38 on-street stalls	No change
Regulatory Requirements:						
Section 106	Potential for adverse effects on historic properties	No likely adverse effects identified.	Avoids impact to Bridge 9103. Likely adverse effect to Commercial Historic District from modifications to curbs and sidewalks (i.e., affect 'grid' that is character-defining feature).	Removes Bridge 9103 = Likely adverse effect.	Removes Bridge 9103 = Likely adverse effect. Likely adverse effect to Commercial Historic District from modifications to curbs and sidewalks (i.e., affect 'grid' that is character-defining feature).	Removes Bridge 9103 = Likely adverse effect.
\	Section 4(f) impacts	No impacts	Section 4(f) Impacts: 1) Requires acquisition of a portion of Dankers Park at Plum Street and 3rd Street (section 4(f) use); 2) adverse effect on Commercial Historic District would be a Section 4(f) use.	Section 4(f) Impacts: Requires removal of Bridge 9103 = adverse effect would be a Section 4(f) use.	Section 4(f) Impacts: 1) Requires removal of Bridge 9103 = adverse effect would be a Section 4(f) use; 2) adverse effect on Commercial Historic District would be a Section 4(f) use; 3) Requires acquisition of a portion of Dankers Park at Plum Street and 3rd Street (section 4(f) use).	Section 4(f) Impacts: Requires removal of Bridge 9103 = adverse effect would be a Section 4(f) use
Navigational channel	Ability to maintain navigational clearance requirements	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives	NA to MN approach alternatives
Section 404 water quality requirements	Accommodations to treat storm water runoff and meet required practices	No accommodations required to treat runoff from Bridge 9103, however new ponding will be required to address Bridge 9040 runoff.	No accommodations required to treat runoff from Bridge 9103, however new ponding will be required to address Bridge 9040 runoff.	Yes	Yes	Yes

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SOCIAL, ECONOMIC AND ENVIRONMENTAL IMPACTS						
	Number of parcels impacted	1 (for stormwater pond)	1 (for stormwater pond)	1 (for stormwater pond)	1 (for stormwater pond)	3 (for stormwater pond and button-hook)
Right-of-way impacts	Number of structures impacted; Number of relocations	1 (for stormwater pond); 0 relocations	1 (for stormwater pond); 0 relocations	1 (for stormwater pond); 0 relocations	1 (for stormwater pond); 0 relocations	3 (for stormwater pond and button-hook); 1 residential relocation
Social and Community	Cohesion [1] changes in street configurations; 2)connectivity within city]	1) No changes in street configurations. 2) Connectivity: No change to existing TH's looping through the downtown commercial historic district that City staff indicate 'sever' pedestrian access within downtown and between some residential neighborhoods and downtown.	1) No changes in street configurations. 2) Connectivity: No change to existing TH's looping through the downtown commercial historic district that City staff indicate 'sever' pedestrian access within downtown and between some residential neighborhoods and downtown.	1) No changes in street configurations. 2) Connectivity: No change to existing TH's looping through the downtown commercial historic district that City staff indicate 'sever' pedestrian access within downtown and between some residential neighborhoods and downtown.	1) No changes in street configurations. 2) Connectivity: No change to existing TH's looping through the downtown commercial historic district that City staff indicate 'sever' pedestrian access within downtown and between some residential neighborhoods and downtown.	1) Street configuration change: Requires severing East 3rd Street connection to Bluff Street. Similar level of access to Bluff Street from the neighborhood will be retained via 4th Street. 2) Connectivity: Beneficial change from decreases in TH traffic through downtown commercial historic district, decreasing the 'severing' effect identified by City staff.
	Community facilities impacted	No impacts	No impacts	No impacts	No impacts	May impact Bluff Community Garden.
Environmental Justice	Any disproportionate high and adverse impacts to minority or low income populations	No impacts	No impacts	No impacts	No impacts	City has identified the Bluff neighborhood as having a higher concentration of low income individuals as compared to the entire City. One residential acquisition identified in this neighborhood would not be a 'significant' impact. The EA will conduct a detailed assessment to determine whether any impacts, direct or indirect, (e.g., noise) are disproportionately high and adverse.
Economic	Potential loss of property tax revenue from property acquisitions	No impacts	No impacts	No impacts	No impacts	Minor loss of property tax collection due to removal of one residential property and a former warehouse now used for storage.
Floodplains	Impact to existing floodplains	No impacts	No impacts	No impacts	No impacts	No impacts
Natural resources	Wetlands	No impacts	No impacts	No impacts	No impacts	No impacts
	Mussels	No impacts	No impacts	No impacts	No impacts	No impacts
	Threatened & Endangered Species	No impacts	No impacts	No impacts	No impacts	No impacts
Hazardous Materials/Contamination	Contaminated materials impacts	Acquisition of a moderate to low risk contaminated parcel may be required for stormwater ponding	Acquisition of a moderate to low risk contaminated parcel may be required for stormwater ponding	Acquisition of a moderate to low risk contaminated parcel may be required for stormwater ponding	Acquisition of a moderate to low risk contaminated parcel may be required for stormwater ponding	Acquisition of a moderate to low risk contaminated parcel will be required
Noise	Potential change in noise levels at adjacent receptors	No change in proximity to noise receptors. No substantial changes in noise levels are anticipated.	No change in proximity to noise receptors. No substantial changes in noise levels are anticipated.	No change in proximity to noise receptors. No substantial changes in noise levels are anticipated.	No change in proximity to noise receptors. No substantial changes in noise levels are anticipated.	Includes new roadway segment in closer proximity to residential receptors. May result in increased noise levels for these receptors. Reduction in traffic levels in downtown may reduce noise levels for downtown receptors, including Dankers Park.
Air Quality	Impacts to adjacent receptors	No differentiating impacts anticipated	No differentiating impacts anticipated	No differentiating impacts anticipated	No differentiating impacts anticipated	No differentiating impacts anticipated
Visual Quality	Change in visual environment/change in views	No change	No change	Minor change given new US 61 overpass	Minor change given new US 61 overpass	More substantial change with new buttonhook and slip ramp to 3rd Street.
Cumulative Effects	Incremental SEE impacts from alternative plus foreseeable future actions	No cumulative SEE impacts anticipated, beyond the direct SEE impacts of the proposed alternative.	No cumulative SEE impacts anticipated, beyond the direct SEE impacts of the proposed alternative.	No cumulative SEE impacts anticipated, beyond the direct SEE impacts of the proposed alternative.	No cumulative SEE impacts anticipated, beyond the direct SEE impacts of the proposed alternative.	No cumulative SEE impacts anticipated, beyond the direct SEE impacts of the proposed alternative.
Relationship to Other Proposed Transportation Improvements	Relationship to Year 2015 Main Street Reconstruction Project	No substantive positive or negative impacts.	Negative impacts to pedestrian traffic would result from MN-1A increasing corner radii and narrowing sidewalks at the US 61/MN 58 intersection, which would lengthen ped crossings and be contrary to the improvements being made as a part of the US 61 Reconstruction project (year 2015). This conflicts with one of the goals of the project, which is to improve pedestrian mobility and safety by shortening ped crossing distances and reducing pedestrian exposure to motorized traffic.	No substantive positive or negative impacts.	Negative impacts to pedestrian traffic would result from MN-2A increasing corner radii and narrowing sidewalks at the US 61/MN 58 intersection, which would lengthen ped crossings and be contrary to the improvements being made as a part of the US 61 Reconstruction project (year 2015). This conflicts with one of the goals of the project, which is to improve pedestrian mobility and safety by shortening ped crossing distances and reducing pedestrian exposure to motorized traffic.	This alternative plus the Main Street project provide complementary benefits by MN-3 shifting traffic volumes at the US 61/MN 58 intersection from approach legs where bump-outs/ped crossing improvements are not being made to legs where bump-outs are being constructed as part of the Main Street Reconstruction project (year 2015). Traffic volumes due to MN-3 alternative would increase on US 61 east of Plum Street, which is outside of the downtown commercial historic district and outside the area where pedestrian improvements are being made with the Main Street reconstruction project. The two projects together would result in additive benefits to pedestrian traffic in the downtown commercial historic district.
COST						
Construction Cost Estimate 1/	2018\$	\$7,700,000	\$7,900,000	\$8,300,000	\$8,500,000	\$25,875,000
On-going Maintenance (20 years)	2018\$	\$3,500,000-\$4,100,000	\$3,500,000-\$4,100,000	\$1,300,000-\$1,500,000	\$1,300,000-\$1,500,000	\$1,300,000-\$1,500,000
Bridge Service Life	Number of years until major rehabilitation would be required	10 to 15 years, increased to 20 with cathodic protection 20 years	10 to 15 years, increased to 20 with cathodic protection 20 years	75	75	75

Notes
1/ Cost estimate reflects Minnesota approach improvements (to Minnesota-side river bridge abutment), right-of-way and contamination clean-up

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	<p>3535 VADNAIS CENTER DR. ST. PAUL, MN 55110 PHONE: (651) 490-2000 FAX: (651) 490-2150 WATTS: 800-325-2055 www.sehinc.com</p>	<p>Project: MNT06 119112 Print Date: 03/26/2014 Map by: shack Projection: Goodhue County NAD83ft Source: Goodhue County, MnDNR, City of Red Wing, MnGEO</p>	<h2>RED WING BRIDGE PROJECT</h2> <p>Change in Traffic Demand Alternative 1 and 2 vs. Alternative 3</p>	<h2>Figure 8</h2>
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This map is neither a legally recorded map nor a survey map and is not intended to be used as one. This map is a compilation of records, information, and data gathered from various sources listed on this map and is to be used for reference purposes only. SEH does not warrant that the Geographic Information System (GIS) Data used to prepare this map are error free, and SEH does not represent that the GIS Data can be used for navigational, tracking, or any other purpose requiring exacting measurement of distance or direction or precision in the depiction of geographic features. The user of this map acknowledges that SEH shall not be liable for any damages which arise out of the user's access or use of data provided.

Appendix C

New Bridge Location Feasibility Assessment Memorandum



MEMORANDUM

TO: Chad Hanson, MnDOT

FROM: Chris Hiniker, Project Manager

DATE: Revised July 2, 2012

RE: Red Wing Bridge Project - FINAL New Bridge Location Feasibility Assessment
SEH No. MNT06 119112 14.00

Purpose and Background

MnDOT initiated the Red Wing Bridge Project in December 2011. The project includes the US 63 (Eisenhower) Bridge over the Mississippi River and the US 63 Bridge over US 61, as well as the highway connections to US 61, Minnesota TH 58, and approach roadways in the State of Wisconsin. The Eisenhower Bridge carries US 63 across the river from Red Wing and connects to the state of Wisconsin. The bridge provides the only regional crossing of the river for over 30 miles upstream or downstream for several communities on both the Wisconsin and Minnesota sides of the river.

Completed in 1960, the Eisenhower Bridge is a steel truss through-deck bridge that crosses the Mississippi River main channel at Red Wing, Minnesota. The bridge is 1,631 feet long, 35 feet wide, and stands 65 feet above the river. The two lane bridge currently carries an average daily traffic count (ADT) of 13,300 vehicles per day (vpd) (2012 count).

As documented in the project's Purpose and Need Statement, the primary purposes of the project are to provide structurally sound crossings of the Mississippi River and US 61. Secondly, the project will study future capacity needs and the accommodation of pedestrian/bicycle traffic across the bridge. An additional consideration is that within the city of Red Wing US 63 intersects with US 61 and TH 58 and this area experiences circulation and congestion problems.

The river bridge project has been anticipated for many years in the Red Wing community. During the Downtown Red Wing Transportation Study process in 2005, there were discussions about possible river crossing options including the potential for moving the bridge to a different location. Although the focus of the Red Wing Bridge Project now underway is on the current structure and crossing location, given the history of the river bridge subject it is important to address the feasibility of options for moving the river crossing location.

This memorandum documents the identification and assessment of new river crossing locations for US 63 and determines the viability of carrying one or more new location options into the more detailed stages of the alternatives analysis process.

Alternatives Analysis Philosophy and Process

The basic philosophy in conducting an alternatives analysis is to follow a systematic process of defining a broad range of alternatives at a conceptual level and then progressing through an iterative process of assessing and screening at progressively greater levels of detail until a preferred alternative is selected. Key to this process in the early phases when a large number of options are being considered is to keep the analysis at a higher level and focus on identifying obvious fatal flaws. As the number of options is reduced, the level of detail increases and evaluation criteria for decision-making becomes more refined.

For bridge and other transportation corridor projects, the process of identifying alternatives typically begins by grouping potential improvement alternatives into one of two categories:

1. Existing Corridor Alternatives
2. New Corridor Alternatives

In the case of the Red Wing Bridge project the first group includes all alternatives using the existing river crossing location. The second group includes all alternatives that would establish a crossing at a new location. Options within the existing corridor are not addressed further in this memorandum but will be identified and assessed in detail as the study process advances.

The remainder of this memorandum focuses on identifying, assessing, and screening alternatives that involve a new crossing location for the US 63 river crossing. The conclusions from this process will be carried forward into the remainder of the alternatives development and evaluation process.

Identification and Assessment of New River Crossing Alternatives

As noted previously, within the broad context of US 63, connecting Minnesota and Wisconsin, and traffic issues in downtown Red Wing, discussions of new crossing locations have occurred informally for several years. However, no formal assessment has been completed.

In 2011, as part of MnDOT's efforts in developing the purpose and need statement for the river bridge project and proceeding with cultural resource investigations, an area of potential effect (APE) was identified. The APE delineates the area within which the range of improvement alternatives are anticipated to be located. The APE delineated for the Red Wing Bridge project extends from the existing river bridge upstream to approximately Broad Street. Given Barn Bluff, existing land uses, and the existing street network, the APE encompasses the potentially practical and feasible bridge crossing options in the Downtown Red Wing area.

Prior to moving forward with the assessment of new crossing locations within the APE, it is important to address and document the consideration of possible alternatives beyond the scope of the APE.

Potential New River Crossing Alternatives Outside the Area of Potential Effect

During the 2005 Transportation Study, the option of connecting at Bench Street west of the downtown area was discussed. However the feasibility of this option, see Figure 1, was not assessed during that process because it was beyond the study's scope.

The primary rationale to consider moving the river crossing to Bench Street from the current location includes the following:

- Bench Street is a major county arterial roadway (County State Aid Highway 1) that extends southwest across Goodhue County connecting with Highway 52.
- Bench Street provides a more direct access from Wisconsin to some of the larger retail centers as well as the Red Wing Medical Center.

Furthermore, in considering a new river crossing outside the immediate downtown area, it is practical to conclude that the only potentially feasible location is at Bench Street given the following factors:

- The course of the Mississippi River;
- Prominent topographical features such as Barn Bluff;

- A limited arterial and collector road network to connect with a new river crossing;
- Existing land uses;
- Extensive wetlands and floodplain;
- Extensive parkland and conservation lands, historic resources, and wildlife areas.

However, moving the river crossing to Bench Street introduces many impacts and challenges including:

- Substantial additional wetland and floodplain impacts (in Minnesota and Wisconsin);
- Removes the established crossing in the downtown area;
- Introduces additional travel and roadway length for traffic on TH 63;
- Removes more direct connection to Trunk Highway 58;
- Introduces significantly greater roadway construction costs as compared to any river crossing option in the downtown area;
- New crossing in a major bend of the navigable Mississippi River waterway;
- Requires additional and longer bridges;
- Impacts to the Upper Harbor conservation lands including Bay Point Park which is both a Section 4(f) and LAWCON/Section 6(f) resource;
- Probable need to conduct an Environmental Impact Statement (EIS);

Given these issues and impacts, it is reasonable to conclude it is more logical to pursue alternatives in the already established APE. Furthermore, the option of a new crossing at Bench Street will not be revisited unless all options within the APE are found to result in impacts approaching those associated with a relocated crossing connecting at Bench Street.

Potential New River Crossing Alternatives within the Area of Potential Effect

The area within which additional river bridge alternative corridors will be considered includes locations immediately upstream, but still within Downtown Red Wing.

Given existing land uses and the established street network, the number of alternatives for new river crossing locations is limited to three, as illustrated on Figure 2. The three alternatives include:

- Plum Street
- Bush Street
- Broad Street

None of these options have been formally addressed as part of previous studies such as the 2005 Transportation Study. The primary characteristics and trade-offs associated with each alternative are presented below.

Plum Street Alternative

- Closest to the existing river crossing;
- Provides direct connection to Trunk Highway 58;
- Furthest of the three new location alternatives from the Mississippi River bend;
- Introduces lower speed reverse curve on the Wisconsin approach to the bridge;

- Crosses Levee Park;
- Least encroachment into the downtown area historic districts of the three new location alternatives;
- Establishing an at-grade connection at US 61 results in:
 - steep approach roadway grades
 - substantial impacts to ADM access
 - closing only access to upper level of the LaGrange municipal parking garage
 - substantial visual/sightline impacts to adjacent buildings, including several historic structures
- Impacts the Marina campground area operations greater than the Broad Street Alternative.

Bush Street Alternative

- Provides direct connection to Bush Street requiring heavier turning movements to access regional roadways;
- Closer to the Mississippi River bend as compared to the existing crossing and the Plum Street alternative;
- Introduces lower speed reverse curve on the Wisconsin approach to the bridge;
- Requires greater bridge length compared to the existing crossing and Plum Street Alternative;
- Crosses Levee Park;
- Impacts Levee Street approach to TH 61;
- Along with the Broad Street alternative, introduces the greatest encroachment into the downtown area historic districts, including the St. James Hotel;
- Establishing an at-grade connection at US 61 results in:
 - steep approach roadway grades
 - substantial impacts to St. James Hotel historic district;
 - impacts access to lower level of the LaGrange municipal parking garage
 - substantial visual/sightline impacts to adjacent buildings
- Impacts the Marina campground area operations greater than the Broad Street Alternative.

Broad Street Alternative

- Provides direct connection to Broad Street requiring heavier turning movements to access regional roadways;
- Closest of the three new location alternatives to the Mississippi River bend.
- Introduces lower speed reverse curve on the Wisconsin approach to the bridge;
- Requires greater bridge length compared to the existing crossing and Plum Street Alternative;
- Closest of the three new location alternatives to the historic depot;
- Impacts Levee Street approach to TH 61;
- Along with the Bush Street alternative, introduces the greatest encroachment into the downtown area historic districts, including the St. James Hotel;
- Establishing an at-grade connection at US 61 results in:
 - steep approach roadway grades
 - substantial impacts to St. James Hotel historic district;
 - substantial visual/sightline impacts to adjacent buildings

A plan and profile was developed for the Plum Street alternative to provide additional details to determine the technical feasibility of the new location alternatives. The Plum Street alternative was recommended for more detailed assessment over the other two alternatives because it is furthest from the river bend, avoids direct impacts to the St. James Hotel historic district, and provides a direct connection to TH 58. Furthermore the Plum Street alternative is representative of the other alternatives, since each has similar horizontal and vertical characteristics relative to grade changes and distance between the river and US 61.

The conceptual plan and profile for a new river crossing at Plum Street is illustrated in Figure 3. The profile was developed assuming a river crossing with the same horizontal and vertical clearance characteristics as the existing river bridge which are 421 feet horizontal clearance and a minimum of 64 feet vertical clearance. The profile indicates that with approach roadway grades exceeding five percent on the Minnesota side and potentially the Wisconsin side, the vertical clearance specifications of the existing bridge are not met. As a result, the approach roadways will need to be designed with steeper grades than shown on the graphic. The combination of steep approach grades as well as the reverse curves in the Wisconsin approach raise safety concerns given the function and purpose of Highway 63. The alignment depicted on Figure 3 creates an approach roadway on the Minnesota side that is approximately nine feet higher than the existing grade of Plum Street at the current access to ADM and the upper level of the LaGrange parking ramp. Any increase in grades for the approach roadway will increase the difference between existing and proposed grades at these locations.

In conclusion, each of the three new locations has very substantial design challenges given the close proximity and vertical grade differences between the river and US 61. In addition, each alternative would introduce substantial impacts to parklands, historic resources, commercial and industrial land uses, and the existing visual setting and sightlines in Downtown Red Wing. Furthermore, a May 14, 2012 letter from the Coast Guard states that the three alternatives are not acceptable from a navigational standpoint due to the proximity of the river bend.

Findings

- The assessment of new river crossing locations concluded that Bench Street was the only potentially viable option outside the Downtown Red Wing area. However, given a range of impacts and/or challenges the Bench Street alternative should not be revisited unless all alternatives in the downtown area are found to result in impacts and/or challenges approaching or exceeding those associated with the Bench Street option.
- The assessment of new river crossing locations within Downtown Red Wing concluded there are very substantial technical issues as well as substantial social, economic, and cultural impacts associated with new river crossing location alternatives in the downtown area. As a result, these options are not recommended for further study at this time.
- Given the substantial issues associated with the range of new river crossing alternatives assessed in this memorandum, it is reasonable to conclude the Red Wing Bridge Project should focus on identifying and evaluating all potentially viable bridge rehabilitation or replacement options within the existing river crossing location. If the analysis of alternatives at the existing crossing location concludes there are no reasonable and feasible options, then the study process may revisit potential new location alternatives. Furthermore, if any alternative at the existing crossing location results in Section 4(f) or Section 106 impacts then consideration of avoidance alternatives, potentially including new location options, will be required.

ah

Attachments

s:\ko\m\mnt06\119112\correspondence\memos\new location memo\red wing bridge_final new bridge location feasibility assessment memo 5-2-12 (revised 5-14-12, 5-29-12, 7-2-12).docx



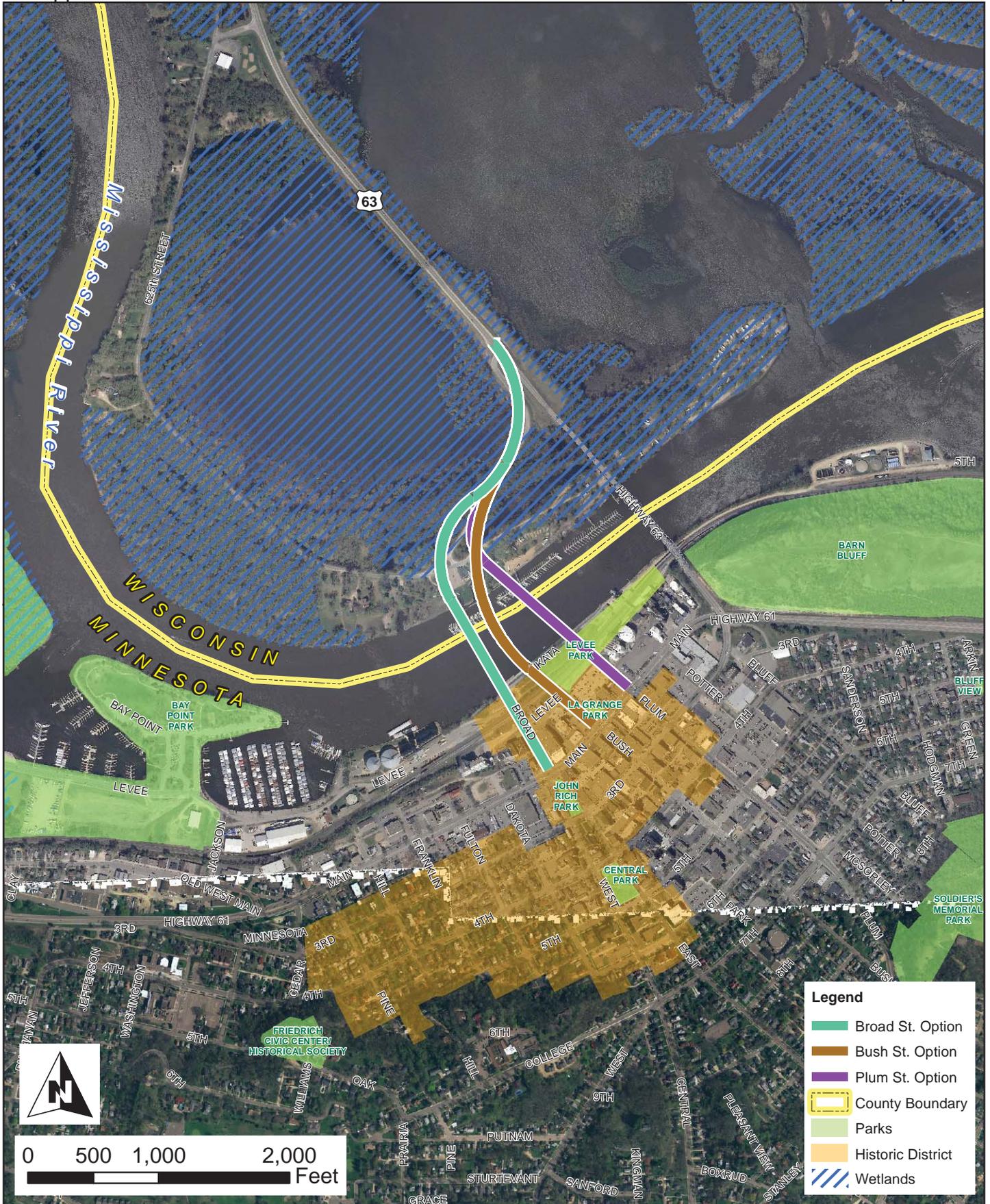
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Legend

- Bench St. Option
- County Boundary
- Parks
- Historic District
- Wetlands

	Project: MNT06 119112 Print Date: 5/15/2012	<h2>RED WING BRIDGE PROJECT</h2> <h3>Bench Street Option</h3>	<h1>Figure 1</h1>
	Map by: SrH Projection: Goodhue HARN NAD83 Ft Source: City of Red Wing, MnDOT, Goodhue County, and SEH.		

This map is neither a legally recorded map nor a survey map and is not intended to be used as one. This map is a compilation of records, information, and data gathered from various sources listed on this map and is to be used for reference purposes only. SEH does not warrant that the Geographic Information System (GIS) Data used to prepare this map are error free, and SEH does not represent that the GIS Data can be used for navigational, tracking, or any other purpose requiring exacting measurement of distance or direction or precision in the depiction of geographic features. The user of this map acknowledges that SEH shall not be liable for any damages which arise out of the user's access or use of data provided.



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- Legend**
- Broad St. Option
 - Bush St. Option
 - Plum St. Option
 - County Boundary
 - Parks
 - Historic District
 - Wetlands



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 Feet



Project: MNT06 119112
 Print Date: 5/15/2012
 Map by: SrH
 Projection: Goodhue HARN NAD83 Ft
 Source: City of Red Wing, MnDOT,
 Goodhue County, and SEH.

RED WING BRIDGE PROJECT
 Downtown New Location Options

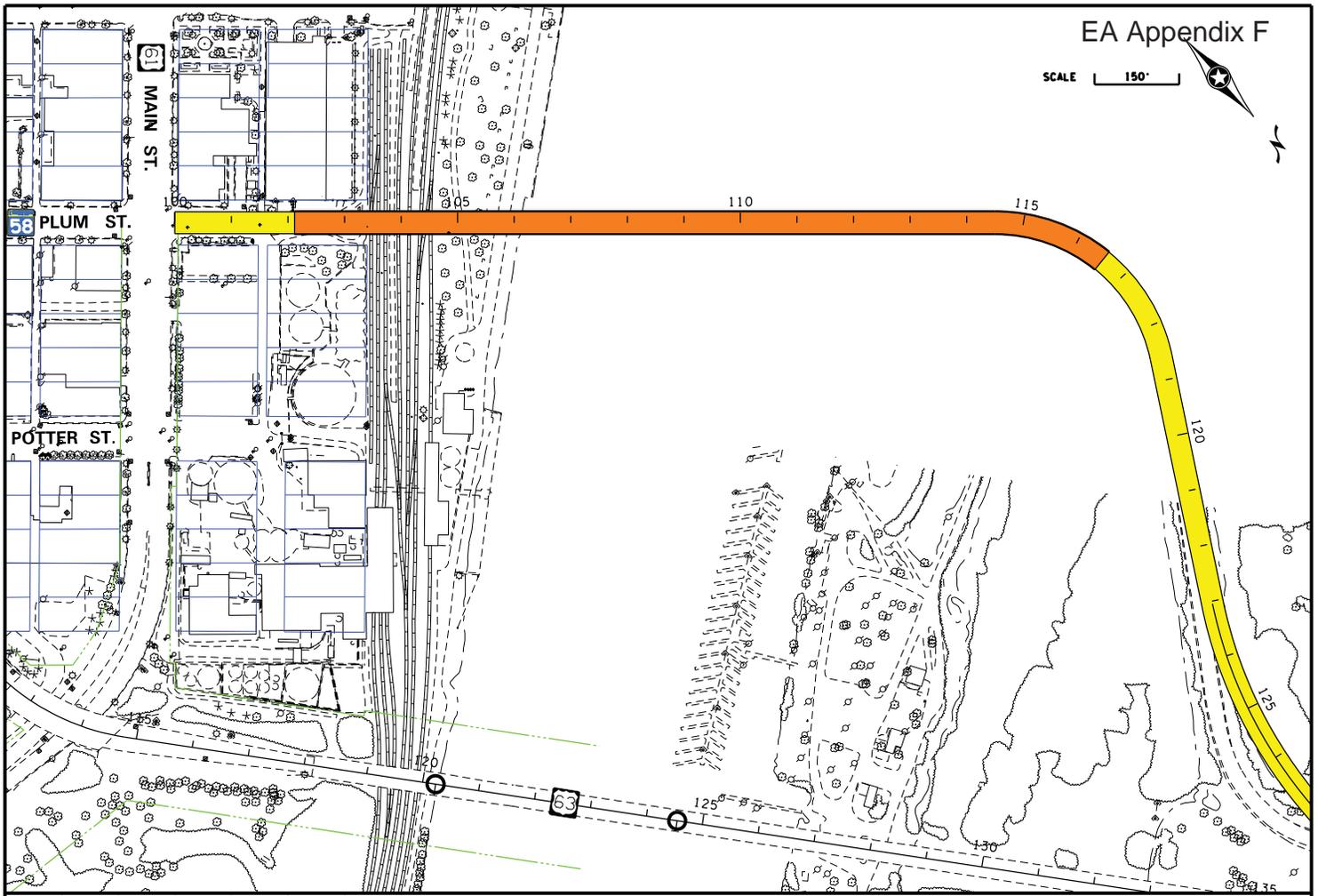
Figure
 2

This map is neither a legally recorded map nor a survey map and is not intended to be used as one. This map is a compilation of records, information, and data gathered from various sources listed on this map and is to be used for reference purposes only. SEH does not warrant that the Geographic Information System (GIS) Data used to prepare this map are error free, and SEH does not represent that the GIS Data can be used for navigational, tracking, or any other purpose requiring exacting measurement of distance or direction or precision in the depiction of geographic features. The user of this map acknowledges that SEH shall not be liable for any damages which arise out of the user's access or use of data provided.



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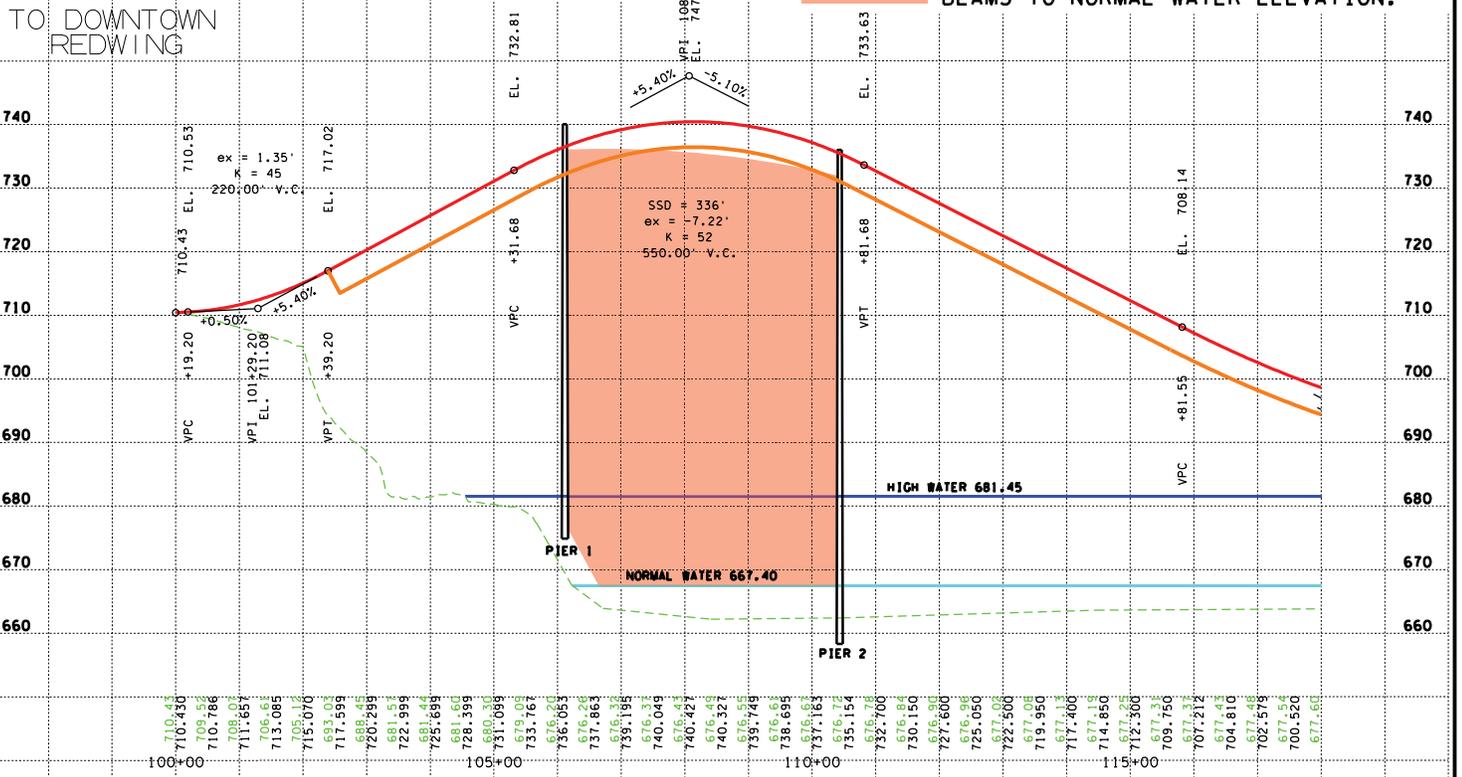
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EX. BRIDGE PIER 1 TO PIER 2
CLEARANCE FROM BOTTOM OF BRIDGE
BEAMS TO NORMAL WATER ELEVATION.

8.5X11

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FILE NO.
119112
DATE:
5/14/2012



TH 63 / TH 61
RED WING, MINNESOTA

PLUM STREET
ALTERNATIVE
NEW BRIDGE LOCATION
PLAN & PROFILE

FIGURE
3

Appendix G: List of Commitments

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List of Commitments

Environmental Assessment/Environmental Assessment Worksheet US 63 River Bridge and Approach Roadways Project SP 2515-21 (MN) / Project IDs 7210-00-76 and 7210-00-78 (WI)

This list below presents the commitments to be carried out by the project proposers to offset or minimize impacts, comply with agency requests, or complete agreements made during agency coordination during the NEPA process. In general, the resources are presented in the order they are addressed in the EA/EAW. The commitments referenced in this document pertain to the specific obligations agreed upon for this action during pre-design/NEPA phases of the project development process. The intention of this List of Commitments is to provide a mechanism for tracking transfer and completion of project commitments from the NEPA process, through final design and permitting, then to development of plans and specifications, then to construction and, if applicable, to post-construction/maintenance. The NEPA commitments are listed in this document, including information on when it is anticipated that they would be implemented during future project development stages (e.g., final design, construction, etc.). However, this is a ‘living’ document – and as additional information on how the project will be designed, bid and constructed is decided, some of the implementation assumptions may change (e.g., due to design-build (D-B) or construction manager-general contractor (CMGC) contracting used in lieu of traditional design-bid-build). Also, additional (non-routine) commitments may be added as a result of permit conditions, etc. As changes or additions are made during future stages of project development, they must be tracked by the MnDOT Project Manager in a way that completion of the original NEPA commitments can be tracked and documented. Throughout the future project development stages, the chain of custody table will be used to track transfer of responsibility for ensuring commitments are being conveyed and implemented (e.g., during transfer from the pre-design project manager to the final design project manager). Also, as commitments are completed, the date of completion and the party/person documenting completion of the commitment should be noted – see the columns provided for ‘status’, ‘completion date’ and ‘sign off’ in the table starting on page 2.

Project Description

The project has three main components: the primary river crossing bridge, the Minnesota approach, and the Wisconsin approach. Recommended alternatives for each component are described below.

River Crossing

The river crossing Preferred Alternative is to replace the existing river bridge with a two-lane steel box girder bridge immediately upstream from the current crossing.

Minnesota Approach

The Minnesota approach Preferred Alternative is to construct a button-hook intersection with a slip ramp. This alternative includes replacing the US 61 overpass with a new three-lane structure and button-hook ramp configuration that reorients the connection of US 63 to US 61 immediately east of downtown Red

Wing. This alternative also includes a one-way slip-ramp which provides an option for southbound US 63 traffic to continue to have a direct access to downtown Red Wing and MN 58 via 3rd Street.

Wisconsin Approach

The Wisconsin approach Preferred Alternative is to construct a jughandle intersection at 825th Street. This design provides a four-legged intersection with a median on US 63.

List of Commitments

Commitment	Status Update Description	Status Update Date	Completion Date	Completion Signed Off By (Name)
River Bridge Demolition and New Construction				
Done in Design	<p>A contingency plan will be in place for removal of temporary structures for the high water events that may occur during the course of the project.</p> <p>Demolition plans for the existing river bridge will need to be consistent with requirements of the Minnesota and Wisconsin DNR. For example, WisDOT in correspondence that existing bridge demolition should adhere to Wisconsin's STSP 203-020, <i>Removing Old Structure Over Water With Minimal Debris</i>.</p>			
Done in Construction	Fill in as appropriate			
Done Post-Construction	Fill in as appropriate			
No Further Work Required	Fill in as appropriate			
Vegetation/Habitat/Sensitive Species				
Done in Design	<p>MnDOT will incorporate into the project specifications all appropriate Wisconsin and Minnesota DNR rules for controlling the spread of invasive species.</p> <p>In order to minimize the potential for impacts to fishery resources (e.g., fish spawning and migration), MnDOT will continue to work with the Minnesota and Wisconsin DNRs to identify practices and/or work restrictions/exclusion dates.</p> <p>The mussel survey completed in August 2013 may need to be revised dependent on construction start date. The existing mussel survey expires in 2018. In addition, a revised mussel survey would also be required if potential areas of impact defined for the original survey change. MnDNR and WDNR are coordinating efforts to address mussel mitigation as appropriate.</p>			

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Commitment	Status Update Description	Status Update Date	Completion Date	Completion Signed Off By (Name)
<p>Done in Construction</p> <p>Prior to bridge demolition, the bridge will be inspected for falcon nests. If the survey identifies falcon nesting on the bridge, MnDOT will work with the Minnesota and Wisconsin DNR agencies to identify measures to avoid falcon nesting impacts.</p> <p>WDNR noted the existing bridge structure will need to be inspected and surveyed for bats and bat roosting habitat. If the survey identifies a roosting bat population on the bridge, MnDOT will work with WDNR (and other agencies, if applicable) to ensure that appropriate measures are taken to minimize impacts to any roosting population.</p> <p>Temporary fill needed for heavy equipment access for bridge construction would be removed to original grade and re-planted with appropriate plant species soon after construction is complete.</p> <p>If netting is used on the existing river bridge, it will be properly maintained and removed as soon as the nesting period is over. If these measures are not practicable, then the U.S. Fish and Wildlife Service will be contacted to apply for a depredation permit.</p> <p>At areas adjacent to Public Waters, disturbed soils will be revegetated with native plant species suitable to the local habitat. In addition, weed-free mulch will be used.</p> <p>Per the WDNR, if burning brush will occur as part of this project, the contractor will be informed that it is illegal to burn materials other than clean wood. In addition, a permit may be required to burn any material during the wildland fire season. Contractors would be required to follow MnDOT Standard Specification 2572.3.A.9, which says that wounding of trees during April, May, June, and July should be avoided to prevent the spread of oak wilt. If it is determined that work must take place near oak trees during those months, the resulting wounds will immediately be treated with a wound dressing material consisting of latex paint or shellac.</p> <p>Adequate precautions will be taken to prevent transporting or introducing invasive species and/or aquatic diseases via construction equipment as required by Wisconsin and Minnesota DNR regulations.</p>				
Done Post-Construction	Fill in as appropriate			
No Further Work Required	Fill in as appropriate			
Public Waters and Wetlands				
Done in Design	<p>Any temporary stage increase as a result of construction staging, like the recommended temporary construction causeway, will have to be analyzed for compliance with the 100-year flood stage requirement.</p> <p>Unavoidable wetland impacts resulting from bridge demolition and construction of the proposed river bridge, associated roadway approaches, construction staging activities, heavy equipment access, and tree clearing will be mitigated through the purchase of wetland mitigation credits (as in Minnesota) or debited from existing mitigation bank sites (as in Wisconsin) from an existing bank as near to the impacts as possible.</p>			
Done in Construction	Per the Wisconsin DNR (WDNR), NR 116 Floodplain Management standards must be met and the causeway must be clearly marked for safety as coordinated and approved by the U.S. Coast Guard.			

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Commitment		Status Update Description	Status Update Date	Completion Date	Completion Signed Off By (Name)
Done Post-Construction	Fill in as appropriate				
No Further Work Required	Fill in as appropriate				
Water Use					
Done in Design	Fill in as appropriate				
Done in Construction	Dewatering will comply with Wisconsin State Regulations (Trans 401 and NR 151) and the MPCA and WDNR NPDES Construction Stormwater Permit, and shall be discharged in a manner that does not create nuisance conditions or adversely affect the receiving water or downstream properties.				
Done Post-Construction	Fill in as appropriate				
No Further Work Required	Fill in as appropriate				
Water Surface Use/River Navigation					
Done in Design	Fill in as appropriate				
Done in Construction	Temporary interruptions to the navigational channel would need to be coordinated with the U.S. Army Corps of Engineers, the U.S. Coast Guard, and barge operators. Recreational boating activities may also be temporarily impacted, and notification would be provided at local marinas and public access. All construction impacts to the navigational channel will be coordinated with the U.S. Army Corps of Engineers, U.S. Coast Guard, and other relevant stakeholders as required by rules and regulations.				
Done Post-Construction	Fill in as appropriate				
No Further Work Required	Fill in as appropriate				
Water Quality					

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Commitment		Status Update Description	Status Update Date	Completion Date	Completion Signed Off By (Name)
Done in Design	<p>A Stormwater Pollution Prevention Plan (SWPPP) will be developed for the project.</p> <p>BMPs will be coordinated with MnDNR and WDNR, as appropriate, during final design to determine the best methods for minimizing the project's effects on water quality.</p> <p>Work in the Mississippi River below the ordinary high water mark will comply with all stormwater permits and WDNR and MnDNR water permits by providing appropriate sediment control BMPs and perimeter control methods.</p>				
Done in Construction	<p>To mitigate for runoff rate/volume increases, BMPs will be installed on both the Minnesota and Wisconsin sides of the project.</p> <p>Pretreatment devices such as sump manholes or other BMPs will be installed to capture large sediment and debris prior to discharge into the river.</p>				
Done Post-Construction	Fill in as appropriate				
No Further Work Required	Fill in as appropriate				
	Fill in as appropriate				
Erosion and Sedimentation					
Done in Design	Erosion prevention and sediment control requirements will be followed in accordance with the NPDES permit, which includes both temporary and permanent erosion and sediment control plans as well as other BMPs to protect the resource waters. BMPs contained in MnDOT's standard specifications, details, and special provisions will be used. WisDOT standard specifications, details, and special provisions will be followed for work conducted on the Wisconsin side of the river.				
Done in Construction	Fill in as appropriate				
Done Post-Construction	Fill in as appropriate				
No Further Work Required	Fill in as appropriate				
Solid Wastes, Hazardous Wastes, Storage Tanks					

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Commitment	Status Update Description	Status Update Date	Completion Date	Completion Signed Off By (Name)
<p>Done in Design</p> <p>Wiring must be tested prior to being disturbed for the demolition of the existing river bridge and US 61 overpass structures. If found to contain asbestos, it must be removed by a licensed asbestos-abatement control from OES's list of Certified Contractors. Any Transite pipe found along guardrail must be handled in the same manner.</p> <p>Additional site assessment for specific locations in the project area with risk potential will be conducted, as necessary, when site access becomes available in final design stages.</p> <p>Findings of any necessary further evaluation, like a Phase II Environmental Site Assessment, could result in the need to prepare a response action plan or to include special provisions in construction specifications for properly handling contaminated materials during construction. Any soil and groundwater handling activities would be coordinated with appropriate local, state, and federal regulatory agencies.</p>				
<p>Done in Construction</p> <p>The existing river bridge contains lead materials that must be handled per rules and regulations. These materials must be separated out and taken to a lead smelter or other recycling facility for proper handling. Documentation is required showing the recycler received the material.</p> <p>Peeling lead paint must be encapsulated by contractors with an elastomer product that meets the U.S. Environmental Protection Agency's definition as "barrier coating."</p> <p>Treated wood must be disposed of at an MPCA-approved sanitary or industrial waste landfill. Documentation of proper wood disposal must be kept on file.</p> <p>The existing US 61 overpass contains lead materials that must be handled per rules and regulations. These materials must be separated out taken to a lead smelter or other recycling facility for proper handling. Documentation is required showing the recycler received the material.</p> <p>Appropriate safety measures will be followed during construction to avoid spills. Leaks, spills, or other releases will be responded to in accordance with MPCA and/or WDNR spill, containment and remedial action procedures.</p> <p>Any regulated wastes encountered during the project's construction phase will be handled and disposed of according to applicable state, federal, and MnDOT policies and regulations.</p> <p>Bridge demolition and other removals will require the removal and disposal of asbestos-containing waste, lead, treated wood, or other hazardous materials. These will be handled in accordance with MnDOT and/or WisDOT guidelines.</p>				
<p>Done Post-Construction</p> <p>Fill in as appropriate</p>				
<p>No Further Work Required</p> <p>Fill in as appropriate</p>				
Vibrations, Dust, and Noise				
<p>Done in Design</p> <p>In areas where there is a potential for vibration impacts, susceptible structures would be monitored by performing pre-construction assessment of existing buildings, susceptibility of vibration analysis of these buildings, coordination with owners, and monitoring during the vibration-causing activity.</p>				

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Commitment	Status Update Description	Status Update Date	Completion Date	Completion Signed Off By (Name)
Done in Construction	<p>MnDOT would require that construction equipment be properly muffled and in proper working order. Advanced notice would be provided to the affected communities prior to any planned loud construction activities.</p> <p>The use of jack hammers, pile drivers, and pavement sawing equipment would be prohibited during nighttime hours.</p> <p>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.</p>			
Done Post-Construction	In areas where there is a potential for vibration impacts, susceptible structures would be monitored by performing a post-construction assessment of buildings.			
No Further Work Required	Fill in as appropriate			
Infrastructure and Community Facilities				
Done in Design	Safe access for non-motorized users, as a result of detours, closures, and other inconveniences during the construction phases, will be included in phasing and MOT plans.			
Done in Construction	Fill in as appropriate			
Done Post-Construction	Fill in as appropriate			
No Further Work Required	Fill in as appropriate			
Aviation				
Done in Design	If cranes will be used for construction, the Federal Aviation Administration will need to be notified to complete an airspace obstruction analysis and FAA Form 7460-1 will be required.			
Done in Construction	Fill in as appropriate			
Done Post-Construction	Fill in as appropriate			
No Further Work Required	Fill in as appropriate			

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