

# Environmental Assessment

## Forest Highway 3

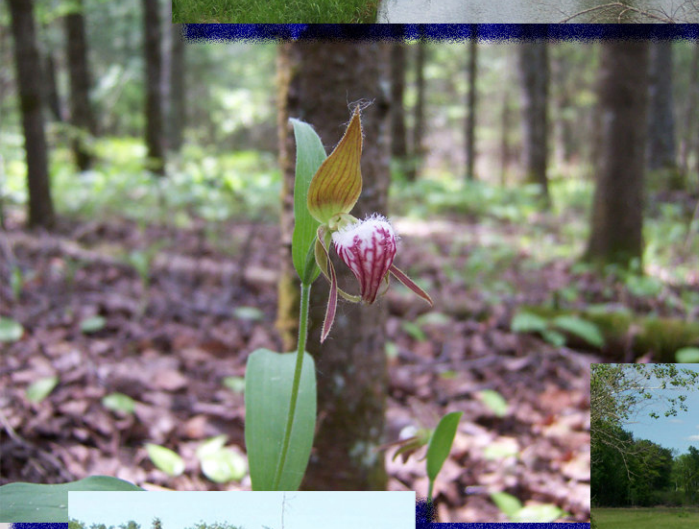
(CSAH 39 and CSAH 10)

From US 71 to US 2

Beltrami County, Minnesota

Cass County, Minnesota

May 2007



**ENVIRONMENTAL ASSESSMENT FOR FOREST HIGHWAY 3  
PROJECT PLANNING STUDY (CSAH 39 AND CSAH 10)  
FROM US 71 TO US 2**

Beltrami County, Minnesota  
Cass County, Minnesota



Prepared pursuant to 42 U.S.C. 4332(2)(C) by the U.S. Department of Transportation  
Federal Highway Administration, Eastern Federal Lands Highway Division  
In Cooperation with the U.S. Department of Agriculture Forest Service, Leech Lake  
Band of Ojibwe, and Army Corps of Engineers

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Forest Supervisor

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Minnesota Department of Transportation

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Beltrami County Highway Department

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Eastern Federal Lands Highway Division  
Federal Highway Administration

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Cass County Highway Department

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Division of Resources Management  
Leech Lake Band of Ojibwe

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## **A. DESCRIPTION OF ACTION/PURPOSE AND NEED**

### **1. Project Purpose**

The purpose of this study is to address operational and rehabilitation improvements to Minnesota Forest Highway 3 (FH 3). The purpose of this reconstruction is to enhance the safety and overall condition of the facility. FH 3 is a 27-mile long route located within the Chippewa National Forest (CNF), Leech Lake Resrvation (LLBO) in Beltrami and Cass Counties, Minnesota. It is between Blackduck and US 2. The route is a Minnesota Scenic Byway.

### **2. Project Need**

The existing roadway does not meet current Minnesota Department of Transportation (Mn/DOT) roadway design and safety standards for potential natural preservation routes for designated national highways within national forests, particularly at some of the roadway intersections and along curves. Furthermore, the existing roadway does not meet current County State-Aid Highway (CSAH) standards that require 12-foot travel lanes.

## **B. RELATED PROJECTS IN THE AREA**

*Turtle River Lake Rd., CSAH 22* in Beltrami County. The FHWA proposes to make operational and rehabilitation improvements that would include reconstructing and paving the existing gravel roadway. Work has yet to begin on this project.

*Corridor Management Plan, CSAH 39 and 10* in Beltrami and Cass Counties. The current Chippewa National Forest Land and Resource Management Plan requires that a Corridor Management Plan (CMP) be prepared for the Scenic Highway. A CMP, developed with community involvement, must be prepared for the scenic byway corridor proposed for national designation. The primary purpose of the CMP will be to provide for the protection and enhancement of the intrinsic qualities of the byway. Additionally, The CMP will guide the future development of the byway including the establishment of sideboards for projects such as highway reconstruction, interpretive kiosks and panels, recreational enhancements, and other related developments. This project is currently in project planning.

## **C. ALTERNATIVES CONSIDERED**

### **1. Alternative 1**

Alternative 1 is a No-Action alternative.

## **2. Alternative 2**

This alternative includes 12-foot travel lanes with four-foot turf shoulders. Refinements to lane widths, shoulders, drainage, and roadside features would allow FH 3 to meet current American Association of State Highway and Transportation Officials (AASHTO) design guidelines. The clear zone would be 15 to 25 feet from the edge of the travel lane.

## **3. Alternative 3**

This alternative qualifies as a potential Natural Preservation Route or NPR-3. It includes 12-foot travel lanes with four foot paved shoulders. The clear zone is limited to 15 feet from the edge of the travel lane.

## **4. Alternative 4**

This alternative meets CSAH and AASHTO standards, as well as conforming to standards in the Great River Road Route Selection and Development Guide. The lane width is 12 feet, with six-foot shoulders (4 feet paved, 2 feet unpaved). The clear zone is limited to 15 feet from the edge of the travel lane.

## **5. Alternative 5**

Twelve-foot travel lanes and six-foot paved shoulders are included in this alternative. This alternative would maintain the standard County State Aid clear zone of 25 feet.

## **D. ENVIRONMENTAL IMPACTS**

The National Environmental Policy Act of 1969 (NEPA) requires consideration of the environmental effects of proposed Federal actions. This Environmental Assessment (EA) provides the required environmental, socioeconomic analysis for the proposed work. As part of the planning and analysis, this EA has been prepared to evaluate alternatives and options for accomplishing this work with the least impact to Forest resources and Forest visitors. The Eastern Federal Lands Highway Division of the Federal Highway Administration has prepared this EA in cooperation with the U. S. Forest Service, and Leech Lake Reservation.

The Memorandum of Understanding (MOU) between the Federal Highway Administration (FHWA), U.S. Department of Agriculture Forest Service (FS), and Leech Lake Reservation (LLBO) describes the procedures regarding the appropriation and transfer of National Forest System Lands for highway purposes. In Section III C it states:

“In accordance with 23 CFR Part 771, 40 CFR 1501.6, and 1501.5(b), (c), and (e), it will be the responsibility of the FHWA to comply with the National Environmental Policy Act (NEPA) and other legal requirements in arriving at its determination that the lands are necessary for the project, and the FS, and LLBO will act as a cooperating agency or in limited situations as a joint lead agency in the development of any required NEPA document. The FHWA, FS, and LLBO will coordinate on the determination of the appropriate environmental analysis.”

The MOU between the FS, LLBO and FHWA sets out those elements of the Federal Highway Safety Program Standards which are applicable to and the responsibility of the FS. Under 23 CFR 1230.4 the requirements of the highway safety standards applicable to all FS roads open to the public include identification of surveillance of accident locations; standards of highway design, construction, and maintenance; traffic engineering services; and pedestrian safety. The FS is required to review the current status of its activities with regard to the relevant requirements of FHWA standards; develop, submit to FHWA and National Highway Traffic Safety Association (NHTSA), implement, and update a multiyear Comprehensive Plan for highway safety; and submit a comprehensive report annually on the administration of its highway safety program in accordance with 23 CFR 1230.4(b). Also to be submitted are the highway safety design standards applicable to all FS roads open to the public, clear roadside criteria, criteria for the use of guardrails, and bridge railing criteria.

The FHWA intends to explore alternatives for making improvements to FH 3 without diminishing the scenic and rural appearance, the character of the roadway, or existing natural and cultural resources. After the alternatives have been fully evaluated and the public has had an opportunity to review and provide comment on the proposed action, the FHWA will issue a decision on how it intends to proceed with the project. Coordination with the US Fish and Wildlife Service (FWS), the Minnesota State Historic Preservation Officer (SHPO), and the Tribal Historic Preservation Officer (THPO) must be complete before a final decision is made.

## **1. Scoping and Issues**

Issues and concerns related to roadway rehabilitation and construction have been identified by the Mn/DOT, the Beltrami County Highway Department, Cass County Highway Department, the Forest Service, Leech Lake Band, State and other Federal agencies, and through similar FHWA road projects. These issues are specific to cultural resources, water quality, vegetation and special status species (threatened, endangered, species of concern, and designated critical habitats).

## **2. Issues Evaluated in Detail**

Specific impact topics were developed to address potential natural, cultural, and social impacts that might result from the construction. These topics are derived from the issues identified above and address federal laws, regulations and orders, CNF management documents, and the FHWA's knowledge of limited or easily impacted resources. They are used to focus the information presented and discussed in the affected environment and environmental consequences sections. A brief rationale for the selection of each impact topic is given below.

### **a. Special Status Species**

Section 7 of the Endangered Species Act directs all Federal agencies to use their authority in furtherance of the purposes of the Act by carrying out programs for the conservation of rare, threatened, and endangered species. Federal agencies are required to consult with the FWS to ensure that any action authorized, funded, and/or carried out by the agency does not jeopardize the continued existence of any listed species or critical habitat. Protection and preservation of

special status species are of critical importance and will be discussed as part of this analysis (see **Table S-1**).

**b. Water Quality**

FHWA policies require protection of water quality consistent with the Clean Water Act. Since the proposed action involves work in or adjacent to lakes and streams, it has the potential to impact water quality. This issue will be discussed further in the document (see **Table S-1**).

**c. Wetlands**

Executive Order 11990 (Protection of Wetlands) requires an examination of impacts to wetlands. Using vegetation, soils, and hydrology as evidence of wetland characteristics, it has been determined that wetlands are present within the proposed project limits. This issue will be discussed further in the document (see **Table S-1**).

**d. Cultural Resources**

The National Historic Preservation Act of 1966 and the National Environmental Policy Act of 1969 (NEPA) require Federal agencies to consider the effects of their proposed actions on cultural resources. The proposed project has the potential to affect prehistoric and historic archaeological resources and features of the area's cultural landscape, including Traditional Cultural Practices. Protection and preservation of cultural resources are of critical importance and will be discussed as part of this analysis (see **Table S-1**).

The FHWA and the Beltrami County Highway Department, in consultation with the Minnesota SHPO and THPO, have determined that cultural resources meeting the criteria of eligibility for the National Register of Historic Places are present along the route. In addition, the setting of the Chippewa National Forest is managed to ensure that visitors are afforded a serene and pleasant travel experience, highlighted by the natural rural landscapes characteristic of the area. Perpetuation of these aesthetic characteristics of the cultural landscape is an important design consideration of the current project for this scenic byway. Therefore, in accordance with 36 CFR 8000, an assessment is required of the effect that construction would have on the area.

**Table S-1  
Summary of Environmental Impacts**

<b>Factor</b>	<b>No-Action Alternative (1)</b>	<b>Alternative 2</b> 12' Travel Lanes with 4' Turf Shoulders, 15-25 foot clear zone	<b>Alternative 3</b> 12' Travel Lanes with 4' Paved Shoulders, 15 foot clear zone	<b>Alternative 4</b> 12' Travel Lanes with 4' paved, 2' Unpaved Shoulders , 15 foot clear zone	<b>Alternative 5</b> 12' Travel Lanes with 6' Paved Shoulders, 25 foot clear zone
<b>Wetlands</b>	No change from the existing conditions would occur	7.5 acres of wetland would be impacted	7.5 acres of wetland would be impacted	7.5 acres of wetland would be impacted	8.9 acres of wetland would be impacted
<b>Vegetation</b>	No change from the existing conditions would occur	17.2 acres of non-wetland vegetation removal and clearing would occur. Overall impacts to vegetation would be minor.	17.2 acres of non-wetland vegetation removal and clearing would occur. Overall impacts to vegetation would be minor.	17.2 acres of non-wetland vegetation removal and clearing would occur. Overall impacts to vegetation would be minor.	22.6 acres of non-wetland vegetation removal and clearing would occur. Overall impacts to vegetation would be minor.
<b>Protected Species</b>	No change from the existing conditions would occur	Individuals in a population may be directly affected but the overall population is unlikely to decline or trend towards listing. Impacts to suitable habitat (see wetland and vegetation impacts above) by species are discussed in Section IV.	Individuals in a population may be directly affected but the overall population is unlikely to decline or trend towards listing. Impacts to suitable habitat (see wetland and vegetation impacts above) by species are discussed in Section IV.	Individuals in a population may be directly affected but the overall population is unlikely to decline or trend towards listing. Impacts to suitable habitat (see wetland and vegetation impacts above) by species are discussed in Section IV.	Individuals in a population may be directly affected but the overall population is unlikely to decline or trend towards listing. Impacts to suitable habitat (see wetland and vegetation impacts above) by species are discussed in Section IV.

<b>Factor</b>	<b>No-Action Alternative (1)</b>	<b>Alternative 2</b> 12' Travel Lanes with 4' Turf Shoulders, 15-25 foot clear zone	<b>Alternative 3</b> 12' Travel Lanes with 4' Paved Shoulders, 15 foot clear zone	<b>Alternative 4</b> 12' Travel Lanes with 4' paved, 2' Unpaved Shoulders , 15 foot clear zone	<b>Alternative 5</b> 12' Travel Lanes with 6' Paved Shoulders, 25 foot clear zone
<b>Air Quality</b>	No change from the existing conditions would occur	Minor temporary impacts may occur during construction, however air quality would be expected to return to normal once complete	Minor temporary impacts may occur during construction, however air quality would be expected to return to normal once complete	Minor temporary impacts may occur during construction, however air quality would be expected to return to normal once complete	Minor temporary impacts may occur during construction, however air quality would be expected to return to normal once complete
<b>Soils/ Geology</b>	No change from the existing conditions would occur	Some earth disturbance would be required to perform roadway reconstruction activities	Some earth disturbance would be required to perform roadway reconstruction activities	Some earth disturbance would be required to perform roadway reconstruction activities	Some earth disturbance would be required to perform roadway reconstruction activities
<b>Water Quality</b>	No change from the existing conditions would occur	Minor impacts to water quality would be expected during construction	Minor impacts to water quality would be expected during construction	Minor impacts to water quality would be expected during construction	Minor impacts to water quality would be expected during construction
<b>Birds, fish, and wildlife</b>	No change from the existing conditions would occur	Direct impacts to wildlife are not anticipated; however impacts to suitable habitat (see wetland and vegetation impacts above) are discussed in Section IV.	Direct impacts to wildlife are not anticipated; however impacts to suitable habitat (see wetland and vegetation impacts above) are discussed in Section IV.	Direct impacts to wildlife are not anticipated; however impacts to suitable habitat (see wetland and vegetation impacts above) are discussed in Section IV.	Direct impacts to wildlife are not anticipated; however impacts to suitable habitat (see wetland and vegetation impacts above) are discussed in Section IV.
<b>Archaeological Resources</b>	No change from the existing conditions would occur	No impacts will occur to the archaeological resources	No impacts will occur to the archaeological resources	No impacts will occur to the archaeological resources	No impacts will occur to the archaeological resources

<b>Factor</b>	<b>No-Action Alternative (1)</b>	<b>Alternative 2</b> 12' Travel Lanes with 4' Turf Shoulders, 15-25 foot clear zone	<b>Alternative 3</b> 12' Travel Lanes with 4' Paved Shoulders, 15 foot clear zone	<b>Alternative 4</b> 12' Travel Lanes with 4' paved, 2' Unpaved Shoulders , 15 foot clear zone	<b>Alternative 5</b> 12' Travel Lanes with 6' Paved Shoulders, 25 foot clear zone
<b>Historic Resources</b>	No change from the existing conditions would occur	No impacts will occur to the two National Register-eligible properties	No impacts will occur to the two National Register-eligible properties	No impacts will occur to the two National Register-eligible properties	No impacts will occur to the two National Register-eligible properties
<b>Traditional Cultural Properties</b>	No change from the existing conditions would occur	2.2 acres of upland and 0.4 acres of wetland TCP impacted	2.2 acres of upland and 0.4 acres of wetland TCP impacted	2.2 acres of upland and 0.4 acres of wetland TCP impacted	2.6 acres of upland and 0.4 acres of wetland TCP impacted
<b>Noise</b>	No change from the existing conditions would occur	Minor temporary impacts may occur during construction, however levels would return to normal once completed	Minor temporary impacts may occur during construction, however levels would return to normal once completed	Minor temporary impacts may occur during construction, however levels would return to normal once completed	Minor temporary impacts may occur during construction, however levels would return to normal once completed
<b>Visitor Use and Experience</b>	No change from the existing conditions would occur	Would improve the drivability and safety of the road	Would improve the drivability and safety of the road	Would improve the drivability and safety of the road	Would improve the drivability and safety of the road
<b>Socioeconomics</b>	No change from the existing conditions would occur	Local workers would benefit from the creation of short-term jobs and local long-term maintenance costs would decrease	Local workers would benefit from the creation of short-term jobs and local long-term maintenance costs would decrease	Local workers would benefit from the creation of short-term jobs and local long-term maintenance costs would decrease	Local workers would benefit from the creation of short-term jobs and local long-term maintenance costs would decrease
<b>Right-of-way</b>	No change from the existing conditions would occur	Right-of-way would be required for roadside grading	Right-of-way would be required for roadside grading	Right-of-way would be required for roadside grading	Right-of-way would be required for roadside grading



<b>Factor</b>	<b>No-Action Alternative (1)</b>	<b>Alternative 2</b> 12' Travel Lanes with 4' Turf Shoulders, 15-25 foot clear zone	<b>Alternative 3</b> 12' Travel Lanes with 4' Paved Shoulders, 15 foot clear zone	<b>Alternative 4</b> 12' Travel Lanes with 4' paved, 2' Unpaved Shoulders , 15 foot clear zone	<b>Alternative 5</b> 12' Travel Lanes with 6' Paved Shoulders, 25 foot clear zone
<b>Road Character</b>	No change from the existing conditions would occur	Alternative 2, with grass shoulders, would result in a narrower pavement width and less pavement overall than the other build alternatives and a softer view of the surrounding landscape. The use of turf shoulders as a visual buffer would help preserve the scenic nature of the facility. However, the viewscape would still be opened up with an increased clear zone.	This alternative would provide a more open vista of the landscape than the closed-in view provided by the unimproved roadway. The travel lane and shoulder configuration is similar to the existing typical section for County State Aid Highway (CSAH) 10 in Cass County, creating a more consistent design throughout the 27-mile corridor. This alternative qualifies as an NPR-3. The result would be a wider looking road with vegetation potentially closer to the travel lanes.	The clear zone would be limited to 15 feet from the edge of the travel lane. Despite the four extra feet of shoulder surface, the treeline would be identical to that proposed in Alternative 3. Therefore the overall view from the road will be the same as under Alternative 3, although the view of the road will be wider with more roadside grass.	Alternative 5 would provide the widest pavement/gravel width of the build alternatives and the largest clear zone. Therefore compared to the other alternatives it would provide the most open view with forest vegetation the farthest from the road.
<b>Transportation</b>	No change from the existing conditions would occur	Would meet AASHTO standards for functionality and safety	Would meet NPR-3, MnDOT standards for functionality and safety	Would meet standards for CSAH, AASHTO, Great River Road Route Selection and Development Guide	Would meet CSAH, MnDOT standards for functionality and safety

<b>Factor</b>	<b>No-Action Alternative (1)</b>	<b>Alternative 2</b> 12' Travel Lanes with 4' Turf Shoulders, 15-25 foot clear zone	<b>Alternative 3</b> 12' Travel Lanes with 4' Paved Shoulders, 15 foot clear zone	<b>Alternative 4</b> 12' Travel Lanes with 4' paved, 2' Unpaved Shoulders , 15 foot clear zone	<b>Alternative 5</b> 12' Travel Lanes with 6' Paved Shoulders, 25 foot clear zone
<b>Cumulative Impacts</b>	No change from the existing conditions would occur	The cumulative affects are minimal. The minor impacts would be minimized with the proposed mitigation measures. The existing rustic and scenic feel of the roadway would be maintained.	The cumulative affects are minimal. The minor impacts would be minimized with the proposed mitigation measures. The existing rustic and scenic feel of the roadway would be maintained.	The cumulative affects are minimal. The minor impacts would be minimized with the proposed mitigation measures. The existing rustic and scenic feel of the roadway would be maintained.	The cumulative affects are minimal. The minor impacts would be minimized with the proposed mitigation measures. The existing rustic and scenic feel of the roadway would be maintained.

## **E. PERMITS**

This document determines which aspects of the proposed action have potential for social, economic, or environmental impact. It also identifies measures that may mitigate adverse environmental impacts. Public involvement and coordination/consultation with other Government agencies is summarized in this document.

This document is prepared pursuant to the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act (NHPA), Section 7 of the Endangered Species Act (ESA), the Clean Water Act (CWA), and Executive Orders protecting wetlands and floodplains, and Executive Order 12898 regarding Environmental Justice.

### **1. Army Corps of Engineers**

Regulatory authority and responsibilities of the Corps of Engineers includes Section 404 of the Clean Water Act. This includes regulation of the discharge of dredged or fill material into waters of the United States, including both navigable waters and adjacent wetlands. In addition, Section 10 of the Rivers and Harbors Act of 1899 is regulated by the Corps of Engineers for activities in or affecting navigable waters. Since the actions proposed may impact waters that are considered waters of the United States, the proposed action is subject to U.S. Army Corps of Engineers review under the Section 404 regulatory program.

### **2. Wetland Conservation Act**

Any proposed improvements would have to meet the requirements set forth in Minnesota's Wetland Conservation Act as administered by the Minnesota Board of Water and Soil Resources, Beltrami and Cass Counties, and/or any applicable Soil and Water Conservation Districts.

### **3. Public Waters Program**

The Minnesota Department of Natural Resources (DNR) Division of Water Resources oversees the administration of the Public Waters Work Permit Program. This program, begun in 1937, regulates water development activities below the ordinary high water level (OHWL) in public waters and public waters wetlands. Public waters are all waterbasins and watercourses that meet the criteria set forth in Minnesota Statutes, Section 103G.005, subd. 15. Public waters wetlands include all type 3, type 4, and type 5 wetlands that are 10 acres or more in size in unincorporated areas or 2 ½ acres or more in size in incorporated areas. Examples of development activities addressed by this program include filling, excavation, shore protection, bridges and culverts, structures, docks, marinas, water level controls, dredging, and dams.

### **4. U.S. Fish and Wildlife Service**

The FWS was consulted regarding the presence of federally listed threatened or endangered species within the study area. If any such species were known to inhabit the area, appropriate measures would be developed to protect the species from harm.

## **5. Leech Lake Band of Ojibwe**

In addition to the Leech Lake Cultural Resources Protection Ordinance THPO activities, special permits are required by the tribe for investigations on tribal land and tribal allotments. The THPO has authority to issue Leech Lake permits for cultural resource investigations that occur within the boundary of the reservation. Leech Lake also issues permits for natural resource investigations on tribal lands.

## **6. Pennington Bog Scientific and Natural Area**

Research permits are required for entry into the Pennington Bog Scientific and Natural Area (SNA). Development activities are not allowed in a SNA unless permitted by the commissioner after a public hearing process. An additional DNR takings permit is required if any individual state-listed threatened or endangered species are proposed to be destroyed after careful consideration of avoidance.

## **F. MINNESOTA ENVIRONMENTAL REVIEW PROGRAM**

According to Minnesota Environmental Review Rules, an Environmental Assessment Worksheet (EAW) must be completed to disclose information about potential environmental impacts of a project. A federal environmental assessment document may be completed in place of the EAW form without prior approval from the Environmental Quality Board. All requirements of the EAW process must be followed when an environmental assessment document is substituted for an EAW. This EA complies with the requirements of the Environmental Review Process.

# SECTION I

## PURPOSE AND NEED

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### A. PROJECT LOCATION

Minnesota Forest Highway 3 (FH 3), also known as County State Aid Highway (CSAH) 39 in Beltrami County and CSAH 10 in Cass County, is a Minnesota Scenic Byway named Scenic Highway located in Beltrami and Cass Counties, in the Headwaters Lakes Region of Minnesota approximately 20 miles east of Bemidji. Situated in a rural area within the boundaries of the Chippewa National Forest, and Leech Lake Reservation, the roadway provides access between US Highway 2 and the town of Blackduck at its intersection with US Highway 71. The roadway segment between the county line and US Highway 71 in Beltrami County is CSAH 39, and the roadway segment between the county line and US Highway 2 in Cass County is CSAH 10. The landscape surrounding the roadway is comprised predominantly of mixed hardwood forest and wetlands. According to local records, the original roadway alignment was completed in 1939 consisting of grading, culverts, and aggregate surfacing. In 1955 and 1956, sand and aggregate was placed on the original aggregate and a 2-inch bituminous pavement was added. The majority of the land adjoining the route is managed by the Chippewa National Forest. However, the Leech Lake Band of Ojibwe, the State of Minnesota, and the counties of Cass and Beltrami also all hold parcels of land along this corridor. The roadway passes through the Leech Lake Reservation.

**Figure I-1** shows the location of the project study area. The study area consists of a 78-foot bandwidth centered on the existing roadway.

### B. DESCRIPTION OF PROPOSED ACTION

The Federal Highway Administration (FHWA) proposes to make operational and rehabilitation improvements to FH 3. The purpose of this reconstruction is to enhance safety and improve the overall condition of the facility. These improvements would consist of a few areas of realignment and reconstruction of the roadbed and surface. These repairs and improvements will improve the riding surface, adjust the roadway's substandard lane width, correct drainage and geometric deficiencies, improve driver safety, and provide for future transportation needs.

### C. NEED FOR PROPOSED ACTION

The purpose of the proposed improvements is to upgrade the existing roadway to provide an adequate and safe roadway for current and future traffic. The existing route is not adequate for current and projected traffic levels. Inadequate travel lane width and minimal shoulders create a safety hazard for travelers.

FH 3 is designated as a major collector with a posted speed limit of 55 miles per hour. The typical section varies along the approximately 27 miles of FH 3 between US Highway 2 and US Highway 71.

CSAH 10 in Cass County was reconstructed in 2001 to two 12-foot lanes with four-foot paved shoulders. A variable width clear zone adjacent to the paved shoulder allows for recovery of vehicles that leave the roadway. Typically, trees and vegetation have been cleared a distance of 25 feet from the edge of the travel lane.

Unlike CSAH 10, CSAH 39 has not been reconstructed and generally includes 11-foot lanes and two-foot graded grassed shoulders. A ditch or tie-in to the existing ground begins immediately outside of the graded grass shoulder at the bottom of the inslope. Typically, trees and vegetation have been cleared back only about 16 feet from the edge of the travel lanes.

The current average daily traffic (ADT) on FH 3 varies from approximately 550 to 1,000 vehicles per day depending on location along the route, and is projected to increase by 59% over the next 20 years (approximately 2.9% per year). The existing roadway does not meet current Minnesota Department of Transportation (Mn/DOT) roadway design and safety standards for natural preservation routes for designated national highways within national forests, particularly at some of the roadway intersections and along curves. FH 3 is frequently utilized by recreational vehicles, logging trucks, school buses, and other large vehicles. This use is expected to increase in the future.

The proposed improvements to FH 3 are needed to correct the roadway's substandard lane width, correct geometric deficiencies, provide a higher load carrying capacity, improve driver safety, and support future transportation needs. In addition, bike path connections proposed under the Blackduck Trail Project should be incorporated into the final design.

Beltrami County has compiled accident data for the years 2000-2002. Fifteen accidents occurred along CSAH 39 during that period, 11 accidents involving only one vehicle and four involving two vehicles. No fatalities occurred, one accident involved an incapacitating injury, three involved non-incapacitating injuries, and three involved possible injuries. Eight of the fifteen accidents involved property damage only. One accident involved a collision with a deer.

## **D. TRAFFIC CONDITIONS**

The predominant existing cross section is a 20-22-foot wide paved surface roadbed. The legal speed limit along the route is 55 mph. The highway network in the vicinity of this segment of FH 3 consists exclusively of secondary routes including township, county, county state aid, state forest and national forest roads and highways. The route functions as a collector and is classified as a major collector. The traffic is predominantly of local origin and destination consisting of commuter and recreational trips with personal vehicles. The route does carry some commercial traffic including logging trucks.

The route carries a higher volume of personal vehicles in the summer months due to the local tourism industry and the increasing number of seasonal homes along nearby lakes. The logging

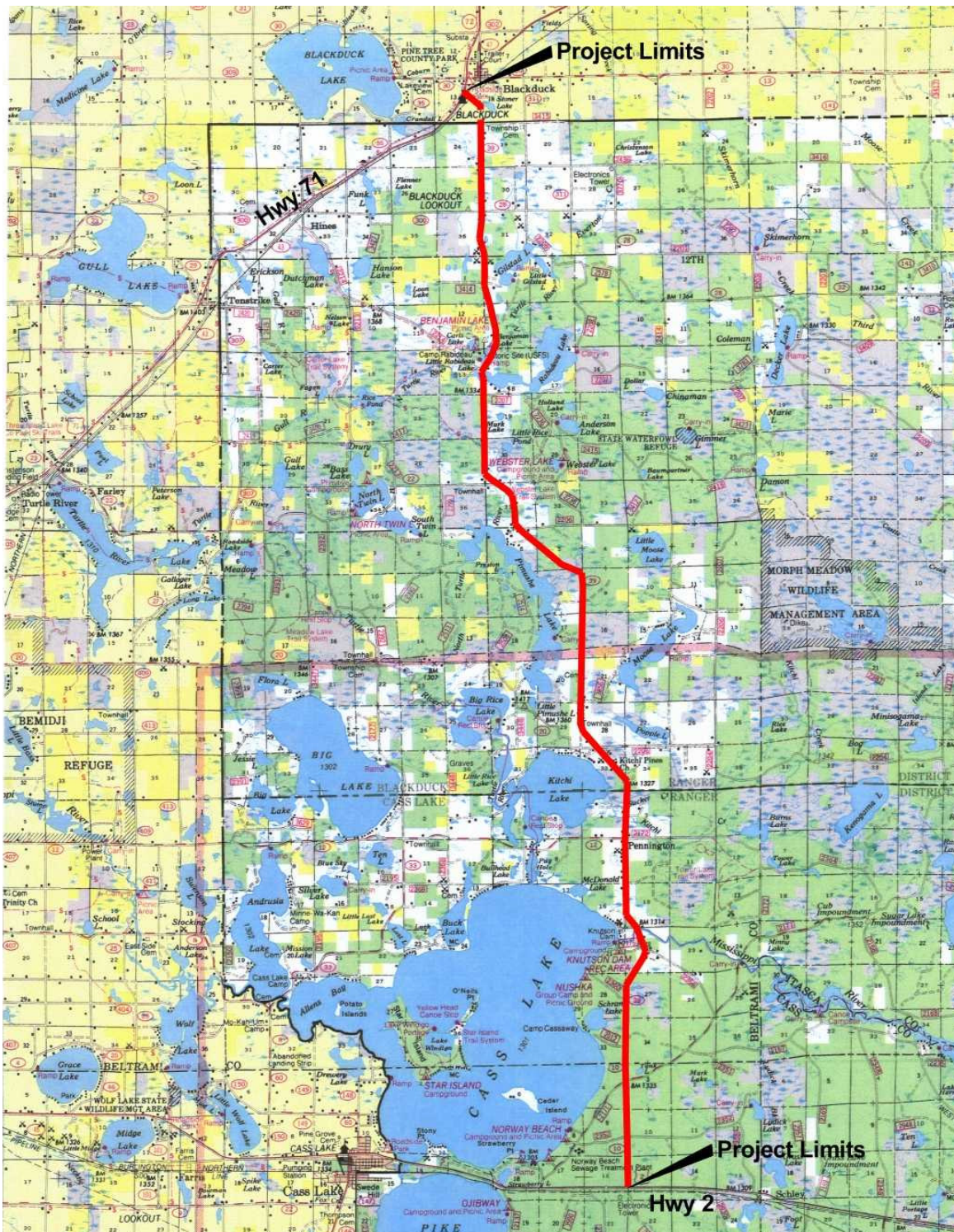


Figure I-1  
Project Location Map

industry traffic is present year round, but is considerably higher during the winter months. Logging traffic is both through traffic and traffic generated by timber sales on the extensive county, state forest, and national forest lands for which the route serves as the only access. The route is on the local school bus and mail routes and does provide a connection for emergency service vehicle operations.

**Table I-1** shows existing and projected average daily traffic for FH 3 and surrounding roads.

**Table I-1  
Average Daily Traffic for FH 3 and Surrounding Roads**

<b>Roadway</b>	<b>Existing ADT (2001)</b>	<b>Projected ADT (2021)</b>
CSAH 20	940	1,598
CSAH 22	294	500
CSAH 27	220	374
CSAH 39	550-1,000	875-1,590

## **E. PROTECTION OF NATURAL, CULTURAL, AND VISUAL RESOURCES**

The 27-mile Forest Highway 3 corridor possesses many unique natural, cultural, and visual resources. It is the purpose of this project to protect these resources. These resources include the following:

- The Pennington Bog, one of the most unique wetlands in the State of Minnesota, exists along Forest Highway 3. It is a purpose of this roadway construction to avoid and minimize impacts to this valuable natural resource to the maximum extent possible. Suggestions made by the Minnesota DNR to avoid and minimize impacts include reducing the speed limit through the Bog so that the roadway cross section can be reduced, placing guard rails along the roadway so that the angle of side slopes can be increased, and reconstructing the roadway in such a fashion that the groundwater hydrology is not altered by the roadway. Relocation of the road was also suggested by MNDNR as a means to avoid impacts to this unique resource.
- Many other wetlands exist along the corridor, including large sedge meadow wetlands and a large bog north of the Mississippi River. It is a purpose of this project to protect these valuable wetland resources to the maximum extent possible.
- The Mississippi River is a valuable natural resource in the corridor. Construction impacts to this resource will need to be minimized, including any provision for improving pedestrian safety on the bridge over the river.



- The corridor passes through tribal lands, tribal allotments, and the Pennington Indian Community in the area where the road crosses the Mississippi River. It is a purpose of this project to maintain the visual qualities of the corridor in this area, to not impact cultural resources in this area, and to maintain and improve pedestrian safety on the bridge over the Mississippi River.
- This route is a Scenic Byway. Its visual resources must be maintained. A Corridor Management Plan (CMP) exists for FH3. The primary purpose of the CMP will be to provide for the protection and enhancement of the intrinsic qualities of the byway. Additionally, the CMP will guide the short and long term future development of the byway including the establishment of sideboards for projects such as highway reconstruction, interpretive kiosks and panels, recreational enhancements, and other related developments. The CMP will help shape the future of the byway and consequently the tourism opportunities that go with it.

## **A. DESCRIPTION OF ALTERNATIVES**

The following is a description of the proposed alternatives to improve approximately 27 miles of roadway along Forest Highway 3 (FH 3) between US Highway 71 in Beltrami County and US Highway 2 in Cass County, Minnesota.

The purpose of the proposed improvements is to upgrade the existing roadway to provide an adequate and safe roadway for current and future traffic. Inadequate travel lane width and minimal shoulders create a safety hazard for travelers. The existing roadway does not meet current Minnesota Department of Transportation (Mn/DOT) roadway design and safety standards for natural preservation routes and designated national highways within national forests. Recreational vehicles, logging trucks, school buses, and other large vehicles frequently utilize FH 3. One objective of this study is to identify potential improvements to the deteriorating surface and sub-base, and to upgrade the road to withstand heavier loads. This will meet current hauling level needs without diminishing the existing character of the roadway.

In an effort to meet the purpose and need for this project, the following alternatives have been identified for consideration.

### **1. No Action Alternative**

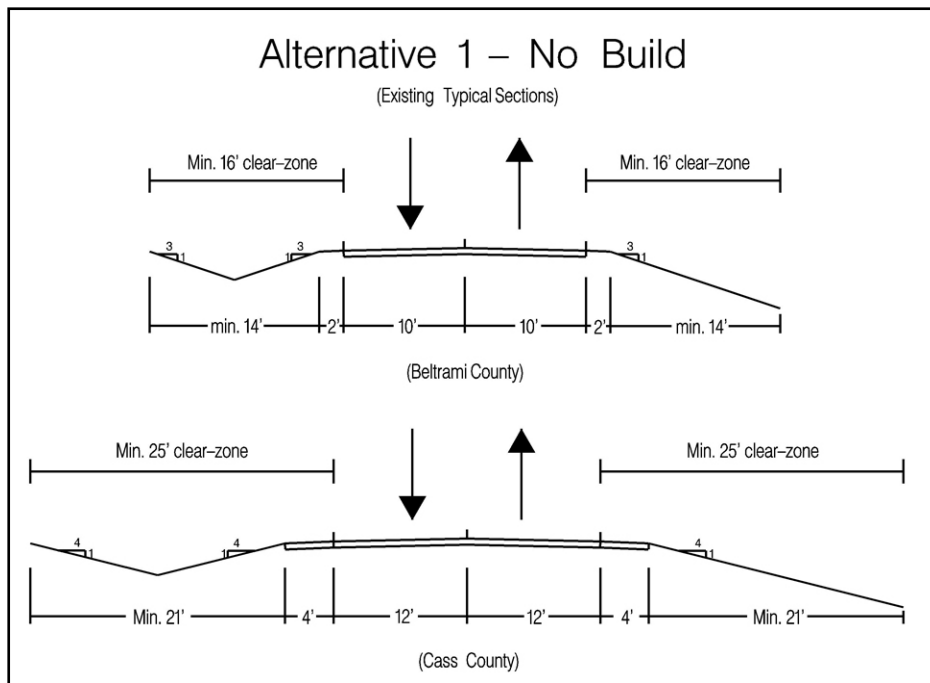
#### **a. Alternative 1: No-Action**

Alternative 1 includes no changes to the existing FH 3 typical sections (**Figure II-1**). This alternative does not resolve the safety and geometric deficiencies described in the Purpose and Need for the project. However, it will serve as a baseline for judging the impacts and benefits associated with the other alternatives.

Existing FH 3 employs two distinct typical sections, divided by the Cass/Beltrami county line. The first, which is used in the northern segment from US Highway 71 to the county line, consists of an 20 to 22-foot paved surface with 2 to 4-foot graded turf shoulders. The southern segment, extending from the county line to US Highway 2, consists of two 12-foot lanes and 4-foot paved shoulders.

Consideration should be given by Beltrami County to the installation of advisory guide signs in the locations not meeting geometric criteria.

Under the current road conditions, suitable paved shoulders do not exist for bicyclist safety. AASHTO guidelines recommend four-foot paved shoulders outside of the travel lanes to significantly improve the safety and convenience of bicycle and vehicle travelers on a shared roadway.



**Figure II-1**

## 2. Build Alternatives

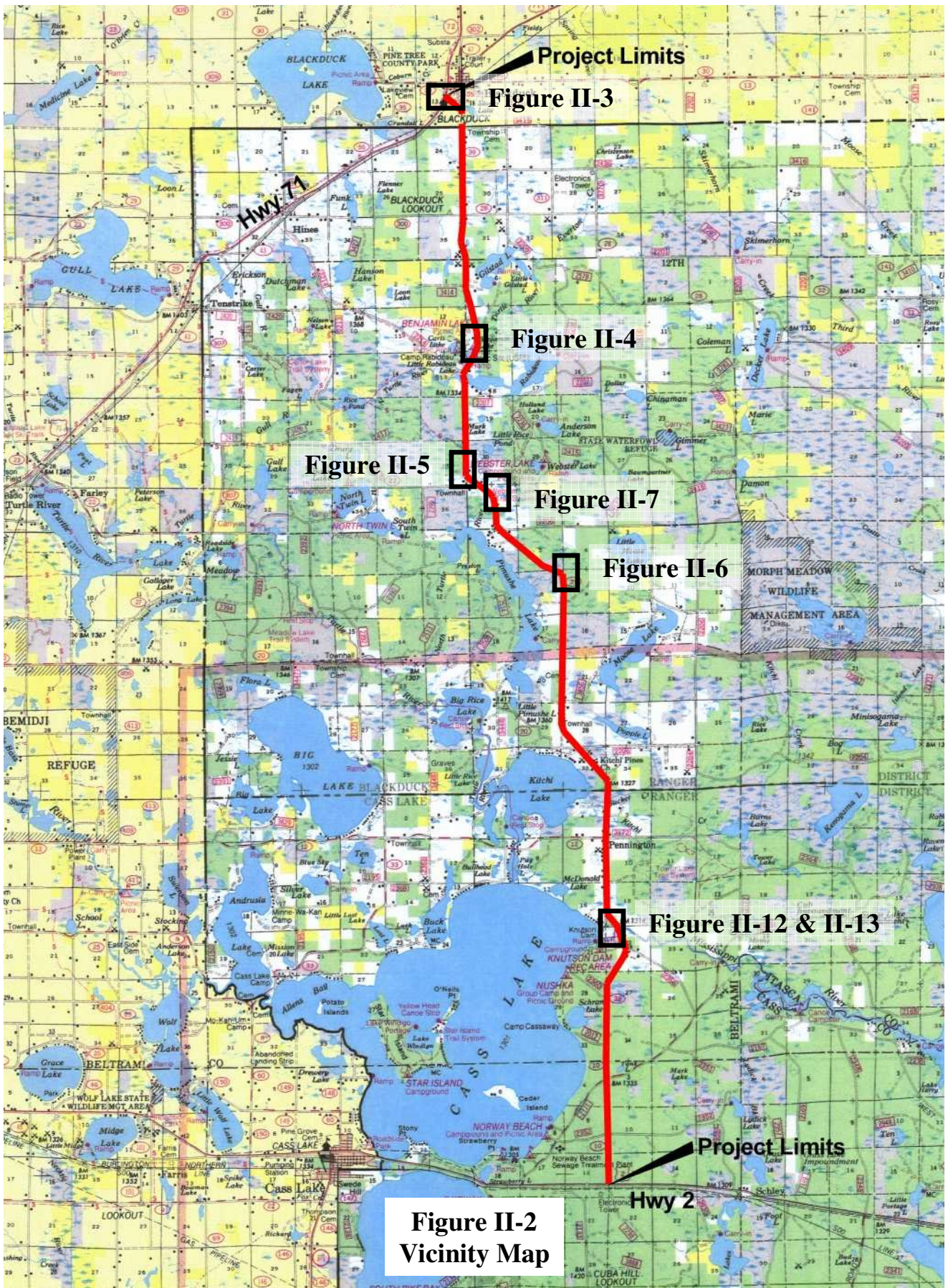
For each of the build alternatives under consideration, a series of horizontal and vertical improvements have been identified. These improvements and the impacts associated with them will be evaluated further during the detailed design phase of the project when better base mapping and survey information is available.

The locations of the horizontal improvements, as well as the Mississippi River crossing, are provided on the Vicinity Map (**Figure II-2**).

As part of the overall improvements to FH 3, it is recommended that the northern terminus be extended to intersect with US Highway 71 in Blackduck (**Figure II-3**). This will require a minor horizontal realignment of FH 3 and the existing intersection with CSAH 47 that will tie-in as a T-intersection with FH 3. In addition, a bike path connection proposed under the Blackduck Trail Project should be incorporated into the final design.

The recovery area will have a 4:1 inslope on the grass slope immediately adjacent to the paved road section in order to minimize gradient and potential for soil erosion. The depth of the ditches will be minimized in deep peat to prevent channeling.

Three locations along the existing alignment of FH 3 do not meet the geometric design criteria for a 55 mph roadway. At each of the three potential locations the horizontal curvature of the roadway has been preliminarily designed to meet the minimum AASHTO design standards. The additional right-of-way required and impacts to resources have been calculated for these design improvements. The locations of the three horizontal geometric improvements (from north to south) are:



- East of Benjamin Lake, just north of NF 2214 (**Figure II-4**)
- Just north of CSAH 22, east of North Twin Lake (**Figure II-5**)
- East of Pimushe Lake, south of NF 2206 (**Figure II-6**)

Additional improvements were designed for a section south of CSAH 22, but were eliminated from consideration due to homeowner objections and potential impacts to ladyslippers (**Figure II-7**). Several locations were identified for vertical improvements based on field observations and public comments. Detailed evaluation of these and other areas will be undertaken during the detailed design phase of the project. The locations of the areas of vertical geometric deficiencies include, but are not limited to:

- Just south of the intersection with Cass River Road, north of the Mississippi River
- Just north of Brook Lake Road
- The intersection with Hines Road

The following build alternatives have been identified for consideration (see **Table II-1**).

**Table II-1  
Comparison of Build Alternatives**

<b>Road Property</b>	<b>Alternative 2</b>	<b>Alternative 3</b>	<b>Alternative 4</b>	<b>Alternative 5</b>
Lane width	12 ft.	12 ft.	12 ft.	12 ft.
Clear zone	15-25 ft.	15 ft.	15 ft.	25 ft.
Shoulder width	4 ft.	4 ft.	6 ft.	6 ft.
Shoulder type	Turf	Paved	4 ft. paved, 2 ft. unpaved	Paved
Standards met	AASHTO	NPR-3, Mn/DOT	CSAH, AASHTO, NPR-3, Mn/DOT, Great River Road Route Selection and Development Guide	CSAH, Mn/DOT
Standards not met	Mn/DOT	---	---	---
Tonnage able to use road	7	10		10
Undesignated shared-use bicycle facility	No	Yes	Yes	Yes

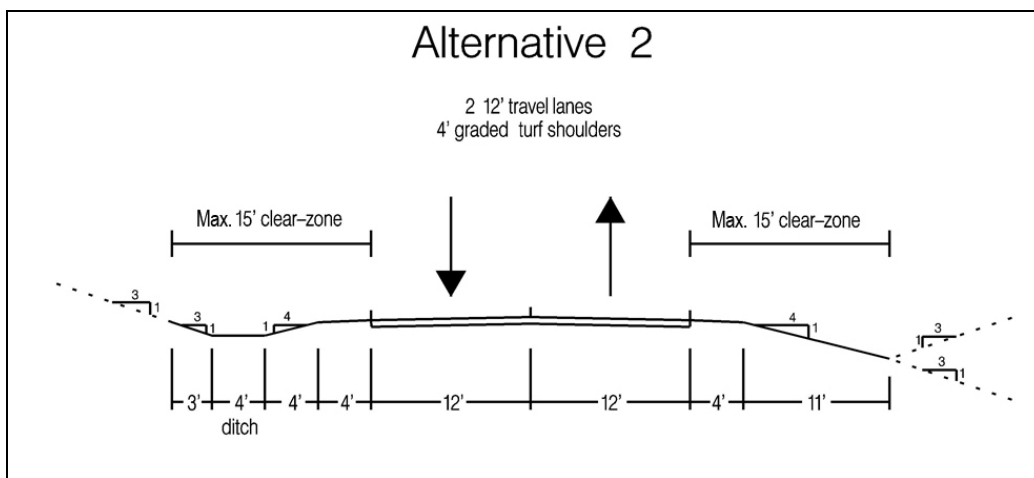
**a. Alternative 2: 12' Travel Lanes with 4' Turf Shoulders**

This alternative includes refinements to lane widths, shoulders, drainage, and roadside features to allow FH 3 to meet current American Association of State Highway and Transportation Officials (AASHTO) design guidelines, but does not meet the Mn/DOT design standards. The road will support 7-ton trucks. Lane widths would be increased to 12 feet, with additional 4-foot graded,

stabilized turf shoulders outside of the pavement edge (**Figure II-8**). The use of turf shoulders would help preserve the scenic nature of the facility, providing a look similar to the existing roadway in Beltrami County.

A minimum 15-foot clear zone, the AASHTO standard, would be provided outside of the travel lanes, including roadside ditches that would be regraded with slopes considered traversable under AASHTO roadside design guidelines. These improvements would provide opportunities for safe recovery for vehicles encroaching beyond the edge of the shoulder.

This alternative would not meet AASHTO standards of safety for bicyclists. It will not improve the safety or convenience of bike riding along FH3. Grassy shoulders do not meet minimum bicycle facility standards as identified by AASHTO guidelines.

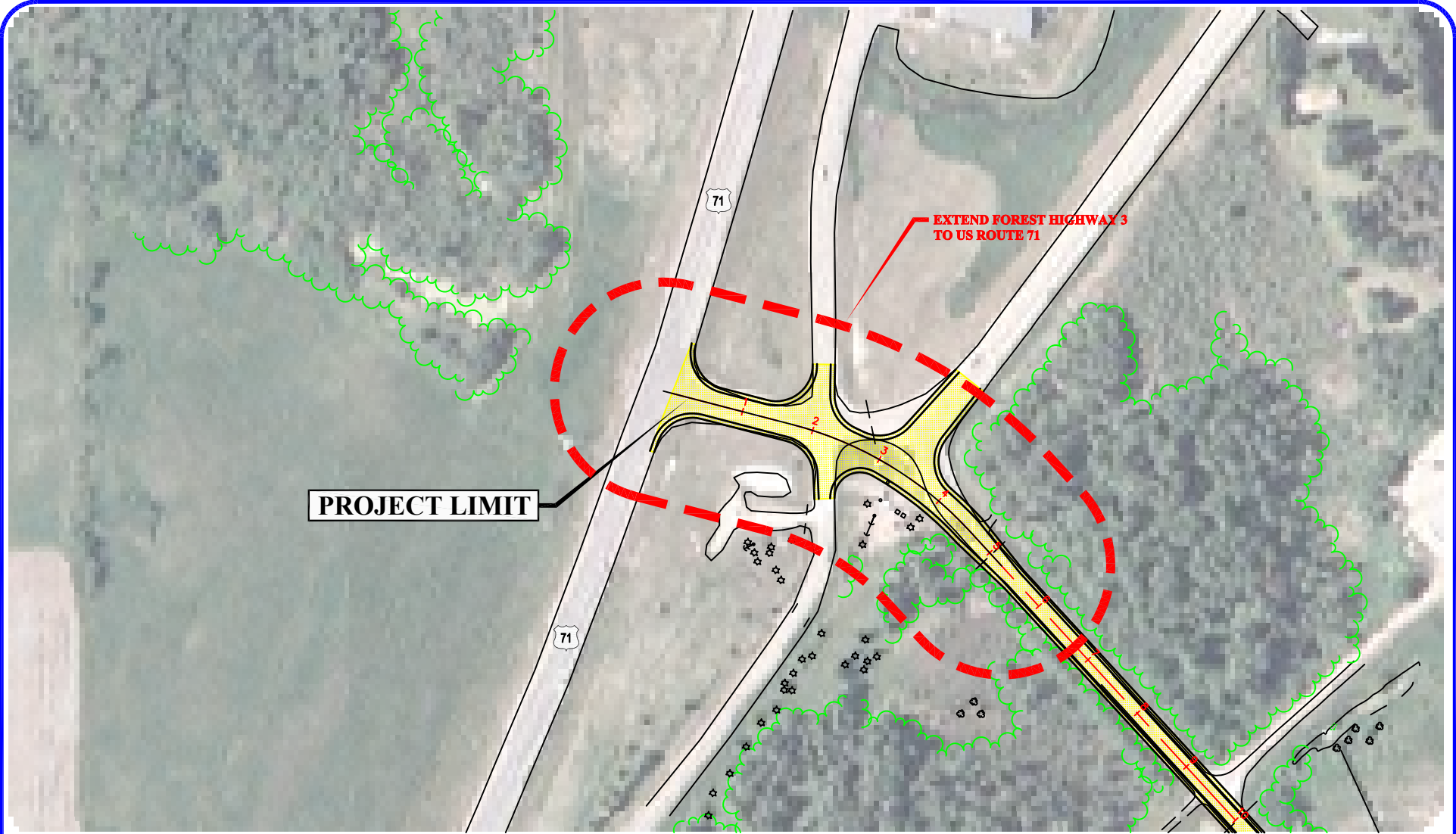


**Figure II-8**

**b. Alternative 3: 12' Travel Lanes with 4' Paved Shoulders**

This alternative qualifies as a potential Natural Preservation Route or NPR-3. It meets Mn/DOT standards and will support 10-ton truck usage. The typical section for this alternative is geometrically identical to Alternative 2, except that 4-foot paved shoulders are substituted for the 4-foot stabilized turf shoulders and the clear zone is limited to 15 feet from the edge of the travel lane (**Figure II-9**). The travel lane and shoulder configuration for Alternative 3 is similar to the existing typical section for County State Aid Highway (CSAH) 10 in Cass County, creating a more consistent design throughout the 27-mile corridor.

This alternative would meet minimum AASHTO standards of safety for bicyclists and pedestrians. It would satisfy bicyclist safety standards as a shared roadway without creating a separate bikeway designation. The development of four-foot paved shoulders outside of the travel lanes, demarcated by a painted stripe, would increase bicyclist and motorist safety and convenience.



**PROJECT LIMIT**

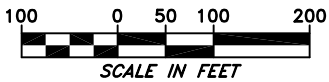
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*ENVIRONMENTAL ASSESSMENT*

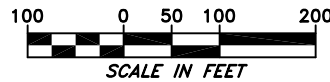
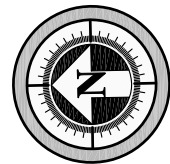
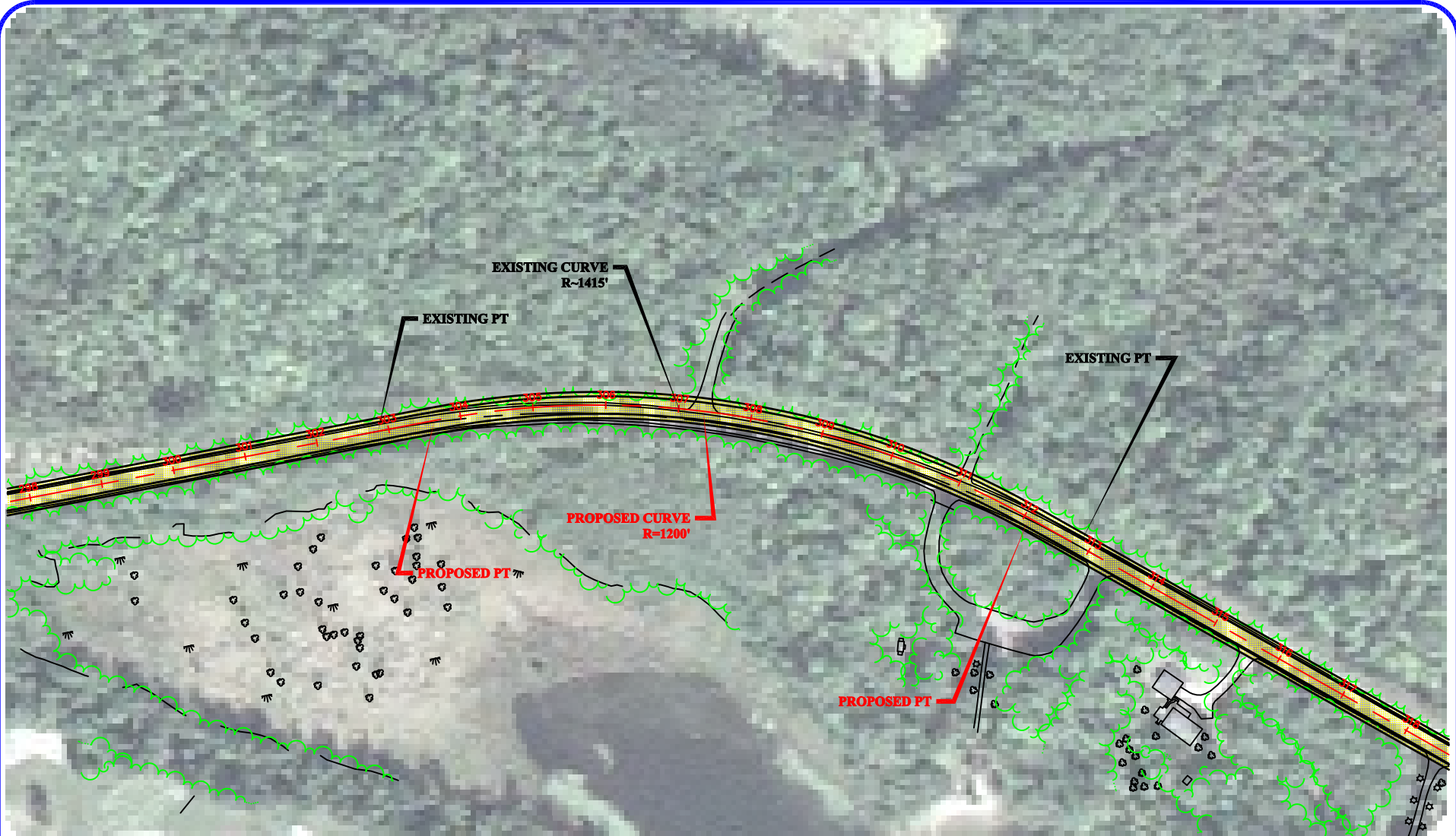
**PROPOSED ROADWAY REALIGNMENT**

DATE:  
MAY 2007  
SCALE:  
AS SHOWN

**URS**  
*Engineers/Architects/Planners/Surveyors*  
4 NORTH PARK DRIVE, SUITE 300  
HUNT VALLEY, MARYLAND 21080  
TELEPHONE: 410-788-7220

FIGURE:  
**II-3**





**FOREST HIGHWAY 3**  
*ENVIRONMENTAL ASSESSMENT*

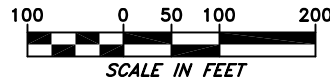
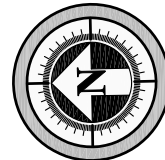
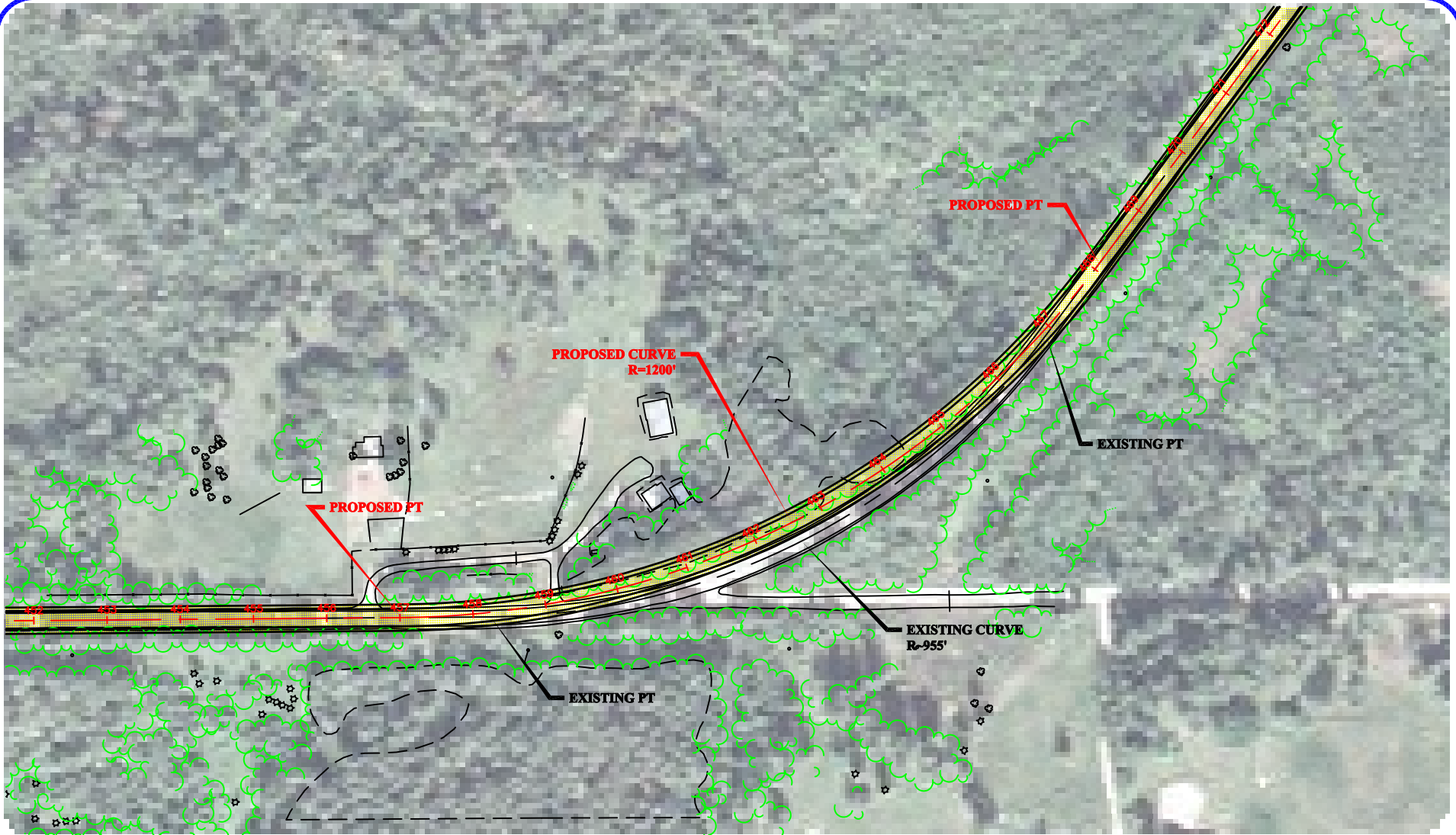
**PROPOSED ROADWAY REALIGNMENT**

DATE:  
MAY 2007  
SCALE:  
AS SHOWN

**URS**  
*Engineers/Architects/Planners/Surveyors*  
4 NORTH PARK DRIVE, SUITE 300  
HUNT VALLEY, MARYLAND 21080  
TELEPHONE: 410-788-7220

FIGURE:  
**II-4**





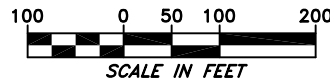
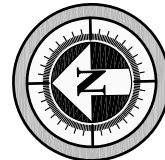
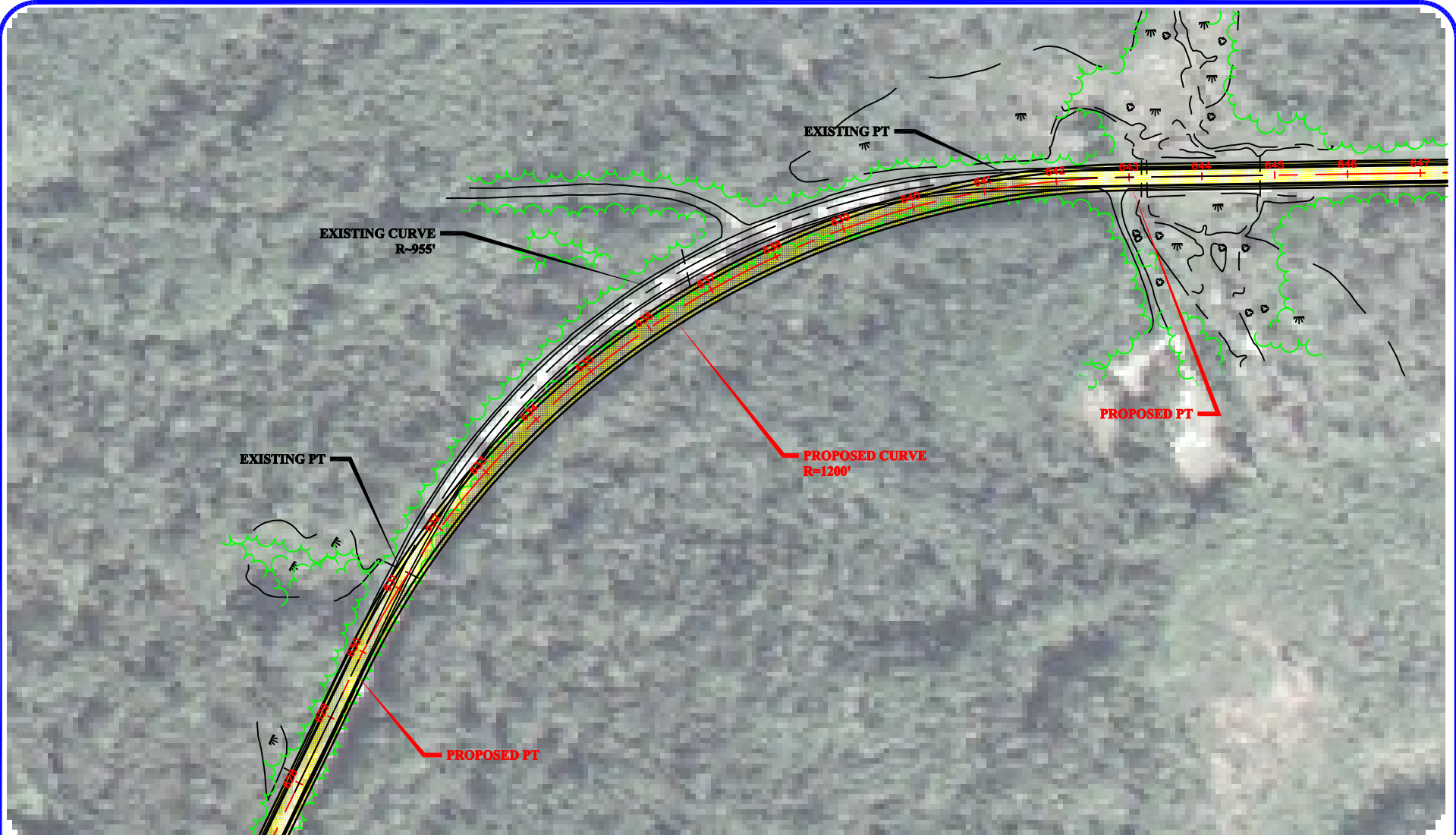
### FOREST HIGHWAY 3 ENVIRONMENTAL ASSESSMENT

### PROPOSED ROADWAY REALIGNMENT

DATE:  
MAY 2007  
SCALE:  
AS SHOWN

**URS**  
Engineers/Architects/Planners/Surveyors  
4 NORTH PARK DRIVE, SUITE 300  
HUNT VALLEY, MARYLAND 21080  
TELEPHONE: 410-788-7220

FIGURE:  
**II-5**



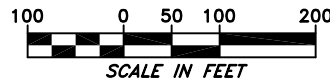
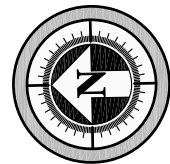
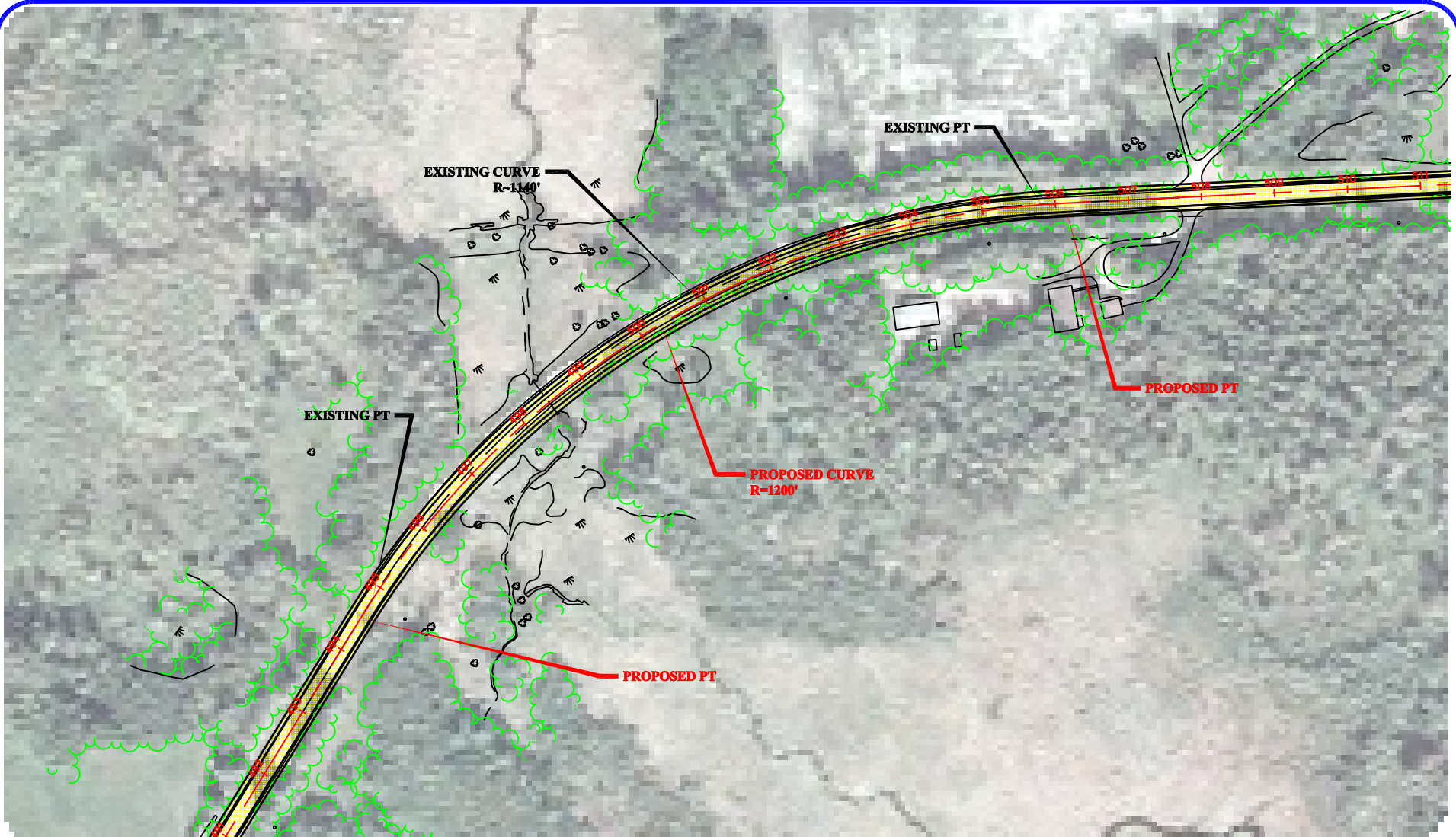
**FOREST HIGHWAY 3**  
*ENVIRONMENTAL ASSESSMENT*

**PROPOSED ROADWAY REALIGNMENT**

DATE:  
MAY 2007  
SCALE:  
AS SHOWN

**URS**  
*Engineers/Architects/Planners/Surveyors*  
4 NORTH PARK DRIVE, SUITE 300  
HUNT VALLEY, MARYLAND 21080  
TELEPHONE: 410-788-7220

FIGURE:  
**II-6**



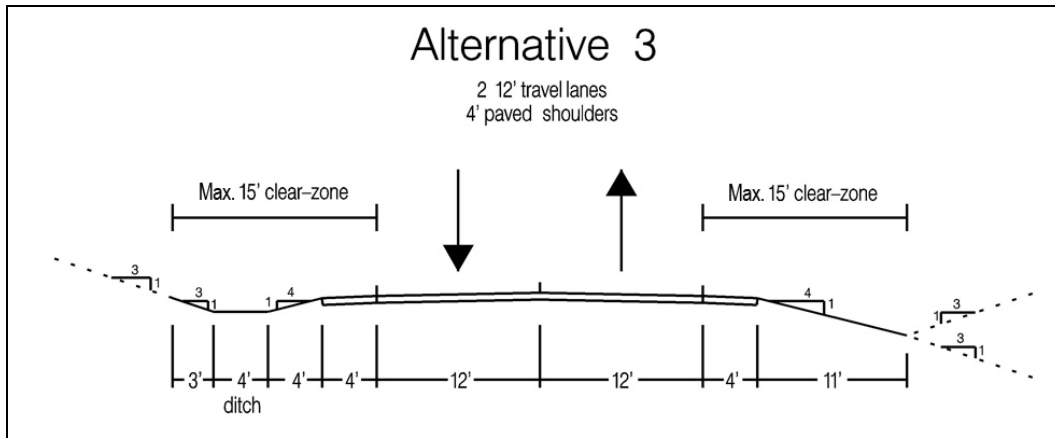
**FOREST HIGHWAY 3**  
*ENVIRONMENTAL ASSESSMENT*

**PROPOSED ROADWAY REALIGNMENT**

DATE:  
MAY 2007  
SCALE:  
AS SHOWN

**URS**  
*Engineers/Architects/Planners/Surveyors*  
4 NORTH PARK DRIVE, SUITE 300  
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TELEPHONE: 410-788-7220

FIGURE:  
**II-7**



**Figure II-9**

**c. Alternative 4: 12' Travel Lanes with 6' Shoulder**

The typical section for this alternative is based upon CSAH design criteria with 6-foot shoulders (4-foot paved and 2-foot unpaved grass) and 12-foot travel lanes (**Figure II-10**). It meets Mn/DOT standards and will support 10-ton truck usage. The clear zone is limited to 15 feet from the edge of travel lane. Any trees removed beyond the 15-foot clearzone for construction of this alternative will be replanted. The travel lane and shoulder configuration for Alternative 4 is similar to the existing typical section for County State Aid Highway (CSAH) 10 in Cass County, creating a more consistent design throughout the 27-mile corridor.

This alternative would meet minimum AASHTO standards of safety for bicyclists and pedestrians. It would satisfy bicyclist safety standards as a shared roadway without creating a separate bikeway designation. The development of four-foot paved shoulders outside of the travel lanes, demarcated by a painted stripe, would increase bicyclist and motorist safety and convenience. It is also consistent with the Great River Road Route Selection and Development Guide.

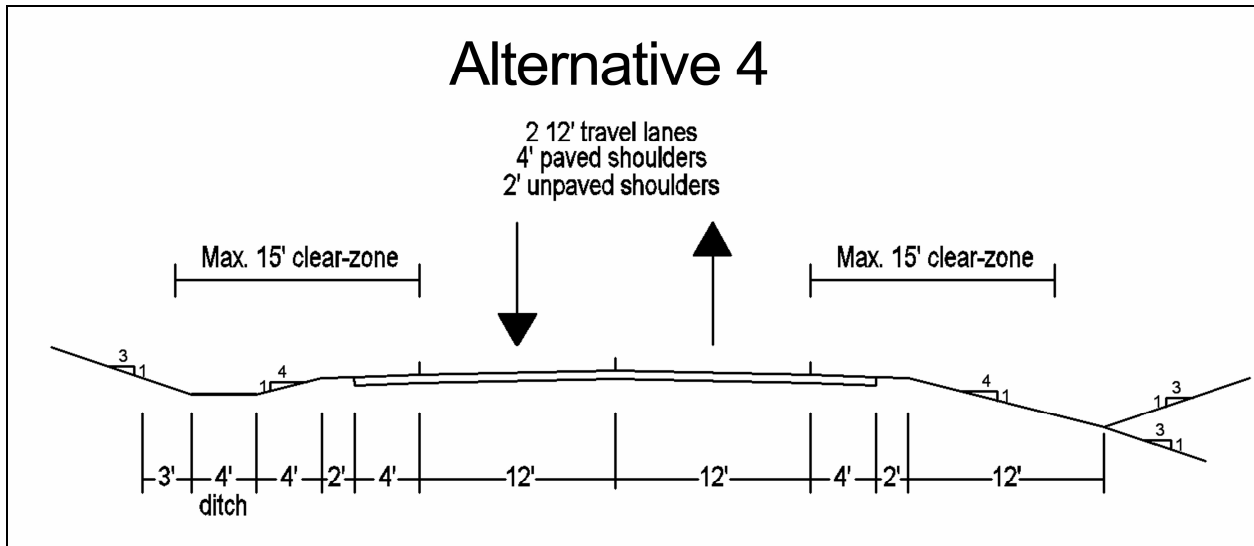
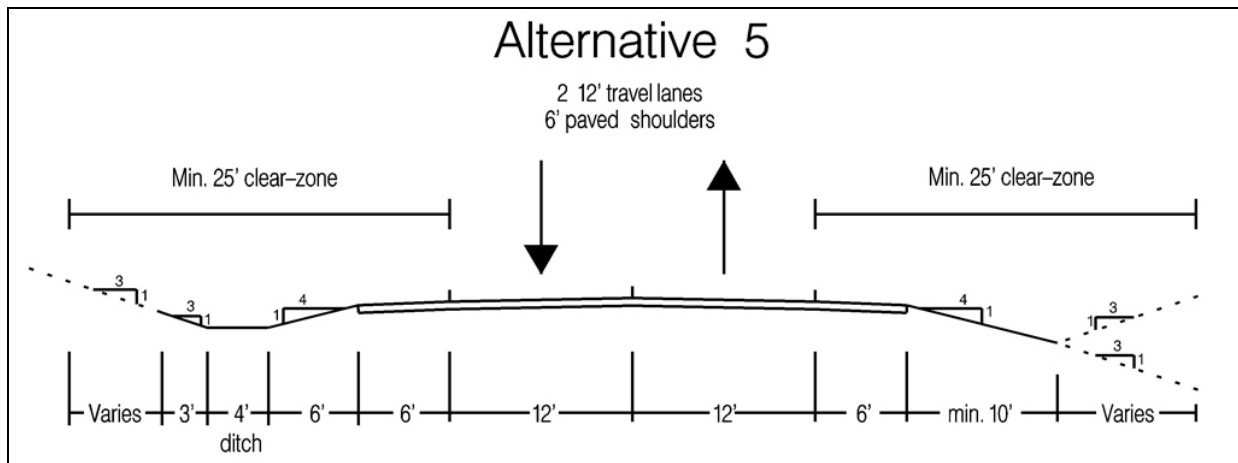


Figure II-10

**d. Alternative 5: 12' Travel Lanes with 6' Shoulders**

The typical section for this alternative is based upon CSAH design criteria with 6-foot shoulders (either 6-foot paved or 4-foot paved with 2-foot gravel shoulders) and 12-foot travel lanes (Figure II-11). It meets Mn/DOT standards and will support 10-ton truck usage. The travel lane and shoulder configuration are similar to the existing typical section for CSAH 10 in Cass County, creating a more consistent design throughout the 27-mile corridor. The additional 2 feet of shoulder width provides for a safer and more user-friendly area for bicycle and pedestrian traffic. This alternative also provides the standard County State Aid clear zone of 25 feet for vehicle recovery.

Under this alternative, minimum AASHTO standards of safety for bicyclists would be exceeded. Six-foot paved shoulders outside of the travel lanes would significantly improve the convenience and safety of bicyclists and motorists along FH3. The improved roadway would satisfy the needs of bicyclists as a shared roadway without a separate bikeway designation.



**Figure II-11**

**e. Additional Considerations**

Under any of the Build Alternatives, measures for pedestrian safety will be considered at the Mississippi River crossing. As identified by the public in several comment letters, the narrow bridge creates an unsafe crossing for pedestrians in the Pennington Indian Community. The addition of a pedestrian path and bridge would improve pedestrian safety. The path and bridge would be constructed to the east of FH 3 and the bridge would be constructed to the same elevation as the FH 3 bridge. Environmental impacts would include construction of the path on grassed upland areas and installation of piles adjacent to the river to support the pedestrian bridge (**Figures II-12 and II-13**).

The existing roadway elevation, based on field observations, is higher than the existing ground elevation throughout most of the corridor. In calculating impacts for each of the alternatives a 72-foot bandwidth was assumed for Alternatives 2 and 3. This estimates the additional area outside of the proposed typical section to tie-in with existing ground, based on the existing typical section for FH 3. For Alternatives 4 and 5, a 76-foot bandwidth was assumed to account for the extra shoulder widths for these alternatives. This bandwidth is greater than the proposed clear zones identified for each alternative. Where feasible, area outside of the clearzone will be landscaped and planted to replace any forested areas disturbed as a result of construction. Where horizontal improvements are recommended, the bandwidth has been expanded to include the impacts associated with the geometric improvements.

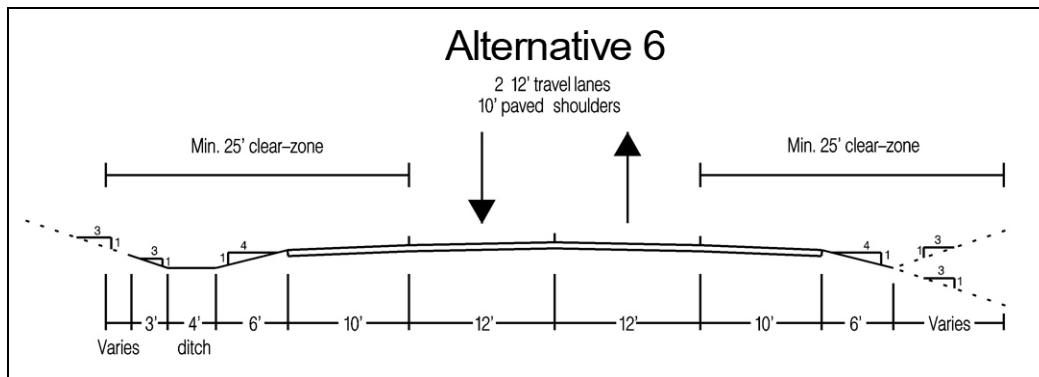
In addition, in areas of significant environmental resources such as the Pennington Bog, extra measures to minimize impacts, such as placement of guard rails or retaining walls should be included. These areas of significant resources and measures to avoid, minimize, and mitigate impacts to these resources need to be clearly identified during the permitting phase of detailed design. Close communication and coordination with the regulatory and resource agencies will be necessary throughout the design and construction phases for this project.

### 3. Alternatives Considered but Dismissed

#### a. Alternative 6: 12' Travel Lanes with 10' Paved Shoulders

This alternative includes refinements to lane widths, shoulders, drainage, and roadside features to allow FH 3 to meet current AASHTO and Mn/Dot design guidelines. Lane widths would be increased to 12 feet, with 10-foot paved shoulders (**Figure II-14**). This extra shoulder area would provide additional roadside areas for parking for disabled vehicles and recovery for vehicles encroaching beyond the travel lane.

A minimum 16-foot clear zone is recommended per AASHTO roadside design guidelines. This alternative provides a 25-foot clear zone (consistent with CSAH standards) outside of the travel lanes, including roadside ditches that would be regraded with slopes considered traversable under AASHTO guidelines. This provides increased opportunities for safe recovery for vehicles encroaching beyond the edge of the shoulder. However, the expanded clear zone would also help alleviate icing problems by reducing shading caused by roadside trees that are in close proximity to the pavement. This alternative was dropped from further consideration because it was determined that impacts to natural resources within the project area would be too great.



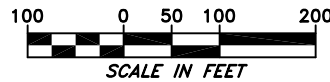
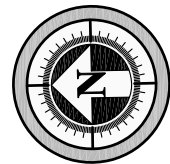
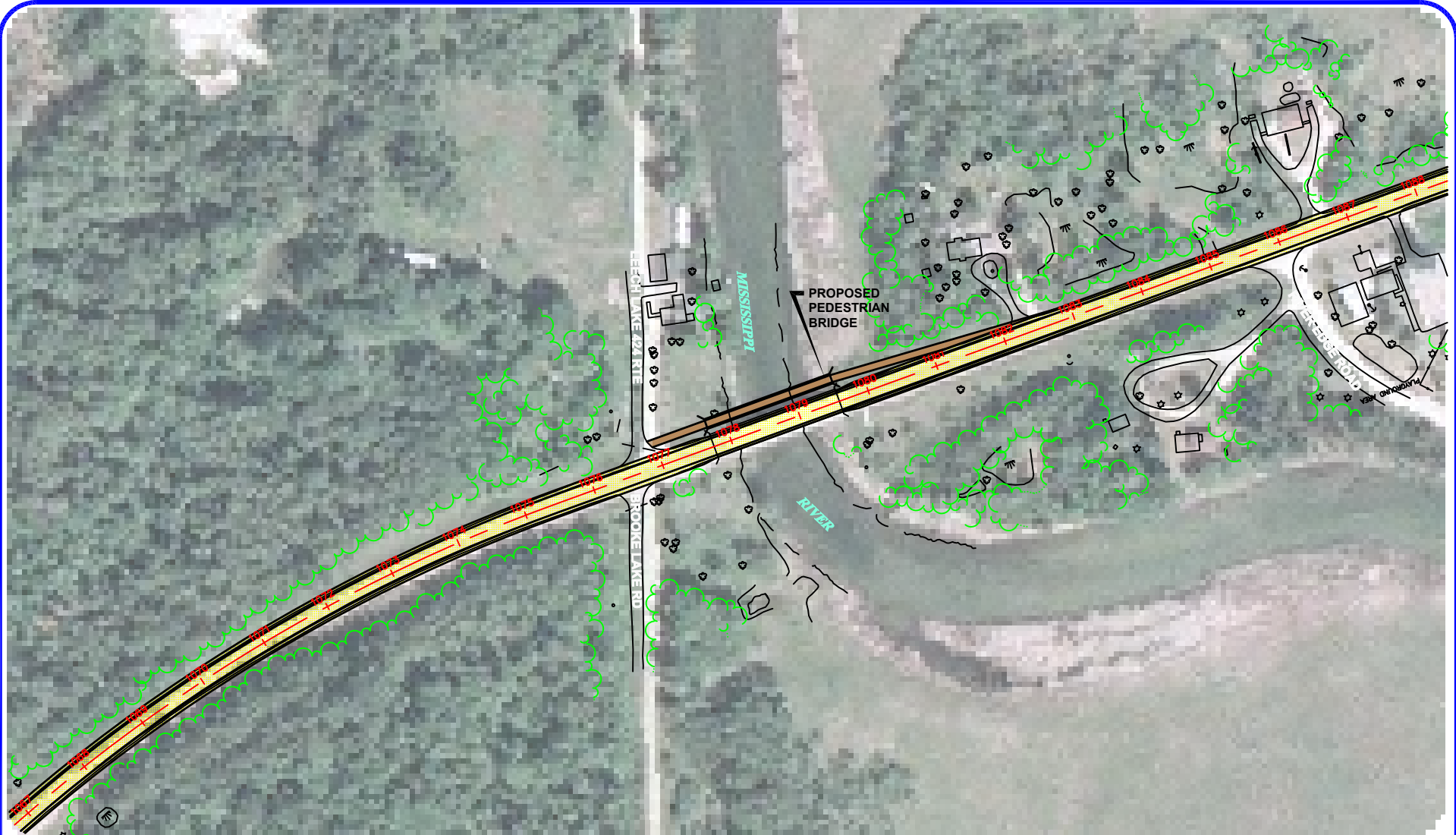
**Figure II-14**

#### b. Reconditioning-only Alternative

A Reconditioning-only Alternative was also considered. Under this Alternative, the 11-foot lane width would be maintained and no new impacts would occur. Reconditioning would consist of resurfacing the existing roadway. The roadway would qualify as a County road instead of a County State Aid Highway. This Alternative would not improve driver safety. This Alternative was dropped as it was determined that it would not meet the project purpose and need.

#### c. Pennington Bog Avoidance Alternative

Options were studied to avoid the Pennington Bog Scientific and Natural Area (SNA). A new alignment to the west would impact approximately 0.6 acres of open, developed land and 6.8-7.2 acres of wetland. An eastern alignment would impact approximately 2.6 to 2.8 acres of open, developed land, 3.1 to 3.3 acres of wetland, and 8.7 to 9.2 acres of forest. A new alignment of



**FOREST HIGHWAY 3**  
*ENVIRONMENTAL ASSESSMENT*

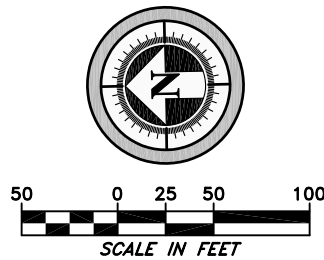
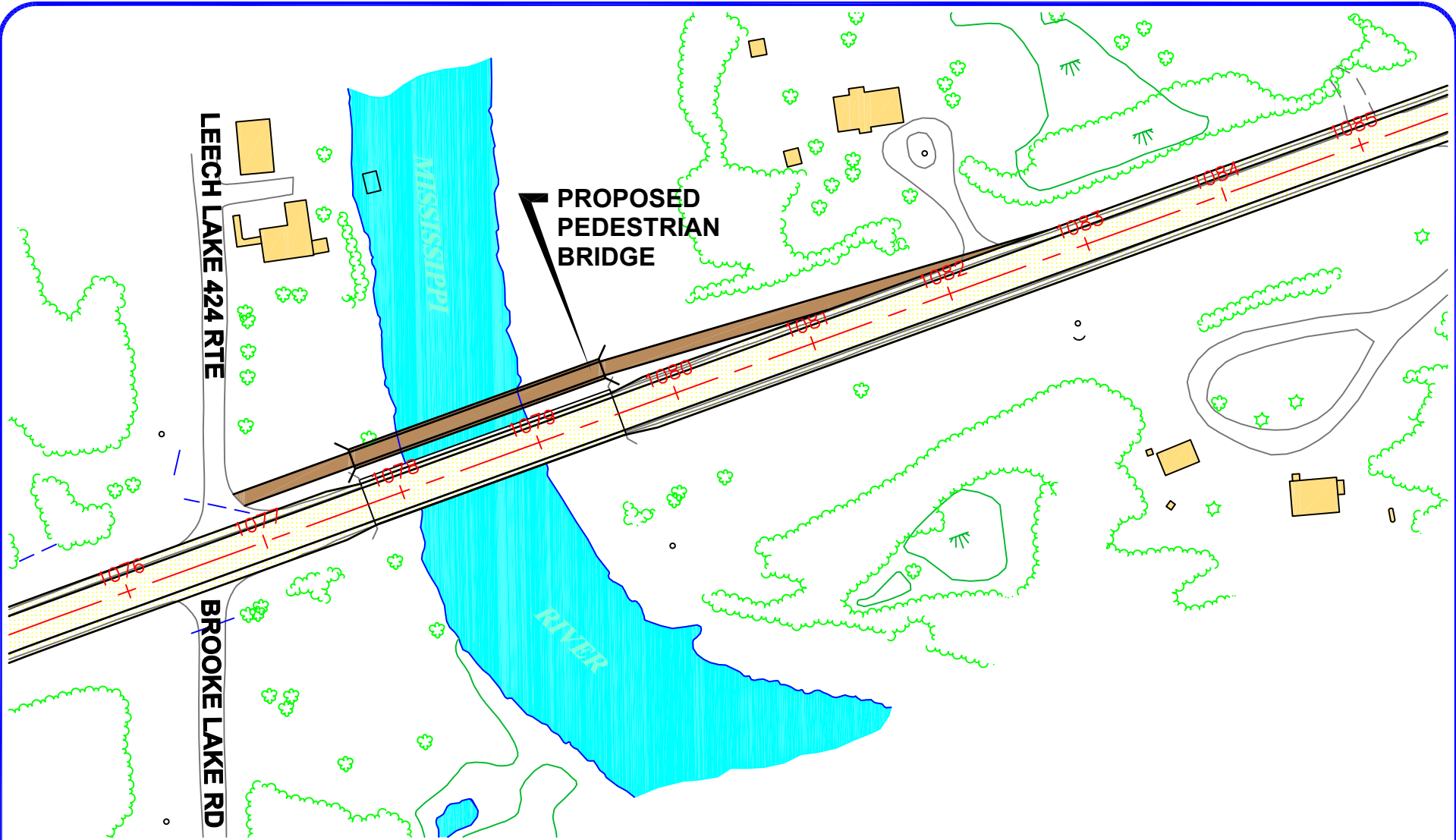
**PROPOSED ROADWAY REALIGNMENT**

DATE:  
MAY 2007  
SCALE:  
AS SHOWN

**URS**  
*Engineers/Architects/Planners/Surveyors*  
4 NORTH PARK DRIVE, SUITE 300  
HUNT VALLEY, MARYLAND 21030  
TELEPHONE: 410-788-7220

FIGURE:  
**II-12**





<b>FOREST HIGHWAY 3</b> <i>ENVIRONMENTAL ASSESSMENT</i>		
<b>PROPOSED ROADWAY REALIGNMENT</b>		
DATE: MAY 2007	<b>URS</b> <i>Engineers/Architects/Planners/Surveyors</i> 4 NORTH PARK DRIVE, SUITE 300 HUNT VALLEY, MARYLAND 21080 TELEPHONE: 410-788-7220	FIGURE: <b>II-13</b>
SCALE: AS SHOWN		

the roadway would also bypass the Scenic Store, the only gas station existing along the roadway, and impact several residences and businesses. These options were dropped due to unacceptable natural resource and socioeconomic impacts.

## **A. SOCIAL ENVIRONMENT**

### **1. Socioeconomic Conditions and Land Use within the Study Area**

The study area lies within the Chippewa National Forest (CNF), Leech Lake Reservation (LLBO) in Beltrami and Cass Counties, Minnesota. It is located in a rural, natural setting. Some development exists along Forest Highway 3 (FH 3), also known as Scenic Highway. This development includes single family homes, two churches, the Pennington Indian Community, a few businesses, and a cemetery. There are also long sections of road that are undeveloped. These undeveloped sections are forest and wetland areas.

### **2. Social Characteristics**

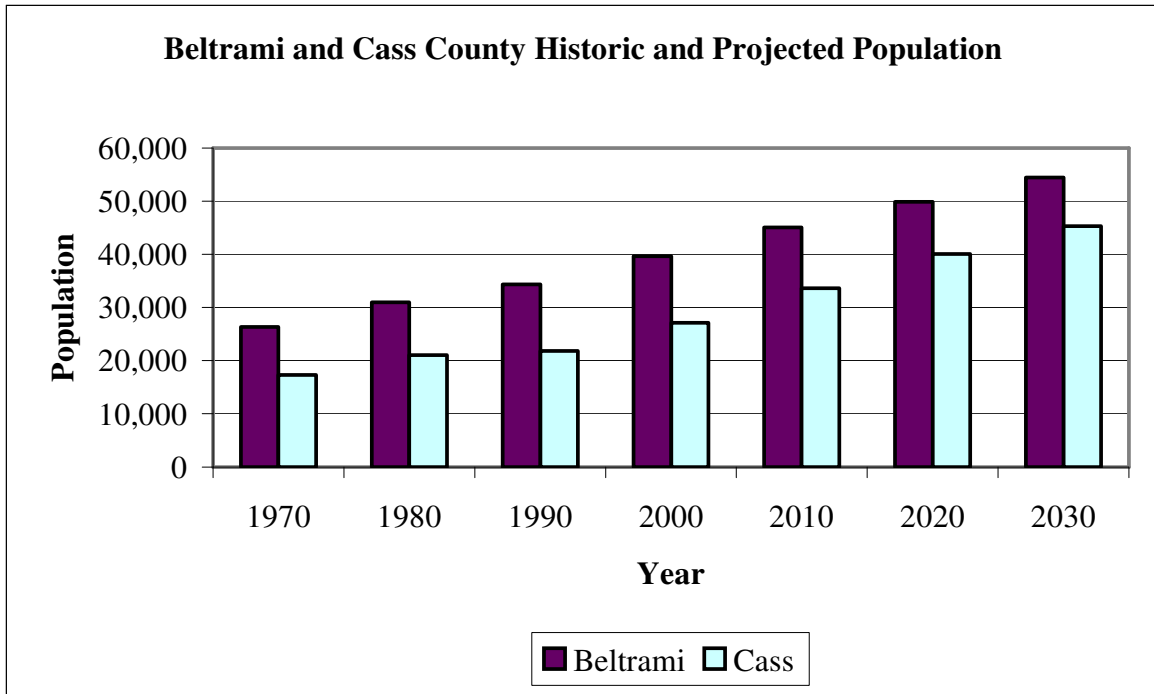
#### **a. Population and Housing**

Between 1990 and 2000, Minnesota's population rose 12 percent. During the same time period, the population of Beltrami County increased 15.5 percent from 34,384 in 1990 to 39,650 in 2000. Strong growth rates were not uniform across the county, but rather concentrated on the Redlake Reservation and in the City of Bemidji. Bemidji's population increased 14 percent from 22,998 to 26,174 between 1990 and 2000, while the Beltrami portion of the Redlake Reservation increased 38 percent, from 3,660 to 5,057 during the same time period. The remainder of the county increased by less than 9 percent, from 7,726 to 8,419. Most of this growth occurred immediately outside of Bemidji and in the Blackduck area. Beltrami's strong overall growth trend contrasts with statewide population losses in most agriculturally based counties. However, for a county located in the high amenity lakes and pines region, Beltrami's growth rates are not unusual. Beltrami is expected to have a population of approximately 54,450 by 2030 (**Fig. III-1**).

Cass County's population rose from 21,791 to 27,150 between 1990 and 2000, an increase of 25%. By 2030, the population is expected to reach 45,280 (**Fig. III-1**).

Median age for Beltrami County's population increased from 29.2 in 1990 to 31.5 in 2000. Age distribution varies throughout the county. Growth areas within the county tend to have higher percentages of younger residents. The Red Lake area has an especially young distribution, with a median age of less than 20. Cass County's median age increased from 38.3 in 1990 to 42.2 in 2000.

The number of Beltrami County households increased from 11,870 in 1990 to 14,377 in 2000, representing a 21 percent increase in growth rate. Average household size has continued to decrease, while population size has continued to grow due to natural increase and net-in migration. Additional housing units are needed to accommodate existing and future populations. The number of Cass County households increased 31% from 8,302 to 10,893 during the same time period.



**Figure III-1**

Source: Beltrami County Comprehensive Plan, Cass County Comprehensive Plan, Minnesota State Demographic Center

**b. Racial Characteristics**

According to U.S. Census data, a large majority of the population of both Beltrami and Cass counties is White. Beltrami County’s population in 2000 was 76.66 percent White, while Cass County’s population was 86.52 percent White. The second largest racial category in Beltrami and Cass Counties according to the Census is American Indian. The county populations were 20.36 and 11.45 percent American Indian, respectively. There has been a slight decrease in the percentage of White individuals in both counties and also Black individuals in Cass County, and an increase in percentage of all other racial categories between 1990 and 2000. Except for the White population, there has been a significant growth of all races in Beltrami County, and except for the decrease in the Black population, there has been a significant growth of all races in Cass County, including the White race (**Table III-1, III-2**).

**Table III-1  
Beltrami County Racial Demographics**

<b>Race</b>	<b>1990 Census</b>	<b>% of 1990 Total</b>	<b>2000 Census</b>	<b>% of 2000 Total</b>	<b>% Change from 1990-2000</b>
White Alone	28,409	82.62	30,394	76.66	6.99
Black Alone	100	0.29	142	0.36	42.00
Am. Indian Alone	5,641	16.41	8,071	20.36	43.08
Asian Alone	194	0.56	233	0.59	20.10
Other Race Alone	40	0.12	82	0.21	105.00
More than One Race	N/A	N/A	728	1.84	N/A
Hispanic/Latino	146	0.42	394	0.99	169.86

*Source: 1990 and 2000 Census*

*Note: The "Hispanic" population is also represented by the six race categories and is not represented as a separate race*

**Table III-2  
Cass County Racial Demographics**

<b>Race</b>	<b>1990 Census</b>	<b>% of 1990 Total</b>	<b>2000 Census</b>	<b>% of 2000 Total</b>	<b>% Change from 1990-2000</b>
White Alone	19,309	88.61	23,490	86.52	21.65
Black Alone	39	0.18	31	0.11	-20.51
Am. Indian Alone	2,373	10.89	3110	11.45	31.06
Asian Alone	54	0.25	82	0.30	51.85
Other Race Alone	16	0.07	38	0.14	137.50
More than One Race	N/A	N/A	399	1.47	N/A
Hispanic/Latino	94	0.43	220	0.81	134.04

*Source: 1990 and 2000 Census*

*Note: The "Hispanic" population is also represented by the six race categories and is not represented as a separate race*

**c. Leech Lake Band of Ojibwe**

The Leech Lake Band is one of the cooperators in this EA and representatives of the US Forest Service consult with the Leech Lake Band regarding projects that may impact traditional hunting, fish, and gathering rights that the band retained on all lands within the boundaries of the reservation. Leech Lake Reservation, homeland of the federally recognized Leech Lake Band of

Ojibwe, is located in part in Beltrami, Cass, Hubbard, and Itasca Counties. Tribal headquarters are located in Cass Lake. The majority of the lands within the reservation are managed by the CNF, with approximately seven percent of the lands tribal or allotted. Communities within the reservation include Cass Lake, the largest, as well as Ball Club, Bena, Inger, Onigum, Mission, Pennington, Smokey Point, Sugar Point, Oak Point, and Squaw Lake. The southern 12 miles of the existing FH 3 roadway are within the reservation boundary. Three tribal allotments and one tribal land parcel are intersected by FH 3: one just north of the Mississippi River and the rest just south of this feature. These parcels are part of the Pennington Indian Community.

#### **d. Environmental Justice**

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, requires Federal agencies to promote “nondiscrimination in Federal programs substantially affecting human health and the environment.” In response to this direction, Federal agencies must implement actions to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority and low-income populations.

##### **i. Methodology for Identification of Environmental Justice Populations**

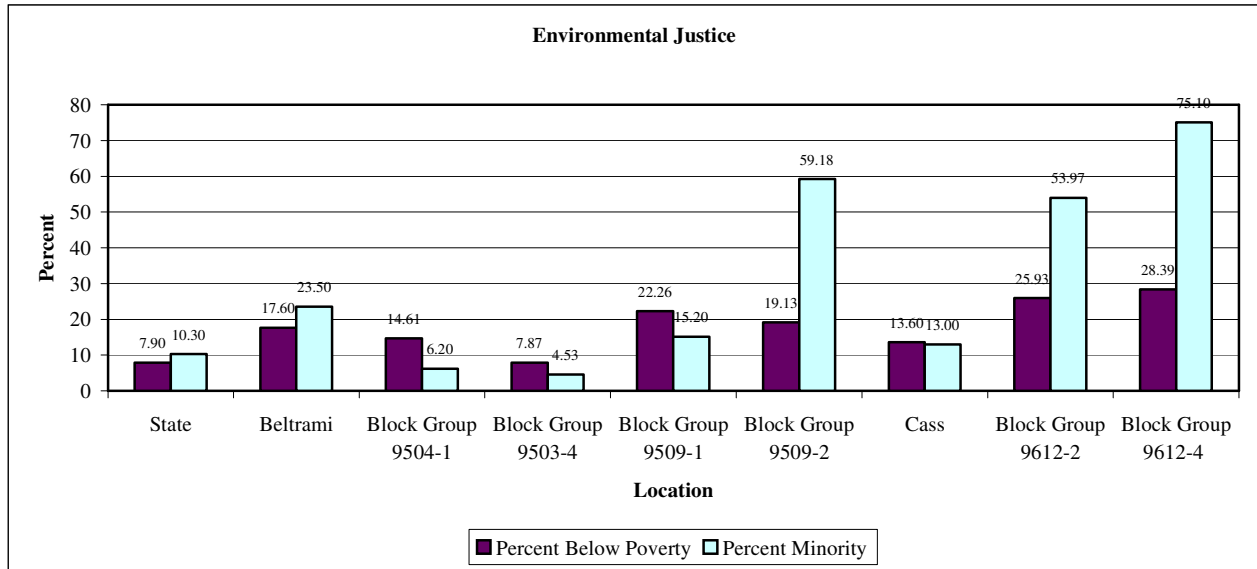
The project study area includes portions of six census block groups: in Beltrami County, block groups 9504-1, 9503-4, 9509-1, and 9509-2, and in Cass County, 9612-2 and 9612-4. These block groups were examined to determine whether populations of minority or low-income individuals were present.

##### **ii. Findings**

In 2000, 7.90 percent of the state population was below poverty level and 10.30 percent of the population was minority. It was determined that Beltrami County had over twice the percentage of individuals below poverty level (17.60 percent) as well as minority individuals (23.50 percent) than the state. Within Beltrami County, 14.61 percent of the population of census block group 9504-1 was below poverty level (just under county levels), and 6.20 percent of the population was minority (nearly four times less than county levels). Block group 9503-4 was 7.87 percent below poverty level (less than half county levels) and 4.53 percent minority (nearly five times lower than county levels). The population of block group 9509-1 was 22.26 percent below poverty level (over county levels) and 15.20 percent minority (below county levels). Part of this block group is within the Leech Lake Reservation. Block group 9509-2 was found to be 19.13 percent below poverty level (just above county levels) and 59.18 percent minority (more than twice the county levels) (See **Figure III-2**). This block group lies within the Leech Lake Reservation. The population in this block group is 56.64 percent American Indian/Alaskan native. In this block group, approximately 20 residences are clustered along the existing road on tribal lands and tribal allotments.

Cass County was found to have less than twice the percentage of individuals below poverty level than the state (13.60 percent), and just over the percentage of minority individuals (13.00

percent). In Cass County, the population of block group 9612-2 was found to be 25.93 percent below poverty level and 53.97 percent minority (See Figure III-2). This block group had nearly twice the percentage of individuals below poverty level and more than four times the percentage of minority individuals than the county. Block group 9612-4 had more than twice the percentage of individuals below poverty level (28.39 percent) and nearly six times the percentage of minority individuals (75.10 percent) than the county. Both block groups lie within the Leech Lake Reservation. The American Indian/Alaskan native population in each block group is 50.71 percent and 70.75 percent, respectively. There are no residences within 2000 feet of the existing road in either of these block groups.



**Figure III-2**

Source: 2000 Census, Minnesota Demographic Center

**e. Community Facilities and Services**

Community facilities along FH 3 include the Kitchie Pines Church, St. Charles Catholic Church, Moose Lake Wildwood Cemetery, Pennington Indian Community Center, Brook Lake Town Hall, and Moose Lake Town Hall. The Scenic Store and Gas Station, as well as a drive-in establishment, are located in the Pennington Community.

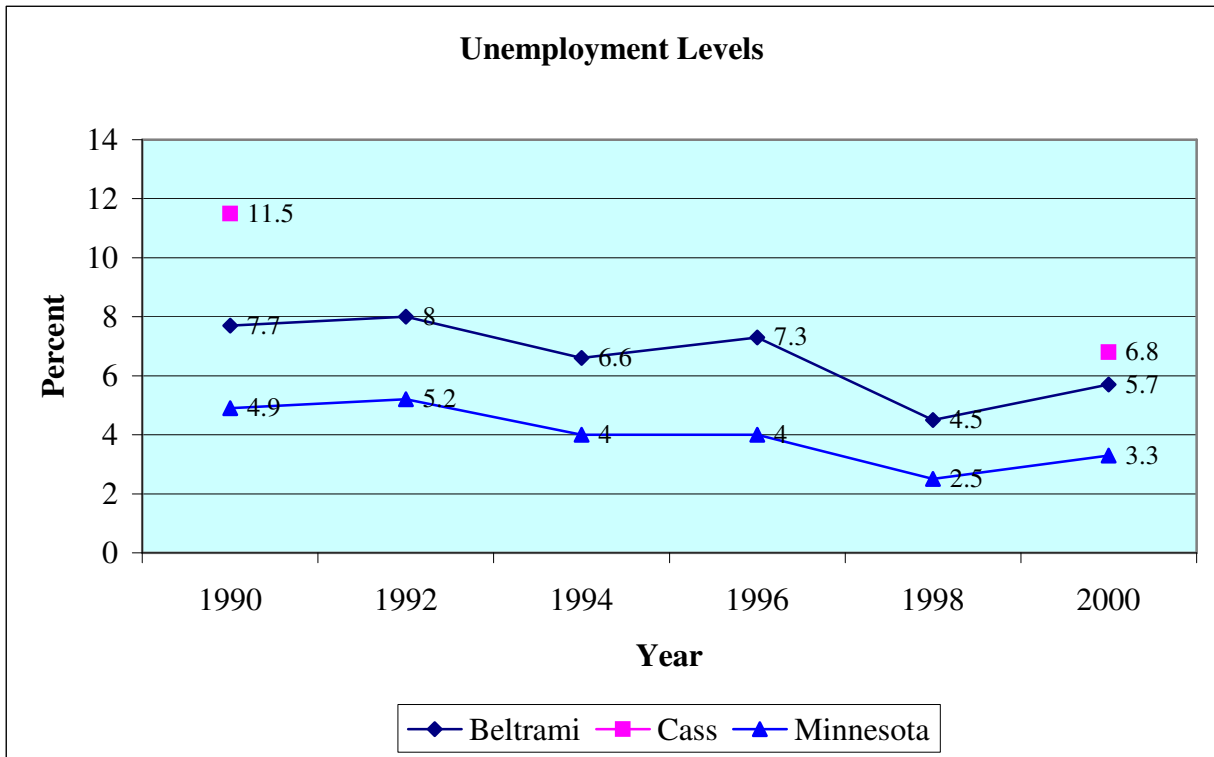
**3. Economic Environment**

**a. Employment Characteristics**

Beltrami County has the largest employment level of any county in northwest Minnesota, and one of the strongest employment growth rates. From 1990 to 2000, employment grew by 33 percent, increasing by 4766 people. State and national employment growth increased by 17 and 14 percent during the same time period, respectively. Despite growth in the 1990's, 31 percent of employers expect employment to increase in the next five years, while 69 percent expect to maintain or decrease employment (Table III-3, III-4).

Beltrami County’s unemployment rate decreased from 7.7 percent in 1990 to 5.7 percent in 2000. However, it remains higher than the 2000 state average of 3.3 percent. Despite relatively high unemployment rates, employers indicate a labor shortage and remain unable to find needed numbers of new skilled and entry-level employees. Cass County’s unemployment rate remains high, but decreased substantially between 1990 and 2000 from 11.5 percent to 6.8 percent (**Figure III-3**).

There has been a decrease in the number of families and individuals below poverty level in both Beltrami and Cass Counties between 1990 and 2000 (**Table III-5, III-6**).



**Figure III-3**

Source: Beltrami County Comprehensive Plan, Census 1990, Census 2000



**Table III-3  
Beltrami County Employment**

<b>Employment Status</b>	<b>1990 Census</b>	<b>2000 Census</b>	<b>Percent change 1990-2000</b>
In Civilian Labor Force	15,364	19,550	27.25
Employed	13,931	18,085	29.82
Unemployed	1,433	1,465	2.23
Percent Unemployed	9.33	7.49	-19.59

*Source: Census 1990, 2000*

**Table III-4  
Cass County Employment**

<b>Employment Status</b>	<b>1990 Census</b>	<b>2000 Census</b>	<b>Percent change 1990-2000</b>
In Civilian Labor Force	8,685	12,511	44.05
Employed	7,683	11,658	51.74
Unemployed	1,002	853	-14.87
Percent Unemployed	11.54	6.82	-41.06

*Source: Census 1990, 2000*

**Table III-5  
Beltrami County Poverty Status**

<b>Category</b>	<b>1990</b>	<b>2000</b>	<b>Percent Change 1990-2000</b>
Families Below Poverty level	1,494	1,265	-15.33
With children under 18	1,177	1,045	-11.21
With children under 5	616	520	-15.58
Female Householder Families below Poverty Level	661	658	-0.45
With children under 18	593	625	5.40
With children under 5	307	343	11.73
Individuals below poverty level	7,770	6,662	-14.26
18 years and over	4,913	4,186	-14.80
65 years and over	781	530	-32.14

*Source: Census 1990, 2000*

**Table III-6  
Cass County Poverty Status**

Category	1990	2000	Percent Change 1990-2000
Families Below Poverty level	975	735	-21.62
With children under 18	675	517	-23.41
With children under 5	334	204	-38.92
Female Householder Families below Poverty Level	247	249	0.81
With children under 18	234	224	-4.27
With children under 5	122	101	-17.21
Individuals below poverty level	4,621	3,649	-21.03
18 years and over	2,863	2,397	-16.28
65 years and over	765	641	-16.21

*Source: Census 1990, 2000*

#### **4. Land Use**

Land use within the study area is highly variable. A great deal of Beltrami County is still forested, containing mostly mixed conifers and deciduous trees. Cultivated crop and pasturelands are largely concentrated in an area west and south of Lake Bemidji, across the center third of the County and on the western edge of the northernmost part of the County.

Intensive development in Beltrami County consists largely of residential and commercial uses. Those uses are generally at a low density throughout much of the County. Density of development north of Red Lake Reservation is extremely low, due in part to the extensive wetlands and public ownership. Much of the development east and south of the Reservation is also low density, with the exception of municipalities and a few unincorporated places. Moderate density development is dominant in much of the area surrounding the City of Bemidji. Moderate to high density development is concentrated in municipalities and the shoreland of some public waters. The most extensive higher density development is in the City of Bemidji, and some areas immediately adjacent to City limits. Following is a breakdown of the Beltrami County land uses/land cover (see **Table III-7**):

**Table III-7  
Beltrami County Land Use/Land Cover**

<b>Type</b>	<b>Acres</b>
Developed	13,096
Agricultural Land	212,100
Water	352,409
Marsh	224,605
Upland Forest	537,400
Lowland Forest	280,520
Upland Shrubs	25,260
Lowland Shrubs	265,101

*Source: Beltrami County Comprehensive Plan 2002*

The 2002 Beltrami County Comprehensive Plan defines goals for future land use and road system service levels. One objective identified in its Land Use Plan is to protect the integrity of the road system including its functionality and safety. The Comprehensive Plan describes FH 3 as a paved road that needs reconstruction consisting of grading, base, and bituminous overlay. Its current condition is classified as deficient to meet future road system service levels of safety.

Like Beltrami County, Cass County is predominantly rural, with large expanses of mixed forest, interspersed with farmsteads, rural developments, and wetlands. Large waterbodies in Cass County include parts of Cass Lake, Gull Lake and part of Lake Winnibigoshish, and all of Pike Bay, Leech Lake, Woman Lake, and Tenmile Lake. The land use along Forest Highway 3 in Cass County is predominantly forest.

## **5. Farmland**

The Minnesota Department of Transportation Office of Investment Management maintains records of farmland in Minnesota. In 1997, there were 656 farms in Beltrami County with an average size of 218 acres. Farms within the county totaled 155,452 acres. In Cass County, the total number of farms was 598, with an average size of 321 acres. Farms within the county totaled 191,847 acres. Agricultural land along the Forest Highway 3 corridor is limited to several open fields/pastures.

The Farmland Protection Policy Act (FPPA) of 1981 minimizes the impact Federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that—to the extent possible—Federal programs are administered to be compatible with state, local units of government, and private programs and policies to protect farmland. For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a Federal agency or with assistance from a Federal agency.

## **B. CULTURAL RESOURCES**

Potential impacts on cultural resources must be addressed under the provisions for assessing effects outlined in 36 CFR, part 800, regulations issued by the Advisory Council on Historic Preservation implementing section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. 470 et seq.). Under the “Criteria of Effect” (36 CFR Part 800.9[a]), Federal undertakings are considered to have an effect when they alter the character, integrity, or use of a cultural resource, or the qualities that qualify a property for listing on the National Register of Historic Places.

### **1. Archaeological Resources**

The Leech Lake Historic Sites Program conducted a Phase I archaeological reconnaissance survey for proposed construction and improvements along FH3 between September 29 and November 21, 2005. The survey area included 75 feet from the centerline on each side of the road, totaling 20,908,800 square feet (480 acres). The surface of the total survey area was examined, and 825 shovel tests were excavated at selected points.

#### **a. Methods**

After researching background information and locating sites from previous investigations, pedestrian surveys and shovel testing were conducted in the field. Pedestrian surveys consisted of linear transects spaced at 10-15 meter intervals that permitted examination of the ground surface for archaeological and historic materials, features, and structures. Shovel testing allowed for subsurface investigation for these materials in high potential areas with poor ground surface visibility (less than 50 percent). Shovel tests were placed at highway stations and halfway between stations, where possible, and excavated 60 centimeters below the surface. The diameter of each test site is 40 cm across. The walls of each excavated site were examined for cultural traces and soil changes. Soil from the excavation was passed through ¼ inch hardware cloth and all identified cultural materials were collected and noted. Some materials found in large volumes were noted and weighed, but not collected. Soil profiles were described along with disturbances and approximate recovery depths of artifacts for each test site.

In the laboratory, non-biological artifacts were washed with water and dried on screen racks. Fragile artifacts were carefully brushed. Biological artifacts were washed unless moisture could harm the object, in which case it was brushed. Charcoal was placed in foil prior to field bagging. Each artifact was assigned a number and entered into a database. Once entered, the artifacts were placed in curation quality plastic bags and labeled. Minnesota State Site forms were completed for each site. Artifact analysis was conducted using published references and comparative materials at the Heritage Sites Program laboratory.

#### **b. Results**

Field investigations resulted in the identification of 18 new sites and the relocation of nine previously recorded sites. Findings at each site are summarized in **Table III-8** below. Four prehistoric artifact scatter sites are potentially eligible for listing on the National Register of

Historic Places (NHRP). These four sites are 21BL0249, 21BL0194, 21BL0266, and 21BL0267. Other sensitive sites include two historic logging camp sites (Site 0903020453/21CA0671 and Site 0903010053/21BL269) and Wildwood cemetery.

**Table III-8  
Legal Locations of Survey Corridor, Results of Survey, and Recommendations**

HWY ID	TWP	Range	Sec.	Results/Site	Description	Recommendations
CSAH 10	145N	30W	03	Negative	N/A	No further work
CSAH 10	145N	30W	04	Negative	N/A	No further work
CSAH 10	145N	30W	09	Negative	N/A	No further work
CSAH 10	145N	30W	10	Site 0903020453/21CA0671	Logging Camp	Additional Historical Research/Phase II
CSAH 10	145N	30W	15	Negative	N/A	No further work
CSAH 10	145N	30W	16	Big Red Pine Site/21CA0670	Historic Pits	Additional Historical Research/Phase II
CSAH 39	146N	30W	03	Negative	N/A	No further work
CSAH 39	146N	30W	04	Negative	N/A	No further work
CSAH 39	146N	30W	09	Negative	N/A	No further work
CSAH 39	146N	30W	10	Section 10 Site/21BL0252	Historic Artifact Scatter	No further work
CSAH 39	146N	30W	15	One Core Site/21BL0250 Guinn Site/21BL0251	Single Prehistoric Artifact Historic Habitation	No further work Additional Historical Research/Phase II
CSAH 39	146N	30W	16	Negative	N/A	No further work
CSAH 39	146N	30W	21	Negative	N/A	No further work
CSAH 39	146N	30W	22	Benchmark Site/21BL0249	Prehistoric Artifact Scatter	Phase II Testing
CSAH 39	146N	30W	27	Scenic Bog Site/21BL0248	Homestead	Additional Historical Research/Phase II
CSAH 39	146N	30W	28	Negative	N/A	No further work
CSAH 39	146N	30W	33	Negative	N/A	No further work
CSAH 39	146N	30W	34	Negative	N/A	No further work
CSAH 39	147N	30W	05	Bobolink Site/21BL0260 Whitebird Site/21BL0261	Historic Habitation Historic Pits	Additional Historical Research/Phase II Additional Historical Research/Phase II
CSAH 39	147N	30W	06	Small Pond Site/21BL0262	Historic Habitation	Additional Historical Research/Phase II
CSAH 39	147N	30W	08	Negative	N/A	No further work
CSAH 39	147N	30W	09	Negative	N/A	No further work
CSAH 39	147N	30W	16	2 Pitts Site/21BL0258	Historic Pits	Additional Historical Research/Phase II
CSAH 39	147N	30W	17	Old Shanty Site/21BL0259 Site 0903010521/21BL0257	Structural Ruin Historic Habitation	Additional Historical Research/Phase II Additional Historical Research/Phase II
CSAH 39	147N	30W	20	Site 0903010033/21BL0256	Wildwood Cemetery	Avoidance
CSAH 39	147N	30W	21	Watkins Site/21BL0255	Historic Habitation	Additional Historical Research/Phase II
CSAH 39	147N	30W	28	Negative	N/A	No further work

HWY ID	TWP	Range	Sec.	Results/Site	Description	Recommendations
CSAH 39	147N	30W	29	Site 0903010035/21BL0254	Historic School (No. 3)	N/A
CSAH 39	147N	30W	33	Site 0903010042/21BL0253	Kitchi Pines Church	N/A
CSAH 39	147N	30W	34	Negative	N/A	No further work
CSAH 39	148N	31W	01	Negative	N/A	No further work
CSAH 39	148N	30W	06	Negative	N/A	No further work
CSAH 39	148N	30W	07	Site 0903010053/21BL269	Logging Camp	Additional Historical Research/Phase II
CSAH 39	148N	30W	18	2 Pitts East Site/21BL0268	Historic Habitation	Additional Historical Research/Phase II
CSAH 39	148N	30W	19	Negative	N/A	No further work
CSAH 39	148N	30W	30	N. Turtle Road Site/21BL0265 Turtle River Lithic Scatter/21BL0266	Historic Habitation Prehistoric Lithic Scatter	Additional Historical Research/Phase II Testing
CSAH 39	148N	30W	31	Site 0903010411/21BL0194 Site 0903010445/21BL0263 Mik-a-nak River Site/21BL0264	Prehistoric Artifact Scatter Historic Habitation Historic Habitation	Phase II Testing Additional Historical Research/Phase II Additional Historical Research/Phase II
CSAH 39	148N	31W	12	Negative	N/A	No further work
CSAH 39	148N	31W	13	Rabideau Village Site/21BL0267	Prehistoric Artifact Scatter / Historic Habitation	Phase II Testing
CSAH 39	148N	31W	24	Negative	N/A	No further work
CSAH 39	148N	31W	25	Negative	N/A	No further work
CSAH 39	149N	31W	36	Negative	N/A	No further work
CSAH 39	149N	30W	18	Stoner Lake Dump/21BL0271	Historic Trash Dump	Additional Historical Research/Phase II
CSAH 39	149N	30W	19	Negative	N/A	No further work
CSAH 39	149N	30W	30	Negative	N/A	No further work
CSAH 39	149N	30W	31	Negative	N/A	No further work
CSAH 39	149N	31W	13	Negative	N/A	No further work
CSAH 39	149N	31W	24	Negative	N/A	No further work
CSAH 39	149N	31W	25	Site 0903010243/21BL0270	Historic Habitation	Additional Historical Research/Phase II
CSAH 39	149N	31W	36	Negative	N/A	No further work

## 2. Historic Resources

Section 106 of the National Historic Preservation Act (NHPA), as amended (16 USC 470 et seq.) requires Federal agencies to take into account the impacts of their undertakings on historic properties that are listed in or eligible to be listed in the National Register of Historic Places (NRHP). These policies and regulations require the agency to consult with the appropriate State Historic Preservation Officer (SHPO) and Tribal Historic Preservation Officer (THPO) regarding the potential effects to properties listed in or eligible for the National Register.

Potential impacts to historic properties listed in or eligible for listing in the National Register were identified and evaluated in accordance with the Advisory Council on Historic Preservation's (ACHP) regulations implementing Section 106 of the NHPA (36 CFR Part 800, *Protection of Historic Properties*). Critical steps in the process included: 1) defining the project Area of Potential Effects (APE); 2) identifying architectural resources present in the APE that are National Register listed and/or National Register eligible; 3) assessment of adverse effects on historic properties; and 4) resolution of adverse effects through avoidance, minimization, or mitigation.

If one or more adverse effects are identified, consultation with the SHPO and THPO continues in order to seek ways to avoid, minimize, or mitigate project adverse effects on National Register listed and/or eligible historic properties. The APE, as defined by the ACHP in Section 800.16, is "the area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties." For the purposes of this survey, and taking into consideration all potential reconstruction alternatives, the APE was defined with the following boundaries: State Highway 71 to the north, State Highway 2 to the south, and 100 feet from the center highway line extending east and west of the 27 mile highway corridor. Representatives of the Leech Lake THPO were involved in this project because it will be constructed adjacent to Tribal Lands. Leech Lake Reservation, homeland of the federally recognized Leech Lake Band of Ojibwe, is located in Beltrami, Cass, Hubbard, and Itasca counties. Tribal headquarters are located in Cass Lake. Pennington, a town located along the highway corridor, is historically a tribal community and part of the project area; three tribal allotments and one tribal land parcel are intersected by FH3 in Pennington. One is north of the Mississippi River and the remainder are south of the river. All parcels are outside the APE established for this architectural survey. Under the authority of the Leech Lake Cultural Resources Protection Ordinance (Ordinance 96-03), the THPO is authorized to complete all of the SHPO's responsibilities as described in Section 101 (b)(3) of the NHPA, as amended, and the Procedures of the ACHP (36CFR800) for Leech Lake tribal lands. However, the SHPO and THPO have agreed that the SHPO retains reviewing authority only for standing structures and buildings within the reservation boundaries. For the purposes of this survey, the SHPO is the reviewing authority for standing structures both on and off the Leech Lake Reservation.

Prior to the current study, no historic properties within the APE along FH3 were listed or eligible for listing in the National Register. Three properties had previously been surveyed within the project corridor's APE: Mooselake Town Hall, St. Charles Catholic Church, and Brook Lake Town Hall.

#### **a. Methods**

Fieldwork for this architectural survey was conducted according the *Secretary of the Interior's Standards for Archaeology and Historic Preservation*, specifically the *Standards and Guidelines for Identification* (48 FR 44716). The methodology for the architectural survey project involved two main tasks, background research and field survey. The evaluation of the properties within the APE to determine NRHP eligibility was performed using the *Secretary of the Interior's Standards and Guidelines for Evaluation* (48 FR 44716). Furthermore, all fieldwork and reports were completed using current Minnesota State Historic Preservation Office guidelines.

Background research was conducted in St. Paul at the Minnesota Historical Society (MNHS) and SHPO; in Bemidji at the Beltrami County Historical Society and the Beltrami County Recorder's Office; in Cass Lake at the Cass County Historical Society; and in Chisholm at the Iron Range Research Center. Sources investigated included published histories, unpublished manuscripts, photographs, historic maps, newspaper files, and Chippewa National Forest records. Recent aerial photos along the project corridor were obtained at a later date via the Internet. Following guidance received from the Federal Lands Highway Division of the Federal Highway Administration (FHWA), the survey team evaluated potentially historic properties within a 55 year temporal window from 2006 (i.e., dating from 1951 or earlier). This ensured that survey findings would remain current within the next five years, to 2011.

Fieldwork included written and photo-documentation of properties within the project corridor APE. At the site, 35mm black and white photographs, color digital photographs, and color slides were taken. The field work was conducted between February 6 and 10, 2006. A Minnesota Historic Property Inventory Form was also prepared for each property over 55 years old. It includes data on the structure's form and materials, a sketch site plan, and a marked copy of the appropriate U.S. Geological Survey (USGS) location map. In December and January 2006, attempts were made to contact local tribal leaders for their input on community history in the area and the importance of cultural properties along the project corridor. Mailing addresses were obtained from the THPO (no phone numbers were available) and, as suggested by the THPO, two requests were sent to tribal leaders for attendance and inclusion in their February 2006 monthly tribal council meetings. All correspondence, however, was returned, unopened and unanswered.

## **b. Results**

An APE extending from State Highway 2 in the south up to State Highway 71 and spanning 100 feet from the center highway line east and west along the 27 mile corridor was established. All properties within this APE were assessed using the National Register Criteria for Evaluation. Twenty-three resources were identified within the boundaries of the APE, 11 of which were constructed within the FHWA's 55 year-to-present project planning evaluation window. Two of these resources are recommended as eligible for listing in the NRHP: The Pennington Community Church/Pennington School and The Mooselake Town Hall. **Table III-9** summarizes the results of this analysis.



**Table III-9  
NRHP Eligibility Recommendations for Surveyed Buildings within the APE Along FH3**

<b>Address</b>	<b>Distance North of Route 2 (mi)</b>	<b>Construction Date</b>	<b>NRHP Eligibility Recommendation</b>
#239-Private Residence	7.1	1948	Does not meet NRHP criteria and integrity requirements
#1191 Pennington Community Church	7.5	1935	Eligible for NRHP listing
#1300-Private Residence	7.5	1973	Does not meet NRHP criteria, integrity, and age requirements
#2107-Private Residence	7.9	c.1980	Does not meet NRHP criteria, integrity, and age requirements
#1844-Private Residence	7.8	1961	Does not meet NRHP criteria, integrity, and age requirements
#27880-Private Residence with commercial addition on front facade	8	House-1956 Commercial Front-1941	Does not meet NRHP criteria and integrity requirements
#2294-Private Residence	8.1	c.1970	Does not meet NRHP criteria, integrity, and age requirements
#2500-St. Charles Catholic Church	8.3	1940	Does not meet NRHP criteria
#3005-Scenic Apartments	8.6	c.1965	Does not meet NRHP criteria, integrity, and age requirements
#3025-Short Stop Restaurant	8.6	1984	Does not meet NRHP criteria, integrity, and age requirements
#3070-Scenic Grocery Store	8.6	1981	Does not meet NRHP criteria, integrity, and age requirements
#4552-/Kitchie Pines Church	9.9	c.1948-1951	Does not meet NRHP criteria, integrity, and age requirements
#5837-Moose Lake Town Hall	10.9	c.1935	Eligible for NRHP listing
N/A-Wildwood Cemetery	11.9	1914	Does not meet NRHP criteria
#9137-Private Residence	14.4	1960	Does not meet NRHP criteria, integrity, and age requirements
#11691-Private Residence	15.8	c.1965	Does not meet NRHP criteria, integrity, and age requirements
#11702-Private Residence	15.8	1967	Does not meet NRHP criteria, integrity, and age requirements
#11983-Private Residence	16.1	c.1950	Ineligible due to loss of integrity
Private Residence (no identification # present)	19.7	c.1965	Does not meet NRHP criteria, integrity, and age requirements
#17083-Private Residence	20	1934	Ineligible due to loss of integrity

<b>Address</b>	<b>Distance North of Route 2 (mi)</b>	<b>Construction Date</b>	<b>NRHP Eligibility Recommendation</b>
#21948-Private Residence	23.6	c.1965	Does not meet NRHP criteria, integrity, and age requirements
#609-Private Residence, farm complex	25.9	House-1020 Outbuildings- from c.1910- 1966	Does not meet NRHP criteria and integrity requirements
N/A-Railroad Crossing (now Frank Lindsey Blue Ox Trail)	26.4	1901	Does not meet NRHP criteria and integrity requirements

### **3. Traditional Cultural Properties**

A traditional cultural property (TCP) is one that is eligible for inclusion in the NRHP because of its association with cultural practices or beliefs of a living community that are rooted in that community's history, and are important in maintaining the continuing cultural identity of the community. The TCP survey was conducted to meet the consultation requirements under section 106 of the National Historic Preservation Act of 1996, as amended in 1992, specific to the traditional resources or potential TCPs. The TCP survey was completed for the FHWA by the Leech Lake THPO in February of 2007.

#### **a. Methods**

Bulletin 38, "Guidelines for Evaluating and Documenting Traditional Cultural Properties", served as a methodological guide for the survey. TCPs that may be present within the proposed project limits were identified through 15 individual interviews of Leech Lake Band of Ojibwe band members, as well as through a broader community meeting held with the Pennington Local Indian Council on November 7, 2006. Individual band members were chosen for one-on-one interviews based on if they live in proximity to the proposed corridor, live in a community near proposed highway, or are known to harvest traditional plants and animals within reservation boundaries and near the project area.

#### **b. Results**

Fourteen plant materials were identified as traditionally gathered resources along the proposed corridor. These materials are balsam, birch bark, blueberries, cedar, chokecherries, firewood, hazel nuts, Norway pine, plums, red osier, red willow, sage, sumac tea, and swamp tea. All of these resources are gathered on the eastern edge of FH3. To address concerns regarding potentially harmful impacts to these resources, the following recommendations were made:

- The THPO will provide the exact location of certain resources with FS project managers in order to safeguard the traditional gathering areas that were identified.

- Allow adequate time for the THPO to notify the affected community of construction timelines, delays, extended work, problematic encounters that would endanger their safety during construction, and any changes to the proposed plans that have been shared with the community thus far.
- Allow community members to harvest non-saleable timber for firewood and other traditional products prior to clear-cutting of temporary workspace areas and on the permanent existing right-of-way corridor prior to clear-cut or surface disturbance.
- Replant disturbed areas with native plant species that are beneficial to wildlife and with those plants that are used by the Anishinabeg people for traditional purposes, especially in the areas that were identified by the interviews. Restoration of the disturbed areas according to standard revegetation seed mix requirements should be followed and adhere to the Leech Lake Band's recommendations regarding management requirements for the threatened and endangered species. This recommendation must be followed up with the Wildlife Biologist and the Botanist of the Leech Lake Band's Division of Resource Management.
- To adhere to the commitments made to tribal members that reside along CSAH 39 or Scenic Highway regarding their significant concerns and resources they expressed at any meeting or conversation with representatives of the Federal Highway Administration.

## **C. NATURAL RESOURCES**

### **1. Topography, Geology, and Soils**

#### **a. Topography and Geology**

The project area is located in the Headwaters Lakes Region of Minnesota. This region is quite varied in its physical landscape. Four ice sheets affected this area, and residues of these ice advances still exist there today (Ojakangas and Matsch 1982). The area is dotted by lakes, marshes, and rivers, which are the remnants of glacial advances in the past. This area lies in what is known as the "Bemidji Area" physiographic subdivision (Wright 1972: 570-571). This unique physical environment is largely due to the region's glacial history, although many changes have occurred since the final advance of the Wisconsin glaciation approximately 12,000 years ago. The main outwash area is now a broad plain from Bagley to Lake Winnibigoshish, including Bemidji. The Mississippi River follows the general location of this plain, and is the main watercourse in central Minnesota.

#### **b. Soils**

The study corridor is located in the southern part of Beltrami County. This glacial moraine outwash area is characterized by level to hilly topography. The upland through which the route passes is gently rolling and primarily forested. Erosion and redeposition of glacial till has resulted in stratified deposits of clay, silt, sand, and gravel. Inclusions of wet soils and organic

soils commonly occur. The corridor passes through 16 soil types from Blackduck to US-2 (see **Table III-10**).

**Table III-10**  
**Soil Types**

<b>Soil Type</b>	<b>Name</b>	<b>Description</b>
32B	Nebish sandy loam, 1-6 percent slope	Well drained, moderate permeability, low organic matter content
72	Shooker loam	Hydric. Poorly drained, moderate permeability, moderate organic matter content
H87	Suomi-Aeric Glossaqualfs, loamy association, nearly level and undulating	Suomi-Moderately well drained, Aeric Glossaqualfs-somewhat poorly drained, Suomi-moderate to slow drainage, Aeric Glossaqualfs-moderately rapid or moderate to moderately slow drainage, moderate or moderately low organic matter content
X03	Typic borohemists, nonacid-Typic Borosaprists association	Hydric. Very poorly drained, Bororhemists-moderately rapid or moderate permeability, Borosaprists-moderately slow to moderately rapid permeability, very high organic matter content
J7	Warba-Stuntz association, nearly level and undulating	Warba-well drained, moderate to moderately slow permeability, moderate organic matter content; Stuntz-somewhat poorly drained, moderately rapid to moderately slow permeability, moderately low or moderate organic matter content
J8	Glossic eutroboralfs, loamy, rolling and hilly	Well drained, moderately rapid to moderately slow permeability, moderate organic matter content
J6	Graycalm-Typic Udipsammets association, nearly level and undulating	Graycalm-somewhat excessively drained, Typic Udipsammets-excessively drained, rapid permeability, low or moderately low organic matter content
X01	Histosols, depressional	Hydric. Very poorly drained, moderately slow to rapid permeability, very high organic matter content
J10	Aqualfs	Somewhat poorly and poorly drained, moderately rapid or moderate to moderately slow permeability, moderate low or moderate organic matter content
X02	Typic Borohemists, acid	Hydric. Very poorly drained, moderate or moderately rapid permeability, very high organic matter content
X04	Typic Borosaprists-Bowstring association	Hydric. Very poorly drained, moderate slow to moderately rapid permeability, very high organic matter content
X05	Typic Borohemists, nonacid	Hydric. Very poorly drained, moderate or moderately rapid permeability, very high organic matter content

Soil Type	Name	Description
N77	Udimasmments, nearly level and undulating	Excessively drained, rapid permeability, low organic matter content
N78	Psammentic Eutroboralfs, sandy, nearly level and undulating	Well drained and excessively drained, rapid permeability, low organic matter content
O97	Humaquepts, sandy	Hydric. Poorly drained and very poorly drained, rapid or moderately rapid permeability, moderate or high organic matter content
N79	Psammentic Eutroboralfs, sandy, rolling and hilly	Well drained and somewhat excessively drained, rapid permeability, low organic matter content

## 2. Water Quality and Hydrology

As glaciers sculpted northern Minnesota's landscape 12,000 years ago, they also carved some of the nation's best fishing lakes. The frozen rock and ice formed deep clear basins, now home to trout. Glacial sediments filled other basins producing moderately nutrient-rich lakes with complex food webs that feed walleye, bass and panfish. These fish make up part of the northern pike and muskie diet.

The project area is located near the headwaters of two major drainages: the Mississippi River and the Hudson Bay. FH 3 crosses the Mississippi just east of Cass Lake. The Mississippi is the largest river in North America and the fourth largest in the world, draining 40 percent of the continental U. S.

Located within the CNF are 400,000 acres of open water, 1,300 lakes including three of Minnesota's five largest, 923 miles of streams and over 400,000 acres of wetlands. The continental divide lies across the project area, approximately two miles south of US 71. Water to the south of this divide, including the Mississippi, runs into the Gulf of Mexico.

The close association between the location of archaeological sites and water sources is due to the abundance of resources near water (i.e. waterfowl, fish, turtle, and wild rice).

According to the 1979 Resource Inventory for the Pennington Bog Scientific and Natural Area (SNA) produced by Minnesota Department of Natural Resources (Mn/DNR), the existing improved roadway hinders the natural drainage flow from the SNA. However, the wet conditions this causes are beneficial to sensitive bog species located within the protected area. The current hydrologic conditions of the bog should be maintained during any future construction. The Pennington Bog is discussed in detail under **Section III.4.d**. Concerns exist regarding the effects that a further improved roadway may have on the hydrology of other wetlands spanning the east and west sides of FH 3. The use of a permeable subgrade is an option for consideration during the design of the roadway reconstruction to improve groundwater flow between the wetlands on either side of the road.

### **3. Floodplains**

Executive Order 11988 requires avoidance of both long and short-term effects associated with the modification of and development in floodplains whenever there is a practicable alternative. Suggested practicable alternatives include bridging floodplains (versus the use of fill) or shifting alignments to minimize impacts.

No FEMA floodplain data exists for the study area. This area has not been mapped for 100 or 500 year floodplains.

### **4. Wetlands and Protected Waters**

#### **a. Wetland Classification Systems**

Two wetland classification systems were used to describe wetlands within the study area. These systems are discussed below:

##### **i. Cowardin**

The Cowardin Classification System is a comprehensive system for classifying wetland and deepwater habitats. It was developed for the U.S. Fish and Wildlife service (FWS) in 1979. It is a tier system, with each tier describing the components of a wetland more specifically than the last. The abbreviations used to describe a wetland reflect the wetland class, vegetation, and water regime and may include abbreviations for special qualifiers such as substrate or water chemistry. Some commonly used abbreviations to describe Minnesota wetlands include: P (palustrine), EM (emergent vegetation), SS (scrub/shrub vegetation), FO (forest vegetation), OW (open water), A (temporarily flooded water regime), B (saturated water regime), and C (seasonally flooded water regime). For example, a PSSB wetland is a Palustrine, scrub/shrub, saturated site.

##### **ii. Circular 39**

This system was developed for the FWS in 1956. It divides wetlands into eight types according to water depth and vegetation. These wetland types are: 1.) seasonally flooded basins or floodplains, 2.) wet meadows, 3.) shallow marshes, 4.) deep marshes, 5.) open water wetlands, 6.) shrub swamps, 7.) wooded swamps, and 8.) bogs.

#### **b. Principal Wetland Types**

Four principal wetland types were identified along the project corridor during the field survey and are described below:

- Ponds and Open Water Wetlands

Few areas of open water are located within the survey area. Small, open water wetlands occur in association with emergent wetland systems. Most often, those small wetlands are located on the

upstream end of storm drain culverts and typically are under 0.25 acre in size. Common vegetation within open water wetlands includes aquatic plants, such as water lilies (*Nymphaea* and *Nuphar*), pondweeds (*Potamogeton*), and coon's tail (*Ceratophyllum*).

- Palustrine Emergent Wetlands

The palustrine emergent wetlands (PEM) along the proposed study area are composed primarily of native vegetation such as sedges (*Carex spp.*), grasses (*Calamagrostis canadensis*, *Glyceria spp.*, and *Zizania palustris*) and various wetland forbs (*Sagittaria spp.*, *Petasites sp.*, *Ranunculus spp.*, *Polygonum spp.*). Occasional encroachment of cattails (*Typha latifolia* and *T. angustifolia*, hybrid cattail (*T. xglauca*), reed canary grass (*Phalaris arundinacea*), and giant reed (*Phragmites australis*), was observed within areas of past disturbance and vegetation maintenance (former pastures, power line right-of-ways, and roadside edges, etc.). Occasional encroachment of native shrubs such as willow, alder, and bog birch was observed in undisturbed emergent wetlands, especially along seasonally flooded edges. Some emergent marshes and wet meadows are composed of monotypic stands of lake sedge (*Carex lacustris*) and aquatic sedge (*Carex aquatilis*), with several other species present.

- Palustrine Scrub-Shrub Wetlands

Palustrine scrub-shrub wetlands commonly are associated with forested wetlands that are regenerating from past disturbances. Speckled alder swamps (*Alnus incana*) and willow swamps (*Salix spp.*) are the common shrub swamps found within the proposed study area. Most commonly, red alder swamp was observed in association with disturbed tamarack swamp and white cedar swamp. Generally, alder swamps are very densely vegetated with red alder, with few herbaceous species in the emergent ground layer. Willow swamps most commonly are associated with wet meadows and mixed emergent marshes, and are dominated by sedges (*Carex spp.*) in the emergent herbaceous layer.

- Palustrine Forested Wetlands

The palustrine forested wetlands in the survey area consists primarily of white cedar (*Thuja occidentalis*), black spruce (*Picea mariana*), and tamarack (*Larix laricina*) swamps occurring within semi-permanently and permanently flooded wetland systems. Black ash (*Fraxinus nigra*) dominated swamps occasionally was encountered in seasonally flooded depressions. White cedar swamps are the most common and highest quality forested wetland systems within the study area. White cedar swamps typically are composed of a dense white cedar canopy, a sparse shrub layer, and a diverse herbaceous layer comprised of characteristic sedges (*Carex spp.*), ferns (*Dryopteris cristata*, *Botrychium virginianum*, *Thelypteris palustris*), several orchid species (*Cypripedium calceolus*, *Corallorrhiza spp.*, *Platanthera hyperborea*), and a dense, moist moss layer (*Sphagnum spp.*). Frequent saturated and inundated depressions among white cedar root systems provide habitat for additional aquatic and emergent species, such as marsh marigold (*Caltha palustris*) and the uncommon small yellow water crowfoot (*Ranunculus gmelini*).

**c. Wetland Inventory**

Each of the wetlands within 50 feet of the existing roadway were field verified and assessed for wetland functions and values using a best professional judgment approach. The locations of these wetlands are identified on **Figures III-4** and **III-5**. During construction if impacts extend beyond 50 feet, additional wetland surveys may be necessary. Aerial photographs overlaid by National Wetland Inventory maps were examined in the field and the wetland boundaries adjusted to reflect existing wetland locations. Detailed results of this survey as well as identification of protected waters and wetlands are displayed in **Appendix A**. Additional protected waters and wetlands near the existing roadway include 26 W Stoner Lake, 33 P Benjamin Lake, 23 P Holland Lake, 32 P Pimushe Lake, 7 P Kitchie Lake, and 30 P Cass Lake. Impacts to these resources are not expected.

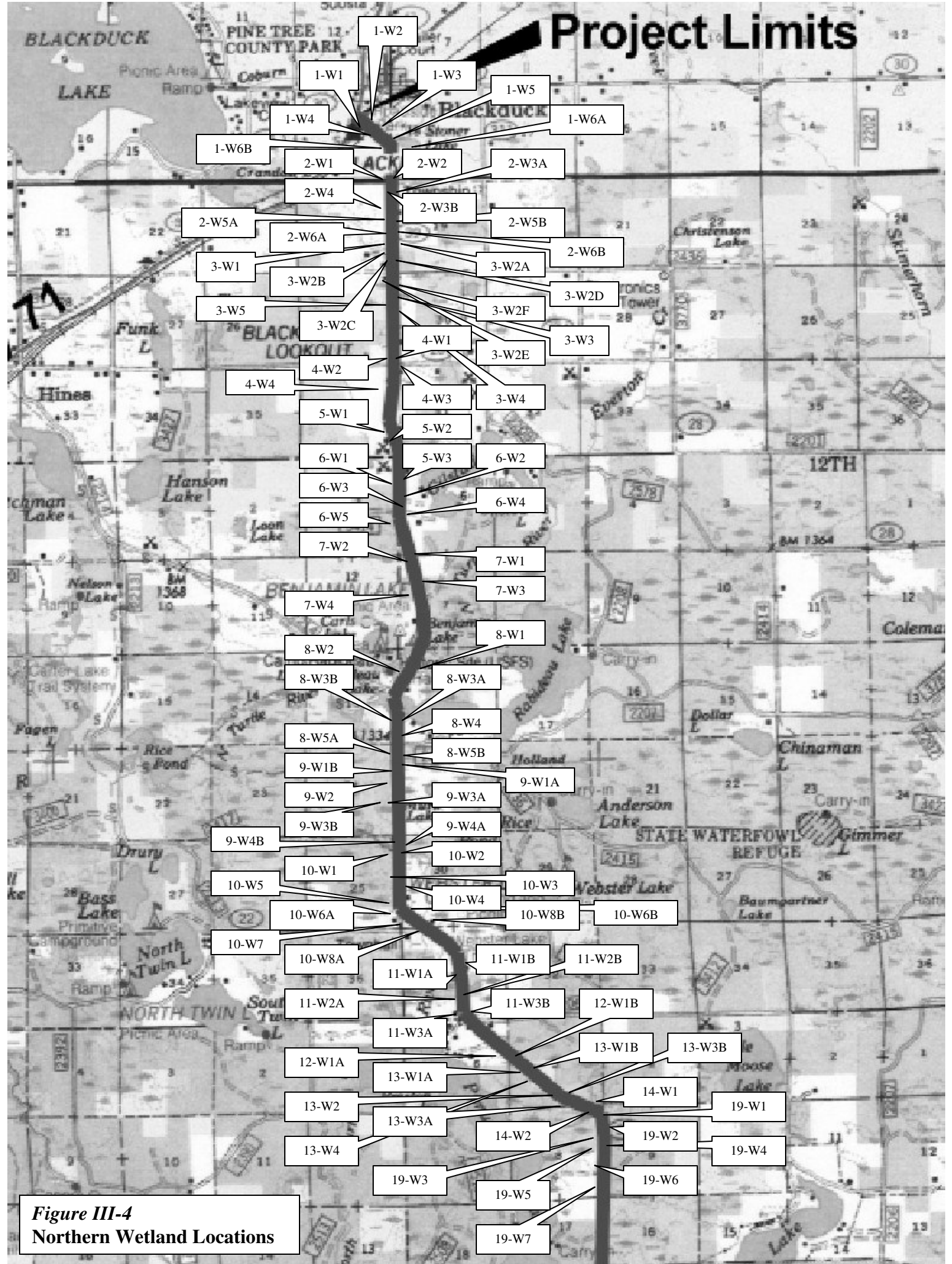
Wetland functions and values were evaluated using best professional judgment, applying concepts contained in the Corps of Engineers' *Wetland Evaluation Technique* and *Wetland Functions and Values: A Descriptive Approach*. Of the 142 wetlands surveyed, the majority (approximately 80%) function as wildlife habitat only (see **Table III-11**). Many of the wetlands are small, some are isolated, and others are either not associated with surface water systems or have low vegetation interspersion, and therefore they do not provide many of the wetland functions. The remaining 20% provide functions such as production export, nutrient removal/retention/transformation, floodflow alteration, fish and shellfish habitat, and sediment/shoreline stabilization.

**Table III-11  
Wetland Function Summary**

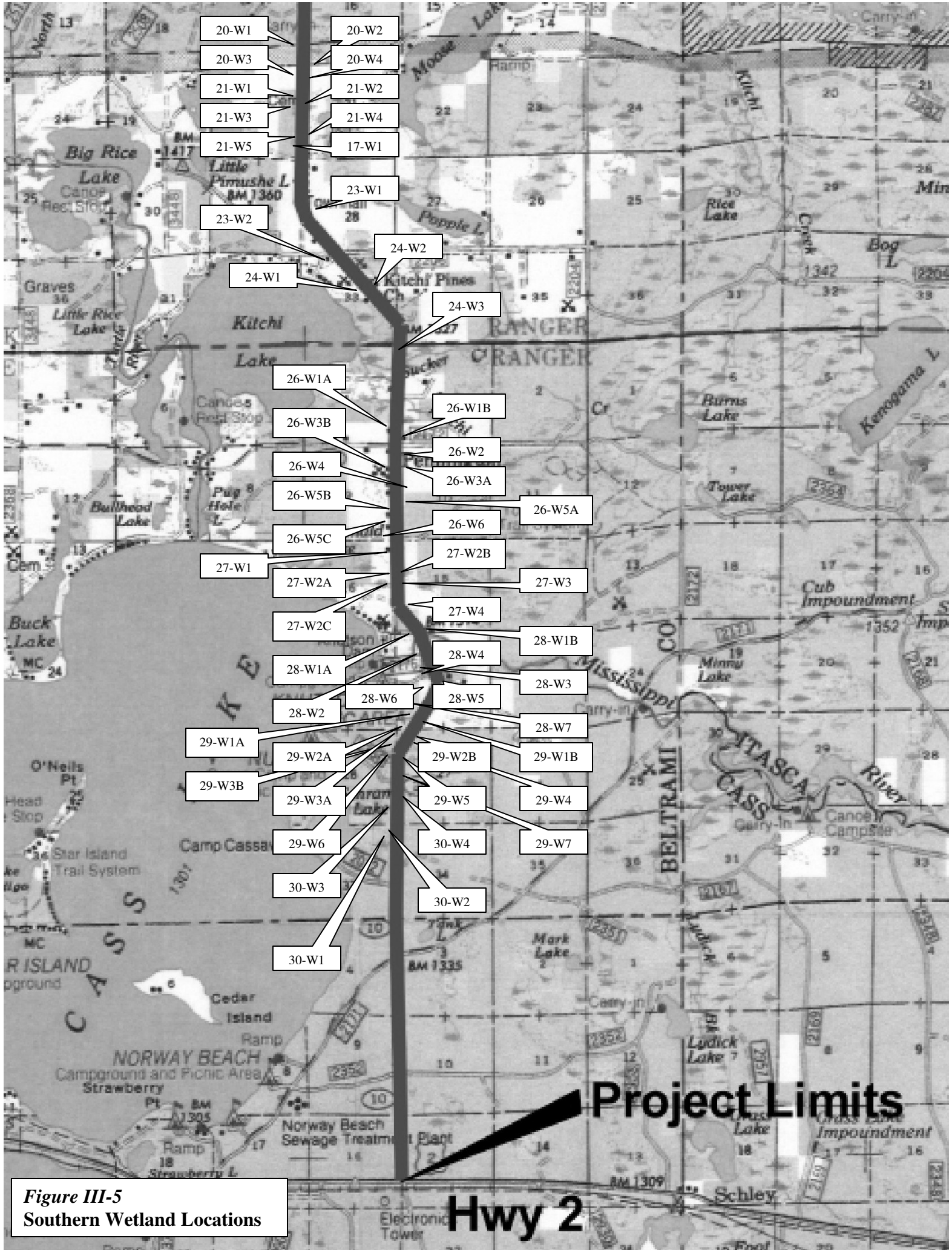
<b>Percent</b>	<b>Number of Wetlands</b>	<b>Functions</b>
1.4	2	Floodflow Alteration, Fish and Shellfish Habitat, Sediment/ Shoreline Stabilization
1.4	2	Wildlife Habitat, Production Export
4.9	7	Floodflow Alteration, Fish and Shellfish Habitat, Sediment/ Shoreline Stabilization, Wildlife Habitat
5.6	8	Nutrient Removal/ Retention/ Transformation
7.0	10	Wildlife Habitat, Nutrient Removal/ Retention/ Transformation
79.6	113	Wildlife Habitat



# Project Limits



**Figure III-4**  
**Northern Wetland Locations**



**Figure III-5**  
**Southern Wetland Locations**

**Project Limits**

**Hwy 2**

#### d. Pennington Bog Scientific and Natural Area

The Pennington Bog SNA is located on the eastern side of FH 3 approximately one mile north of its intersection with County State Aid Highway (CSAH) 12. This 108-acre scientific and natural area has been protected since 1979 to preserve its rare plant species and fragile sphagnum floor. The bog is primarily a white cedar swamp and includes tamarack and black spruce in its overstory. In addition to sphagnum moss, its understory includes pitcher plants, sundews, water arum, marsh marigolds, blue flag iris, bog buckbean, and cranberry. The bog also provides habitat for over 20 species of orchids, some extremely rare.

The Wisconsin glaciation and its associated geologic events are primarily responsible for the current hydrologic conditions in the SNA. Nearly level glacial ground moraine deposits are found within the natural area. The morphology of these deposits and the soils formed in them dictate the flow patterns of both surface and subsurface waters at the site. The entire protected area lies within the Sucker Creek watershed, which may be an important storage area for surface and groundwater (Mn/DNR 1979).

A high water table, combined with the hindrance of natural drainage flow from the site by the existing roadway, is responsible for the SNA's wet conditions. The bog is groundwater fed, and the groundwater moves from east to west. Variation in seasonal and annual precipitation patterns in combination with these factors likely cause cyclic fluctuations in the water table, affecting the wetland's water regime (Mn/DNR 1979).

Sucker Creek is a shallow, fast stream with a predominantly sandy and gravelly bottom. In some areas within the SNA, the stream is narrow with steep cut banks, while in others the land is flat and only slightly above water level. The stream is clear and not sediment laden. The creek widens into a small marsh before passing through a culvert under the roadway near the southwestern boundary of the SNA. The Sucker Creek watershed is part of the larger Mississippi watershed. Groundwater flow is generally southeastward towards the Mississippi from morainic uplands to the north (Mn/DNR 1979).

The composition of vegetative communities within the SNA was determined in 1979. These communities are: mixed woods (16 acres, 15 percent of SNA), balsam fir woods (4 acres, 4 percent of SNA), ash woods (4 acres, 4 percent of SNA), cedar/fir bog (52 acres, 48 percent of SNA), cedar bog (12 acres, 11 percent of SNA), black spruce bog (12 acres, 11 percent of SNA), alder swamp (4 acres, 4 percent of SNA), and marsh (4 acres, 3 percent of SNA). Marsh and ash woods follow the course of the stream, while the bog areas dominate the majority of the SNA. Upland wooded vegetation communities exist along the eastern boundary of the SNA (Mn/DNR 1979).

Orchid species known to occur in the bog include *Arethusa bulbosa* (dragon's mouth), *Calopogon puchellas* (grass pink), *Calypso bulbosa* (fairy slipper), *Corallorhiza trifida* (northern coral root), *Cypripedium acaule* (stemless lady slipper), *Cypripedium calceolus* (yellow lady slipper), *Cypripedium reginae* (showy lady slipper), *Goodyera repens* (dwarf rattlesnake plantain), *Habenaria dilatata* (tall white orchid), *Habenaria hyperborean* (tall leafy green orchid), *Habenaria obtusata* (blunt leaf orchid), *Habenaria orbiculata* (round leaf orchid), *Listera*

*cordata* (heart-leaved twayblade), *Malaxis unifolia* (green adder's mouth), and *Orchis rotundifolia* (small round leaved orchid). Each of these species was found within cedar bog habitat (Mn/DNR 1979).

On June 16 and 17, 2004, a biological field survey was conducted within the Pennington Bog SNA to evaluate the wetland habitat that could potentially be impacted by the reconstruction of the roadway. Except in ponded water locations, the floor of the bog was covered with Sphagnum moss and narrow-leaved sedges. Dominant overstory trees included white cedar and black spruce. Dominant woody understory plants included speckled alder, red maple, gray dogwood, pussy willow, and quaking aspen. One sample plot was surveyed, approximately 100 feet into the bog near its northern boundary in a sunny opening in the forest canopy with a radius of approximately 50 feet. Plants in flower were identified by walking in random transects through the natural area. The following herbaceous plants (see **Table III-12**) were identified during the survey.

**Table III-12  
Species Found in the Pennington Bog SNA**

<b>Scientific Name</b>	<b>Common Name</b>
<i>Caltha palustris</i>	Marsh marigold
<i>Calypso bulbosa</i>	Fairy slipper
<i>Clitonia borealis</i>	Yellow clitonia
<i>Cornus canadensis</i>	Bunchberry
<i>Cypripedium acaule</i>	Pink lady's slipper
<i>Cypripedium calceolus var. parvifolium</i>	Smaller yellow lady's slipper
<i>Drosera rotundifolia</i>	Round-leaved sundew
<i>Fragaria vesca</i>	Wood strawberry
<i>Galium paustre</i>	Marsh bedstraw
<i>Ledum grandifolium</i>	Labrador Tea
<i>Liparis loeselii</i>	Loesel's twayblade
<i>Listera cordata</i>	Heart-leaved twayblade
<i>Maianthemum canadense</i>	Canada mayflower
<i>Mitella nuda</i>	Naked miterwort
<i>Sarracenia purpurea</i>	Pitcher plant
<i>Smilacina trifolia</i>	Three-leaved soloman's seal
<i>Trientalis borealis</i>	Star flower
<i>Trillium cernuum</i>	Nodding trillium
<i>Viola pallens</i>	Northern white violet

The area of the bog within 25 feet of the road was examined to determine whether these plants were observable in the area potentially impacted by future roadway reconstruction. Many of these species were observed to occur within this span, and the surface water hydrology up to the tree line appeared the same as the rest of the bog. The distance from the centerline of the road to the treeline was measured to be 35 feet.

## 5. Terrestrial Habitat and Wildlife

The study area is located along approximately 27 miles of existing paved road that transects various natural habitats, including second growth forest systems within the Chippewa National Forest (CNF) and Leech Lake Reservation (LLBO). Actively managed landscape types such as residential yards also occur within the study area. In a typical year, the corridor is mowed once from treeline to treeline. The vegetation present along the edges of FH 3 within 50 feet of the centerline of the existing road, or within the limits of construction of the proposed roadway improvements, consists primarily of upland woodland and forest systems (sugar maple, basswood, aspen, and balsam fir) in various stages of natural succession, wetland grasses and grass-like plants (sedges and rushes), wetland forest systems (white cedar, black spruce, tamarack, and black ash), and shrub-dominated wetlands (red alder, bog birch, and willow). Trees have established in many areas of the previously cleared construction right-of-way. Trees are growing on the constructed back slope and ditch bottom, encroaching into the normal "clear zone".

The study area includes the following principal habitats:

- Ponds and Open Water (lakes and small open-water wetlands)
- Palustrine Emergent Wetlands (sedge meadows, cattail marshes, mixed emergent marshes, bogs, and fens)
- Palustrine Scrub-Shrub Wetlands (willow swamps and alder swamps)
- Palustrine Forested Wetlands (tamarack swamps, white cedar swamps and bogs, black spruce swamps, lowland hardwood forests, and black ash swamps)
- Northern Mesic Hardwood Forest (maple/basswood forest and successional aspen/balsam fir woodlands)
- Non-Native Dominated Grasslands (existing roadway clearing and woodland/grassland edge)
- Residential and Commercial Properties (residential and commercial landscapes and maintained utility corridors)

Of particular interest to local residents is the common occurrence of showy lady's slipper orchids, the official state flower, that have been known to grow along the roadway shoulders and flower in late spring. A diverse number of animals inhabit this area, including white-tailed deer, black bear, and gray wolf. Very rare occurrences of, beaver, muskrat, red fox, red and gray squirrel, fisher, river otter, and bobcat also occur.

### a. Chippewa National Forest

The USDA Forest Service (FS) identified 324 forest stands within 1/4 mile of FH 3 in 2000 on National Forest land. As depicted in **Table III-13**, quaking aspen makes up the largest percentage of forest stands along the existing roadway (over 28 percent). Red pine plantations and open space also account for much of the vegetative cover within the vicinity of the road, approximately 27.4 percent. Lowland brush, mixed conifer swamp, tamarack, and northern white cedar, associated with wetland habitat, make up just over 16 percent of the state-owned land cover along the corridor.

**Table III-13  
National Forest Stands, Land Cover within 1/4 mile of FH 3**

<b>Stand Type</b>	<b>Percent</b>	<b>Number of Stands</b>
Quaking aspen	28.1	91
Red pine	15.7	51
Open	11.7	38
Lowland brush	6.5	21
Mixed conifer swamp	6.2	20
Sugar maple, Basswood	5.9	19
Jack pine	5.9	19
Paper birch	4.0	13
Black spruce	3.7	12
White spruce, Balsam fir	2.2	7
Balsam fir, Aspen, Paper birch	1.9	6
Tamarack	1.9	6
Northern white cedar	1.5	5
Northern red oak	1.2	4
Upland brush	0.9	3
White pine	0.9	3
Unlisted	0.9	2
Black ash, American elm, Red maple	0.6	2
Mixed hardwoods; Maple, Basswood, Ash	0.6	2
<b>Total: 324</b>		

Source: USDA Forest Service

## **6. Aquatic Habitat and Wildlife**

Numerous species of fish, amphibians, and reptiles inhabit the area lakes, rivers, and wetlands, the most important of these being muskie, northern pike, white sucker, yellow perch, panfish, leopard frog, wood frogs, mink frogs, garter snake, red-bellied snake, painted snake, and snapping turtle. In addition to these species, numerous species of waterfowl utilize the waterways for nesting or during spring and fall migration. Over 700 lakes, extensive marshes, open areas, and the deciduous and conifer forest, provide habitat for at least 329 species of birds, including the American woodcock, blue jay, blue-winged teal, hooded merganser, mallard, , American white pelican, pine siskins, common raven, red-tailed hawk, , and white-throated sparrow. Waterfowl, wading birds, and others associated with the aquatic environment are especially abundant. Bald eagles, ospreys, and other raptors are also common.

## **7. Rare, Threatened, and Endangered Species**

Consultation with federal, tribal, and state agencies pursuant to Section 7 of the Endangered Species Act of 1973, as amended, has been completed with respect to the presence of rare, threatened, and endangered (RTE) flora and fauna within the project area, as well as sensitive

species and species of special concern. Federal, Tribal, and state agencies consulted included the following:

- U.S. Fish and Wildlife Service
- Minnesota Department of Natural Resources
- Division of Resources Management (LLBO)

One bald eagle was the only directly observed species of federally or state-listed threatened or endangered species within the area of potential impacts during field investigations conducted during September 23-25, 2003, June 7-11, 16-17, 2004, and August 23-26, 2004. Direct visual observation techniques were used in areas adjacent to FH3 and within the existing road right-of-way adjacent to the Leech Lake tribal lands and tribal allotments. However, appropriate habitat for these sensitive species was noted. Potential impacts to the habitat of RTE and other sensitive species are discussed in **Section IV**.

**Table III-15** describes those federally, tribally, and state-listed RTE species that may be found in Beltrami County, Leech Lake Reservation, or the CNF.

The Mn/DNR considers a species to be a Species of Concern (SC) when the species, although not endangered or threatened, is extremely uncommon in Minnesota, or has highly unique or specific habitat requirements and deserves careful monitoring of its status. Species on the periphery of their range which are not listed as threatened may be included in this category, along with those species that once were once threatened or endangered but now have increasing or protected, stable populations.

The Regional Forester Sensitive Species (RFSS) list identifies plant and animal species for which viability is a concern and for which management actions to conserve those plant and animal species should be taken. The head of each regional office of the FS prepares the list. Candidates for sensitive species can come from state lists of endangered, threatened, rare, endemic, unique, or vanishing species and other sources. Each region determines its own list and criteria for listing. Sensitive species are those plant and animal species identified by a Regional Forester for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density, and/or significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.

The Leech Lake Reservation Sensitive Species (LLSS) List identifies species that are endangered, threatened, or sensitive on the reservation. Endangered species are those likely to become extinct or extirpated from the reservation without protective measures. Threatened species are those likely to become endangered, and sensitive species are those likely to become threatened or endangered without measures taken to protect it and/or its habitat.

Many species, in addition to their status as SC, RFSS, and LLSS, are federal and/or state-listed RTE species. Those species are discussed in the preceding section. The following subsections contain the remaining SC, RFSS, and LLSS species and a description of potential habitat associated with the project (see **Table III-15**).

**Table III-14  
Threatened, Endangered, and Sensitive Species of the Chippewa National Forest,  
Mn/DNR, and Leech Lake Reservation**

Species	Common Name	Forest Status	Mn/DNR	Leech Lake Status	Suitable Habitat	Habitat
<b>PLANTS</b>						
<i>Arethusa bulbosa</i>	Dragon's-mouth orchid	None	None	S	Yes	Sphagnum bogs and swamps
<i>Botrychium dissectum</i>	Dissected grape-fern	None	None	T	Yes	Bottoms, ravines, occasionally in dry woods and thickets
<i>Botrichium lanceolatum</i>	Lanceleaf grapefern	RFSS	T	T	Yes	Northern hardwoods, lowland hardwoods
<i>Botrichium minganese</i>	Mingan moonwort	FS	SC	T	Yes	Deciduous forests which include sugar maple as a component
<i>Botrichium mormo</i>	Goblin fern	RFSS	T	E	Yes	Northern hardwoods
<i>Botrichium oneidense</i>	Blunt-lobed grapefern	RFSS	E	E	Yes	Northern hardwoods, especially near ephemeral pools
<i>Botrichium pallidum</i>	Pale moonwort	RFSS	E	T	Yes	Northern hardwoods, odd spots in pine habitat, and openings
<i>Botrichium rugulosum</i>	Temate grapefern	RFSS	T	T	Yes	Odd spots, particularly in pine habitat
<i>Botrichium simplex</i>	Least moonwort	RFSS	SC	T	Yes	Northern hardwoods, openings
<i>Calypso bulbosa</i>	Fairy slipper	RFSS	None	T	Yes	Lowland conifer
<i>Carpinus caroliniana</i>	Blue beech, Musclewood	None	None	S	Yes	Eastern mixed hardwood forests, hardwood swamps on mineral soils or mucks; rich, wet-mesic sites
<i>Carya cordiformis</i>	Bitternut hickory	None	None	S	Yes	Well-drained floodplains and moist upland forests
<i>Celtis occidentalis</i>	Hackberry	None	None	S	Yes	Floodplain, lakeshore, and mesic upland forests
<i>Comptonia peregrina</i>	Sweet fern	None	None	S	Yes	Openings in coniferous forest in well-drained, dry, acid, sandy or gravelly soils
<i>Cladium mariscoides</i>	Twig-rush	FS	SC	None	No	Patterned water tracks within large, open, sunny, wet peatland complexes dominated by sedges
<i>Cypripedium arietinum</i>	Ram's-head lady's slipper	RFSS	T	T	Yes	Lowland conifer, transition between upland, lowland conifer, and dry jack pine forest
<i>Drosera anglica</i>	English sundew	FS	SC	None	Yes	Bogs, sedge meadows, and peatlands
<i>Drosera intermedia</i>	Spatulate-leaved sundew	None	None	S	Yes	Bogs, fens, and moist, acidic, sandy soils; often in standing water
<i>Drosera linearis</i>	Linear-leaved sundew	FS	SC	None	Yes	Bogs, sedge meadows, and peatlands
<i>Dryopteris goldiana</i>	Goldie's wood-fern	RFSS	SC	T	Yes	Northern hardwoods and lowland hardwoods within one mile of very large lakes
<i>Eleocharis olivacea</i>	Olivaceous spike-rush	RFSS	T	T	Yes	Bogs, lakes, streams, and shorelines
<i>Eleocharis quinquefolia</i>	Few-flowered spike rush	RFSS	SC	S	Yes	Bogs, lakes, streams, and shorelines
<i>Erythronium albidum</i>	White trout-lily	RFSS	None	T	Yes	Northern hardwoods within one mile of very large lakes
<i>Fimbristylis autumnalis</i>	Autumn fimbristylis	FS	SC	None	Yes	Shores, stream banks and wet meadows, often where sandy



Species	Common Name	Forest Status	Mn/DNR	Leech Lake Status	Suitable Habitat	Habitat
<i>Gentiana andrewsii</i>	Closed gentian	None	None	S	Yes	Moist thickets & meadows, Northern lowland forest, sedge meadows
<i>Gymnocarpium robertianum</i>	Limestone oak fern	RFSS	None	S	Yes	Lowland conifer
<i>Hierochloa odorata</i>	Sweet grass	None	None	S	Yes	Wet meadows, low prairies, marsh edges, bogs, shaded streambanks, lakeshores
<i>Juglans cinera</i>	Butternut	FS	SC	S	Yes	Northern hardwoods
<i>Juncus stygius</i>	Moor rush, bog rush	FS	SC	None	No	Flank formations and shallow pools that form in mineotrophic water tracks of wet, sunny, sedge-dominated peatlands
<i>Listera auriculata</i>	Auricled twayblade	FS	E	None	Yes	Near large lakes, along streams in lowland hardwood or lowland conifer forest, also in shrub swamps
<i>Malaxis brachypoda</i>	White adder's mouth	RFSS	None	T	Yes	Lowland hardwoods, lowland conifer
<i>Malaxis paludosa</i>	Bog adder's mouth	FS	E	E	Yes	Lowland conifer
<i>Mitchella repens</i>	Partridge-berry	None	None	S	Yes	Dry or moist forest
<i>Najas gracillima</i>	Slender naiad	FS	SC	S	Yes	Soft-water lakes and ponds
<i>Nymphaea leibergii</i>	Dwarf water-lily	FS	T	None	Yes	Lakes, streams, and shoreline
<i>Orobanche uniflora</i>	One-flowered broomrape	RFSS	SC	T	Yes	Northern hardwoods, lowland conifer, & upland/lowland conifer transition
<i>Panax quinquefolius</i>	American ginseng	FS	SC	None	Yes	Northern hardwoods
<i>Pinus strobus</i>	White pine	None	None	S	Yes	Well-drained soils and a cool, humid climate
<i>Platanthera clavellata</i>	Clubspur orchid	RFSS	SC	T	Yes	Lowland conifer and bogs
<i>Platanthera flava</i>	Tuberclad rein-orchid	FS	E	None	Yes	Moist grassy or sedge-dominated meadows, somewhat brushy, on calcareous or circumneutral strata
<i>Polemonium occidentale</i>	Western Jacob's ladder	FS	E	None	Yes	Lowland conifer
<i>Potamogeton vaginatus</i>	Sheathed pondweed	FS	None	None	No	Deep water of cold, clear lakes
<i>Potamogeton vaseyi</i>	Vasey's pondweed	FS	SC	None	Yes	Lakes, streams, and shoreline
<i>Ranunculus lapponicus</i>	Lapland buttercup	FS	SC	T	Yes	Moss hummocks in lowland conifer swamps
<i>Rhynchospora fusca</i>	Sooty-colored beak-rush	FS	SC	None	Yes	Bogs and large peatland complexes
<i>Sparganium glomeratum</i>	Northern bur-reed	RFSS	SC	T	Yes	Bogs, sedge meadows, wetlands, lakes, streams, and shoreline
<i>Subularia aquatica</i>	Awlwort	RFSS	T	None	Yes	Lakes, streams, and shoreline
<i>Taxus canadensis</i>	Canada yew	RFSS	None	S	Yes	Northern hardwoods, lowland hardwoods, lowland conifer
<i>Torreyochloa pallida</i>	Torrey's manna-grass	RFSS	SC	S	Yes	Lowland conifer, lakes, streams, and shoreline
<i>Ulmus americana</i>	American elm	None	None	S	Yes	Moist soil conditions, especially valleys and flood plains; in mixed hardwood forests
<i>Ulmus rubra</i>	Red (slippery) elm	None	None	T	Yes	Well-drained floodplain forests and moist upland forests
<i>Utricularia gibba</i>	Humped bladderwort	None	None	S	Yes	Exposed shores, lakes, ponds, rivers, streams, marshes, and fens

Species	Common Name	Forest Status	Mn/DNR	Leech Lake Status	Suitable Habitat	Habitat
<i>Utricularia purpurea</i>	Purple-flowered bladderwort	FS	SC	S	Yes	Bogs, lakes, streams, and shorelines
<i>Viola novae-angliae</i>	New England violet	None	None	S	Yes	Shores of lakes and rivers
<i>Waldsteinia fragarioides</i>	Barren strawberry	FS	SC	S	Yes	Usually in upland pine forests, may occur in other woodland types
<i>Xyris montana</i>	Yellow-eyed grass	FS	SC	None	Yes	Bogs
<b>MAMMALS</b>						
<i>Canis lupus</i>	Gray wolf	T	SC	S	Yes	Broad spectrum of habitats with abundant ungulate prey
<i>Felis concolor</i>	Eastern cougar	None	None	E	Yes	Broad spectrum of habitats with abundant prey
<i>Spermophilus franklinii</i>	Franklin's ground squirrel	None	None	T	Yes	Densely vegetated areas, often the transition between wood and grassland
<i>Lynx canadensis</i>	Canada lynx	T	None*	E	Yes	Mixed coniferous and deciduous vegetation types; deep snow and abundant snowshoe hares for prey
<i>Martes americana</i>	Pine marten	None	None	S	Yes	Coniferous forest
<i>Microtus ochrogaster</i>	Prairie vole	FS	SC	S	Yes	Relatively dry, upland prairies. On occasion, it may be found in swales and riparian grasslands. Also reported from Jack pine woods.
<i>Mustela nivalis</i>	Least weasel	FS	SC	None	Yes	Meadows, fields, bushy areas, and open woods
<i>Myotis septentrionalis</i>	Northern myotis	FS	SC	S	Yes	Caves, sand mines, deep iron mines in winter. In summer, associated with forested habitats, where it forages for insects over trees, ponds, and streams. Day roosts may be under tree bark, in buildings, and behind signs and shutters of buildings
<i>Phenacomys intermedius</i>	Heather vole	FS	SC	S	Yes	Coniferous forests, forest borders, heath shrublands, willow thickets. Rocky hillsides, and moist meadows
<i>Synaptomys borealis sphagnicloa</i>	Northern bog lemming	RFSS	SC	S	Yes	Sphagnum and Labrador tea lowland black spruce/tamarack bogs and peatlands with grasses and sedges in conjunction with an ericaceous shrub layer
<b>BIRDS</b>						
<i>Accipiter gentilis</i>	Northern goshawk	RFSS	None	E	Yes	Large tracts of mature, closed canopy, deciduous, coniferous and mixed forests with an open understory
<i>Ammodramus caudacuta</i>	Sharp-tailed sparrow	None	None	S	Yes	Sedge meadows
<i>Ammodramus henslowii</i>	Henslow's sparrow	None	None	E	Yes	Grasslands, weedy moist meadows, shrubby fields, overgrown pastures
<i>Ammodramus leconteii</i>	LeConte's sparrow	RFSS	None	S	Yes	Large sedge dominated wetlands and wet meadows
<i>Ammodramus nelsoni</i>	Nelson's sharp-tailed sparrow	RFSS	SC	None	Yes	Sedge- or grass-dominated wet meadows, marshes, and open peatlands, in large tracts of open habitat
<i>Ardea herodias</i>	Great blue heron	None	None	S	Yes	Rivers, lake edges, marshes, saltwater shores, and swamps
<i>Asio flammeus</i>	Short-eared owl	FS	SC	S	Yes	Broad expanses of grasslands, marshes, open peatlands, or grainfields

Species	Common Name	Forest Status	Mn/DNR	Leech Lake Status	Suitable Habitat	Habitat
<i>Botaurus lentiginosus</i>	American bittern	None	None	S	Yes	Sedge/cattail wetlands
<i>Buteo lineatus</i>	Red-shouldered hawk	RFSS	SC	T	Yes	Large tracts of mature, deciduous and mixed riparian forest habitats with a preference for bottomlands and wooded margins near marshes
<i>Charadrius melodus</i>	Piping plover	E	E*	E	No	Local sandy beaches and sparsely vegetated shores and islands. Migrants only, no known nesting in CNF or LL Res
<i>Chlidonias niger</i>	Black tern	RFSS	None	S	Yes	Nests in marshes and wet meadows with a mixture of emergent vegetation and open water
<i>Contopus cooperi</i>	Olive-sided flycatcher	RFSS	None	None	Yes	Variety of boreal forests including uplands, lowlands, edges and beaver meadows with a preponderance of standing or dead large pine, spruce or tamarack trees used for foraging
<i>Coturnicops voveboracensis</i>	Yellow rail	RFSS	SC	T	Yes	Sedge meadows and grassy marshes
<i>Cygnus buccinator</i>	Trumpeter swan	RFSS	T	E	Yes	Small ponds and lakes or bays with extensive beds of cattails, bulrushes, sedges, and/or horsetail
<i>Dendroica caerulescens</i>	Black-throated blue warbler	RFSS	None	None	Yes	Mature large deciduous trees, especially sugar maple, with a well developed understory of deciduous shrubs in blocks of habitat >1200 acres
<i>Dendroica castanea</i>	Bay-breasted warbler	RFSS	None	None	Yes	Mid-age to mature spruce forests infested with spruce budworm and tent caterpillars
<i>Falciptennis canadensis</i>	Spruce grouse	RFSS	None	None	Yes	Coniferous forest of Jack pine, black spruce and tamarack; habitat always includes short needle component and branches that extend to the ground
<i>Falco peregrinus</i>	Peregrine falcon	FS	T	None	No	Historically, nested on cliff ledges along the Mississippi and St. Croix rivers and in the Boundary Waters Canoe Area. Now the only occurrences are arctic birds in migration
<i>Grus canadensis</i>	Sandhill Crane	None	None	S	Yes	Large open fields and shallow wetlands
<i>Haliaeetus leucocaphalus</i>	Bald eagle	T	SC*	T	Yes	Large trees adjacent to riparian areas with fish
<i>Lanius ludovicianus</i>	Loggerhead shrike	FS	T	None	Yes	Open country and dry upland prairie where hedgerows, shrubs, and small trees occur
<i>Larus argentatus</i>	Herring gull	None	None	T	Yes	Oceans, bays, estuaries, beaches, fields, inland lakes, reservoirs and large streams
<i>Larus pipixan</i>	Franklin's gull	FS	SC	S	Yes	Nests in freshwater marshes, shores of inland lakes, in areas of prairie and steppe
<i>Oporomis agilis</i>	Connecticut warbler	RFSS	None	None	Yes	Mature lowland coniferous habitats especially mature black spruce, tamarack bogs and Jack pine barrens with thick shrub understory
<i>Pandion halietus</i>	Osprey	None	None	S	Yes	Lakes, rivers, and coastal waters with adequate supplies of fish
<i>Pelecanus erythrorhynchos</i>	American white pelican	FS	SC	S	Yes	Large, shallow bodies of water that are rich in fish, in both treeless and forested country. The besting site, usually a flat, bare island, is isolated from human disturbances
<i>Phalaropus tricolor</i>	Wilson's phalarope	RFSS	T	S	Yes	Quiet, shallow pools bordered by wet meadow vegetation
<i>Picoides arcticus</i>	Black-backed woodpecker	RFSS	None	T	Yes	Mature coniferous forests which include dead and dying tamarack or spruce bogs, white cedar infested with wood boring beetles larvae

Species	Common Name	Forest Status	Mn/DNR	Leech Lake Status	Suitable Habitat	Habitat
<i>Podiceps auritus</i>	Horned grebe	FS	T	T	Yes	Marshes, lakes, and ponds. Usually nests among tall vegetation in shallow water.
<i>Rallus elegans</i>	King rail	None	None	E	Yes	Sedge and cattail marshes
<i>Sterna caspia</i>	Caspian tern	RFSS	None	None	No	Islands in very large lakes
<i>Sterna forsteri</i>	Forster's tern	FS	SC	S	No	Large marshes with extensive areas of emergent vegetation or muskrat houses are selected for nesting
<i>Sterna hirundo</i>	Common tern	RFSS	T	T	No	Isolated, sparsely vegetated islands in large lakes
<i>Strix nebulosa</i>	Great grey owl	RFSS	None	T	Yes	Mature lowland black spruce, black ash wetlands, tamarack wetlands and conifer hardwood uplands adjacent to meadow openings
<i>Tympanuchus phasianellus</i>	Sharp-tailed grouse	RFSS	None	None	No	Expansive areas of graminoid and brush habitat (at least 2 sq. miles). Habitat niche is between grasslands and forests, usually created and maintained by fire
<b>AMPHIBIANS</b>						
<i>Hemidactylium scutatum</i>	Four-toed salamander	RFSS	SC	S	Yes	Adults live under objects or along mosses in swamps, boggy streams, and wet, wooded or open areas near ponds or quiet. Larval habitat are mossy or grassy/sedgy ponds
<i>Plethodon cinerus</i>	Red-backed salamander	None	None	S	Yes	Deciduous woods with thick leaf litter and many decaying logs or stumps
<i>Rana clamitans</i>	Green frog	None	None	S	Yes	Habitats surrounding inland waters
<b>REPTILES</b>						
<i>Chelydra serpentina</i>	Snapping turtle	FS	SC	S	Yes	Occurs in virtually all aquatic habitats, especially those with soft mud bottoms and abundant aquatic vegetation or submerged brush and logs. Nests in soft soil in open area, often hundreds of meters from water
<i>Emydoidea blandingii</i>	Blanding's turtle	RFSS	T	None	Yes	Calm, shallow watered marsh areas with soft bottoms with rich aquatic vegetation and sandy uplands for nesting
<i>Heterodon nasicus</i>	Western hognose snake	FS	SC	None	Yes	Grassland, prairie, and mixed forb/prairie habitats
<i>Heterodon platirhinos</i>	Eastern hognose snake	None	None	S	Yes	Open, sandy woodlands
<b>FISH</b>						
<i>Moxostoma valenciennesi</i>	Greater redbreast	RFSS	None	S	Yes	Moderate to fast-flowing, medium-sized to large rivers with sand and gravel substrates
<i>Notropis anogenus</i>	Pugnose shiner	RFSS	SC	S	Yes	Clear lakes and streams with bottoms of sand and gravel or marl and abundant submerged aquatic vegetation
<b>MOLLUSKS</b>						
<i>Lasmigona compressa</i>	Creek heelsplitter	RFSS	SC	S	Yes	Creeks and the headwaters of small to medium rivers in fine gravel or sand
<i>Lasmigona costata</i>	Fluted shell mussel	RFSS	SC	None	Yes	Medium to large rivers in sand, mud or fine gravel in areas with slow to moderate flow
<i>Ligumia recta</i>	Black shelled mollusk	None	None	S	Yes	Medium to large rivers in riffles or raceways in gravel or firm sand
<b>INSECTS</b>						
<i>Ceraclea vertreesi</i>	Vertree's caddisfly	RFSS	SC	None	Yes	Medium to large-sized rivers or lakes that are directly connected to a medium or large-sized river

Species	Common Name	Forest Status	Mn/DNR	Leech Lake Status	Suitable Habitat	Habitat
<i>Cicindela patruela patruela</i>	Patterned green tiger beetle	None	None	S	Yes	Sand with Jack Pine, sweet fern, blueberry

E=Endangered, T=Threatened, SC=Special Concern, RFSS=Regional Forester Sensitive Species, FS=Forest Sensitive, S=Sensitive, \*=FWS status

### a. Plants

#### Lance-leaved or Triangle grapefern

This species is extremely rare in Minnesota. Potential habitats within the study area include hardwood forests and openings. This species prefers northern hardwood forests habitats in northern Minnesota. Several tracts of maple/basswood forest and mixed coniferous/deciduous forest will be impacted along the proposed roadway corridor. Several locations for his plant have been found on the Leech Lake Reservation and Chippewa National Forest. Although appropriate habitat within the study area was searched extensively for this species during the September 2003 and June and August 2004 surveys, none were found.

#### Blunt-lobed grapefern

The blunt-lobed grapefern was first observed in Cass County in 1992 within moist depressions of northern hardwood forests. One location has been found south of the Leech Lake Reservation, and one within the Reservation. Along the proposed project corridor, very few moist forest depressions occur that would be suitable for this species. However, appropriate habitat was surveyed for the presence of the blunt-lobed grapefern, and no populations were found during the September 2003 and June and August 2003 surveys.

#### Pale moonwort

Pale moonwort is known to occur within northern hardwood forests and pine forests. In Minnesota, this species is very rare and cryptic, and most populations have been documented within the past ten years since the species first had been detected in the state in 1992. Recent discoveries of pale moonwort within the CNF (in Cass County) and Leech Lake Reservation were within maple and basswood-dominated hardwood forest tracts. Two of the largest known populations for this plant are in sites with a history of disturbance and in one case the soils are almost primal in nature. Maple and basswood-dominated stands were searched extensively for the presence of this species, however, no individuals or populations were observed during the September 2003 and June and August 2004 surveys.

#### Ternate grapefern

The ternate grapefern (*Botrychium rugulosum*) is very rare in northern Minnesota and throughout its range. This species is known to occur within pine forests and forested wetland margins. Several populations are known to occur within the Leech Lake Reservation and Chippewa National Forest. Although no suitable pine forest habitat was documented within the project study area, several forested wetland margins were surveyed for the presence of this species. No individuals or populations of ternate grapefern were observed during the September 2003 and June and August 2004 surveys.

#### Ram's-head lady slipper

The ram's-head lady slipper occurs within a wide range of forest types, including dry, sandy jack pine forests, coniferous forests with dense *Sphagnum* ground layers, and mixed coniferous/deciduous upland forests (Smith 1993). Suitable habitat within the proposed study area includes white cedar swamps and dry conifer forest uplands. Barott Bog is a known Ram's head site, located along the highway east of Pimushe Lake and west of Little Moose Lake. The FS found six locations of this species along the eastern edge of the corridor; one east of Kitchi Lake in the Pennington Bog SNA and five west of Little Moose Lake. During the September 2003 and June and August 2004 surveys, seven populations were observed; in the Pennington Bog SNA and other high quality white cedar bogs, including the documented locations west of Little Moose Lake; in a white cedar/balsam fir stand, and in cut-over and mature mixed deciduous/conifer stands.

#### Olivaceous spike-rush

*Eleocharis olivacea* is known to occur within a variety of wetland and aquatic habitats within northern Minnesota, including floating sedge mats, lake beaches, and river margins. Three populations have been documented in Minnesota (all from north central Minnesota). Although many suitable wetland habitats were surveyed along the proposed corridor for this species, no populations were found during the September 2003 and June or August 2004 surveys.

#### Auricled tway-blade

This species may be found along streams in lowland forest and in shrub swamps located within the study area. Although appropriate habitat was searched, no members of this species were observed during the September 2003 and June and August 2004 surveys.

#### Bog adder's mouth

This tiny plant is extremely rare in North America. Potential habitat for this species exists within the study area in wet sphagnum, wet peaty bogs and fens partially shaded by alders and conifers such as black spruce, balsam fir, and eastern white cedar. Such habitat was searched extensively during the September 2003 and June and August 2004 surveys, but this species was not observed.

#### Dwarf water lily

Kitchi Creek, Sucker Creek, Turtle River, and the Mississippi may provide suitable habitat for this aquatic species. Although these creeks and rivers were searched extensively, this species was not observed during the September 2003 and June and August 2004 surveys.

#### Tubercled rein-orchid

No calcareous or circumneutral strata exist within the study area to provide habitat for this species. It was not observed during the September 2003 and June and August 2004 surveys.

#### Western Jacob's ladder

The lowland conifer stands within the study area may provide habitat for this species. Although lowland conifers were extensively searched, this species was not observed during the September 2003 and June and August 2004 surveys.

### American awlwort

In Minnesota, this species is known to occur exclusively within shallow littoral zones of sandy, oligotrophic lakes. No lakes occur within the study area, and no populations of American awlwort were detected during the September 2003 and June and August 2004 surveys.

### Dragon's-mouth orchid

The sphagnum bogs and swampy meadows located within the study area are potential habitat for this orchid species. It is known to occur in the Pennington Bog SNA although it is unlikely to be negatively affected by this project. Other suitable habitat habitats within the study area were searched extensively during the September 2003 and June and August 2004 surveys, no individuals of this species were observed.

### Dissected grapefern

This species prefers bottoms and ravines in dry woods and thickets. It is not likely to occur within the study area. No individuals of this species were located during the September 2003 and June and August 2004 surveys.

### Mingan moonwort

The mingan moonwort is known to occur within a wide variety of moist habitats from low to alpine elevations. Grasslands, mossy lakeshores, and conifer and deciduous forests are identified habitat for the mingan moonwort. Previously documented mingan moonwort populations within the CNF most commonly occurred within maple-basswood and northern hardwood forest stands. While suitable stands were searched extensively for the presence of sensitive, threatened, endangered, and special concern species in June and August of 2004, no individuals or populations of Mingan moonwort were observed.

### Goblin fern

This species prefers unwormed northern hardwood forests, particularly maple basswood forest habitats in northern Minnesota. The edges of several tracts of maple/basswood forest and mixed coniferous/deciduous forest will be impacted along the proposed roadway corridor. The largest population of this species is reported to occur on the Leech Lake Reservation. One Goblin fern has been documented by the CNF as occurring within the study area. The site where it was located is on the eastern side of the existing road in Cass County at the southern terminus of the study area. This site as well as suitable habitats for all moonwort species were searched during the September 2003 and June and August 2004 surveys of the proposed right-of-way expansion area. No goblin ferns were detected, although this species is difficult to survey for because on average, individuals may only come up once every three years. Further, the forest habitats within 50 feet of the existing roadway centerline have been disturbed by past roadway construction and use, and do not represent high-quality habitat for goblin ferns. No highway improvements are proposed in this area.

### Least moonwort

The least moonwort (*Botrychium simplex*) often occurs in association with *Botrychium mormo* (goblin fern), both ferns preferring northern hardwood forest habitats in northern Minnesota. Several tracts of maple/basswood forest and mixed coniferous/deciduous forest will be impacted along the proposed roadway improvement corridor. These and other appropriate habitat sites

were surveyed for the presence of this species; however, no individuals or populations were observed during the September 2003 and June and August 2004 surveys.

#### Fairy slipper

The FS located one occurrence of this species within the study area, located west of Little Moose Lake on the eastern side of the roadway. In northern Minnesota, it is restricted to white cedar bogs where it grows on dry hummocks of organic material. This species was found during the September 2003 and June and August, 2004 surveys at its documented location as well as within the Pennington Bog Scientific and Natural Area.

#### Blue beech, musclewood

Potential habitat for this species exists within the study area in the mixed hardwood forest stands and swamps in rich, mesic sites. This habitat was searched extensively during the September 2003 and June and August 2004 surveys; however, this species was not observed.

#### Bitternut hickory

This species may occur in well-drained floodplains and moist upland forests. Appropriate habitat within the study area was searched during the September 2003 and June and August 2004 surveys, but this species was not observed.

#### Hackberry

This species may occur in well-drained floodplains and moist upland forests. Appropriate habitat within the study area was searched during the September 2003 and June and August 2004 surveys, but this species was not observed. This species is confined to the tip of Ottertail Point, Bear Island, and a few individuals on Big Pelican Islands where microhabitat exists. It is very unlikely to occur in the project area.

#### Sweet fern

Openings within coniferous forest stands in well-drained, dry, acid, sandy or gravelly soils are potential habitat for this species. Although appropriate habitat within the study area was searched extensively during the September 2003 and June and August 2004 surveys, this species was not found.

#### Twig-rush

Patterned water tracks within large, open, sunny, wet peatland complexes may provide habitat for this species. However, appropriate habitat within the study area explored during the September 2003 and June and August 2004 surveys did not yield this species.

#### English sundew

Potential habitat for this species exists in the peaty bogs located within the study area. Despite extensively searching appropriate habitat within the study area, no English sundews were observed during the September 2003 and June and August 2004 surveys.



#### Spatulate-leaved sundew

This species may be found in standing water or in bogs, fens, and moist, acidic, sandy soils within the study area. Despite extensively searching appropriate habitat, no Spatulate-leaved sundews were observed during the September 2003 and June and August 2004 surveys.

#### Linear-leaved sundew

Within the study area, potential habitat for this species occurs within bogs and moist sites. Despite extensively searching appropriate habitat within the study area, no Linear-leaved sundews were observed during the September 2003 and June and August 2004 surveys.

#### Goldie's woodfern

*Dryopteris goldiana* generally occurs in moist soil on north- and east-facing wooded slopes in southeastern Minnesota. However, six disjunct populations were documented in North-Central Minnesota, north of Leech Lake in Cass County between 1975 and 2005, and one population was recorded in the CNF in Itasca County in 1999. The most recent population was found east of Big Lake to the west of the project area. All of the northern populations occur in association with closed canopy maple/basswood forest. The only known locations in Northern Minnesota are on the Leech Lake Reservation. Within the proposed project area, several second-growth maple/basswood forest stands were searched for the presence of Goldie's woodfern. However, the maple/basswood stands within the proposed project area typically were disturbed by past land use practices such as logging and grazing, and most had compacted soils, poor soil redevelopment, and little remaining duff layer. Such areas were searched thoroughly during the September 2003 and June and August 2004 surveys for the presence of *Dryopteris goldiana*. No individuals or populations were found.

#### Few flowered spike rush

This species occurs in a variety of wetland and aquatic habitats within Northern Minnesota, including floating sedge mats, lake beaches, and river margins. It is known to occur within the CNF, and was last documented there in 1925 on the beach of Ball Club Lake in Cass County. Although many suitable wetland habitats were surveyed along the proposed corridor for this species, no populations were found during the September 2003 and June and August 2004 surveys.

#### White trout-lily

The two known locations for this plant on the CNF and LL Res. are in rich maple basswood lake shore forests on Leech Lake. There is probably no suitable habitat for this species in the project area.

#### Autumn fimbristylis

This species has the potential to occur along the stream banks of Kitchi Creek, Sucker Creek, and the Mississippi. Although these locations were searched extensively, this species was not observed during the September 2003 and June and August 2004 surveys.

### Closed gentian

Several members of this species were observed within the study area along both the east and west shoulders of the corridor in September of 2003. However, this species was not observed during the June and August 2004 surveys.

### Limestone oak fern

The FS located two individuals were located within the study area. Both occur on the eastern side of the corridor east of Kitchi Lake. It is typical of cedar swamps and calcareous substrates. While this and other appropriate locations were searched extensively during the September 2003 and June and August 2004 surveys, this species was not observed.

### Sweet Grass

This species may be found in wet meadows, shaded streambanks, and lakeshores within the study area. However, during the September 2003 and June and August 2004 surveys, no member of this species was observed.

### Butternut

This species may be found in northern hardwood stands located within the study area. However, during the September 2003 and June and August 2004 surveys, no Butternut was observed among the hardwood stands.

### Bog rush

Wet moss, bogs, and bog pools located within the study area are potential habitat for this species. Although appropriate habitat was searched extensively during the September 2003 and June and August 2004 surveys, this species was not observed.

### White adder's mouth

The white adder's-mouth is known to occur within coniferous swamps and hardwood swamps with peat soil in northern Minnesota (Smith 1993). Many of the white cedar swamps and tamarack swamps found within the project study area provide suitable habitat for this species of orchid. Although those habitats were searched extensively during the September 2003 and June and August 2004 surveys, no such plants were found.

Dwarf water-lily *Nymphaea leibergii*

### Partridge-berry

One occurrence of this species has been recorded on the Reservation on FS lands. This species was not observed during the June or August 2004 surveys.

### Slender naiad

No soft water lakes or ponds exist within the study area to support this species. It was not found during the September 2003 and June and August 2004 surveys.

### One-flowered broomrape

This species typically occurs in the southeastern section of Minnesota, although one disjunct occurrence was recorded within the CNF LL Res. in north central Minnesota. This population was found in a transition zone between white cedar swamp and northern hardwood forest in

1997. Appropriate areas located within the proposed project limits were searched extensively in September 2003 and June and August 2004 for the one-flowered broomrape, but no populations were found.

#### American ginseng

Northern hardwood stands may provide habitat for this species within the study area. However, though hardwood stands were searched extensively during the September 2003 and June and August 2004 surveys, this species was not observed.

#### White pine

This species occurs within the study area in well-drained soils. White pine stands were observed during the September 2003 and June and August 2004 surveys. Individual white pines were also observed in private yards along the corridor.

#### Clubspur orchid

The small green woodland orchid is known from only one location within the CNF in North-Central Minnesota. According to Welby Smith (1993), the preferred habitat for this orchid is “mostly in boreal-type sphagnum swamps and floating mats; usually associated with scattered, often stunted black spruce and tamarack.” The only known location in the area is on tribal land. Several small black spruce and tamarack swamps were located within the project area. Such areas were searched thoroughly for the small green woodland orchid during the September 2003 and June and August 2004 surveys. No individuals or populations were found.

#### Sheathed pondweed

No deep cold lakes exist within the study area to support this species. It was not observed during the September 2003 and June and August 2004 surveys.

#### Vasey’s pondweed

Kitchi Creek, Sucker Creek, Turtle River, and the Mississippi may provide suitable habitat for this species. However, it was not observed in these creeks and rivers during the September 2003 and June and August 2004 surveys.

#### Lapland buttercup

The lapland buttercup most commonly occurs on *sphagnum* hummocks located in cool conifer swamps. The conifer swamp edges within the proposed construction limits were searched extensively during the September 2003 and June and August 2004 surveys, and no Lapland buttercup plants were found.

#### Sooty-colored beak-rush

Potential habitat for this species exists in bogs and wet peat or sand located within the study area. Although appropriate habitat was searched extensively, this species was not observed during the September 2003 and June or August 2004 surveys.

#### Northern bur-reed

The northern bur-reed is known to occur within emergent wetlands and floating sedge mats in Northern Minnesota. Several small emergent wetlands occur along the proposed project corridor.

Suitable habitats for the northern bur-reed within the project limits were searched during the September 2003 and June and August 2004 surveys, and no individuals or populations were found.

#### Canada yew

The FS located one occurrence of this species within the study area. It was located on the eastern side of the corridor east of Kitchi Lake in the Pennington Bog Scientific Natural Area. This species occurs in humid climates with leached soils, typically in damp woods or wooded swamps and bog margins. Although the documented location and other appropriate habitat was searched extensively during the September 2003 and June and August 2004 surveys, this species was not observed.

#### Torrey's manna-grass

Lowland conifer stands as well as stream sites may provide habitat for this species within the study area. Despite thorough searching, this species was not observed during the September 2003 and June or August 2004 surveys.

#### American elm

This species is fairly common as an understory tree in lowland hardwood forests and lakeshore habitats. Due to Dutch Elm Disease is no longer survives to large size. This species may occur within the study area in mixed hardwood forest stands. One American elm was located during the September 2003 and June and August 2004 surveys on the eastern side of the corridor.

#### Red (slippery) elm

This species is confined in this area to lowland hardwood forests that are associated with lakeshore. Appropriate habitat was searched extensively during the September 2003 and June and August 2004 surveys; however, this species was not observed.

#### Humped bladderwort

While this species thrives in pristine, sandy-bottomed lakes, suitable habitat exists for this species in the Mississippi, Turtle River, Kitchi and Sucker Creeks, exposed ponds, marshes, and fens within the study area. This species was not found, however a more common species of bladderwort was observed during the September 2003 and June and August 2004 surveys in the Turtle River and Kitchie Creek.

#### Purple-flowered bladderwort

This species has been found in one known location on the CNF and Leech Lake Reservation. A more common bladderwort species was observed during the September 2003 and June and August 2004 surveys in the Turtle River and Kitchie Creek; however, purple-flowered bladderwort was not located during the surveys.

#### New England violet

Leech Lake Reservation and CNF is at the edge of this species' range. It occurs in dry-mesic forest. Suitable habitat may be found within the study area. Although appropriate habitat was searched extensively during the September 2003 and June and August 2004 surveys, this species was not found.

### Barren strawberry

This species is at the edge of its range in Leech Lake Reservation and CNF. Potential habitat exists within the study area on sandy soils in conifer and oak forests. Conifer and oak stands were searched extensively during the September 2003 and June and August 2004 surveys; however, this species was not found.

### Yellow-eyed grass

Potential habitat within the study area exists for this species in wet areas such as edges of bogs, wet peat areas, and wet sand. While these areas were extensively searched during the September 2003 and June and August 2004 surveys, this species was not found.

## **b. Mammals**

### Canada lynx

The Canada lynx (*Lynx canadensis*) is a large North American cat physically distinguished by a short, black-tipped tail, tufted ears, and extremely large feet that enable it to walk easily through deep snow.

The Canada lynx prefers habitat in mature, older forests with downed trees and windfalls that provide cover for denning sites, escape, and protection from severe weather. The Canada lynx occupies swamps and forested areas across northern North America, including Alaska, Canada, and the northern United States, including Washington, Oregon, Idaho, Wyoming, Montana, Minnesota, Wisconsin, and the Upper Peninsula of Michigan. The Canada lynx occurs predominantly on large blocks of unfragmented Federal lands, especially in the West.

Canada lynx populations fluctuate widely based on climate and the availability of their main food source, snowshoe hare, with peaks every nine to ten years. Road density and compacted or plowed winter roads are a major factor for lynx habitat. Lynx are outcompeted by other predators where snow is compacted or cleared. High road density and therefore a high percentage of cleared roads in winter therefore have a negative affect on lynx population. FH 3 has always been plowed, and so will not have additional impact on lynx habitat. Canada lynx are highly specialized to hunt snowshoe hares, their primary prey. The Canada lynx is a nocturnal hunter, feeding primarily on snowshoe hares, rodents, and birds. The breeding season of the Canada lynx is during January and February, with a three-month gestation period.

In 2000, the Canada lynx was listed as a threatened species in the contiguous United States under the Endangered Species Act (ESA), including a special regulation that allows for the take and export of lawfully obtained captive-bred lynx. The FWS concluded that the largest threat to the Canada lynx in the contiguous United States is the lack of guidance to conserve the species in current Federal land management plans. The agency is working with other Federal agencies to conserve Canada lynx habitat. The FS has signed a Lynx Conservation Agreement, which would affect all forest plans within lynx habitat, that states, "Lynx habitat in the Great Lakes Geographical Area is embedded within the ecotone between boreal and mixed deciduous forests. In the Great Lakes states, lynx habitat consists of boreal spruce-fir forests, aspen, pine and mixtures of upland conifer and hardwood, interspersed with lowland conifer and shrub swamps

and bogs, in those areas where snow accumulation and condition may limit travel of competing species.”

### Gray wolf

The gray wolf (*Canis lupus*) is the largest wild dog in North America. The habitat of gray wolves ranges from open tundra to forests. Prior to 1900, the gray wolf occupied most of the North American continent; however, the species currently is found only in Alaska, Canada, Yellowstone National Park in Wyoming, and northern portions of states along the northern United States border, including Minnesota and Montana.

Gray wolves have been recently delisted under the ESA as a threatened species in Minnesota and as an endangered species elsewhere in the 48 contiguous states. Wolves became nearly extinct in the lower 48 states in the early part of the 20th century because settlers believed wolves caused widespread livestock losses. Constantly persecuted and targeted by large-scale predator eradication programs sponsored by the Federal government, wolves have been pursued with more passion and determination than any other animal in United States history. By the time wolves were finally protected by the ESA, they had been exterminated from the lower 48 states, except for a few hundred that had inhabited the extreme northeastern corner of Minnesota.

Gray wolf recovery under the ESA has been so successful that in June 1998, the FWS announced that it would review the species' status and consider delisting or reclassifying specific wolf populations where appropriate. Delisting occurred in the region in 2006. In Minnesota, where the largest wolf population in the 48 contiguous states resides, a state program provides compensation for livestock confirmed to be killed by wolves, and a federal program provides for the trapping of individual wolves suspected of depredation. The gray wolf is also a culturally important species to the Leech Lake Band of Ojibwe

### Eastern cougar

The cougar has no preferred habitat but can exist in any large wilderness area with an adequate food supply. Very low numbers are thought to range statewide. Given a large supply of medium and large sized prey, the study area would provide suitable habitat for this species. Increasing numbers of sighting in the state along with radio collared animals movements indicate that they are becoming more abundant in Minnesota.

### Franklin's ground squirrel

Potential habitat for this species occurs in transition zones between tallgrass prairie and wooded habitats. The species is considered rare on the Leech Lake Reservation where isolated populations occur. The closest known population to this project area is in the Norway Beach Campgrounds that is located near the south end of FH3 .

### Pine marten

Pine martens occur primarily in northeastern part of Minnesota in densely vegetated deciduous and conifer forests of varying age. This species is uncommon on the CNR and LL Res.

### Prairie vole

Prairie voles are common in prairies, ungrazed pastures, fallow fields, weedy areas, road right-of-ways, and agricultural fields in Western Minnesota. Their protected status reflects a decline in numbers due to habitat loss. The project area is outside the normal range for the species and it is very uncommon here.

### Least weasel

This species occurs throughout Minnesota, but is least abundant in northeastern Minnesota. Typical habitats include grasslands and woodlots. The forest stands and open grasslands that occur within the study area could provide suitable habitat for this species. It is very uncommon on the Leech Lake Reservation and CNF

### Northern myotis

This bat species occurs in temperate forests. Commercial logging has reduced its denning sites and the use of insecticides in some areas has reduced its prey supply. This has contributed to its protected status. Potential habitat for this species exists in the forest stands that occur within the study area.

### Heather vole

This species is very rare in northern Minnesota. As its name implies, it is usually associated with boggy habitat where heather is abundant. There is limited habitat for this species in the project area.

### Northern bog lemming

Several large areas of sedge-dominated wet meadow habitat, coniferous lowland forest, shrub-dominated wetlands, and ericaceous bogs with a *Sphagnum*-dominated ground layer exist within the study area. Although much suitable habitat occurs along FH3, historic records and local literature indicate the northern bog lemming is very uncommon in northern Minnesota. This species tends to occur only in small, isolated breeding populations. Furthermore, known populations of the northern bog lemming in Minnesota tend to occur away from human disturbance and development (such as existing roads).

## **c. Birds**

### Bald eagle

With a wingspan of seven feet, the bald eagle is the largest bird of prey in northern Minnesota. The bald eagle is also a federally listed threatened species. Currently, the bald eagle is being considered for removal from the threatened list, at which time it would be listed as a sensitive species on the Chippewa for a minimum of five years. In the state of Minnesota, the bald eagle is listed as a species of "special concern," and it remains a threatened species on the Leech Lake Reservation. One of the unique features of the Chippewa National Forest is the highest breeding density of Bald Eagles in the lower 48 states. Approximately 170 breeding pairs of eagles produce about 150 eaglets each year. The bald eagle is also one of the most important culture symbols to tribal members on the Leech Lake Reservation.

Large red and white pines make excellent eagle nesting sites although aspen and other tree species are occasionally used. Nests sometimes reach 10 feet in diameter and weigh over 400 pounds. Protection of nest sites from destruction and disturbance has been a key objective of bald eagle management on National Forest and Leech Lake Reservation.

Each eagle breeding area has a management plan specifically tailored to the site. Circular "buffer zones" have been established around each nest to limit human activity. Timber cutting, roads and trail use are restricted within 1320 feet (1/4 mile) of each nest. A zone between 330 and 660 feet from the nest allows activity between October 1 and February 15, while eagles are on their winter range. The average nesting success for CNF is 60%; about one-half of these fledge successfully.

The number of active bald eagle breeding pairs appears to be leveling off on the CNF, LLBO. Increasing competition among breeding pairs at high nesting densities and continued lake shore development may be factors affecting the Forests "carrying capacity" of bald eagles. Future monitoring strategies may be geared toward focused population sampling in areas of the Forest with varying eagle nesting densities. Since 1991, the eagle population on the CNF has been stable with 140 to 190 breeding pairs. The populations have recently leveled to approximately 178 nesting pairs found each year.

No known bald eagle nests are within 1,320 feet of the project study area and no nests were observed during the September 2003 and June and August 2004 field assessment. However, a bald eagle was observed in flight during the September 2003 survey.

#### Piping plover

As of December 11, 1985, the Piping Plover was federally designated as Endangered in the Great Lakes watershed. It is also a tribally and state-listed endangered species. The piping plover is a small, stocky, sandy-colored bird resembling a sandpiper. The bird's name derives from its call notes.

The historic breeding range of the piping plover encompasses Illinois, Indiana, Michigan, Minnesota, Ohio, Pennsylvania, Wisconsin, New York and Ontario. Piping plovers favor wide, sparsely vegetated sand or gravel beaches adjacent to vast alkali lakes. They also use washed-out hillside beaches on smaller semi permanent alkali wetlands. Areas adjacent to these are pastures or rangeland consisting of mid- or short-grass prairie. On rivers, plovers use beaches, sandflats, dredge islands, and drained river floodplains. They forage near the water where invertebrates are most readily available. This species is rarely observed in the CNF. There is no breeding habitat in the project area, but potential migrations stopover sites in areas surrounding permanent bodies of water, including shallow marshes.

Piping plover population decline is attributed to destruction of vegetated sandbars and river islands for flood control and navigation, and water level regulation policies that endanger nesting habitat, and reduce the amount of open exposed beach. Rapidly rising water levels during nesting or brood rearing causes low reproductive success. Sand pit operations on some rivers draw breeders onto sterile beach environments where chicks find little food.



### Trumpeter swan

This trumpeter swan has returned and is a nesting species on the Chippewa National Forest and Leech Lake Reservation. The species also stages in the Mississippi River downstream of Cass Lake prior to the lakes opening up. As with many water birds, potential habitat within the study area includes the sites of permanent water bodies.

### Peregrine falcon

This spring and fall migrant occurs in open areas in the CNF. Potential habitat within the study area includes upland openings, old fields, sedge meadows, and bogs.

### Loggerhead shrike

Large open shortgrass pastures or fields with scattered brush are potential habitat for this species within the study area. This area of Minnesota is outside the range of the species and sightings are very unlikely.

### Wilson's phalarope

A limited amount of potential habitat in the shallow pools bordered by wet meadows exists along existing FH 3.

### Horned grebe

This rare species to the CNF LLReservastion has potential habitat located in all permanent bodies of water within the study area.

### Common tern

This tern species is uncommon in the CNF and Leech Lake Reservation. There is no suitable nesting habitat for the species in the project area, but none breeding individuals are occasionally seen on Cass Lake and Lake Winnie. It might, however, be seen on almost any large body of water during migration. . There is one nesting colony on tribal lands in Leech Lake where over 300 pairs nest.

### Northern goshawk

At least three northern goshawk territories are know to occur near the project area and foraging close to FH 3 has been confirmed by radio telemetry studies. This species is very uncommon on the Chippewa National Forest and Leech Lake Reservation. It is known to require mature forest with abundant prey. Habitat loss due to timber harvest and loss of cyclic snowshoe hare populations are thought to contribute to population decline.

### Nelson's Sharp-tailed sparrow

Thought to be a nesting species on the CNF and Leech Lake Reservation. It is usually associated with brushy sedge meadow habitats in this area. Potential habitat for this species exists in the project area.

### Henslow's sparrow

Thought to be a nesting species on the CNF and Leech Lake Reservation. It is usually associated with brushy sedge meadow habitats in this area.

LeConte's sparrow

Potential habitat for this species exists in the wet meadows along existing FH 3.

Great blue heron

Potential habitat for this species includes permanent water sources occurring within the study area. In the CNF, it is common in the spring, summer and fall months. This species nests in colonies near wetlands, and is subject to disturbance, predation, and habitat loss.

Short-eared owl

This owl is rarely observed within the CNF and Leech Lake Reservation. Potential habitat includes open country such as sedge meadows, upland openings, and old fields within the Study Area.

American bittern

This species prefers dense cattail /sedge meadow habitat that is dispersed with small pockets of open water. Potential habitat includes lakes, rivers, streams, and shallow marshes including sedge and cattail meadows within the Leech Lake Reservation and CNF.

Red-shouldered hawk

The red-shouldered hawk prefers northern hardwood habitats, especially lowland hardwood forests and swamps. This species is rarely seen outside closed forest habitat in the CNF. The riparian floodplains associated with the Turtle River and conifer swamp edges along the project area are suitable habitat for red-shouldered hawks.

Spruce grouse

Potential habitat for this species occurs in the lowland conifer and jack pine habitats of the CNF and Leech Lake Reservation located within the study area.

Black tern

This species is common in the CNF and on the Leech Lake Reservation. Potential nesting sites exist within the study area in shallow lakes and wetlands. The species nests on floating vegetation mats in shallow water wetlands.

Olive-sided flycatcher

Potential habitat for this species exists in the wet meadows along existing FH 3.

Yellow rail

Potential habitat for this species exists in the wet sedge meadows along existing FH 3.

Black-throated blue warbler

Hardwood stands such as elm, ash, and maple located within the study area that have brushy understories are potential habitat for this species.

### Bay-breasted warbler

The bay-breasted warbler is highly associated with outbreaks of spruce budworm in mature spruce-fir forests, and is dependent on these insects to rear nestlings. This species is very uncommon in the CNF, Leech Lake Reservation.

### Sandhill crane

Though uncommon on the CNF and Leech Lake Resevation, offspring have been observed in recent years so it is suspected to be a nesting species. Large, wet, open fields and shallow wetlands are potential habitat within the study area.

### Herring gull

Uncommon species that is usually observed during migration. There is a small colony of about a dozen pairs nest on tribal lands in Leech Lake. This species typically only nest on or near large lakes or large rivers and are usually observed during migration on larger bodies of water.

### Franklin's gull

This gull is an uncommon species on the Leech Lake Reservation and CNF and is only observed during migration. . All permanent bodies of water located within the study area are potential migration habitat for this species.

### Connecticut warbler

This species is associated with lowland brush and lowland conifer habitats in this part of its range. There is some of this habit in the project area.

### Osprey

This protected species is common to the CNF and LL Res. during the spring, summer, and fall months. All permanent bodies of water located within the study area are potential osprey habitat.

### White pelican

White pelicans are usually associated with large bodies of water in this part of their range, but all permanent bodies of water located within the study area are potential habitat. This species is becoming increasing common with flocks of up to several hundred are being observed during the summer. It has also started nesting on the Leech Lake Reservation, CNF

### Black-backed woodpecker

The black-backed woodpecker has been sighted along CSAH 22 west of FH 3. The species is a resident of old-growth boreal coniferous forests with decadent trees and snags, and depends heavily on the larvae of wood-boring (bark??) beetles. This species is eruptive and often moves into forests that have experienced fire, wind throw, or flooding conditions once the dying timber is infested with bark beetles

### King rail

This species in considered accidental in the state of Minnesota. It is not known to be present on the Leech Lake Reservation, though suitable shallow marsh habitat exists.

### Caspian tern

This is a uncommon species in the area and is almost always associated with large bodies of water or large river systems. It is unlikely to use habitat in the project area.

### Forster's tern

This species is unusual for the CNF, LL Res. and is usually associated with large semi open wetlands in Western Minnesota. It may, however, be seen during migration on smaller bodies of water like some of those found in the project area. Great gray owl

Generally thought of as a boreal hardwood species, its range does dip into Northern Minnesota. There is limited quantities of potential nesting and foraging habitat occur in the project study area. Several active nests have been observed on Leech Lake Reservation and CNF.

### Sharp-tailed grouse

This species is thought to be extirpated from the CNF and LL Res. It is a brushland species that used to occur along brushy sedge meadow complexes that are found along some of our larger lakes and rivers on the eastern part of the CNF, LL Res. It has never been know to have occurred in the project area.

## **d. Amphibians**

### Four-toed salamander

The wetlands within the project study area may provide suitable habitat for the four-toed salamander. The species has been documented at one location just outside the Leech Lake Reservation. A temporary increase in sedimentation and turbidity may have a negative effect on the aquatic larvae. Mitigation measures to minimize sedimentation into wetlands, as identified in Section IV G of this report, would protect individuals and their habitat. Gravel shoulders and grass lined drainage swales may affect the spring migration of adults to and from lowland forests and wetlands for breeding. However, the existing road probably presents only a minor barrier to spring migration because the lowland forest/wetland interface is so vast in the surrounding area.

### Red-backed salamander

This small species of salamander is highly terrestrial. They are found in northeastern Minnesota. Suitable habitat exists for this species within the study area primarily in upland coniferous and mixed forests under rotting vegetation and debris.

### Green frog

The green frog is found in the northern two thirds of Minnesota. This species inhabits permanent bodies of water. The lakes, streams, ponds, and wetlands within the study area may provide suitable habitat for this species.

## **e. Reptiles**

### Blanding's turtle

There are some sandy soils within the project study area that could serve as possible nesting sites for Blanding's turtle. The swamp habitats within and adjacent to the project study area may serve

as potential feeding, breeding, or over wintering habitat. There was a sighting of this species in 2006 near the West Branch of the Turtle River, which empties into Cass Lake.

#### Snapping turtle

The common snapping turtle is a species of special concern in Minnesota due to harvesting procedures. This species has a statewide range and is found in all habitats where permanent water exists, such as lakes, marshes, streams, or roadside ditches. While primarily aquatic, common snappers often move overland between bodies of water. There are many sites within the study area that would serve as suitable habitat for this species.

#### Western hognose snake

This species has an irregular statewide distribution of small, isolated populations due to its preference for sandy or gravelly habitat. Sand dunes and open sand prairie are preferred habitat. The western hognose snake is rarely found in forested environments. No sites exist within the study area that would serve as preferred habitat for this species.

#### Eastern hognose snake

This species has not been observed in Minnesota north of Cass County. Suitable wooded and prairie habitats with sandy or loamy soils exist for this species within the study area.

### **f. Fish**

#### Greater redhorse and Pugnose shiner

Habitat for greater redhorse is known to exist in the project area and the largest remaining spawning run of this species in the area utilizes the Mississippi River just upstream of where this project crosses the Mississippi River. A survey of this population in 2002 found that about 20 individuals remain in a run that historically may have run into the high hundreds. Any degradation to river habitat or water quality or any activity that increases harvest pressure could cause the reduction or loss of this species from this location.

The pugnose shiner is known to exist in Cass Lake and surveys have been conducted for it in the lake. It is thought to be primarily a lake species but may exist in the Mississippi, Turtle River, Kitchi and Sucker Creeks, however, no formal biological surveys have been completed in these rivers, as no impacts of the project on the habitat of this species is expected.

### **g. Mussels**

#### Creek heelsplitter, Black sandshell, and Fluted-shell mussels

The creek heelsplitter mussel is found in creeks and the headwaters of small- to medium-sized rivers in fine gravel or sand. It rarely is found in larger rivers. The species is sensitive to sedimentation and runoff from urban development and roads. The creek heelsplitter mussel may be found in the Turtle River, as well as Kitchi and Sucker Creeks, but most likely does not occur within Cass Lake or the Mississippi. The black sandshell mussel is found in medium to large rivers, dwelling in riffles or raceways in gravel or firm sand. In 1995, the species was reported in low numbers in several northern rivers, but it appears to be doing well in the Chippewa River in Chippewa and Swift counties in western Minnesota. The FS located three individuals of this

species in the Mississippi River on the eastern side of the corridor. The flutedshell mussel occurs in medium to large rivers in sand, mud, or fine gravel in areas with slow to moderate flow. Both the flutedshell and black sandshell mussels are known to occur in the Turtle River.

#### **h. Insects**

##### Vertree's caddisfly

Little is known about the habitats of the Vertree's caddisfly (*Ceraclea vertreesi*), but it may be found in aquatic habitats ranging from small, headwater streams to larger rivers and lakes with a variety of substrates. One known occurrence of this species exists within the CNF, however, no surveying has been conducted to determine its distribution. Appropriate habitat may exist for this species in the Mississippi, Turtle River, Kitchi and Sucker Creeks, and Cass Lake.

##### Patterned green tiger beetle

This species may be found in its preferred habitat of dry, sandy soils within mixed pine forest.

**Table III-14** provides a list of all the FS, Mn/DNR, Leech Lake, and FWS threatened, endangered, and sensitive species that may be found within the study area.

#### **8. Invasive Species**

According to Executive Order 13112, Invasive Species, an invasive species is a plant, animal, or other organism that is non-native to the subject ecosystem or whose introduction causes or is likely to cause economic or environmental harm or harm to human health. FHWA and MN/DOT work with other federal agencies and state governments to combat the introduction and spread of invasive species. Guidelines were developed with a goal of promoting improved cooperation, communication, and joint eradication efforts with agencies at all levels and the private sector in order to reduce economic and ecological costs and improve eradication effectiveness.

Species identified in the study area during surveys conducted during September 2003, June 2004, and August 2004 included giant reed (*Phragmites australis*), reed canary grass (*Phalaris arundinacea*). Purple loosestrife (*Lythrum salicaria*) is found at the north end of the project area in several wetlands on the south edge of Blackduck. Leech Lake Reservation has also identified the non native earthworm, Canadian thistle (*Cirsium arvense*), perennial sowthistle (*Sonchus arvensis*), hoary alyssum (*Berteroa incana*), common st. johnswort (*Hypericum perforatum*), wild parsnip (*Pastinaca sativa*), and tall buttercup (*Ranunculus acris*) as invasive species within the project area. Leech Lake Reservation has identified tansy (*Tanacetum vulgare*) and spotted knapweed (*Centaurea maculosa*) in the general location of this road. A variety of invasive species could potentially occur within the study area, many of which are identified in the Mn/DNR Exotic Species Program List of Minnesota, Leech Lake Reservation Invasive Species List, and Federal Prohibited and Noxious Plants (Mn/DNR, 1999).

## **D. AIR QUALITY**

Beltrami County has been determined by the Environmental Protection Agency (EPA) to be an attainment area for purposes of the Clean Air Act (i.e., pollution levels are below *de minimis* levels established by the EPA.)

## **E. NOISE**

The study area is mostly serene and tranquil with the majority of noise being generated by commercial and recreational traffic, as well as residential traffic. Since the proposed project is on a County-owned highway without full control of access, it is exempt from Minnesota Noise Standards, per Minnesota Statutes, Section 116.07.

## **F. VISUAL RESOURCES**

### **1. Existing Landscape**

#### **a. Regional Setting**

This area lies in what is known as the “Bemidji Area” physiographic subdivision. The local topography of the Headwaters Lakes Region of Minnesota is rolling, with low hills typical of a glaciated landscape. The CNF and LL Res area includes many lakes, marshes, and rivers, which are the remnants of glacial advances in the past. The region's glacial history is largely responsible for its unique physical environment, although the landscape has altered substantially since this time. The Mississippi River follows the general location of the main outwash area, which forms a plain from Bagley to Lake Winnibigoshish, and is the main watercourse in central Minnesota.

#### **b. Study Area**

Minnesota FH 3 is a Minnesota Scenic Byway named Scenic Highway located in Beltrami and Cass Counties, in the Headwaters Lakes Region of Minnesota approximately 20 miles East of Bemidji. Situated in a rural area within the boundaries of the CNF, the roadway provides access between US Highway 2 and the town of Blackduck at its intersection with US Highway 71. The landscape surrounding the roadway is comprised predominantly of mixed hardwood forest and wetlands. The southernmost 12 miles of the roadway pass through the Leech Lake Reservation. The majority of the land adjoining the route is publicly owned.

#### **c. View of the Road**

The study area consists of a 36-foot bandwidth to the east and west of the existing road. The view of the road from the privately and publicly owned lands flanking it reveals a two-lane, winding asphalt highway with 11-foot lanes separated by a single lane divider. No paved shoulders currently exist along the road. The road can be viewed directly from a number of residential, commercial, and recreational sites along its length.

**d. View From the Road**

From the road, the view reveals both natural and developed landscape features. Woodlands dominate the view from the road. The clear zone has not been fully maintained over the years, resulting in a closed-in feeling with forest vegetation close to the travel lanes. This gives the road the visual impression of closeness with the surrounding natural environment. Residents and visitors value the perception of intimacy with the natural setting this provides. Upland forest types visible from the road include maple and ash, as well as dogwood, elm, aspen, and a strip of white spruce and red pine at the northern end of the highway. Pine plantations of red and white pine are also found. Lowland forests are comprised of tamarack, black spruce, and white cedar forests. These are associated with the extensive wetlands in the study area. In addition to forested wetlands, these wetlands also include sedge meadows, bogs, as well as scrub-shrub wetlands. Lady slipper orchids grow in the forests and wetlands, and also in roadside clearings and ditches. These flowers are a popular local sight and are appreciated by travelers and residents of FH 3. Other common wildflowers, including forget-me-nots, hoary puccoon, lilies, and violets contribute to the roadside's aesthetic value.

**e. Prominent Watercourses**

Prominent watercourses contributing to the landscape include the Mississippi River, Kitchie and Sucker Creeks, Turtle River, Rabideau Lake, and Benjamin Lake. The Mississippi, at the point that it crosses FH 3, is a popular fishing spot with local residents. Numerous homes, two churches, a cemetery, and a few small businesses populate the study area.

**f. Land Use**

Approximately half of the land parcels to either side of the road are privately owned, and half are publicly owned by the USA, state, or county. Much of the publicly owned land is part of the Chippewa National Forest. CNF land consists of forest stands, plantations, and timber-harvested areas. Agriculture, primarily pasture, as well as residential yards and a few small businesses make up the remainder. Established businesses in the study area include a gas station/convenience store and a small number of roadside restaurants.

**g. Scenic Spots**

Of particular scenic importance is the Pennington Bog Scientific and Natural Area. This designated area is on the eastern side of the road approximately one mile north of its intersection with CSAH 12. This 108-acre scientific and natural area has been protected since 1979 to preserve its rare plant species and fragile sphagnum floor. The bog is primarily a white cedar swamp and includes tamarack and black spruce in its overstory. In addition to sphagnum moss, its understory includes pitcher plants, sundews, water arum, marsh marigolds, blue flag iris, bog buckbean, and cranberry. The bog also provides habitat for over 20 species of orchids, some extremely rare. Other scenic spots include the Mississippi River crossing and Rabideau and Benjamin Lakes.



## **h. Cultural and Religious Identity**

The natural setting of the study area is important to the cultural and religious identity of the Leech Lake Band of Ojibwe. The Leech Lake Reservation is located along the southernmost nine miles of road. Forest and wetland resources accessible from the road are often gathering sites for natural materials of cultural significance. A drastic change in landscape character would be out of context for the Leech Lake area.

## **2. Minnesota Scenic Byway Program**

FH 3, also known as Scenic Highway, is a largely undeveloped route with a number of residences and few businesses along the road. Resorts and campgrounds exist in the woods off the highway. It is designated as a Minnesota Scenic Byway, having qualified for this status by possessing scenic, cultural, historic, natural, recreational and archaeological qualities of interest to travelers. The Minnesota Scenic Byway Commission solicits byway nominations and competes for National Scenic Byways Discretionary Grants to fund scenic byways activities. The State scenic byway projects are marketed by the Minnesota Office of Tourism, which is partnered by the Minnesota Historical Society, Mn/DNR, and State Arts Board. The scenic and visual resources along this road are of great importance to visitors and residents. Once enrolled in this program, byways are identified as routes of exceptional interest. State and grassroots organizations coordinate to promote travel and recreation on these routes, and to enhance and provide stewardship for the features that distinguish them.

A Corridor Management Plan (CMP) is currently being prepared for Scenic Highway in compliance with the CNF Land and Resource Management Plan. The Plan will provide for the conservation and enhancement of the byway's intrinsic qualities as well as the promotion of tourism and economic development. The CMP will provide an effective management strategy to balance these objectives while providing for the users' enjoyment of the byway. The corridor management plan is very important to the designation process, as it provides an understanding of how a road or highway possesses characteristics vital for designation as a scenic byway.

The study area includes a portion of the Minnesota Great River Road. The Minnesota Great River Road runs 575 miles beside the Mississippi River; a network of roadways that gives travelers access to a many river experiences. It is one of America's prestigious National Scenic Byways, and is part of the 10-state National Great River Road, which was developed in the 1930's as the byway of the Mississippi River. The 10 states of the National Great River Road from north to south are: Minnesota, Wisconsin, Iowa, Illinois, Missouri, Kentucky, Arkansas, Tennessee, Mississippi and Louisiana. In its entirety, this historic byway spans some 2,550 miles. Within the study area, the Great River Road follows Rt. 12 from Bemidji to Pennington, follows CSAH 39 south to CSAH 10, and then east on Forest Route 2171. East of the study area the Great River Road follows Forest Route 2171 to Forest Route 2167, which intersects with US 2.

In addition the scenic byway designation and shared corridor with the Minnesota Great River Road, together CSAH 39 and CSAH 10 are also designated as a National Forest scenic byway.

### 3. Visitor Use and Experience

A number of unique natural, cultural, and historic resources contribute to the value of the Scenic Highway. A ranger station is located in Blackduck at the northern terminus of the scenic byway and offers interpretive literature, displays, and souvenirs. Camp Rabideau is located 6 miles south of Blackduck. This Historic Site was constructed by the Civilian Conservation Corps (CCC) in 1934 as a project of Franklin D. Roosevelt's New Deal program. The camp, one of 2650 nationwide, housed 300 men aged 17-21. Like most CCC camps, the Rabideau camp was established to provide work during the Great Depression. Camp workers came mostly from Northern Minnesota and worked on projects within the CNF, such as building roads and other facilities, surveying, wildlife protection, and other forestry activities.

Like most other CCC projects, the Rabideau camp was built for temporary occupation. Most CCC camps were abandoned when the United States entered World War II, and most of them fell into disuse. The Rabideau camp survived because the University of Illinois used the buildings for its engineering and forestry schools between 1946 and 1972. Unfortunately the buildings, being mostly prefabricated and having insubstantial foundations, continued to deteriorate. Camp Rabideau is considered the best-preserved CCC site in the nation. It is listed on the National Register of Historic Places, and is one of three remaining CCC camps being preserved. The site includes historic buildings, interpretive displays and a picnic pavilion.

Thirteen of the original 25 buildings remain, including the mess hall, five barracks, three officers' quarters, the recreation hall, the hospital, the laundry building, and the education building. In 1999, the United States Forest Service began a three-year effort to stabilize and restore the Education Building. A contractor placed a foundation under the building, replaced the roof, and repaired some floors and siding. Throughout the next two years, 26 volunteers spent nearly 1000 hours with general interior repairs. The camp was designated a National Historic Landmark on February 7, 2006, as one of the best surviving examples of a CCC camp focusing on forest management and conservation.

Further south along FH 3 is the Pennington Bog Scientific and Natural Area. This protected site can be accessed by permit only in order to protect the integrity of the fragile forest floor. One hundred eight acres of nearly undisturbed coniferous forest provide habitat for unusual flora, including ladyslipper orchids. Large wetland complexes extend along the route, offering travelers unique scenery.

FH 3 crosses the Mississippi River just after it exits Cass Lake to the west. At this point, the river is an undeveloped stream linking Cass Lake and Lake Winnibigoshish. Along the road corridor hiking trails are located in the woods. Fishing piers are located at Knutson Dam, Benjamin Lake, and Gilstad Lake. Knutson dam also includes a campground and boat landing. Other recreational areas include the Pimushe Lake Boat Landing, Benjamin Lake Swimming Beach and Picnic Area, and the old Blackduck Fire Tower.

A watershed marker on FH 3 marks the Continental Divide. North and west of this marker, lakes and streams flow north to the Hudson Bay and the Arctic. To the south, waters flow to the Gulf of Mexico.

In addition to the variety of views including lakes, different forest types, and wetland systems, visitors enjoy the native plant communities growing in roadside ditches. These plants include the showy lady's slipper; not a sensitive or listed species, but the state flower and protected by statute. Ladyslipper orchids bloom in abundance along the corridor and are an important element in the aesthetic value of the road.

## **G. PUBLIC INVOLVEMENT**

Several outreach activities were conducted to obtain feedback from residents of the study area. These included public meetings, interviews, and circulation of informational mailings and comment forms. Public meeting notices were posted in two local newspapers and mailed to residents. Details are included in **Section IV O**.

## SECTION IV

# ENVIRONMENTAL CONSEQUENCES

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This section forms the scientific and analytical basis for comparing the alternatives discussed in *Section III*, and describes the probable consequences (impacts and effects) of each alternative on selected environmental resources. The following impacts were derived and quantified through numerous field reviews, preliminary design efforts, and coordination with applicable resource agencies. Due to the similarities in the Build Alternatives the impacts of each will be discussed collectively with the difference in impacts being highlighted in the text.

### **A. SOCIOECONOMIC AND LAND USE EFFECTS**

#### **1. Social Effects**

##### **a. Population and Housing**

Under the No-Action Alternative, no impacts to population or housing would occur. None of the Build Alternatives would increase road capacity; therefore no changes in population or housing would occur as a result of the alternatives.

##### **b. Environmental Justice**

No adverse human health effects would occur under the Build or No-Action alternatives. Property acquisition and environmental impacts would not be disproportionately high to low-income or minority populations. All areas that contain minority or low-income populations would experience benefits or adverse effects similar to those of the overall study area population. No minority or low-income populations would be disproportionately affected by the project and it is therefore in compliance with Executive Order 12898.

##### **c. Community Facilities and Services**

Under the No-Action Alternative, no impacts would occur to community services and facilities. Under any of the Build Alternatives the improved driving surface, and increased response times due to widened shoulders would upgrade the road to county state aid or national preservation route standards and facilitate the movement of vehicles to facilities and services. No direct impacts to community facilities and services would occur within the project study area.

#### **2. Economic Effects**

##### **a. Employment Characteristics**

No impacts would occur to the local economy under the No-Action Alternative. Under the Build Alternatives roadway improvements would not increase road capacity. Local construction employees may experience a benefit from short-term job creation during the road reconstruction.

### **3. Land Use Impacts**

The No-Action Alternative would have no impact on local land use. This alternative would not be consistent with the Beltrami County 2002 Comprehensive Plan future land use goals, which call for protecting the integrity of the road system including its functionality and safety.

All the Build Alternatives meet land use goals for Forest Highway 3 (FH 3). Build Alternative 2 would meet land use goals by reconstructing the roadway to meet American Association of State Highway and Transportation Officials (AASHTO) standards of functionality and safety. Alternative 3 would meet land use goals by reconstructing the roadway to meet potential Natural Preservation Route (NPR-3) and Minnesota Department of Transportation (Mn/DOT) standards. Under Alternative 4, the roadway would meet land use goals by reconstructing it to county state aid highway (CSAH) and Mn/DOT standards.

### **4. Farmland Impacts**

Alternatives 2 or 3 would impact 0.9 acre of farmland. Alternative 4 would impact 1.3 acres. This farmland is currently used as pasture.

## **B. CULTURAL RESOURCES**

The following describes the impacts to cultural resources as a result of the Build Alternatives. The No-Build Alternative would have no impacts on archaeological, historic, or cultural resources, or traditional cultural practices.

### **1. Archaeological Resources**

Of the 27 sites identified, ten were previously on record with the Chippewa National Forest and one was previously on record with the Minnesota Historical Society. Nine sites, six of them potentially eligible and three unknown, may be impacted by any of the build alternatives (see **Table IV-1**). Two of the sites, 21BL0249 and 21BL0267, are unavoidable under the typical cross section of the build alternatives. A retaining wall or steepened slope with guiderails is recommended along the roadway at these sites to avoid impacts to these resources. At site 21BL0249, a pedestrian bridge is proposed across the Mississippi. Test pits did not uncover any artifacts at the bridge location. The retaining wall or steepened slopes would be 400 meters in length at this site. At site 21BL0267, the retaining wall or steepened slopes would be 90 meters long. Three of the potentially eligible sites will not be impacted. The rest can be avoided by shifting the alignment; to the west at site 21BL0266 and to the southwest at the remaining three sites. If any archaeological materials or features are encountered during construction, all work will cease and the State Historic Preservation Officer (SHPO) and Leech Lake Tribal Historic Preservation Officer (THPO) will be contacted to assess and execute mitigation procedures. All disturbances will be confined to approved inventoried areas. Should human remains be discovered, all work will cease and the SHPO, THPO, and County Sheriff will be contacted immediately.

**Table IV-1  
Impacts to Archaeological Resources**

<b>Site</b>	<b>Description</b>	<b>Potentially Eligible</b>	<b>Avoidance and Minimization Recommendations</b>
21BL0249	Prehistoric Artifact Scatter	Yes	Recommend retaining wall or steepened slopes to avoid impacts. May also require guiderails for highway safety.
21BL0267	Prehistoric Artifact Scatter	Yes	Recommend retaining wall or steepened slopes to avoid impacts. May also require guiderails for highway safety.
21BL0266	Prehistoric Artifact Scatter	Yes	Shift alignment to the west
21BL0194	Prehistoric Artifact Scatter	Yes	No impact
21CA0671	Logging Camp	Yes	No impact
21BL0269	Logging Camp	Yes	No impact
21BL0261	No artifacts discovered	Unknown	Widen only to the SW at this location
21BL0264	No artifacts discovered	Unknown	Widen only to the SW at this location
21BL0265	No artifacts discovered	Unknown	Widen only to the SW at this location

## **2. Historic Resources**

Potential adverse effects associated with this undertaking were considered for those properties considered eligible for listing in the National Register within the APE. An adverse effect occurs when an undertaking alters the character defining aspects of a historic property. Adverse effects include such changes to historic properties as: 1) damage, destruction, or removal of the historic properties; 2) changes in the character of setting or use and/or alterations not according to the *Secretary of the Interior's Standards for the Treatment of Historic Properties*; 3) an introduction of negative audible, visual, or atmospheric elements; 4) neglect of the property; or 5) transfer, lease, or sale of the historic property without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the historic properties' significance.

After a Phase I reconnaissance survey was conducted it was concluded that the proposed FHWA undertaking will not adversely affect the Pennington Community Church or the Mooselake Town Hall. Although FH3 will be widened, each of these National Register-eligible buildings is located outside the highway corridor at a distance that will prevent physical alterations to the buildings and their current setting. These National Register-eligible properties are currently situated approximately 90-100 feet from the center line of the highway. The alternative that would involve the greatest amount of widening - Alternative 4 - is designed to add approximately 10 feet to either side of the existing roadway. This would leave both historic properties 70-80 feet from the newly rehabilitated highway's center line; implementation of Alternatives 2 or 3 would also decrease the distance from the highway centerline to the edge of

each historic property, but by less than 10 feet, resulting in a slight increase in buffer distance between the edge of each of the National Register-eligible properties and the relocated highway boundary. Although the widening of the highway lanes and shoulder will remove portions of the grassy terrain between each structure and the highway itself, it is important to recognize that the area between the current highway and the two National Register-eligible properties has been substantially modified previously, with the addition of numerous new driveways and parking areas. No major change in audible or atmospheric elements is anticipated, and the proposed increase in traffic levels along the corridor is anticipated to occur, with or without the proposed project's implementation.

The SHPO has reviewed the reconnaissance level survey report and requests that additional research be conducted. Specifically, the SHPO requests more detailed information, including supporting information to conduct an effects analysis on the Pennington School (now Pennington Community Church), the St. Charles Catholic Church, the Scenic Highway and the B.N Railroad Crossing. This research will be conducted, and the data will be presented in the final NEPA decision document.

### **3. Traditional Cultural Properties**

Areas where resources are harvested from traditional cultural properties (TCP) have been identified in eleven sections of Beltrami and Cass counties. The fourteen materials are along approximately eight miles of FH3 on the eastern edge of the roadway. If the recommendations listed under Section III B are followed, impacts to traditionally gathered materials will be minimized.

A total of 2.2 acres of TCP will be impacted under Alternatives 2, 3 or 4, and 2.6 acres under Alternative 5 (see **Table IV-2**). The majority of these impacts (58 to 64 percent, depending on the alternative) will take place in open, non-wetland areas, such as mowed grass and pasture. A relatively small amount of wetland areas where materials are traditionally harvested will be impacted; 0.4 acres for any of the build alternatives. Almost 100 percent of wetland TCP impacts will occur in palustrine, emergent (PEM) wetlands.

**Table IV-2  
Impacts to Traditional Cultural Properties**

	<b>Cover Type</b>	<b>Alternative 2, 3, or 4 Impacts</b>	<b>Alternative 5 Impacts</b>
<b>Upland</b>	Coniferous forest	0.1 acre	0.1 acre
	Mixed deciduous, conifer forest	0.4 acre	0.5 acre
	Mixed deciduous forest	0.3 acre	0.5 acre
	Open, non-wetland	1.4 acres	1.5 acres
	<b>Total</b>	<b>2.2 acres</b>	<b>2.6 acres</b>
	<b>Wetland</b>	PEM	0.4 acre
PEM/PFO		0 acre	0 acre
PEM/PSS		<0.1 acre	<0.1 acre
PFO		0 acre	0 acre
PFO/PSS		0 acre	0 acre
PSS		<0.1 acre	<0.1 acre
<b>Total</b>		<b>0.4 acre</b>	<b>0.4 acre</b>

## **C. NATURAL RESOURCES**

The following describes the impacts to natural resources as a result of the Build Alternatives. The No-Build Alternative would have no impacts on climate, soils, agricultural areas, groundwater, surface water quality, waters of the U.S., floodplains, terrestrial habitat and wildlife, aquatic habitat and wildlife, or rare, threatened and endangered species.

### **1. Topography, Geology, and Soils**

#### **a. Impacts**

All of the Build Alternatives will require grading and soil disturbance during reconstruction of the roadway. Topography will be altered in those areas where grading is required to improve sight distances. Widening of the roadway will also require minor changes in topography immediately adjacent to the roadway for the construction of drivable shoulders and ditch slopes. None of the alternatives will impact the underlying geology of the roadway. However, the subgrade material beneath the roadway would likely be altered to construct the roadway to current design standards.

#### **b. Mitigation**

Sediment and erosion control measures will be employed to mitigate any possible impacts due to construction, and all disturbed areas will be permanently stabilized. Specific techniques for erosion/sedimentation control include:

- Limiting tree and shrub clearing and grubbing to the minimum required for the selected clear zone and the grading limits



- Maintaining streams in their natural state
- Constructing temporary sediment traps
- Placing silt fences around construction areas
- Berming of fills and installation of temporary slope drains where necessary
- Permanent seeding and mulching as soon as possible after grading, and temporary seeding where grading will be exposed for an extended period of time
- An Erosion and Sediment Control Plan should be prepared and included in the final construction plans.

## **2. Water Quality and Hydrology Impacts**

### **a. Water Quality Impacts**

The roadway reconstruction project will require the extension of several cross culverts, most notably the two crossings of North Turtle Creek, the tributary to North Turtle Creek, and Sucker Creek in the Pennington Bog. The culvert connecting Rabideau Lake and Little Rabideau Lake was replaced by Beltrami County in June 2004 and should not need to be replaced for this project. These culvert replacements/extensions will require excavation in the waterways, thereby generating sediment during construction that could locally impact aquatic species on a temporary basis, especially macroinvertebrates that cannot escape from the construction area.

Roadway reconstruction also has the potential to impact the many wetlands along the corridor, especially if strict erosion and sediment controls are not in place. The reconstruction will involve the removal of the existing asphalt, which will expose the subgrade to the erosive forces of precipitation. Therefore, the potential exists for sediment-laden surface runoff to enter the wetlands until such time as the disturbed areas are stabilized. Surface water will drain across a vegetated slope to the roadside ditches.

The pedestrian path and bridge over the Mississippi would be constructed to the east of FH3 and the bridge would be constructed to the same elevation as the FH3 bridge. Environmental impacts would include construction of the path on grassed upland areas and installation of piles adjacent to the river to support the pedestrian bridge.

### **b. Mitigation**

The water quality impact of the project can be minimized through the proper application and maintenance of erosion and sediment control measures (best management practices). These measures will include:

- Minimizing the area of exposed subgrade at any given time

- Constructing temporary sediment traps
- Placing silt fences around construction areas
- Berming of fills and installation of temporary slope drains where necessary
- Permanent seeding and mulching as soon as possible after grading, and temporary seeding where grading will be exposed for an extended period of time

**c. Hydrology Impacts**

The replacement culverts will be sized so as to not impact the hydrology of the waterways.

**3. Wetlands and Protected Waters**

Wetlands

Wetland impacts have been estimated for the Build Alternatives using a bandwidth analysis. Alternatives 2, 3, and 4 will extend on average 36 feet from the centerline of the road and Alternative 5 will extend on average 38 feet from the centerline of the road. A narrower bandwidth (30 feet) was used to calculate impacts through protected wetland 458 P (see **Table IV-3**). The narrower footprint through this area will be achieved through the use of steep side slopes (4:1).

**a. Impacts**

Approximately 7.5 acres of wetland would be impacted by Alternatives 2, 3, and 4, and 8.9 acres by Alternative 5 (see **Table IV-3**). Under Alternatives 2, 3, 4, or 5, 0.5 acres of protected wetland 458 P would be impacted (see **Table IV-4**). Wetlands would be permanently impacted with implementation of any of the Build Alternatives. The short-term impacts to wetlands under the Build Alternatives during construction could be minimized through the use of best management practices and the implementation of an erosion control plan. Mitigation for the loss or degradation of wetlands would include restoring, enhancing, preserving or creating wetlands to replace functions and values lost when existing wetlands are affected by construction activities. The maximum number of total wetland acres that would be affected by a Build Alternative would be 8.9. Depending on the grading extent of the chosen alternative, impacts could be less.

Protected Water 458

A site visit to Protected Water 458 was conducted on September 26, 2006 with the Department of Natural Resources to review potential impacts to this protected resource. Because of minimal widening required in this area, it was agreed that wetland fill would be limited to 0.25 acre. The 0.25 acre fill is applicable to any selected alternative, including the new Alternative 4 that has 4-foot paved and 2-foot unpaved shoulders.

The wetland complex of Protected Water 458 is a high quality visual resource with no public access for viewing the wetlands. During the final design of the roadway Beltrami County will investigate the feasibility of constructing a small viewing area and parking lot in this area.

#### Barott Bog

The Department of Natural Resources' Natural Heritage database lists the state-listed threatened species Ram's Head Lady's-slipper (*Cypripedium arietinum*) as occurring in this cedar bog. It is located along the highway east of Pimushe Lake and west of Little Moose Lake.

During final design Beltrami will make all attempts at not impacting this wetland. If wetland impacts are unavoidable, the following actions will be undertaken:

- A botanical survey of the realignment area will be conducted no more than two years prior to construction to determine the extent of impact to the Ram's Head Lady's-slipper population. Surveys will be conducted when the plants are in bloom and will be conducted by individuals with previous experience in conducting plant surveys. The methodology for conducting the surveys and the qualifications of the individuals proposed for conducting the surveys will be submitted to DNR for approval. The FS will be contacted for permission to conduct the survey.
- Beltrami County will investigate options to minimize impacts to the Bog while addressing the geometric design issues at this location. In addition, the use of guiderails will be examined for this area.
- Beltrami will assess whether road construction could change groundwater movement in the area of the curve in the road and in turn impact the cedar bog community and Ram's Head Lady's-slipper population
- For impacts to the Ram's Head Lady's-slippers that can not be avoided, a takings permit application will be submitted to DNR. The application will include a description of alternatives that were evaluated for avoiding and minimizing impacts, a proposal for mitigation that compensates for the taking of the plants.
- Beaver plugging of the culverts that pass under the highway at this location have been an ongoing problem. An assessment of the size of culverts and type of beaver exclusion device will be made to prevent or reduce the chance of this problem occurring in the future.

#### Rabideau Lake

No fill will be placed in the lake for any proposed geometric improvements in this area.

**Table IV-3  
Wetland Impacts (Acres)**

Wetland Type	Alternative 2, 3, or 4 Impacts			Alternative 5 Impacts		
	Total	North of Divide	South of Divide	Total	North of Divide	South of Divide
PEM	1.9	0.3	1.6	2.5	0.3	1.9
PEM/PFO	0.3	0.0	0.3	0.4	0.0	0.4
PEM/PSS	1.4	0.3	1.1	1.9	0.3	1.3
PFO	2.2	0.3	1.9	2.6	0.3	2.3
PFO/PSS	0.8	0.0	0.8	1.0	0.0	1.0
PSS	0.9	0.0	0.9	1.1	0.0	1.1
<b>Total</b>	<b>7.5</b>	<b>0.9</b>	<b>6.6</b>	<b>8.9</b>	<b>0.9</b>	<b>8.0</b>

**Table IV-4  
Impacts to Protected Waters/Wetlands**

Protected Waters/Wetlands	Name	Alternative 2, 3, or 4 Impacts	Alternative 5 Impacts
26 W	Stoner Lake	0	0
33 P	Benjamin Lake	0	0
34 P	Rabideau Lake	0	0
359 P	Little Rabideau Lake	0	0
-	Turtle River	2 crossings	2 crossings
23 P	Holland Lake	0	0
32 P	Pimushe Lake	0	0
13 P	-	0	0
7 P	Kitchie Lake	0	0
-	Sucker Creek	1 crossing	1 crossing
-	Kitchie Creek	1 crossing	1 crossing
30 P	Cass Lake	0	0
-	Mississippi River	1 crossing	1 crossing
458 P	Sedge Meadow	0.25 acre	0.25 acre

*Note: The sedge meadow impacts are also included in the Table IV-3 PEM totals south of the continental divide*

## **b. Mitigation**

Final measures to avoid and minimize wetland impacts will be investigated during the design phase of the project. During the design phase, a scenic overlook or pull-off area will be added to the design if an appropriate dry area near wetland 458 P is located. Forest Service Manual 2520 identifies the following measures that can be employed to avoid and minimize wetland impacts:

- Installation of sediment basins prior to or concurrent with soil disturbing activities.
- Use shallower ditches and steeper back slopes to minimize wetland impacts.
- Use of silt fence and straw bale barriers. Assuring that culvert placement in streams and wetlands maintain or restore natural flow patterns and allow passage of aquatic species.
- Revegetating areas abutting wetlands and streams, inslopes, backslopes, and ditches that lead to streams and wetlands as soon as feasible.
- Disposing of excess dredged material or debris from the reconstruction project in upland areas.
- Install wide box-culverts in locations where the roadway right-of-way bisects perennial wetland systems (i.e. semi-permanently flooded and permanently flooded) for improved wetland drainage, improved fish passage, reduced mortality of Blanding's turtle, four-toed salamander, and other migrating aquatic and terrestrial wildlife. Care should be taken in adjusting proper invert elevations for wider culverts, as to maintain or restore pre-road hydrology and minimize impacts to the hydrologic regimes of upstream and downstream wetland systems.
- If cedar wetlands are impacted by the road reconstruction, narrower clearing, filling limits and/or retaining walls will be used to minimize impacts.

Steeper side slopes and guiderails are proposed to reduce impacts to Pennington Bog SNA. Installing guiderails or other measures to avoid impacts will be considered for a high-quality cranberry bog on the western side of the corridor on a tribal allotment south of the Mississippi, and wetland 458 P, a state protected sedge meadow wetland to either side of the roadway in the southern part of Beltrami County.

A steeper side slope would reduce the amount of grading necessary to either side of the roadway at these locations. Guiderails would compensate for the reduced shoulder width by providing driver safety at increased slopes. The guiderails could be constructed of aesthetic steel backed timber or weathered steel so as not to detract from the scenic surroundings. The precise locations and extent of the guardrails will be determined during the design phase of the project in consultation with the Corps of Engineers and the Mn/DNR.

According to Forest Service Manual 2520, Supplement R9 Chippewa 2500-2003-2, if compensatory mitigation is accomplished by restoration or creation within the National Forest, the replacement wetland shall be of the same acreage, type, and within the same watershed (fourth code) as the impacted wetland to the extent feasible. Compensatory mitigation shall be completed before or concurrent with the alteration of the wetland affected by the proposed project. Project proponents may request a time extension for compensation not to exceed 1 year from the date of the physical alteration.

Potential wetland mitigation sites were identified within the FH 3 corridor. Screening criteria used in the identification included adjacency to existing wetlands and streams, depth to groundwater (based on Soil Survey data), position in the landscape, and topography. It was assumed that a depth of excavation of less than three feet would be acceptable to provide groundwater hydrology, and that an excavation of more than three feet would be unacceptable. However, should it be determined during design that fill material is required for the roadway reconstruction, a deeper excavation may be deemed reasonable. Photointerpretation of existing available aerial photography was used to review the site topography. Those sites with high elevation relative to adjacent wetlands, or those that appeared too dry were considered unsuitable for wetland creation.

Fifteen potential wetland mitigation sites have been identified to mitigate for wetland impacts along the corridor (see **Table IV-4**). Each site is located adjacent to an existing wetland, however none of the potential sites have hydric soil. These sites will be reviewed with the regulatory and resource management agencies during the design of the project. Coordination with the owners of the potential mitigation sites will be requested at that time to determine their willingness to sell all or a portion of their property for wetland mitigation.

The replacement ratio required by the St. Paul Corps of Engineers District for wetland impacts is generally 1.5:1 as a starting point, but can be adjusted upward on a case-by-case basis to replace lost functions and values of wetlands impacted due to projects authorized by Corps permits. The assessment of functions and values of the wetlands impacted will drive the goals of compensatory mitigation necessary. Consideration is required for spatial losses at a watershed/landscape level as well as temporal losses (time lag between impacts and restoration). The final mitigation ratio would be dependent on the type, location and timing of mitigation and the assessment of the functions provided relative to those lost due to the project. Wetland mitigation must take place within the same watershed as the impacts.

The project is located on both sides of the continental divide. The divide is located approximately two miles south of Blackduck. North of the divide, streams and rivers run north and eventually into the Hudson Bay. North-running rivers include the Mud River, which flows to Lower Red Lake, Red Lake River, and the Red River. South of the divide, streams flow to the Mississippi and the Gulf of Mexico. These streams include the Turtle River, which flows to Rice and Kitchie Lakes, to Cass Lake and the Mississippi. Few wetland impacts occur north of the divide (see **Table IV-5**).

**Table IV-5  
Potential Wetland Mitigation Sites**

Site #	Cover	Owner	Acres	Use	Soil Type	Watershed	Drainage	Depth to Ground-water	Photo-interpretation/Comments
1	Open	Private	14.5	Field, pasture	H87	North of continental divide	Moderately well	1 to 3 feet	Needs to be field verified
2	Open	Private	26.4	Field, pasture	J7, J8	North of continental divide	well to somewhat poorly, well	1.5 to 3 to >6, >6 feet	10 acres of site may be suitable, field verify
3	Open	Private	26.2	Field, pasture	J7	North of continental divide	well to somewhat poorly	1.5 to 3 to >6 feet	Small portion of site may be suitable, Field verify
4	Open	Private	4.1	Field, pasture	H87	North of Continental divide	moderately well	1 to 3 feet	Small site but may be seasonally saturated
5	Open	Private	8.8	Field, pasture	J7	North of continental divide	well to somewhat poorly	1.5 to 3 to >6 feet	South of Site 06, may be seasonally saturated
6	Open	Private	19.8	Field, pasture	J7	South of Continental divide	well to somewhat poorly	1.5 to 3 to >6 feet	Wetlands in swales across site
7	Open	Private	11.4	Field, pasture	J7	South of continental divide	well to somewhat poorly	1.5 to 3 to >6 feet	No photo coverage, field verify
8	Open	Private	17.8	Field, pasture	J7	South of continental divide	well to somewhat poorly	1.5 to 3 to >6 feet	No photo coverage, field verify
9	Open	Private	18.2	Field, pasture	J7	South of continental divide	well to somewhat poorly	1.5 to 3 to >6 feet	Substantial excavation required, but appears feasible
10	Open	Private	32.3	Field, pasture	J7	South of continental divide	well to somewhat poorly	1.5 to 3 to >6 feet	No photo coverage, field verify
11	Shrubby	USA-CNF	40.3	Unk.	J7	South of continental divide	well to somewhat poorly	1.5 to 3 to >6 feet	No stereo photo coverage, some drainage patterns evident on property
12	Open	Private	34.7	Field, pasture	J7	South of continental divide	well to somewhat poorly	1.5 to 3 to >6 feet	Excavated farm ponds, wetlands in low areas

Site #	Cover	Owner	Acres	Use	Soil Type	Watershed	Drainage	Depth to Ground-water	Photo-interpretation/Comments
13	Open	Private	16.1	Field, pasture	J7	South of continental divide	well to somewhat poorly	1.5 to 3 to >6 feet	Adjacent to stream and emergent wetlands
14	Open	Private	8.6	Field, pasture	J7	South of continental divide	well to somewhat poorly	1.5 to 3 to >6 feet	Substantial excavation required, but may be feasible
15	Shrubby	USA-CNF	40.5	Unk.	J7	South of continental divide	well to somewhat poorly	1.5 to 3 to >6 feet	No photo coverage, field verify

### c. Compliance with Environmental Laws and Regulations

This document is prepared pursuant to the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act (NHPA), Section 7 of the Endangered Species Act (ESA), the Clean Water Act (CWA), Executive Orders protecting wetlands and floodplains, and the executive order regarding Environmental Justice. This document is also prepared in accordance with the Minnesota Environmental Review Program.

#### i. Army Corps of Engineers

Regulatory authority and responsibilities of the Corps of Engineers includes administration and enforcement of Section 404 of the Clean Water Act. Section 404 regulates the discharge of dredged or fill material into waters of the United States, including both navigable waters and adjacent wetlands. In addition, Section 10 of the Rivers and Harbors Act of 1899 is regulated by the Corps of Engineers for activities in or affecting navigable waters. The Build Alternatives will impact waters that are considered waters of the United States and are subject to U.S. Army Corps of Engineers review under the Section 404 regulatory program.

#### ii. Wetland Conservation Act

Any proposed improvements are required to meet the regulations set forth in Minnesota's Wetland Conservation Act as administered by the Mn/DNR, Minnesota Board of Water and Soil Resources, and/or any applicable Soil and Water Conservation Districts.

#### iii. Public Waters Work Program

The Water Permits Unit oversees the administration of the Public Waters Work Permit Program. This program, established in 1937, regulates water development activities below the ordinary high water level (OHWL) in public waters and public waters wetlands. Public waters are all water basins and watercourses that meet the criteria set forth in Minnesota Statutes, Section 103G.005, subd. 15. Public waters wetlands include all Circular 39 Type 3 wetlands (shallow marshes), Type 4 wetlands (deep marshes), and Type 5 wetlands (open water wetlands) that are 10 acres or more in size in unincorporated areas or 2 ½ acres or more in size in incorporated



areas. Examples of development activities addressed by this program include filling, excavation, shore protection, bridges and culverts, structures, docks, marinas, water level controls, dredging, and dams.

#### **4. Pennington Bog Scientific and Natural Area**

##### **a. Impacts**

Impacts to the Pennington Bog Scientific and Natural Area (SNA) require approval from the Commissioner of Natural Resources. The approval process includes an opportunity for a public hearing. Using a reduced impact bandwidth of 30 feet from roadway centerline for all Build Alternatives within this sensitive area, 0.4-acre of impact would occur to the SNA. Permits must also be obtained if any state-listed threatened or endangered species would be destroyed.

The Mn/DNR has expressed concern about wetland hydrology impacts from roadway reconstruction, particularly impacts to the SNA. The bog hydrology supports an abundance of rare orchids and other plants, including the State-listed Ram's Head Lady's Slipper. The State's concern is that the reconstruction project will change the subgrade material beneath the roadway, making it either more pervious, potentially draining surface water from the SNA, or more impervious, resulting in increased hydrology in the SNA. Should either of these conditions occur the plant species composition may change over time, responding to either a wetter or drier environment, which would be a detrimental impact to the SNA.

##### **b. Mitigation**

As described under Wetland and Protected Waters Mitigation, the use of steeper side slopes (3:1) to avoid or minimize environmental impacts, paired with aesthetic steel backed timber or weathered steel guiderails to provide driver safety, is proposed for the Pennington Bog SNA to avoid wetland impacts. The guiderail will be placed one foot beyond the top of the new in-slope. The new road construction will not result in extending the current toe of the in-slope, i.e., there will be no additional encroachment into the SNA and wetlands. The guiderails will be used on both sides of the road through the Pennington Bog SNA area.

##### Showy Ladyslippers in the Pennington Bog SNA Area

The Pennington Bog SNA, because of its importance and sensitivity, is one of the locations where numerous showy ladyslippers are currently growing along the road edge, and contributing to the scenic quality of the road. Construction in this area will result in the current toe of the inslope remaining the same. Some of the clumps of ladyslippers are at or below this point, and some are up from the toe 2 or 3 feet. The FS has data on these locations. Efforts will be made as much as possible to retain these groups of plants. Construction in this area should not occur until later in the summer. Plant locations will be flagged earlier that year, and the County, FS, and contractor will work together to retain as many clumps as possible and use construction equipment and techniques (such as equipment operation on the road edge rather than down in the wetland) to avoid damage. Where damage to the plants cannot be avoided, clumps could be transplanted to other locations where construction has already been completed, at the direction of the FS botanist.

Measures to minimize hydrologic impacts are discussed above in *Section C.3.b.* above.

## 5. Terrestrial Habitat and Wildlife

Build Alternatives 2 or 3 will impact approximately 15.7 acres of upland forest cover and 1.5 acres of open, non-wetland land cover. Under Alternative 4, 20.6 acres of upland forest and 2.0 acres of open, non-wetland cover would be impacted. These impacts are shown in **Table IV-6**.

**Table IV-6  
Forest/Land Cover**

<b>Land Cover</b>	<b>Alternative 2, 3, or 4 Impacts</b>	<b>Alternative 5 Impacts</b>
Coniferous forest	2.7 acres	3.4 acres
Mixed deciduous, conifer forest	6.8 acres	8.7 acres
Mixed deciduous forest	6.2 acres	8.5 acres
Open, non-wetland	1.5 acres	2.0 acres
<b>Total</b>	<b>17.2 acres</b>	<b>22.6 acres</b>

### a. Vegetation

Some tree removal would be necessary under each Build alternative. Tree removal would clear those trees encroaching past construction right-of-way and may exceed past clearing efforts. Two alternative clear zones are permissible; a 15-foot clear zone in accordance with Natural Preservation Route standards (under Alternative 3 and 4), and a 25-foot clear zone in accordance with Minnesota Department of Transportation county state aid standards (Alternative 5). Under Alternative 2, the minimum clear zone would be 15 feet and the maximum 25 feet. The actual extent of the clearing would depend on the existing topography and the distance required to tie proposed slopes into existing grade, but in general this distance would be five feet or less. Areas cleared for grading beyond the clear zone would be replanted. Under Alternative 2, in a typical section a small amount of additional vegetation would need to be cleared beyond the grading limits for a 25-foot clear zone. Under Alternative 5, the clear zone would be within the graded area in a typical section. Outside of the clear zone, vegetation removed for grading would be replanted. Roadside grading may displace some individual showy lady slipper orchids.

### b. Wildlife

Under the Build Alternatives, birds and other wildlife may avoid potential habitat immediately adjacent to the project site because of noise and automobile traffic. However, since the proposed project occurs along the alignment of the existing roadway, it is likely that these areas are already avoided to some extent and no additional impact may result. Fish would be potentially impacted temporarily due to impacts on water quality associated with erosion as a result of the construction. To the extent possible, fish will avoid areas of stream disturbance during construction. Deer may be attracted to the newly cleared roadside and the species used to revegetate beyond the clear zone. The increased shoulder width and clear zone may reduce the

number of deer strikes occurring on the roadway due to increased driver visibility and response times.

### **c. Mitigation**

The following proposed recommendations focus on minimizing the potential for adverse impacts:

- Implement control measures for invasive plant species existing within roadside wetlands during roadway construction. Observations for invasive species should be performed during construction and control measures should be implemented to remove or control the spread of giant reed (*Phragmites australis*), reed canary grass (*Phalaris arundinacea*), purple loosestrife (*Lythrum salicaria*), tansy (*Tanacetum vulgare*), spotted knapweed (*Centaurea maculosa*), narrow leaf cattail (*Typha angustifolia*), and hybrid cattail (*Typha xglauca*), Canadian thistle (*Cirsium arvense*), perennial sowthistle (*Sonchus arvensis*), hoary alyssum (*Berteroa incana*), common st. johnswort (*Hypericum perforatum*), wild parsnip (*Pastinaca sativa*), and tall buttercup (*Ranunculus acris*). It is recommended that invasive plant material be removed along existing road edges and swales immediately prior to or during roadway construction.
- It is also be mandatory that all construction equipment be cleaned and inspected to assure that non native plant material and seeds have been removed prior to equipment arriving on site. Equipment that is used in areas along the road where invasive plants are found also needs to be decontaminated before it moves into uncontaminated locations.
- Gravel pits and borrow sources also need to be certified as weed free for them to be used as a source of materials for this project.
- Install guardrails in areas where the proposed roadway improvement encounters steep slopes rather than clearing and re-grading vegetated slopes.
- Re-vegetate disturbed areas with native vegetation of similar composition and structure as the surrounding vegetation. The FS will work with the Leech Lake Band of Ojibwe and the County Highway Department to develop seed mixes for the various habitats that will need to be replanted after work is completed. An effort will also be made to replant with species beneficial to wildlife beyond the clear zone, and with those plants used by the Anishinabe people for traditional purposes.
- Mark proposed limits of disturbance for constructing the roadway improvements with tape or flagging to reduce the probability of inadvertent encroachment into intact native vegetation by construction machinery and personnel.

- Use shallower ditches and steeper back slopes to minimize vegetation clearing and mitigate impacts on vegetation and wetlands.
- The final construction plans should include directions to the Contractor for minimizing disturbance of woody and turf vegetation.
- The final construction plans should include directions and specifications to the Contractor for revegetating disturbed areas with non-invasive native plant species.

No impact to vegetative resources other than long-term routine maintenance is anticipated under the No Action Alternative. Maintenance activities may include mowing and tree and limb clearing. Under each of the Build Alternatives, tree removal would be necessary near the roadway. Roadside grading would have a greater impact on the extent of vegetation removed than the chosen clear zone. Implementation of mitigation measures would further limit the project's impact. The existing species abundance at the CNF and LL Res. would remain approximately the same.

## **6. Aquatic Habitat and Wildlife**

### **a. Impacts**

Culvert replacements/extensions will require excavation in the waterways, generating sediment during construction that could locally impact aquatic species on a temporary basis. Roadway reconstruction also has the potential to impact wetlands. The reconstruction will involve removal of the existing asphalt, exposing the subgrade to the erosive forces of precipitation. Therefore, the potential exists for sediment-laden runoff to enter the wetlands until such time as the disturbed areas are stabilized.

### **b. Mitigation**

The water quality mitigation measures discussed under *Section C.3.a* would be implemented to reduce impacts to aquatic habitat and wildlife.

## **7. Rare, Threatened, and Endangered Species**

Species surveys were conducted in September 2003 and June and August 2004 to locate individuals and populations of sensitive species. These surveys were augmented by previous studies conducted by the FS, Minnesota DNR, and Leech Lake Band.

### **a. Impacts**

The Build Alternatives would not directly impact any prime habitat for the federally listed bald eagle, piping plover, or Canada lynx. Road density will not change, so impacts to Canada lynx and gray wolves are not anticipated. While the large red pine and aspen in close proximity to the road may provide potential nesting sites for the bald eagle, and may be removed to reduce shading, only negligible impacts could occur to the habitat of these protected species, as the

construction activity would all take place within approximately 25 feet from the existing travel lane. The existing paved road and traffic already discourages nesting at these sites.

Potential habitat for many sensitive species exists that would be impacted (see **Table IV-7**). One area known to support the Ram's-head ladyslipper, Barrett Bog, is located in an area where geometric improvements are proposed. The road would be shifted west. It is possible that Ram's head ladyslippers would be directly impacted. A botanical survey will be conducted at Barrett Bog for the Ram's head ladyslipper when the plants are in bloom. At that time, it will be assessed whether the road realignment will result in changes to groundwater flow. For any impacts that cannot be avoided through the use of guardrails to minimize road width, a takings permit application will be submitted.

**Table IV-7  
Impacts to Potential Habitat**

Habitat	Species	Common Name	Alts. 2, 3, & 4	Alt. 5
Plants				
Aquatic	<i>Najas gracillima</i>	Slender naiad	Potential siltation during construction	Potential siltation during construction
	<i>Nymphaea leibergii</i>	Dwarf water-lily		
	<i>Potamogeton vaseyi</i>	Vasey's pondweed		
	<i>Subularia aquatica</i>	Awlwort		
	<i>Utricularia gibba</i>	Humped bladderwort		
	<i>Utricularia purpurea</i>	Purple-flowered bladderwort		
Coniferous and mixed deciduous/coniferous forests	<i>Pinus strobus</i>	White pine	9.5 acres	12.1 acres
Coniferous forests	<i>Botrichium rugulosum</i>	Temate grapefern	2.7 acres	3.4 acres
	<i>Comptonia peregrina</i>	Sweet fern		
	<i>Waldsteinia fragarioides</i>	Barren strawberry		
Forested wetland	<i>Gymnocarpium robertianum</i>	Limestone oak fern	2.2 acres	2.6 acres
	<i>Calypso bulbosa</i>	Fairy slipper		
	<i>Cypripedium arietinum</i>	Ram's-head lady's slipper		
	<i>Malaxis paludosa</i>	Bog adder's mouth		
	<i>Malaxis brachypoda</i>	White adder's mouth		
	<i>Polemonium occidentale</i>	Western Jacob's ladder		
Deciduous or conifer forests	<i>Mitchella repens</i>	Partridge-berry	15.7 acres	20.6 acres
	<i>Orobanche uniflora</i>	One-flowered broomrape		
	<i>Botrychium dissectum</i>	Dissected grape-fern		
Forest and wetlands	<i>Taxus canadensis</i>	Canada yew	23.2 acres	29.5 acres
Mixed deciduous	<i>Botrichium lanceolatum</i>	Lanceleaf grapefern	6.2 acres	8.5 acres
	<i>Botrichium minganese</i>	Mingan moonwort		
	<i>Botrichium mormo</i>	Goblin fern		
	<i>Botrichium oneidense</i>	Blunt-lobed grapefern		
	<i>Botrichium simplex</i>	Least moonwort		
	<i>Carya cordiformis</i>	Bitternut hickory		
	<i>Celtis occidentalis</i>	Hackberry		
	<i>Dryopteris goldiana</i>	Goldie's wood-fern		

Habitat	Species	Common Name	Alts. 2, 3, & 4	Alt. 5
	<i>Gentiana andrewsii</i>	Closed gentian		
	<i>Juglans cinera</i>	Butternut		
	<i>Panax quinquefolius</i>	American ginseng		
	<i>Ulmus americana</i>	American elm		
	<i>Ulmus rubra</i>	Red (slippery) elm		
Mixed deciduous within 1 mile of large lake	<i>Erythronium albidum</i>	White trout-lily	<3 acres	<4 acres
Mixed deciduous, coniferous	<i>Botrichium pallidum</i>	Pale moonwort	6.8 acres	8.7 acres
Mixed deciduous, wetlands	<i>Carpinus carolinana</i>	Blue beech, Musclewood	13.7 acres	17.4 acres
Shores of lakes and rivers	<i>Viola novae-angliae</i>	New England violet	0 acres	0 acres
Wetlands	<i>Arethusa bulbosa</i>	Dragon's-mouth orchid	7.5 acres	8.9 acres
	<i>Drosera anglica</i>	English sundew		
	<i>Drosera intermedia</i>	Spatulate-leaved sundew		
	<i>Drosera linearis</i>	Linear-leaved sundew		
	<i>Eleocharis olivacea</i>	Olivaceous spike-rush		
	<i>Eleocharis quinquefolia</i>	Few-flowered spike rush		
	<i>Fimbristylis autumnalis</i>	Autumn fimbristylis		
	<i>Hierochloa odorata</i>	Sweet grass		
	<i>Listera auriculata</i>	Auricled twayblade		
	<i>Platanthera clavellata</i>	Clubspur orchid		
	<i>Platanthera flava</i>	Tubercled rein-orchid		
	<i>Ranunculus lapponicus</i>	Lapland buttercup		
	<i>Rhynchospora fusca</i>	Sooty-colored beak-rush		
	<i>Sparganium glomeratum</i>	Northern bur-reed		
<i>Torreyochloa pallida</i>	Torrey's manna-grass			
<i>Xyris montana</i>	Yellow-eyed grass			
<b>Mammals</b>				
All terrestrial habitats	<i>Canis lupus</i>	Gray wolf	17.2 acres	22.6 acres
	<i>Felis concolor</i>	Eastern cougar		
Coniferous forest	<i>Martes americana</i>	Pine marten	2.7 acres	3.4 acres
Forest and wetlands	<i>Phenacomys intermedius</i>	Heather vole	23.2 acres	29.5 acres
Upland forests	<i>Lynx canadensis</i>	Canada lynx	15.7 acres	20.6 acres
	<i>Myotis septentrionalis</i>	Northern myotis		
Upland forests, meadows	<i>Mustela nivalis</i>	Least weasel	17.2 acres	22.6 acres
Upland prairies, coniferous forests	<i>Microtus ochrogaster</i>	Prairie vole	4.2 acres	5.4 acres
Vegetated upland	<i>Spermophilus franklinii</i>	Franklin's ground squirrel	17.2 acres	22.6 acres
Wetlands	<i>Synaptomys borealis sphagnicloa</i>	Northern bog lemming	7.5 acres	8.9 acres
<b>Birds</b>				
Coniferous forests	<i>Canachites canadensis</i>	Spruce grouse	2.7 acres	3.4 acres
	<i>Contopus cooperi</i>	Olive-sided flycatcher		
	<i>Falci pennis canadensis</i>	Spruce grouse		

Habitat	Species	Common Name	Alts. 2, 3, & 4	Alt. 5
	<i>Picoides arcticus</i>	Black-backed woodpecker		
Forested wetlands	<i>Oporomis agilis</i>	Connecticut warbler	2.2 acres	2.6 acres
Deciduous forests	<i>Dendroica caerulescens</i>	Black-throated blue warbler	6.2 acres	8.5 acres
	<i>Dendroica castanea</i>	Bay-breasted warbler		
Open country	<i>Lanius ludovicianus</i>	Loggerhead shrike	1.5 acres	2.0 acres
Upland forests	<i>Accipiter gentillis</i>	Northern goshawk	15.7 acres	20.6 acres
	<i>Buteo lineatus</i>	Red-shouldered hawk		
	<i>Haliaeetus leucocaphalus</i>	Bald eagle		
Wetlands	<i>Ammodramus caudacuta</i>	Sharp-tailed sparrow	7.5 acres	8.9 acres
	<i>Ammodramus henslowii</i>	Henslow's sparrow		
	<i>Ammodramus leconteii</i>	LeConte's sparrow		
	<i>Ammodramus nelsoni</i>	Nelson's sharp-tailed sparrow		
	<i>Ardea herodias</i>	Great blue heron		
	<i>Asio flammeus</i>	Short-eared owl		
	<i>Botaurus lentiginosus</i>	American bittern		
	<i>Chlidonias niger</i>	Black tern		
	<i>Coturnicops voveboracensis</i>	Yellow rail		
	<i>Cygnus buccinator</i>	Trumpeter swan		
	<i>Grus canadensis</i>	Sandhill Crane		
	<i>Larus argentatus</i>	Herring gull		
	<i>Larus pipixan</i>	Franklin's gull		
	<i>Pandion halietus</i>	Osprey		
	<i>Phalaropus tricolor</i>	Wilson's phalarope		
<i>Podiceps auritus</i>	Horned grebe			
<i>Rallus elegans</i>	King rail			
Wetlands and coniferous forests	<i>Strix nebulosa</i>	Great grey owl	10.2 acres	12.3 acres
<b>Amphibians</b>				
Deciduous forests	<i>Plethodon cinereus</i>	Red-backed salamander	6.2 acres	8.5 acres
Wetlands	<i>Hemidactylium scutatum</i>	Four-toed salamander	7.5 acres	8.9 acres
	<i>Rana clamitans</i>	Green frog		
<b>Reptiles</b>				
Open	<i>Heterodon nasicus</i>	Western hognose snake	1.5 acres	2.0 acres
Upland forests	<i>Heterodon platirhinus</i>	Eastern hognose snake	15.7 acres	20.6 acres
Wetlands	<i>Chelydra serpentina</i>	Snapping turtle	7.5 acres	8.9 acres
	<i>Emydoidea blandingii</i>	Blanding's turtle		
<b>Fish</b>				
Rivers	<i>Moxostoma valenciennesi</i>	Greater redhorse	Potential siltation during construction	Potential siltation during construction
Lakes and streams	<i>Notropis anogenus</i>	Pugnose shiner	Potential siltation during construction	Potential siltation during construction
<b>Mollusks</b>				
Rivers and creeks	<i>Lasmigona compressa</i>	Creek heelsplitter	Potential siltation during construction	Potential siltation during construction
	<i>Lasmigona costata</i>	Fluted shell mussel		
	<i>Ligumia recta</i>	Black shelled mollusk		

Habitat	Species	Common Name	Alts. 2, 3, & 4	Alt. 5
Insects				
Lakes and rivers	<i>Ceraclea vertreesi</i>	Vertree's caddisfly	Potential siltation during construction	Potential siltation during construction
Coniferous forests	<i>Cicindela patruela patruela</i>	Patterned green tiger beetle	2.7 acres	3.4 acres

## b. Mitigation

The following proposed recommendations focus on minimizing the potential for adverse impacts:

If any bald eagle nests are identified during implementation of the proposed roadway improvement, the U.S. Fish and Wildlife Service (FWS) and the FS will be notified and further construction activities will adhere to the CNF Land and Resources Management Plan, which has specific guidance for projects that occur within the vicinity of bald eagle nests. Neither the management plan nor the Northern States Bald Eagle Recovery Plan identifies standards, guidelines, or restrictions for activities occurring more than 1,320 feet (1/4 mile) from an eagle nest.

- Appropriate habitat exists for many sensitive species. A roadway design will be selected that will avoid or minimize protected and sensitive areas.
- Provide construction schedule to the public to allow local citizens an opportunity to relocate species of showy lady's slipper orchids (*Cypripedium reginae*) to areas that will not be disturbed by the proposed roadway improvement project, as permitted by the FS.
- A revised road design or transplantation would be required if additional SC, RFSS, or LLSS species are found during construction or follow-up surveys.

## 8. Invasive Species

Reed canary and giant reed grass, as well as purple loosestrife, tansy, Canada thistle, narrow leaf cattail, hybrid cattail, perennial sowthistle,) hoary alyssum. common st.johnswort, wild parsnip, tall buttercup, and spotted knapweed within the roadside grading limits would be removed. The reestablishment of invasive species would be prevented by planting native species on the graded slopes and shoulders. A post construction plan to address infestations of invasive species will also need to be developed. Under any of the Build Alternatives, these species, growing in previously disturbed areas, would be replaced with native vegetation.

## D. AIR QUALITY

The CAA requires that State Implementation Plans (SIPs) delineate areas in the state where the air does not meet the standards set by EPA. These are known as "nonattainment areas" and the SIP must outline how the State is addressing these problems. At this time there are no



nonattainment areas in Minnesota but there are a number of former nonattainment areas, or “maintenance areas,” that are subject to SIP requirements. These requirements are designed to keep the areas in attainment with Federal air standards. Beltrami County is an attainment area for all pollutants.

The proposed improvements to FH 3 are safety related and will not increase the capacity of the roadway. Therefore, the improvements will not impact regional emissions and do not require local carbon monoxide impact analysis. Temporary air quality impacts (dust) may occur during construction. Dust can be minimized by applying water during demolition, land clearing, grading, and construction operations. Air quality should return to preconstruction conditions once construction is completed.

## **E. NOISE**

A traffic noise impact occurs if predicted traffic noise levels approach or exceed the FHWA noise abatement criteria (NAC), or when the predicted traffic noise levels substantially exceed the existing noise levels. In predicting noise levels for the design year and assessing noise impacts, traffic levels are used which yield the worst hourly noise impact on a regular basis are observed. The proposed alternatives are not in a new location, are not a significant change in horizontal or vertical alignment, and would not increase the number of through lanes. Therefore the requirements of 23 CFR 772, federal procedures for abatement of highway traffic noise and construction noise, do not apply. However, while temporary noise impacts would occur during construction of any of the Build Alternatives, none of the alternatives would increase road capacity. Therefore, once construction was completed noise levels would return to current conditions.

## **F. VISUAL IMPACTS**

### **1. Impacts on existing landscape resources**

#### **a. Scenic Byway**

CSAH 39 and CSAH 10 are designated as a Scenic Byway and as a Forest Scenic Byway. In addition, part of the roadway is within the Great River Road Scenic Byway. As such, any roadway improvements that would substantially alter the character of the view from the road have the potential to impact these scenic byways.

#### **b. Sources of Impact**

Sources of impact from the proposed build alternatives include tree removal, grading, the addition of paved or grassy shoulders, and the realignment of the existing roadway at sharp turns. Under any of the build alternatives, the clear zone would be increased. However, trees removed for grading would be replanted up to the clear zone. Forest, wetland, and other habitat types will remain in close proximity to the road. The variety of views, including lakes, different forest types, and wetland systems, would remain. The landscape would remain "natural" with native plant communities and landscape contours. Therefore, the proposed roadway improvements are

not out of character with the surrounding viewscape. Some showy lady's slipper orchids would be removed by construction activities, however an abundance of this species would remain along the roadside. Tree clearing will increase deer visibility, lowering the number of collisions between deer and vehicles. The Build Alternatives would provide a safer driving experience for residents and travelers visiting cultural and natural attractions along the route.

**i. Alternative 2**

Under Alternative 2, lane widths would be increased to 12 feet, with additional 4-foot graded, stabilized turf shoulders outside of the pavement edge. Alternative 2, with grass shoulders, would result in a narrower pavement width and less pavement overall than the other build alternatives and a softer view of the surrounding landscape. The use of turf shoulders as a visual buffer would help preserve the scenic nature of the facility. However, the viewscape would still be opened up with an increased clear zone. A minimum 15-foot clear zone, the AASHTO standard, would be provided outside of the travel lanes, including roadside ditches that would be regraded with slopes that are considered traversable under AASHTO roadside design guidelines. The clear zone could exceed 15 feet depending on the options chosen.

**ii. Alternative 3**

CSAH 10 (FH 3 between the county line and US 2) has already been improved with wider travel lanes and shoulders during a previous road improvement. Build Alternative 3, which proposes 12-foot travel lanes and 4-foot paved shoulders, would have a similar effect on visual resources on the remainder of FH 3. This alternative would create a more open vista of the landscape than the closed-in view provided by the unimproved roadway. The travel lane and shoulder configuration for Alternative 3 is similar to the existing typical section for County State Aid Highway (CSAH) 10 in Cass County, creating a more consistent design throughout the 27-mile corridor. This alternative qualifies as a potential Natural Preservation Route or NPR-3. The typical section for this alternative is geometrically identical to Alternative 2, with the exception that pavement is substituted for turf in the 4-foot shoulders and the clear zone is limited to 15 feet from the edge of the travel lane. The overall pavement width would be increased, but the clear zone would not exceed 15 feet. The result would be a wider looking road with vegetation potentially closer to the travel lanes than under Alternative 2.

**iii. Alternative 4**

Build Alternative 4 proposes 6-foot shoulders: four feet of paved surface, and two feet of turf. The paved portion of the shoulder will accommodate bicyclists. The turf portion will allow for a greater recovery area for vehicles that leave the travel lanes without detracting from the natural view. The clear zone would be limited to 15 feet from the edge of the travel lane. Despite the four extra feet of shoulder surface, the treeline would be identical to that proposed in Alternative 3. Therefore the overall view from the road will be the same as under Alternative 3, although the view of the road will be wider with more roadside grass.

#### **iv. Alternative 5**

Alternative 5, with 6-foot paved shoulders, would result in greater impact to the view. The typical section for this alternative is based upon CSAH design criteria with 6-foot shoulders (either 6-foot paved or 4-foot paved with 2-foot gravel shoulders) and 12-foot travel lanes. The travel lane and shoulder configuration are similar to the existing typical section for CSAH 10 in Cass County, creating a more consistent design throughout the 27-mile corridor. The additional 2 feet of shoulder width provides for a safer and user-friendlier area for bicycle and pedestrian traffic. This alternative also provides the standard County State Aid clear zone of 25 feet for vehicle recovery. The result is the widest pavement/gravel width of the build alternatives and the largest clear zone, and therefore the most open view with forest vegetation the farthest from the road.

#### **2. Compatibility of Proposed Work with Surrounding Landscape**

The new road will be compatible with the surrounding landscape. While the treeline will be moved back several feet due to grading, shoulder expansion, and increased clear zone, the character of the roadway will be maintained as a rural, two lane highway supporting natural views of woodland, waterways, and pastoral settings. The view from the road will be more open, but will maintain its natural views. The view of the road will be altered slightly. The scale of the proposed development is in keeping with the natural character of the study area. The paved surface will be several feet wider and include paved or grassy shoulders. However, it will still be a winding, asphalt, two-lane highway in a rural setting.

#### **3. Opportunities for Mitigation Measures**

Roadway improvements under any of the build alternatives will include maintaining or re-establishing the vegetative buffers that currently exist between the roadway and the neighboring residential properties. This will be developed in conjunction with an appropriate landscaping plan for the roadway. This will include replanting trees removed for grading up to the designated clear zone.

The width of the disturbance for the road construction will be minimized so as to decrease the removal of large coniferous and deciduous trees that could serve as roosts and nesting trees for the bald eagle and the red-shouldered hawk. Although engineering constraints limit the ability to redirect or adjust the right-of-way alignment around large trees, construction access roads and staging areas will be located away from large trees and open water whenever possible. Construction staging areas will be located in areas of existing disturbed or low-quality vegetation (such as grassed areas or previously-cleared or managed areas), and avoid encroachment into wetlands or upland forests.

To introduce the traveler to CNF as he or she enters CSAH 39 from Blackduck a landscaped area will be provided with a sign stating "Entering Chippewa National Forest."

#### **4. Residual Impacts**

The view both of and from FH 3 will be changed under any of the build alternatives. In each option, the paved roadway will be made wider and the treeline will be pushed back several feet. This will change the view from a closed-in, more intimate feeling to a wider, more open view of the surrounding landscape. The roadway itself will be wider, and the roadside will be graded for shoulders and drainage. The road alignment will be shifted at several points to improve driver safety and visibility. However, views from the road will still be in character with the surrounding national forest landscape. The treeline, while not as close to travel lanes as previously, will continue to offer a woody and scenic view to drivers and pedestrians. Roadside vegetation such as grasses and wildflowers cleared for grading and other road improvements will be replanted. The scenic character of the road will be in keeping with its Scenic Byway designation. Roadway improvements will not displace any scarce or sensitive landscape components, nor will it be inconsistent with the current visual character of the CNF.

### **G. SAFETY**

#### **1. Alternative 2**

Under Alternative 2, the 15-25 foot clear zone would increase visibility, reducing the number of collisions between deer and vehicles. Increased visibility will also reduce the number of single and multiple vehicle accidents. A wider clear zone will also allow in larger amounts of sunlight to melt ice on the road. The 4-foot turf shoulders will not increase bicyclist safety. Improvements in alignment around sharp curves will increase sight distance and decrease the number of accidents. A pedestrian bridge over the Mississippi will provide a safe location for local residents to fish outside of the travel lanes.

#### **2. Alternative 3**

Under Alternative 3, the 15-foot clear zone would increase visibility, reducing the number of collisions between deer and vehicles. However, it will have up to ten feet less cleared per side compared to Alternatives 2 and 5. Increased visibility will reduce the number of single and multiple vehicle accidents. The increased clear zone will allow in more sunlight to melt ice on the road. Bicyclist safety would be increased by the addition of 4-foot paved shoulders, improving bicycle - vehicle safety. Improvements in alignment around sharp curves will increase sight distance and decrease the number of accidents. The Mississippi pedestrian bridge will increase safety for pedestrians and recreational fishers.

#### **3. Alternative 4**

Under Alternative 4, the 15-foot clear zone would increase visibility, reducing the number of collisions between deer and vehicles. However, it will have up to ten feet less cleared per side compared to Alternatives 2 and 5. Increased visibility will reduce the number of single and multiple vehicle accidents. The increased clear zone will allow more sunlight to melt ice on the road. Bicyclist safety would be increased by the addition of 4-foot paved shoulders, improving bicycle - vehicle safety. Improvements in alignment around sharp curves will increase sight

distance and decrease the number of accidents. The addition of 2-foot grass shoulders will increase driver safety by providing a larger recovery area for vehicles that have left the roadway, compared to Alternatives 2 and 3. The Mississippi pedestrian bridge will increase safety for pedestrians and recreational fishers.

#### **4. Alternative 5**

Alternative 5 proposes the widest paved shoulders (six feet) and provide the greatest bicyclist safety improvements. It would also have the largest clear zone (25 feet), therefore provide the greatest improvement in sight distance, deer visibility, and de-icing. As with the other Build Alternatives, the Mississippi pedestrian bridge would increase pedestrian safety.

### **H. ENERGY REQUIREMENTS AND CONSERVATION**

Energy consumption would temporarily increase during the reconstruction of the road. Site-specific mitigation measures listed below would be employed to reduce potential adverse impacts to a minimal level, encouraging the conservation of resources along the roadway.

### **I. NATURAL OR DEPLETABLE RESOURCES**

The use of some natural resources would be required under each of the Build Alternatives in order to complete construction operations, however no natural resources would be depleted. The quantity of materials in comparison to those readily available would be negligible.

### **J. SECONDARY AND CUMULATIVE EFFECTS**

Secondary effects are those that are caused or induced by the project. Cumulative impacts are those impacts on the environment that result from the incremental effect of all interrelated past, present, and reasonably foreseeable future actions within the study area.

The No Action Alternative would have no impact on future Chippewa Forest development plans. County maintenance expenses can be expected to increase in order to keep the road functioning safely. The unaddressed safety concerns may lead to future liabilities on the road.

#### **1. Secondary Effects**

Regarding secondary effects, reconstruction of Forest Highway 3 would not increase the capacity of the roadway, and therefore there would be no project-induced changes in land use that would impact natural, social, and cultural resources within the study area. Therefore, the geographic boundary of secondary effects does not extend beyond a narrow zone along the roadway. It should be noted, however, that the reconstruction would result in an increase in the load limit to 10 tons that may increase truck traffic on FH3.

## **2. Cumulative Effects**

Regarding cumulative effects, temporal and geographic boundaries were defined to encompass all resources that could be affected. The boundaries of the CNF make up the geographic limits of the cumulative effects analysis. The temporal boundary extends from 1920 to the near future. Based on Forest Service and State data, the resources were analyzed to determine the nature and extent of the cumulative effects created by the proposed project.

Chippewa National Forest has 42 designated Forest Highways covering 954 miles with a current 5-year transportation improvement program of over \$6 million. Designations and project selections occur through joint consultation with the FS, State, local counties and the FHWA. Selected projects are then included in the Forest Highway program for the current fiscal year and at least the next 4 years. Funding is administered through Federal Highways program under TEA-21. Project funding is allocated annually by formulas to the responsible state or county road entity for construction and reconstruction of designated Forest Highways projects within the national forests.

### **a. Past Projects**

The first access roads in the CNF were built in the 1920's through 1942. The majority of existing roads were built between 1960 and 1990. These were primarily built for timber access. Today, 4663 miles of road exist in the CNF. FH 3 was originally completed in 1939. This project consisted of grading, culverts, and aggregate surfacing. In 1955 and 1956, sand and aggregate was placed on the original aggregate and a 2-inch bituminous pavement was added.

### **b. Future Goals**

#### **i. Transportation Improvements**

The FS has prepared a Chippewa National Forest Roads Analysis Report that assesses the cumulative impact of the Forest road program on the environment. The report describes in detail the FS road improvement program in the Forest, the existing natural, cultural, social, and economic conditions, future road improvements, the impact of the program on the environment, and the public involvement program associated with preparing the Roads Analysis report. The following goals have been identified:

- Reduce or eliminate roads and road noise adjacent to certain campgrounds and semi-primitive non-motorized areas.
- Reduce or eliminate roads in special management complexes (SMC's) and potential wilderness areas as they are defined in the Forest Plan Revision alternatives.
- Improve bridge construction techniques to reduce sedimentation.
- Reduce road widths to lessen barriers to wildlife.

- Close or decommission local roads that are used primarily for timber harvesting after the timber harvest is complete.
- Ensure that temporary roads do not become permanent roads.
- Include an analysis of economic consequences of current road system in future project analysis. Set road management objectives for best economic effect.
- Increase roads budgets for the CNF.
- Remove high maintenance roads from FS jurisdiction.
- Decommission redundant and unused roads.
- Increase or decrease maintenance levels on roads as necessary to improve efficiency.
- Incorporate design techniques that minimize maintenance.
- Work with other government entities to plan development in ways to reduce and streamline traffic.
- Collect Average Daily Traffic (ADT) data on FS roads for future use in transportation planning and roads improvement projects.
- Eliminate local roads not necessary for resource management.
- Change the jurisdiction of roads not maintained but owned by the FS.
- Schedule road construction and maintenance to minimize conflicts with recreation.
- Re-designate some low level roads as non-motorized trails.
- Eliminate local roads not needed for recreation purposes.
- Increase timely maintenance expenditures on roads necessary for recreation.
- Re-designate some low level roads as motorized trails.
- Work with other jurisdictions to develop consistent motorized recreation standards.
- Decrease road densities in special management areas, threatened and endangered species areas, and potential wilderness areas as they are defined in the Forest Plan Revision alternatives.
- Reduce standards on or eliminate roads that are a threat to heritage sites.

- Reduce road densities in areas that possess primitive recreation attributes.

The Scenic Byway Leadership Board has developed a Corridor Management Plan (CMP) to guide the management and future development of the intrinsic resources that form the character of FH 3. The following transportation goals have been identified:

- Reconstruct the Beltrami County section of Highway 10/39 to improve safety and maintain the scenic and aesthetic quality of the Scenic Highway with a typical cross section of 12' lanes and a 4' shoulder (2' paved/2' seeded aggregate).
- Create wayside areas for travelers to stop and interact with the landscape.
- Create paved trail connections between the major recreation areas at Norway Beach, Knutson Dam, and Pennington.
- Create a bog walk near Pennington to facilitate the needs of spontaneous visitors unable to enter the nearby SNA without a permit.
- Develop a paved bike route along the section of the Great River Road where it overlaps the Scenic Highway.

## **ii. Other Improvements**

The Forest Service has identified a number of additional improvements not directly affecting transportation within the CNF. These are included below.

- Vegetation and Invasive Species
  - Create a multi-jurisdictional agency or group to prioritize and manage exotic plant and animal species.
  - Adopt an integrated vegetative management approach of prevention, education, monitoring and control.
  - Enhancing the exotic plant database will allow for better multi-agency understanding and implementation of management strategies.
- Erosion
  - Improve the size and placement of culverts to reduce stream velocities.
  - Reduce road erosion on FS roads, especially at crossings.
- Streams, Wetlands, and Water Quality



- Work with public road authorities to reduce sedimentation.
- Improve monitoring and public education about non-native aquatic species at lake and river accesses.
- Reduce opportunities for beavers to construct dams at road/stream intersections.
- Work with public agencies to find clean sources of appropriate sized sand for deicing activities.
- Restrict use of calcium chloride along wetlands.
- Look at alternative dust abatement techniques.
- Address wetland impacts through road design.
- Wildlife
  - Seed road right-of-ways with less attractive seed blends to reduce wildlife use.
- Fire Hazards
  - Utilize FARSITE analysis to identify areas with excess roads for fire protection.
  - Utilize low access prescribed fire fuel management over mechanical means where possible.
- Mineral Management
  - Increase permit revenues by increasing prices and quantity of minerals sold.
  - Preserve minerals and reduce future FS costs by minimizing sales to public road authorities and contractors.
- Socioeconomics
  - Develop criteria for road agreements to maximize cost/benefit results.
  - Clarify signage regarding road ownership, maintenance and use.
  - Streamline laws and enforcement between road ownership jurisdictions wherever possible.
  - Improve monitoring of RAP – identified road effects, including those that result from changes to the road system.

- Improve signage on gates to increase awareness of their purpose and intent for restricting use.
- Continue to work with LIC's and other groups to preserve those areas that have special value.
- Work as closely as possible with affected groups when planning road changes.
- Work with local governments to reduce the impact new development has on the standards for access roads.
- Continue to work with LIC's and other groups to design access that balances competing interests and reduces disproportionate impacts.

The Corridor Management Plan created by the Scenic Byway Leadership Board also identifies non-transportation improvements to FH 3. These include:

- Interpretive Facilities and Sites
  - Develop a comprehensive interpretive master plan for the corridor and include within it the significance of Native American culture and the CCC activities to the area.
  - Create a wayside stop or an interpretive site about the Mississippi River. This could be placed at Knutson Dam or along the Scenic Highway where it crosses the Mississippi River.
  - Create a wayside stop or interpretive site at or near the Continental Divide explaining the significance of this geologic natural feature.
  - Stabilize and restore additional buildings and historic elements at Camp Rabideau to facilitate additional interpretation opportunities.
- Visual Quality / Vegetation Enhancement
  - Develop a comprehensive corridor vegetation management plan for the Scenic Highway corridor involving agencies and private land owners that own or manage land along the byway to create visual and habitat variety.
  - Maintain and enhance the mix of open and closed tree canopy along the Scenic Highway.
- Byway Signing
  - Create a comprehensive sign plan for the corridor that incorporates all resources along the byway and includes the following types of signs:
    - Locate and construct portal signs at entry points to the byway corridor

- Place Scenic Highway Scenic Byway signs along the corridor
- Identify upcoming wayside areas as “Viewpoints” or “Points of Interest”
  
- Create a “Point of Interest” monument for the Continental Divide wayside
  
- Develop a unique mile post system linked to future interpretive and marketing initiatives
  
- Establish commercial billboard controls to maintain the existing scenic quality.
  
- Economic Development and Tourism
  - Develop a Marketing Plan designed to promote economic development.
  - Emphasize cooperative marketing opportunities
  - Rename the Scenic Highway Scenic Byway

**c. Conclusions**

The cumulative effects identified in the CNF include past changes and expected future changes. The FH 3 project will not increase the number of paved roadway miles within the CNF. As the project is a minor widening of an existing highway, no effects will accrue in a cumulative forest-wide impact.

**K. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES**

The loss of 8.2-9.8 acres of wetlands, depending on which Build Alternative is selected, is an irreversible commitment of natural resources. Wetland compensation through creating, restoring, or enhancing existing wetlands will mitigate this impact. Likewise, impacts to existing forest can be mitigated through reforestation on Forest Service property elsewhere on the CNF. In accordance with the STIP, to date, approximately \$2.8 million for fiscal year 2006 in Beltrami County highway funds have been set aside for construction of the proposed action.

**L. UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS**

The clearing of approximately 25.4-32.4 acres of vegetation would be required for the widening and reconstruction of the road, depending on the alternatives chosen. Included in this figure are approximately 8.2-9.8 acres of wetlands which would also be affected. The area cleared for grading and drainage would be stabilized and restored with native vegetation. Build Alternatives 2 or 3 will also impact approximately 15.7 acres of upland forest cover and 1.5 acres of open, non-wetland land cover, while Alternative 4 would impact 20.6 acres of upland forest cover and 2.0 acres of open, non-wetland land cover.

## **M. LOCAL SHORT-TERM USES AND MAINTENANCE/ ENHANCEMENT OF LONG-TERM PRODUCTIVITY**

Short-term maintenance costs would decline if a Build Alternative is selected and the work occurs in the near future. As a result, the County and Forest Service may allocate more time and personnel to the protection of the forest's more prominent cultural and natural resources. Improving the pedestrian safety of the bridge over the Mississippi River would enhance the long-term use of the roadway.

## **N. COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS AND MANAGEMENT POLICIES**

The CNF currently operates under the direction of the approved Land and Resource Management Plan (LRMP) in accordance with the National Forest Management Act. Management objectives identified within the LRMP direct the maintenance and upgrading of roadways in order to provide for a positive visitor experience and to ensure effective roadway operations. However, construction and maintenance must be compatible with and sensitive to the resources for which the forest was set aside.

The 1982 Surface Transportation Assistance Act established the Federal Lands Highway Program (FLHP), which distributes funds from the federal motor fuel tax revenues for the construction and rehabilitation of federal roads, including roads in units of the National Forest System. The Mn/DOT has developed a plan for a long-term program of road improvement and maintenance with the intent to preserve and extend the surface life of principal forest highways, and improve their safety. The proposed action to reconstruct and perform needed improvements to FH3 (CSAH 39 and 10) is entirely consistent with FHWA policies.

The planning and design of the FH3 reconstruction is consistent with the following environmental laws and regulations:

### **1. Federal Treaties and Trust Responsibility to the Leech Lake Band.**

The FHWA, as a Federal Agency, has trust responsibility to uphold trust responsibilities of the Federal Government to the Leech Lake Band. Under treaties signed between the parties the band retained certain rights on the lands and waters within the boundaries of the reservation. The FHWA must assure that its actions do not infringe or reduce these rights.

### **2. National Environmental Policy Act (NEPA)**

This Environmental Assessment (EA) and resultant decision documents provide disclosure of the decision-making process and potential environmental consequences of the alternatives. This EA will be available for a 30-day public review and comment period, after which the FHWA will decide if the proposed action is significant enough to prepare an Environmental Impact Statement (EIS). If an EIS is not required, the Division Engineer may sign a Finding of No

Significant Impact (FONSI). Together this EA and the FONSI will conclude the NEPA compliance for this project. All comments and/or questions can be directed to:

Mr. Kevin Rose, Project Manager  
Eastern Federal Lands Highway Division  
Federal Highway Administration  
21400 Ridgetop Circle  
Sterling, VA 20166  
Telephone: (571) 434-1541

### **3. Endangered Species Act of 1973**

Section 7 of the Endangered Species Act directs all Federal agencies to use their authority in furtherance of the purposes of the Act by carrying out programs for the conservation of rare, threatened, and endangered species. Federal agencies are required to consult with the FWS to ensure that any actions authorized, funded, and/or carried out by the agency do not jeopardize the continued existence of any listed species or critical habitat.

### **4. Clean Water Act of 1972**

This Act seeks to restore and maintain the chemical, physical, and biological integrity of the nation's water by a variety of means. Section 404 of the Act directs wetlands protection by authorizing the Army Corps of Engineers to prohibit or regulate, through a permit process, discharge of dredged or fill material into the waters of the United States, including wetlands. Actions described in this document comply with the requirements of Section 404 of the Clean Water Act and all other applicable federal, state, and local agencies. Water quality in the project area would be protected by the implementation of erosion and sediment controls. Silt fencing will be properly installed and maintained adjacent to all wetlands, and in drainages leading to wetlands. Mitigation measures to minimize sedimentation into all adjacent wetlands include installing straw bales (certified as being free of invasive weed seeds, sediment traps, and wood fiber blankets prior to any soil disturbing activities. Disturbed areas adjacent to wetlands would be revegetated as soon as feasible with annual rye for quick green-up, and native grasses for long-term cover. Special attention will be given to stream banks, and inslopes, backslopes, and ditches leading to wetlands. The recovery area will have a 4:1 inslope in order to minimize gradient and potential for soil erosion. Ditches will be no greater than 50 feet long in deep peat wetlands in order to prevent channeling. An *Erosion and Sediment Control Plan* would be prepared and included in the construction plans.

### **5. National Historic Preservation Act of 1966**

This Act requires Federal agencies to establish programs for evaluating and nominating properties to the National Register of Historic Places, and to consider the effects of undertaking a proposal on listed or eligible properties. Section 106 mandates that Federal agencies take into account the effects of their actions on properties listed or eligible and to give the Advisory Council on Historic Preservation a reasonable opportunity to comment on said actions, if

appropriate. The Leech Lake THPO, as authorized by the National Park Service, has assumed and administers all SHPO responsibilities within the external boundaries of the Leech Lake Reservation. Consultation with the SHPO, THPO, and the Department of Natural Resources has been initiated for this stud. However, cultural resources studies have not been completed. Measures will be taken to ensure that adequate protection and consideration of cultural resources are carried out throughout the design and construction phases of the project.

#### **6. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations**

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, requires Federal agencies to promote “nondiscrimination in Federal programs substantially effecting human health and the environment.” In response to this direction, Federal agencies must implement actions to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority and low-income populations. The area surrounding FH 3 is a sparsely populated, rural area. The proposed project would be preserving a resource that is important to society as a whole, including low income and minority populations. No minority or low-income populations would be disproportionately affected by the project and it is therefore in compliance with this Executive Order.

#### **7. Forest Plan (IV 92-94)**

The proposed action is consistent with management direction outlined in the Forest Plan (IV 92-94), which states:

“The Forest will maintain roads to the degree necessary to serve their intended management purpose: protect adjacent resources; provide for user safety; meet applicable air and water quality standards; and provide for user economy, access and convenience. Where conflict arises between public safety and aesthetic standards, an analysis will be made and the Forest will strive, through cooperation with other road and land management agencies, to work toward meeting public safety needs, while also mitigating the impacts to the visual resource.”

#### **8. NEPA for Tribal Lands and Lands Where They Retain Ceded Treaty Rights**

NEPA review of tribal lands and lands where the Band retains treaty rights was conducted concurrently with the FHWA, USFS, and DNR. This document meets the requirement of the Band for environmental review for this type of project.

#### **9. Minnesota Environmental Review Program**

The function of the Minnesota Environmental Review Program is to avoid and minimize damage to Minnesota's environmental resources. Local, state, and federal regulatory agencies carry out the protection measures identified during environmental review. Both an Environmental Impact Statement (EIS) and an Environmental Assessment Worksheet (EAW) are used in this program. An EIS is required when a project has the potential for significant environmental impacts, while an EAW is used to review projects that may have the potential for significant impacts. If, after

reviewing the EAW, a project is determined to have this potential, preparation of an EIS is also required.

A federal environmental assessment document may be completed in place of the EAW form without prior approval from the Environmental Quality Board. All requirements of the EAW process must be followed when an environmental assessment document is substituted for an EAW. This Environmental Assessment is consistent with the requirements of the EAW process.

## **O. PUBLIC INVOLVEMENT**

As identified in Section III, public outreach activities have been conducted to obtain feedback from residents of the study area. Activities included circulation of informational updates, public meetings, and one-on-one interviews.

### **1. Public Meetings**

#### **a. Public Informational Meeting January 2004**

A public informational meeting was held on January 13, 2004 at the Blackduck Senior Citizens Center. Informational notices were posted in *The Blackduck Shopper* and *The American*, local newspapers for the study area. In addition, approximately 500 letters were sent to residents and community leaders along FH 3 to inform them of the meeting and to solicit comments on the project. The meeting was attended by 46 members of the public. It was held between 6:00 and 8:00 p.m. FS and FHWA received public comments at the meeting as well as written comments on the scope of the proposed project and study limits. Comments were solicited from the attendees to be taken under consideration during the development of the build alternatives.

Many of the residents in the project area are concerned with the potential impact of the roadway improvement project on the aesthetics of the natural surroundings. Specifically, any widening of the roadway will require clearing of trees, and many area residents consider any impacts to trees to be undesirable. Concerns about the impacts of the project on the environment, including wetlands, forests, and the Showy Lady-slipper in particular, were raised through the comments received.

Conversely, there are many residents in the area that consider safety to be the principal factor that should drive selection of the preferred alternative, and the impact to trees necessary to make the roadway safer is an acceptable consequence of the project. Many of the Beltrami County residents support widening of the roadway, including shoulder improvements similar to those made to FH3 in Cass County, and felt that the improved section remains aesthetically pleasing.

As a compromise, many residents prefer designing the roadway to Natural Preservation Route standards, which limits the amount of clearing allowed. Others stated that they feel the roadway is not unsafe, and that no improvements are needed. These residents feel that making any improvements is a waste of taxpayer money.

Other comments received indicated support by many residents for making improvements to curves in the roadway and improving the line of site at curves and hills along the corridor. Several residents in the Pennington community feel that the bridge over the Mississippi River is unsafe for pedestrians and that a walkway should be provided. Also, several residents expressed concern that increasing the load capacity from seven to ten tons on the roadway will increase truck traffic by diverting trucks from other north-south roads onto FH3.

Comments are summarized in **Table IV-8** below.

**Table IV-8**  
**FH 3 Summary of Written Comments January 2004**

Comment Category	Number of Comments
<b>Design</b>	
Straighten end of Scenic Route	1
Resurface and widen	2
Need wider road for tourists	1
Build two 12' lanes and two 6' paved shoulders within existing right-of-way	1
Have 66' width and resurface	2
Widen road and pave shoulders	3
Bury power lines	1
Build 4-5 foot shoulders	1
Improve shoulders for stopping and bicyclists	3
Keep as narrow as possible	1
Increase lane width several feet in both directions	1
Match design to Cass County Rd. 10	1
Same upgrade as Co. Rd. 20	1
Use retaining walls	1
Resurface only	3
Don't widen beyond existing right-of-way	7
Straighten and align curves	2
Add shoulders	1
Narrow recovery zones	2
<b>Environmental Concerns</b>	
Doesn't want to donate any trees that front highway	5
Make it as natural as possible	3
Widening will have a negative impact on the environment	1
CSAH residents only should replant Lady Slipper orchids	1
Minimize impact on environment	1
Ditches and bogs have many natural resources	1
Will destroy many of the state's flowers	1
<b>Traffic Concerns</b>	
Heavy truck traffic should use #71 to Bemidji	1
Add left and right turn lanes at Co. Rd. 12 and 20	1



<b>Comment Category</b>	<b>Number of Comments</b>
Add turn lanes at major roads and resort access roads	1
Will create increase in truck traffic	1
<b>Scenic</b>	
Should remain scenic	7
<b>Safety</b>	
Maintain 50 mph speed limit	3
Remove trees for safe line of sight	3
Increase right-of-way clearings	1
Increase curve radius	1
Will increase speed	3
Improve visibility around corners	1
Quicker response to snow removal sanding/salting	2
Implement 40-45 mph speed limit through Pennington	1
Trees too close to road for safe line of sight	1
Road improvements for safety reasons more important than plant and tree species	1
Enforce speed limits	1
<b>Homeowner concerns</b>	
Doesn't want road expanded will encroach on property and reduce its value	1
Concerned about access to adjacent properties	1
<b>No-Build</b>	
Do not build	2
Only periodic maintenance is needed	1

**b. Public Informational Meeting December 2004**

A second public meeting was held on December 1, 2004 between 6:00 and 8:00 p.m. at the Blackduck Senior Citizens Center to present the alternatives and the project purpose and need. Informational notices were posted in The Blackduck Shopper and The American, local newspapers for the study area. Approximately 500 letters were sent to residents and community leaders along FH 3 to inform them of the meeting and to solicit comments. The meeting was attended by 32 members of the public. The FS and FHWA received public comments at the meeting from return mailers on proposed improvements to the roadway. Preliminary Alternatives were presented for public comment and questions. Similar comments and concerns expressed at the first public meeting were again expressed at this public meeting. These comments are summarized in **Table IV-9** below.

**Table IV-9  
FH 3 Summary of Written Comments December 2004**

<b>Comment Category</b>	<b>Number of Comments</b>
<b>Design</b>	
Widen the driving lane and fix the shoulders	1

<b>Comment Category</b>	<b>Number of Comments</b>
Favors Alternative 3	4
Widen the bridge over the Mississippi for pedestrians	8
Prefers No-Build Alternative	5
No lane widening is necessary	1
Straighten out curves and reconstruct the road through swampy areas	1
Resurface only	1
3:1 slope into wetlands	1
2:1 or 3:1 slope after 15' recovery zones	1
<b>Environmental Concerns</b>	
Only widen the road a few feet to reduce impacts	1
Do not remove large trees	3
Replant trees on backslopes to ditch bottoms	1
Do not mow past the ditch bottoms to allow natural reforestation	1
A wider road will negatively impact the community of Moose Lake township	1
Form a committee to review design and construction to ensure that the contractor and engineer adhere to criteria	1
<b>Construction Concerns</b>	
Remove any detour signs as soon as work is completed	1
Prefers a 2-year schedule: year 1 from US 2 to County Rd. 22, year 2 from County Rd. 22 to Blackduck	1
<b>Traffic Concerns</b>	
Concern that road improvements will encourage increased speeds	4
<b>Scenic</b>	
Don't widen the road, it will reduce scenic quality	5
Maintain narrow clear zones	4
Minimize load limit to maintain scenic nature of the road	1
<b>Safety</b>	
Address driveways out of sight behind hills	1
Proper maintenance is all that is needed to improve safety	2
The proposed improvements will not eliminate shade and icing	1
Make shoulders wide enough for pedestrians and bicyclists	1
<b>Homeowner Concerns</b>	
Don't take any more property	1

**c. Pennington Local Indian Council Meeting November 2006**

On November 7, 2006 a community meeting was held with the Pennington Local Indian Council (LIC) to inform the community of the proposed project and request feedback regarding TCPs in or near the project area. The THPO chose a Leech Lake Band of Ojibwe enrolled member

experienced in TCP surveys and similar work to conduct the meeting in conjunction with the TCP survey. Leech Lake THP Officer Gina Papasodora and Tribal Archaeologist/Leech Lake Heritage Sites program Director Thor Olmanson oversaw the survey procedures. At the public meeting, photomaps of the project area as well as county plat books and FS maps were displayed. The community was informed about the proposed project and asked for feedback regarding the road and its impacts. Most of the concerns were regarding safety, communication with the community, construction, and environmental concerns. **Table IV-10** summarizes comments received from the meeting.

**Table IV-10**  
**FH 3 Summary of Meeting Comments November 2006**

Comment Category	Number of Comments
<b>Safety</b>	
What should the community do in case of an emergency	1
Air quality and asthma, how will FHWA assist with precautionary measures	1
Will FHWA put people up in hotels to avoid dust and heavy equipment like they did for the Enbridge pipeline project	1
Herbicide use and health effects	1
Add child safety and construction signs	1
Increased vehicle speeds, need caution lights and pedestrian trails	1
Request to have roadway accident and fatality statistics	1
<b>Timber</b>	
Harvestable timber should be shared with the community or sold to fund pedestrian trails and caution lights	1
<b>Communication</b>	
Will FHWA be coming to future Indian Council meetings	1
How will the community be informed of construction activities and updates	1
<b>Construction</b>	
Will there be closed lanes during construction	1
Will there be delays on workdays	1
Will there be heavy equipment left near housing, children	1
What measures will be taken to avoid residential impacts	1
Who will inform community of when construction will be near residential areas	1
Will there be detours	1
How long will construction last	1
<b>Environmental Concerns</b>	
What will be planted in re-vegetation areas	1

**d. Interviews with Leech Lake Band of Ojibwe Band Members  
November, 2006**

Prior to the November 7 meeting, fifteen Leech Lake community members known to harvest traditional materials at TCPs were interviewed. In addition to identifying TCPs, these community members offered comments on other aspects of the proposed project. Most of the comments regarded safety and environmental concerns. The comments are listed in **Table IV-11** below.

**Table IV-11  
FH 3 Summary of Interview Comments November 2006**

<b>Comment Category</b>	<b>Number of Comments</b>
<b>Safety</b>	
Improved roadway will increase speeds, danger	3
Need caution lights, school bus signs, and children at play signs	5
Safety of children and pedestrians	4
Safety of local traffic	1
Request pedestrian paths	1
Request turn lane for school buses	1
<b>Environmental Concerns</b>	
Impacts to TCP gathering areas and long term recovery of plant materials	3
Concerned about ladyslippers in general	2
Concerned about ladyslippers located in Section 3, T.146N., R.30W 5 <sup>th</sup> P.M	1
Concerned about ladyslippers located in Section 22, T.146 N., R.30W. 5 <sup>th</sup> P.M	1

## SECTION V

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