

SECTION 6
MEASURES TO MINIMIZE ADVERSE EFFECTS

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Section 6 discusses measures to minimize harm during construction and lists commitments that are made as part of the National Environmental Policy Act (NEPA) process. This section is essentially the same as presented in the 2014 Limited Scope Supplemental Final Environmental Impact Statement (LS SFEIS) except sections have been updated as more information has become available through the design process.

Yellow highlight signifies updates since the May 2018 Limited Scope Supplemental Draft Environmental Impact Statement (LS SDEIS). Minor changes to grammar, punctuation, and usage are not highlighted. Highlighting of a figure or table title signifies updated or new information.

Section 101(b) of NEPA requires that federal agencies incorporate into project planning all practicable means to avoid environmental degradation; preserve historic, cultural, and natural uses; and promote the widest range of beneficial uses. Section 6 summarizes concept-level impact mitigation commitments for the WIS 23 improvement project and lists specific commitments. Proposed mitigation measures reflect comments received from the public and agencies.

Agency coordination since the 2014 LS SFEIS has included the following:

1. An updated wetland delineation by the Wisconsin Department of Transportation (WisDOT) and the Wisconsin Department of Natural Resources (WDNR) in summer and fall of 2017.
2. Coordination with WDNR regarding updating rare species within the corridor in August 2017.
3. Coordination with expert panel and an Indirect Effects Workshop in October 2017.
4. Coordination with WDNR regarding funding sources used for the Wade House Historic Site.

An agency meeting was held on October 10, 2017 to update state and federal agencies of WisDOT's and the Federal Highway Administration's (FHWA's) intention to prepare a Limited Scope Supplemental Environmental Impact Statement (LS SEIS). A conference call with agencies was held on July 19, 2018 to discuss the review of the 2018 LS SDEIS and information supporting Concurrence Point 2. A conference call with agencies was held on August 16, 2018 to review information supporting Concurrence Point 3 and the Least Environmentally Damaging Practicable Alternative (LEDPA) determinations.

A local officials meeting and public involvement meeting were held on October 12, 2017, both at University of Wisconsin (UW) Fond du Lac. The meetings highlighted the status of the project, the intent to prepare a LS SEIS, the purpose and need, and the Range of Alternatives Carried Forward for Detailed Study being evaluated. A public hearing on the 2018 LS SDEIS was held on June 19, 2018 at UW Fond du Lac. Section 7 contains a summary of the comments received at the hearing. WisDOT will continue agency coordination efforts as well as opportunities for public involvement through the construction phase of the project.

6.1 ACCESS DURING CONSTRUCTION

A transportation management plan (TMP) will be developed and implemented to ensure reasonably convenient access to all residences, businesses, farm parcels, community services, and local roads during construction. Work will be staged to minimize disruption during the construction period. To minimize delays to emergency vehicles, WisDOT will coordinate construction activities, staging, and traffic management plans with local fire, police, and emergency rescue districts. Traffic flow will be maintained during construction to the maximum extent possible. Lengthy detours will be minimized; however, it is anticipated that, for various durations, side-road connections will be closed to accommodate construction activities directly at the intersection.

Specific Project Commitments:

Passing Lane Alternative: WIS 23 will be closed during construction surrounding the areas where passing lanes will be added, but access will be maintained. Side-road access will be closed and detour routes will be posted. Reasonable and convenient access will be maintained during construction. A TMP would be developed and implemented during construction.

Hybrid Alternative: During the construction of the Sheboygan County section of WIS 23 the roadway will be closed, but access will be maintained. Side-road access will also be closed and detour routes will be posted. For the Fond du Lac County section of WIS 23 at least two lanes of traffic (one lane in each direction) will be open during construction. Short-term closures may be needed for beam placement at

overpasses and interchanges. Side-road access to WIS 23 will be intermittently closed to accommodate construction activities. A TMP would be developed and implemented during construction.

4-lane On-alignment Alternative (Preferred Alternative): WIS 23 will remain open during construction with at least two lanes of traffic (one lane in each direction). Short-term closures may be needed for beam placement at overpasses and interchanges. Side-road access to WIS 23 will be intermittently closed to accommodate construction activities. A TMP would be developed and implemented during construction.

6.2 AESTHETICS

Measures to minimize adverse aesthetic impacts will include roadway design features to blend existing landscape, planting, and natural vegetation on the cut and fill slopes. WisDOT will preserve the existing vegetation as much as possible.

Specific Project Commitments:

Efforts will be made to minimize potential aesthetic impacts of the WIS 23 expansion in the area of the Niagara Escarpment. This will include following the existing topography to the extent possible.

6.3 NOISE AND AIR QUALITY

To reduce the short-term impacts of construction noise, the special provisions for this project will require that motorized equipment be operated in compliance with all applicable local, state, and federal laws and regulations on noise levels permissible within and adjacent to the project construction site.

For projected traffic noise, a noise analysis was performed for the 4-lane On-alignment Alternative for the most conservative results. The analysis indicates the Noise Level Criteria found in WisDOT's Noise Policy Facility Development Manual (FDM) Chapter 23 will be approached or exceeded at various locations throughout the project corridor. Therefore, the project will result in noise impacts or exacerbation of existing impacts.

Since it has been determined that noise impacts will result from this project, WisDOT analyzed whether noise mitigation was reasonable, feasible, and likely to be incorporated into the project. Noise mitigation may be achieved through a variety of measures that modify the noise source, noise path, or receiver characteristics. The most common type of noise mitigation in Wisconsin is the construction of noise barriers. The analysis showed that noise barriers are not considered reasonable for WIS 23 receptors exceeding the Noise Level Criteria.

For a noise barrier to be reasonable, the total cost for a project may not exceed \$47,000 per benefited receptor and meet the criteria described in Section 4.7 D-3.

The noise barrier analysis indicated that effective noise barriers for this project would either require walls that are too high to be feasible or would exceed the cost limit per benefiting receptor. Because mitigation techniques on this project are not feasible and reasonable, noise abatement is not proposed.

The build alternatives will have greater traffic volumes than the No-Build Alternative, and consequently more vehicle emissions. Advances in motor vehicle technology may offset the effect of these emissions. See Section 4.4 and Section 4.7 D-1 for more information regarding air quality.

Several examples of voluntary control measures contractors could implement to reduce the emissions of diesel vehicle pollutants will be cited in the Construction Contract Special Provisions for the project. These voluntary control measures include reducing idling, properly maintaining equipment, using cleaner fuel, and retrofitting diesel engines with diesel emission control devices. By reducing unnecessary idling at the construction site, emissions will be reduced and fuel will be saved. Proper maintenance of the diesel engine will also allow the engine to perform better and emit less pollution through burning fuel more efficiently. Switching to fuels that contain lower levels of sulfur reduces particulate matter. Using ultra-low sulfur diesel does not require equipment changes or modification. Using fuels that contain a lower level of sulfur also tend to increase the effectiveness of retrofit technologies. Retrofitting off-road construction equipment with diesel emission control devices can reduce particulate matter, nitrogen oxides, carbon monoxide or hydrocarbons, and other air pollutants. Diesel particulate filters can be used to physically trap and oxidize particulate matter in the exhaust stream, and diesel oxidation catalysts can be used to oxidize pollutants in the exhaust stream.

Dust control will be accomplished in accordance with the WisDOT Standard Specifications, which require application of water or other approved dust control methods during grading operations on haul roads and, in the case of WIS 23, the mainline. The location and operation of asphaltic batch plants will follow the Standard Specifications and any special provisions developed during coordination with WDNR regarding

air quality standards and emissions. Any portable material plants will be operated in accordance with WDNR air quality requirements and guidelines. Demolition and disposal of structures are regulated under the WDNR's asbestos renovation and demolition requirements (Wisconsin Administrative Code, Chapter NR 447). WisDOT conformed with this code for the razing contracts for the 46 properties that have had their buildings removed since the 2014 LS SFEIS (before the Record of Decision (ROD) was vacated). WisDOT will continue to conform with NR 447 in future razing contracts.

Specific Project Commitments:

A notice has been sent to adjacent municipalities notifying them that noise levels adjacent to the roadway will impact properties and that they should consider these impacts in their land use plans.

6.4 PROPERTY ACQUISITION

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended provides for payment of just compensation for property acquired for a federal aid project. In addition to acquisition price, costs for the replacement dwelling or business location, moving expenses, increased rental or mortgage payments, closing costs, and other valid relocation costs are covered. No person or business will be displaced unless a comparable replacement dwelling or business location, or other compensation where a suitable replacement business location is not practicable, is provided. The above compensation is available to all displaced persons without discrimination.

Before property acquisition activities begin, property owners are contacted with an explanation of the details of the acquisition process and Wisconsin's Eminent Domain Law under Section 32.05, Wisconsin Statutes. One or more professional appraisers inspect each property. The property owner is invited to accompany the appraiser during the property inspection. An independent property appraisal by the owner can also be provided. Based on the appraisal(s) made, the value of the property will be determined and an amount offered to the owner.

Property acquisition not involving residential, business, or other building relocations is also compensated in accordance with state and federal laws. In consultation with affected landowners, the required right of way or access rights will be appraised and the owner compensated at fair market value. The property owner may obtain an independent appraisal. If an agreement on the fair market value cannot be reached, the property owner will be advised promptly of the procedure to follow in making an appeal.

Septic tanks, drain fields, or wells on properties that have been or will be acquired will be abandoned by state regulations and local zoning standards.

Specific Project Commitments:

None. There are no specific project commitments above the standard commitments listed above. Many property owners requested that their property be acquired early, before the plat has been prepared. WisDOT has accommodated these requests to the extent possible.

6.5 MATERIAL SOURCE/DISPOSAL SITES

Selection of borrow material sites is the responsibility of the construction contractor subject to approval by WisDOT.

All of the build alternatives are anticipated to be borrow jobs.

A. Passing Lane Alternative

The Passing Lane Alternative is not anticipated to need borrow throughout the rural part of the corridor (Whispering Springs to County P). The portion in urban Fond du Lac County (US 151 to Whispering Spring) will require approximately 870,000 cubic yards of borrow.

B. Hybrid Alternative

The Hybrid Alternative in Sheboygan County is not anticipated to need borrow. The rural portion in Fond du Lac County (Whispering Springs to Division Road) will require approximately 270,000 cubic yards of borrow, and the portion in urban Fond du Lac County (US 151 to Whispering Springs) will require approximately 870,000 cubic yards of borrow.

C. 4-lane On-alignment Alternative (Preferred Alternative)

The 4-lane On-alignment Alternative will be a borrow job. For the 4-lane On-alignment Alternative the entire corridor will consist of approximately 1.7 million cubic yards of borrow. The portion in Sheboygan County will require approximately 560,000 cubic yards of borrow, the rural portion in Fond du Lac County (Whispering Springs to Division Road) will require approximately 270,000 cubic yards of borrow, and the portion in urban Fond du Lac County (US 151 to Whispering Springs) will require approximately 870,000 cubic yards of borrow.

Federal Rule 23 CFR 635.407 requires that the contractor be allowed to select borrow sites. It is therefore the contractor's responsibility to choose a borrow site and obtain necessary environmental clearance (including permits) for the selected site.¹ An exception to that rule can be made only when there is a public interest finding initiated by WisDOT and approved by the FHWA. It is anticipated that borrow will be obtained locally from existing sites that are properly zoned.

WisDOT makes the arrangements to have archival and literature searches conducted for off-site construction activity areas such as borrow sites, batch plants, and waste sites to determine whether archaeological sites, burials, or mounds may be present. Field survey will also be required in accordance with the Section 106 Memorandum of Agreement (MOA). The contractor is notified with the research results. When necessary, the contractor is responsible for coordination with the Wisconsin Historical Society (WHS) and for obtaining the services of an archaeologist.

The contractor in accordance with the *Standard Specifications for Road and Bridge Construction* or project special provisions will dispose of unusable excavated material to ensure protection of wetlands and waterways. The contractor is responsible for identifying the appropriate disposal site and obtaining written permission from the property owner.

All waste and demolition material from project construction activities will be disposed of in approved upland areas or at licensed solid waste disposal sites under the *Standard Specifications for Road and Bridge Construction* or project special provisions, which consider the protection of wetlands, waterways, and other resources.

This project will require an Erosion Control Plan (ECP) that is developed during design and an Erosion Control Implementation Plan (ECIP) that describes how best management practices will be implemented before, during, and after construction to minimize pollution from stormwater discharges. Additionally, the ECIP should address how post-construction stormwater performance standards will be met for the specific site. The project design and ECIP must comply with the Transportation Construction General Permit (TCGP) in order to receive "permit-coverage" from the WDNR. The permit coverage will be issued by the WDNR after design is complete and documentation shows that the project will meet construction and post-construction performance standards.

Erosion control and stormwater management will be followed at borrow sites and waste areas as set forth in the Wisconsin State Statutes and Administrative Code. The contractor's ECIP for borrow sites and waste areas will cover erosion control. The ECIP will establish the schedule of implementation for temporary and permanent erosion control devices on the highway project and at the project borrow or waste sites.

Revegetation of the project site, as well as borrow sites and waste areas, will be incorporated as a component of the project's ECIP and construction contract.² Revegetation and stabilization of cleared and graded areas shall be accomplished by using a combination of seed, mulch, erosion mat, or sod. Revegetation will occur as soon as practicable following the grading operations of the project.

Specific Project Commitments:

Current mitigation arrangements developed in coordination with the WDNR are summarized below.

1. Erosion control measures must be inspected once per week and after every rainfall exceeding 1/2 inch. Any necessary repairs or maintenance must be performed after each inspection.

¹ Those responsibilities are detailed in Section 208.2.2 (Borrow, Source) and Section 107.3 (Permits and Licensing) of the State of Wisconsin *Standard Specifications for Highway and Structure Construction* manual

² Revegetation is performed at borrow sites unless the site continues to provide borrow material for other public or private projects.

2. A log of the erosion control inspections, repairs made, and rain events must be maintained. This must be made available to WDNR personnel upon request and must remain on the project site at all times work is being performed.
3. All demolition material must be disposed of properly. Disposal of waste or excess materials in floodplains, wetlands, or waterways is not permitted.
4. Construction materials and equipment must be stored in an upland location; storage in wetlands, waterways, or floodplains is not permitted.
5. All temporary stock piles must be in an upland location and protected with erosion control measures (e.g. silt fence, rock filter-bag berm, etc.). Materials must not be stockpiled in wetlands, waterways, or floodplains.
6. If dewatering is required for any reason, the water must be pumped into a properly selected and sized dewatering basin before the clean/filtered water is allowed to enter any waterway or wetland. The basin must remove suspended solids and contaminants to the maximum extent practicable. A properly designed and constructed dewatering basin must take into consideration maximum pumping volume (gpm or cfs) and the sedimentation rate for soils to be encountered. Method selection by soil type should be based on WisDOT's Dewatering Technical Standard. The dewatering technique may not be located in a wetland.
7. Removal of vegetative cover must be restricted, and exposure of bare ground kept to the minimum amount necessary to complete construction. Restoration of disturbed soils should take place as soon as conditions permit. If sufficient vegetative cover will not be achieved because of late season construction, it will be important that the site is properly winterized (e.g. dormant seeding, erosion control matting, sodding, etc.).
8. After the site is stabilized, all temporary erosion control measures must be removed and disposed of properly.
9. An environmental review documented through the WisDOT Erosion Control Implementation Worksheet must be conducted on selected sites that are not permitted (commercial) facilities. Other special conditions may apply to any non-permitted selected sites. Any selected sites to be used for these projects should be identified in the ECIP.

6.6 WATER QUALITY, HYDROLOGY, AND HYDRAULICS

As of March 2016, Wisconsin Act 307 removed the WisDOT exemption from obtaining a Wisconsin Pollutant Discharge Elimination System (WPDES) Permit and required WDNR to issue a TCGP on or before June 30, 2018 for WisDOT administered projects. The new TCGP is now in effect. WisDOT will apply for coverage under the new TCGP prior to final plan, specification, and estimate (PS&E). The permit coverage will be issued by the WDNR after design is complete and documentation shows that the project will meet construction and post-construction performance standards.

Creek, slough, and wetland involvement associated with the project is subject to individual permits under Section 404 of the Clean Water Act (33 USC 1344). The permit program, administered by the U. S. Army Corps of Engineers (USACE), covers the discharge of fill material into the waters of the United States, including wetlands. Issuance of Section 404 permits is contingent on receipt of water quality certification from WDNR under Section 401 of the Clean Water Act and Wisconsin Administrative Code Chapter NR 299. Individual 404 permits will be required for this project. The USACE is using this document for its NEPA documentation requirements for a Section 404 permit. A Section 404 permit was previously obtained for the Preferred Alternative (4-lane On-alignment Alternative). Once impacts are recalculated based on any design modifications and updated wetland determination, coordination with the USACE will continue to determine if the existing permit can be amended or if a new permit is needed.

Structure sizing will be performed in accordance with local, state, and federal guidelines regarding floodplain encroachment and hydraulic capacity. All new and modified structures over navigable waters will be consistent with the provisions of the Wisconsin Administrative Code Chapter NR 116 as administered under the Cooperative Agreement between WisDOT and the WDNR and 23 CFR 650 Subpart A. WisDOT will mitigate project impacts to waterways. As indicated in the WisDOT/DNR Cooperative Agreement and its 1988 attachment related to Waterway Crossings and other Floodplain Encroachments, WisDOT will evaluate impacts from all proposed construction affecting mapped floodplains and will carry out appropriate coordination with the local floodplain zoning authority.

Drainage systems, including ditches on private lands, will be maintained, restored, or reestablished in a manner that will not impound water. Permanent retention facilities will be considered in areas adjacent to streams and wetlands so that roadway runoff will be intercepted before entering the waterway. Because of the rural nature of the project corridor, it is not anticipated that stormwater management measures will be required outside of the proposed right of way. The care and treatment of bridge runoff will be consistent with the latest federal and state laws and regulations. Selection of construction staging areas will be performed in accordance with the Standard Specifications or special provisions to ensure that they will not adversely affect wetlands, streams, or drainageways.

Coordination with the WDNR will continue as the engineering design phase progresses and will include obtaining input on erosion control, structure plans, and construction sequencing to avoid critical fish spawning periods.

Specific Project Commitments:

Precautions will be taken at the Sheboygan River and Mullet River crossings to preclude erosion and stream siltation. Crossing work will be coordinated with the WDNR to protect fish habitat and water quality. Impacts to water quality will be minimized through the implementation of erosion control measures according to the ECIP included in the construction contract, the standard specifications, and project special provisions. In addition, construction near surface waterways will be avoided during periods of high snowmelt or rains. Erosion control devices will be installed before erosion-prone construction activities begin, the devices will be maintained and repaired, as needed, throughout the life of the contract, and areas will be promptly restored to grass or permanent cover.

Finding of No Practicable Alternative, Floodplains:

Presidential Executive Order 11988 and 23 CFR 650 Subpart A require federal agencies to avoid the long- and short-term adverse impacts associated with the occupancy and modification of floodplains. In implementing the Executive Order, it is FHWA policy to:

1. Encourage prevention of uneconomic, hazardous, or incompatible use and development in the floodplain.
2. Avoid longitudinal or other significant encroachments where practicable.
3. Minimize impacts that adversely affect base floodplains.
4. Restore and preserve the natural and beneficial floodplain values.
5. Avoid support of incompatible floodplain development.
6. Be consistent with the intent of the Standards and Criteria of the National Flood Insurance Program and local floodplain management.

All of the build alternatives carried forward involve crossings in the floodplain of the Mullet River, Sheboygan River tributary, or Sheboygan River. These encroachments may have adverse impacts on natural floodplain values such as flood storage, open space, riparian habitat, and agriculture. This section sets forth the basis for a finding that there is no practicable alternative to the construction of WIS 23 improvements in the floodplain; that the highway proposal includes all practicable measures to minimize harm to these resources; and that the action will conform to applicable state and local floodplain protection standards.

For the Hybrid Alternative and the 4-lane On-alignment Alternative, a new bridge would be constructed adjacent to the existing bridge, to the north, over the Sheboygan River. The existing bridge would remain. An expanded encroachment would travel across the floodplain. Existing channel conditions would be maintained. All build alternatives include a separate bridge crossing of the Sheboygan River for the Old Plank Road Trail. This encroachment will increase the regional 100-year flood level by one foot and is considered significant. The floodplain elevation increase will occur entirely within WisDOT right of way and the floodplain zoning authority will be notified.

The Hybrid and 4-Lane **On-Alignment** Alternatives would cross the floodplain of the unnamed tributary to the Sheboygan River. They would construct two new 54-inch culverts. For the Passing Lane Alternative, a new culvert at the existing location would be constructed. The new culvert would be longer than the existing culvert due to the construction of an eastbound WIS 23 passing lane at this location. Existing channel conditions would be maintained.

All build alternatives cross the Mullet River at the same location and would cross the 100-year floodplain. Each alternative includes a culvert extension adjacent to the existing Mullet River culvert. The culvert has three cells and the inside dimensions of each are 12 feet wide by 8 feet high. The existing culvert would remain. For all build alternatives, the culvert would be designed in compliance with NR 116 and NR 320 and would be designed to maintain the existing 100-year flood backwater. A hydraulic analysis for the Mullet River box culvert extension indicates that there would be no increase in backwater levels for any alternative.

Floodplain

1. Reasons Why Proposed Action Must be Located in the Floodplain

The WIS 23 corridor addressed in this document is an east-west corridor that travels from the city of Fond du Lac to the city of Plymouth. Within the corridor both the Sheboygan River and the Mullet River travel northeasterly. It is impossible to meet the purpose and need objectives of this project without affecting the crossing of these rivers and adjacent floodplains.

2. Alternatives and Practicability

As discussed in Section 2, the alternative development process included scoping and preliminary development of a broad range of alternatives. Alternatives that were not feasible and reasonable were dismissed. Detailed study was then done for a Range of Alternatives **Carried Forward for Detailed Study**. These detailed study alternatives, as well as other alternatives not selected for detailed study, are described in Section 2.

Floodplain impacts occur for all the build alternatives carried forward for detailed study. The following bullets summarize the alternatives considered.

- The No-Build Alternative would have no effect on the streams and floodplains.
- The Passing Lane Alternative would have minimal effect on the streams and floodplains because the roadway does not add travel lanes, and therefore keeps the same footprint. A new bridge crossing of the Sheboygan River would be required for the Old Plank Road Trail.
- The Hybrid Alternative would require two additional bridge crossings of the Sheboygan River (one for the new eastbound WIS 23 and one for the Old Plank Road Trail) adjacent to the existing bridge crossing (westbound WIS 23). This alternative would require a box culvert extension at the Mullet River. The unnamed tributary to the Sheboygan River would receive two new 54-inch culverts.
- The 4-lane On-alignment Alternative (**Preferred Alternative**) would require two additional bridge crossings of the Sheboygan River (one for the new eastbound WIS 23 and one for the Old Plank Road Trail) adjacent to the existing bridge crossing (westbound WIS 23). This alternative would require a box culvert extension at the Mullet River. The unnamed tributary to the Sheboygan River would receive two new 54-inch culverts.

3. Floodplain Impacts

The build alternatives all have crossings of the Sheboygan River, the Mullet River, and an unnamed tributary to the Sheboygan River that could potentially impact the floodplains.

A. Sheboygan River

The No-Build Alternative would not affect this crossing and the existing culvert would remain.

With the Passing Lane Alternative, the existing WIS 23 bridge would remain and existing channel conditions would be maintained. The Old Plank Road Trail would require its own separate bridge.

With the Hybrid Alternative and the 4-lane On-alignment Alternative (**Preferred Alternative**), a new WIS 23 bridge would be constructed adjacent to the existing bridge, to the north, over the Sheboygan River. An expanded encroachment would travel across the floodplain. Existing channel conditions would be maintained. The Old Plank Road Trail would require its own separate bridge.

B. Tributary to Sheboygan River

The No-Build Alternative would not affect this crossing and the existing culvert would remain.

For the Passing Lane Alternative, the work would include construction of a new culvert at the existing location. The new culvert would be longer than the existing culvert due to the construction of an eastbound WIS 23 passing lane at this location. Existing channel conditions would be maintained. For the Hybrid Alternative and 4-lane On-alignment Alternative, the work would include grading for two additional lanes with the installation of two new culverts. Existing channel conditions would be maintained.

C. Mullet River

The No-Build Alternative would not affect this crossing and the existing culvert would remain. All build alternatives cross the river at the same location and would cross the 100-year floodplain. For each alternative, the work would include a culvert extension adjacent to the existing Mullet River culvert. The culvert has three cells and the inside dimensions of each are 12 feet wide by 8 feet high.

For the Passing Lane Alternative and the Hybrid Alternative, the work would require a culvert extension to the north and south sides of WIS 23 to accommodate the roadway expansion for the left turn lanes at the County A intersection, located to the southeast. The existing culverts would be extended about 25 feet to the north and south.

For the 4-lane On-alignment Alternative (**Preferred Alternative**), the work would include constructing an embankment across the floodplain for the two new travel lanes and extending the culvert about 100 feet on the north side only.

For all build alternatives, existing channel conditions would be maintained. Tree clearing restrictions during the nesting period would apply to minimize potential impacts to rare woodland species. Additionally, freshwater mussel surveys and translocation may be necessary. Because the extensions for all alternatives are matching the existing structure, the bottom is planned to be at the same elevation as the existing box culvert. The existing Mullet River box culvert has approximately 0.5 to 1 foot of streambed material at the inlet and outlet of the box culvert. By matching the existing box culvert dimensions, it is anticipated that stream bed material would move into the extension and over time create a natural bottom. Hydraulic modeling indicates that there would be no increase in backwater by the culvert extension.

4. Measures to Minimize Harm

The improvements listed above for the Sheboygan River and tributary to the Sheboygan River will be sized to avoid any backwater effects. There are limited measures available at the Mullet River crossing since a culvert extension is being planned.

5. Conformity to Applicable State and Local Floodplain Regulations

The Wisconsin Administrative Code NR 116 recognizes floodplain zoning is a necessary tool to protect human life and health and minimize property damages and economic losses. Counties, cities, and villages within Wisconsin are required to adopt reasonable and effective floodplain zoning ordinances within their jurisdictions, and such ordinances are in place. For this project, regulated floodplains fall under the jurisdiction of the city of Fond du Lac as well as Fond du Lac and Sheboygan counties.

Coordination will continue with WDNR, Federal Emergency Management Agency (FEMA), and the USACE to solicit comments and to inform these regulatory agencies of the proposed improvement impacts. For the Sheboygan River crossing, this will require revision of official floodplain maps and zoning ordinances. This action would be in conformance with federal, state, and local floodplain standards. WisDOT will:

- a. Perform hydraulic calculations and notify affected property owners. Affected property owners will be compensated in accordance with the WisDOT/WDNR Cooperative Agreement as amended in 1995.
- b. Provide hydraulic analysis information to Fond du Lac and Sheboygan counties so that they can amend, as appropriate, the official floodplain maps as well as floodplain zoning ordinances.

The Sheboygan River crossing will increase the backwater elevation for the regional 100-year flood by one foot. These impacts will be within WisDOT right of way and should not affect adjacent property owners.

WisDOT is currently performing the required analysis to revise the regulated floodplain in accordance with the criteria in Wisconsin Administrative Code NR 116.11. For the Sheboygan River floodplain, WisDOT will coordinate with the WDNR and Fond du Lac County to obtain permission to revise the regulated floodplain and to complete the required revision.

Appropriate coordination will occur as it pertains to the Mullet River floodplain; hydraulic modeling with the culvert extension indicates backwater effects will be avoided.

Natural and beneficial floodplain values associated with wetlands, such as wildlife habitat and floodwater storage, will be mitigated as noted above.

6. Floodplain Findings

Based on the above considerations, it is determined that there is no practicable alternative to the proposed construction in floodplains and that the proposed action includes all practicable measures to minimize harm to floodplains that may result from such use.

6.7 FISH, WILDLIFE, AND THREATENED AND ENDANGERED SPECIES

The construction contractor's plan of operations will identify the location of all haul roads, material storage sites, and any other lands that may be disturbed outside the construction zone. WDNR and WisDOT will review the plan to assure the construction impacts to fish and wildlife habitat are minimized. To the maximum extent possible, the highway construction zone will be limited to minimize direct losses to wetland sites and other sensitive habitats.

Mitigation measures proposed to protect water quality, wetlands, and upland vegetation will directly benefit fish and wildlife resources. These measures will help maintain the quality of surface waters needed by aquatic flora and fauna. These measures will also minimize wetland loss and degradation and will help preserve the functional integrity of upland wildlife habitats. Mitigation measures considered to reduce impacts to wildlife include scheduling construction during nonbreeding seasons and using effective erosion control measures. Section 4.7 C-7 details commitments being made to reduce impacts to rare species as coordinated with the WDNR over the winter of 2013 and summer/fall of 2017. Coordination with WDNR and USACE also includes wetland determination and potential wetland mitigation sites, which will help minimize and mitigate adverse effects to upland habitat.

Where appropriate, the revegetation program will use special seed mixtures that will enhance roadside wildlife habitat value. Seed selection will be the responsibility of WisDOT, with guidance as appropriate from the WDNR. The WDNR encourages the use of native species.

Specific Project Commitments:

Current mitigation arrangements developed in coordination with the WDNR during winter 2013, fall 2017, and summer 2018 and USFWS during summer 2018 are summarized below and provided in Section 4.7 C-7.

1. Areas of the Mullet River and its tributaries may provide spawning habitat for forage fish. To protect developing fish eggs and substrate for aquatic organisms, all in-stream work that could adversely impact water quality should be undertaken between June 16 and March 14 of each year. Stream connectivity should not be disturbed by the replacement or modification of structures or riprap.
2. Efforts will be taken to avoid clearing within the Mullet River and wooded environment of the Northern unit of the Kettle Moraine State Forest (KMSF-NU) during the nesting and breeding season to prevent disturbance to nests of state listed bird species. If clearing cannot be avoided during the time frame, WisDOT will work with WDNR to determine if additional minimization or mitigation measures are necessary.
3. Construction Measures to Minimize Impacts to Rare Reptile Species. The WDNR Natural Heritage Inventory and WDNR coordination indicates the special concern Blanding's turtle (*Emydoidea blandingii*) occurs within the Upper Sheboygan River Basin. During construction, the contractor will place non-netted silt fence a suitable distance as appropriate based on-site conditions from delineated wetlands with a riparian connection. Turtles that become trapped will be carefully removed and relocated outside the silt fence.

4. WisDOT conducted rare plant surveys for the state-threatened snow trillium (*Trillium nivale*) at habitat areas near the Mullet River and associated floodplain.
5. WisDOT will conduct rare plant surveys for the state-threatened forked aster (*Eurybia furcata*).
6. The WDNR will conduct final freshwater mussel surveys to clarify presence or absence of slippershell (*Alasmidonta viridis*), ellipse (*Venustaconcha ellipsiformis*), and rainbow shell (*Villosa iris*) mussels in the Sheboygan and Mullet Rivers. If mussels are found, WDNR will translocate species as necessary upstream of the Sheboygan River bridge site and the Mullet River culvert extension.
7. There is risk for the spread of invasive species. Adequate precautions should be taken to prevent transporting or introducing invasive species via construction equipment, as provided under NR 40, Wis. Administrative Code. All equipment must be cleaned and disinfected to reduce the potential spread of invasive species and viruses. The project should follow STSP 107-055 Environmental Protection–Aquatic Exotic Species Control.
8. There may be opportunities for a wildlife passage under some of the structures. Final design will consider incorporating some type of bench or filling voids with smaller stone into any riprap design.
9. Bridge and culvert construction will be scheduled to avoid migratory bird species nesting and brooding seasons. If there is evidence of migratory bird nesting on structures, 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 construction should occur only between August 30 and May 1 (non-nesting season). If netting is used, ensure it is properly maintained and removed as soon as the nesting period is over. If neither option is practicable the U.S. Fish & Wildlife Service (USFWS) must be contacted, and a depredation permit may be needed.

6.8 WETLANDS

Executive Order 11990, Protection of Wetlands, requires federal agencies "...to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands wherever there is a practicable alternative...". The Order states further that where wetlands cannot be avoided, the proposed action must include all practicable measures to minimize harm to wetlands in accordance with state and federal agency policies and regulations for wetland preservation, including the Section 404 (b) (1) Guidelines for Specifications of Disposal Sites for Dredged or Fill Material (40 CFR, Part 230).

During construction, impacts to wetlands from erosion and sediment transport will be minimized or prevented by implementing erosion control best management practices as specified in the construction contract and by ensuring that the practices implemented conform to the contract's special provisions and the WisDOT's *Standard Specifications for Road and Bridge Construction*. These protection efforts are described in this document. Avoidance and minimization of impacts to wetlands related to wetland fill are discussed as follows.

A. Specific Project Commitments

1. Avoidance

This document provides an updated delineation of wetlands that will be impacted (see Section 4.7 C-1). Wetland impacts must be avoided or minimized to the greatest extent possible. Because the reasonable build alternatives are oriented to the existing WIS 23 corridor, and there are scattered wetlands along both sides of the highway, it is not possible to avoid wetland impacts completely. The design attempts to avoid wetlands by placing the additional lanes, when possible, on the opposite side of WIS 23 (Hybrid Alternative and 4-lane On-alignment Alternative). Generally, the additional two lanes were placed where the least amount of wetland impacts would occur. This included:

- a. Placing the additional lanes on the north side of the existing highway near the Wade House Wetland Enhancement and Mitigation Site to avoid impacts to this wetland mitigation site.
- b. Placing the additional lanes on the south side of the existing highway near Pit Road to avoid impacts to the Pit Road Wetland Mitigation Site.

Altering the placement of lanes is estimated to avoid 3 to 5 acres. Even with these avoidance measures, there is no practicable alternative to avoid all the wetlands.

2. Minimize Wetland Impacts

WisDOT, in coordination with the WDNR, has identified wetland sites that will be affected by the proposed alternatives. Through detailed mapping, these wetlands were evaluated during this environmental review. Specific wetland minimization efforts are noted on the WIS 23 wetland type and alignment maps provided in Section 4.7. Areas where design modifications minimized wetlands impacts include:

- a. Steepened slopes near Pit Road.
- b. Steepened slopes on WIS 23 between Poplar Road and Hinn Road.
- c. Alignment modifications and shifts to the north at County U and east of Scenic View Drive.
- d. Steepened slopes near the Mullet River crossing with an extended box culvert.

It is estimated that an additional 3 to 5 acres of wetlands were saved based on increases in side slopes.

3. Wetland Compensation

Compensation for unavoidable wetland loss will be carried out in accordance with Federal requirements and the interagency *Wetland Mitigation Banking Technical Guideline* developed as part of the WisDOT/WDNR *Cooperating Agreement on Compensatory Wetland Mitigation* and the 2008 Joint Rule regulations clarifying requirements regarding compensatory mitigation. Unavoidable wetland loss will be fully compensated at an appropriate replacement ratio that would be no less than 1:1 (one acre restored/created for each acre lost). The final ratio could vary depending on the criteria presently in place in the *Wetland Mitigation Banking Technical Guidelines*. The replacement ratio can range from 1:1 to as high as 3:1 depending on the risk assessment and replacement types needed. The preliminary wetland mitigation evaluation for this project has used restoration site screening practices typical of WisDOT guidance and wetland mitigation protocol.

WisDOT is planning on-site mitigation at two locations in Fond du Lac County to compensate for all the wetland impacts. One of the two on-site mitigation locations would be on property owned by WisDOT and has approximately 50 acres that could be used for mitigation. This site would be mostly wetland creation and is in the Mullet River watershed. The second on-site mitigation location is in the town of Empire. About 70 acres was acquired and mitigation will focus on wetland restoration. About 10 acres of the site is currently wetlands where a preservation credit may be pursued. The other acreage was previously wetlands that have been ditched and drained. Restoration credit will be pursued. This second site is in the Sheboygan River watershed.

It is anticipated that the first property could provide about 50.8 acres of wet meadow and the second property could provide 10 acres of wooded swamp, 5.6 acres of wet meadow, 9.5 acres shallow marsh, and upland buffer credit. The two sites appear to be fully sufficient for mitigation needs. WisDOT plans to start construction on at least one of the sites prior to, or concurrent with, construction of the highway project.

If changes occur that prevent the implementation of these plans, mitigation will be debited to Hope Marsh wetland mitigation site in Marquette County.

B. Finding of No Practicable Alternative, Wetlands

Based on the previously summarized analyses, there is no practicable alternative that fully addresses the project's purpose and need, fulfills WisDOT's statutory mission and responsibilities, while **avoiding** wetland impacts. Slope adjustments, stream relocation minimization, natural resource area avoidance, and best management practices will minimize harm for the Preferred Alternative during final design.

WisDOT has received and incorporated needed agency comments and design refinements to document compliance with WEPA/NEPA coordination. Coordination has continued beyond the publishing of the 2014 LS SFEIS in updating the wetland delineation and investigating potential wetland mitigation locations. **In letters dated August 31, 2018 and September 13, 2018, the USACE and the United States Environmental Protection Agency (USEPA), respectively, provided concurrence with the selection of the Preferred Alternative and confirmed that the Preferred Alternative is the LEDPA.** Further, it is anticipated

there will be sufficient wetland restoration areas to fully compensate wetland loss. Compensation will be through either creating/restoring replacement wetland within an approximate 2.5-mile to 5-mile distance of the project corridor or in combination with using an established or future wetland bank site. It is anticipated that mitigation, regardless of location or method, will be available for debiting impacts of the WIS 23 project prior to or concurrent with construction.

Based on the above consideration, in accordance with Presidential Executive Order 11990, Protection of Wetlands, it is determined that there is no practicable alternative to the proposed construction in wetlands and that the proposed action includes all practicable measures to minimize harm to wetlands.

6.9 UPLANDS AND WOODLANDS

Mitigation for upland habitat disruption includes the replacement of disturbed vegetation within the right of way under the Wisconsin *Standard Specifications for Road and Bridge Construction*. During construction, cleared and graded areas will be restored. The restoration will be staged to follow the grading operations to the maximum extent possible. Revegetation measures will minimize upland wildlife habitat loss.

Specific Project Commitments:

There are no project-specific commitments regarding uplands and woodlands other than those listed in Section 6.7 [above](#).

6.10 CONTAMINATED SITES

In the event petroleum-contaminated sites are located prior to construction, WisDOT will work with all concerned to ensure that the disposition of any petroleum contamination is resolved to the satisfaction of the WDNR, WisDOT Bureau of Technical Services, and FHWA before acquisition of any questionable site and before advertising the project for letting. Non-petroleum sites will be handled on a case-by-case basis with investigation and detailed documentation and coordination with the WDNR, WisDOT Bureau of Technical Services, and FHWA as needed. Contaminated materials identified during construction will be disposed of under applicable state and federal laws and guidelines.

Specific Project Commitments:

Three Phase 2³ investigations have been completed. One potentially contaminated site, Site 5, was purchased by WisDOT prior to investigation. The need for Phase 2 investigation at Site 5 will be evaluated once the limits of road construction for this parcel are fully known.

Phase 2 investigation was performed at Site 12. Contamination was discovered and reported to the WDNR. WisDOT is not the Responsible Party. The property is a total acquisition and WisDOT purchased the property in highway easement.

Phase 2 investigations were performed at sites 21 and 22, no contamination was detected and no remediation is recommended.

Impacts to the highway project will be minimized by avoiding contaminated sites to the extent possible. Where avoidance is not possible, such as on Site 12, the remediation measures will depend on the extent, magnitude, and type of contamination impacting the roadway.

WisDOT is seeking to avoid the limits of contamination on contaminated parcels. Investigation of contaminated sites and the management of any excavated contaminated material will be completed in accordance with the FDM and the NR 700 Series of Wisconsin Administrative Codes. The management of excavated contaminated materials on transportation projects typically involves reuse of the materials on the project, disposal of the materials in a landfill, or treatment of the materials at a biopile site. If the contaminated material is classified as a solid waste, activities related to the management of excavated contaminated material will also follow the NR 500 Series of Wisconsin Administrative Codes. If the contaminated material is classified as a hazardous waste, activities related to the management of excavated contaminated material will follow the NR 600 Series of Wisconsin Administrative Codes rather than the NR 500 Series. More information is contained in Section 4.7 D-4.

³ A Phase 1 includes the research and documentation of sites exhibiting potential hazardous material threats to WisDOT project operations, mainly right-of-way acquisition and excavation requirements. Phase 2 investigations are conducted to determine whether a parcel suspected of being contaminated really is. It includes soil and/or groundwater sampling and analysis within the potential areas of concern as identified in the Phase 1 investigation. The Phase 2.5 or Phase 3 is done to investigate the extent of contamination and determine the feasibility of doing a limited cleanup in the proposed or existing right of way.

6.11 UTILITIES

Utility relocations and coordination with utility owners are done in accordance with Wisconsin Administrative Code TRANS 220, *Utility Facilities Relocation*, WisDOT's Guide to Utility Coordination, and WisDOT's FDM Chapter 18, *Utility Coordination*.

Under these regulations and guidelines, WisDOT is responsible for notifying utility owners about the project, obtaining information on existing utilities in the project corridor, providing preliminary and final plans showing potential utility conflicts, and ultimately reviewing/approving the utility relocation plans.

A compensable utility is one that is located on private land by easement and WisDOT must pay the utility to relocate its facility if the utility does not waive their compensability rights. A noncompensable utility is one that is located on WisDOT right of way and the utility must pay its own cost to relocate its facility. Both compensable and noncompensable utility lines are located along the WIS 23 project corridor and will need to be relocated. There are sensitive resources along the project corridor, but it is anticipated that the majority of these relocations will occur within or directly adjacent to the proposed right of way. All utilities in Sheboygan County have been relocated. The status of utility compensability and conflict in Fond du Lac County in most cases is yet to be determined.

The following paragraphs describe the utilities along the corridor and anticipated conflicts.

A. US 151 to Taft Road (Fond du Lac County–Urban)

For this section, the following comments are a preliminary review of utility conflicts. The right of way plats and the utility work plans have and will determine compensable/non-compensable facilities along this corridor.

- Alliant (WP&L)—Has overhead and underground electric facilities from US 151 to Taft Road. There are conflicts with these facilities. Has gas facilities from US 151 to approximately 2000 feet east of County UU. Conflicts are anticipated with these facilities.
- American Transmission Company—Has overhead facilities from US 151 to County UU. There are anticipated conflicts with these facilities with the Old Plank Road Trail and the County K **ughandle intersection**.
- AT&T—Has buried telephone and fiber-optic facilities from US 151 to Taft Road. There are anticipated conflicts with these facilities.
- Charter—Has overhead and underground facilities from US 151 to Taft Road. There are anticipated conflicts with these facilities.
- City of Fond du Lac—Has water main and sanitary sewer facilities from US 151 to Whispering Springs Boulevard. There are anticipated conflicts with these facilities at the County K **ughandle intersection**.
- Mary Hill Park Sanitary District—Has sanitary sewer facilities from County K to Mary Hill Park Drive and water main located at Mary Hill Park Drive. There are anticipated conflicts with the sanitary sewer at the County K **ughandle intersection** and the access road to Mary Hill Park Drive. There is a potential conflict with the water main on Mary Hill Park Drive. The sanitary district is unable to field locate the water main facilities, because it is not traceable.

B. Taft Road to Division Road (Fond du Lac County–Rural)

- Alliant (WP&L) Electric—Has overhead and underground facilities from Taft Road to Division Road and conflicts are anticipated. Alliant has identified that 140 of the 256 poles are compensable for this area.
- Alliant (WP&L) Gas—There are no gas facilities in this area.
- AT&T—Has telephone and fiber-optic facilities that are anticipated to be in conflict from Taft Road to approximately 1,300 feet east of Hill View Road.
Approximately 17,000 LF of underground telephone lines are compensable. The remaining facilities are noncompensable.
- Frontier (Verizon)—Has telephone and fiber-optic facilities that are anticipated to be in conflict from approximately 1,300 feet east of Hill View Road to Division Road. Approximately 2,100 LF of underground telephone lines are compensable. Approximately 100 LF of fiber-optic line is compensable. The remaining facilities are non-compensable.

C. Division Road to Pioneer Road (Sheboygan County)

- We Energies—All of its overhead and underground facilities from Division Road to Sugarbush Road were in conflict and have been relocated. Overhead and underground crossings at and between County A and Ridge Road were in conflict and have been relocated. Five poles were identified as compensable on the right of way plat and were relocated.
- ANR Pipeline—Had 120 feet of casing pipe installed on the north side of WIS 23 and 24 feet of casing pipe installed on the south side of WIS 23 for the existing pipeline to avoid conflicts. The marker vent posts were also relocated to the new right of way limits. This work was compensable.
- Northern Moraine Utility Commission—The sanitary sewer force main crossing at County A may need a section relaid to ensure proper clearance under the north ditch of WIS 23.
- Time Warner Cable—Had an overhead line crossing at County A that was in conflict and was relocated. This work was noncompensable.
- Plymouth Utilities—Has underground and overhead electric facilities from County S to Pioneer Road that are anticipated to be in conflict. Plymouth Utilities has four poles that are compensable and 100 LF of underground electric that is compensable.
- West Shore Pipeline—The pipeline crossing was relocated. Approximately 600 LF of pipeline was relocated from south of Plank Road to north of WIS 23.
- Wisconsin Public Service—A gas main crossing at County A needs to be relocated. WPS has a pole located in the northwest corner of WIS 23 and County A that is anticipated to be in conflict.
- Frontier (Verizon)—All of its telephone and fiber-optic facilities were in conflict from Division Road to the west intersection of Plank Road. Telephone crossings between Sugarbush Road and Pioneer Road were relocated.

The utility owners are responsible for determining new locations for their facilities and for obtaining any environmental clearances associated with relocating their facilities. The utility relocations have already occurred for the Sheboygan County part of the project. Environmental information that has been developed by WisDOT for purposes of the project such as wetland delineations and archaeological survey results is made available to the utilities to assist them in determining where to relocate their facilities.

D. Specific Project Commitments

WisDOT and FHWA will continue coordination efforts with utilities, municipalities, and counties to avoid or minimize impacts to the utilities along WIS 23. For impacts that are unavoidable, WisDOT will coordinate with these parties to avoid or minimize interruptions in service during construction. WisDOT will compensate the owners of impacted utility lines as required.

6.12 HISTORICAL/ARCHAEOLOGICAL RESOURCES

WisDOT has made efforts throughout the project planning stages to avoid direct impacts to archaeological sites and historical sites. The only archaeological site that **will be** impacted by the build alternatives is the Sippel Archaeological Site. Phase III data recovery was completed at this site. Historic properties will not be adversely affected by any of the build alternatives.

Specific Project Commitments

Section 106 requirements have been completed according to the agreement between FHWA, the State Historic Preservation Office (SHPO), and WisDOT. A revised MOA between the FHWA, SHPO, WisDOT, and St. Mary's Springs **was signed by SHPO on April 24, 2018** fulfilling the project's Section 106 requirements. This revised MOA can be seen in Factor Sheet 4.7 B-6. The following bullets list the provisions and commitments in the MOA that pertain to known archaeological sites **and historical sites**.

- **The Sippel (47SB394) archaeological site is located entirely within the Area of Potential Effects (APE) and cannot be avoided through project redesign. The WisDOT has implemented the field component of the project data recovery plan titled: The Sippel (47SB394) Site: A Mid Nineteenth Century Yankee Homestead in the Town of Greenbush, Sheboygan County (Attachment #3). Data recovery field efforts occurred in September and October of 2014.**

- Prior to construction, WisDOT or its agent will ensure that protective fencing is placed at the Storm Front (47FD497) to prevent inadvertent disturbances. A qualified archaeologist shall assist in the location and placement of the fence. This area shall not be used for the staging of equipment and personnel, sources of borrow, or a location for the placement of waste material or batch plant.
- The WisDOT Project Engineer (PE) or Project Manager (PM) shall notify all parties of this MOA in writing ten working days prior to the start of construction and monitoring.
- At preconstruction meetings, the WisDOT PE/PM shall ensure the stipulations contained in this MOA are reviewed with and understood by the responsible party(ies). Responsible parties also include sub-contractors.
- Prior to construction, the WisDOT or authorized agent shall petition the Director of the Wisconsin Historical Society (WHS) for permission to work within the recorded boundaries of two known uncatalogued burial sites, Academy Hill Mound (47 FD-17/BFD0150) and the Tower Road Burials (47 FD-245), in compliance with Wis. Stat. §157.70. These activities include, but are not limited to, removal of the existing pavement, sidewalk, roadbed (Sub-grade and Base course), parking surfaces, building foundation wall/floor removal, and any excavation below the ground/soil elevation for underground utilities or other designated features.
- A professional archaeologist, as defined in the Secretary of the Interior's Professional Qualifications Standards (48 FR 44738), will monitor construction-related activities within the recorded boundaries of the Academy Hill Mound (47 FD-17/BFD0150) and Tower Road Burials (47 FD-245).
- Upon completion of monitoring, the archaeologist will submit a summary report of the results of the monitoring. Three copies of monitoring report will be submitted to WisDOT Bureau of Technical Services, Environmental Process and Documentation Section Cultural Resources Team (CRT) as soon as ground disturbing activities have concluded. Two copies will be forwarded to SHPO.
- Upon discovery of a significant undisturbed archaeological resource, the archaeologist will inform the on-site WisDOT PE/PM to stop construction activities in the immediate area. The on-site WisDOT PE/PM shall ensure protective fencing is installed. The archaeologist will provide the on-site WisDOT PE/PM with a time estimate for completion of field activities. The area will remain fenced until field activities are completed. Upon completion, the archaeologist shall notify the WisDOT PE/PM that construction activities may resume.
- WisDOT will ensure that all construction contracts contain provisions describing potential delays to the contractor, in the event of a discovery of archaeological materials or human remains during construction. This will include language to stop construction in the area of the discovery to permit implementation of mitigation measures. These provisions shall include the opportunity for consulting tribes to perform tribal ceremonial activities.
- The WisDOT on-site PE/PM will immediately notify CRT, who will notify all signatories of this MOA of any discoveries encountered during construction.
- All archaeological research undertaken for this project will meet the Wisconsin Archaeological Survey Guide for Public Archaeology in Wisconsin, as revised (dated 2012).
- WisDOT shall ensure a qualified archaeologist conducts archaeological surveys for all proposed borrow sites, batch plants, waste sites and staging areas to be used for this undertaking. Upon completion of these efforts, the archaeologist will submit a summary report of the results. Three copies of survey report will be submitted to CRT as soon as survey is complete. Two copies will be forwarded to SHPO.
- Non-tribal land:
 1. If potentially significant archaeological materials unrelated to a human burial are discovered, the on-site WisDOT PE/PM in consultation with CRT shall ensure Section 106 procedures pursuant to 36 CFR 800 will be followed or another area will be obtained.
 2. If human remains are discovered, all activities will cease, and the on-site WisDOT PE/PM will ensure compliance with Wis. Stat. §157.70.
- Tribal Land: Prior to any proposal request, for any activity on tribal land, consultation with appropriate THPO or Tribal Representative is required.

- Because this project does not involve federal or tribal land, treatment of discovered human remains will comply with Wis. Stat. §157.70. Any such finds will be considered within the category of a “known uncatalogued burial site”, and a Wisconsin Historic Preservation Division standard contract for treatment of human remains will be followed.
- The CRT will notify all signatories of this MOA of any human remains discoveries encountered during construction.
- Human skeletal elements discovered in non-burial context (unintended or accidental location) are considered isolated human remains.
 1. Isolated remains may include, but not limited to; teeth, bones in previously disturbed context (e.g. fill), and bones in refuse context.
 2. Disposition of these remains will be coordinated with the signatories of this MOA upon completion of the construction activities.
- WisDOT or its agent shall prepare appropriate material for public interpretation of the significant information gained from the historic properties investigated as part of WisDOT Project ID 1440-13/15-00, (WIS 23/County K to County P), Sheboygan and Fond du Lac Counties. The extent of public interpretation will proportionally reflect the significance and quantity of recovered historic materials. The FHWA/WisDOT will make the final determination regarding sufficient funding to appropriately interpret the data recovered and to account for inflationary costs. The anticipated cost of the public interpretation for this undertaking is not to exceed \$15,000.
- WisDOT shall form a committee, known as the "Public Interpretation Committee" [PIC] consisting of the FHWA, WisDOT, SHPO, Consulting Tribes, archaeology consultant, and a representative of a local historical society or local state historic site.
- The PIC shall establish a Public interpretation plan [Plan]. The Plan shall include background information on the general nineteenth century history of the area and specifically, information based on the archaeological and architectural history survey results and analyses of what activities occurred historically in and around the project area. As well, the Plan shall include a description of what surveys were undertaken to derive this information, and how they were carried out.
- The PIC shall incorporate into the Plan: a mechanism(s) to display the public interpretation and include locations for the public interpretation.
 1. Potential mechanisms for public interpretation may include signage, portable/temporary public or museum type displays, handouts and Internet-based materials.
 2. Potential locations for public interpretive displays may include the WHS Wade House Historic Site, other public buildings, or historical centers.
- The mechanism for the public interpretation will be chosen within one (1) year after the execution of this amended MOA. The public interpretation plan will be completed within one (1) year after the mechanism(s) of interpretation is selected.
- WisDOT will ensure all appropriate records and materials resulting from the archaeological investigations are curated in accordance with the Secretary of Interior Guidelines, 36 CFR 79.
- On or before January 1 of each year until the terms of this agreement have been fulfilled, FHWA or its agent shall prepare and provide an annual report to the SHPO, consulting tribes addressing the stipulations in this MOA.
- WisDOT will ensure that an interim report of findings will be submitted to the SHPO annually, until completion of the data recovery, which consists of field and laboratory work.
- The archaeologist will provide WisDOT a draft technical report for review by June 29, 2018. All reports will be in compliance with contemporary professional standards and with the Department of Interior's Format Standards for Final Reports of Data Recovery Programs (47 FR 5377-79). Precise locational data may be provided only in a separate appendix if it appears that its release could jeopardize the security of the archaeological site(s).
- WisDOT shall ensure that all archaeological and architecture/history work conducted pursuant to this agreement is carried out by or under the supervision of a person or persons meeting at a minimum the Secretary of the Interior's Professional Qualifications Standards. These guidelines include field research, analysis, report preparation and curation.

- WisDOT will ensure that all archaeological efforts pertaining to human remains are carried out by or under the supervision of a person or persons meeting qualifications stipulated in Wis. Stat. §157.70.
- WisDOT will ensure that information resulting from the archaeological monitor and data recovery is provided to the State Archaeologist in a form acceptable for inclusion in the WHS Historic Preservation - Public History Division database.

WisDOT has committed to moving the Guardian Angel Statue to another location on the St. Mary's Springs Academy property. In addition to the above stipulations, the Stockbridge Munsee Tribe and Forest County Potawatomi Community of Wisconsin will be notified if a Native American cultural site is uncovered.

6.13 PUBLIC USE LANDS

Specific Project Commitments:

WIS 23 crosses the KMSF-NU, the Ice Age Trail (IAT), and the State Equestrian Trail in Sheboygan County. WIS 23 improvements will include a grade-separated crossing for the trails (underpass beneath WIS 23 with a clear width of 20 feet and a vertical clearance of 12 feet for the combined trails), improving functionality and safety of both trails. The underpass is compensation for impacts to the trails. Lands taken from the KMSF-NU (Section 6(f) and Section 4(f) lands) were replaced in accordance with the National Park Service's Land and Water Conservation Fund (LWCF) Program conversion process. The KMSF-NU and the IAT/State Equestrian Trail are Section 4(f) resources. A Section 4(f) *de minimis* impact finding is included in Section 5.3 and addresses impacts to these three resources that are coincident at this location.

WIS 23 travels along the north side of the Wade House Historic Site, which has been delisted as a state park. The proposed WIS 23 expansion would take place on the north side of the existing highway near this site and includes the extension of the Old Plank Road Trail along the south side of WIS 23 in the area of the Wade House Historic Site. The trail extension will be constructed adjacent to WIS 23 to minimize right-of-way impacts to the Wade House Historic Site and avoid impacts to the Wade House Wetland Enhancement and Mitigation Site. The Wade House Historic Site is a Section 4(f) and Section 6(f) property. A Section 4(f) finding of *de minimis* impact is included in Section 5.4. For Section 6(f), WDNR reviewed property title information and WIS 23 right of way is considered a pre-existing condition. As a result, WDNR cleared LWCF interests for the purpose of WIS 23 reconstruction and Section 6(f) replacement lands are not required. See Section 5.2, Table 5.2-1, and Section 5.4.

Specific commitments related to Section 4(f) and Section 6(f) resources are discussed in Section 5.

6.14 AGRICULTURAL LAND

During construction, reasonable access will be provided to agricultural land. Existing drainage systems (ditches and tiles) will be kept operational during construction. WisDOT will work with farm owners to minimize project impacts.

Specific Project Commitments:

Consideration will be given to the 14 recommendations provided in DATCP's Final Agricultural Impact Statement and update. Many of these 14 recommendations were broad-reaching and directed to local jurisdictions. Of the 14, seven apply specifically to WisDOT as they consider the maintenance of farm activities and include the following:

1. *WisDOT should continue to consult with town of Greenbush officials and local residents about the intersection design that will be used at WIS 23 and Sugarbush Road to ensure that the fire department is not hindered in providing emergency services to local residents.*

Passing Lane Alternative and Hybrid Alternative: The intersection at Sugarbush Road will remain the same as existing. Emergency vehicles will be able to go straight through or turn onto WIS 23 as they do in the existing conditions.

4-lane On-alignment Alternative (Preferred Alternative): A Restricted Crossing U-Turn intersection is being included at the intersection of WIS 23 and Sugarbush Road, and will have mountable curb and gutter and thicker asphalt pavement within the island to allow emergency vehicles the ability to go straight through or turn west onto WIS 23 from the south if they so choose. The signs

within the intersection will be positioned to allow the movements as well. The movement will not be signed for all traffic, but could be used by emergency vehicles if needed.

2. *WisDOT should allow the current operators to farm any acquired land until it is needed for highway construction as long as there is sufficient growing season for crops to mature and be harvested.*

Current operators are being allowed to continue to farm if owner requests it. If the previous owner is not farming the area then other area farmers are allowed to farm the land.

3. *The owners and operators of the affected farmland should be given advance notice of the acquisition and construction schedules so that farm activities can be adjusted accordingly. To the extent feasible, the timing of the construction should be coordinated with the farmers to minimize crop damage and disruption of farm operations.*

The affected owners and operators will be kept aware when construction will occur to minimize any crop damage and disruption of farm operations.

4. *Where access points must be relocated, WisDOT should consult with landowners to determine a new location that will be both safe and efficient for farm operations.*

WisDOT has consulted and will continue to consult with landowners during negotiations.

5. *WisDOT should consult with farmers when determining the locations of median crossovers. If the placement of median crossovers is a concern to a landowner, he or she should identify that concern during negotiations with WisDOT.*

Passing Lane Alternative: The Passing Lane Alternative keeps the 2-lane roadway and does not have a median.

Hybrid Alternative: In Fond du Lac County the median crossovers have been identified through the design. The median crossovers were placed in positions that tried to alleviate travel distance to residences and farms. Median crossovers will be designed with turn lanes to aid residents to make turnarounds (accelerations lanes are not being added). In Sheboygan County the road will remain 2-lanes with no median.

4-lane On-alignment Alternative (Preferred Alternative): Median crossovers were designed throughout the corridor. The median crossovers were designed to alleviate travel distance to residences and farms. Median crossovers will be designed with turn lanes to aid residents to make turnarounds (accelerations lanes are not being added).

6. *In order to address potential drainage problems that may occur as a result of the proposed project, DATCP recommends that WisDOT representatives discuss design and construction plans with representatives of Fond du Lac County and Sheboygan County Land Conservation Departments during the design process.*

Sheboygan County and Fond du Lac County representatives have been made aware and will be kept involved with the proposed drainage on the project. The WisDOT maintenance department routinely discusses any drainage problems with Sheboygan and Fond du Lac County maintenance personnel so that design adjustments can be incorporated into the plan. Planned drainage channels should be the same as existing channels with the extending of culverts.

7. *The county conservationists should be consulted to ensure that construction of the facilities proceeds in a manner that minimizes crop damage, soil compaction, and soil erosion on adjacent farmland.*

The counties will be kept abreast of construction activities throughout the project. Erosion control measures (silt fence, erosion mat, riprap) will be incorporated within the project construction to help prevent soil erosion and crop damage to adjacent farmland. Construction grading practices will be monitored to assure proper compaction and grading are performed.

6.15 POLLUTION PREVENTION

WisDOT plans to avoid the creation of pollution and any subsequent environmental degradation. Review is given to the project's design criteria, including geometric standards, construction standards and specifications, project sizing, and the location of the facility. Habitat is restored to maintain foliage, fish,

and wildlife diversity. WisDOT reviews roadway treatment to assess and devise methods to channel runoff away from water resources.

WisDOT uses coal incinerator ashes and foundry sand in various highway construction activities. Recycling of these ashes and foundry sand is considered by USEPA to be a pollution prevention initiative and a beneficial reuse initiative. These waste products (fly ash and foundry sand) otherwise would be disposed of in a landfill. WisDOT has used coal ash for the following: (1) fly ash (precipitant from the smoke stack) in place of Portland cement in concrete and (2) bottom ash (boiler ash) as a roadway embankment fill, and when mixed with asphalt, it has been used in place of chip sealing on town road maintenance projects. WisDOT has used foundry sand as roadway embankment fill and a replacement to select borrow.

This project has the potential for industrial byproduct reuse. Further evaluation of the potential use, location(s), type, quantity, and supplier will follow in the design phase of the project.

Waste and demolition material that cannot be recycled through incorporation into the project's design and construction will be disposed of in accordance with WisDOT *Standard Specifications for Road and Bridge Construction*. Disposal will be in compliance with all applicable federal and state regulations relating to solid waste.

Specific Project Commitments:

None other than what was listed above in the general commitments.

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