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Final Environmental Impact Statement

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FHWA-MN-EIS 84-01-F
Region 5

Minnesota Trunk Highway 33 from Interstate 35
to U.S. Trunk Highway 53.

Minnesota Project F 073-1( )
Minnesota State Project 0905-38, 0905-39, 0906-31,
0906-32, 6911-25, 6911-26

Final
Environmental Impact Statement
Submitted Pursuant to 42 U.S.C. 4332(2)(c), 49 U.S.C. 303,
and Minn. Stat., Chapt. 116D
by the U.S. Department of Transportation,
the Federal Highway Administration
and
the Minnesota Department of Transportation

Cooperating Agencies
U.S. Fish and Wildlife Service
United States Army Corps of Engineers
MN Department of Natural Resources
MN Pollution Control Agency

8/29/85 — F. C. Marshall
Date of Approval — For Mn/DOT — Assistant Commissioner of Technical Services

October 16, 1985 — E V Heathcock
Date of Approval — For FHWA — E. V. Heathcock, Director
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The proposed action involves improvements to TH 33 from the junction with I-35 to the junction with T.H. 53, a distance of 19.7 miles. Various location and design alternatives are discussed including the Preferred Alternative.

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Summary

I. SUMMARY

DESCRIPTION OF PROPOSED ACTION

The Federal Highway Administration (FHWA) and the Minnesota Department of Transportation (Mn/DOT) propose the improvement of Trunk Highway (TH) 33 from its junction with Interstate (I) 35 south of Cloquet in Carlton County, Minnesota to its junction with TH 53 south of Independence in St. Louis County, Minnesota (Figure 1). The proposed improvements consist primarily of converting a two lane highway into a four lane expressway between these termini. An interchange with TH 2 is also proposed with a one mile section of TH 2 being constructed to four lanes. The project is approximately 20 miles in length (Figure 2).

OTHER GOVERNMENTAL ACTIONS

No other government agencies are known to be proposing any significant actions in the same geographic area.

MAJOR ALTERNATIVES

The following major alternatives were considered: (See Figure 3)

Rural Section: (North of Cloquet)

- West Corridor: Immediately west of inplace TH 33
- East Corridor: Immediately east of inplace TH 33
- Range Line Corridor: Approximately one to two miles east of inplace TH 33.
- No Build Alternative (Two Lane Upgrade)

Urban Section: (In and around Cloquet)

- West Cloquet Bypass: A bypass west of Cloquet
- East Cloquet Bypass: A bypass east of Cloquet
- Through Town Corridor: Along inplace TH 33
- No Build Alternative

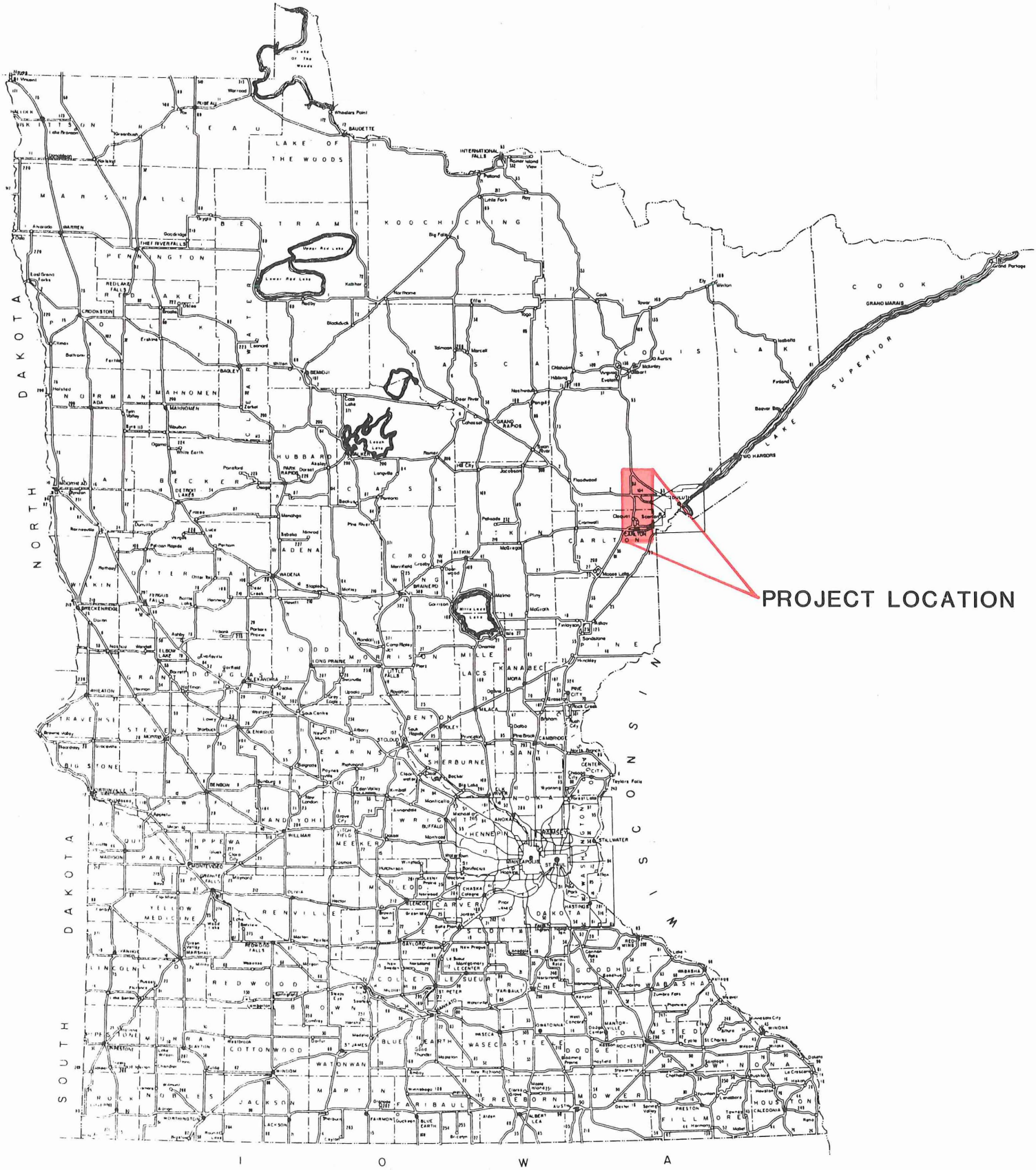


FIGURE 1: PROJECT LOCATION

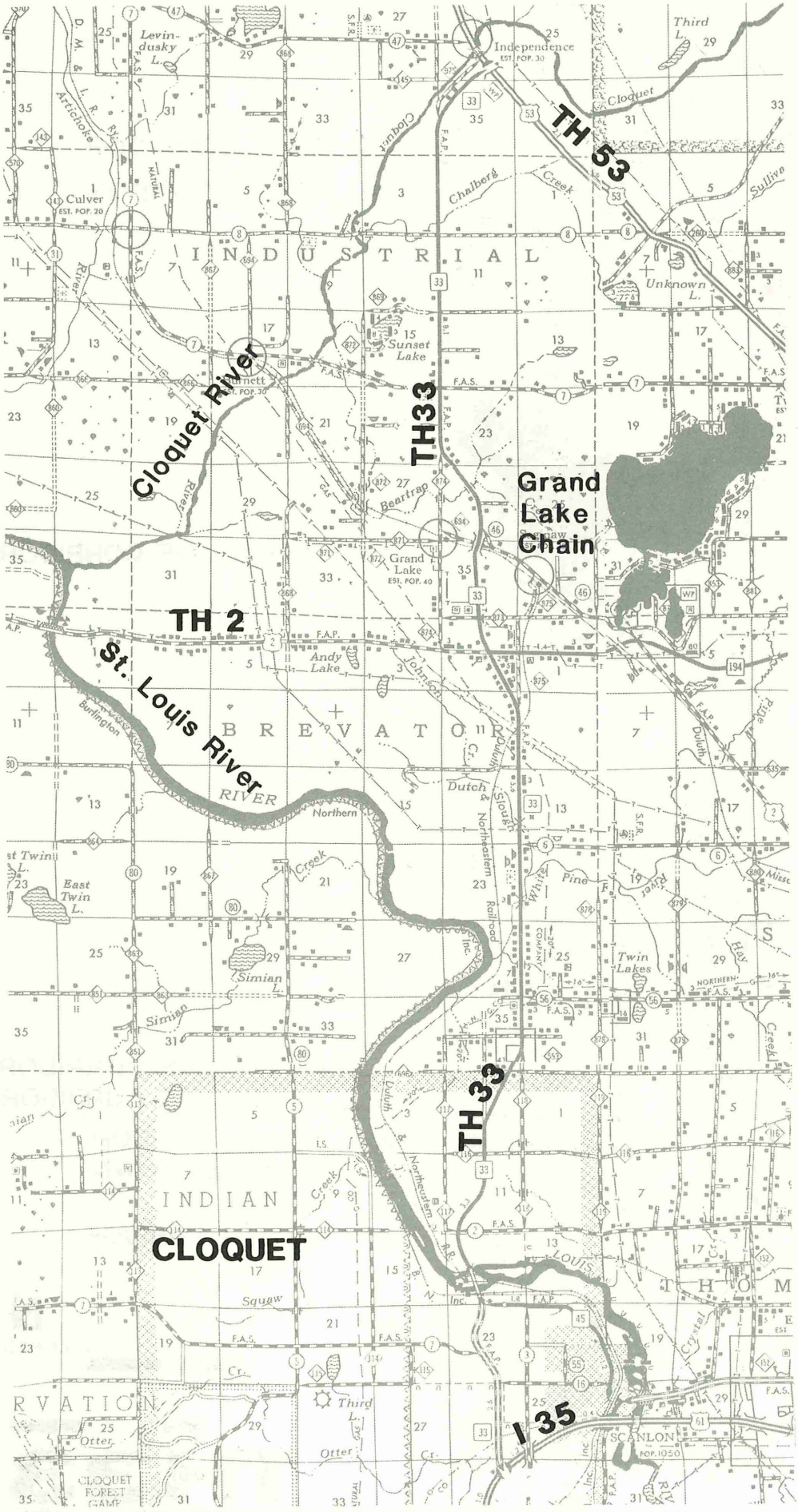


FIGURE 2: STUDY AREA

TH33

from I-35 to TH53

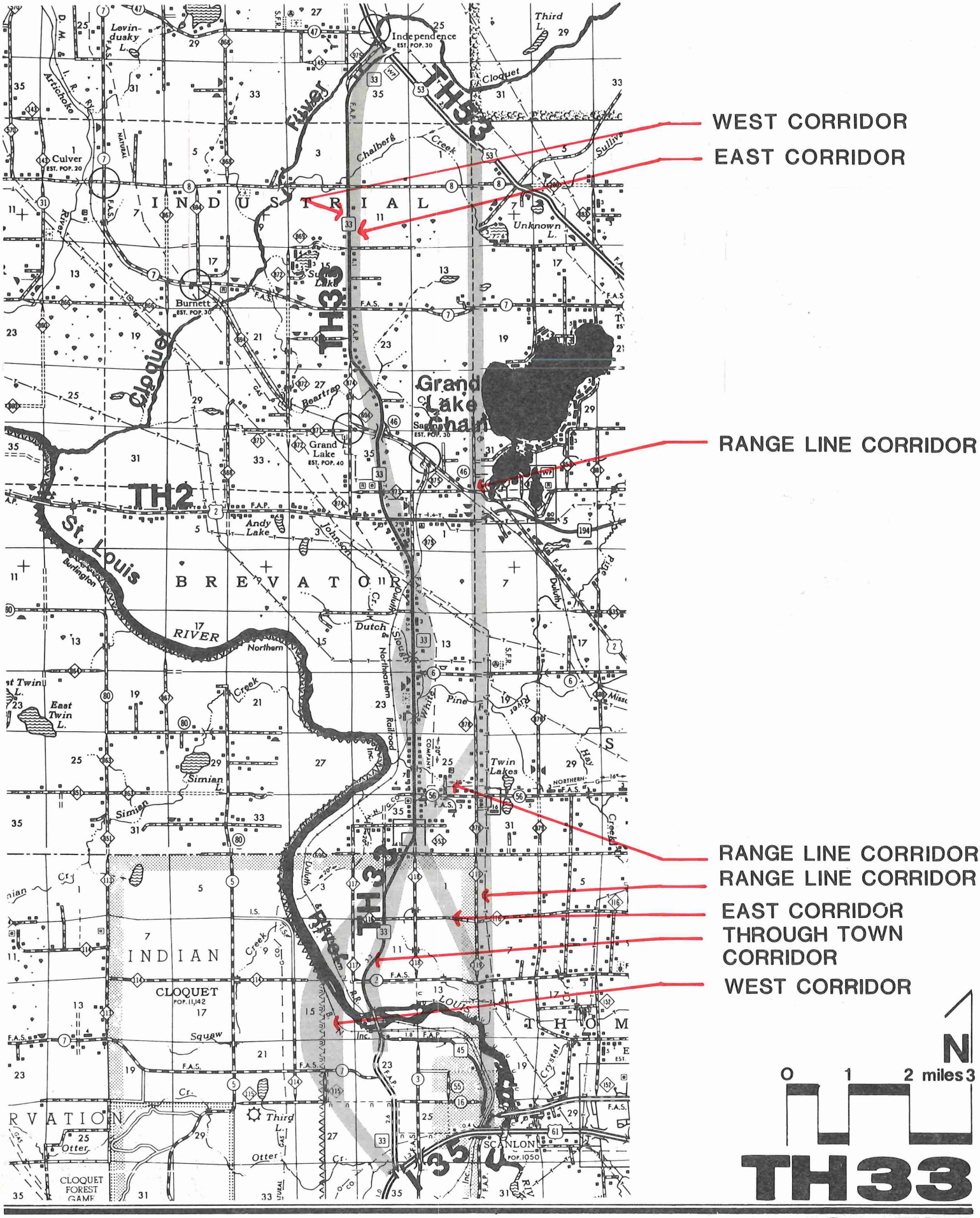


FIGURE 3: PROJECT ALTERNATIVES

PREFERRED ALTERNATIVE

The EIS and preliminary design processes with input from Federal, State, Local, public and private sources, have aided in choosing a Preferred Alternative. The Preferred Alternative is a combination of several of the alternatives outlined above. Generally, it is a combination of the East and West Corridors in the Rural Section and a temporary No Build in the Urban Section (Figure 4 and Table 1). The Preferred Alternative is analyzed in the Alternative Section of this FEIS.

SIGNIFICANT ENVIRONMENTAL IMPACTS

The Preferred Alternative would:

- displace 3 small businesses and 24 residences (up to 9 additional residences may be taken depending on landowner negotiations during the right of way process)
- impact 73 acres of wetland and 118 acres of forest land
- result in an increase in the number of receptors exceeding Federal and State Noise Standards
- require a 1000 foot channel change of the White Pine River and involves a 2000 foot encroachment into the river's floodplain. Adjoining, there is also a 5400 foot encroachment (non-significant) into the Dutch Slough floodplain.
- cause temporary impact to the water quality of area streams.

(See Table 2 for summary of impacts and mitigation for the Preferred Alternative)

The Major Alternatives would:

- displace from 0 to 100 residences, 0 to 9 small businesses, and 0 to 1 church/residence
- impact from 15 to 174 acres of wetland and 9 to 182 acres of forest land

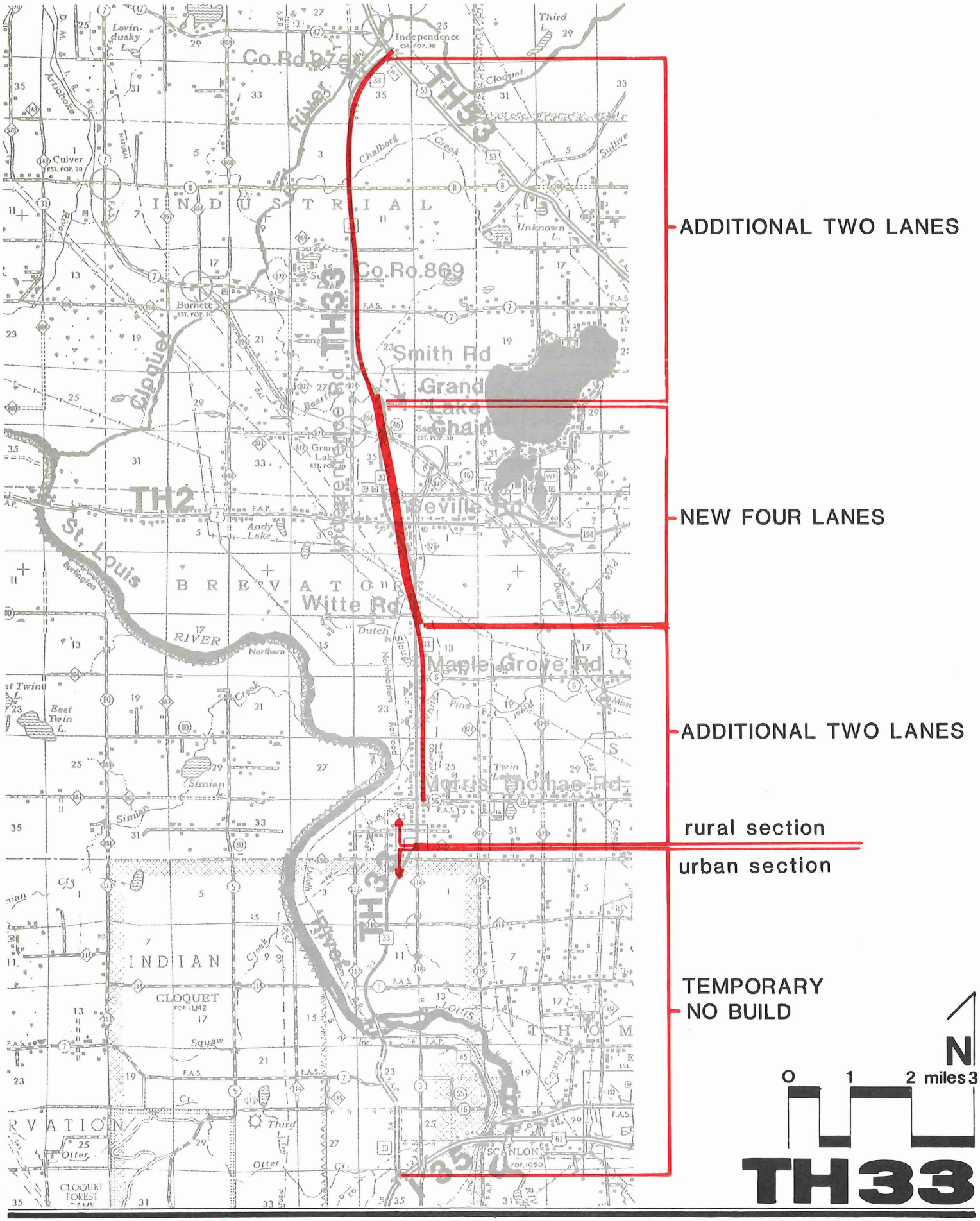


FIGURE 4: PREFERRED ALTERNATIVE CORRIDOR

TABLE 1
PREFERRED ALTERNATIVE CORRIDORS AND DESIGN OPTIONS FOR TH 33

Segment	Preferred Corridor	Preferred Design Option
TH 53 to Co. Rd. 975	East	*Two Lane
Co. Rd. 975 to 1/3 Mi. N. Co. Rd. 869	West	*Two Lane
1/3 Mi. N. Co. Rd. 869 to Independence Road	East	*Two Lane
Independence Road to Smith Road	West	*Two Lane
Smith Road to 1/2 Mi. N. Seville Road	West	**Four Lane
1/2 Mi. N. Seville Road to TH 2	East	**Four Lane
TH 2 to Witte Road	West	**Four Lane
Witte Road to Morris Thomas Road	East	*Two Lane
Morris Thomas Road to I-35		Temporary No build

* Two lane = construction of two additional lanes along existing TH 33 to create a four lane roadway.

** Four lane = construction of four lanes along a new alignment.

TABLE 2
TH 33 PREFERRED ALTERNATIVE - IMPACTS AND MITIGATION

EIS CATEGORY	IMPACTS	MITIGATION
SOCIAL	No significant impact	No mitigation
ECONOMIC	No significant regional economic impact	No mitigation
RELOCATION	This project will result in the relocation of 24-33 residences and 3 businesses.	Property will be purchased at fair market value. Ample replacement housing is available.
LAND USE	No significant change	No mitigation
AIR QUALITY	No significant impact	Construction and operations of this project will conform to Federal, State and local air quality regulations.
NOISE ANALYSIS	Several receptors along the Preferred Alternative are presently above noise standards. The projected design year 2006 levels are less than 3 dBA higher than current levels. As a result, this project will not have a significant noise impact.	No mitigation measures are feasible for this project.
ENERGY	This project will use more energy in construction and maintenance than will be saved during operation of the highway.	No mitigation
WATER RESOURCES		
Wild & Scenic Rivers	No significant impact anticipated to Cloquet River	Erosion control measures will be implemented that prevent excess sediment from reaching drainageways to the Cloquet River.
*Floodplains	This project has the potential for significant impact to natural and beneficial floodplain values in the White Pine river floodplain.	See mitigation for Stream Modification
Water Quality	No significant impact	No mitigation
Groundwater	No significant impact	Wells will be abandoned following State and local code. Shallow wells within 100 feet of right of way will be monitoried to detect contamination.

Table 2 (cont)

*Stream Modification	Approximately 1000 feet of the White Pine River channel will be relocated. This channel change has the potential for temporary adverse impacts upon the fisheries resource. In addition, increasing the lengths of culverts at eight stream crossings may result in a loss of fish habitat.	The new stream channel will be constructed to provide comparable or better habitat for fish to the maximum extent practicable. Special erosion control measures shall be provided in and around the stream which will prevent siltation downstream. The DNR and U.S. Fish and Wildlife Service will be requested to provide input into the stream mitigation measures for this project.
*WETLANDS	This project is expected to impact approximately 73 acres of type 2,6, and 7 wetlands. This represents a total of 3,947 Habitat Units using the US Fish and Wildlife Habitat Evaluation Procedures.	Because the impacts were quantified using Habitat Evaluation Procedures (HEP), wetlands of type 3,4 and 5 will be created to equal the point value of those wetlands impacted by this project. This will be accomplished by excavating dugouts in abandoned right of way and creating wetlands. Major sites are at the TH 33/TH 2 interchange and at the proposed Culkin Rest Area on I-35 near Barnum, MN.
WILDLIFE	Local wildlife populations are not threatened by habitat loss resulting from this project. No significant impact is anticipated.	Seeding with suitable plants for food and shelter, limiting mowing, impoundment of shallow water, returning abandoned roadbed to native vegetation and creation of wetland habitat are all mitigation measures to be employed for this project.
THREATENED & ENDANGERED SPECIES	No significant impact	No mitigation
BICYCLE & PEDESTRIAN CONSIDERATIONS	No significant impact	No mitigation
VISUAL ANALYSIS	No significant impact	Landscaping will be used to improve aesthetics along the alignment.
HISTORICAL/ ARCHAEOLOGICAL	No significant impact	No mitigation
TRANSPORTATION IMPACTS	The transportation objectives are fully met in the rural section and partially or not met in the urban section.	Further study will be done to determine the preferred build alternative, if any, in the urban section of this project.
CONSTRUCTION IMPACTS	No significant impacts are anticipated. Minor impacts include traffic delays, construction noise and soil erosion.	Specifications require contractors to conduct operations in a way that causes the least obstruction to traffic and to comply with all applicable laws, ordinances, regulations, orders, and decrees. Standard erosion control measures will be used to minimize impact of soil erosion.

*denotes significant impact

- result in an increase in the number of receptors exceeding Federal and State Noise Standards
- impact from one to five historic sites in the urban section
- impact a park and potentially impact a privately owned golf course under the West Cloquet Bypass Alternative
- potentially involve the Fond du Lac Indian Reservation under the West Cloquet Bypass Alternative
- require a 1000 foot channel change of the White Pine River
- cause temporary impact to the water quality of area streams
- result in a 2000 foot longitudinal and transverse encroachment into the White Pine River floodplain

(See Table 3 for summary of impacts for major alternatives)

AREAS OF CONCERN

Areas of significant concern raised by agencies and the public include:

- need for constructing TH 33 to a four lane expressway
- economic and land use impacts caused by bypassing Cloquet
- impacts caused by the relocation of homes and businesses
- adverse impacts to wetlands and trout streams, particularly to the White Pine River and Dutch Slough

UNRESOLVED ISSUE

The only major unresolved issue for this project is final development of a preferred build alternative in the urban section

PERMITS/APPROVALS

The following permits and/or approvals will be required for the TH 33 project:

TABLE 3
TH 33 MAJOR ALTERNATIVES - IMPACTS/RURAL SECTION

	West Corridor	East Corridor	Range Line Corridor	No Build
LAND USE (acres impacted)				
Forested	118	113	163-182	0
Cleared	59	71	112-163	0
Developed	24	11	0	0
WETLANDS (acres impacted)	36-55	53-68	57	15
RELOCATION				
Homes	30-40	20-35	7	0
Businesses	4	4	0	0
COMMUNITY SERVICES	1 high school 1 church/home 1 public safety weigh station	None	None	None
NOISE (receptors exceeding standards 2006)	Fed 22 / State 96	Fed 22 / State 96	Fed 2 / State 8	Fed 22 / State 96
ECONOMIC	-	-	Shift traffic from businesses along existing TH 33	-
HISTORIC SITES (Potential involvement)	-	-	-	-
INDIAN RESERVATION	-	-	-	-
WILDLIFE	General habitat losses related to land use changes	Same as West Corridor and impacts to high quality habitat around White Pine River	Same as West Corridor	-
				-
				-
STREAM MODIFICATION	-	Channel changes to White Pine River or Dutch Slough: both designated trout streams	-	- -
CONSTRUCTION RELATED	Short term-water quality and noise impacts. Large quantities of excess material required	Short term-water quality, noise impacts. Moderate quantities of excess materials required	Short term-water quality, noise impacts. Extreme quantities of excess materials required	Short term water quality, noise impacts. Low to moderate quantities of excess materials required

TABLE 3 (Continued)
TH 33 MAJOR ALTERNATIVES - IMPACTS/URBAN SECTION

	West Cloquet Bypass	Through Town Corridor	East Cloquet Bypass	No Build
LAND USE (acres impacted)				
Forested	75	1	69	0
Cleared	97	24	95	0
Developed	14	23	3	0
WETLANDS (acres impacted)	15	7	4	1.4
RELOCATION				
Homes	19-60	11	17	0
Businesses	2-3	3-4	7-8	0
COMMUNITY SERVICES	May require land from Pine Valley Park and Cloquet Golf Club	Wayside Park	None	None
NOISE (receptors exceeding standards 2006)	Fed 10 / State 11	Fed 34 / State 309	Fed 16 / State 16	Fed 34 / State 309
ECONOMIC	Shift traffic from businesses along existing TH 33	- - -	Same as West Cloquet Bypass	- - -
HISTORIC SITES (# potentially impacted)	1	5	2	1
INDIAN RESERVATION	Corridor may pass through Fond du Lac Indian Reservation	-	-	-
WILDLIFE	General habitat losses related to land use changes	-	same as West Cloquet Bypass	-
STREAM MODIFICATION	Channel change to Big Otter Creek - a designated trout stream	-	-	-
CONSTRUCTION RELATED	Short term-water quality and noise impacts. Moderate quantities of excess material required	Short term-water quality and noise impacts.	Short term-water quality, noise and Scanlon landfill impacts.	Short term noise impacts

U.S. Army Corps of Engineers - 404 permit
MN Pollution Control Agency -
401 Certification
MN Department of Natural Resources -
Public Waters Permit
City of Cloquet - Plan Approval (Urban Section)
City of Scanlon - Plan Approval (East Cloquet Bypass-Urban Section)

Purpose & Need

II. PURPOSE AND NEED

EXISTING FACILITY

Trunk Highway 33 is located in northeastern Minnesota between the communities of Cloquet and Independence, covering a distance of slightly under twenty miles (Figures 1 & 2). The highway was originally constructed prior to 1934 as a gravel road between old TH 61 (Cloquet) and TH 53 (Independence). From 1937 to 1939 the roadway was upgraded with a paved surface and shoulders. Through the years there has been continuous maintenance and minor improvement. In 1968, the entire section was given 1.5 inches of bituminous overlay.

The bridges were built during a period of six years. The bridge from Dunlap Island to the north bank of the St. Louis River was built in 1934. The bridge over the Duluth, Mesabi and Iron Range Railroad (DM & IR) was built in 1936 and the bridge from the south bank of the St. Louis River to Dunlap Island was built in 1940. Bridges over the White Pine River and Dutch Slough were replaced with box culverts in 1984.

Although TH 33 is primarily a two lane road, the southern two miles of the highway have been rebuilt to four lanes. In 1952, four lanes were built from TH 45 to Doddridge Avenue (County Road 16). I-35 near Cloquet was constructed in 1966 and, as part of that project, TH 33 was rebuilt to four lanes from Doddridge Avenue to I-35. An improved interchange between TH 33 and I-35 was constructed in 1983. Table 4 has a summary of existing roadway characteristics of TH 33.

PROJECT HISTORY

The Minnesota Highway Department (presently the Minnesota Department of Transportation) began preliminary investigations into building a four lane highway in the TH 33 corridor in the late 1960's. A preliminary alignment, including a bypass of Cloquet, was developed but no major steps to advance the project occurred for almost a decade.

TABLE 4
EXISTING ROADWAY CHARACTERISTICS OF TH 33 BETWEEN
I-35 AND TH 53 AT REFERENCE POINTS

REFERENCE POINTS	ROADWAY CHARACTERISTICS				
	Driving Lanes-Number and Width	Shoulders-Number and Width	Type of Road Surface*	Right of Way (feet)	Sidewalk Location and Width
TH 53 to TH 2	2 lanes at 12 feet	2 at 4 feet	B	200	None
TH 2 to St. Louis-Carlton County Line	2 lanes at 12 feet	2 at 4 feet	B	150 to 200	None
St. Louis-Carlton County Line to Memorial Drive	2 lanes at 12 feet	2 at 12 feet	B	125 to 255	None
Memorial Drive to North end of Bridge 5272	1 lane at 14 feet 2 lanes at 12 feet	1 at 8 feet	B	125 to 255	East, 5 feet
North end of Bridge 5272 to South end	2 lanes at 15 feet	None	B	Public Waters	West, 5.8 feet
South end of Bridge 5272 to North end of Bridge 5273	2 lanes at 12 feet	2 at 7 feet	B	155	West, 5 feet
North end of Bridge 5273 to South end	2 lanes at 15 feet	None	C	Public Waters	West, 6 feet
South end of Bridge 5273 to TH 45	2 lanes at 12 feet (with 13' gore area)	None	B	100	None
TH 45 to Doddridge Ave.	4 lanes at 12 feet	None	B	125 to 250	None
Doddridge Ave. to I-35	4 lanes at 12 feet	1 at 3 feet 1 at 8 feet	B	225 to 287.5	None

*Note: B-Bituminous C-Concrete

The following is a chronological listing of major events in the development of the TH 33 project.

September 29, 1978 - The State Department of Transportation approved a Project Development Report for upgrading TH 33 and categorized this project as a major action.

November 1, 1978 - The Federal Highway Administration approved the above Project Development Report with the major action determination.

1980 - Project development for a major upgrading of TH 33 was halted due to funding constraints.

July 7, 1982 - The State Department of Transportation approved a Project Memorandum for a two lane upgrade of TH 33 between TH 2 and the south St. Louis Co. line. This was determined to be a categorical exclusion[1] project covered by the Federal Highway Administration's Certification Acceptance program.

1983 - Separate project development of a two lane upgrade of TH 33 from TH 2 to TH 53 was halted with the resurgence in development of a four lane upgrade project.

September 12, 1983 - A Draft Study Outline and Scoping Document for upgrading of TH 33 (between I-35 and TH 53) from a two lane to a four lane expressway was circulated to agencies and the public.

September 29, 1983 - A Scoping Meeting was held in Cloquet High School auditorium for the purpose of discussing various alternatives and scoping out the major impacts of the project.

---

[1] Categorical Exclusion means that the project does not individually or cumulatively have a significant impact upon the environment. No Environmental Impact Statement or Environmental Assessment is required.

February 15, 1984 - A Final Study Outline/Scoping Decision Document was distributed which described the alternatives and issues to be analyzed in the Draft Environmental Impact Statement (DEIS).

September 21, 1984 - The Draft Environmental Impact Statement and 4(f) Evaluation was circulated for public review and comment.

October 10, 1984 - A public hearing on the proposed action was held at the Albrook High School, Saginaw, Minnesota.

SYSTEMS PLANNING

Three improvement projects on TH 33 are scheduled to be constructed. These projects are:

- Two lane reconstruction from the south St. Louis County Line to 1.7 miles south of TH 2 (under construction).

- Frontage road construction in Cloquet from Washington Avenue to Doddridge Avenue (under construction).

- TH 33/TH 45 intersection improvements in Cloquet (1986 construction).

These programmed improvements will improve traffic flow, safety and access to commercial property adjacent to the highway. These improvements have independent need and utility and will be constructed regardless of which TH 33 alternative is selected.

The Arrowhead Regional Development Commission (ARDC) developed a 20 year Highway Investment Strategy for the region in 1979 and has updated this highway improvement plan in 1981 and 1983. ARDC's 20 year highway improvement priorities include upgrading TH 33 in Cloquet with a new bridge over the St. Louis River and two lane reconstruction from the county line to TH 53. The proposed four lane upgrade of TH 33 was reviewed by the ARDC in December 1984. They will be reviewing their 20 year plan in 1985. In a resolution dated 12/20/84, the ARDC indicated that they support the TH 33 project and will include it in their 1985 Highway Investment Strategy.

TH 33 is functionally classified as a principal arterial. It primarily serves as a commuter route to the Cloquet area. It also serves as the primary route between I-35 and TH 53 for travel to and from the Iron Range cities, Voyageurs National Park, the Boundary Waters Canoe Area, and other destinations in northern Minnesota and Canada (Figure 5). TH 33 is a major truck route, particularly the segment between Cloquet and TH 2.

PROJECT OBJECTIVES

TH 33 was established to fulfill the functions of providing transportation links to the City of Cloquet and to provide a direct route between I-35 to the south and TH 53 to the north. Within the framework of these primary functions, the objectives of the major upgrading of TH 33 are:

- to provide adequate levels of service for vehicles travelling TH 33.
- to improve accessibility to tourism areas of northern Minnesota, including Voyageurs National Park and the Boundary Waters Canoe Area Wilderness.
- to stimulate and support business expansion and long term economic growth by investing in transportation facility improvements.
- to provide four lane continuity. TH 33 is the only gap in the approximately 200 miles of four lane highway (I-35 and TH 53) between the Twin Cities and the Iron Range cities.
- to decrease the number of highway accidents, particularly along the portion of TH 33 between I-35 and TH 2.
- to improve traffic flow through the City of Cloquet.
- to replace or improve deficient bridge structures.

TRAFFIC

Existing 1982 Average Daily Traffic (ADT) and projected ADT for the year 2006 for the various segments of TH 33 are shown in Table 5. Traffic projections or forecasts are made using historic trends

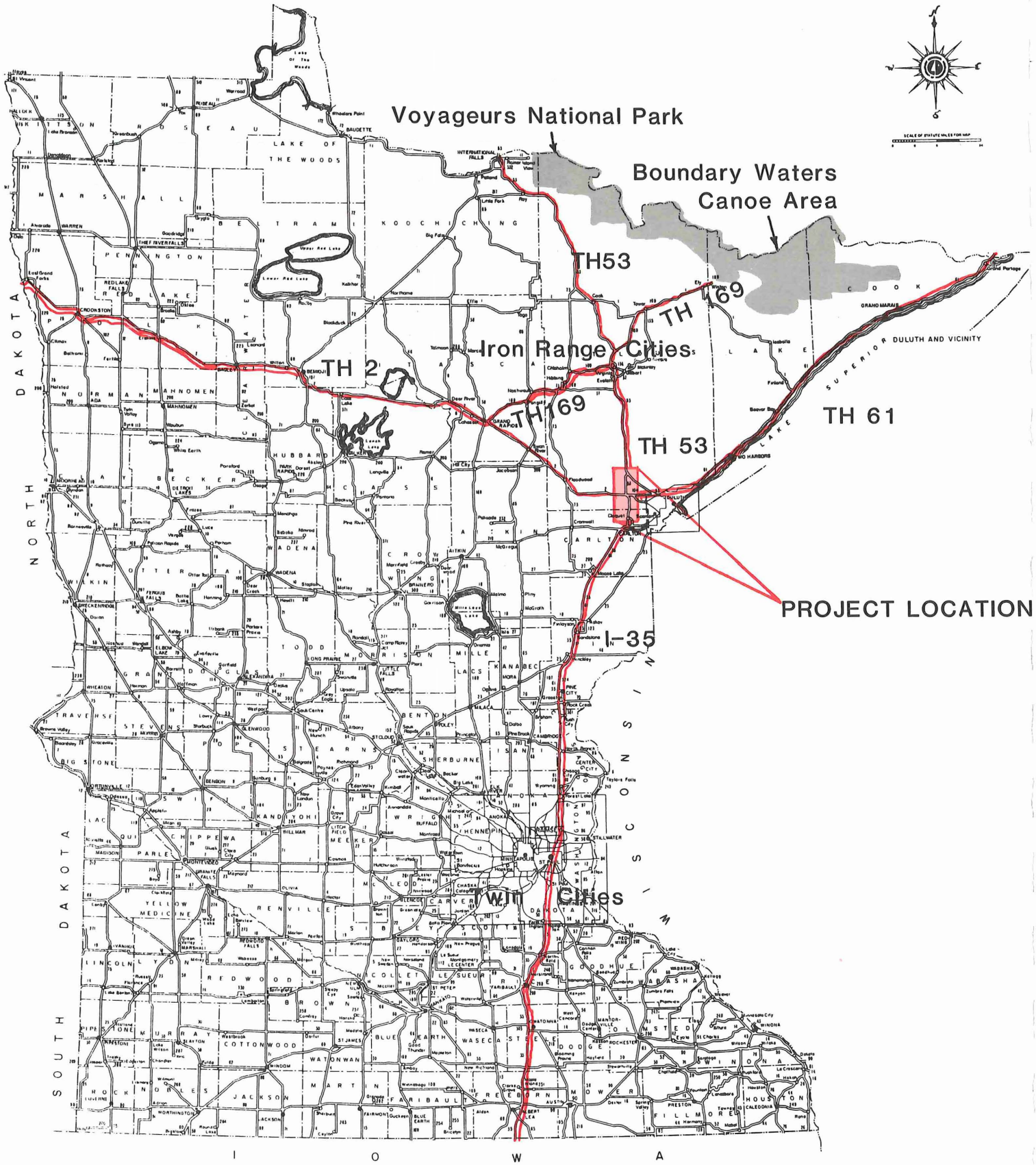


FIGURE 5: MAJOR HIGHWAYS SERVING NORTHEASTERN MINNESOTA

TABLE 5

PRESENT AND PROJECTED AVERAGE DAILY TRAFFIC (ADT) FOR TH 33

Location	1982 ADT	2006 ADT
South of TH 53	1650	4010
South of CR 7	2450	5070
North of TH 2	2200	4430
South of TH 2	2900	6180
North of Morris Thomas Rd.	3250	8070
North of TH 45	9800	14450
South of TH 45	10300	24390
North of I-35	4600	10700

for the past 20 years and are augmented with known development plans for the region. In this case, traffic figures were developed to reflect recreational usage of the Voyageur's National Park area by 800,000 visitors per year. This estimate of park visitors is referenced in the "Voyageur's National Park Road Access Study" performed by the Federal Highway Administration in cooperation with the National Park Service in 1984 (See Appendix).

The projected design year traffic volumes between the junctions with I-35 and TH 53 range from:

10,700 ADT North of I-35
14,450 ADT North of TH 45
6,180 ADT South of TH 2
4,010 ADT South of TH 53

There is a gradual rather than an abrupt decrease in traffic volumes between TH 45 and TH 53 as local traffic exits TH 33 via intersecting streets, county roads, township roads and private entrances.

LEVEL OF SERVICE

The traffic carrying ability of a road is measured by the "Level of Service" it provides under design hour traffic conditions. Level of service is graded as follows:

A) Free traffic flows with no restrictions on ability to select speed or lane.

B) Stable traffic flows with reasonable freedom to select speed and lane.

C) Stable traffic flows with some restrictions on speed and lane selection.

D) Approaches unstable flow with little freedom to maneuver.

E) Flow is unstable and there may be stoppages of momentary duration.

F) Stop and go traffic flow, with highly unstable and unpredictable operations.

Rural trunk highways are normally designed to satisfy a Service Level "B" while urban highways are designed to Service Level "C". An upgraded two lane roadway (paved shoulders, flattened inslopes, etc.) between TH 45 and TH 53 was tested for an expected level of service using procedures outlined in Chapter 8 of the "1985 Highway Capacity Manual". The portion between I-35 and TH 45 is presently a four lane divided facility. The following factors were applied to the formulas in Chapter 8:

A. Terrain:
   The terrain along TH 33 is classed as "level" for use in the formulas.

B. Per Cent No Passing:
   No passing zone percentages were obtained from the District Traffic Section as well as roadway plans and found to be 38%.

C. Trucks: Truck percentages range from:

   1. 8.8 percent at TH 45
   2. 16.5 percent at TH 2
   3. 12.0 percent at TH 53

D. Recreational Vehicles:
   The consulting firm of Edwards and Kelcy did a study for Mn/DOT on TH 61 on the North Shore of Lake Superior. This is a well recognized tourist route. Their findings were that 20 percent of the traffic stream could be expected to be recreational vehicles in the peak summer months of the year 1990. Further, that figure was expected to increase to over 25 percent by year 2000. TH 33 and TH 61 have similar tourist traffic characteristics, therefore this capacity analysis uses 20 percent of the traffic stream as recreation vehicles.

The design hour traffic volume is the 30th highest forecasted one hour volume in the design year. The design year is 20 years from the construction of the facility or, in this case, the year 2006. This design hour volume is used along with the desired Level of Service to determine the appropriate highway configuration.

Table 6 gives the resulting design hour service levels from TH 45 to TH 53 by location. As noted in Table 6, the expected service levels for an upgraded two lane roadway range from level "D" at TH 53 to level "F" at TH 45 in Cloquet. Since these expected service levels do not meet the objective of providing levels "B" and "C" in the rural and urban areas, respectively, a four lane divided roadway is required. In addition, a comparative analysis was made excluding any additional Voyageur's National Park traffic estimates. This analysis indicated that excluding the Park traffic would not significantly affect the expected levels of service in Table 5 and a four lane divided roadway would still be required.

ACCIDENT HISTORY

Accident data for the years 1978 through 1982 are summarized in Table 7.

ROADWAY DEFICIENCIES

A wide variety of deficiencies and problem conditions have been identified on the existing roadway. These can be summarized as follows:

- Bridges are narrow compared to modern design standards.
- Roadway width is 30 feet, whereas modern design calls for a width of approximately 47 feet.
- The two lane roadway, north of TH 45 in Cloquet, is insufficient to handle projected year 2006 traffic volumes.
- The intersection of TH 33 and TH 2 has a high accident history.
- There has been an increase in residential and business driveways, especially in and near the northern part of Cloquet. Turning movements into and out of these driveways has increased traffic congestion on TH 33.

SUMMARY OF NEED

Physical deterioration and design deficiences of existing TH 33, coupled with undesirable accidents rates, establish the need for improving TH 33.

TABLE 6
DESIGN YEAR SERVICE LEVELS ON TH 33
(UPGRADED TWO LANE ROADWAY)

	* CAPACITY MANUAL SERVICE LEVEL RANGES IN PASSENGER CARS / HOUR				** PROJECTED DESIGN VOLUME IN PASSENGER CARS/HOUR	EXPECTED LEVEL OF SERVICE
LOCATION	B	C	D	E		
North of TH 45	215-430	430-690	690-1300	1300-2165	2240	F
North of Morris Thomas Road	210-385	385-655	655-1265	1265-2110	1815	E
South of TH 2	205-370	370-630	630-1230	1230-2050	1415	E
North of TH 2	205-400	400-685	685-1195	1195-1995	1070	D
South of Co. Rd. 7	210-400	400-690	690-1250	1250-2080	1180	D
South of TH 53	210-400	400-685	685-1240	1240-2065	980	D

*) Equivalent passenger cars/hour adjusted by factors outlined in text.
**) Using procedures outlined in "1985 Highway Capacity Manual".

TABLE 7
ACCIDENT RATES FOR TH 33 COMPARED TO STATEWIDE AVERAGE

	Accident Rate	Statewide Average Rate For Similar Roads
TH 53 to TH 2	0.6	1.3
TH 2* to TH 45	2.3	1.3
TH 45 to I-35	5.4	3.2

* Includes TH 33 and TH 2 intersection

Projected traffic volumes and inadequate service levels indicate a need for a four lane facility.

A strong transportation system is important to the longterm economic development of a region, particularly in the tourism industry. To support and enhance the economic vitality of northeastern Minnesota and to complete the 20 mile gap in the expressway/freeway system between the Iron Range, the Twin Cities and points beyond, the need exists to extend a four lane facility from I-35 to TH 53.

Alternatives

III. ALTERNATIVES

STUDY AREA

The TH 33 study area is defined by TH 53 to the north, I-35 to the south, a combination of the St. Louis and Cloquet Rivers to the west and the Grand Lake chain of lakes to the east (Figure 2).

The Federal Highway Administration determined that the logical termini of the north-south study area were TH 53 and I-35. Since TH 33 is a connector roadway between TH 53 and I-35, a narrow east-west study area was mandated. The Cloquet River, St. Louis River, and Grand lake chain of lakes presents large topographic features which are not easily crossed. These became the west and east limits of the study area.

ALTERNATIVES DISMISSED DURING SCOPING

Prior to scoping, no alternative corridors were proposed west of the St. Louis and Cloquet rivers or east of Grand Lake. At the scoping meeting, however, an alternative corridor was suggested. This corridor would proceed north from I-35 at Esko along county roads to TH 53 at Twig. It is about five miles east of inplace TH 33. This alternative was dismissed because it would be four miles from the corporate limits of Cloquet and would increase travel distance more than 25 percent.

NO BUILD ALTERNATIVE

The No Build Alternative excludes the construction of a four lane highway, however, includes badly needed improvements to the existing two lane highway. See Figure 6 for a typical section of this alternative.

There are three highway improvement projects currently scheduled for existing TH 33. The first project, currently under construction, is an upgrading of the two lane road from the north Cloquet city limits to one and one half miles south of TH 2. This project involves replacing the road surface, widening shoulders, constructing right turn lanes, replacing or extending culverts, regrading side slopes, and lowering the grade on some hills to improve sight distances. Additional right of way would not be required. The second project, also under construction, is the

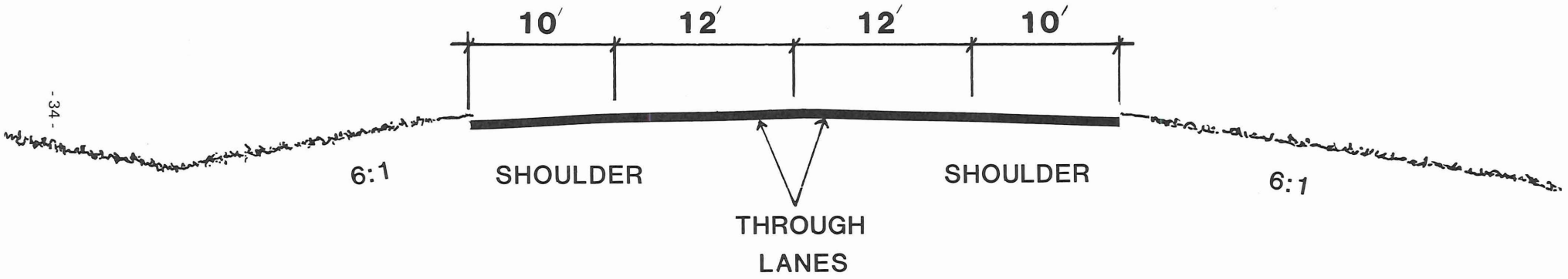


FIGURE 6: TYPICAL SECTION - NO BUILD ALTERNATIVE

building of a frontage road along TH 33 in Cloquet, approximately one and one half miles north of I 35. The third project, scheduled to be built in 1986, would improve the intersection of TH 33 and TH 45 in Cloquet.

During the scoping process, the U.S. Fish and Wildlife Service suggested that an alternative which involved upgrading the existing two lane roadway be included in the EIS. A two lane upgrade has been evaluated as part of the No Build Alternative. Certain design features (e.g., an interchange at TH 2 and passing lanes) however, were dismissed in the scoping process from being part of this alternative because the impacts associated with such construction would be too significant to include in an upgrade alternative. The impacts of constructing an interchange at TH 2 are addressed under the Preferred Alternative.

FHWA Guidelines suggest that, in the EIS, a Transportation System Management (TSM) Alternative be considered. This will be evaluated with the No Build Alternative.

BUILD ALTERNATIVES

Construction of the the build alternatives would result in a four lane expressway. Interchanges with TH 53, TH 2 and I-35 are proposed for all the alternatives. A one mile section of TH 2 will be reconstructed to four lanes through the interchange with TH 33.

An alignment was developed and analyzed for the Preferred Alternative. All build alternatives were analyzed by placing approximate alignments within corridors. The corridors were approximately 500 feet wide, except where potential constraints were found (e.g. homes, businesses, wetlands). In these areas, the corridor was expanded to a maximum width of 2000 feet.

A number of design options were evaluated.

A) Construction of a two lane roadway adjacent to the existing road, resulting in a four lane expressway.

B) Construction of a four lane expressway on new alignment.

C) Reconstruction of the existing road bed into a four lane road, widening as needed.

The typical sections of these design options are found in Figure 7. Design options A or B would be appropriate for the rural section. Design options B and C are suitable for the urban section.

Environmental considerations were analyzed for an entire corridor. Where specific acreages are given in the environmental analysis, an approximate alignment was fixed within that corridor. For computing acreages, a width of 125 feet was used for design option A, 200 feet for design option B and 100 feet for design option C. Ranges of acreages are used wherever possible to show the variablity of alignments within a given corridor.

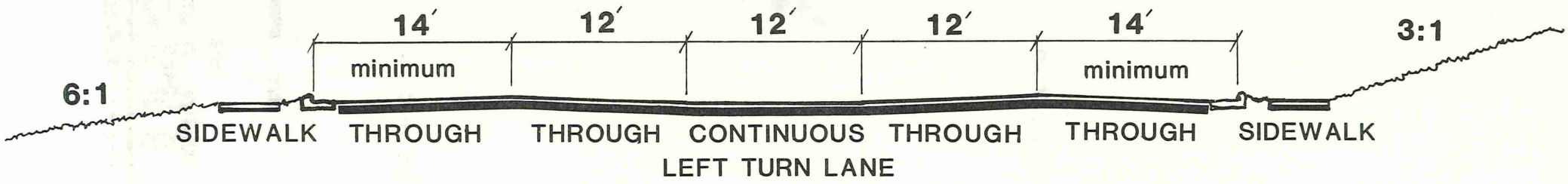
At the Scoping Meeting and in the scoping documents, the project was divided into four segments; A,B,C, and D. In the FEIS, the project is divided into only two segments; an urban section and a rural section. The area which the scoping documents called segments A,B, or C is here included in the rural section. Segment D is herein referred to as the urban section. Figure 8 indicates the boundaries of the urban and rural sections.

Rural Section

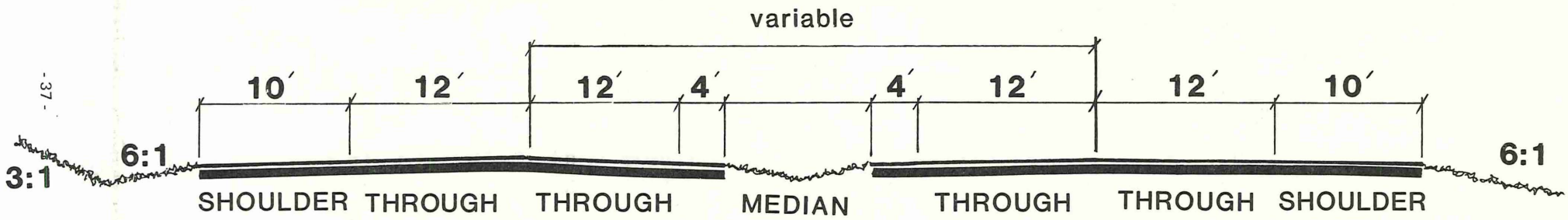
Three primary alternative corridors were analyzed in the rural section of the study area (Figure 9a).

West Corridor

The West Corridor runs from the junction of TH 53 to Morris Thomas Road, immediately west of inplace TH 33. Corridor widths have been expanded at the DM&IR Railroad Crossing, the junction with TH 2 and in the White Pine River/Dutch Slough area.



URBAN DESIGN



RURAL DESIGN

Detail design has not been finalized and changes in these cross sections may occur for all or parts of this project.

FIGURE 7: TYPICAL SECTION - BUILD ALTERNATIVE

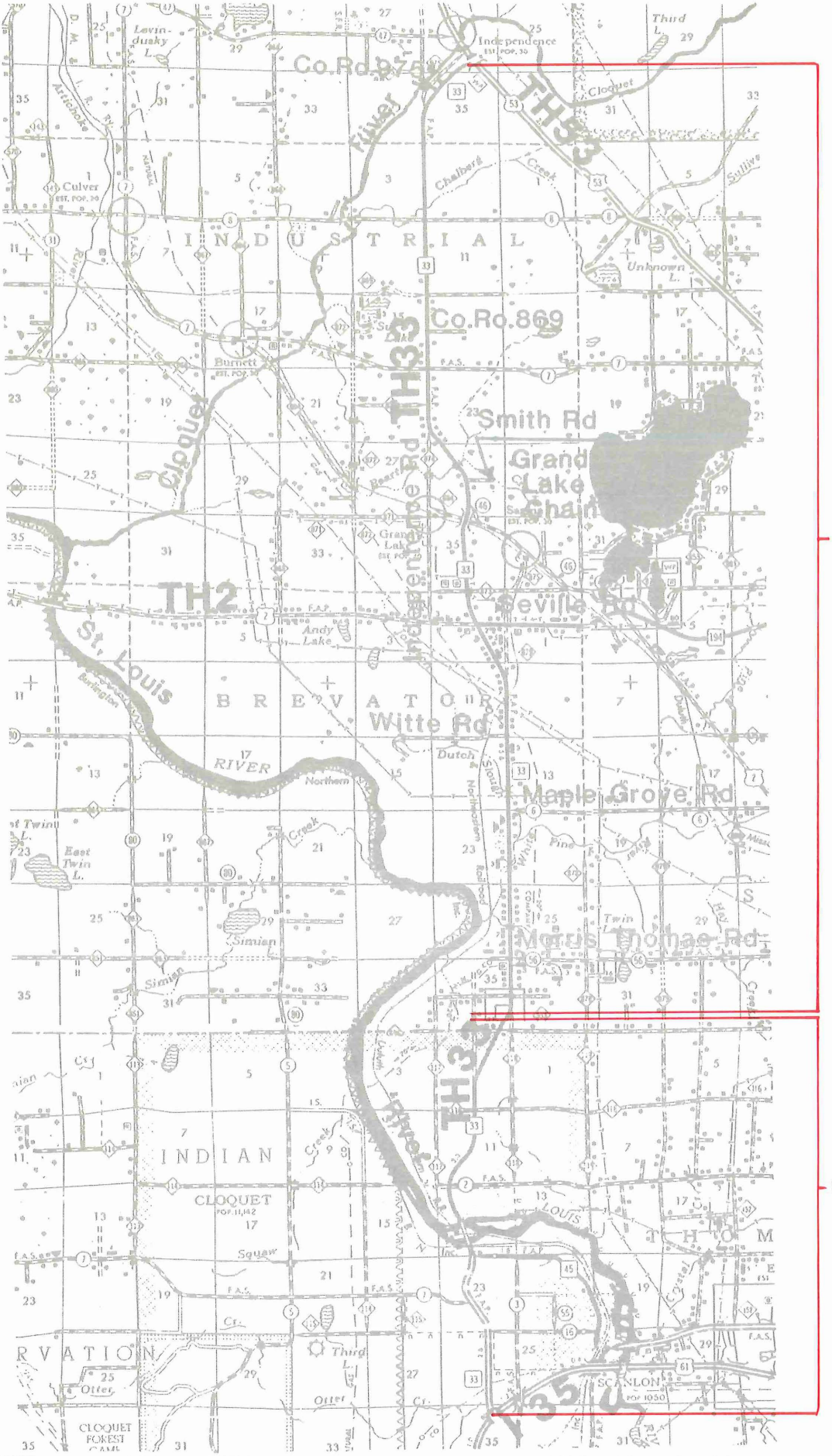
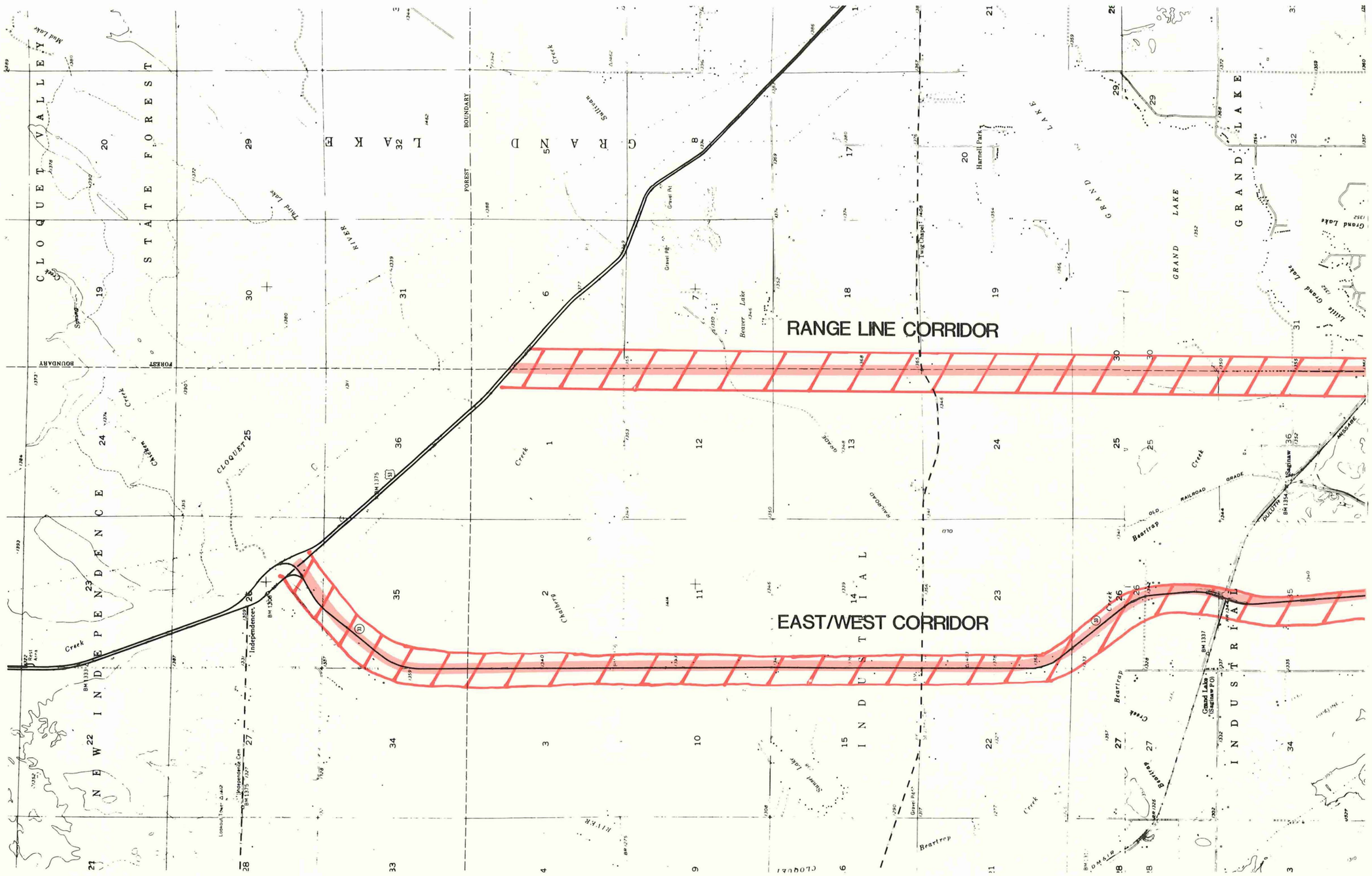
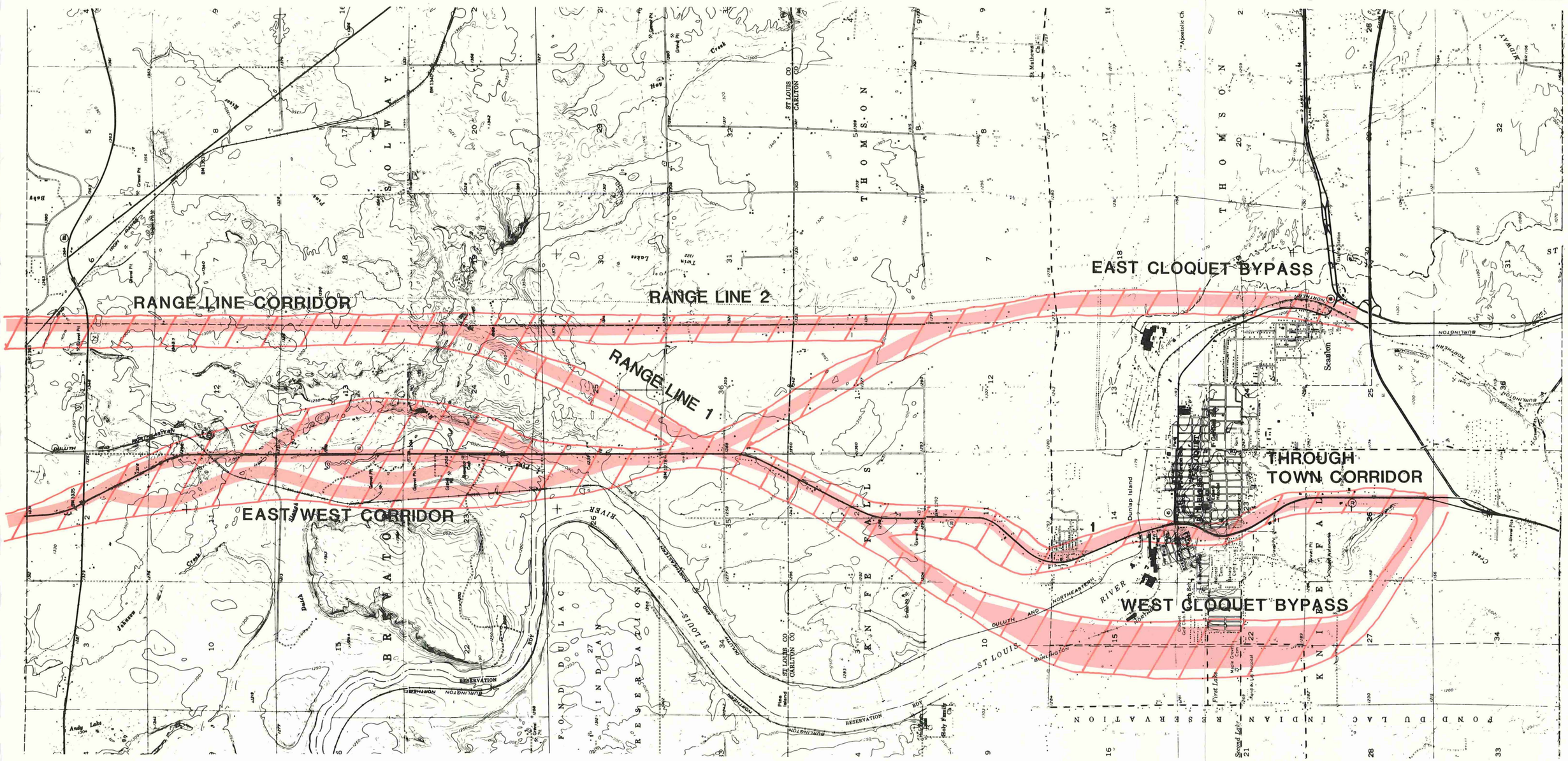


FIGURE 8: STUDY AREA DIVISIONS


RANGE LINE CORRIDOR
EAST/WEST CORRIDOR
CLOQUET VALLEY STATE FOREST
GRAND LAKE
GRAND LAKE
INDEPENDENCE
INDUSTRIAL
CLOQUET
Independence
Harnell Park
Twig Chapel
Beartrap Creek
Silver Lake
Beaver Lake
Gravel Pit
Gravel Pit
Grand Lake (Station P.O.)
Little Grand Lake
Mud Lake
Twin Lake
Spring
Creek
Creek
Creek



TH33

from I-35 to TH53

FIGURE 9B: ALTERNATIVE CORRIDORS

East Corridor

The East Corridor runs from the junction with TH 53 to Morris Thomas Road, immediately east of inplace TH 33. Corridor widths have been expanded at the DM&IR Railroad and in the White Pine/Dutch Slough area.

Range Line Corridor

The Range Line Corridor follows the range line between R.17W. and R.16W. from the junction with TH 53 to Morris Thomas Road. This corridor is parallel to and approximately one to two miles east of inplace TH 33. This alternative was suggested by a citizen during the scoping process, and would essentially follow new alignment on already existing roadway easements.

Corridor Combination

All alternatives have been studied and compared separately. In the rural section, combinations of corridors and design options were considered during the selection of the Preferred Alternative. Combinations of alternatives and design options were determined by analyzing environmental, social, economic, and engineering considerations.

Urban Section

Three primary alternative corridors were analyzed in the urban section of the study area (Figure 9b).

West Cloquet Bypass

The West Cloquet Bypass begins at the junction of TH 33 and I-35, circles to the west, crosses the St. Louis River and rejoins existing TH 33 approximately 1.5 miles south of Morris Thomas Road. This corridor evaluates the options of passing through or avoiding the Fond du Lac Indian Reservation.

Through Town Corridor

The Through Town Corridor coincides with existing TH 33 from the junction with I-35 to Morris Thomas Road. There is a bridge

crossing the St. Louis River just north of TH 45. While the southern terminus of this project is I-35, a four lane roadway already exists between I-35 and TH 45. No additional construction, other than the already programmed frontage road and safety improvements, would be proposed south of TH 45.

East Cloquet Bypass

The East Cloquet Bypass begins at the junction of I-35 and TH 45 approximately one and one half miles east of inplace TH 33. This corridor proceeds north through Scanlon, crosses the St. Louis River, angles across the north corporate limits of Cloquet and rejoins existing TH 33 just south of Morris Thomas Road.

Secondary Corridors

Two secondary corridors, the Range Line One and the Range Line Two, were also evaluated in the urban section of this project. The Range Line One corridor would connect the Range Line Corridor to either the West Cloquet Bypass, the Through Town Corridor or the No Build Alternative. The Range Line Two Corridor would connect the Range Line Corridor with the East Cloquet Bypass.

PREFERRED ALTERNATIVE

The Preferred Alternative in the rural section consists of a combination of the East and West Corridors. The alignment shifts from one corridor to the other to minimize social, economic, and environmental impacts as well as address engineering considerations. Along most of this alignment, two lanes would be constructed adjacent to the existing TH 33 creating a four lane facility. Between Witte Road and 1/2 mile north of Seville Road, the highway will be four lanes on new alignment and/or adjacent to existing alignment. (see Figure 3 and Table 1).

The No-Build Alternative has been identified as a temporary Preferred Alternative in the urban section.

Substantial involvement with historical properties, parks, recreational facilities, the Fond du lac Indian Reservation, and social/economic concerns require that further studies be undertaken to determine which build alternative, if any, should be selected for the urban section. A supplement EIS will be prepared to document this decision.

Affected Environment

IV. AFFECTED ENVIRONMENT

INTRODUCTION: This section decribes the environmental setting of the TH 33 study area. It consists of two categories: natural environment and social/economic environment.

NATURAL ENVIRONMENT The study area is located in northeastern Minnesota, famous for its wilderness resources of lakes, forests and streams.

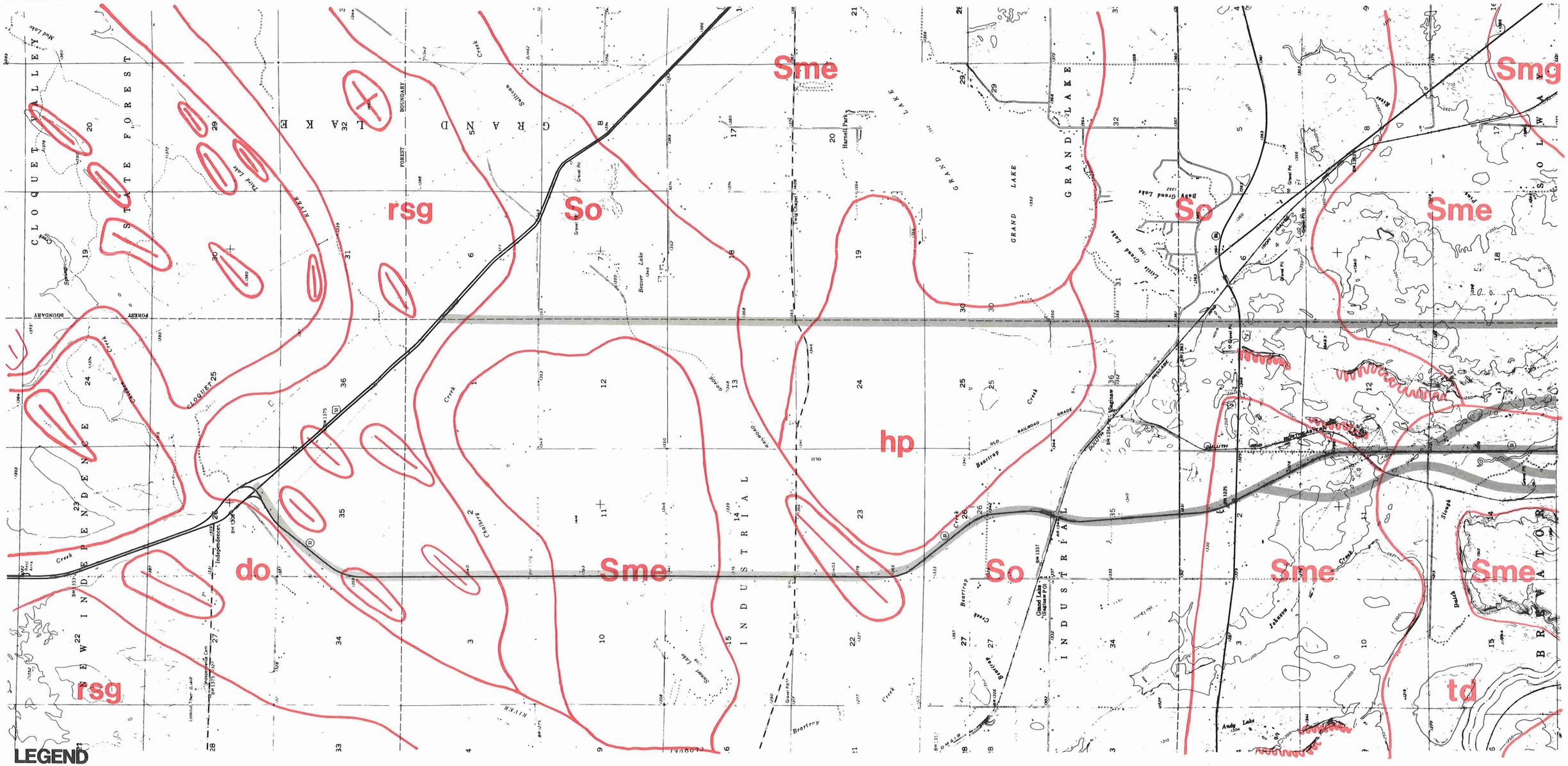
Climate The study area has a continental climate with cold winters and warm summers. Average annual precipitation is 29 inches, with 46 percent occurring in the months of June, July and August. Average snowfall is 50 to 60 inches, with an average of 130 days having a snowcover of an inch or more. Prevailing wind direction is southwesterly during the summer months and northwesterly during the winter.

Topography Northeastern Minnesota's land surface has been shaped by repeated glacial action. The area is dotted with hills and contains numerous wetlands that are drained by small streams. The overall terrain ranges from flat to gently rolling.

Geology/Soils A complex glacial history is revealed by the abundant unconsolidated sediments, moraines (bodies of unsorted and unstratified sand, gravel, cobbles and boulders), eskers (long sinuous ridges of sand and gravel), and drumlins (elongated, streamlined hills). Figures 10a and 10b depict the surface geology of the area. An exemplary geologic feature is the Cloquet Esker, located west of Cloquet. Glacial sediments range from 35 to 212 feet thick and ultimately reflect the underlying bedrock of Pre-Cambrian granites, slates, and graywackes.

Soils The soil types in the study area are shown in Figures 11a and 11b. They have also been grouped according to their suitability for construction (see Legend).

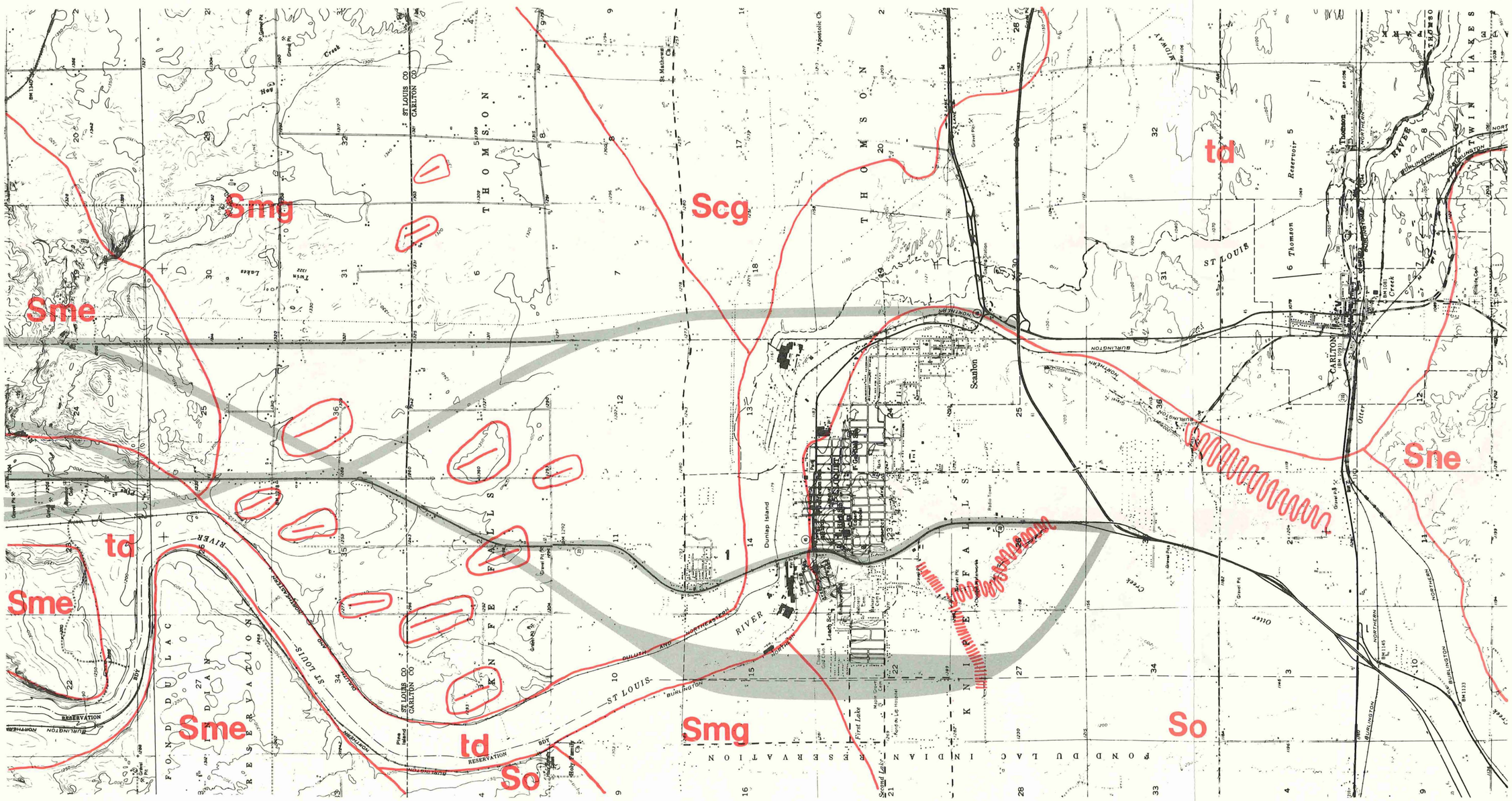
The soils considered good for road construction are typically represented by gravelly, loamy, coarse sands and fine sandy loams.



LEGEND

hp	Peat – organic deposits, continuous deposit exceeds 4 square miles
td	Terrace – Remnants of former channels and floodplains above present floodplains but below adjacent moraines or outwash surface
do	Outwash – Des Moines Lobe–St. Louis Sublobe
Smg	Ground Moraine – Superior Lobe–Mille Lacs Highland Moraine Association
Sme	End Moraine – Superior Lobe–Mille Lacs Highland Moraine Association
So	Outwash – Superior Lobe
Scg	Ground Moraine – Superior Lobe–Cloquet Moraine Association
Sne	End Moraine – Superior Lobe–Nickerson Moraine Association
rsg	Ground Moraine – Rainy Lobe–St. Croix Moraine

FIGURE 10A: SURFACE GEOLOGY



LEGEND

- Toimi drumlins
- Automba drumlins
- Kame
- Contact boundary
- Eskers
- Ice contact features

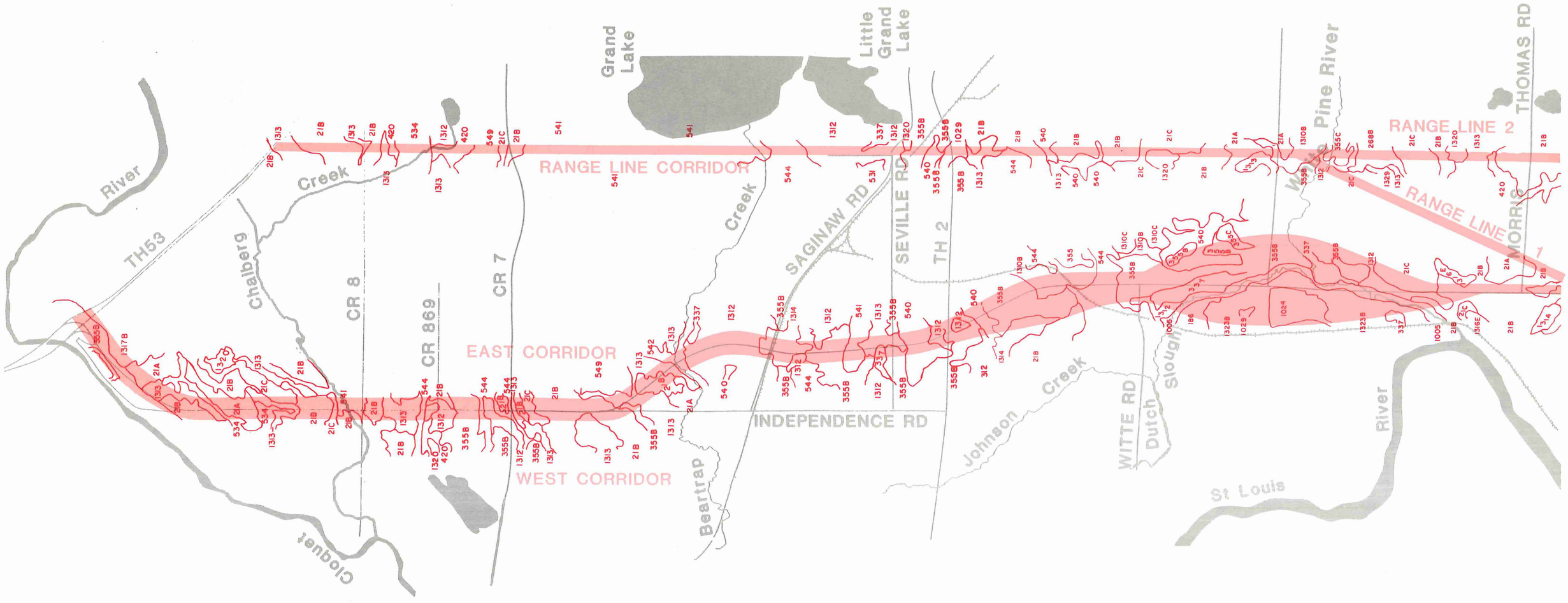
0 1/4 1/2 1 miles 2

N

TH33

from I-35 to TH53

FIGURE 10B: SURFACE GEOLOGY



0 1/4 1/2 1 miles 2

N

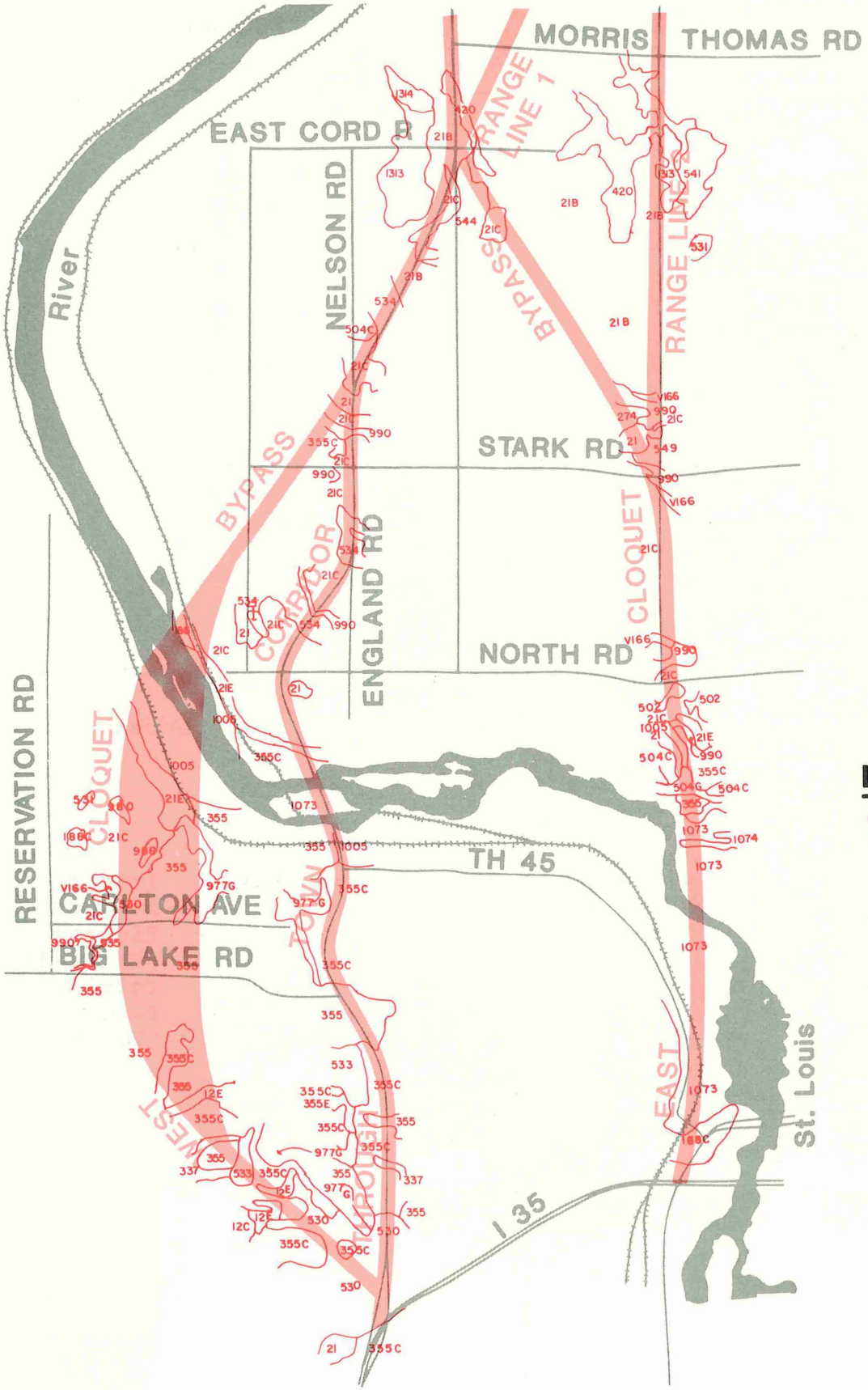
LEGEND

541 = Soil Unit (See pp. for names.)

TH33

from I-35 to TH61

FIGURE 11A: SOIL TYPES - RURAL SECTION



LEGEND

541 = Soil Unit (See pp for names.)

0 .5 1 miles 2 N

TH 38

from I-35 to TH 53

FIGURE 11B: SOIL TYPES - URBAN SECTION

LEGEND FOR FIGURE 11-SOIL TYPES OF TH 33 RURAL AND URBAN SECTIONS

SOIL TYPES: ST. LOUIS COUNTY SOIL SURVEY

MAPPING UNIT SYMBOL	MAPPING UNIT NAME
** 21A	Ahmeek silt loam, 1 to 3 percent slopes
** 21B	Ahmeek silt loam, 3 to 8 percent slopes
21C	Ahmeek silt loam, 8 to 18 percent slopes
268B	Cromwell fine sandy loam, 0 to 8 percent slopes
337	Warman mucky silt loam
355B	Cloquet fine sandy loam, 0 to 8 percent slopes
355C	Cloquet fine sandy loam, 8 to 18 percent slopes
355E	Cloquet fine sandy loam, 18 to 45 percent slopes
420	Twig muck
531	Beseman mucky peat
534	Mooselake mucky peat, 0 to 1 percent slopes
540	Seelyville muck
541	Rifle mucky peat
544	Cathro muck
549	Greenwood peat
*1005	Pengilly and Unnamed fine loamy fluvaquents, freq. flooded
1029	Pits, gravel
*1310B	Ahmeek-Cloquet fine sandy loam complex, 1 to 8 percent slopes
*1312	Unnamed (1312) very fine sandy loam (somewhat poorly drained Cloquet)
**1313	Unnamed (1313) silt loam (Hermantown)
*1314	Cathro and Seelyeville muck soils
**1316A	Unnamed (1316) silt loam, 1 to 3 percent slopes (Finland)
**1316B	Unnamed (1316) silt loam, 3 to 8 percent slopes (Finland)
*1316C	Unnamed (1316) silt loam, 8 to 18 percent slopes (Finland)
*1316E	Unnamed (1316) silt loam, 18 to 35 percent slopes (Finland)
*1317A	Unnamed (1317) sandy loam, 1 to 3 percent slopes (Toimi)
*1317B	Unnamed (1317) sandy loam, 3 to 8 percent slopes (Toimi)
*1317C	Unnamed (1317) sandy loam, 8 to 18 percent slopes (Toimi)
*1320	Beseman and Greenwood soils
*1323B	Unnamed (1323), 0 to 8 percent slopes (Vermilion)
*1323C	Unnamed (1323), 8 to 18 percent slopes (Vermilion)
*1323E	Unnamed (1323), 18 to 35 percent slopes (Vermilion)

* Denotes Trial legend mapping unit
** Prime farmland potentially impacted

LEGEND FOR FIGURE 11-SOIL TYPES OF TH 33 RURAL AND URBAN SECTIONS

SOIL TYPES: CARLTON COUNTY SOIL SURVEY

MAPPING UNIT SYMBOL	MAPPING UNIT NAME
12C	Emmert gravelly fine sandy loam, 1 to 12 percent slopes
12E	Emmert gravelly fine sandy loam, 12 to 25 percent slopes
** 21	Ahmeek loam, 0 to 2 percent slopes
21C	Ahmeek loam, 2 to 12 percent slopes
21E	Ahmeek loam, 12 to 25 percent slopes
V166	Mora fine sandy loam, wet
186	Nemadji fine sand
188C	Omega loamy sand, 2 to 12 percent slopes
274	Newson mucky loamy sand
337	Warman mucky loam
355	Cloquet fine sandy loam, 0 to 2 percent slopes
355C	Cloquet fine sandy loam, 2 to 12 percent slopes
**502	Dusler silt loam
504C	Duluth very fine sandy loam, 2 to 12 percent slopes
504G	Duluth very fine sandy loam, 25 to 35 percent slopes
530	Greenwood mucky peat
531	Beseman muck
533	Loxley muck
534	Mooselake mucky peat
535	Merwin mucky peat
977G	Cloquet - Emmert complex, 25 to 60 percent slopes
980	Blackhoof and Mahtowa soils
990	Twig and Parent soils
1005	Fluvaquents
1073	Borofolists
1074	Borosaprists

** Prime farmland potentially impacted

LEGEND FOR FIGURE 11-SOIL TYPES OF TH 33 RURAL AND URBAN SECTIONS

SUITABILITY OF SOILS FOR CONSTRUCTION

SOILS CONSIDERED GOOD FOR ROAD CONSTRUCTION:

12C	504G
12E	977G
V166	1029
186	1310B
188C	1312
268B	1317A
355	1317B
355B	1317C
355C	1323B
355E	1323C
504C	1323E

SOILS CONSIDERED FAIR FOR ROAD CONSTRUCTION:

21	502
21A	1313
21B	1316A
21C	1316B
21E	1316C
337	1316E

SOILS CONSIDERED POOR FOR ROAD CONSTRUCTION:

274	541
337	544
420	549
530	980
531	990
533	1005
534	1073
535	1074
540	1314
	1320

The soils considered poor for road construction are typically peats. Slopes usually vary from zero to two percent. These soils are usually considered unsuitable for roadway foundations and roadfill and may require excavation, resulting in increased construction costs.

Steepness of slope is an important erosion factor. The greater the degree of slope, the greater the erosion potential.

Disruption of the soil and landscape will occur during highway construction. Erosion of exposed soil and underlying sediment is the primary concern. Erosion occurs when soil or sediment particles become detached from each other and are transported by wind or water.

Vegetation

Vegetation of the study area is typical of northeastern Minnesota, consisting of extensive second growth comprised of aspen/poplar/birch and spruce/fir/pine associations. Wetland vegetation consists mostly of spruce, ash, willow and alder species. A small percentage of the area is hayfields and pasture.

Wildlife

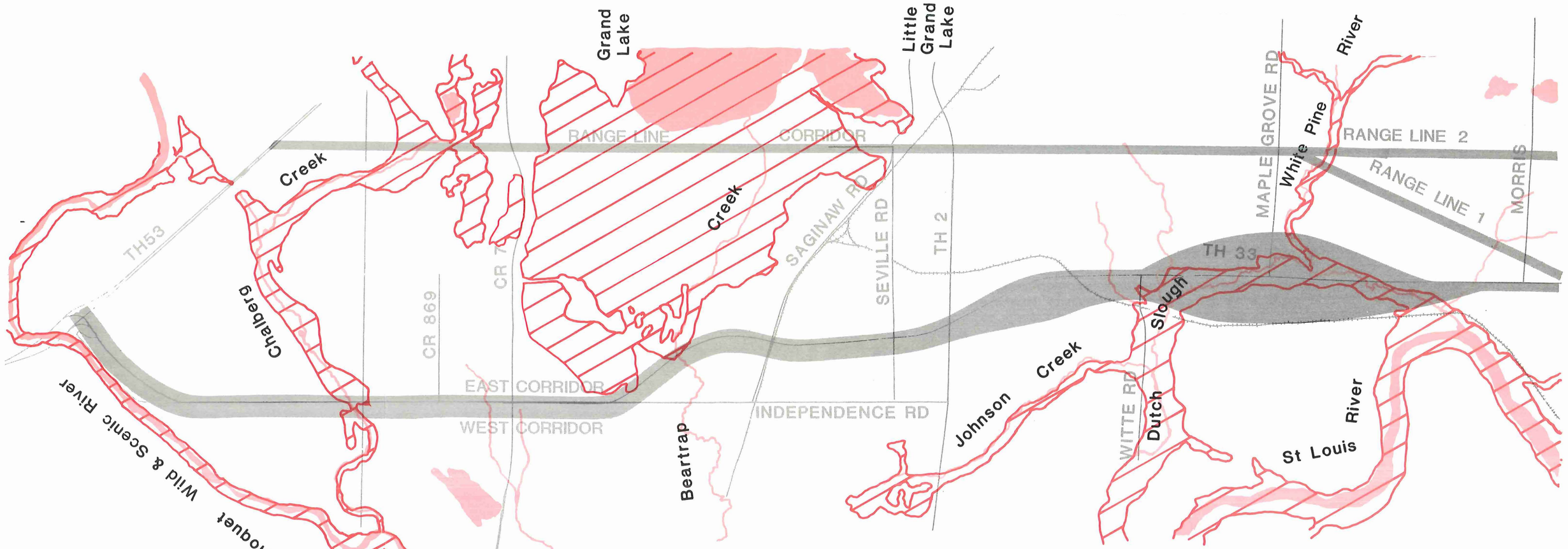
A variety of wildlife is found in the study area, including white-tailed deer, mink, raccoon, beaver, muskrat, woodcock, ruffed grouse, waterfowl, raptors, and various non-game species. For a discussion of threatened and endangered species, see the Threatened and Endangered Species section of this document.

Water Resources

The study area lies within the St. Louis River watershed, where three major rivers originate. These are the Whiteface, St. Louis and Cloquet rivers. Only the St. Louis and Cloquet rivers extend into the study area. Five major floodplains are located in the study area. (Figures 12 a and 12 b). Flow patterns across the area are west and south towards the Cloquet and St. Louis rivers. Glacial sediments of the area contain a significant supply of groundwater, the depths of which vary greatly.

Wetlands

Much of the project area is low-lying, with about 20 to 25 percent of its acreage in lowland hardwoods or wetlands (Figures



TH33
from I-35 to TH53

FIGURE 12A: WATER RESOURCES - RURAL SECTION

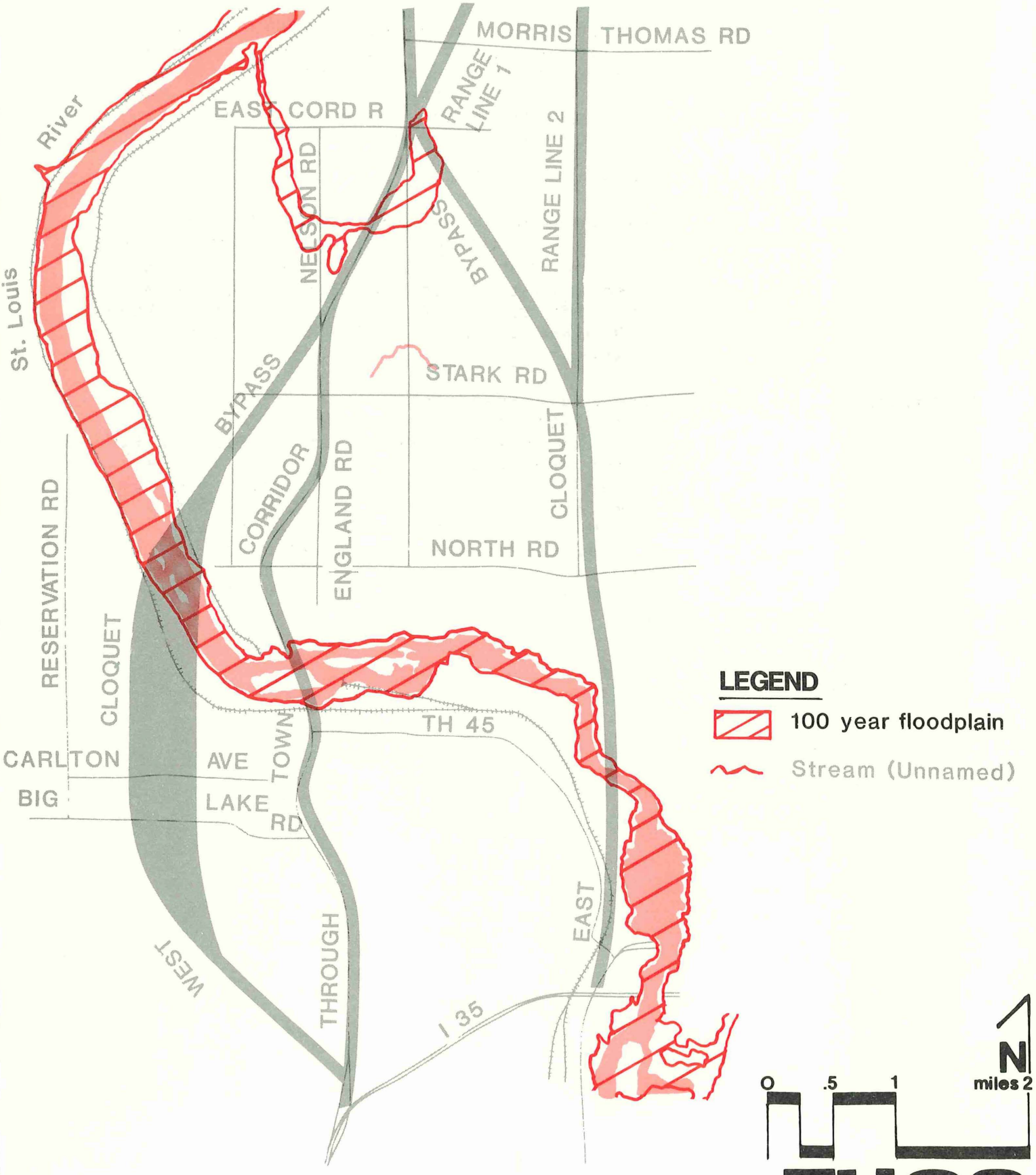


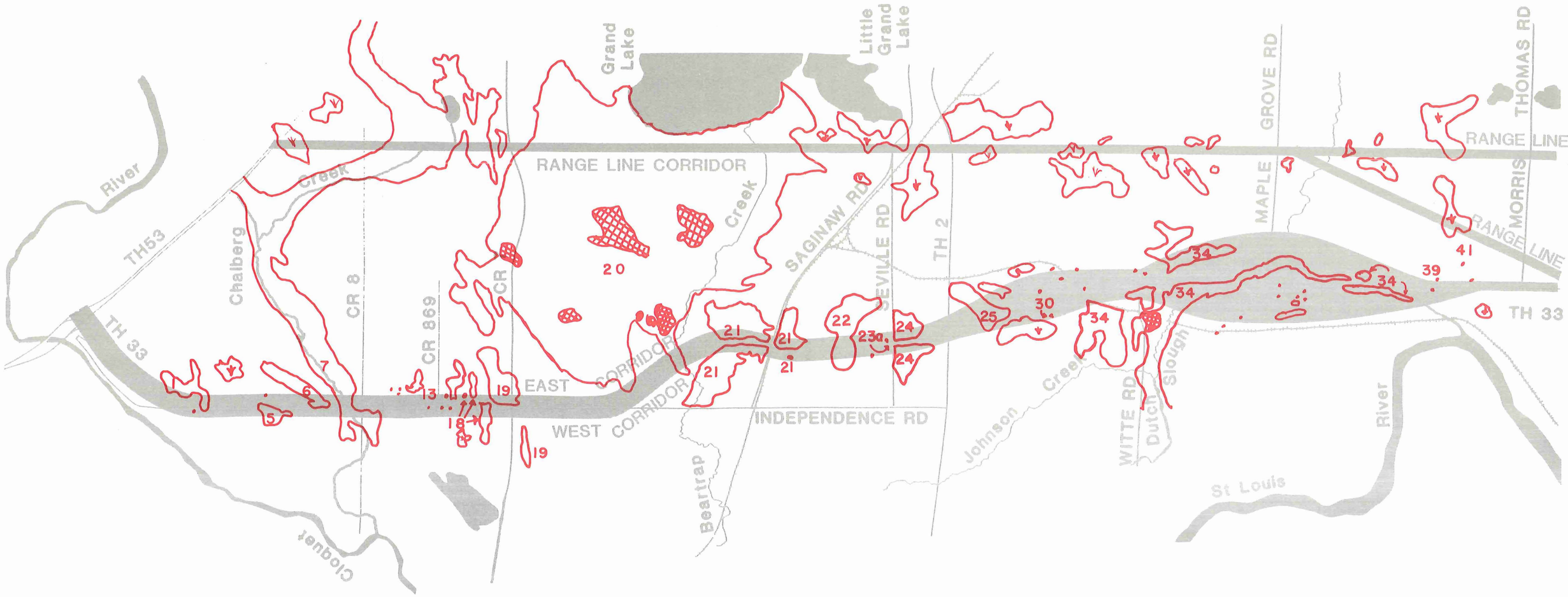
FIGURE 12B : WATER RESOURCES - URBAN SECTION

13a and 13b). Due to flat and gently rolling topography, vegetation in the area grades gradually from lowlands to upland with very broad transitional zones. Many wetland basins are comprised of several wetland types. Spruce and shrub swamps with grassy meadow components are prevalent.

Wetlands were classified according to Circular 39 of the U.S. Fish and Wildlife Service (Table 8). Table 9 compares this system to the more recent U.S. Fish and Wildlife Service Classification of Wetland and Deepwater Habitats of the United States.

Fisheries

The study area contains seven designated trout streams: Johnson Creek, Crystal Creek, White Pine River, Dutch Slough, Big Otter Creek, Beartrap Creek, and Chalberg Creek. Other fisheries resources include the Cloquet River, the St. Louis River, Grand Lake and several unnamed small lakes. Major game fish species in the area are brown trout, brook trout, walleye, channel catfish and northern pike.



0 1/4 1/2 1 miles 2

N

LEGEND

R-13 Wetland (See Table 23)

Upland in wetland area

TH 33
from I-35 to TH53

FIGURE 13A: WETLAND BASINS - RURAL SECTION

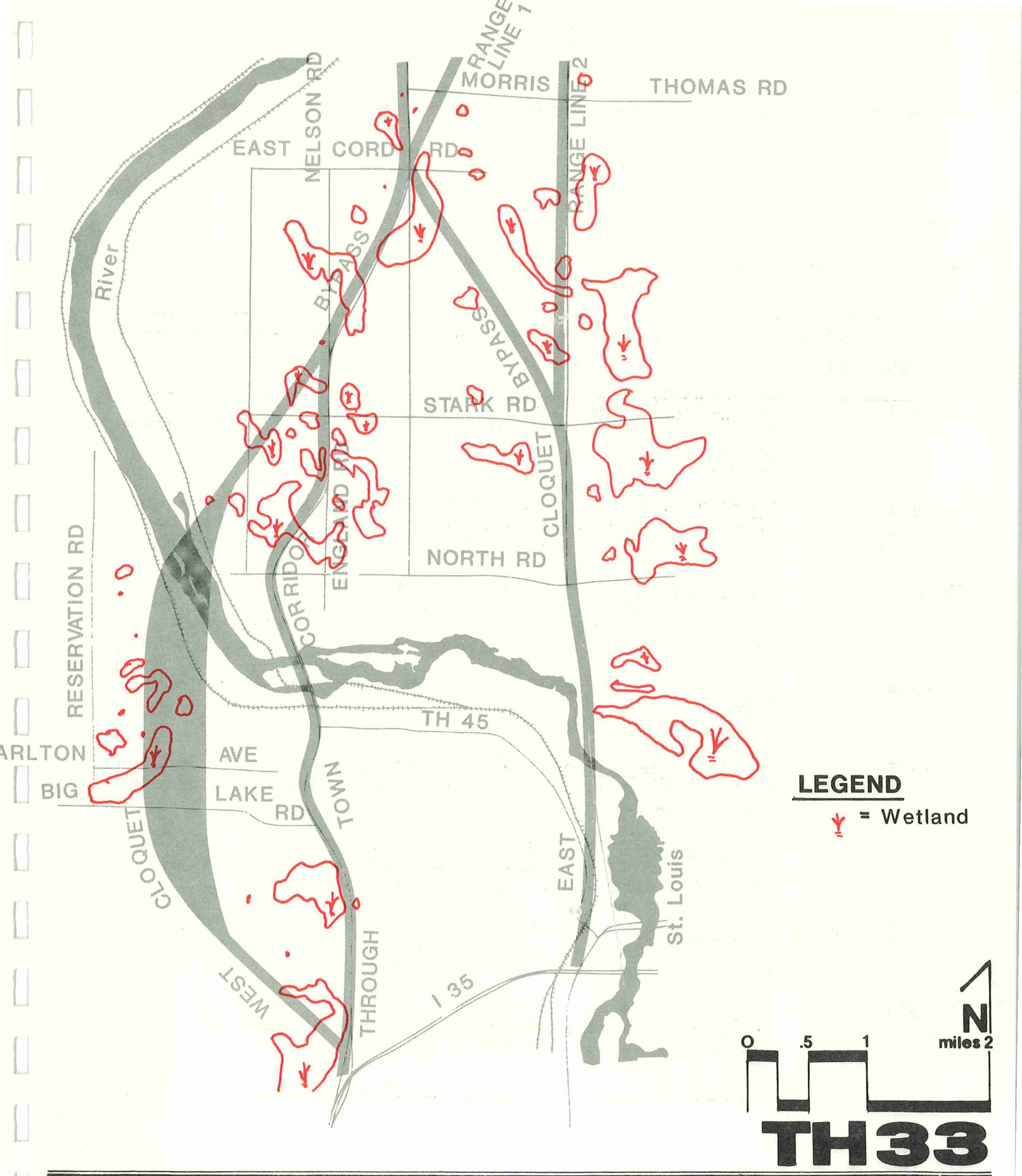


FIGURE 13B: WETLAND BASINS - URBAN SECTION

TABLE 8

WETLAND TYPES ACCORDING TO CIRCULAR 39

WETLAND TYPE		DESCRIPTION
Type 1	-	Seasonally flooded basin. Basin is flooded only briefly during heavy rains or spring runoff. Vegetation is generally floodplain forest, weeds or cultivated crops.
Type 2	-	Sedge Meadow. Shallow, grassy wetland with little open water which may only have waterlogged soil during dry periods. Vegetation is typically grasses or sedges.
Type 3	-	Shallow Marsh. Wetland basin is usually covered with six inches to two feet of water and is heavily vegetated with cattails, bulrushes or broad-leaved aquatic plants. Small patches of open water may occur.
Type 4	-	Deep Marsh. Wetland basin with permanent water depths from two to four feet. Open water areas are fringed by cattails, bulrushes, etc.
Type 5	-	Shallow Lake & Pond. Open water basin from four to ten feet in depth which is too shallow to support permanent gamefish populations.
Type 6	-	Shrub Swamp. Shallow wetland basin which may only have waterlogged soil during dry periods and is heavily vegetated with alder, will or dogwood.
Type 7	-	Wooded Swamp. Wetland may have standing water but typically has only waterlogged soil and is vegetated with tamarack, black spruce, red maple and black ash.
Type 8	-	Bogs. Low lying or floating vegetative mat with waterlogged soils, supporting spongy covering of mosses, sedges or heathlike shrubs.

TABLE 9

COMPARISON ON TWO WETLAND CLASSIFICATION SYSTEMS

U.S.F.W.S. Circular 39(1971)	Classification of Wetland and Deepwater Habitats of the United States Cowardin et al. (1979)
	Palustrine System
Type 1	Nonpersistent Emergent Wetland. (1) Water regimes are temporarily or intermittently flooded.
Type 2	Persistent Emergent Wetland. (1) Water regime is saturated.
Type 3	Persistent Emergent Wetland. (1) Water regimes are semipermanently or seasonally flooded.
Type 4	Aquatic Bed with floating vascular plants, fringed by Persistent emergent wetland. Water regimes are permanently flooded, intermittently exposed or semipermanently flooded.
Type 5	Aquatic Bed with floating vascular plants, and Unconsolidated Bottom, consisting of mud. Water regimes are permanently flooded and intermittently exposed.
Type 6	Scrub-Shrub Wetland, with predominantly broad-leaved deciduous plants. Water regimes are temporarily flooded, seasonally flooded, semipermanently flooded, intermittently exposed and permanently flooded.
Type 7	Forested Wetland, with broad-leaved deciduous, needle-leaved deciduous and needle-leaved evergreen plants. Water regimes are identical to those for Scrub-Shrub Wetland above.
Type 8	Scrub-Shrub Wetland, Forested Wetland, Moss-Lichen Wetland with broad-leaved deciduous, needle-leaved deciduous and needle-leaved evergreen plants. Water regime is saturated.

(1): Erect, rooted herbacious plants are dominant.

SOCIAL/ECONOMIC ENVIRONMENT

Population Size

The population of the City of Cloquet is 11,142, which is an increase of 2,443 since 1970. The city has enjoyed relative stability in population for many years. The 1960 population was slightly more than 9,000 persons. In the rural section of the project, there are many areas of low density rural residential, although the exact number living adjacent to the roadway is not known.

Demographic Structure

The age structure of the Cloquet population is not significantly different from that of the state as a whole (Table 10). The population of Cloquet tends to be slightly older than that of the state.

The population of Cloquet is, on the average, less likely to have graduated from high school or college. This is likely a corollary of the age structure of the population.

Economic Setting

The economic setting of the area is dominated by the forest products industry. In fact, Cloquet is often referred to as the "Wood City". The largest employer is Potlatch Corporation, Northwest Paper Division, with ± 1,100 employees. Conwed Corporation, a manufacturer of acoustical ceiling products, employes ± 750. Diamond International employs ± 200. Other employers include the community hospital, the local school system and a variety of smaller firms and agencies.

Cloquet is served by rail as well as truck and Greyhound bus. The city has an airport, although no scheduled air service is available. Duluth International Airport is approximately 25 miles distant.

Community Services

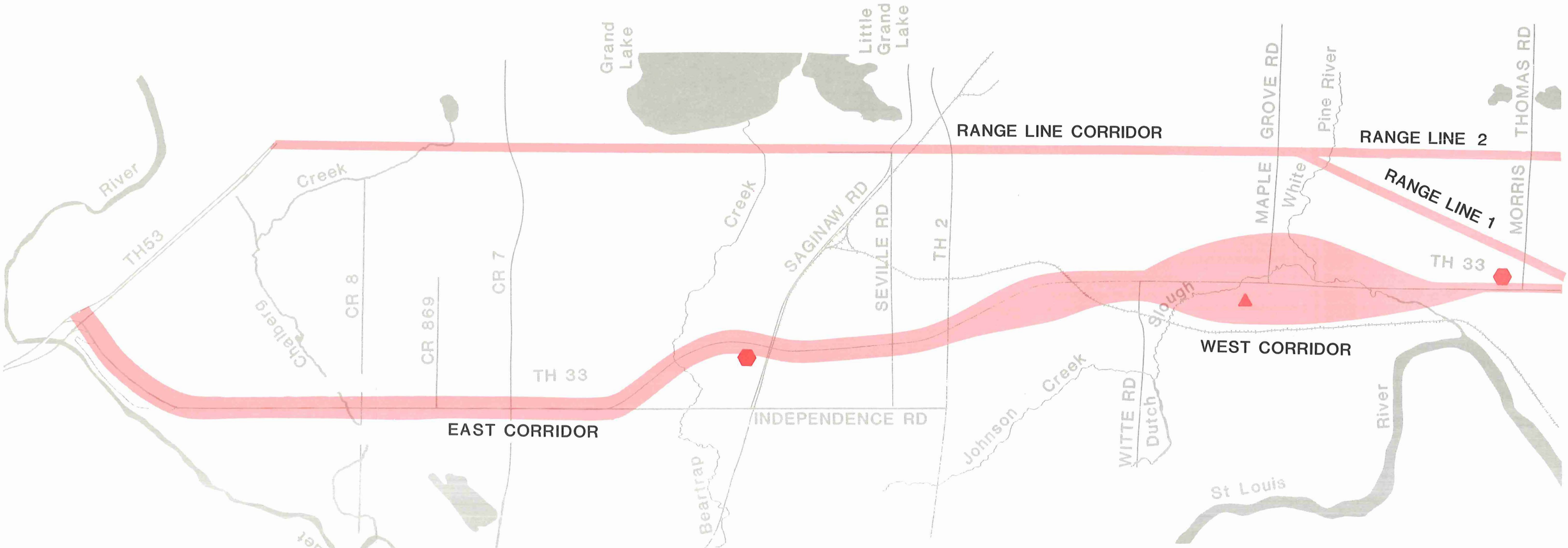
Figure 14a and 14b show the location of community services in the rural sections of the project area.

Schools

The study area is covered by two school districts, 710 in St. Louis County and 94 in and near Cloquet. A total of two high

TABLE 10
SELECTED DEMOGRAPHIC STATISTICS: CARLTON
AND ST. LOUIS COUNTIES, CLOQUET AND MINNESOTA, 1980

Item	Minnesota	Cloquet	St. Louis County	Carlton County
Population	4,075,970	11,142	222,229	29,936
Median Age	29.2	31.8	30.0	30.5
Means Persons per Housing Unit	2.74	2.7	2.7	2.8
Percent of Population				
Under 5 years	7.5	7.2	7.3	7.6
5-17 years	21.2	21.7	19.8	23.3
18-64 years	59.5	56.3	59.4	56.3
65 and older	11.8	14.8	13.5	12.7
Persons 25 yrs and older				
Percent H.S. Grad	73.1	66.6	72.0	66.7
Percent 4 or more yrs at College	17.4	11.9	14.8	10.6
Percent Employed in Manufacturing	20.2	32.8	10.4	26.1
Median Family Income (1979)	$21,185	$19,279	$20,903	$18,913
Per Capita Income (1979)	$ 7,451	$ 6,453	$ 7,063	$ 6,013
Percent of Families Below Poverty level (1979)	7.0	5.4	6.2	6.8



0 1/4 1/2 1 miles 2

N

LEGEND

- School
- Cemetery

TH33
from I-35 to TH53

FIGURE 14A: COMMUNITY SERVICES - RURAL SECTION

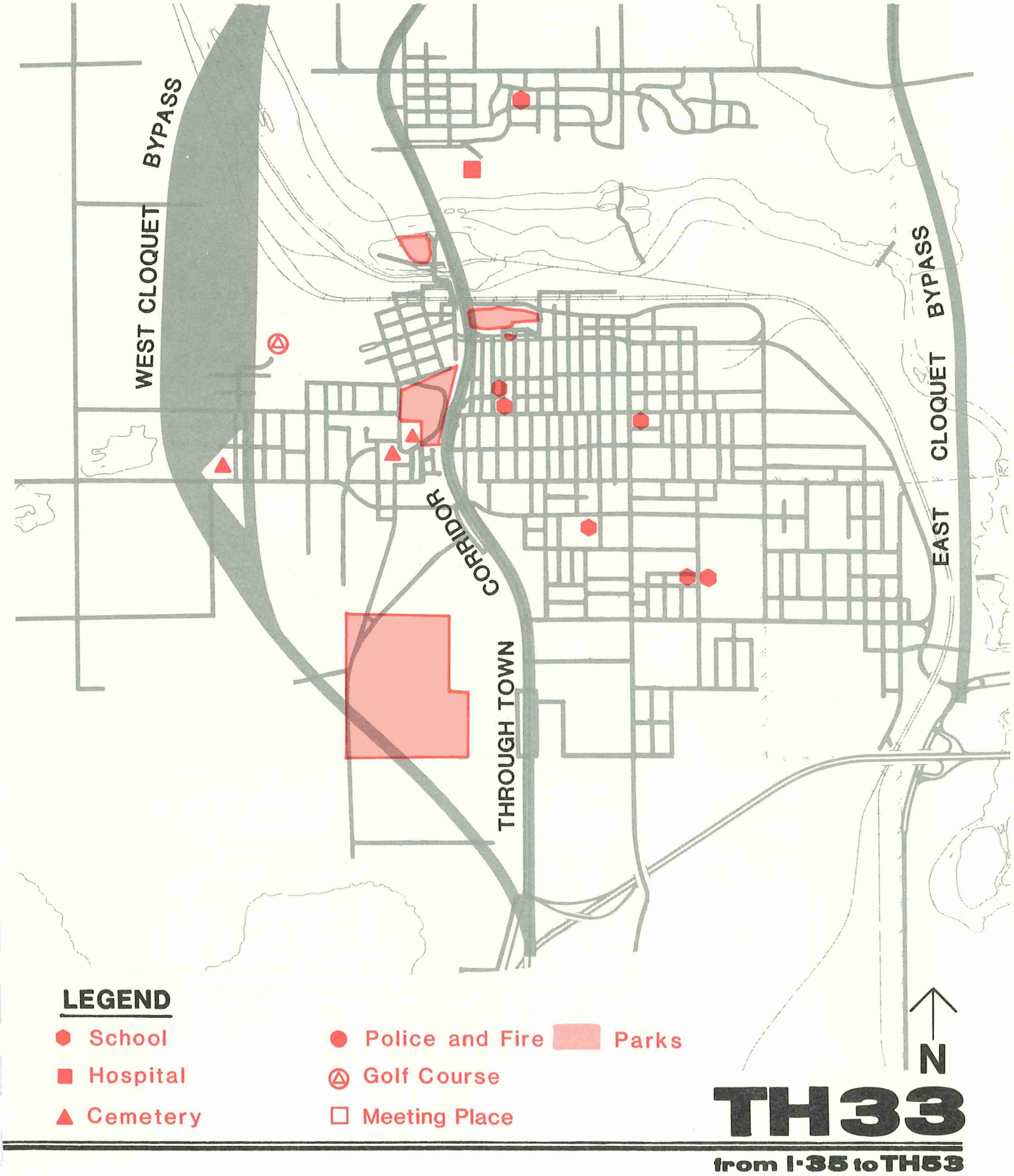


FIGURE 14B: COMMUNITY SERVICES - URBAN SECTION

schools, one junior high school, two elementary schools and four private/parochial schools are found within the study area. Approximately 3000 students are enrolled in these schools.

Churches

Churches serving the study area include 12 Protestant, four Catholic and four other denominations.

Recreation

The City of Cloquet offers a number of recreational possibilities, including 11 parks and playgrounds, 17 tennis courts, two swimming pools and a hockey arena. The area also has a number of shopping facilities, meeting facilities, a library, two radio stations and cable TV. A community center in Cloquet provides a variety of services including a library, a museum and a child care center.

Police/fire protection

Police and fire protection are provided by the City of Cloquet for the majority of the study area. The fire station also provides ambulance service throughout the study area. A hospital is located just north of the St. Louis River.

Park Lands

Seven parks are located in the Cloquet area: Pinehurst Park, Veterans Park, Spafford Park, Hillside Park, Pine Valley Park, Sunnyside Park, and Athletic Park. The Cloquet Golf Club is also located within the city limits.

Indian reservation

The Fond du Lac Indian Reservation is located west and north of Cloquet (Figure 5). The reservation is greater than 21,000 acres in size. Nearly 10,000 acres are located in Carlton County and approximately 11,500 acres are in St. Louis County. Total Tribal enrollment is approximately 2,800 persons, however, the majority do not live on the reservation. The 1980 census enumerated 514 American Indians living on the Reservation. Non-Indian residence is common on the Reservation. The portion of the Reservation adjacent to the western Cloquet City limit is heavily residential.

Historical properties

Fourteen sites that have been identified as having historic value are located within the urban section of the study area and are listed below (See figure 15 for location). The first ten have been identified as being historic by the Minnesota Historical Society and the remaining four have historical significance according to the Carlton County Historical Society.

The sites include:

1) Dunlap Island

2) Phillips "66" Station: Frank Lloyd Wright
   SE corner, Cloquet Avenue and TH 33
   Cloquet

3) Cloquet Boom House and Sorting Sheds Site.
   SW,SE, Sec. 10, T.49, R.17 St. Louis River and North End of Posey Island
   Cloquet

4) Cloquet Steam Mill Company Site
   NW,SW, Sec. 14, T.49, R.17
   Cloquet

5) Johnson-Wentworth Sawmill Company Site
   NW,SW,Sec.13, T.49, R.17
   Cloquet

6) Lindholm House
   N.E., NE, Sec. 26, T.49, R.17
   Cloquet

7) Northern Lumber Company
   NW,SW, Sec. 14, T.49, R.17
   Cloquet

8) Northeastern Hotel
   N1/4, SE, Sec.14, T.49, R.17
   Cloquet

9) Upper Northern Sawmill Company Site
   NW,SW, Sec. 13, T.49, R.17
   Cloquet

10) Water Power Sawmill Company site
   NW,SW, Sec.13, T.49, R.17 Water Power Island
   Cloquet

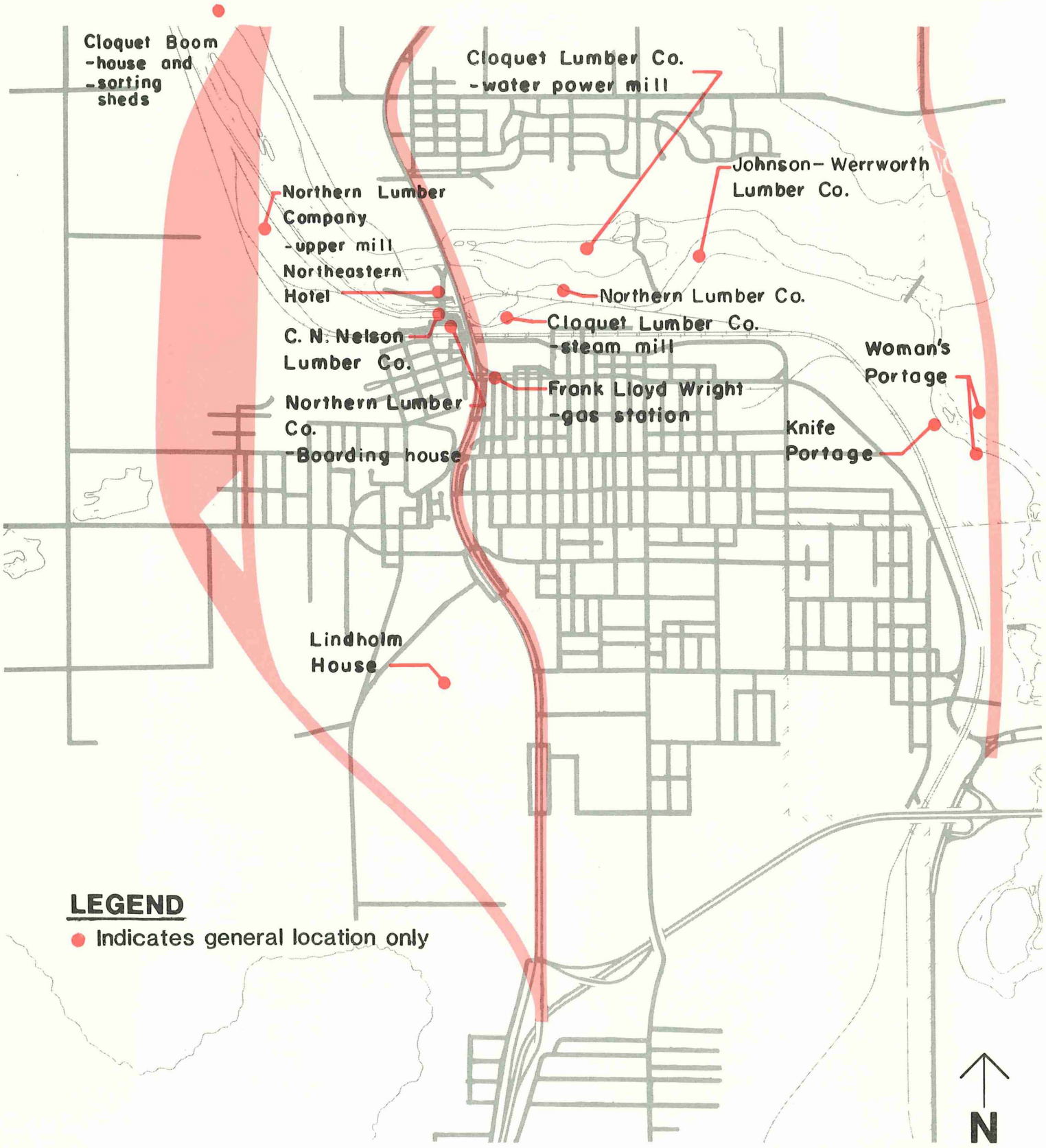
Four additional sites were identified by the Carlton County Historical Society as also having historical significance.

11) Knife Portage
SW1/4, Sec. 13, T.49, R.17
NE,NE,Sec.24, T.49, R.17; Cloquet

12) Womans' Portage
from Maple Island to Fortress Island west side of St. Louis river Sec.13, T.49, R.17 Cloquet

13) Womans' Portage
from Maple Island to Fortress Island east side of St. Louis River Sec.13, T.49, R.17

14) C.N. Nelson Lumber Company



TH33

from I-35 to TH53

FIGURE 15: HISTORIC SITES AND STRUCTURES

Environmental Consequences

V. ENVIRONMENTAL CONSEQUENCES

Introduction

This section of the FEIS presents a description of potential social, economic, and environmental impacts resulting from the proposed TH 33 project. Impacts of the Preferred Alternative, the six build alternatives, and the No Build Alternative are evaluated. Where appropriate, mitigation measures for adverse impacts are also discussed.

A corridor for each of the alternatives was evaluated for potential impacts. In this EIS, a corridor is defined as a narrow strip of land which would be altered in some way by construction of the proposed transportation facility. In order to quantify the amount of acreage impacted within the corridor, different widths were assigned. For land use acreages, right of way limits were used to calculate the total acreage of land types converted to highway use. A portion of certain land uses (e.g. wetlands and forest) would remain unaffected by construction. For wetland impacts, construction limits were used in order to determine the acreage for which mitigation would be required. Because a detailed layout was developed for the Preferred Alternative, a more detailed impact analysis was possible along this alignment. Thus, the corridor width used in figuring impact acreages for the Preferred Alternative is different than other alternative corridor widths. (See Table 15 in the Land Use section and the discussion of corridor widths in the Wetlands section for the exact widths of alternative corridors).

SOCIAL IMPACTS

A major transportation improvement has the potential to cause social impacts to the community through which it may pass. These are discussed on the following pages. Unless specifically noted, this discussion pertains only to the rural section.

Community/Neighborhood Cohesion

Preferred Alternative

The Preferred Alternative is not anticipated to cause significant adverse impacts to community or neighborhood cohesion. The project will generally remain within the existing corridor, and no residential neighborhood will be split or become isolated. The acquisition of residential property located along TH 33, and the subsequent relocation, may cause some adverse impacts to neighbor relationships. However, the proposed improvement will not create any physical barrier. Access to community facilities will not be adversely impacted, but rather will be enhanced. The provision of a safer and more efficient transportation system will make it easier for residents living along TH 33 to reach community facilities in Cloquet, on the Iron Range, in Duluth and elsewhere.

Other Alternatives

Neither the East nor West Corridor would have generalized impacts different from those described above.

The Range Line Corridor is also not expected to cause significant adverse impacts to community cohesion. For most of the distance of this alternative, it would traverse undeveloped land or land very sparsely populated. It does not traverse an urban area or incorporated place in the rural section. As a result, it will not divide any existing cohesive neighborhood. Some relocation would be caused by this alternative and some neighbor relations may be harmed as a result. However, it is not anticipated to be a significant community impact. For people living near the Range Line Corridor, access to community facilities will be enhanced.

Due to the limited improvements associated with the No-Build Alternative, no community or neighborhood cohesion impacts are anticipated.

Travel Patterns/ Accessibility

Preferred Alternative

Construction of the Preferred Alternative within the TH 33 corridor will not adversely impact travel patterns or accessibility. Travelers currently using the TH 33 corridor will continue to use it. Travel patterns are expected to remain the same, and accessibility to community facilities may be increased as a result of travel time reductions. Replacement of the current TH 33-TH 2 intersection with a grade separated interchange will improve travel and accessibility for all users of TH 33 and TH 2.

Other Alternatives

Neither the East nor West Corridor would have generalized impacts different from those described above.

Construction in the Range Line Corridor will alter non-resident travel patterns by diverting most through-trip motorists from the existing TH 33 corridor to the new facility.

This would have two effects:

A. Reduction of traffic on TH 33, particularly tourist traffic, will improve travel and accessibility for those residents currently living along the TH 33 corridor.

B. Construction of a four lane divided facility will enhance accessibility for those now living in the Range Line Corridor.

Selection of the No Build Alternative will not adversely impact accessibility compared to the existing condition. The improvements associated with the No Build will increase accessibility, but to a lesser degree than the build alternatives.

Community Facilities
(Figure 14)

Schools

Preferred Alternative

AlBrook School, a public high school for grades 9 through 12, is located within the corridor at the junction of TH 33 and Seville Road, approximately one half mile north of TH 2. This is a combined high school, drawing students from the communities of Alborn and Brookston. The construction of the Preferred Alternative will not exert any adverse impact upon the school, adjacent facilities or operations.

Other Alternatives

The two companion lane design option in the West Corridor would eliminate the schools parking area, located adjacent to inplace TH 33. The four lane design option in the West Corridor would require the relocation of Albrook School and/or the football field and track located west of the school building. The East Corridor and Range Line Corridor have no direct impact on the school.

The No Build Alternative would not adversely impact any school facilities.

School Districts

The rural portion of the project is included in School District 710. Potential School District impacts include the number of school children, the location of bus routes, and potential tax losses caused by relocation.

Preferred Alternative

The number of school children potentially impacted was estimated. Although previous research indicates that most displaced residents settle near their old residence, worst case analysis is used to estimate the maximum impact. For the TH 33 project, the worst case assumption is that all displaced residents will move from the

region. If this were the case, District 710 may lose as many as 18 school aged children in any one year. Table 11 indicates the amount of aid which could be lost if each displaced student left the district, and the district lost the full dollar amount of foundation aid it had received on a per student basis. This represents a "worst case" analysis. The highway design is such that no physical barriers will be created which could cause the alteration of school bus routes. Coordination with school district staff has revealed that no adverse impacts are anticipated.

Other Alternatives

Impacts of other alternatives are also presented in Table 11.

Recreation Areas

The only publicly owned recreation area in the rural section of the project is the football/track athletic field associated with the AlBrook High School. This field will not be impacted by the Preferred Alternative or any other alternative.

Churches

A private home used for nondenominational Christian religious services, is located within the West Corridor, immediately north of TH 2. Relocation of this church/dwelling will occur with the construction of the Preferred Alternative. No other churches will be impacted by any of the project alternatives.

Public Safety/Emergency Services

Preferred Alternative

Construction of the Preferred Alternative will facilitate the movement of emergency vehicles north of Cloquet, and west of Cloquet on TH 2. The hospital in Cloquet will be easier to reach from any northerly direction.

Table 11
Potential Impacts to School Districts

RURAL SECTION DISTRICT 710	Preferred Alternative	West Corridor	East Corridor	Range Line Corridor
Potential Homes Displaced	24-33	30-40	20-35	7
1980 Mean Persons per Housing Unit[1]	2.7			
Estimate of Persons Displaced	65-89	81-108	54-95	19
Percent of Population Aged 5-17[1]	19.8			
Estimate of School Aged Children Displaced	13-18	16-21	11-19	4
Fall 1983 District Enrollment[2]	2871			
Foundation Aid Received, 1983-84[2,3]	$53,764,000			
Foundation Aid Per Student	$ 1,311			
Estimated Maximum Loss of Foundation Aid	$17,043 23,598	$20,976 27,531	$14,421- 24,909	$5,244
Maximum Loss as Percent of Foundation Aid Received	.6%	.7%	.7%	.1%

URBAN SECTION DISTRICT 94	West Cloquet Bypass	East Cloquet Bypass	Through Town Corridor	Range Line Corridor
Potential Homes Displaced	19-60	17	11	3-6
1980 Mean Persons per Housing Unit[1]	2.7			
Estimate of Persons Displaced	51-162	46	30	8-16
Percent of Population Aged 5-17[1]	21.7			
Estimate of School Aged Children Displaced	11-35	10	7	2-3
Fall 1983 District Enrollment[2]	2322			
Foundation Aid Received, 1983-84[2,3]	$3,145,000			
Foundation Aid Per Student	$ 1,354			
Estimated Maximum Loss of Foundation Aid	$14,894- 47,390	$13,540	$ 9,478	$2,708 4,062
Maximum Loss as Percent of Foundation Aid Received	1.5%	.4%	.3%	.1%

1 1980 Census Data
2 Minnesota Department of Education
3 A variety of state aid are received. Foundation aids are the most sensitive to numbers of students.

Other Alternatives

In the rural section, construction of any of the build alternatives will facilitate the movement of emergency vehicles north of Cloquet. Either the East or West Corridor would provide the same level of service. Construction in the Range Line Corridor would not provide a high level of service to the north or west along TH 2. The limited improvements associated with the No Build Alternative would provide a better level of service than the existing condition, but less than the build alternatives.

Construction of either bypass alternative in the urban section would not adversely impact the provision of emergency services in the rural area; neither would it cause a beneficial effect. Emergency vehicles traveling in a north/south direction, north of Cloquet would continue to use existing routes. The reduction of through traffic on existing TH 33 would facilitate emergency vehicle movement somewhat.

The limited improvements associated with the No Build Alternative will facilitate the movement of emergency vehicles. This will be less than the free flow which would be associated with a four lane design in the rural section.

The construction of the Through Town Corridor would have the most beneficial effect upon emergency service provision in the rural area. The location of the public safety building is very near existing TH 33 (Figure 14b). Access to a westerly bypass would be sufficiently distant from the intersection of existing TH 33 and TH 45 that it would not generally be used for emergency vehicle movement. An easterly bypass would be even more distant and would presumably be used even less. The Through Town Corridor would provide the best facility for movement of emergency vehicles north of TH 45.

Access to the hospital would be most positively impacted by the Through Town Corridor. Either bypass alternative would not pass sufficiently near the hospital to

reduce access time. The Through Town Corridor would pass only a few blocks from the hospital, providing all users increased access.

Special Group Impacts

Previous research has shown some categories of people are particularly sensitive to the personal and social dislocations which transportation improvements sometimes cause. These categories include the elderly, handicapped, non-drivers, and minorities. The percentage of elderly in the general population in St. Louis County is 13.5; in Carlton County, 12.7. This compares with 11.8 percent for the state and 11.5 percent for the nation. This indicates that the proportion of elderly in the project area is slightly higher than other areas. However, there is no reason to suspect that the elderly will be unduly impacted by the proposed project. The project is such that non-drivers are not apt to be affected in any way. Significant numbers of minorities live in proximity to the project area. The Fond du Lac Indian Reservation is located in Carlton and St. Louis counties, west of the St. Louis River and the project study area. The Preferred Alternative does not involve land within the reservation. The Preferred Alternative can be expected to affect minority group members to essentially the same degree (e.g. safety improvements, travel times, etc.) as it does majority group members, Minority travelers will be benefitted to the same degree as non-minority travelers by the proposed highway improvement.

ECONOMIC IMPACTS

Major transportation improvements have the potential to exert major effects on the economy. They may reduce transportation user costs, open new areas for residential or commercial development, or in other ways exert a substantial economic effect.

Business Impacts

Within the proposed project area, a number of businesses currently operate along and adjacent to existing TH 33. Construction

of the Preferred Alternative will cause the traffic to remain within the existing corridor. Businesses along TH 33 which are oriented to transient motorists will benefit from this alternative.

Tax Revenue

Property acquired for transportation right of way is permanently removed from the rolls of the taxing district in which it is located. This may result in a temporary increase in the ad valorum tax on remaining real property. If all, or a substantial proportion, of displaced property owners choose to relocate outside of the original taxing district, such a tax increase could be permanent. Previous experience indicates that most property owners relocate within the same general area. This will normally result in a property tax impact of insignificant proportion.

Preferred Alternative

The nature and location of the Preferred Alternative is such that a precise estimate of fiscal impacts is not possible at this stage of project development. The large majority of acquisitions are partial takings, which means only a portion of the property will be acquired. In such a case the valuation of the remaining property will be determined by the St. Louis County Assessor following acquisition.

Other Alternatives

In general, either of the locations in the TH 33 Corridor can be expected to be approximately equal in tax loss impacts. Property within the Range Line Corridor is generally undeveloped and its conversion to a transportation use could be expected to cause less of an impact than any other Alternative Corridor. The No Build Alternative would cause the least amount of right of way acquisition, and corresponding fiscal impacts would be minimal.

Public Expenditures

Preferred Alternative

The Preferred Alternative will add approximately 28 lane miles to the trunk highway system. These will require plowing, sanding, and other maintenance efforts. In addition, the median will require some mowing and other maintenance. These costs will be borne by Mn/DOT from the normal funds used for these purposes. No public expenditures will be required from the local units of government through which the roadway will pass.

The Preferred Alternative will result in approximately 1.5 miles of existing TH 33 being turned back to local control. These roads will be maintained by local effort.

Other Alternatives

The Range Line Corridor would result in approximately 36 lane miles being turned back to local control.

The design option which would add a companion two lanes to the existing highway within the East or West Corridor, would result in zero miles being turned back to local control, as would the No Build Alternative. If four lanes on new alignment were to be constructed within the East or West Corridor, 20 lane miles would be turned back to local control.

Development

Preferred Alternative

No major commercial, residential or industrial developments are expected to occur as a result of this project. Construction of the Preferred Alternative can be expected to result in development in the existing corridor continuing at its historic pace. While new development may occur within this corridor to serve increased traffic levels, such development will be incremental in nature.

Other Alternatives

Neither the East nor West Corridor in the rural section would have impacts different from those described above.

Construction within the Range Line Corridor can be expected to cause some commercial and traffic related development. However, no traffic related commercial development is foreseen as a result of this project. Construction in the Range Line Corridor could be expected to result in increased residential land use in that Corridor. The actual rate of such land use conversion depends upon individual location decisions and cannot be accurately predicted.

Employment Opportunities

No significant post-construction employment opportunities are anticipated to be directly caused by any of the project alternatives, including the Preferred Alternative. The project is designed to facilitate recreational, commercial and other travel between Iron Range communities and any southerly point. This may make the northern part of the state more attractive and thereby exert some long range beneficial effect upon commercial activity in the area.

Direct construction employment effects are discussed in the Construction Impacts section of this document. The construction of the Preferred Alternative may provide approximately 520,000 employee-hours of employment. In addition, large amounts of locally provided materials will be needed on the project.

Accessibility

Physical accessibility will not be changed in any significant manner by this project. Because of the design of the proposed improvement, some people living along the roadway may experience some circuity of travel. Crossovers are planned at every intersecting county or township road, which are located every one to two miles. Increased circuity should not exceed two miles for any resident. Travel times will be reduced for most highway users.

Retail Sales

Preferred Alternative

The overall project has the potential to increase retail/commercial sales in Cloquet. Following project construction, Cloquet will have generally increased accessibility to Iron Range communities. Retail merchants in and near Cloquet may exploit this ease of access and reduction in travel time to expand the Cloquet Market Area. This effect is, of course, dependent upon decisions and marketing efforts of Cloquet commercial interests. Given the assumption that total regional retail expenditures will not increase as a result of the highway improvement, any gains in retail sales in Cloquet would be offset by equivalent losses elsewhere in the region.

Other Alternatives

Neither the East nor West Corridor would provide benefits different from those described above. The Range Line Corridor would not provide these benefits. The No Build Alternative, by providing only limited improvement, would not be expected to provide significant benefits in this area.

Forest Industry

The Cloquet economy is heavily dependent upon the forest products industry, which is the major employer. These firms purchase large amounts of wood from local and regional suppliers. A subtantial proportion of this raw material reaches these plants via TH 33.

Preferred Alternative

The Preferred Alternative will insure that the forest products industry has excellent year-round transportation routes available for the forseeable future. The provision of a four lane divided facility will decrease user costs to forest product truckers, and will make TH 33 safer, both for truck and non-truck traffic.

Other Alternatives

Neither the East nor West Corridor would cause impacts different from those described above. The Range Line Corridor would also be an improvement over the existing conditions, but would cause some circuity of travel. The limited improvements associated with the No Build Alternative would also provide benefits, but to a lesser degree than the Preferred Alternative.

RELOCATION IMPACTS

Relocation of homes and business can sometimes be a significant adverse impact of a highway project.

Table 12 summarizes the number and type of relocations which would potentially occur for each alternative corridor in both the urban and rural Sections of this project.

The limited improvements associated with this No Build Alternative are not anticipated to cause any relocation.

Residential Relocation

Field investigations made it possible to estimate the number of homes involved and to survey the residential characteristics in the proposed project area. The types of homes along TH 33 cover a rather general range. The homes are concentrated most heavily around the north City Limits of Cloquet.

In both the urban and rural sections of TH 33 the homes are newer, of substantial size and well maintained. The homes indicate that the families and individuals are probably in the middle income level. Many of the residents living in the rural area commute to jobs in Cloquet. It is not possible to indicate an exact number of relocations until a detailed layout, including construction limits, is available. This project has not progressed to that stage. Therefore, a range of figures is presented. This range represents a lower and upper estimate of homes which may be displaced. The Preferred Alternative will displace 24 properties with additional properties suffering partial land takings. Up to 9 additional relocations may occur, dependent upon negotiations with the affected landowners.

Business Relocation

Considering the scope of the proposed project, commercial relocation will be minimal. At this time, it appears that the Preferred Alternative will cause a maximum of three commercial displacements. Relocation sites are available along their current location on TH 2. All have indicated an intent to remain in business in the same vicinity.

TABLE 12
RELOCATION IMPACTS WITHIN TH 33 STUDY AREA

Rural Section	Preferred Alternative	West Corridor	East Corridor	Range Line Corridor
Homes	24-33*	31-41*	20-35*	7
Business	3	4	4	0
Other	1-Church/home	1-Public Safety Weigh Station 1-Church/home 1-NW Bell Utility Building	0	0

**Urban Section	West Cloquet Bypass	Through Town Corridor	East Cloquet Bypass	Range Line One	Range Line Two
Homes	19-60*	11	17	3	6
Business	2	2	6	1	1
Miscellaneous	0	1-Gas Pump Island	1-Petroleum Bulk Plant	0	0

* These numbers represent a range of homes to be relocated. The exact number is dependant upon landowner negotiations concerning partial takings of land, whether the four lane or two lane design option is utilized, and whether the alignment passes through or near the Fond du Lac Indian Reservation.

** The Preferred Alternative in this section is the No Build.

Weigh Station Relocation

Construction of the Preferred Alternative will cause the relocation of the State Department of Public Safety (DPS) Truck Weigh Station, located in the southwest quadrant of the TH2/TH33 intersection. The weigh station will remain in the same quadrant of the new TH2/TH33 interchange. Relocation of the weigh station will require the acquisition of approximately 20 acres and one home.

Residential Availabilities

To determine the availability of suitable replacement housing, realtors in the Cloquet area were contacted and a field investigation was conducted.

This review revealed that an adequate supply of suitable housing is available to meet the demand for replacement which the project may generate.

The review established that in the Cloquet area, in mid-July 1984, 350 homes were for sale. Asking prices ranged from a low of $10,000 to a high of $98,000. The houses also varied in size. The largest number of homes were three bedrooms, followed by two bedroom homes. Both one and four bedroom homes are also available. The homes are well distributed between urban and rural locations.

It is anticipated that the TH 33 project will not present significant problems in finding safe, sanitary and otherwise suitable replacement housing for all displaced households.

Also, it should be noted that many of the displaced homes are located on parcels several acres or more in size. These residents may build new homes on the same parcel of land, or move their present homes further back on their property. This may be the only way those displacees currently living along the highway may remain, as residential availabilities along the highway are limited.

It is not anticipated that the relocation required by this project will exert a significant disruptive effect on the community.

Relocation Assistance

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, provides that assistance be granted to persons, businesses, farms, and non-profit organizations which may be displaced by public improvements.

Mn/DOT attempts to ensure that each displaced household is relocated into housing that is "decent, safe, and sanitary", is in the same general neighborhood (if desired), and is affordable within the financial means of the household. Mn/DOT attempts to complete each relocation within 90 days from the date of property acquisition. The Mn/DOT relocation office, through many sources, keeps a current listing of homes for sale and apartments for rent. Persons of lower income are given priority for public housing. Moving expenses are computed on a room schedule basis. Business and farm operations are also granted moving expenses, payment for time spent in search of a replacement site, and appraisal fees.

A displaced owner-occupant may receive a supplemental replacement housing payment from Mn/DOT of up to $15,000. This payment is the amount, if any, which when added to the amount Mn/DOT pays for the acquired dwelling, equals the actual cost which the owner pays for a comparable dwelling or the amount determined by Mn/DOT as necessary to purchase a comparable dwelling, whichever is less.

Increased interest payments are provided to eligible owner-occupants to compensate for the increased cost required for financing a replacement dwelling. For example, if the old mortgage was financed at 8 percent interest and the interest required to finance the replacement home is 10 percent, Mn/DOT will allow a payment based on this difference in interest of 2 percent on the amount and time remaining on the old mortgage. Mn/DOT will also pay all closing costs required on the transaction of buying a new home.

As a last resort, if satisfactory replacement housing of comparable value to that acquired cannot be located, Mn/DOT will locate the displaced household in other housing with no upper limit on cost. Given the housing situation in the area, it is doubtful that last resort housing will be needed.

Mn/DOT is exploring all possible sources of relocation assistance funding which may be available to displaced businesses. Emphasis will be placed on providing relocation advisory services to businesses. Appropriate measures will be taken to ensure that all businesses which are to be displaced are fully aware of their benefits and entitlements, courses of action which are open to them, and any special provisions designed to encourage businesses to relocate within the same community.

LAND USE IMPACTS

Any of the build alternatives will require the conversion of a certain amount of land to a transportation purpose. The types of land potentially impacted, by acreage, are presented in Table 13. Specific land use impacts are detailed in the following discussion of Land Use Conversion, Agriculture, Forestry and the special land use categories of Indian Land and Parks and Recreation.

Land Use Conversion

Preferred Alternative

Construction of the Preferred Alternative can be expected to perpetuate existing development patterns. As detailed earlier in the Relocation Section, displaced businesses and residences may relocate within the same corridor and thereby convert some forested or cleared land to a developed use. In addition, some forested or cleared land may be converted to wetland to compensate for wetland impacts elsewhere on the project. See Wetlands Section for details.

Other Alternatives

Construction of an alternative in either the West or East Corridor would have effects as described for the Preferred Alternative. Construction in the Range Line Corridor, or either of the urban bypass alternatives, can be expected to foster some long term land use conversion. Commercial or residential development can be expected to develop along these routes and would convert land which is currently in some other land use. The location of such development, and the rate at which such conversion may take place are dependent upon individual location decisions and cannot be accurately predicted. However, it is reasonable to assume that over the long term such development would occur.

Agricultural Impacts

Construction of any of the alternatives will cause the conversion of some amount of agricultural land to a transportation land use. General impacts to agricultural

TABLE 13
LAND USE IMPACTED BY VARIOUS ALTERNATIVES WITHIN TH 33 STUDY AREA

Alternative	Land Type Impacted (Acres)				
Rural Section	**Forested**	**Cleared**	**Wetland**	**Developed**	**Total**
[a]Preferred Alternative	118	84	89	43	334
[b]West Corridor	137	63	40	24	264
[b]East Corridor	115	74	46	14	249
[c]Range Line Corridor	163-182	112-163	155-163	0	430-508
Urban Section					
[d]Preferred Alternative	0	0	0	0	0
[e]Through Town	1	24	11	23	59
West Cloquet Bypass	75	97	42	14	228
East Cloquet Bypass	69	95	14	3	181

[a]Values for the Preferred Alternative are for a 200 foot corridor.
[b]150 foot corridor
[c]300 foot corridor for four lane
[e]100 foot corridor for the Through Town Alternative
[d]The Preferred Alternative in the urban section (No Build)is not anticipated to cause any right of way acquisition.

land can be seen in Table 13. Agricultural land includes forested and cleared land. Minnesota Statute 17.80 et.seq. also includes some wetlands as agricultural land. This discussion will not include wetlands.

Alternatives

Construction of the Preferred Alternative will cause the conversion of approximately 84 acres of cleared land and 118 acres of forested land. In the Rural Section, either the East or West Corridor will impact approximately equal amounts of potential agricultural land - 200 acres for the West Corridor and 189 acres for the East Corridor. The Range Line Corridor could require between 275 and 345 acres. In the urban section, either bypass would impact approximately the same acreage.

Consultation with SCS has resulted in the development of the detailed soils map presented in Figure 11a & 11b. Prime farmland is depicted on these figures.

The large majority of land along all of the alternate corridors is not under cultivation or used for the production of food or fiber crops. Active agricultural use along TH 33 is quite limited (Table 13). Most of the land adjacent to TH 33 has forest cover. Hay is the predominant field crop.

Beginning at the interchange of TH 33 and TH 53, agricultural uses occur as follows. Field crops are found in the vicinity of TH 33 and CSAH 7 and somewhat to the north. Field crops are again found generally between Beartrap Creek and TH 2. South of TH 2, forest cover predominates. Field crops exist in the general area of Dutch Slough and again in the vicinity of the intersection of TH 33 and CSAH 56. Between CSAH 56 and the north corporate limits of Cloquet, land use is a mixture of rural residential and agriculture.

The Range Line Corridor for most of its length crosses undeveloped land. Within this corridor some agricultural uses are found near CSAH 7 and near the DMIR Crossing. South of TH 2, nearly no agricultural uses are found until the

vicinity of Morris Thomas Road. South of Morris Thomas Road, agricultural uses are common.

Prime/Unique Farmland

Unique farmland is land other than prime farmland that is used for production of specific high-value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high-quality and/or high yields of a specific crop when treated and managed according to acceptable farming methods. Unique farmlands in Minnesota may include cranberry bogs, wild rice areas, orchards, commercial vegetable gardens, and other.

No unique farmland is found in the project vicinity. Prime farmland is land which meets a number of physical, chemical, and other criteria which make it well suited for high yield crop production. Generally, the land has soil quality, growing season and moisture availability to produce high yields when managed according to acceptable farming methods. It may or may not be used for crop production and it includes pastureland, rangeland, forestland and cropland. Land in soil capability class I or class II is generally defined as prime farmland. Steep slopes, poor drainage and shallow soil are a few of many features which may limit soils from being class I or class II land.

The most common prime land occuring along the various alternates is Ahmeek Silt Loam, on relatively gentle slopes. In Figures 11a and 11b, these prime soils are numbered 21, 21A, and 21B. Other prime soils are 502, 1313, 1316A and 1316B.

Preferred Alternative

The Preferred Alternative will require the acquisition of approximately 64 acres of land which would be considered prime soils.

Other Alternatives

In St. Louis County, the East Corridor would impact approximately 65 acres of prime land. The West Corridor would impact approximately 59 acres and the Range Line Corridor approximately 136 acres. In Carlton County, a West Cloquet Bypass would impact approximately seven acres and the East Cloquet Bypass approximately four acres. The Through Town Corridor would not impact any prime land.

Indirect Agricultural Effects

Generally, the Preferred Alternative follows existing roads. As a result, indirect farm impacts through severance and/or triangulation will be avoided. An area where severance and/or triangulation is likely is that area where the bypass alternatives return to the existing TH 33 alignment (Figure 9a and 9b). Since the Preferred Alternative does not include this area, no indirect impacts are anticipated.

Every effort will be made to minimize the taking of farmland and to mitigate any adverse impacts to prime farmland agricultural operations.

It is not anticipated that the adoption of any of the build alternatives will cause significant adverse impacts to agricultural land, operations, or production in the project area.

Forestry Impacts

The regrowth aspen-birch forest type is the predominate upland forest cover on the corridors studied. Species include trembling and big-tooth aspen, balsam poplar and paper birch. Associate species include red maple and green ash. This forest type reflects a history of fairly intense management because of its proximity to wood processing mills in Cloquet. Aspen is used heavily in both the paper industry (Northwest paper) and the match industry (Diamond National), while birch is used as a fuel.

Approximately 15 percent of the upland forest cover consists of the spruce-fir forest type. Dominant species include white spruce and balsam fir. Hardwoods associated with the aspen-birch type represent an ever diminishing percentage of the cover in the spruce-fir type. A minimal amount of pine and spruce plantations occur in the corridors.

Bottomland coniferous forests in the corridors are predominantly black spruce. Tamarack and northern white cedar occur to a lesser degree. Black ash and American elm are common bottomland hardwoods.

Comparison of Alternatives

Preferred Alternative

Other than the No Build Alternative, the Preferred Alternative has the least direct impact on forest lands of all the alternatives studied. Approximately 141 acres of forest land will be removed from forest production.

Adjacent forests may be adversely impacted by altered drainage and wind patterns. Bottomland forests are very sensitive to changes in water levels. Recently created bottomland and upland forest edges are subject to windthrow until the edge trees develop windfirmness.

Other Alternatives

The route with the most direct impact on forest lands is a combination of the West Cloquet Bypass and the Range Line Corridor. This alternative would remove approximately 238-258 acres of forest land.

Adverse impacts due to changes in drainage and wind patterns would be likely with the other alternatives.

A positive aspect of the Range Line Corridor would be the increased accessibility to state and private forest land.

Mitigation for the Preferred Alternative includes the following measures:

A. Allow natural tree and shrub regeneration of cut and fill sections in order to achieve a blending of the roadway into the adjacent forest land.

B. Leave forested buffer strips between the construction limits and the right of way wherever possible in order to reduce windthrows on adjacent forest lands.

C. Design the highway drainage system in a manner that minimizes damage to adjacent bottomland forests.

D. Preserve specimen (picturesque individuals or groups) trees in the detail design process or make field adjustments as determined by the Project Engineer.

Fond du Lac Indian Reservation

The Fond du Lac Indian Reservation is located westerly and northerly of the City of Cloquet.

Preferred Alternative

The Preferred Alternative will not impact the Fond du Lac Indian Reservation. The Preferred Alternative in the urban section is a temporary No Build. Detailed information regarding impacts to the reservation and its inhabitants will be developed prior to the selection of any build alternative in the urban section.

Other Alternatives

A westerly bypass of Cloquet would pass on or near this Indian Reservation near the western city limits of Cloquet.

The impacts to Indian people from a bypass located on the reservation are not clear. Land use in this area is low density residential. Land ownership is distributed among the Indian Reservation, State and local government, corporations, and individuals. Non-Indian residential land use in this section of the Indian Reservation is common.

The Fond du Lac Reservation Business Committee, the governing body of the Reservation, has reviewed the proposed project, including a westerly bypass, and has pointed out a number of problem areas:

A. The route would cross lands to which there is not clear title or which are currently the subject of various land claims.

B. The route may cross Tribal or Band Trust Lands. The Reservation has a policy of not selling any of its land.

C. The route could interfere with the hunting and fishing resources of the reservation.

E. A four lane highway through the Reservation would foster undesired land use changes and may directly or indirectly impact graveyards or possible sites of Indian origin which may be of archeological significance.

Parks and Recreation

In the rural portion of the TH 33 project, there is only one publicly owned park or recreation area. This is the football/track athletic field located at AlBrook High School near the intersection of TH 33 and Seville Road, just north of TH 2. This athletic field is located within the West Corridor and has the potential to be impacted by the four lane design option. Impacts have been previously discussed in the Social Impacts (Community Facilities/Schools) section. The Preferred Alternative will not affect this facility.

In the urban portion of the project, five parks within the city limits of Cloquet are adjacent to project alternatives (Figures 14a and 14b).

Pinehurst Park is located adjacent (westerly) to existing TH 33 just south of the TH 45 intersection. Pinehurst Park is used as open space and for special events, such as county fairs. TH 33 is already a four lane roadway at this location and no

construction on the Through Town Corridor would occur south of TH 45. Pinehurst Park will not be impacted by this project.

Veterans Park is an athletic field located in the northeast corner of the TH 33/TH 45 intersection and portions are within the Through Town Corridor. Preliminary engineering has shown that Mn/DOT owns sufficient right of way such that no land from this park is needed to construct the Through Town Corridor.

A small wayside park is located in the northwest corner of the TH 33/TH 45 intersection. This wayside is administered by the City of Cloquet, but is situated on Mn/DOT owned right of way. The city of Cloquet has determined this wayside park to be a non-significant park. This park would be impacted by the Through Town Corridor, in order to avoid the significant Veterans Park.

Spafford Park is a city camping and boat launching facility located on Dunlap Island in the St. Louis River. Existing TH 33 is the eastern boundary of this park. The park is located within the Through Town Corridor, however, any widening of the road would occur to the east, away from the park, and access to Spafford Park would be maintained from TH 33. Therefore, Spafford Park will not be impacted by this project.

Pine Valley Park is owned by the City of Cloquet. It is located about one mile from the downtown Cloquet area. It contains 154 acres and is in the NW 1/4 of Section 26, Township 49 North, Range 17 West. The Pine Valley Ice Arena, also owned by the City, is located just north of the park on 10 additional acres (Figure 16).

The Cloquet Public Works Department occupies about 12 acres in the northwest corner of the park area. Included in this area are public works buildings, a gravel pit, city wells, and pumping station.

The park facilities include the following:

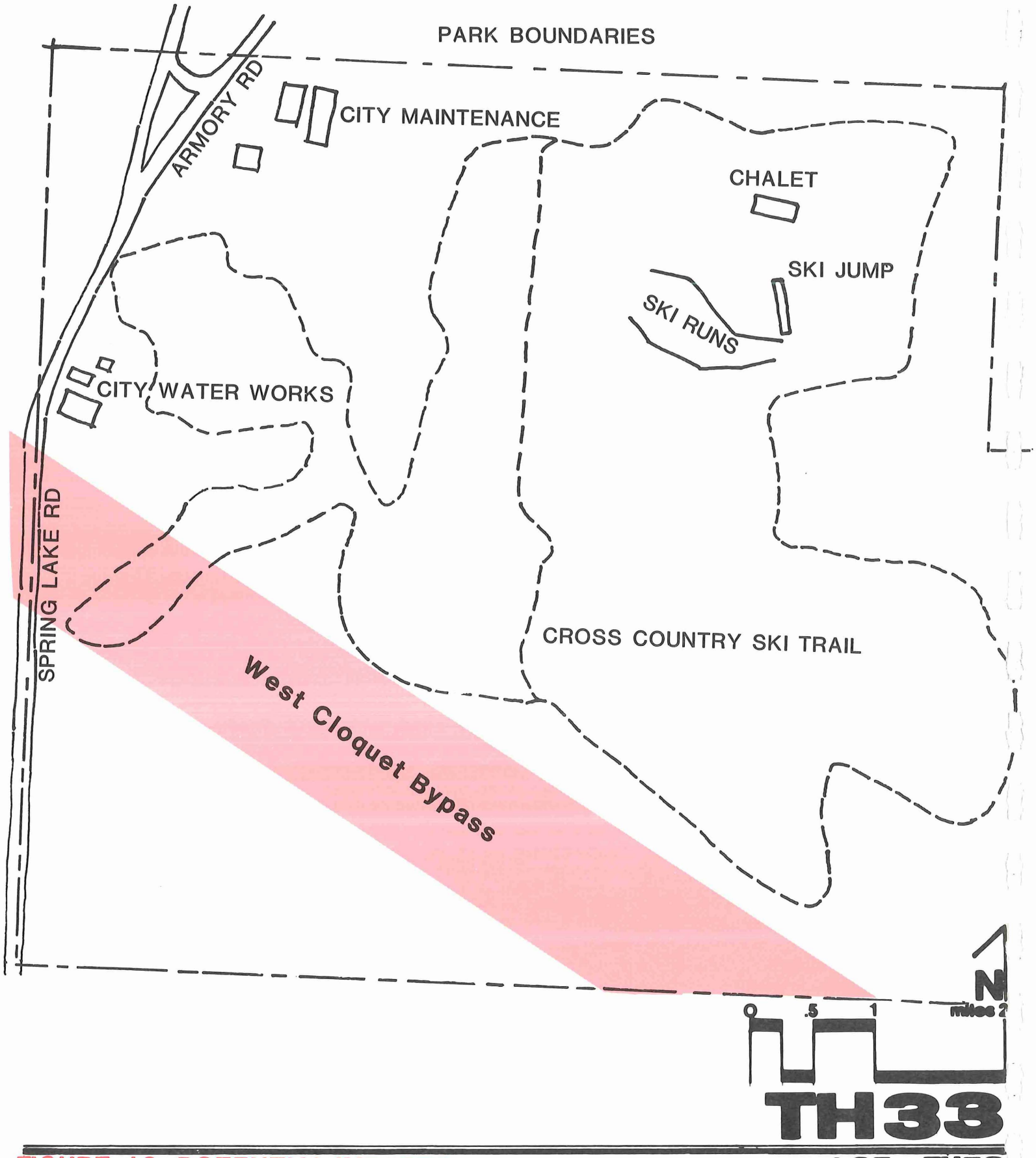


FIGURE 16: POTENTIAL IMPACTS TO PINE VALLEY PARK

- Two ski jumps
- Two downhill ski runs
- A rope tow for skiers
- Cross country ski trail
- Chalet
- Picnic area
- Indoor ice skating rink

The cross country ski trail, part of which runs on private property, is two and one half miles long.

The terrain in the area of the highway alignment is rolling and wooded with deciduous trees. Most of the rest of the park area is wooded with pine trees.

Pine Valley Park would be affected by the West Cloquet Bypass which would run diagonally across the southwest corner of the park. Right of way would be 375 feet wide and would take 20 acres. The park area in the southwest corner contains 17 acres and would be severed by this alignment. The highway right of way area would affect about 900 feet of cross country ski trail.

Funding for improvements to the park was from private sources. There was no State or Federal funding. Also, there is no indication of any restrictions affecting the title to the property.

AIR QUALITY IMPACTS

This project is in an area where the State Implementation Plan (SIP) is not required to contain any transportation control measures. Therefore, the conformity procedures of 23 CFR 770 do not apply to this project.

The air quality impact of the proposed improvement has been analyzed. All alternatives including the Preferred Alternative are not anticipated to have significant air quality impacts and are considered consistent with the approved SIP. A Memorandum of Understanding with the Minnesota Pollution Control Agency (MPCA) specifies that prior consultation with the MPCA is considered accomplished for highway sections which are outside of a Standard Metropolitan Statistical Area. TH 33 meets this criteria.

The EPA 1975 Volume 9 screening procedure, Evaluating Indirect Sources, updated with the EPA 1978 emission factors was used to estimate the peak carbon monoxide concentration at the nearest critical receptors along existing TH 33. The screening procedure assumptions include a one meter per second wind at 10° to the roadway (variable direction at intersections), a Pasquill-Gifford stability classification of "D", an eight-hour persistence factor of 0.6, 10 percent cold starts at 20°F, and a 1975 background concentration of five and two ppm for one and eight hour periods respectively (1ppm in rural areas).

Two receptors were selected as the most critical because of their nature and their closeness to the roadway (Table 14). The impact to any receptors adjacent to the bypass or the Range Line alternatives would be less than the impact at these two locations.

The air quality standards will not be violated. An indirect source permit is not required. Construction and operations of this proposal will conform to Federal, State and local air quality regulations.

TABLE 14

CARBON MONOXIDE CONCENTRATIONS IN PARTS PER MILLION (PPM)
AT SELECTED RECEPTORS ALONG TH 33.

RECEPTORS		ONE HOUR		EIGHT HOUR	
		1988	2005	1988	2005
1). Phillips 66 Gas Station TH 33 and TH 45	Through Town	11.5	8.4	4.3	3.1
	No Build	11.5	8.4	4.3	3.1
2). Rural School TH 33 and CSAH 56 (Morris Thomas Rd.)	West Corridor	1.8	1.6	1.3	1.2
	No Build	1.8	1.6	1.3	1.2

Standards	1-hr.	8-hr.
Minnesota	30ppm	9ppm
Federal	35ppm	9ppm

NOISE IMPACTS

Analysis indicates that present noise levels exceed FHWA Noise Abatement Criteria and State Standards at several receptors along the Preferred Alternative route. Traffic noise receptors adjacent to the Preferred Alternative will experience a normally unperceptable increase in noise levels in the year 2006. This means noise levels increasing less than 3 dBA (see Table 15). Therefore, these receptors and additional receptors will exceed the standards in the year 2006, but insignificantly (see Table 16).

Alternatives

Construction along the East and West Cloquet Bypass or Range Line Corridor would result in a decrease of noise levels along the existing facility and an increase of noise levels along the new alignment (Table 15, receptors 23, 24, 25).

Analysis indicates that noise levels would exceed FHWA Noise Abatement Criteria and State Standards at several receptors along each alternative (Table 16).

Representative sensitive noise areas long each alternative were determined and are listed in Table 15 and identified in Figure 17a and 17b. The information in Table 15 for receptors is also presented in Graphs 1-20.

Existing noise levels at the representative noise areas were estimated from field noise monitoring and cross-checked by the FHWA NOISE MODEL RD-77-108, computer program STAMINA 2.0/OPTIMA.

Field monitoring was performed at 25 sites on weekdays between 9 am and 4 pm during the summer of 1983. Nighttime levels were predicted, and the values represent the worst nighttime hour.

The year 2006 noise levels for the existing facility and each alternative were calculated using the FHWA NOISE MODEL (RD-77-108) computer program STAMINA 2.0/OPTIMA. The model uses vehicle number, type and speed and the physical characteristics of the roadway. Modeling was performed without any special noise abatement measures.

Traffic volume predictions for the year 2006 are contained in Table 5.

Predicted noise levels for 25 receptor areas are listed in Table 15. The noise levels listed are for the worst case receptor within the area or the proposed right of way line.

FHWA noise abatement criteria and Minnesota Pollution Control Agency (MPCA) Noise Standards were examined to determine applicable Federal and State noise criteria (Table 15).

Probable noise impacts were determined by comparing the predicted future noise levels with the estimated or measured existing noise levels and applicable Federal and State criteria. Table 15 is arranged to allow a convenient comparison of noise levels. Changes in noise are also apparent by comparing field readings with future noise contours on the graphs. The number of individual receptors exceeding Federal and State criteria on each alternative is shown in Table 16.

For areas experiencing noise impacts, the feasibility of noise abatement was evaluated. Noise abatement measures considered include accoustical barriers, sound insulation, vegetative screens, traffic management, roadway surface type, acquisition of impacted property and alignment changes.

Noise Abatement

The total increase in the traffic noise level due to the higher traffic volumes by the year 2006 is less than 3 dBA. This degree of increase is not perceptible to most people. Noise walls are not feasible along the Preferred Alternative because of the numerous access points to TH 33 from adjacent property.

The East and West Cloquet Bypass and the Range Line Corridor alternatives would have been designed with limited access. Thus, noise walls along these alternatives would have been feasible. However, the noise receptors along these alternatives are too scattered to make their use cost effective.

The noise abatement evaluated and other details of the noise analysis are included in the noise report on file with MPCA.

TABLE 15
NOISE LEVELS (dBA) FOR TYPICAL RECEPTORS ALONG TH 33

Receptor	Alternative	*Measured and Predicted Existing		Predicted 1983		Predicted Future 2006			
		Peak Day		Peak Night		Peak Day		Peak Night	
		L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
FHWA Noise Abatement Criteria		70	---	---	---	70	---	---	---
Minnesota PCA Noise Standards		65	60	55	50	65	60	55	50
1. Dept. Nat. Resources NBL 523+55	Preferred	*66	*59						
	Alternative	70	62	66	57	72	65	69	60
2. Nat. Guard Armory SBL (*1) 568+85 145'W	Preferred	*67	*61						
	Alternative	67	60	63	55	69	63	65	58
3. N. Carlton Ave. NB 599+00 78'E	Preferred	*66	*57						
	Alternative	71	62	67	58	73	65	69	60
4. Locomotive SBL 12+75 85'W	Preferred	*65	*58						
	Alternative	71	64	67	58	72	65	68	60
5. North East	Preferred	*64	*58						

(*) Measured values were obtained between 9:00 AM and 4:00 PM
(*1) State Noise Area Classification (NAC2) and Federal Noise Abatement Criteria C applies to L_{10} of 70 and 75 respectively.

TABLE 15

NOISE LEVELS (dBA) FOR TYPICAL RECEPTORS ALONG TH 33

Receptor	Alternative	*Measured and Predicted Existing 1983				Predicted Future 2006			
		Peak Day		Peak Night		Peak Day		Peak Night	
		L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
Hotel SBL 27+75 125'W	Alternative	69	61	64	56	69	63	65	58
6. Campground SBL 31+35 410'W	Preferred	*57	*54						
	Alternative	59	54	56	49	61	56	57	52
7. Kentucky Fried Chicken (*1) SBL 30+05 75'W	Preferred	*66	*58						
	Alternative	69	62	64	55	72	65	68	60

(*) Measured values were obtained between 9:00 AM and 4:00 PM
(*1) State Noise Area Classification (NAC2) and Federal Noise Abatement Criteria C applies to L_{10} of 70 and 75 respectively.

TABLE 15

NOISE LEVELS (dBA) FOR TYPICAL RECEPTORS ALONG TH 33

Receptor	Alternative	*Measured and Predicted Existing 1983				Predicted Future 2006			
		Peak Day		Peak Night		Peak Day		Peak Night	
		L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
8. Trailer Court SBL 67+10 85'W	Preferred	*63	*55						
	Alternative	70	63	66	57	71	65	67	59
9. Gravel Pit 96+10 120'E	Preferred	*61	54						
	Alternative	70	63	66	57	71	65	67	59
10. Garage near Hos. 196+70 150'W	Preferred	*61	*47						
	Alternative	69	62	64	56	69	64	65	58
11. Old Well 252+70 131'W	Preferred	*59	*52						
	Alternative	69	63	64	56	70	64	65	58

(*) Measured values were obtained between 9:00 AM and 4:00 PM
(*1) State Noise Area Classification (NAC2) and Federal Noise Abatement Criteria C applies to L_{10} of 70 and 75 respectively.

TABLE 15

NOISE LEVELS (dBA) FOR TYPICAL RECEPTORS ALONG TH 33

Receptor	Alternative	*Measured and Predicted Existing 1983				Predicted Future 2006			
		Peak Day		Peak Night		Peak Day		Peak Night	
		L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
12. Maple Grove 347+00 150'W	Preferred	*60	*50						
	Alter-native	65	59	60	52	68	62	64	56
13. 2nd Residence 388+40 150'E	Preferred	*55	*48						
	Alter-native	68	61	63	54	69	63	64	56
14. & 15. Eliminated									
16. Church 491+70 100'W	Preferred Alternative	*59	*51						
17. Schoolhouse 512+30 360'W	Preferred	*51	*47						
	Alter-native	60	54	54	46	58	53	53	47
18. Horse Barn 542+60 300'E	Preferred	*52	*49						
	Alter-native	61	54	55	46	61	56	56	49

(*) Measured values were obtained between 9:00 AM and 4:00 PM

TABLE 15

NOISE LEVELS (dBA) FOR TYPICAL RECEPTORS ALONG TH 33

Receptor	Alternative	*Measured and Predicted Existing 1983				Predicted Future 2006			
		Peak Day		Peak Night		Peak Day		Peak Night	
		L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
19. Steel Bldg. 582+50 165'W	Preferred	*57	*46						
	Alter-native	66	58	60	50	67	66	62	53
20. Independence Rd. 635+80 160'W	Preferred	*57	*53						
	Alter-native	63	56	57	48	64	59	59	51
21. Farm 724+00 165'W	Preferred	*51	*45						
	Alter-native	65	57	59	49	67	60	61	52
22. Jct. 53 930+40 100'W	Preferred	*61	*48						
	Alter-native	68	59	62	51	70	62	64	54
23. East Cloquet Bypass 100 feet Lt. or Rt.	East Cloquet Bypass	*50	*35			66		59	

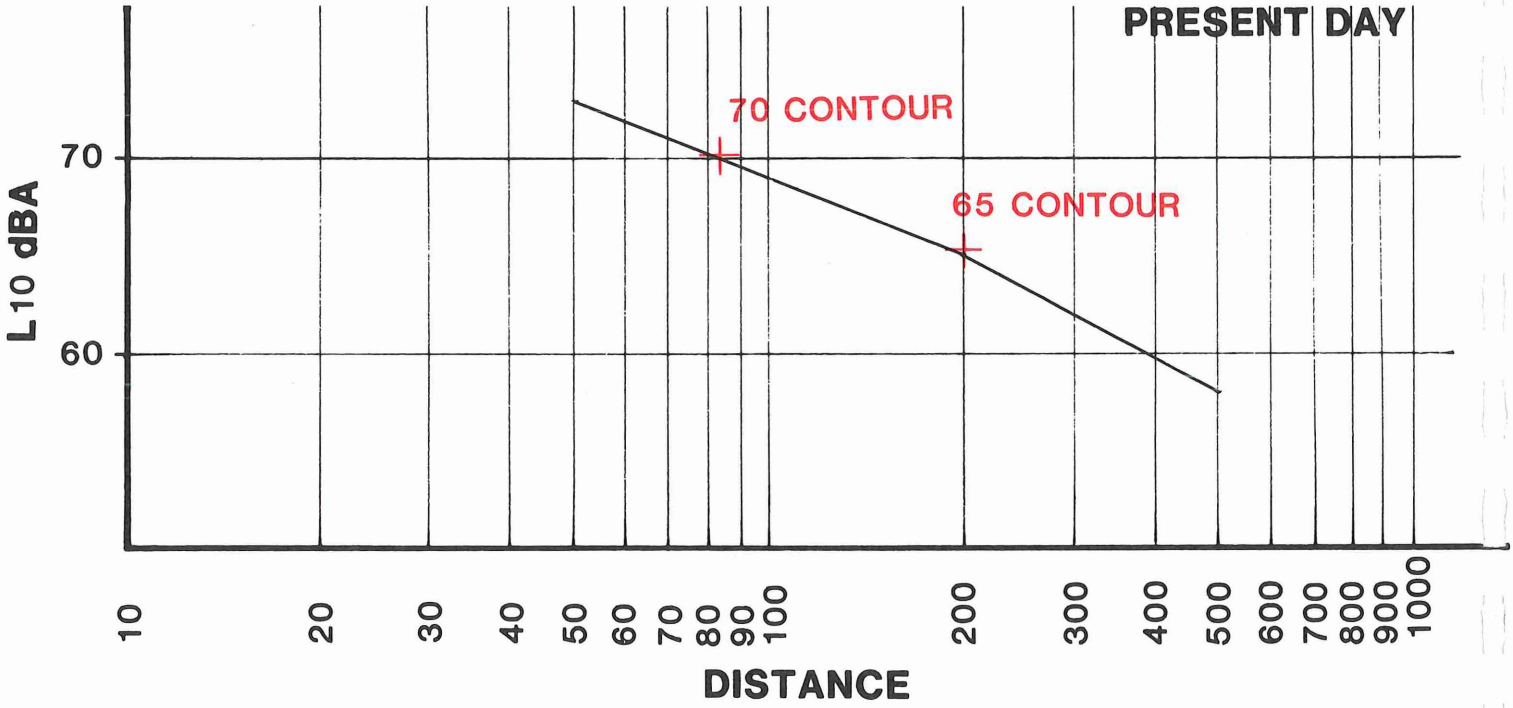
(*) Measured values were obtained between 9:00 AM and 4:00 PM

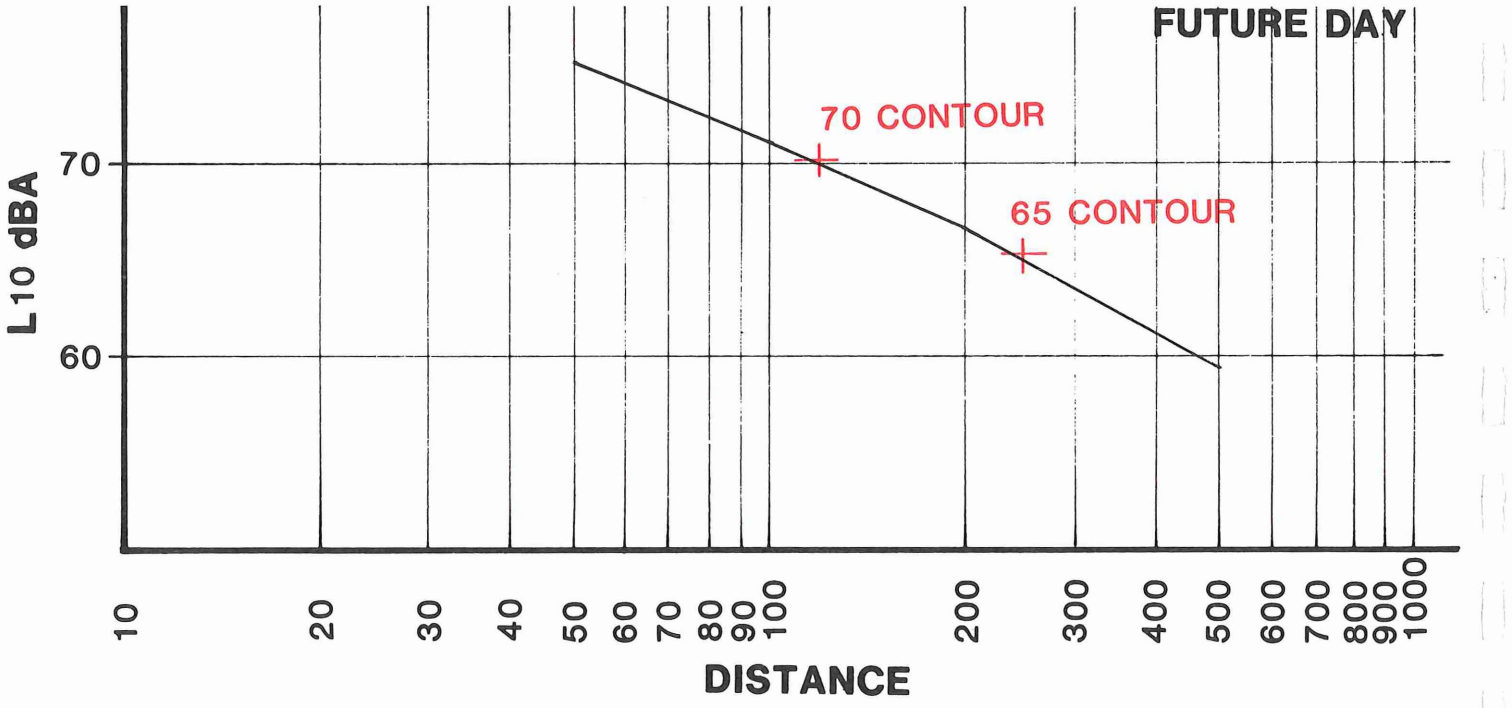
TABLE 15

NOISE LEVELS (dBA) FOR TYPICAL RECEPTORS ALONG TH 33

Receptor	Alternative	*Measured and Predicted Existing 1983				Predicted Future 2006			
		Peak Day		Peak Night		Peak Day		Peak Night	
		L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}
24. West Cloquet Bypass 100 feet Lt. or Rt.	West Cloquet Bypass	*59	*47			66		59	
25. Range Line Corridor at TH 2 100 feet Lt. or Rt.	Range Line Corridor	*69	*53			71		66	

(*) Measured values were obtained between 9:00 AM and 4:00 PM





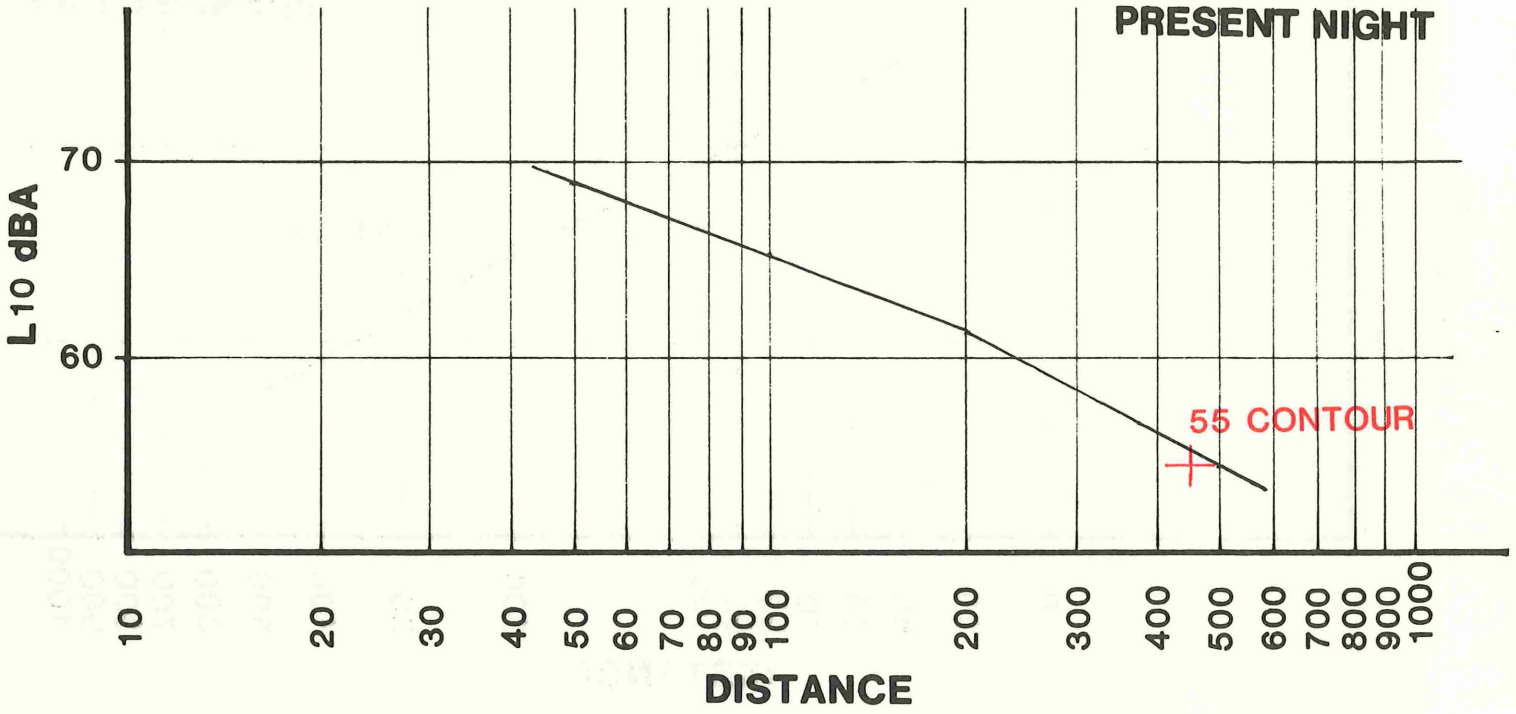
GRAPHS 1&2: NOISE LEVELS

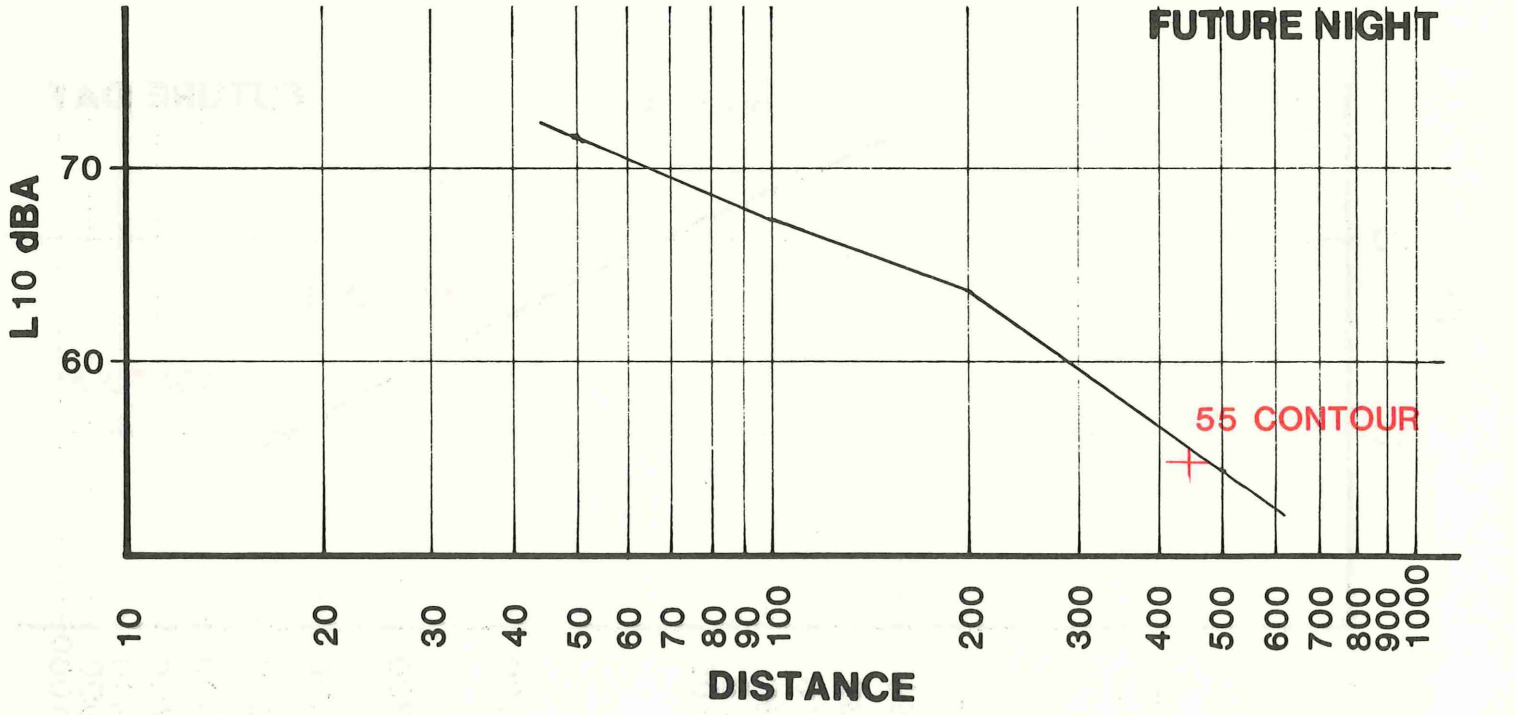
RECEIVER 2

TH33

CONTOURS BETWEEN
Jct I-35 TO STA 610.00 TH 45

from I-35 to TH5





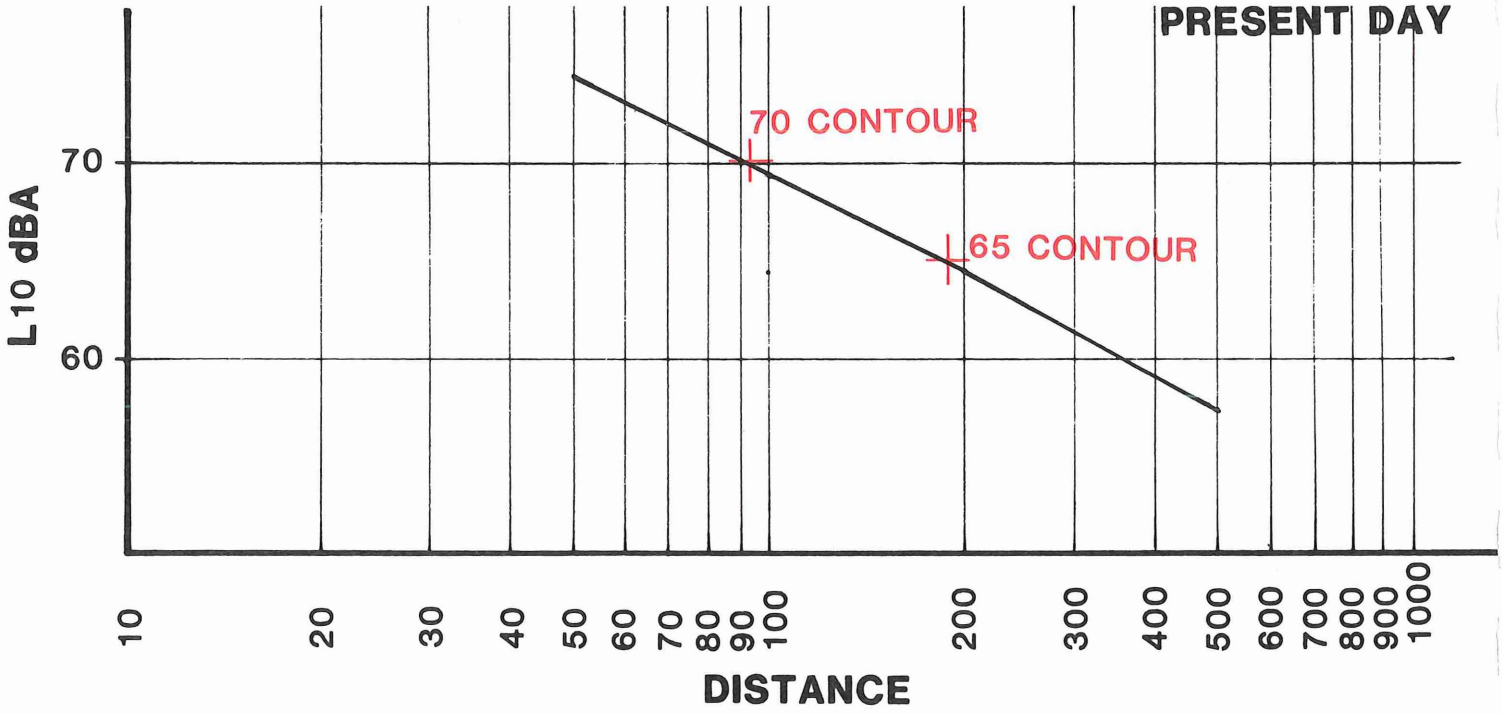
GRAPHS 3&4: NOISE LEVELS

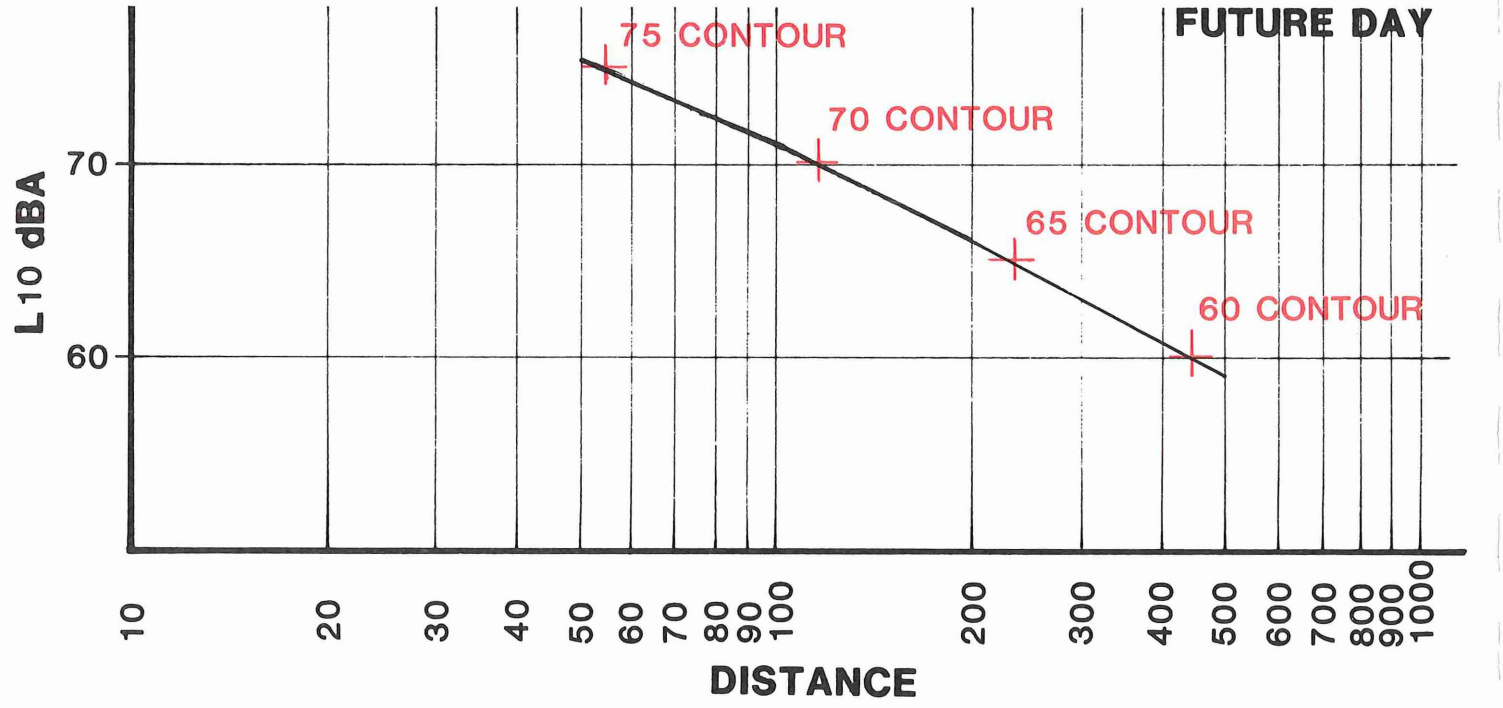
RECEIVER 2

TH33

CONTOURS BETWEEN
Jct I-35 TO STA 610.00 TH 45

from I-35 to TH53





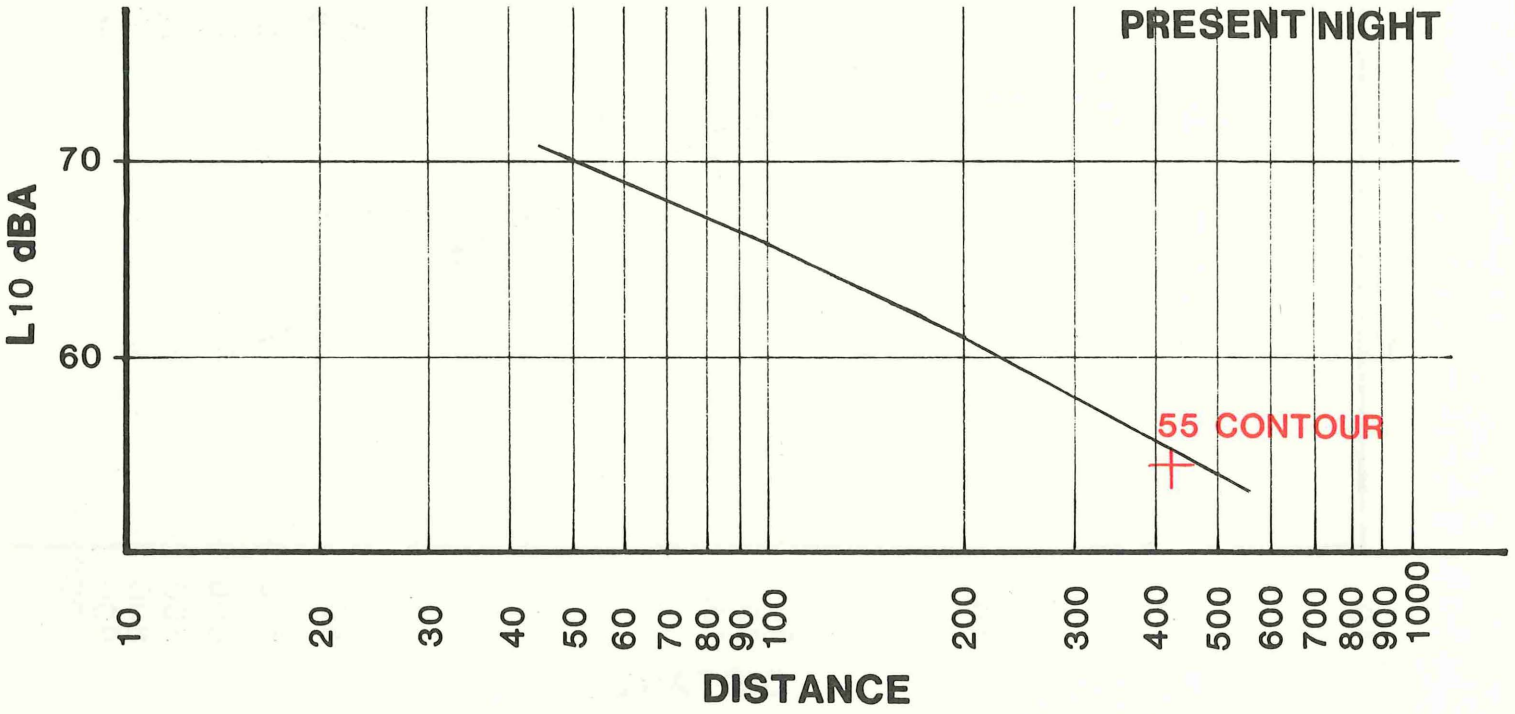
GRAPHS 5&6: NOISE LEVELS

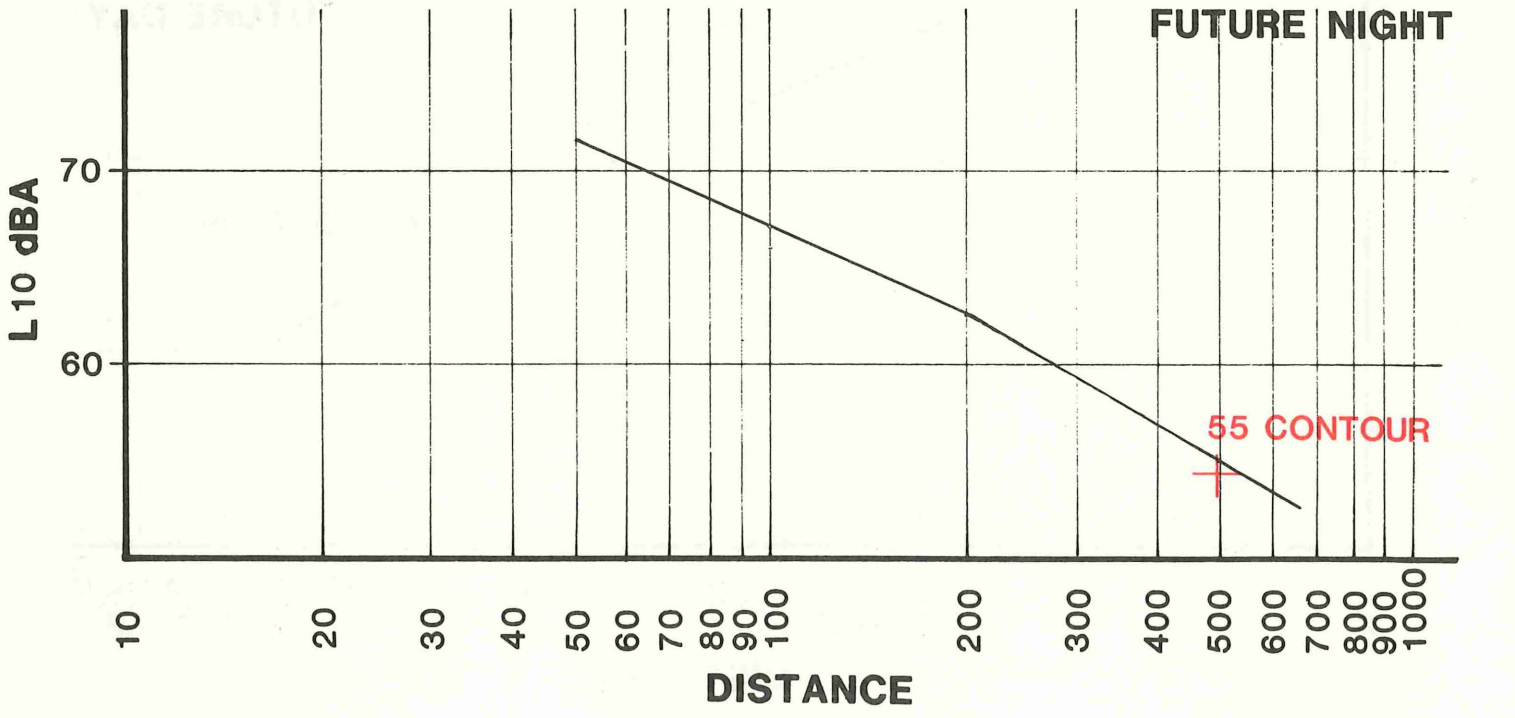
RECIEVER No 5

TH33

CONTOURS BETWEEN
STA 23 RIVER & STA 47 SKYLINE BLVD

from I-35 to TH5





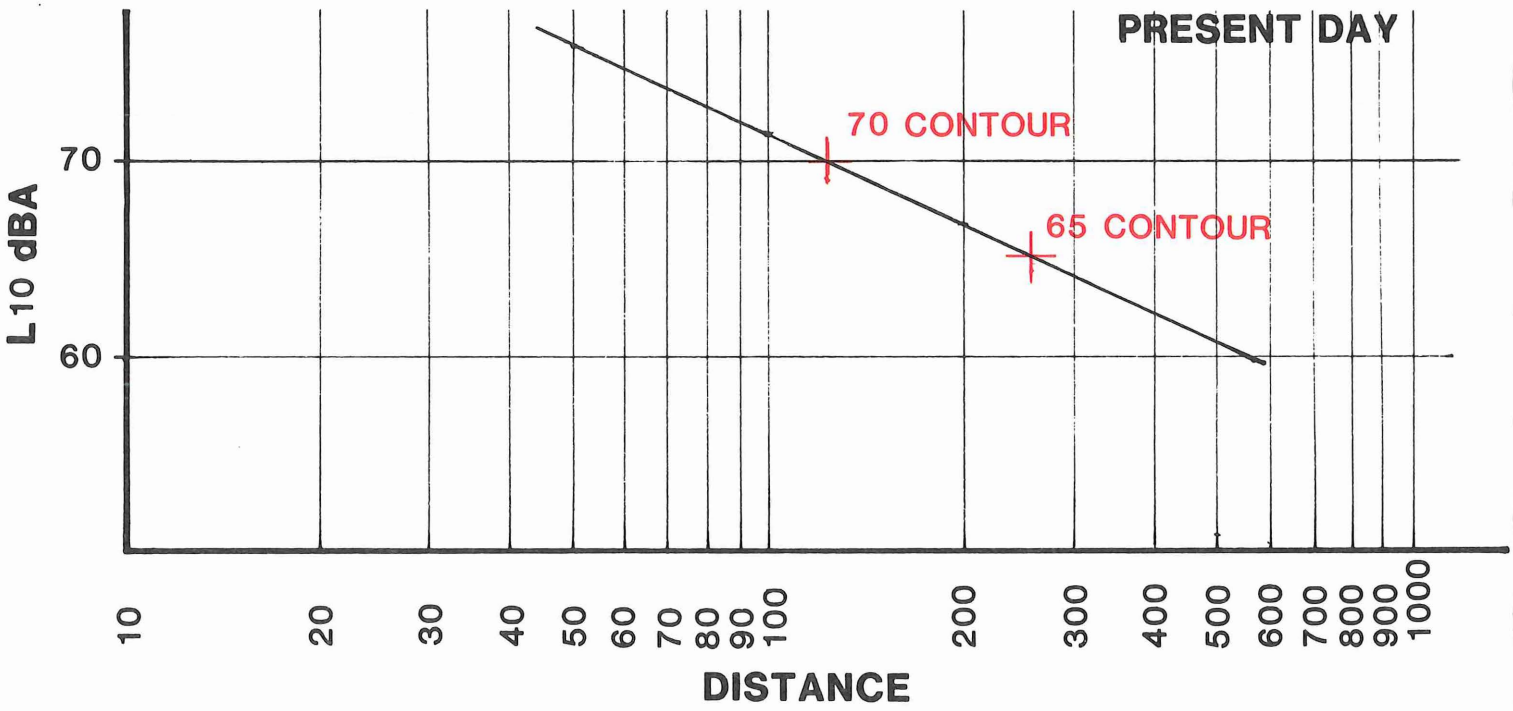
GRAPHS 7&8: NOISE LEVELS

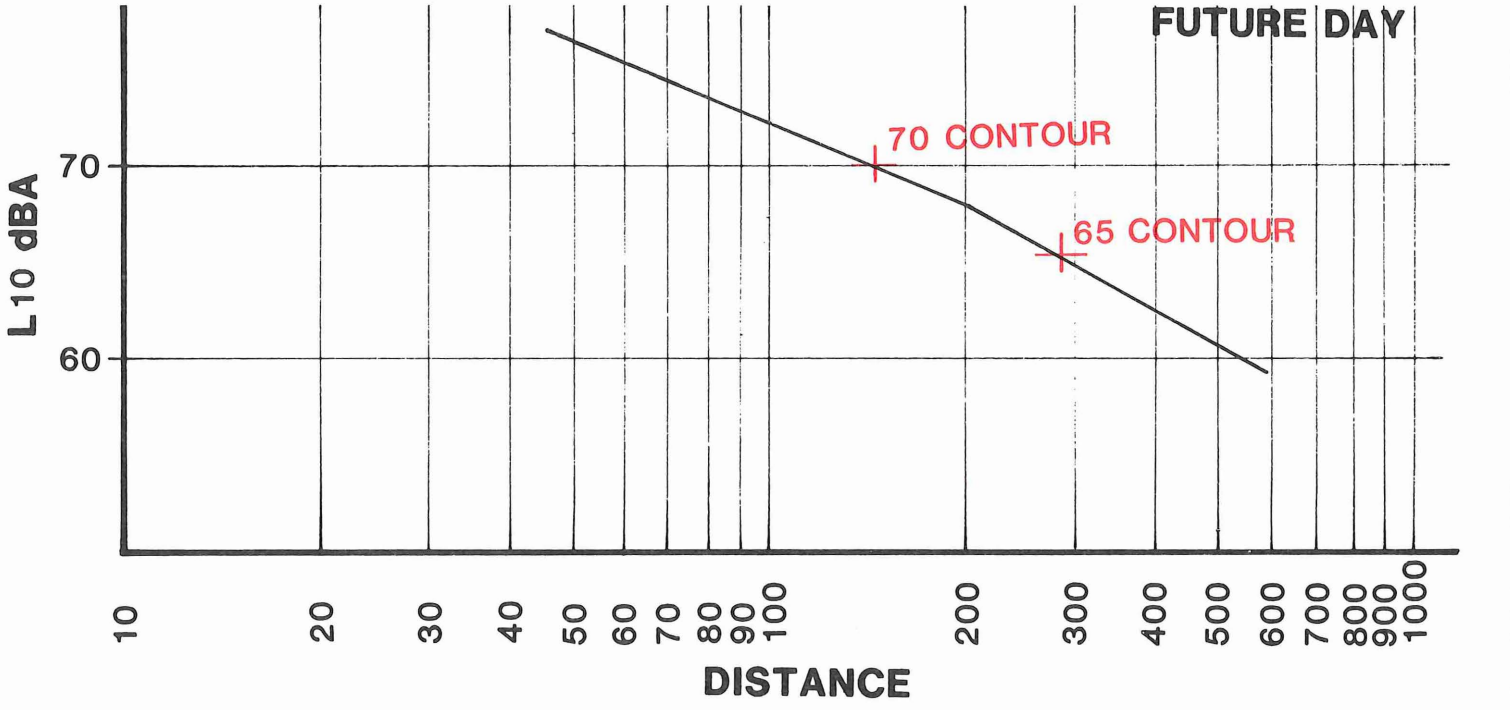
RECIEVER No 5

TH33

CONTOURS BETWEEN
STA 23 RIVER & STA 47 SKYLINE BLVD

from I-35 to TH53





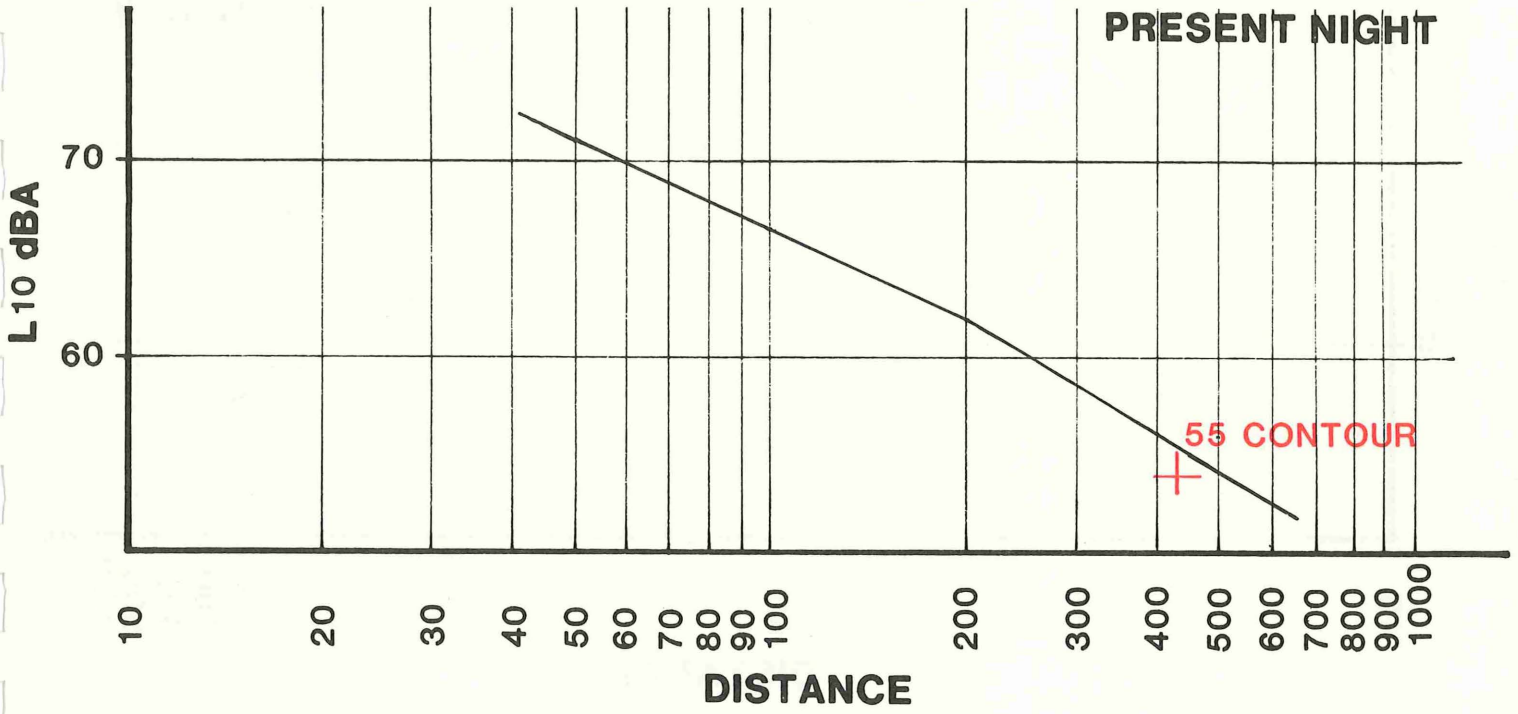
GRAPHS 9&10: NOISE LEVELS

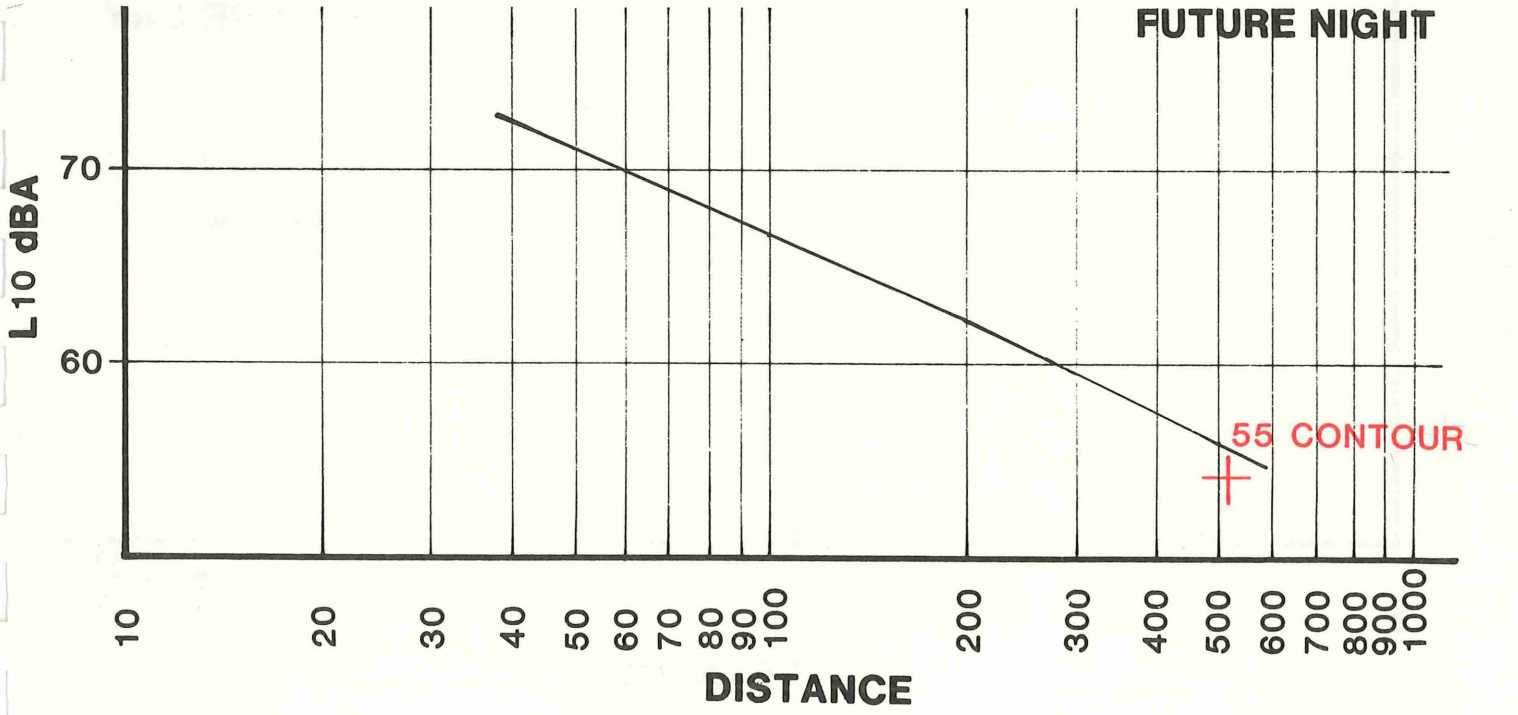
RECEIVER 10

TH33

CONTOURS BETWEEN **from I-35 to TH5**

STA 61.00 No ROAD TO STA 242.00 MORRIS THOMAS ROAD





GRAPHS 11&12: NOISE LEVELS

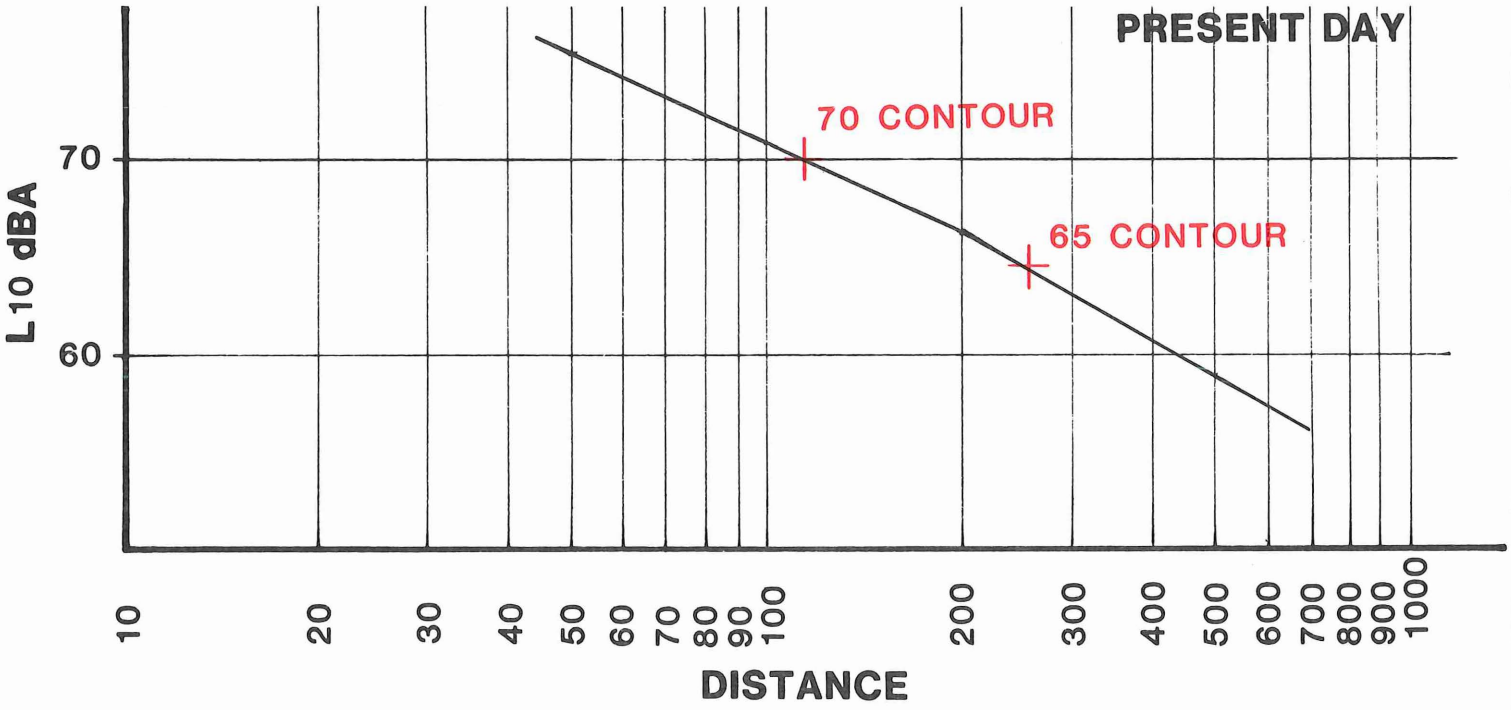
RECEIVER 10

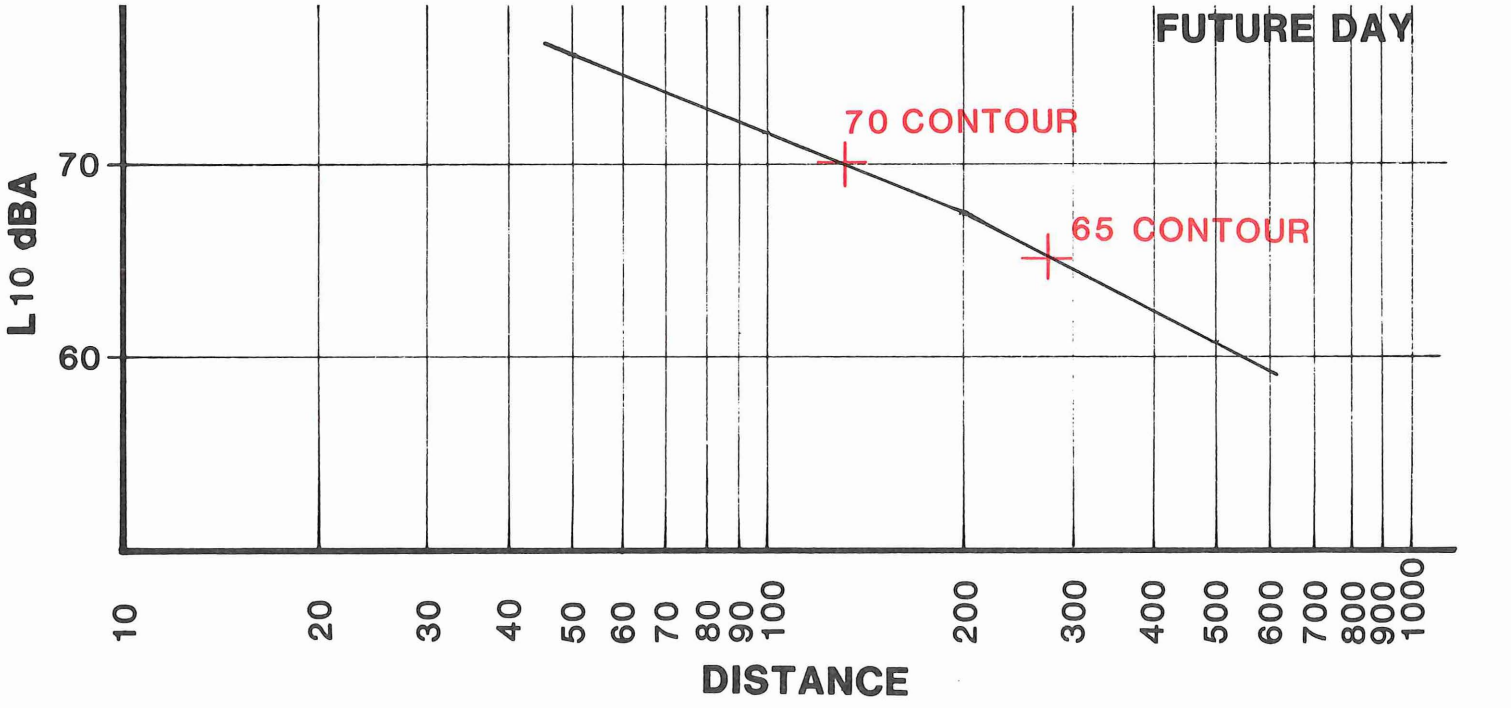
TH33

CONTOURS BETWEEN

from I-35 to TH53

STA 61.00 No ROAD TO STA 242.00 MORRIS THOMAS ROAD





GRAPHS 13&14: NOISE LEVELS

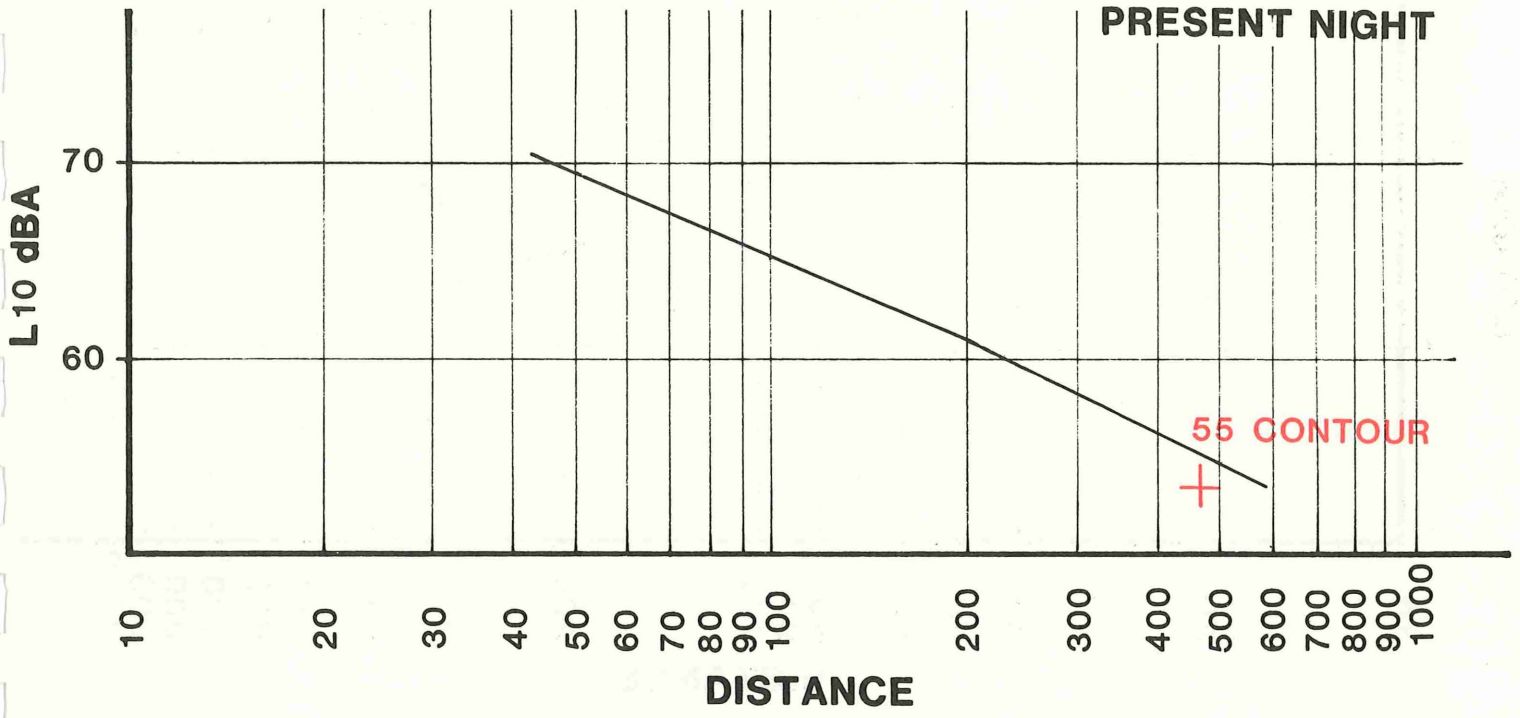
RECEIVER 12

TH33

CONTOURS BETWEEN

from I-35 to TH5

STA 242.00 MORRIS THOMAS RD TO STA 485.00 TH 2





GRAPHS 15&16: NOISE LEVELS

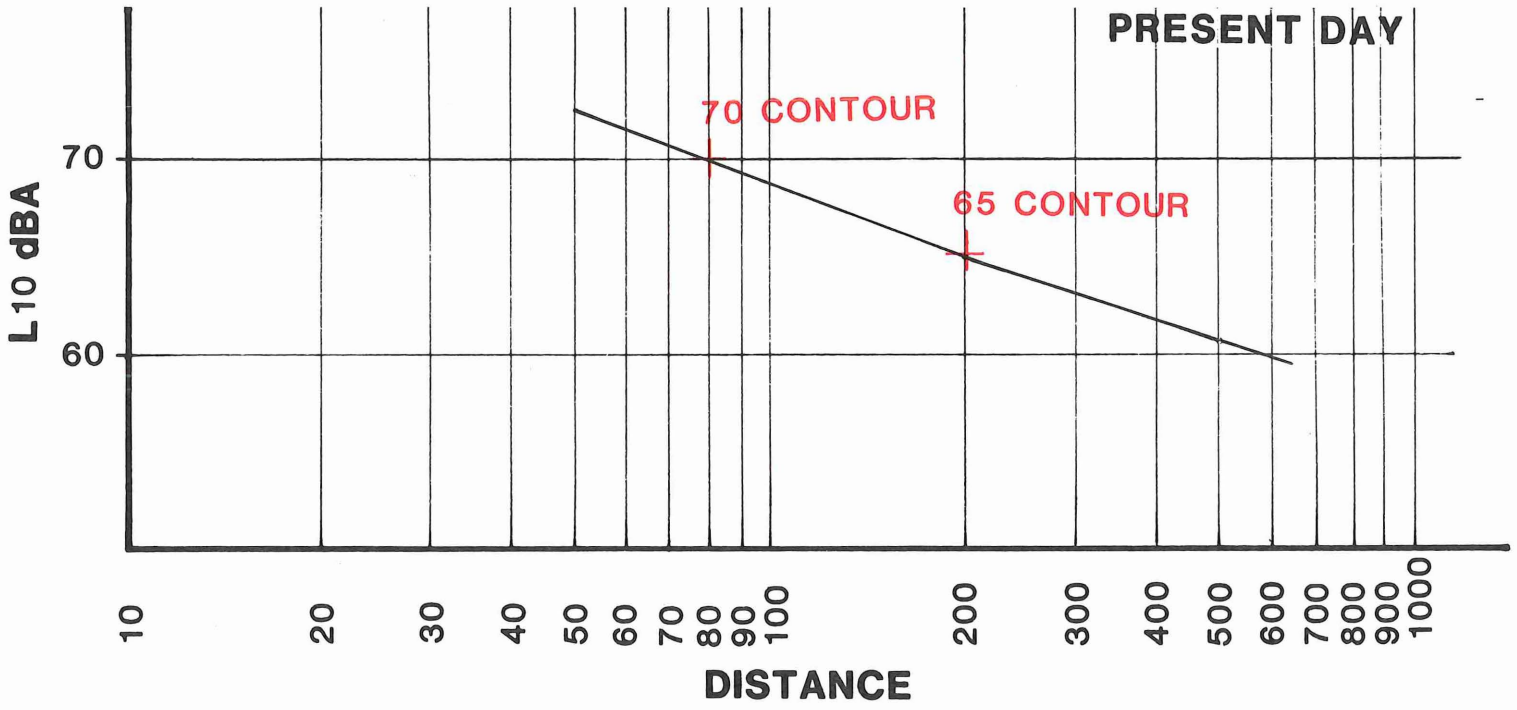
RECEIVER 12

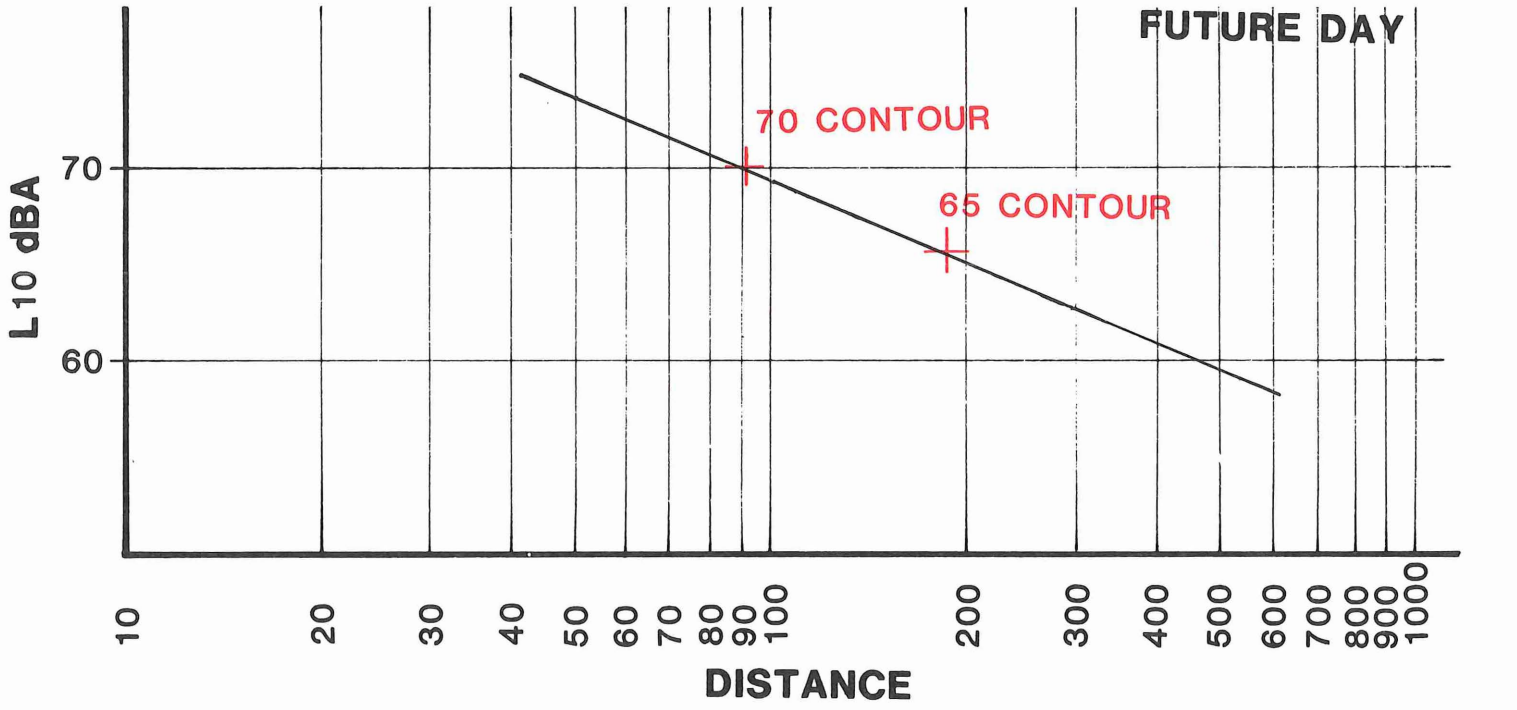
TH33

CONTOURS BETWEEN

from I-35 to TH53

STA 242.00 MORRIS THOMAS RD TO STA 485.00 TH 2





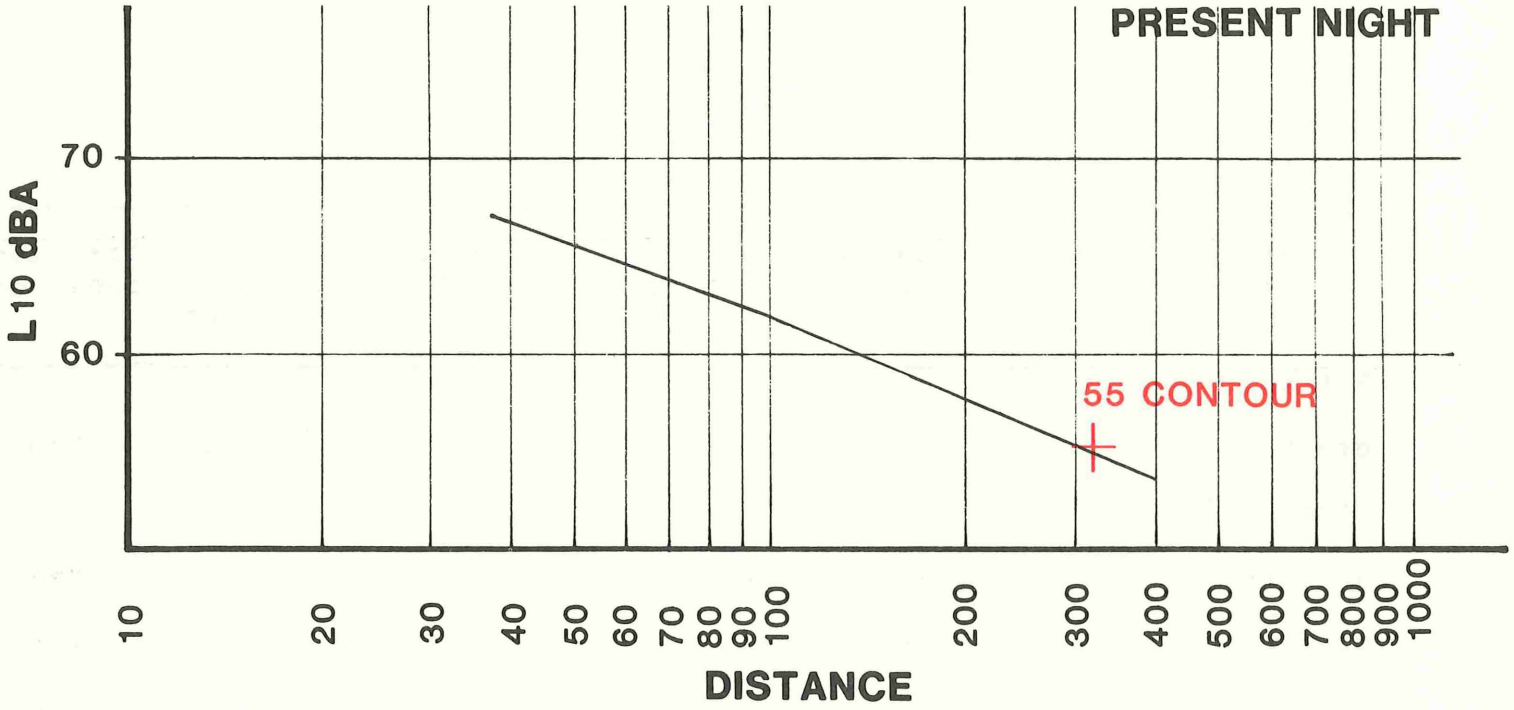
GRAPHS 17&18: NOISE LEVELS

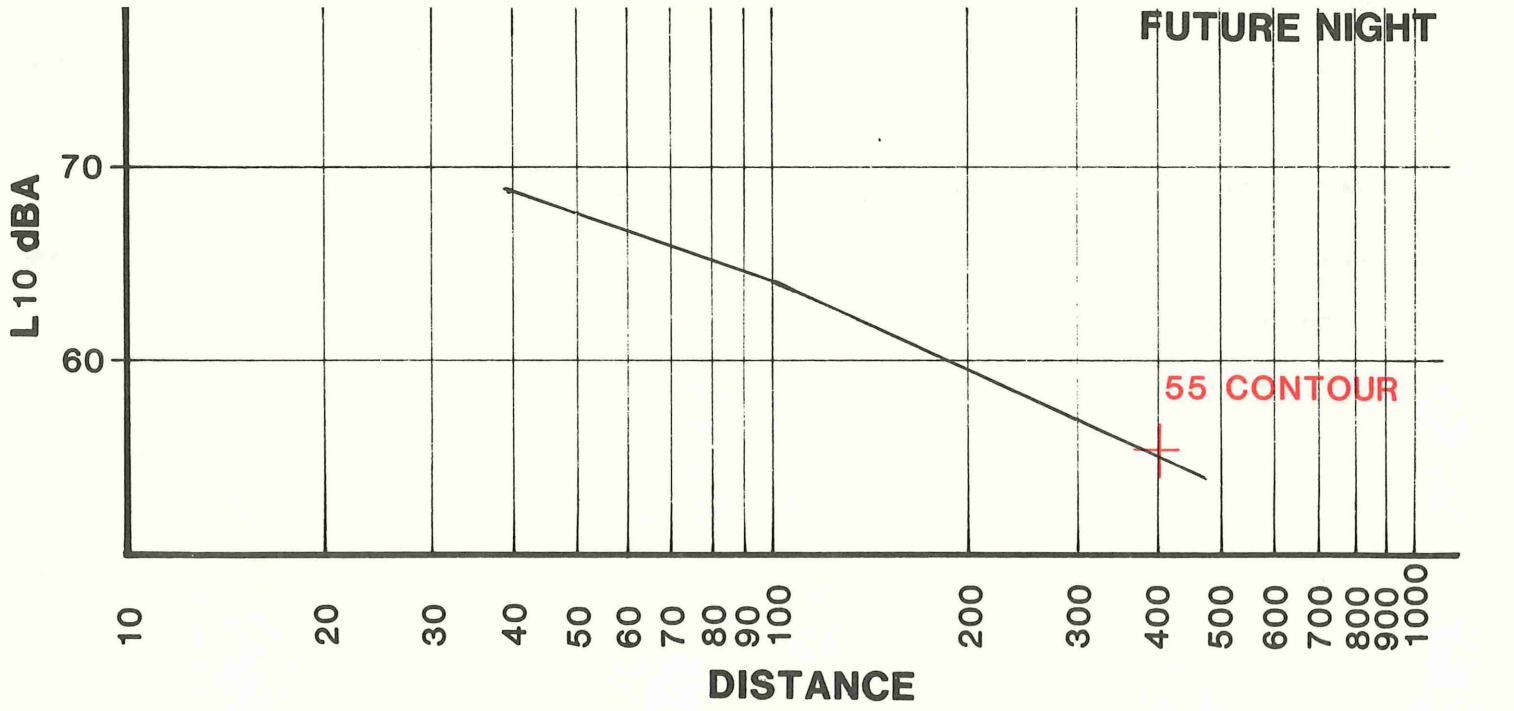
RECEIVER 21

TH33

CONTOURS BETWEEN
STA 485.00 TH 2 TO STA 930.00 TH 53

from I-35 to TH51





GRAPHS 19&20: NOISE LEVELS

RECEIVER 21

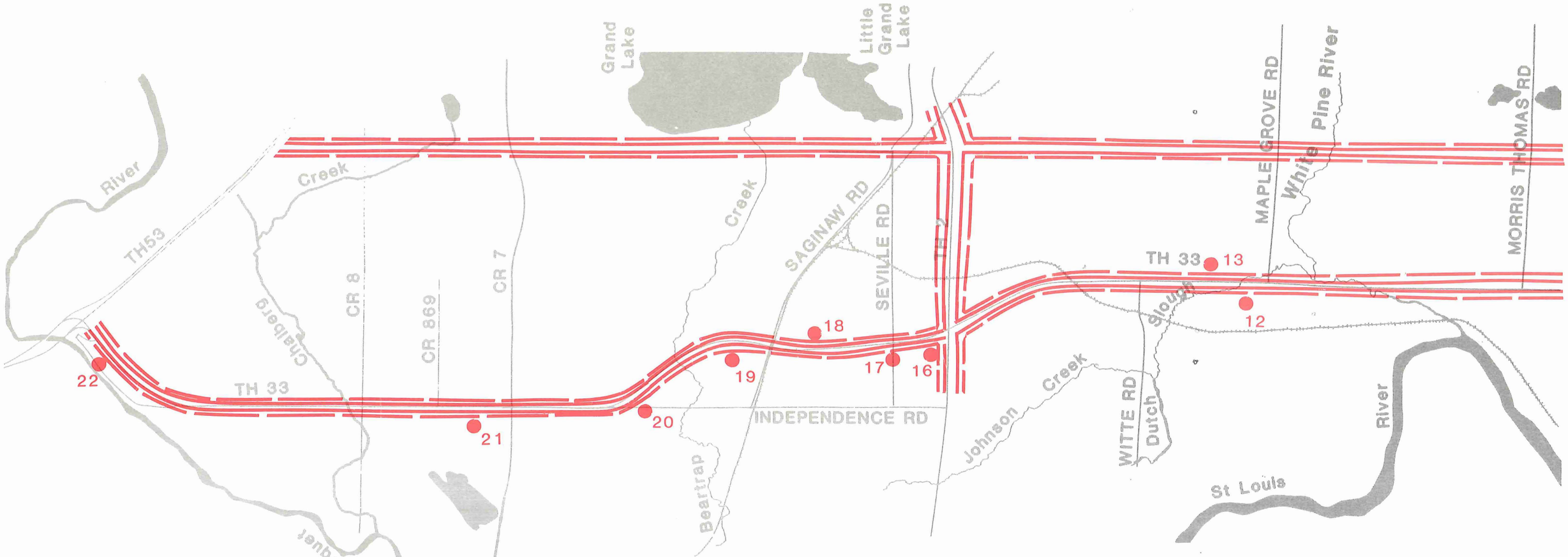
TH33

CONTOURS BETWEEN
STA 485.00 TH 2 TO STA 930.00 TH 53

from I-35 to TH53

TABLE 16
RECEPTORS EXCEEDING
FEDERAL AND STATE NOISE STANDARDS

Alternative	Existing 1983			Year 2006			Abatement Considered
	Federal	State		Federal	State		
		Day	Night		Day	Night	
RURAL SECTION:							
Preferred Alternative	2	28	32	13	37	38	Yes
West Corridor	11	77	92	22	84	96	Yes
East Corridor	11	77	92	22	84	96	Yes
Range Line Corridor	0	0	0	2	8	8	Yes
No Build	11	77	92	22	84	96	Yes
URBAN SECTION:							
Preferred Alternative (No. Build)	27	128	301	53	165	374	Yes
West Cloquet Bypass	0	0	0	10	11	11	Yes
Through Town	16	79	241	34	111	309	Yes
East Cloquet Bypass	0	0	0	16	16	16	Yes



LEGEND

70 dBA

65 dBA

Receptor #
(See Table 15)

0 1/4 1/2 1 miles 2 N

TH 33
from I-35 to TH 53

FIGURE 17A: RECEPTOR LOCATIONS AND NOISE CONTOURS - RURAL SECTION

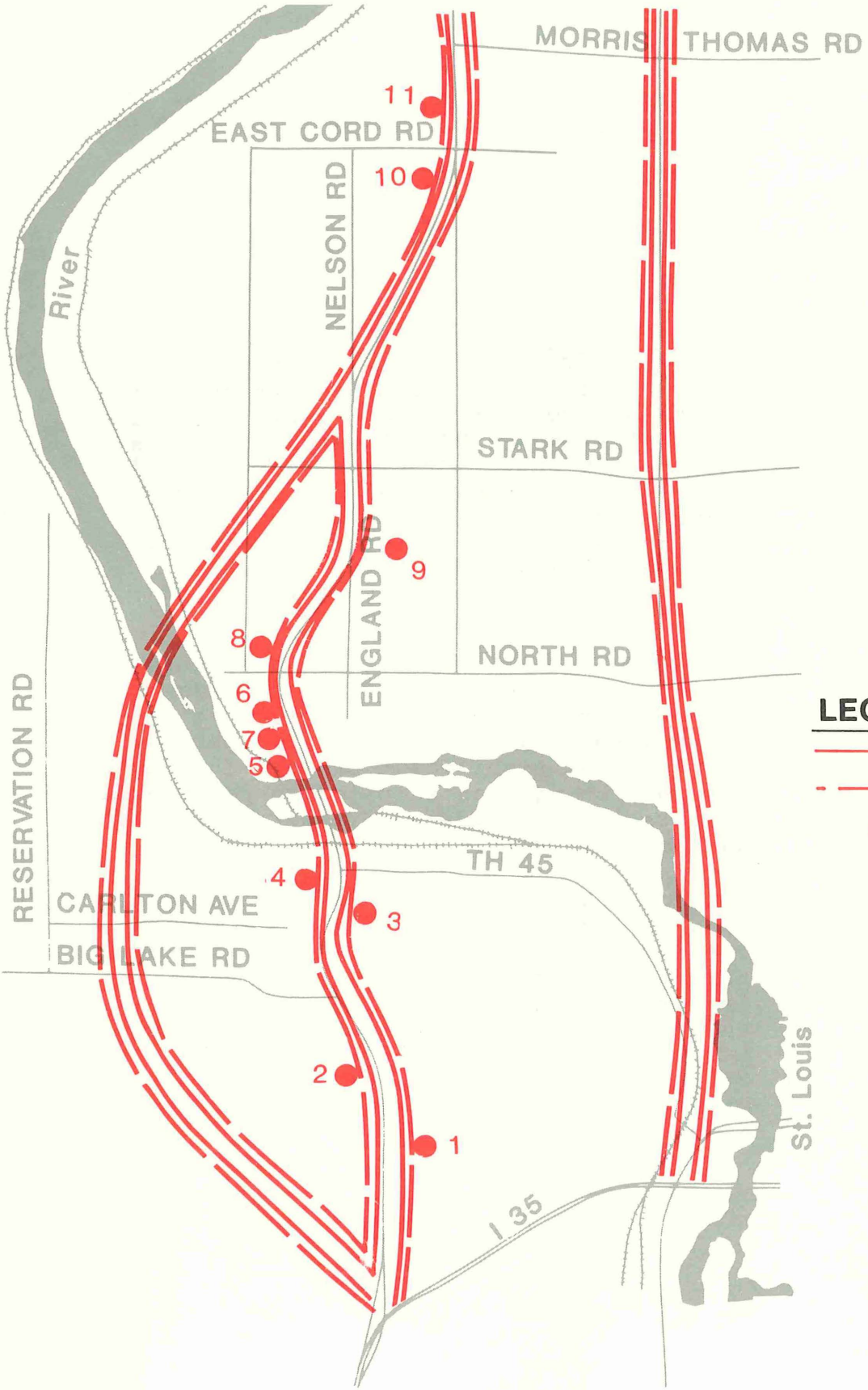


FIGURE 17B: RECEPTOR LOCATIONS AND NOISE CONTOURS - URBAN SECTION

This section evaluates the effects of the proposed project alternatives in terms of their energy consumption impacts. The energy analysis concludes that construction of the Preferred Alternative would result in an irreversible committment of energy resources.

Two types of energy consumption are involved. Direct consumption is the energy consumed in the actual propulsion effort of the vehicle. This refers to the impacts of operating the highway after it is constructed. Indirect energy impacts include the energy required to construct and maintain the highway, substantial changes in consumption likely to result from project induced land use changes or modal shifts, and manufacture and maintenance energy requirements due to changes in vehicular usage.

Table 17 shows the results of the energy analysis for each alternative, averaged in terms of equivalent barrels of crude oil per day (Bbl/Day) over a 20 year period. There are no significant project induced land use changes anticipated so peripheral effects were considered nil for the Build and No Build alternatives.

Each of the build options in the tables show a figure entitled "Payback Period". The Payback Period is the number of years that it will take the energy saved by implementing the project to equal the energy needed to construct and maintain it. It gives a realistic look at when true energy savings would be realized or when there is an irreversible commitment of resources.

The energy analysis shows that the build portion of the Preferred Alternative has a payback period in excess of 35 years, which is the approximate number of years the highway can operate before major reconstruction and another large expenditure of construction energy is required. Only one build option, the Through Town Corridor from I-35 to the county line, would result in a payback period that would give a true energy savings. Thus, the construction of the Preferred Alternative would result in an irreversible commitment of energy resources.

TABLE 17
ENERGY CONSUMPTION AND PAYBACK PERIODS FOR TH 33 ALTERNATIVES-RURAL SECTION

ENERGY CONSUMPTION BY SOURCE	ALTERNATIVES Preferred Alternative Bbl/Day	West Corridor Bbl/Day	East Corridor Bbl/Day	Range Line Corridor Bbl/Day	No Build Alternative Bbl/Day
DIRECT					
Vehicle Fuels	84	84	84	77	86
INDIRECT					
Vehicle Manufacturer & Maintenance	14	14	14	14	14
Roadway Construction	34	34	34	34	0
Resurfacing	0	0	0	0	5
Maintenance	1	1	1	1	0
PAYBACK PERIOD	113 Yrs.	113 Yrs.	113 Yrs.	49 Yrs.	NA

URBAN SECTION

ENERGY CONSUMPTION BY SOURCE	ALTERNATIVES Through Town Corridor Bbl/Day	East Cloquet Bypass Bbl/Day	West Cloquet Bypass Bbl/Day	Preferred Alternative Bbl/Day
DIRECT				
Vehicle Fuels	109	109	114	114
INDIRECT				
Vehicle Manufacturer & Maintenance	16	16	16	16
Roadway Construction	4	22	26	0
Resurfacing	0	0	0	0
PAYBACK PERIOD	16 Yrs.	88 Yrs.	0	NA

NA = Not applicable

WATER RESOURCES:

This portion of the environmental consequences section discusses the water resources of the area, potential impacts and mitigation. The discussion has been divided up into the following categories:

Wild & Scenic Rivers, Floodplains, Water Quality, Ground Water, and Stream Modification.

Wild and Scenic Rivers

State

There are no rivers in the project area that are presently candidates for inclusion in the State of Minnesota Wild and Scenic River System.

Federal

The Cloquet River, from its mouth to its source, (excluding Island Lake impoundment) is a candidate for inclusion in the National Wild and Scenic River System.

TH 33 will not cross the Cloquet River. In addition, all road design options are located outside the 100 year floodplain limits. This river is located 500 to 1000 feet west of the most northerly one mile section of existing TH 33. Approximately 6100 feet of the Cloquet River lies within the West Corridor. The Preferred Alternative, on the other hand, is within the East Corridor in this area. During construction, erosion control measures will be implemented that prevent excess sediment from reaching tributary drainage ways to the Cloquet River. Therefore, with proper erosion control measures, no significant adverse impacts should occur to the Cloquet River.

The two adjacent lane design options were considered from an erosion standpoint in both the East and West corridors near the northern project terminus.

Construction of two adjacent lanes in the East Corridor would have a minimal impact on the Cloquet River. Construction activities would not be adjacent to the steep wooded slopes of the river valley, thereby having less erosion potential.

Construction of two adjacent lanes in the West Corridor had a greater potential to adversely impact the Cloquet River. Construction activities within this corridor would have been adjacent to the steep wooded slopes of the river valley, thereby having greater erosion potential.

Floodplains

Federal Insurance Administration Flood Hazard Boundary Maps have been examined for the project area. The floodplains illustrated on the segment maps were taken from the cities of Cloquet and Scanlon and from St. Louis and Carlton counties floodplain maps (Figures 12a and 12b). Possible floodplain crossings shown for the Preferred Alternative and other Alternatives are shown in Table 18. In addition to the floodplains listed in Table 18, there will be numerous small stream crossings. These streams usually have floodplains less than 100 feet in width. Due to mapping limitations, the Flood Hazard Boundary Maps did not identify any floodplain areas for these small streams. If any flooding is known to occur at these small stream crossings, the design of the roadway will include measures to minimize or eliminate any flooding problems.

TABLE 18

POTENTIAL FLOODPLAIN ENCROACHMENTS FOR TH 33 ALTERNATIVES

RURAL SECTION

	Alternative				
	Preferred	East	West	Range	No Build
Chalberg Creek	500'(T)	500'(T)	500'(T)	2600'(T)	500'(T)
Beaver Lake	NC	NC	NC	2000'(L)	NC
Grand Lake	NC	NC	NC	12,000'(L)	NC
Bear Trap Creek	500'(T)	600'(T)	400'(T)	12,000'(T)	500'(T)
Dutch Slough	5400'(T,L)	NC/5400'(T,L)	3700'(L)	NC	5400'(T,L)
White Pine River*	2500'(T,L)	650'(T)	1000'(T,S)	200'(T)	2000'(T,L)

URBAN SECTION

	Alternative				
	Preferred	East Cloquet Bypass	West Cloquet Bypass	Through Town	No Build
St. Louis River	-	1000'(T)	2200'(T)	2000'(T)	-
Unnamed	400'(T)	1200'(T)	400'(T)	400'(T)	400'(T)

NC: no crossing.
T: transverse crossing.
L: longitudinal crossing.
S: skewed crossing.

*: For Dutch Slough, the East 4 lane option results in no floodplain crossing while the East 2 lane option results in a floodplain encroachment.

Preferred Alternative Impacts

The Preferred Alternative is a combination alignment chosen from the East and West Corridors. It has minimal floodplain impacts at all stream crossings except at the White Pine River.

The Preferred Alternative at the White Pine River is two lanes constructed east of and adjacent to the existing two lane roadway. This results in about 2000 feet of transverse and longitudinal encroachment in the White Pine River Floodplain. Consequently, about 1000 feet of river channel will be moved to accomodate the two adjacent lanes. A significant impact to the natural and beneficial floodplain values in this area will result from this trout stream relocation. Existing fish habitat will be lost and sediment loading to the White Pine River will increase during and after construction until a stable stream channel is created. By employing a series of mitigation measures (see Stream Modification section), however, the existing aquatic habitat can be replaced and long term impacts would be minimal.

All Preferred Alternative floodplain crossings have no significant potential for interruption or termination of a transportation facility because all roadway elevations will be designed above the 100 year flood elevations. There will be no significant risks, such as increased flooding of property or hazard to life, because all hydraulic structures will be designed so that no significant change in headwater or tailwater elevation will result. The new channel for the White Pine River will have the same hydraulic capacity as the existing channel and all construction in streams will comply with the Minnesota Statewide Standards and Criteria for Management of Floodplain Areas. Other than the White Pine River, no significant impacts to natural and beneficial floodplain values will occur. This includes the Dutch Slough encroachment. Finally, the proposed construction of a four lane highway should not support potential incompatible floodplain

development because the counties of St. Louis and Carlton have zoning ordinances which regulate floodplain development in unincorporated areas.

Therefore, with the exception of significant impacts to the natural and beneficial floodplain values of the White Pine River from stream relocation, the Preferred Alternative will not result in any other significant floodplain impacts.

Range Line Corridor Impacts

The most significant impact associated with the Range Line Corridor is a 12,000 foot longitudinal encroachment into the Grand Lake floodplain. No encroachment would occur into the lake. This alternative would not involve floodplain crossings of Dutch Slough or the unnamed streams but would result in transverse crossings of Chalberg Creek, Beaver Lake, Bear Trap Creek, and White Pine River floodplains.

No-Build Alternative Impacts

The No-Build Alternative would result in a 2000 foot longitudinal encroachment in the 100 year floodplain of White Pine River. This encroachment would occur in the flood fringe portion of the floodplain. Neither Beaver Lake or Grand lake would be involved with this alternative but Chalberg Creek, Beartrap Creek, Dutch Slough, and unnamed streams would require transverse crossings of their respective floodplains.

Water Quality

The Preferred Alternative for TH 33 traverses the White Pine River, Chalberg Creek, Dutch Slough (also a creek), Beartrap Creek and a number of unnamed water courses. The other alternative corridors traverse these watercourses as well as the St. Louis River and Big Otter Creek. The quality of these surface water resources is generally good. Water samples were collected from all of the rivers and creeks that could be affected by the improvements to TH 33.

Water Classification

The Minnesota Pollution Control Agency (MPCA) classifies streams and rivers according to their potential uses. Categories of use or uses are:

	Classification
Domestic Consumption	1
Fisheries and Recreation	2
Industrial Consumption	3
Agriculture and Wildlife	4
Navigation and Waste Disposal	5
Other Uses	6

The six uses are subject to minimum chemical and biological quality standards denoted by the letters (A-D). Standard (A) is most restrictive (of the highest quality) and (D) is least restrictive. Maintenance of water quality in receiving waters is achieved by applying the most restrictive standards for each use (1-6). The White Pine River, Dutch Slough Creek, Beartrap Creek, Chalberg Creek, and Big Otter Creek are classified 1B, 2A, and 3B, respectively. The St. Louis River from Seven Beaver Lake to Cloquet is classified 2B and 3B, from Cloquet to Clough Island it is classified 2C and 3B. The proposed action will not change any of these classifications.

Chalberg Creek, Dutch Slough, Beartrap Creek, Big Otter Creek and the White Pine River are designated as trout streams by the Minnesota Department of Natural Resources (DNR). This is indicative of the quality of surface waters in the corridor, as trout require well oxygenated, relatively unpolluted waters to survive.

Quality of Highway Runoff

Highway runoff has the potential to degrade receiving waters. Pollutants that may be found in highway runoff include:

A. Particulate matter generated by erosion during construction and by normal use when the facility is complete. Particulates are generated from operating roadway by abrasion of tires, litter dust, organic residue

(such as leaves) and by the road itself.

B. Deicing salt, usually 95 percent or more sodium chloride by weight.

C. Trace Pollutants:
   1) Heavy metals such as lead, zinc, chromium, copper and nickel.
   2) Petroleum product residues such as rubber, n-parrafin, grease, gas and oil.
   3) Pesticides and fungicides.
   4) Nutrients such as nitrogen and phosphorous.

C(1) and C(2) are residues of motor vehicle emissions or they are from wear of tire and mechanical parts. C(3) and C(4) are caused by normal maintenance of highway right of way and from accumulation of dust, dirt and organic matter.

TH 33 Drainage

Runoff from existing and proposed TH 33 will not contain high concentrations of pollutants, mainly because of the rural nature of the proposed project. Generally, highways in rural areas do not collect pollutants as effectively as urban highways and streets as shown in Table 19. Pollutant concentrations from a four lane TH 33 would be less than the St. Paul site data, due to lower traffic volumes and the surrounding rural watershed.

Drainage from the Preferred Alternative will be discharged primarily into shallow wetlands and grassed ditches. Research regarding wetlands and biological treatment of stormwater indicates that shallow wetlands reduce pollutant loads and are not rendered less biologically productive because of urban runoff. Similar processes occur in ditches if they are vegetated and open.

Hazardous Spills

Spills can occur anytime hazardous materials are transported over trunk highways. If a spill of hazardous material should occur, it is the responsibility of the transport company to alert the appropriate authority,

Table 19
Average Pollutant Concentration in Rural and Urban Freeway Runoff (mg/)

Runoff Source	Total Suspended Solids	BOD_5	COD	Ortho Phosphate (PO_4)	Nitrate + Nitrate (NO_3+NO_2)	Chloride (C)	Lead (Pb)	Copper (Cu)	Zinc (Zn)
Rural Freeway[1] (I-81) Harrisburg, Pa.	47	3	30	0.29	0.76	56	0.09	0.04	0.06
Freeway I-45[1] (Grassy side) Milwaukee, Wisc.	419	14	92	0.90	0.38	168	0.26	0.07	0.21
Urban Freeway[1] (I-45) Milwaukee, Wisc.	396	16	120	0.48	1.55	229	0.78	0.08	0.39
Urban Freeway[1] (I-794) Milwaukee, Wisc.	138	21	105	0.31	1.57	63	1.50	0.10	0.35
Urban Freeway[2] (I-94) St. Paul, Mn.	79	16.0	54	-	-	11	0.41	0.027	0.14

[1] Envirex, 1981. Characteristics of Runoff from Operating Highways. FHWA/RD-81/045.

[2] Pederson, D.H. 1979. Unpublished Data, Minnesota Department of Transportation Water Quality Unit.

ultimately the Division of Emergency Services (D.E.S.). Depending on the magnitude of the spill, a Hazardous Materials (HAZMAT) Response Team may be sent to survey and recommend implementation of containment procedures. After a determination of the safety precautions necessary to protect those involved, Mn/DOT maintenance personnel may also be called to assist in containment procedures on highway right of way.

During construction, all contractors shall use, transport and store all hazardous materials in accordance with Federal and State Regulations. In the event of a spill during construction, the contractor shall take immediate action to contain the spilled material and alert the authorities.

Groundwater

Average annual precipitation in the St. Louis River Watershed is 27.5 inches. Sixty-five percent of this precipitation (17.8 inches) is returned to the atmosphere through evaporation and evapotranspiration. Runoff to the St. Louis River accounts for 9.7 percent (2.7 inches) of the precipitation. The remaining 25.3 percent (7 inches) is available for groundwater recharge. Most of the recharge for the regional groundwater system comes from the Mesabi Iron Range. Locally, recharge is occurring through Grand Lake and the Pine River area. In the northern portion of the study area, groundwater flows to the west, discharging into the Cloquet and St. Louis Rivers. Direction of groundwater flow in the southern portion of the study area tends to follow the flow of the St. Louis River to the southeast. Springs play an important role in supplying the numerous trout streams in the study area with clean, cold water. They are located on both sides of the existing highway and would most likely be minimally impacted by all the alternatives. Impact to the springs could become significant if a large amount of recharge area is excavated.

The surficial sands and gravels are the most easily developed sources of groundwater in the area. The fine to

gallons/year used by industries and 264 million gallons/year for domestic useage. Percapita domestic useage is 74 gallons per day.

Impacts

Preferred Alternative

The proposed transportation project will remove a relatively small amount of surface area available for recharge. The Preferred Alternative is not expected to significantly alter the quality or quantity of water in the area. All of the recorded wells along the alignment are sufficiently deep as to escape contamination by construction impacts and longer term runoff. If shallow wells are encountered within 100 feet of the right of way during later phases, they will be monitored to detect any adverse impact. Condemned wells will be filled and sealed pursuant to Minnesota Department of Health regulations.

Other Alternatives

Of the other alternatives, the No Build Alternative removes the smallest recharge area and the Range Line Corridor removes the most. The No Build Alternative also has the smallest potential of altering the existing groundwater quality for two main resons. First, this alternative requires comparatively little new construction. Second, any increased transportation along the present alignment will not substantially alter the quality of runoff having the potential of entering the groundwater. The Range Line Corridor has the greatest potential of affecting the groundwater quality. This alternative would require all new construction and involves an area with a higher water table.

The West Cloquet Bypass also has the potential of affecting the groundwater. Near the north end of this bypass, a potential water tower site has been identified by the City of Cloquet. Near the south end of this bypass, the Cloquet water works is located, as well as 15 test well sites. Three existing municipal wells are located close to this bypass.

STREAM MODIFICATION

Preferred Alternative

Water courses impacted by stream crossings in the rural section are Chalberg Creek, Beartrap Creek, Dutch Slough, White Pine River, and several smaller unnamed streams. (Figure 12) All stream crossings, excluding the White Pine River and Dutch Slough, will employ box culverts at the same locations as existing TH 33. Present box culverts will either be removed and replaced or improved depending upon their condition and the exact alignment of the new roadway. Two double lane bridges will be constructed over the White Pine River and Dutch Slough instead of a box culvert to reduce adverse impacts upon biological productivity of the stream. Culverts can reduce productivity locally and, as a result, the populations of gamefish such as trout may decrease. Table 20 enumerates lengths of the proposed culvert extensions or installations. The value of the smaller streams as fisheries does not justify the expense of providing bridges at each stream crossing.

The Preferred Alternative will require a relocation of approximately 1000 feet of the White Pine River. Refer to Figure 18 for the alignment of this channel relocation. By utilizing a historic channel of the White Pine River for a portion of the stream relocation, the White Pine River crossing will not require the excavation of high ground.

The White Pine River is a designated trout stream and contains high quality fish habitat. Relocation of 1000 feet of stream channel will cause a loss of fish habitat and short term degradation of water quality due to erosion of organic soils. Mitigative measures such as placement and construction of artifical gravel riffles, riprap for erosion control, bank cover wing devices, and other special features described on the following pages will be used for the stream relocation. These measures should recreate existing fish habitat and minimize subsequent erosion associated

Table 20 Stream Impacts from Culverts (feet)

Rural Section

Stream	West Two	West Four	East Two	East Four	Rangeline	No-Build
*Chalberg Creek(T)	130	-	130	-	250	50
Unnamed	105	-	230	-	0	50
*Beartrap Creek (T)	105	175	105	175	175	50
*Unnamed	95	175	95	175	0	0
Unnamed	95	175	95	175	0	0
*Dutch Slough (T)	B	B	B	0	0	0
*White Pine River (T)	B	B	**B	B	175	0
*Unnamed	150	225	95	225	175	0

Urban Section	West Cloquet Bypass	East Cloquet Bypass	Through Town	Range-line	No-Build
Unnamed	150	0	150	250	0
Unnamed	0	400	0	0	0
*St. Louis River	B	B	B	0	0
*Big Otter Creek (T)	400	0	0	0	0

* DNR Protected Water
(T) Designated Trout Stream
\- Design option not being considered
B Indicates a bridge
** This alternative will cause 1000 ft. of stream to be channeled outside of bridge crossing.

___ These numbers also represent Preferred Alternative impacts.

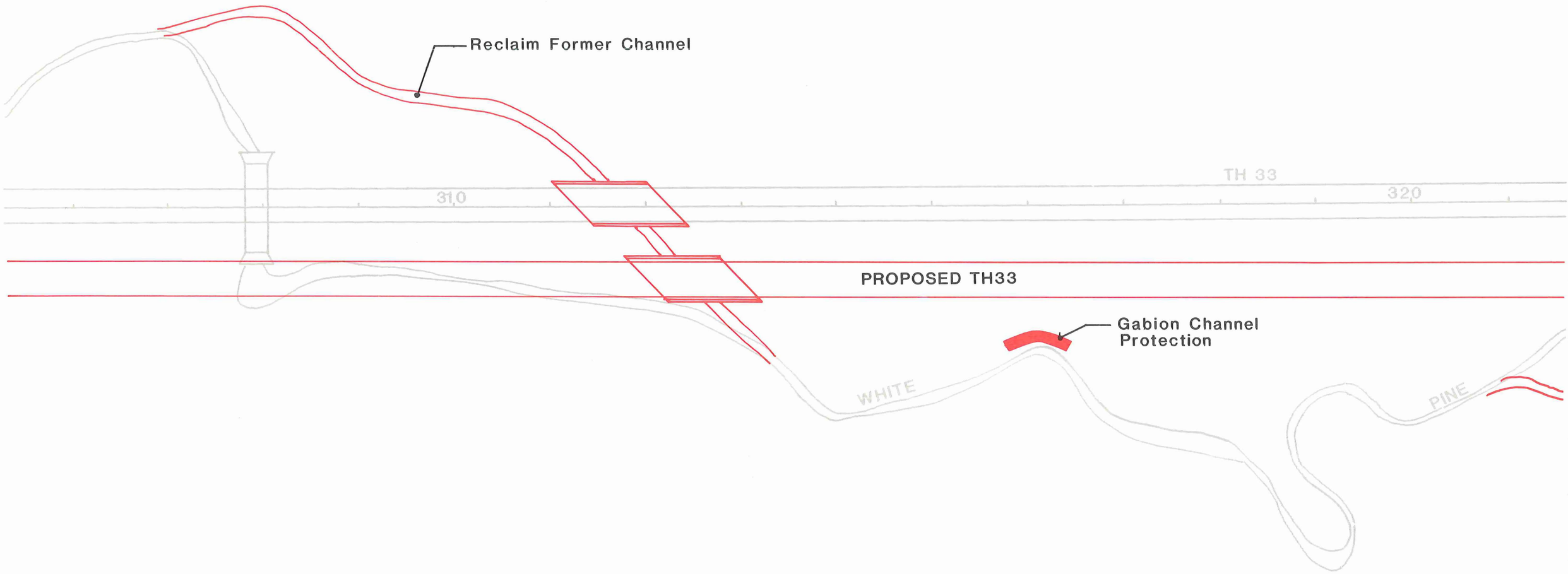
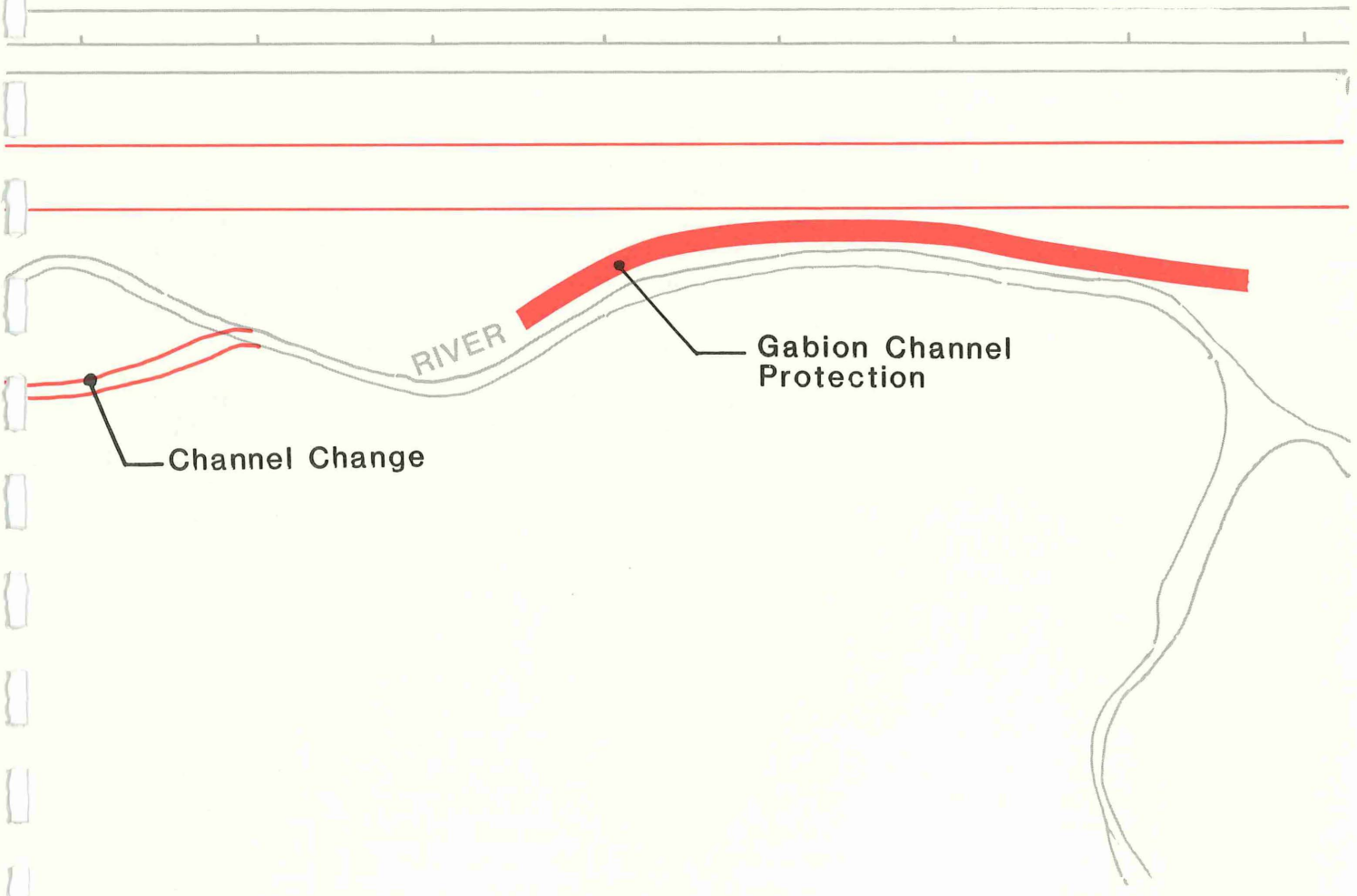


FIGURE 18: PROPOSED STREAM RECONSTRUCTION-WHITE PINE RIVER



N

0 50 100 200ft

TH33

from I-35 to TH53

with stream relocation. Every effort will be made to insure that this relocation will result in comparable aquatic habitat and produce a stable, non-erodable channel.

In the urban section, the Preferred Alternative will not impact any rivers or streams.

Other Alternatives

Specific stream impacts for all of the considered alternatives are given in Table 20. The lengths presented are for the portion of the channel that has not been previously affected by culvert installation.

The West Corridor two lane design option would affect eight streams for a total impact of 785 feet. Six of the streams are DNR protected waters and four are designated trout streams.

The West Corridor four lane design option would affect six streams for a total of 975 feet of impacted stream channel. Five of the streams are DNR protected waters and three are designated trout streams. The White Pine River, which is of special concern because of its fisheries value, would be crossed at a right angle, thus avoiding stream modification.

The East Corridor two lane design option would affect eight streams for a total of 895 feet of stream channel impact. Six of the streams are DNR protected waters and four are designated trout streams. In addition, approximately 1000 feet of the White Pine River would be relocated.

The East Corridor four lane design option would affect five streams for a total of 750 feet of stream channel impact. Five of the streams are DNR protected waters and three are designated trout streams. The four lanes would bulb around the White Pine River/Dutch Slough area and thus avoid a major channel relocation. However, the design would place the roadway directly over a productive gravel spawning riffle and nursery area for brook and brown trout.

The Rangeline Corridor design option would affect four streams for a total of 775 feet of stream channel impact. Four of the streams are DNR protected waters and four are designated trout streams. The impact upon all the streams would occur at areas which have not been previously impacted.

The No Build in the rural section would affect three streams for a total of 150 feet of stream channel impact. One of these is a DNR protected water and two are designated trout streams.

The West Cloquet Bypass would affect two streams for a total of 550 feet of stream channel impact and bridge 1500 feet of the St. Louis River. Two of these are DNR protected water and one is a designated trout stream.

The East Cloquet Bypass would affect one stream for a total of 400 feet of stream channel impact and bridge 250 feet of the St. Louis River. Both are DNR protected waters and one is a designated trout stream.

The Through Town Corridor would affect one stream for 150 feet of stream channel impact and bridge two channels of the St. Louis River for a distance of 500 feet. The St. Louis River is a DNR protected water.

Measures to Minimize Harm

1. A cooperative electrofishing survey of the segment of the White Pine River to be relocated will be undertaken by Mn/DOT and MDNR to obtain specific habitat information that can be used for detail design.

2. Soil borings will be taken in the area of the relocated stream channel.

3. A survey will be conducted to determine the existing profile of the streambed and to aid in the re-creation of stream habitat.

4. The area immediately adjacent to the confluence of the Dutch Slough/White Pine River will be unaltered by construction. To minimize length of channel relocation and avoid adverse impacts to this area, a gabion wall will be constructed.

5. A historic channel of the White Pine River, located north of the existing stream/highway crossing, will be used in the relocation of the new channel. This will avoid the excavation of high ground near the existing channel.

6. Replacement of the existing channel with one of similar or better characteristics for trout habitat. This may also entail construction of habitat improvement structures such as deflectors and undercut banks (made of logs) and other features.

7. Selective use of gravel and riprap to create productive pool and riffle sections.

8. The stream relocation shall be constructed, to the maximum extent feasible, without the stream flowing through the channel.

9. Construction within designated trout streams shall be prohibited from September 15 to April 15 to minimize disruption of trout spawning and hatching.

10. The gravel ridge east of existing TH 33, which serves as a recharge area for coldwater springs entering the White Pine River, will be identified as a sensitive area and contractor operations will be limited.

11. The MDNR and U.S.F.W.S. will be given opportunities to review, comment and approve the design of the White Pine River relocation prior to construction.

12. Special erosion control measures such as, but not limited to, silt fences and sedimentation basins shall be

incorporated into project design and construction in order to minimize impacts to the White Pine River and other streams in the project area.

13. A fishing access site for the White Pine River will be developed by Mn/DOT.

14. Culverts will be designed to ensure that normal fish movement is not interrupted.

WETLANDS

A wetlands inventory was prepared for the study area. Wetland basins in the vicinity of the alternatives were mapped on aerial photographs, classified by type and their basin size calculated. For this broad of an inventory, wetland acreages were rounded to the nearest acre. Extremely small wetlands, less than 1.5 acre, were assigned the value of one acre. A maximum value of 300 acres was assigned to very large wetland basins of 300 or more acres. Wetlands were classified according to circular 39 of the U.S. Fish and Wildlife Service (Table 8).

Overview of Study Area Wetlands

Wetland characteristics are summarized for each corridor (Tables 21-22). A total of 127 wetland basins were identified covering a minimum estimate of 3,600 acres. Generally, sizes of wetland basins range from 1 acre to 300 acres, the average size being 29 acres. Most (35 percent) are small (1-10 acres), 26 percent are one acre, and only three percent are 300 acres in size. The most frequently occurring wetland types are Type 6 and 7, followed by Type 2. These wetland types are most often found in combination rather than separately. Type 2/6/7 is the prevalent combination, accounting for 52 percent of the total wetland basin acreage. The second most prevalent combinations are Type 6/7 which accounts for 15 percent and Type 2/6, which accounts for 14 percent of the total wetland basin acreage. Type 7 wetlands are comprised mainly of black spruce and black ash. Tamarack and white cedar are present in limited amounts. Vegetation typical to types 2 and 6 includes sedges, willows and alder brush.

Value of Wetland Habitats

The value of wetlands in the project area was assessed from a wildlife standpoint. They have a relatively low value for waterfowl and aquatic wildlife, but have a moderate to high value for deer due to the availability of good winter cover. The wetlands also have a moderate to high value for snowshoe hare, grouse, songbirds and small game such as fox, raccoon and mink. Some wetlands drain into

TABLE 21
CHARACTERISTICS OF URBAN SECTION CORRIDOR WETLANDS.

Characteristic	Through Town	West Cloquet Bypass	East Cloquet Bypass	No Build (Preferred Alternative)
Number of Wetlands	15	22	11	4
Total Basin Acreage	300+	490+	480+	126.3
Most Frequent Wetland Combination	T2/6	T7	None	None
Greatest Acreage Combination	T2/6	T2/6/7	T7	T2/6/7/8
Most Frequent Size Class (Acres)	1-10	1	1-10	None
Average Wetland Basin Size (Acres)	20	21	44	32
Two Lane Acreage Impacted	7	NA	NA	*1
Four Lane Acreage Impacted	NA	15	4	NA

* Acres impacted by widening existing road from Morris Thomas Road to the Carlton/St. Louis County line, plus frontage road construction in Cloquet.

NA: Not applicable

TABLE 22
CHARACTERISTICS OF RURAL SECTION CORRIDOR WETLANDS.

	West Corridor	East Corridor	Range Line Corridor	No Build
Characteristic				
Number of Wetlands	31	30	38	24
Total Basin Acreage	1620+	1650+	1570+	1560+
Most Frequent Wetland Combination	T2/6/and T2/6/7	T2/6	T7	T2/6
Greatest Acreage Combination	T2/6/7	T2/6/7	T2/6/7	T2/6/7
Most Frequent Size Class (Acres)	1	1-10	1-10	1-10
Average Wetland Basin Size (Acres)	49	52	42	68
Two Lane Acreage Impacted (125 foot width)	32	38	NA	*15
Four Lane Acreage Impacted (200 foot width)	48	73	159	NA

*Acres impacted by widening existing road from Morris Thomas Road to TH 53.

NA: Not applicable

adjacent streams; others are isolated pockets with poorly permeable substrate, either seasonally wet (storing water from heavy rains or snowmelt) or supported by a perched water table; still others are connected to the major watershed by groundwater flow. When many wetland types are present within a single basin, wetland classification results in a combination of predominant types. This multiple classification yields a better understanding of the full range of habitat values of each wetland and indicates which wetland basins have higher wildlife values due to the greater diversity of habitats (i.e., water, trees, shrubs and grasses).

Wetland Impacts In General

Wetlands located within and adjacent to the Preferred Alternative will be directly impacted by the proposed project from construction of the road and from highway runoff. Wetlands located throughout the project area may be indirectly impacted by the proposed project if residential and industrial development results. Wetlands presently crossed by a roadway will sustain less impact because their water regimes have already been affected.

Impacts Within Alternative Corridors

Impacts to wetland basins were derived by defining approximate construction limit widths to the alternative corridors shown in Figure 9. A 125 foot width was used in the case of a two lane companion roadway, and a 200 foot width was used in the case of a four lane roadway on new alignment. Because a detailed layout was developed for the Preferred Alternative, it was possible to achieve greater accuracy. A width of 225 feet was used to calculate construction impacts to wetlands within the Preferred Alternative. The No Build Alternative assumed an impact area 25 feet into wetlands directly adjacent to the existing road.

Rural Section

Preferred Alternative

Wetland characteristics of the Preferred Alternative are summarized in Table 23. A total of 17 basins were identified. Sizes of wetland basins along this alternative

TABLE 23

INDIVIDUAL BASIN IMPACTS FOR PREFERRED ALTERNATIVE

Wetland Number	Wetland Type	Basin Size (Acres)	Wetland Impact (Acres)*
1	6/7	40	2.9
5	2/6	27	1.8
6	2/6	46	5.2
7	2/6/7	300	2.6
13	2/6	1	0.3
18	2/3/6	35	1.0
19	2/6	65	2.1
20	2/6/7	300	1.4
21	2/6	200	7.5
22	2/6/7	78	3.5
23A	3/6	1	0.5
24	2/6/7	72	8.7
25	2/6/7	45	4.9
30	2	5	1.3
34	2/6/7	300	26.7
39	6/7	2	1.3
41	3/6	2	1.7
		1519	73.4

*Impact acreage was determined using a 225 foot width.

range from 1 to 300 acres, the average size being 89 acres. Most (47 percent) are 25-80 acres in size. Type 2/6/7 is the most prevalent combination, accounting for 62 percent of the wetland acreage to be impacted by the project. The second most prevalent combination is type 2/6, which accounts for 26 percent of the wetland basin acreage to be impacted. Three very large wetlands comprise more than half of the basin acreage total. These major wetlands are formed around three streams and their tributaries: Chalberg Creek (wetland no. 7), Beartrap Creek (wetland no. 20) and the White Pine River/Dutch Slough complex (wetland no. 34).

Habitat Evaluation Procedures (HEP) have been developed by the U.S. Fish and Wildlife Service. Generic, per acre, habitat suitability index values (HSI) were derived for each of the impacted wetlands. In the case of wetland combinations, the wetland type having the highest HSI was used in the calculation of habitat units (HUs). Impact area HUs were derived by multiplying impact acreage by the HSI value assigned to each wetland type (Table 24). The total wetland impact will 73.4 acres. In terms of HEP, the total impact could range from 4000 to 4100 HUs (Table 24).

Other Alternatives

Overall, the West and East Corridors pass through similar habitat and many of the same wetlands (Figure 13). The West and East Corridors rank second and third, respectively, in the number of wetlands within a corridor (Table 22). In total wetland basin acreage, the East Corridor ranks first and the West Corridor is second. Although the majority of wetlands in both corridors are less than ten acres, three very large wetlands comprise more than half of the basin acreage totals. These major wetlands are formed around three streams and their tributaries: Chalberg Creek (no. 7), Beartrap Creek (no. 20), and White Pine River/Dutch Slough (no. 34). Wetland acreages impacted in the West Corridor by two lane

TABLE 24

OVERVIEW OF WETLAND IMPACTS FOR PREFERRED ALTERNATIVE

Wetland Combination	HSI* Per Acre-Type	Impact	HUs Lost (Acres)
2	51	1.3	66
2/6	55	16.9	930
2/3/6	69	1.0	69
2/6/7	55	47.8	2629
3/6	69	2.2	152
6/7	55	4.2	231
		73.4	4077

(1) *HSI values are derived from the generic HEP model currently being used for wetlands in District 1. Values for wetland combinations are derived by using the highest value of wetland types represented.

(2) HUs are given in terms of points for the total impact acreage. HSI multiplied by acreage impacted yields Habitat Units (HUs) that are lost.

and four lane construction would be 32 and 48 acres, respectively. Wetland acreages impacted in the East Corridor by two lane and four lane construction would be 38 and 73 acres respectively.

The Range Line Corridor ranks first in the number of wetlands and third in total wetland basin acreage (Table 22). Three of its wetlands are also a part of the TH 33 corridor area (Figure 13). Although the majority of wetlands are between one and 50 acres in size, three very large wetlands comprise more than two thirds of the total basin acreage. These major wetlands are formed around the following streams, lakes and their tributaries: Chalberg Creek (R3 and no. 7), Beartrap Creek/Grand Lake (R5 and no. 20), and Little Grand Lake (R8). Wetland acreage impacted in the Range Line Corridor by four lane construction would be 159 acres.

Urban Section

The Through Town Corridor ranks sixth in the number of wetlands and seventh in total wetland basin acreage (Table 21). One of its wetlands is also a part of the East Corridor (Figure 13). The majority of wetlands are between one and 50 acres in size. There are no wetlands greater than 300 acres in this corridor. This corridor contains one excellent type 4 wetland (no. 52) and a type 6/7/8 combination wetland containing an open bog and a spruce swamp (no. 57). Wetland acreage impacted in the Through Town Corridor by two lane construction would be seven acres.

The West Cloquet Bypass ranks fifth in the number of wetlands as well as in total wetland basin acreage (Table 21). Seven of its wetlands are also a part of the East Corridor and the Through Town Corridor (Figure 13). The majority of wetlands in this corridor are ten acres or less in size. There are no wetlands greater than 300 acres in this corridor. The largest wetland (W22-200 acres) is formed around Big Otter Creek. Wetland acreage impacted in the West Cloquet Bypass by four lane construction would be 15 acres.

The East Cloquet Bypass ranks seventh in the number of wetlands and sixth in total wetland basin acreage (Table 21). One of its wetlands is also part of the East Corridor, Through Town Corridor, and West Cloquet Bypass (Figure 13). The majority of wetlands are between one and 50 acres in size. There are no wetlands greater than 300 acres in this corridor. Wetland acreage impacted in the East Cloquet Bypass by four lane construction would be 4 acres.

No Build Alternative

The No Build Alternative in the rural and urban sections rank fourth and eighth, respectively, in the number of wetlands involved and the total wetland basin acreage (Tables 21 and 22). Only wetlands present within 50 feet of the existing roadway would be impacted by the No Build Alternative. The filling of wetland fringes by extending inslopes and damage done by construction vehicles used during upgrading would represent the most significant impacts. A total of 16 acres would be impacted along this alternative, with 15 acres in the rural section and one acre in the urban section.

Wetland Mitigation

Several measures will be implemented to minimize negative impacts where loss of wetland acreage is unavoidable.

Disposal of excess materials in sensitive areas within or outside the right of way must be coordinated with the Office of Environmental Services and appropriate state and federal agencies. (See Construction Impacts for detailed discussion.) It is anticipated that all excess or unsuitable material excavated during project construction will be used as slope dressing or will be disposed in upland areas. In the event that permanent or temporary disposal in wetlands is unavoidable. Mn/DOT Office of Environmental Services, DNR and USFWS will be contacted to coordinate required mitigation or restoration efforts.

The use of 6:1 slopes has been proposed throughout the Preferred Alternative to meet expressway design standards. Exceptions to the use of 6:1 slopes in wetland areas will be determined through coordination between USFWS, DNR and Mn/DOT.

Mitigation of wetland losses will include habitat replacement through purchase of areas in order to improve existing wetland areas or create new wetlands. The use of HEP will quantify wildlife habitat loss (HUs) due to wetland impacts. Mn/DOT is committed to replacing the number of HUs lost through construction of this project. Any HUs in excess of the number needed to fully mitigate the wetland impacts of TH 33 will be credited to the District 1 Wetland Habitat Mitigation Bank account. Should the proposed mitigation not fully compensate for the impacts, the debt shall be compensated by the District 1 Wetland Habitat Mitigation Bank account.

Two locations within the project area and one off-site location are under study as potential mitigation sites. Habitat alterations at these sites include the following measures:

A. A 36 acre site in the northeast quadrant of the TH 2 interchange has the potential to provide 300,000 to 400,000 cubic yards of fill for the interchange, i.e. approximately 40 to 50 percent of the total fill needed for the interchange. A 30 plus acre wetland will be created on this site. Design specifications for this wetland include 10:1 slopes, irregular contours and variable depths to a maximum of six feet. In addition, the pond will be lined with peat or topsoil.

B. An area of approximately 11 acres in the southwest quadrant of the TH 2 interchange has the potential to provide 100,000 cubic yards of fill for the interchange. As the site is partially saturated, the amount of fill that will eventually be extracted depends on how the area can be temporarily drained for excavation. The area contains scattered patches of

type 6/7 wetland, and extraction of fill along with additional excavation down to the water table should create open water areas, e.g. type 3,4 and 5 wetlands. Drainage flow is in a southeast direction, and construction of a berm to retain water in the area could also be a part of the mitigation design. The resulting borrow areas will be contoured and shaped to promote maximum wildlife use.

C. Off-site mitigation will be used to compensate for a portion of the wetland impacts. A proposed mitigation site is a Type 2/6 wetland located approximately three miles northeast of Barnum in Carlton County. Mitigation measures at this site (which is to be part of the proposed Culkin Rest Area) consist of installing a control structure and flooding the area to create a Type 3/4 wetland of 30 to 80 acres in size.

These mitigation measures would increase the habitat value of upland by creating open water areas as well as creating additional wetland types (specifically types 3, 4 and 5) within wetland basins. The mitigation proposed above could raise the HSI Value of a site from 11 to 74 points per acre (Table 25). Evaluation and design of these mitigation measures will be coordinated with DNR and USFWS.

Table 25

ANALYSIS OF PROPOSED MITIGATION MEASURES FOR POTENTIAL SITES*

Type of Site	HSI per Acre Before Mitigation	Mitigation Measure Taken	HSI per Acre after Mitigation	Net Gain in HSI
Type 2/6	54	impoundment	74	20
Type 2/6/7	54	borrow pond	65	11
Upland	0	borrow pond	74	74

*HSI values are derived from the generic HEP model currently being used for wetlands in District 1. Sites selected for mitigation will be evaluated on an individual basis by biologists from USFWS, DNR and Mn/DOT.

WILDLIFE

Overview

For corridor analysis, wildlife habitat has been classified into the same broad categories as in the Land Use Section (Table 13): forest land, cleared land, wetlands and developed land. Acreages were calculated using 200 foot widths for alternatives involving two lane right of way adjacent to existing highway, and 300 foot widths for four lane construction on new alignment. Acreages were not calculated for the No Build Alternative since it will not involve the purchase of additional right of way.

General Impacts

The project will impact wildlife nesting and breeding habitat regardless of which alternative is chosen. Construction of four lanes on new alignment will impact more habitat than construction of two lanes on new alignment. The No Build Alternative would have the least amount of impact, since construction would be within present right of way limits. Habitat loss caused by this project will not threaten the existence of any local wildlife population. Total numbers of most wildlife species in the study area will decline in a proportion equal to, or greater than, the quantity of habitat destroyed. This decline is negligable on a regional scale but could be a substantial impact upon the wildlife resources within the highway right of way.

Preferred Alternative

The Preferred Alternative will impact wildlife nesting and breeding habitat within construction limits, and, to a lesser degree, will also disturb wildlife in adjacent habitat within right of way limits. Constructing two lanes parallel to existing alignment will impact considerably less habitat than will constructing two lanes on new alignment. The greatest proportion of land use type removed will be forest land, followed by cleared land and wetlands (Table 13.)

The Preferred Alternative will not affect any significant waterfowl breeding or staging area, due to the scarcity of suitable wetland types (open water) in the project area.

Impacts within Alternative Corridors

Rural Section

The West and East Corridors are very similar with respect to their adjacent land use (Table 13). The East Corridor is about 0.2 miles longer than the West. An area of high quality wildlife habitat value is located east of the East Corridor in the vicinity of the White Pine River. It consists of a large, undistrubed upland area containing aspen-birch-pine ridges. Construction on new alignment would have a significant negative impact in this area, with four lanes being more detrimental than two lanes.

The Range Line Corridor would impact the largest acreage of all types because 75-80 percent of its length would be on new alignment. This corridor also would transect the greatest amount of wetland in the project area. In addition, it would come within 0.2 mile of Grand Lake and two smaller lakes.

Urban Section

The Through Town Corridor would impact the least amount of acreage of any land use type (Table 13). It does, however, come in proximity to two unique wildlife habitat areas; wetland no. 52 (an excellent waterfowl nesting area) and wetland no. 58 (an open bog/spruce swamp). This corridor contains more developed area than the other corridors in this section, thus lowering its value for most wildlife.

The West Cloquet Bypass and East Cloquet Bypass are similar in their adjacent land use with the exception of wetlands, which are more abundant in the West Cloquet Bypass Corridor (Table 13). Both corridors are transected by roads. The West Cloquet Bypass contains more developed area in its southern reaches, thus lowering that portion's value for most wildlife.

WILDLIFE MITIGATION

The detrimental effects of construction related impacts upon wildlife will be minimized and mitigated through the following procedures:

A. By impounding shallow water in the wet meadow and shrub swamp areas adjacent to the corridor. Most of these wetlands lack sufficient water to be good wetland habitat. With proper design these wetlands can serve as ponding areas for highway runoff and at the same time provide improved wildlife habitat for waterfowl.

B. By landscaping and seeding with species of plants that provide food and shelter for wildlife.

C. By narrowing construction limits adjacent to wetlands (e.g. shifting alignment and changing profile).

D. By leveling and seeding with grasses, a section of roadbed to be abandoned in the DM&IR crossing area will be allowed to revert back to native vegetation.

E. By limiting mowing of roadsides to provide nesting cover for ducks and songbirds.

The study area lies within the ranges given in the U.S. Fish and Wildlife Service red book for nesting bald eagles, timber wolves and peregrine falcons.

None of the proposed corridors including the Preferred Alternative pass near large bodies of water that could potentially be used for feeding by bald eagles. No active eagle nests are known to exist close enough to the project area to be disturbed, so it is evident that there will be no significant adverse effects on bald eagles.

All proposed corridors including the Preferred Alternative lie in peripheral timber wolf range. Mn/DNR estimated the 1979 wolf density in the area to be one wolf per 50 square miles (Minnesota Timber Wolf Management Plan; Mn/DNR, 1980). No discrete wolf concentrations are known to exist in the immediate project area. Possible impacts on wolf populations of the Preferred Alternative or any of the other proposed alternatives for TH 33 involve impaired dispersal and road killed animals. Significant wolf habitat loss will not occur, and the food base of the wolves (primarily white-tailed deer) is not expected to be impacted at a level that would affect wolves.

Increased traffic volumes and speed may result in an increase in road killed wolves if sight distances are not improved (S. Fritts, Pers. Comm.). The behavior of individual wolves toward two lane highways varies from indifference to reluctance to cross (R.P. Thiel, Pers. Comm.). Upgrading or adding additional lanes may increase the reluctance of wolves to cross TH 33.

The road improvements and increased traffic volume may deter some wolves from crossing the road, which would reduce the road kill hazard, but this restricted movement would also slow the dispersal to, and subsequent recolonization of, areas in Wisconsin with suitable habitat and low wolf populations. Wolves northwest of

Cloquet near TH 33 and TH 2 may disperse southeast to Wisconsin (L.D. Mech, Pers. Comm.). Upgrading TH 33 would add to the barriers already present and could reduce the number of wolves that would venture into Wisconsin. The dispersal of wolves into Wisconsin has not been well documented, and it is difficult to speculate on the number of animals that would be affected.

Peregrine falcons migrate through the general area but do not nest there. No suitable nesting reintroduction sites exist along any of the potential corridors.

Mn/DOT Wildlife Biologists have determined that, for the above reasons, the Preferred Alternative will not affect bald eagles or peregrine falcons. There should be no impacts on local wolf movements; however, the No Build Alternative, which is the upgrading of the current two lane road, would be preferable to a four lane highway with regard to wolf dispersal.

Personal Communication Sources

The following authorities on timber wolves were contacted for input into this assessment.

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Madison, Wisconsin 53707

BICYCLE AND PEDESTRIAN CONSIDERATIONS

TH 33 is a major north-south route providing access to a northern tourism region. A typical section for the TH 33 rural section (divided, four 12 foot lanes, ten foot paved outside shoulder, four foot inside shoulder) would improve the rating for bicycle travel from "unsatisfactory" to "good" according to Mn/DOT's bikeway design standards.

Any of the alternative corridors, including the Preferred Alternative, would produce a positive impact for bicycle transportation by providing a safer bicycle travel corridor. Although the Preferred Alternative in the Urban Section (No Build) will not affect existing bicycle traffic patterns, the projected increase in future traffic will further diminish the already unsatisfactory rating of bicycle travel suitability. Any future improvements to TH 33 in Cloquet will consider safe accomodation of bicyclists and pedestrians, particularly on the TH 33 bridge over the St. Louis River.

The proposed TH 33 design within any of the alternatives is consistent with 23 U.S.C. 109(n), in that the project would not result in the severance or destruction of an existing major route for non-motorized transportation.

VISUAL IMPACTS

The landforms and landcover types in the TH 33 study area combine to create a variety of views. A visual analysis studies these views and develops ways to enhance the positive views and improve or eliminate the negative ones. The two main criteria involved in doing a visual analysis are the view of the road and the view from the road.

Views of the Road

Land use in the rural section is relatively undeveloped and, as a result, views of the road in any of the corridors will be limited in number. Land use in the urban section is more developed and due to this development, views of the road will be more numerous and cluttered.

Views from the Road

The visual character of both the rural and urban sections of the study area is created by a variety of view types which range from limited-confined views to open-extended views. This diversity enhances the road corridors visual character and provides visual stimuli. The land uses in the urban section are more developed and this lowers the visual qualities of this area. There are some extended views of the St. Louis River and these should be preserved.

Impacts

Impacts to the visual character of both the rural section (which includes the Range Line Corridor) and the urban section of the study area will be insignificant. There are, however, steps which should be taken in allowing the road to be a visually positive feature in the landscape.

MITIGATION OF VISUAL IMPACTS

Views of the Road Mitigation

Steps to be taken that allow the road to be unobtrusive yet to provide good views of the road are as follows: designing the road to reflect existing topography, thereby allowing it to fit into the environment, and having vegetation in certain areas which acts as a buffer zone. This would break up any long extended views of the road which can occur in these areas.

Views from the Road Mitigation

Steps to be taken to enhance and improve the study area's visual character as seen from the road are as follows: maintain a variety of view types; thin vegetation in areas where scenic views are blocked by existing vegetation; plant or retain vegetation in medians where feasible; design the road to reflect the natural topography; and create a natural edge of vegetation along the roadside. This natural edge can be created by feathering the vegetation to resemble a natural forest edge. A combination of selective cutting and planting (plant sizes should vary) would provide the desired effect. This feathering would provide visual interest as well as add additional wildlife habitat.

Figures 19a and 19b highlight potential sites for improvement and perservation of the visual character. The numbered areas on these figures correspond to the following observations.

Rural Section

1) The scenic open views found here should be preserved.

2) A railroad overpass (road over rail) has potential for allowing open, scenic views to the surrounding landscape.

3) This area may have potential to provide scenic views to Grand Lake.

4) & 5) Upland areas provide potential for opening up scenic views to the surrounding landscape.

Urban Section

6) A vegetation screen here could buffer views to the negative urban feature located here.

7) & 8) New river crossings will have two different effects on the area's visual character.

a) The new bridge has potential to provide scenic views of the river.

b) The new bridge has potential to detract from the natural environment which will lower the visual quality of the area.

9) The visual character of this area should remain relatively uneffected because a bridge already exists in this area.

RANGE LINE CORRIDOR

RANGE LINE 2

RANGE LINE 1

EAST CORRIDOR

WEST CORRIDOR

TH 33

TH53

TH 2

CR 8

CR 869

CR 7

SAGINAW RD

SEVILLE RD

MAPLE GROVE RD

MORRIS THOMAS RD

INDEPENDENCE RD

Grand Lake

Little Grand Lake

Creek

River

Slough

Johnson Creek

Beartrap

St Louis

Cloquet

Chaiberg

WITTE RD

Dutch

1

2

3

4

5

LEGEND

4 : VISUAL IMPACT SITE

0 1/4 1/2 1 miles 2 N

TH 33
from I-35 to TH 51

FIGURE 19A: VISUAL IMPACTS - RURAL SECTION SITES

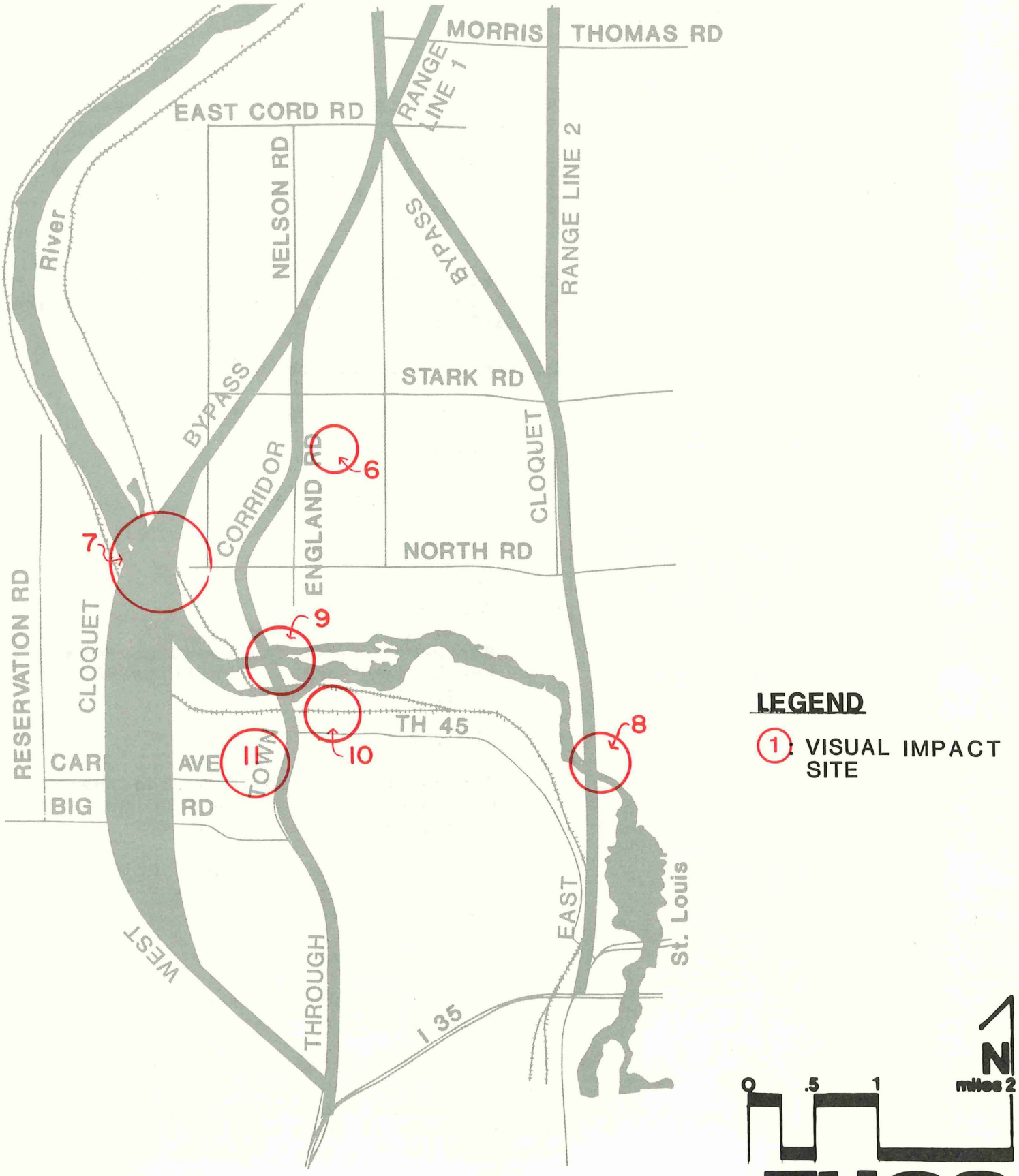


FIGURE 19B: VISUAL IMPACTS - URBAN SECTION SITES

HISTORICAL/ARCHAEOLOGICAL IMPACTS

Introduction

The rich history of the Cloquet area was influenced by the fur trade and logging eras. All of the sites which have been identified as having historic value are located within the urban section. (See Figure 15).

The sites which have the potential to be impacted by various alternatives are as follows:

Preferred Alternative

No potential impacts

No Build Alternative

No potential impacts

Through Town Corridor:

Dunlap Island
Northeastern Hotel
C. N. Nelson Lumber Co.
Northern Lumber Co. Boarding House
Frank Lloyd Wright "Phillips-66" Gas Station

West Cloquet Bypass

Cloquet Boom House & Sorting Sheds (alignment through the Fond du Lac Indian Reservation)

Northern Lumber Co. Upper Mill (alignment outside of the Fond du Lac Indian Reservation)

East Cloquet Bypass

Woman's Portage (west side)
Woman's Portage (east side)

For most sites in the urban section, the possibility exists that a final highway alignment could avoid significant impacts. Further study of this area is needed to fully analyze historic considerations.

Federally funded projects which could affect properties on, or eligible for, the National Register for Historic Places are governed by Section 106 of the National

Historic Preservation Act of 1966. Implementing rules are found in 36 CFR 800.

No archaeological sites have been identified at this time. If any are identified, they will be afforded proper consideration in accordance with the provisions of 36 CFR 800, Minn. Stat. Ch. 138 and Minn. Stat. 307.08.

CONSTRUCTION IMPACTS

A major transportation project will exert significant short term effects on the local and regional economy. This impact is caused by the introduction of employment, income, and the purchase of construction material and supplies. In the DEIS, construction cost estimates for TH 33 varied between $33 million and $48 million, depending on the build alternative selected. The No Build Alternative would have a cost of approximately $11 million. The cost estimate used for the Preferred Alternative is $24.9 million.

The data presented and discussed below are based upon information empirically generated by the FHWA from contractors reports. Although the data are quite precise for the level of aggregation and years indicated, there are two limiting conditions. First, the data are national averages. To the extent that a project is not "average", i.e. involves unique construction or engineering problems, the cost distributions may vary. Second, costs for highway construction have been subject to variable rates of change over the past few years. This means that the data discussed below should not be construed as a prediction of costs in 1986, but rather as a description of average projects constructed during 1979, 1980 and 1981.

Employment and Income

Two different statistics are available to estimate labor impacts (Table 26). For projects completed during 1983, 20.3 percent of construction costs for Federal-Aid highways were allocated to labor. On this basis, the Preferred Alternative could generate $5.1 million of labor income. Other alternatives could generate from $6.7 million (Through Town at $33.1 million) to $9.7 million (Bypass at 48.0 million). The No Build Alternative could generate $2.2 million.

Another available datum is employee-hours per million dollars of construction cost. For recently completed projects, the FHWA reports that nearly nearly 21,000 employee hours of labor were generated by each million dollars of construction costs.

TABLE 26
ANTICIPATED EMPLOYMENT EFFECTS OF CONSTRUCTION: TH 33 FROM I-35 TO TH 53

Item	Potential Expenditures			
	Preferred Alternative (000) $25,000	ThroughTown (000) $33,000	Bypass (000) $48,000	No Build (000) $11,000
Potential Direct Labor Income (a)	$ 5,055	$ 6,699	$ 9,744	$ 2,233
Potential Person-Hours of Labor (a)	520	689	1,002	230
Wage Earnings at $13.00 per hour (b)	$ 6,763	$ 8,956	$13,037	$ 2,988

a Figures generated from data in Highway Statistics 1983 (May, 1984) Federal Highway Administration.

b Mn Dept. of Economic Security. Average hourly earnings of highway and heavy construction workers was $13.01 in February 1985.

Using that figure, the Preferred Alternative could generate approximately 520,000 employee hours of work. Assuming a construction wage of $13.00 per hour, the Preferred Alternative would produce approximately $6.8 million of labor income. Other alternatives would have generated between $9.0 million (Through-Town Alternative) and $13 million (Bypass Alternatives). The limited improvements associated with the No-Build Alternative would generate approximately $2.7 million of labor income.

Materials/Supplies Acquisition

A project such as the one proposed involves the purchase of substantial quantities of construction material and supplies. Table 27 presents data regarding the cost of supplies and material on non-interstate federal-aid projects completed during 1981, and estimates the amount which would have been expended on TH 33. Many of these cost items would also involve labor impacts, e.g., the purchase of aggregates would cause employment for equipment operators, truck drivers, and others.

Other/Economic Impact

All funds introduced through project construction and right-of-way acquisition are subject to the "multiplier" effect. Purchases which are made from other regions require dollars to flow out of the local economy, while money received by local business may be used to pay wages, purchase products, pay taxes and become profits. Wages received will be partly saved and partly spent. Some of the products purchased from labor income will have been produced in the region, others from outside the region. This cycle repeats itself until the original money injection is completely dissapated.

Air Quality

Construction will have a negative impact on air quality. Air pollution will include emissions from vehicles, equipment and also possibly a hot mix paving plant. Fugitive dust sources which are mainly grading operations and temporary dirt roads, will also be a source of air pollution.

TABLE 27
TYPICAL EXPENDITURES FOR MATERIALS
AND SUPPLIES: NON-INTERSTATE PROJECTS 1979-1981* (in thousands of dollars)

Item	Percent of Construction Costs Expended on Item, Percent	Expected Value of Purchases of Materials and supplies on Non-Interstate Projects costing $25,000,000 (Preferred Alt)	$33,000,000 (Through Town)	$48,000,000 (By-pass)	$11,000,000 (No-Build)
Cement	1.7	$ 425	$ 561	$ 816	$ 187
Aggregates	8.0	2,000	2,640	3,840	880
Bitumens	2.7	675	891	1,296	297
Lumber	0.3	75	99	144	33
Corrugated Steel Culvert	0.8	200	264	384	88
Reinforcing Steel	2.2	550	726	1,056	242
Structural Steel	3.4	850	1,122	1,632	374
Ready-Mix Concrete	4.8	1,200	1,584	2,304	528
Premixed Bit Paving	9.8	2,450	3,234	4,704	1,078
Concrete culvert	1.5	375	495	720	165
Clay Pipe	0.1	25	33	48	11
Misc. Steel	0.6	150	198	288	66
Fencing	1.3	325	429	624	143
Guardrail	1.2	300	396	576	132
Bridge Rail	0.2	50	66	96	22
Petroleum Products	3.4	850	1,122	1,632	374
Other	6.6	1.650	2,178	3,168	726
Total Materials and Supplies	48.6	$12,150	$16,038	$23,328	$ 5,346

* Table generated from data in Highway Statistics 1982 (March 1983) Federal Highway Administration, Federal Aid Division

Since this is an area of air pollution attainment (i.e., it has been designated as an area meeting ambient air quality standards) no special precautions or permits are needed to stay within the standards with the normal amount of construction required. Neither exhaust nor dust should be of a magnitude to constitute a health hazard.

Construction regulations and Mn/DOT's "Standard Specifications for Construction" outline ways to minimize any impact from excessive dust during construction.

Construction Noise

The high noise levels of typical construction equipment indicate a potential noise impact. Typical construction noise levels are listed in Table 28. No predictions of construction noise levels have been made, since it is impossible to accurately estimate the actual equipment that will be utilized at any given time.

The impact of construction noise can be minimized by restricting the hours of work, utilizing the quietest equipment available, constructing temporary barriers, and careful attention to muffler maintenance. Minnesota Standard Specifications for Highway Construction - Section 7, Subsection 1701, states in part that the contractor shall comply with all applicable laws, ordinances, regulations, orders and decrees. This includes any federal, state or local noise control regulation.

Traffic

Construction work will cause some disruptions to local traffic patterns. Mn/DOT's specifications requires contractors to conduct their operations in a way that will cause the least obstruction to traffic. Access to adjacent property will be maintained. Construction will be scheduled in such a manner that alternative routes can be developed.

Pollution control

All applicable regulations of pollution control relating to the prevention and abatement of pollution shall be complied with during hauling and construction operations.

TABLE 28
TYPICAL CONSTRUCTION MACHINERY NOISE*

	dBA at 50'	dBA at 100'	dBA at 200'
Air Compressor	81	75	69
Backhoe	85	79	73
Concrete Mixer	85	79	73
Concrete Pump	82	76	70
Concrete Vibrator	76	70	64
Crane, Derrick	88	82	76
Crane, Mobile	83	77	71
Dozer	80	74	68
Generator	78	72	66
Grader	85	79	73
Jack Hammer	88	82	76
Loader	79	73	67
Paver	89	83	77
Pile Driver	101	95	89
Pneumatic Tool	85	79	73
Pump	76	70	64
Rock Drill	98	92	86
Roller	74	68	62
Saw	78	72	66
Scraper	88	82	76
Shovel	82	76	70
Truck	91	85	79

*Source: Traffic Noise and Vibration Manual, Illinois Department of Transportation, March 1977

Potential Soil Impacts

The Preferred Alternative and therefore the East and West Corridors have similar soil compositions. According to SCS maps, poor soils along these alignments are found primarily in the vicinity of the White Pine River and Dutch Slough. The northern portion of the Range Line Corridor has large expanses of organic soils. These organic soils could make highway construction extremely difficult and costly. Within the urban section, the West Cloquet Bypass encounters the largest percentage of organic and poorly drained mineral soils. Road construction may be more difficult and costly in the West Cloquet Bypass. In addition, a bridge crossing of the St. Louis River may require cuts and fill in the steep slopes which are adjacent to the river. Special attention to erosion control measures should be followed in this area.

Erosion Control

Permanent, temporary and administrative controls will be used to minimize erosion. Permanent control measures include items such as replacement of top soil, seed, sod and rock riprap. Seed, sod and topsoil are used to reestablish vegetation after construction. Vegetation cover is the best permanent means of controlling and reducing erosion on large exposed areas.

Temporary controls of erosion include items such as bale ditch checks, earth diversions, bale diversions, and temporary sediment basins. Temporary controls which will be included in construction plans are used at the discretion of the project engineer. Administrative erosion controls occur in the form of standard specifications, licenses, permits and requirements placed upon the contractor.

To establish vegetation in areas disturbed by construction, Mn/DOT usually requires topsoil lime (if necessary), fertilizer, sod and/or seed and mulch. The type and rate of application of fertilizer used depends upon the nature of the topsoil.

Normally, topsoil within a construction area is salvaged and reused. When a project is being designed, existing

topsoil is sampled and tested. Test results provide information on topsoil gradation, pH, organic matter, phosphorous and potassium content. From test information, the proper fertilizer type and rate may be derived. If more topsoil is required than may be obtained by salvaging inplace topsoil, topsoil borrow (topsoil obtained from a source other than the construction site) may be used.

Excess Material Disposal

While the Preferred Alternative would require excavation of peat and muck, it is estimated that this material can be disposed of within right of way limits. No significant impacts to wetlands from muck disposal is anticipated along this alignment. The Range Line Corridor would encounter the most unsuitable soils and being long distances from upland areas, would most likely have the most wetland muck disposal. Depending on the depth of the unsuitable soils, the additional wetland area impacted could approach or equal the wetland area impacted by the highway fill itself. The West Corridor followed by the East Corridor would have less disposal problems in the rural section of the project. In the urban section, none of the alternatives encounter large expanses of unsuitable soils and disposal should not pose great problems.

In the event that unsuitable soils cannot be disposed of within right of way, Mn/DOT has Guidelines for the Disposal of Excess Material (Technical Memorandum No. 83-11-ENV-1) to aid in the determination of whether there are no feasible and prudent alternatives to disposal of excess materials in wetlands or other environmentally sensitive areas. In brief, these guidelines allow disposal in wetland areas only where cost or engineering considerations make removal of the material to upland sites extremely impractical. These conditions are usually encountered where a highway alignment traverses large expanses of unsuitable soils.

Landfill

A construction impact unique to the East Cloquet Bypass in the urban section is involvement with the Scanlon Landfill

(closed). This landfill is located between TH 45 and the St. Louis River, immediately north of County Road 61. While an exact alignment through this area has not yet been determined, up to seven acres of landfill could potentially be located within construction limits.

If the landfill materials must be excavated (to create suitable subbase) the following special construction considerations must be followed:

A) All buried refuse must be disposed of in a satisfactory manner at a MPCA permitted facility.

B) All containerized (drummed) waste must be stored in a designated area until identified and a disposal plan is approved by the MPCA. Should any of these wastes be identified as a hazardous waste material, disposal must be at a hazardous waste storage, treatment or disposal facility.

C) All surface areas of the landfill disturbed during construction shall be filled, sloped (two percent minimum) and recompacted with a minimum two feet of soil cover having a maximum permability of $2x10^{-6}$ cm/sec. Surface water runoff shall not be drained to areas containing waste. All disturbed areas must be revegetated.

TRANSPORTATION IMPACTS

The Purpose and Need Section of this document lists seven transportation objectives of this project:

1) provide adequate level of service
2) improve accessibility to tourism areas of northern Minnesota
3) stimulate and support business expansion and longterm economic growth
4) provide four lane continuity
5) accident reduction
6) improve traffic flow in Cloquet
7) replace or improve deficient bridges

Table 29 identifies the ability of each alternative to meet the transportation objectives of this project.

Table 29. TRANSPORTATION OBJECTIVES FULFILLED BY ALTERNATIVES

Rural Section		
Objective	*Build Alternatives	No Build Alternative
1) level of service		Does not meet objective
2) tourism accessibility	Fully meets	Partially meets objective
3) economic development	all transportation	Partially meets objective
4) four lane continuity	objectives	Does not meet objective
5) accident reduction		Partially meets objective
6) Cloquet traffic flow (not applicable in Rural Section)		Not Applicable
7) bridge improvement		Does not meet objective

Urban Section		
Objective	Build Alternatives	*No Build Alternative
1) level of service		Does not meet objective
2) tourism accessibility	Fully meets	Does not meet objective
3) economic development	all transportation	Does not meet objective
4) four lane continuity	objectives	Does not meet objective
5) accident reduction		Partially meets objective
6) Cloquet traffic flow		Does not meet objective
7) bridge improvement		Does not meet objective

*These columns also represent those transportation objectives fulfilled by the Preferred Alternative.

Environmentally Sensitive Areas

The EIS process disclosed that the most environmentally sensitive area was located in the vicinity of the TH 33 crossing of the White Pine River. This section of the FEIS has been included to clearly disclose the cumulative impacts of each alternative in this area.

The environmentally sensitive area is located in the rural section of the project. The southern boundary begins approximately one mile north of Morris Thomas Road and continues to the northern boundary at Witte Road. The eastern and western limits of the area coincide with the East and West Alternative Corridors (Figure 9).

Three design alternatives were considered in this area. Within the East Alternative Corridor, approximately one quarter mile east of existing TH 33, the concept of a four lane highway on new alignment was explored (the East-Four Lane Alternative). An alignment also in the East Corridor was developed with an additional two lanes immediately east of existing TH 33 (the East-Two Lane Alternative). Within the West Alternative Corridor, a four lane highway on new alignment was developed approximately one quarter mile west of existing TH 33 (the West-Four Lane Alternative). An alignment of an additional two lanes immediately west of existing TH 33 was dropped from consideration because it required the relocation of approximately 50 graves from the Brevator (Pine River) Cemetary. Refer to Figure 20 for the locations of these design alternatives.

The area is characterized by several sensitive features (Figure 20). The White Pine River, a designated trout stream, together with its associated floodplain, traverses the area from east to west. Coldwater springs, essential in maintaining the trout fishery, recharge the river along both the eastern and western edges of the area. Dutch Slough, also a DNR designated trout stream, flows from the west to the confluence with the White Pine River. Wetlands are scattered throughout the area, but are mostly associated with the floodplains of these two streams.

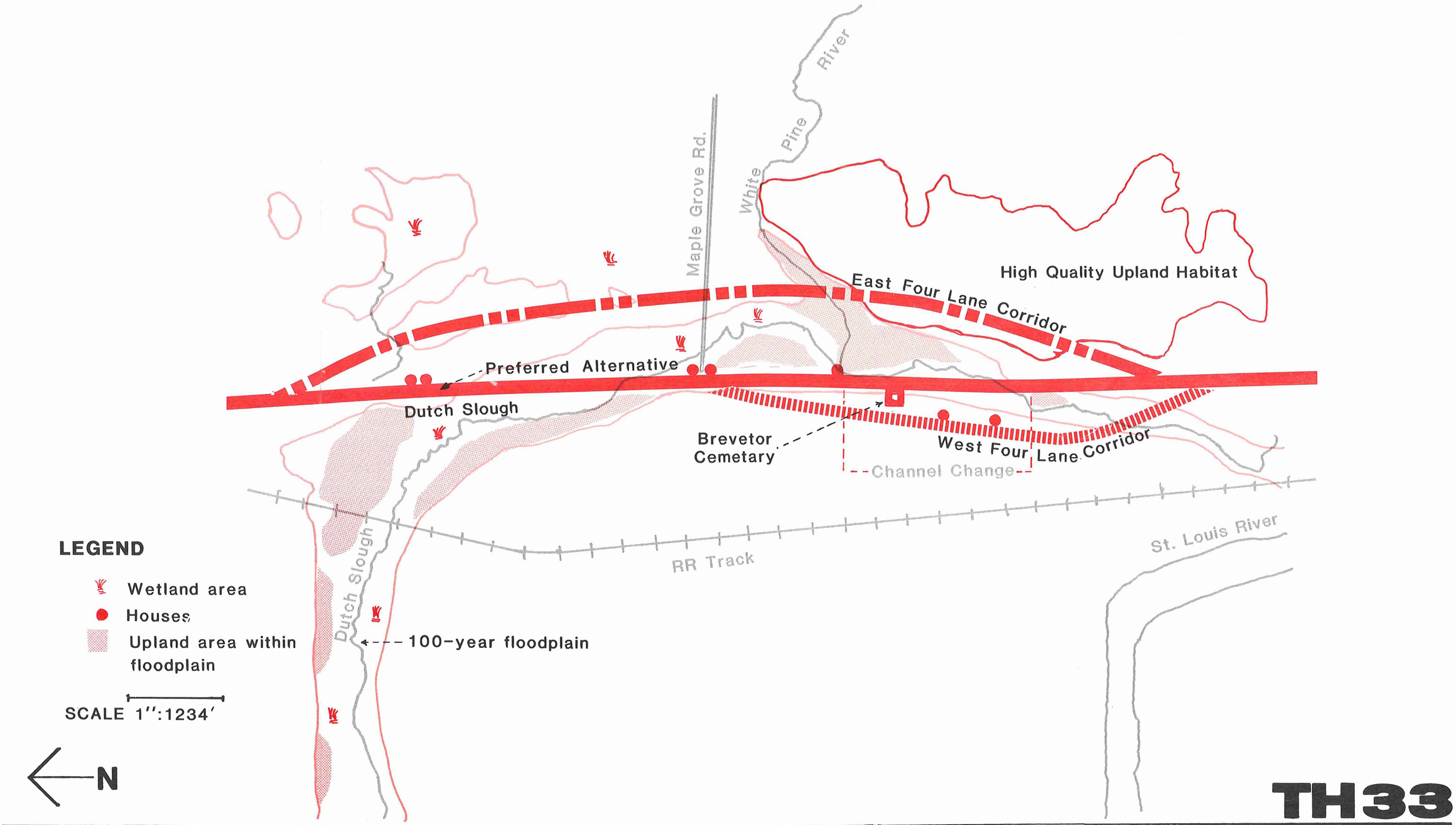


FIGURE 20: ENVIRONMENTALLY SENSITIVE AREAS

The East-two lane Alternative, also the Preferred Alternative in this area, has several disadvantages. It impacts the most area of wetland (20 acres). It results in longitudinal and transverse encroachments into the White Pine River floodplain (2000 ft.) and Dutch Slough floodplain (5400 ft.). The alignment will necessitate a 1,000 foot channel change of the White Pine River in an area of low gradient and organic soils. The loss of fish habitat and temporary water quality degradation are significant impacts.

The advantages of this alignment are that it converts the least amount of land (43 acres) to highway right-of-way, the impacts to high quality wildlife habitat are minimal. This alignment does not sever any developable land. The impacts to wetlands can be mitigated off-site. Extraordinary mitigation can be designed for the trout stream relocation. Local landowners, the DNR, and the FWS favor this alternative.

The West-four lane Alternative results in the most impact to developed and developable land. This alignment impacts 14 acres of wetland. It removes 12 acres of high quality upland/lowland wildlife habitat and coverts 76 acres of land to highway right-of-way. There is an 1,100 foot transverse crossing of the White Pine River floodplain and a 3,700 foot transverse crossing of the Dutch Slough floodplain. This alignment crosses an area containing several coldwater springs.

The advantages of this alignment are that no stream modification of the White Pine River is required with bridge structures. No longitudinal floodplain crossings will occur. Impacts to high quality wildlife habitat is moderate in contrast to the East-four Alternative. Impacts to wetlands are moderate in contrast to the East-two Alternative.

A large undisturbed area of high quality upland wildlife habitat has been identified along the gravel ridge east of existing TH 33 and the White Pine River. Another mix of good lowland and upland wildlife habitat has been identified west of existing TH 33 and the White Pine River crossing. A large area of moderate quality wildlife habitat is located west of the White Pine River crossing. Although the area is not undisturbed due to the presence of several gravel pits, it is otherwise largely undeveloped and would be adversely affected by construction of a four-lane highway.

Several residences are located in this area, most of which would be relocated under one or the other of the various design alternatives. Developable land is located both east and west of TH 33 immediately adjacent to the floodplain of the White Pine River and Dutch Slough. The Brevator (Pine River) Cemetary is located immediately to the west of existing TH 33, in the center of the area.

Impacts

Table 30 summarizes the various impacts of the three design alternatives in the White Pine River Area.

The East-Four Lane Alternative converts the most area (80 acres) of land to highway right-of-way. It removes 25 acres of excellent upland wildlife habitat and separates the wildlife area from the White Pine River floodplain/wetland complex. The crossing of the White Pine River occurs at an excellent gravel spawning riffle, which is essential for maintaining high trout populations. A coldwater spring is located within the alignment of this alternative. The DNR and FWS oppose this alternative based upon upland wildlife and trout stream impacts.

The advantages of the alignment are that it impacts the least amount of wetlands (11 acres), there is a transverse crossing of the White Pine River with only 600 feet of floodplain encroachment, no stream modification is required with bridge structures, there is no crossing of Dutch Slough, and the potential impacts to the spawning riffle and spring can be reduced or eliminated with proper construction techniques and erosion control.

Table 30: Comparison of Impacts - White Pine River Sensitive Area*

Impacts	East-Four Alternative	East-Two Alternative	West-Four Alternative
Land Use - Total (acres)	80	43	76
Wetland	14	23	17
Cleared	3	6	24
Forested	62	9	27
Developed	1	5	8
Relocations	3	5	5
Wetland	11	20	14
Floodplain (feet)			
White Pine River	600(T)	2000(L)	1100 (T)
Dutch Slough	NA	5400(T)	3700 (T)
Channel Modification			
White Pine River	None	1000	None
Dutch Slough	NA	250	250
Wildlife Habitat (acres) (High Quality)	25	0	15

* From one mile north of the Morris Thomas Road to the Witte Road
T Transverse floodplain encroachment
L Longitudinal floodplain crossing
NA Not Applicable

List of Preparers

VI. LIST OF PREPARERS

NAME	EDUCATION	YEARS OF EXPERIENCE	EIS RESPONSIBILITY
DISTRICT:			
Gustaf E. Peterson	UMD	9 yrs	Energy Analysis
Orrin P. Scholberg	BA Political Science	2 Yrs	Parks & Recreation
Paul J. LaTour	BA Business and Economics	20 yrs	Project Manager Purpose and Need
Mn/DOT: CO			
Frank Pafko	BS Fisheries	8 yrs	Project Manager-EIS Preparation EIS Editing Sensitive Area
Joe Thomas	BS Soil & Water Mgmt.	5 yrs	Soils, Wild & Scenic Rivers
Gerry Larson	MA	5 yrs	Social, Economic Agricultural
Jim Halvorson	BS Civil Eng. BS Meteorology	12 yrs	Air Quality
Jim O'Conner	BCE	10 yrs	Noise Analysis
Sarma Jatnieks-Straumanis	BS Zoology MS Biology	4 yrs	Affected Environment, Wetlands, Wildlife Threatened Endangered Species
Jayne Andersen	BS Landscape Architecture	1.5 yrs	Visual Analysis, Summary, EIS Editing, Graphics Coordination
Scott Carlstrom	BS Forestry MS Hydrology	9 yrs	Water Quality and Stream Modification

NAME	EDUCATION	YEARS OF EXPERIENCE	EIS RESPONSIBILITY
Pat Bursaw	BA American Studies	5 yrs	Bikeways
Larry Foote	PhD Agronomy-Ecology	24 yrs	EIS Editing
John Dustman	BS Geology	3 yrs	Geology, Ground Water, Hazardous Spills
Joe Jubert	Student Civil Engineer	1 yrs	EIS Editing Layout
Nancy Radle	MS Geology BS Geology BS Biology	2 yrs	Wetlands Finding
Patty Beihl	BA Chemistry BS Aquatic Biology	2 yrs	Stream Modification Land Use Impacts Wetlands
Craig Churchward	BLA	6 yrs	Graphics Coordination
FHWA:			
Ronald L. Lacy	BS CE	28 yrs	EIS Editing
James W. McCutcheon	BS CE MS CE	30 yrs	Floodplains, Structures

Comments & Responses

VII. Response to Comments - Letters

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UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST
CHICAGO ILLINOIS 60604

REPLY TO ATTENTION OF
D-FHW-F40239-MN

NOV 0 2 1984

Mr. John E. Sandahl
Minnesota Department of Transportation
District 1, Transportation Office
1123 Mesaba Avenue
Duluth, Minnesota 55811

Dear Mr. Sandahl:

The U.S. Environmental Protection Agency has completed its review of the draft Environmental Impact Statement (EIS) for the proposed improvements to Trunk Highway 33 from I-35 to US-53 in Carlton and St. Louis Counties, Minnesota. The proposed improvement involves changing an existing two lane highway to a four lane expressway from the junction of I-35 to the junction of US-53. An interchange with TH-2 is also proposed, with a one mile section of TH-2 being constructed to four lanes. The length of the project is approximately 20 miles.

The EIS evaluated several build alternatives and the no-build alternative. The build alternatives were divided into an urban section (the area around Cloquet, Minnesota) and a rural section (the area north of Cloquet). The build alternatives within the urban section included an east bypass, a west bypass and a through town alignment. The build alternatives within the rural section included a range line corridor, and east and west realignment corridors.

Based on our review of the draft EIS, the project has potentially significant environmental effects regardless of the alternative selected. In the urban section, the through town corridor affects numerous noise sensitive receptors. In contrast, the bypass alternatives reduce noise problems but increase the number of ecologically sensitive areas affected. All of the alternatives in the rural section of the project affect many acres of ecologically sensitive lands.

Based upon our review of the draft EIS, we have identified an environmentally preferrable alternative. Our comments are restricted to the evaluation of the environmental impacts of the project. This does not mean we do not recognize the social and economic impacts; however, the jurisdiction and expertise of the Environmental Protection Agency lies in the field of environmental impact evaluation, and our comments are limited accordingly. Our comments are not intended to restrict the selection of alternatives solely to those that minimize environmental impact. Instead, our comments should be used to try and balance the environmental, social and economic impacts of the project.

We are rating the project EC-2, which means we have environmental concerns (EC) and additional information is needed (2) to fully evaluate the project's impact. Our comments on the environmental effects of the project are detailed in the attachment to this letter. Pursuant to our responsibilities under the

National Environmental Policy Act and Section 309 of the Clean Air Act, a notice of the availability of our comments will be published in the Federal Register along with a summary of our comments.

Thank you for the opportunity to review and comment on the proposed project. We will be contacting your office soon to discuss our environmental concerns on this project. If you have any questions about our review, please call Mr. James Hooper of my staff at (312) 353-1326.

Sincerely yours,

William D. Franz

William D. Franz, Chief
Environmental Review Branch
Planning and Management Division

Attachment

U. S. ENVIRONMENTAL PROTECTION AGENCY COMMENTS ON
THE PROPOSED IMPROVEMENTS TO TH-33

The EIS evaluated several build alternatives and the no-build alternative. The build alternatives were divided into an urban section and a rural section. The urban section is about 6 miles in length the extends from I-35 north through Cloquet to Morris Thomas Road. In this section, a through town alternative, an east bypass alternative, and a west bypass alternative were analyzed. The rural section is about 14 miles in length and extends from Morris Thomas Road north to TH-53. In this section, east and west corridor alternatives were investigated as well as a range line alternative. The east and west corridors are adjacent to the existing highway. The range line alternative is a new alignment parallel to and approximately one to two miles east of the existing highway.

Urban Section

The environmental impact in the urban section is primarily due to the project's affects on noise levels, wetlands, prime agricultural lands and wooded habitats.

The through town corridor is predicted to adversely affect the noise environment of 34 receptors according to the Federal Highway Administration's noise guidelines and 111 receptors according to the more stringent State noise guidelines. However, these receptors are expected to be affected under the no-build alternative as well. Additionally, the predicted increases in noise levels under the through-town alternative compared to the no-build alternative are generally in the range of 2-4 dBA. An increase of 2-4 dBA is imperceptible to the human ear.

The noise levels along TH-33 in Cloquet could be reduced by the construction of the east or west bypass alternatives. The east and west bypass alternatives affect 16 and 11 receptors, respectively. When compared with the no-build alternative, however, the noise level increases resulting from the through-town alterative are insignificant. Therefore, because of the acreages of environmentally sensitive lands (wetlands, prime agricultural land, wooded habitats) affected by the east and west bypass alternatives, and the lack of a significant difference between noise levels of the through-town and no-build alternative, the through-town alternative in the urban section of the project is environmentally preferable.

Rural Section

The environmental impact in the rural section is primarily due to the project's effects on noise levels, wetlands, prime agricultural lands and wooded habitats.

The east and west corridor alternatives are predicted to adversely affect the sound environment of 22 receptors according to the Federal Highway Administration's noise guidelines and 84 receptors according to the more stringent State noise guidelines. However, these receptors are expected to be affected under the no-build alternative as well. Additionally, the predicted increases in noise levels under the east and west corridor alternatives are greater by only 2-4 dBA when compared to the no-build alternative. As noted previously, such an increase is imperceptible to the human ear. The noise levels along TH-33 north of Cloquet could be reduced by construction of the range line corridor alternative. The range line alternative effects 8 receptors.

1. Until further studies are done to determine if any build alternative should be selected in the Urban Section, the No Build Alternative has been chosen as a temporary Preferred Alternative. Noise impacts will play a large role in this decision and EPA comments will be considered.

2. It is agreed that the East or West Corridor Alternatives in the Rural Section of the project are environmentally preferable. This is reflected by choosing a combination of both corridors as the Preferred Alternative.

Due to the acreages of environmentally sensitive lands affected by the range line alternative and the lack of a significant difference between noise levels of the east and west corridors and the no-build alternative, the west or east corridor alternatives in the rural section of the project are environmentally preferable.

Additional Information

We note that the draft EIS has identified the preferred alternatives; the no-build in the urban section and the use of a combination of the east and the west corridors in the rural section. A four lane highway will be constructed north of Cloquet to the junction of US-2. From US-2 north to TH-53 a two lane highway will be built.

Since a preferred alternative has been identified, we request additional details on it to fully assess its environmental impact. Though a generalized alignment is given in Table 30, several of the roads used as dividing lines between the use of the east and west corridors in the rural section of the project are not on any of the maps in the draft EIS. As a consequence, it is very difficult to estimate the acreages of wetlands, forest, and prime agricultural land that will be affected by the preferred alignment. The final EIS should include a detailed map of the preferred alternative and a table listing the acreage of land use types affected by the alternative. An exact alignment need not be provided, but the corridor should be depicted and landmarks such as wetlands, wooded areas, streams, and highways identified on the map.

On page 20 of the draft EIS it is stated that during the scoping process for this project the U.S. Fish and Wildlife Service suggested that an alternative involving the upgrading of the existing facility be included in the consideration of alternatives. Their suggestion varied from the no-build alternative in that they wanted TH-33 to be widened, resurfaced, intersections improved along its entire length and passing lanes provided where appropriate. This would require a minimal amount of new right-of-way. On page 21 of the draft EIS this alternative was dismissed and its environmental impact not assessed because it was considered not to be within the scope of the no-build alternative and would have similar impacts to the build alternatives. In our opinion, the U.S. Fish and Wildlife Service suggested a reasonable and feasible alternative. The alternative is within the scope of the project, and though it might have impacts similar to the other build alternatives, the impact likely would be less severe. This alternative should be evaluated in the final EIS.

3. A thorough analysis of the impacts of the Preferred Alternative have been completed and are integrated into the FEIS.

4. A series of projects designed to upgrade the existing two lane TH 33 were under project development at the time of the beginning of the EIS process. These projects were classified as Categorical Exclusions according to NEPA. The purpose of this EIS was to provide information which would be used to decide whether a four lane highway should be built and, if it should, to identify the best location. The selection of the No Build Alternative in the Rural Section would have resulted in an upgrade of the existing two lane road. The alternative suggested by the USFWS involved passing lanes and an interchange with US 2. During scoping it was deemed that this alternative had similar impacts to adding two additional lanes into the East or West Corridor, especially because the passing lanes would have been constructed wholly or partially within the floodplain of the White Pine River and Dutch Slough. Mn/DOT and the FHWA have not included a two lane upgrade alternative, consistent with our scoping decision.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Washington, D.C. 20230

OFFICE OF THE ADMINISTRATOR

October 24, 1984

Mr. John E. Sandahl
Minnesota Department of Transportation
District 1, Transportation Office
1123 Mesaba Avenue
Duluth, Minnesota 55811

Dear Mr. Sandahl:

This is in reference to your draft environmental impact statement and 4(f) evaluation for Trunk Highway 33 in Carlton and St. Louis Counties, Minnesota Project F 073-1( ), State Project 0905-38 & 39, 0906-31 & 32, on TH 33 from junction of Interstate 35 to junction of US 53. Enclosed are comments from the National Oceanic and Atmospheric Administration.

We hope our comments will assist you. Thank you for giving us an opportunity to review the document. We would appreciate receiving two copies of the final environmental impact statement.

Sincerely,

Joyce Wood

Joyce M. Wood
Chief, Ecology and
Conservation Division

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Washington, D.C. 20230

N/MS21x6:VLS

OCT 19

TO: PP2 - Joyce M. Wood

FROM: N - Paul M. Wolff

SUBJECT: DEIS 8409.08 - Proposed Improvement of Trunk Highway 33 (TH 33), Carlton and St. Louis Counties, Minnesota (Department of Transportation - Federal Highway Administration)

The subject statement has been reviewed within the areas of the National Ocean Service's (NOS) responsibility and expertise, and in terms of the impact of the proposed action on NOS activities and projects.

5 Geodetic control survey monuments may be located in the proposed project area. If there is any planned activity which will disturb or destroy these monuments, NOS requires not less than 90 days' notification in advance of such activity in order to plan for their relocation. NOS recommends that funding for this project include the cost of any relocation required for NOS monuments. For further information about these monuments, please contact Mr. John Spencer, Chief, National Geodetic Information Branch (N/CG17), or Mr. Charles Novak, Chief, Network Maintenance Section (N/CG162), at 6001 Executive Boulevard, Rockville, Maryland 20852.

5. As detailed design continues for this project, NOS will be consulted to identify any NOS monuments that will be disturbed. Any expense to relocate monuments will be included in the project.

DEPARTMENT OF THE ARMY
ST PAUL DISTRICT CORPS OF ENGINEERS
1135 U S POST OFFICE & CUSTOM HOUSE
ST PAUL, MINNESOTA 55101

REPLY TO
ATTENTION OF:

October 30, 1984

Construction-Operations
Regulatory Functions (C4-0048-68)

Mr. John E. Sandahl
Minnesota Department of Transportation
1123 Mesaba Avenue
Duluth, Minnesota 55811

Dear Mr. Sandahl:

We have reviewed the draft environmental impact statement DEIS for the highway improvements on Trunk Highway 33 in Carlton and St. Louis Counties. Our comments are as follows:

1. Wetlands and water resources effects have been very well addressed in the DEIS for essentially all of the alternative designs and corridors. Preferred alternative corridors and design options have been identified, but not finalized, and as presently addressed would affect approximately 72 acres of wetlands. Mitigation measures are discussed and impacts should be finalized in the final EIS. 6

We note that U.S. Fish and Wildlife Service comments in the draft were incomplete (page missing) and somewhat tentative due to the limited information available at the time they responded.

2. The DEIS has covered various routes and alignments of highway construction for an adequate number of alternatives. The positive and/or negative impacts on a wide variety of parameters, including wetlands, was addressed.

3. As we previously indicated, a Department of the Army permit will be required. We expect the final EIS will provide adequate information for the Corps of Engineers public interest review process.

If you have any questions, call Judi Kolb at the Corps, (612) 725-7557.

Sincerely,

Dennis E. Cin
Chief, Regulatory Functions Branch
Construction-Operations Division

6. Detailed impacts and a discussion of mitigation measures have been included in the FEIS. This page was inadvertently omitted in the DEIS. Therefore, the entire letter has been reproduced in the Appendix of this document.

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

OCT 19 1984

ER 84/1216

Mr. Roger Borg
Division Administrator
Federal Highway Administration
7th and Robert Streets, Suite 490
St. Paul, Minnesota 55101

Dear Mr. Borg:

This is in regard to the request for the Department of the Interior's comments on the draft environmental/Section 4(f) statement concerning TH-33 (from I-35 to US-53), Carlton and St. Louis Counties, MN.

This is to inform you that the Department will have comments, but will be unable to reply within the allotted time. Please consider this letter as a request for an extension of time in which to comment on the statement.

Our comments should be available about early November.

Sincerely,

Bruce Blanchard, Director
Environmental Project Review

cc: Mr. Lyle L. Hansen, Director
Office of Design Services
Minnesota Department of Transportation
Transportation Building
St. Paul, MN 55155

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

ER 84/1216

DEC 3 1984

Mr. Roger Borg
Division Administrator
Federal Highway Administration
Suite 490 Metro Square Building
St. Paul, Minnesota 55101

Dear Mr. Borg:

This responds to a request for the Department of the Interior's comments on the draft environmental/Section 4(f) statement for TH-33 (from I-35 to US-53), Carlton and St. Louis Counties, Minnesota.

PRELIMINARY SECTION 4(f) COMMENTS

Albrook School. We would object to Section 4(f) approval of the use of land from the Albrook School athletic field by the four-lane West alternative, since feasible and prudent alternatives clearly exist that would avoid this impact. We recommend selection of either the two-lane West alternative, either of the East alternatives, or the No Build alternative in this vicinity. 7

Pine Valley Park. We note that the presently preferred urban section temporary No Build alternative will not impact Pine Valley Park. As an aid in your future planning, however, we would likely object to Section 4(f) approval of the use of land from Pine Valley Park by the West Cloquett Bypass alternative since feasible and prudent alternatives apparently exist that would avoid this impact. We recommend further design studies on the Through Town and East Cloquett Bypass alternatives.

Veterans Park and Spafford Park. We note that the presently preferred urban section temporary No Build alternative will not impact these parks. We note further that the Through Town alternative, if it were selected at some future date, would not require the taking of right-of-way from Veterans and Spafford Parks, but that it would run adjacent to them. Any future design work on the Through Town alternative should consider and resolve noise and access problems that may occur in the vicinity of these parks due to increase in traffic. 8

Historic Properties. We note that the presently preferred urban section temporary No Build alternative will not impact historic properties (except perhaps the Frank Lloyd Wright gas station). We also note that design-level studies may develop specific alignments for all of the corridor alternatives that would avoid impacts to all historic properties except Dunlap Island (Through Town alternative). We, of

7. The Preferred Alternative in the rural section, as described in this FEIS, will not impact any land subject to or protected by Section 4(f) procedures.

8. The No Build Alternative will not impact any parks or historic properties in the urban section. DOI recommendations and concerns will be taken into consideration in any future studies and development.

course, recommend that this be done, and defer further comment until we have an opportunity to review the results of such studies. Further discussion, however, should be included in the final statement regarding impacts of the No Build alternative on the Frank Lloyd Wright gas station, and mitigation developed to prevent deterioration of that property until a permanent alternative is selected for the urban section of the project.

ENVIRONMENTAL STATEMENT COMMENTS

The draft statement adequately assesses impacts on fish and wildlife resources that may be affected by the proposed alternatives. In general, four-lane alternatives have considerably more adverse impacts on fish and wildlife resources compared to a two-lane upgrade. Resources affected by proposed construction include, but are not limited to wetlands, floodplains, trout streams, threatened and endangered species, big/small game, waterfowl, furbearers, and passerine birds. Numerous species are included within those general categories and include such species as the mallard, blue-winged teal, woodcock, rainbow/brook trout, white-tailed deer, beaver, otter, and various warbler species.

Impacts on Wetlands

Executive Order 11990 (Protection of Wetlands) requires that Federal agencies avoid undertaking or providing assistance for new construction located in wetlands unless the head of the agency finds; (1) that there is no practicable alternative to such construction, and (2) that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use.

We recommend that all alternatives be rigorously examined in light of this Executive Order. Of the various alternatives presented in the draft statement, an adequate two-lane upgrading would have the least wetland impacts (15 acres), while a four-lane upgrade on new alignment would present the most wetland involvement (approximately 50 acres). Although compensation measures to off-set wetland losses are discussed for all project alternatives, further discussion of alternatives is needed in terms of practicable avoidance of wetland impacts.

Adequate two-lane upgrading (excluding the No Build alternative) would appear to most closely reflect the intent of Executive Order 11990. This, however, depends on the adequacy of traffic projections for the project as discussed below.

9 If after full consideration of the wetlands Executive Order and the provisions thereof, a four-lane upgrade alternative is selected as the preferred alternative,we recommend construction of two companion lanes immediately adjacent to the existing two lanes. This alternative appears to be the least environmentally damaging, would utilize the existing rights-of-way, and reduce economic costs associated with the project. In environmentally sensitive areas, some alteration of the companion two lanes may be appropriate. For example, in the Dutch Slough/White Pine River area, we recommend two-lane construction of a western alignment. Since the

9. DOI concerns were considered in choosing the Preferred Alternative. However, building two lanes west of the existing alignment in the White Pine river and Dutch Slough area was dismissed as an alternative due to the prohibitive nature of relocating a cemetary.

existing two lanes were built longitudinally through this area, construction of an additional two lanes (on a western alignment) in an already disturbed area will have less impact than construction on totally new alignment. The
9. preferred alternative swings east of the existing corridor involving approximately 2 miles of new alignment through a high quality upland area which is virtually undeveloped. The river crossing along this alignment would adversely affect a productive trout stream and may further reduce utilization of the White Pine River floodplain as a travel corridor for white-tailed deer and various furbearers.

Regardless of the alternative selected, numerous wetland basins will be adversely affected by proposed construction activities. The principal wetlands involved with the project include palustrine emergent, scrub-shrub and forested wetlands (formerly Types 1, 2, 3, 6, and 7). These wetlands fall within Resource Category 3 of the Fish and Wildlife Mitigation Policy and are of a medium to high value for various evaluation species. The mitigation planning goal for these wetlands is no net loss of habitat value. As discussed in the draft statement, you have agreed to compensate for that wetland acreage affected by construction activities. In cooperation with the Minnesota Department of Transportation (MNDOT), the Minnesota Department of Natural Resources (MNDNR) and the U.S. Fish and Wildlife Service (FWS), a tentative wetland compensation proposal has been discussed. Agency representatives have agreed to utilize the Habitat Evaluation Procedures (HEP) developed by the FWS to quantify wetland impacts and to determine the amount of wetland compensation to be required. The FWS will work closely with MNDOT and MNDNR to arrive at a mutually acceptable
10. compensation plan. We strongly recommend that this plan be included in the final statement in accord with US-DOT's "one-stop" environmental processing policy.

We note that on pages 13 and 14 of the draft statement, various statements and projections are made relative to Average Daily Traffic
11. (ADT) and projected ADT for TH-33. Traffic volumes for TH-33 are projected to increase by approximately 13 percent, and most of that increase is attributed to development of Voyageurs National Park (VNP). No source, however, is cited for these figures.

We understand that the Federal Highway Administration (FHWA), in cooperation with the National Park Service (NPS), completed a draft Voyageurs National Park Road Access Study in February 1984. This study is a primary source for regional traffic projections. Since the proposed project is largely justified on the basis of projected VNP visitation, and Executive Order 11990 findings related to practicable alternatives would be based for the most part on traffic projections, the most up-to-date information should be used to justify alternative
12. selection. Therefore, we strongly urge that an executive summary of the FHWA VNP study be included in the final statement. Additional technical details regarding VNP visitation figures may be obtained from the NPS

10. Please refer to the Wetlands Mitigation and Wetlands Finding sections in this document.

11. The estimate of park visitors is referenced in the "Voyageur's National Park Road Access Study". See Appendix.

12. The executive summary of the FHWA-VNP study has been included in the FEIS. See Appendix.

and should be briefly presented in the final document.

Threatened and Endangered Species

The draft statement accurately identifies the three threatened or endangered species, i.e., bald eagle, peregrine falcon, and gray wolf, that occur within the project area. The FWS advises that it concurs with your determination that proposed activities will not affect the bald eagle or peregrine falcon. However, this same determination cannot be made for the gray wolf.

Although data on wolf movements within the project area are generally lacking, all proposed alternatives lie within the peripheral range of the species and wolves do frequent this Region. Considering proposed improvements (two-lane/four-lane upgrading), each alternative may affect wolves by increasing the possibility of road kills and may also act as a barrier restricting dispersal to the southeast. Regardless of the alternative selected, gray wolves may be adversely affected by proposed upgrading. The probability of adversely affecting wolves is increased with selection of a four-lane upgrade alternative. However, based on population estimates for this region, it is likely that a relatively small number of wolves would be affected by this action.

Therefore, based on the best information available at this time, it is FWS's biological opinion that this project will not jeopardize the continued existence of the gray wolf or adversely affect critical habitat listed for this species. However, should additional information become available which identifies impacts that were not considered in the draft statement, you should reinitiate consultation with the FWS.

Other Areas of Concern

13 It appears that both the Through Town Corridor and the East Corridor may have some impact on islands owned by this Department's Bureau of Land Management (BLM). If the highway right-of-way will encroach on any of these islands, the FHWA must request an appropriation for a Federal-aid highway in accordance with BLM's Manual 2805 procedures. BLM advises that since its goal for these islands is to transfer them to the MNDNR for management as part of their Canoe and Boating Route Program, it is necessary to obtain MNDNR's agreement before granting this appropriation. The islands would also fall under the protection of Section 4(f). Therefore, we suggest that you coordinate this matter with BLM and MNDNR.

13. If future studies suggests that these alternatives are feasible, the BLM and MNDNR will be contacted to coordinate this matter.

FISH AND WILDLIFE COORDINATION ACT COMMENTS

The FWS advises that it anticipates no objection to the issuance of any required Corps of Engineers permits, contingent upon the provision of appropriate measures to avoid or mitigate project impacts on fish and wildlife resources.

SUMMARY COMMENTS

The Section 4(f) comments in this letter are provided to give you an indication of our thoughts about the Section 4(f) information and involvements. They do not represent the results of formal consultation by the Department of Transportation with the Department of the Interior, pursuant to the consultative requirements of Section 4(f) of the Department of Transportation Act. Such requirements will be fulfilled only when the Office of the Secretary of this Department comments separately on any Section 4(f) statement which may be prepared and approved by you for circulation.

As this Department has a continuing interest in this project, our Bureaus at the field level are willing to cooperate and coordinate with you on a technical assistance basis in further project evaluation and assessment. For matters pertaining to cultural, park, and recreational resources, please contact the Regional Director, Midwest Region, National Park Service, 1709 Jackson Street, Omaha, Nebraska 68102 (Telephone: FTS 864-3431 or commercial (402) 221-3431). For questions pertaining to fish and wildlife resources, please contact the Field Supervisor, U.S. Fish and Wildlife Service, Ecological Services, 333 Sibley Street, St. Paul, Minnesota 55101 (Telephone: FTS 725-7131 or commercial (612) 725-7131). And for matters pertaining to the islands owned by the Federal Government, please contact the Bureau of Land Management, Milwaukee District Office, P.O. Box 631, Milwaukee, Wisconsin 53201-0631 (Telephone: FTS 362-4401 or commercial (414) 291-4429).

We appreciate the opportunity to provide these comments.

Sincerely,

Bruce Blanchard, Director
Environmental Project Review

Memorandum

U.S. Department of Transportation
Office of the Secretary of Transportation

Subject: Draft EIS: TH 33, Carlton and St. Louis Counties, MN MN-EIS-84-01-D

Date: OCT 15 1984

From: Joseph Canny
Deputy Director for Environment and Policy Review

Reply to Attn of:

To: Eugene W. Cleckley
Chief, Environmental Programs Division

We have reviewed the draft EIS for TH 33. The EIS examines a range of alternatives for improving TH 33 between I-35 and TH 53. We note from page 166 of the draft that the State's current preferred alternative is no-build for the urban section; construction of 4 lanes on new alignment west or east of the existing highway between the urban section and north of TH 2; and construction of two additional lanes north to TH 53.

14 Although information is given on environmental impacts of the alternative corridors under consideration, the statement does not identify the specific impacts of the preferred alternative, which combines the west and east corridors. The final EIS should discuss impacts of the selected alternative, and include commitments to mitigation. In particular, the following issues should be further addressed:

15. - Impacts to Wetlands and Streams. The impacts of filling wetlands, crossing or channelizing streams, and floodplain encroachments should be discussed, particularly Dutch Slough and White Pine River. Commitments to minimize impacts and provide mitigation measures should be included. If appropriate, a wetlands finding should be included.

16 - Section 4(f). If land from the Albrook High School athletic fields will be used, Section 4(f) may apply. School recreation lands open to public use are normally considered to be recreation lands under Section 4(f).

17. - Noise. Noise impacts of the selected alternate should be specified, and a commitment to abatement included, if feasible.

18 Projected traffic volumes for the urban section are considerably higher than for the rural section (ranging from 8,100 - 24,400 ADT for the urban section and 3900 to 8100 ADT for the rural section in year 2006.) If a build alternative is selected for the urban alternative, it appears that the west bypass corridor should be avoided due to its impacts on the Pine Valley Park, the St. Louis River, the Fond du Lac Indian Reservation, wetlands, and historic sites.

We appreciate the opportunity to review this EIS.

14. Specific impacts of the Preferred Alternative have been identified and incorporated into the FEIS. Mitigation is also discussed throughout the document and is briefly presented in the Summary.

15. Please refer to the Wetlands Finding and Wetlands Mitigation sections.

16. This land will not be used.

17. Please refer to the Noise Analysis Section.

18. These concerns will be considered during future study in the Urban Section.

STATE OF MINNESOTA
DEPARTMENT OF NATURAL RESOURCES

BOX , CENTENNIAL OFFICE BUILDING • ST. PAUL, MINNESOTA • 55155

DNR INFORMATION
(612) 296-6157

FILE NO.

October 9, 1984

Mr. John E. Sandahl
Minnesota Department of Transportation
District 1, Transportation Office
1123 Mesaba Avenue
Duluth, Minnesota 55811

RE: 330 DEIS for TH 33, I-35 to TH 53 Carlton & St. Louis Counties

Dear Mr. Sandahl:

The Department of Natural Resources has reviewed the above-referenced document and offers the following comments.

19 1. Adequacy - The DEIS adequately addresses most natural resource impacts that would result from the construction of the proposed 4-lane highway, with two exceptions. The disposal of excess peat and muck and the extraction of borrow material are discussed in very general terms. These two activities are likely to have great impact because of the large area of wet soils that will be crossed by the project and the projected need for over 100,000 cu. yds. of fill. Before DNR approves the FEIS, Mn/DOT should detail the extent, exact location and mitigation of these impacts.

20 2. Need for 4 lanes - This is still the weakest part of the document. As we indicated in our previous comments (August 1, 1984), there is no convincing evidence that a 2-lane upgrade plus an overpass on TH 2 would not substantially correct the present road deficiencies. DNR cannot support a 4-lane alternative until the 2-lane upgrade has been adequately considered and shown to be unacceptable.

21 The DEIS does not indicate what the priority of TH 33 is compared to all other proposed four lane highways in the state. This question should be addressed.

22 The document also states that 4-lane continuity is necessary on TH 33. However, most of the traffic flow on I-35 and TH 53 is going to and from Duluth, not up and down TH 33. The DEIS should show what percentage of the traffic on I-35 and TH 53 actually uses TH 33, and whether this justifies 4 lanes.

bcc: Roger Hill
Russ Kauzlaric

AN EQUAL OPPORTUNITY EMPLOYER

19. See construction impacts and mitigation. Although it is too early in the project development process to quantify the amount of excess peat and muck, it is anticipated that disposal can occur in upland areas within the project construction limits. Approximately 750,000 cu. yds. of borrow are needed at the TH 33/US 2 interchange. A site has not been selected at this time. It is our intention to use this borrow pit and a wetland at Culkin Rest Area (on I-35) as the main wetland mitigation for this project. The DNR will be consulted during the location and design of the borrow area(s).

20. Please refer to Response to Comments/ Public Hearing/ Comment #57 and the Purpose and Need Section of this document.

21. Establishing the priority of this project is not part of the EIS process.

22. Percentage of the traffic flow is immaterial to the four lane continuity objective. The fact that this stretch of highway represents the only 20 mile gap in a 200 mile system is justification using this one objective. The justification, however, includes objectives other than four lane continuity. Please refer to the Purpose and Need section of this FEIS.

23. The projected traffic volume for the year 2006, which is used to justify construction of four lanes, is based upon the assumption that Voyaguers National Park will generate 800,000 visitors per year. No information is given that shows this assumption is valid. What is the level of visitation now? What is the present growth rate? What is the likelihood it will reach 800,000?

24. The accident rate data appears to be misleading. The DEIS shows the accident rate for the segment from TH 45 to TH 2 to be 2.3, which is 1.0 above state average. However, this segment of road includes the intersections with TH 45 and TH 2, where most of the accidents may occur. It also includes an urban section in Cloquet where traffic is heavy. It would be more logical to give separate accident data for the urban section and the rural sections. Also, perhaps the traffic problems at these two intersections could be solved without building four lanes over the entire distance.

25. The DEIS states that this project is needed to stimulate economic growth. Information is provided showing how the local economy would be boosted in the short term through expenditures for labor and material. But no information is given indicating that the expenditure of $33-48 million dollars of public funds would have a positive cost-benefit ratio on a statewide basis. With the marginal benefits that seem to be gained by the 4-lane vs. an upgraded 2-lane roadway some form of cost analysis should be provided.

26. Finally, the DEIS has selected the no-build alternative for the urban section of TH 33. This choice seems incongruous with four of the seven project objectives given in the DEIS. If the primary objectives of this project are to provide 4-lane continuity, improve accessibility to northern Minnesota, improve traffic flow through Cloquet and replace deficient bridges over the St. Louis River, then the entire project should be addressed at one time in one EIS.

3. Alignment Selection - If a four lane facility must be built, DNR's primary concern is in the vicinity of the White Pine River and Dutch Slough. Mn/DOT's preferred alignment, which would swing east of existing TH 33 and follow a ridge of high ground to avoid a longitudinal crossing of the floodplain, has some serious impacts. It results in two miles of new road through a beautiful, undeveloped gravel ridge of aspen, birch and pine; a new crossing over a productive breeding riffle section of the White Pine River; and the possibility for disrupting one or more springs which flow from the gravel ridge into the White Pine River and help to maintain flow and cold water conditions.

23. Traffic volumes were also calculated assuming no Voyaguers National Park traffic. Based upon projected traffic and service levels alone, a four lane facility is required to accomodate future traffic projections. Please refer to the Purpose and Need section of this FEIS.

24. Accident records are kept for major road segments, i.e. TH 45 and US 2, and not for the Urban or Rural Sections as labeled in the FEIS. We concur that safety could be improved by only a two lane upgrade. However, safety is not the only reason for a four lane road.

25. An expenditure of $33-48 million dollars would have a positive economic benefit upon the local economy where it was spent regardless of its location in Minnesota. It is not within the purpose of the EIS to determine where money for economic development should be spent.

26. This is a temporary selection of a No Build Alternative. Further study is needed and will be done to determine the best location, if any, for a Buiid Alternative in the Urban Section.

DNR recommends that another alternative be considered. It appears that it would be feasible to use the existing two lanes for the north-bound roadway and build another two lanes along the west side. The upland impacts are much less along this route and the White Pine River would be crossed in an already-disturbed area. Since there is already a two lane road built longitudinally through the floodplain, the addition of another two lanes should not significantly increase floodplain impacts. The DEIS states on page 103 that none of the TH 33 alternatives are expected to be significant floodplain encroachments. It is the policy of the Federal Highway Administration (FHWA) to avoid longitudinal floodplain encroachments where practical. Because of the significant impacts of the preferred alternative and the relatively lesser impacts of crossing through the floodplain, it can be argued that the preferred alternative is not a practical choice. We believe that this alternative, with properly sized culverts, will result in no significant floodplain impacts (pending further hydraulic studies). 27

4. Mitigation - Mn/DOT has committed to using the Habitat Evaluation Procedure (HEP) developed by the US F&WS to measure wetland impacts and to determine the amount of mitigation needed. This system is entirely satisfactory and we have been working closely with Mn/DOT's Environmental Services office on this matter. On-site mitigation potential is limited. There is the possibility of developing some dugouts in Type 2/6 wetlands in the right-of-way. We have also identified a potential impoundment site on Chalberg Creek. For off-site mitigation we have discussed the possibility of developing the Sterle impoundment on the Sawyer Wildlife Management Area (WMA) which includes the acquisition of School Trust land and construction of the impoundment. There is also the potential to designate a borrow site that could be acquired and developed as a WMA. 28

A detailed, specific mitigation package should be agreed to and incorporated into the FEIS.

Summary

In summary, DNR's preference for the various options discussed in the DEIS and in this letter, are, in order of most-preferred to least:

a. Improve the existing two-lane highway by providing wider driving lanes, bridges, shoulders, turning lanes, and an over-pass at Highway 2.

b. Use existing road for north-bound lanes, and build two additional lanes immediately adjacent on the west. In the White Pine River area this would require as narrow a median as possible to minimize impacts. 29

27. Constructing two lanes west of the existing road would result in relocating the Brevator Cemetary, which is not feasible.

28. Please refer to the Wetlands and Wetlands Findings sections of this FEIS.

29. These concerns were considered while choosing the Preferred Alternative.

c. Relocate entire alignment to the west of present crossing.

29 d. Construct north-bound lanes east of present alignment using present alignment for south-bound lanes.

e. Mn/DOT's "preferred alternative" (eastern corridor).

Potential impacts to prime river and upland habitat, as well as the possible impacts on feeder springs, which are associated with Mn/DOT's preferred alternative override what we consider to be secondary impacts such as minor loss of floodplains or wetlands associated with either alternatives a or b above.

We hope these comments have been useful and that we can come to a satisfactory resolution of this matter. If you have any questions regarding these comments, please feel free to give me a call.

Sincerely,

Thomas W. Balcom

Thomas W. Balcom
Environmental Review Coordinator

pje 115
c: Ron Harnack
Earl Huber
Dave Schad
John Chell
Pete Otterson
Herb Johnson
Rich Staffon

STATE OF MINNESOTA

DEPARTMENT Natural Resources

Office Memorandum

TO : Richard P. Braun, Commissioner
Department of Transportation

DATE: October 19, 1984

FROM : Joseph N. Alexander, Commissioner
Department of Natural Resources

PHONE: 296-2549

SUBJECT: T.H. 33, Cloquet to Independence

In response to your memo of October 11th, I think I need to clarify some of the points you referred to from our August 1, 1984 letter.

First, you should be aware that that letter was followed by another on the project dated October 9, 1984, a copy of which is attached.

While it may appear that both letters focus on the question of the need for the facility, that is because of the environmental impacts associated with a four-lane facility in the location which Mn/DOT has selected as its preferred alternative in the DEIS. It would result in two miles of new right-of-way through a beautiful gravel ridge forested with pine, aspen and birch which provides excellent upland wildlife habitat. It would also result in a new crossing of the White Pine River in an area of productive fish-breeding riffles, and could potentially disrupt springs which flow from the ridge to the river. Thus, it should be emphasized that our Department's concerns focus on the significant adverse environmental impacts of Mn/DOT's preferred alternative in the DEIS.

30.

In our October 9th letter we suggested an alternative location for a four-lane facility, if that is the selected facility type, which we believe would have less environmental impact. This would involve using the existing roadway for the northbound lanes in the vicinity of the White Pine River and building the two new lanes immediately adjacent on the west side. While this would have some floodplain impacts, we believe that these would be significantly less than for the Mn/DOT preferred alternative, and other impacts would be reduced considerably as well.

In summary, the DNR requests that Mn/DOT give serious consideration to this alternative in the FEIS and also address the other documentation needs covered in our October 9, 1984 letter. I believe there is no reason that a compromise cannot be found so that you can proceed with the T.H. 33 project.

pje 131
attachment



30. The concerns raised in this letter were addressed while choosing a Preferred Alternative. Building two lanes west of the existing alignment was dismissed as an alternative because of the prohibitive nature of relocating a cemetary.

Minnesota Pollution Control Agency

October 24, 1984

Mr. John Sandahl
District Engineer
Minnesota Department of Transportation
1123 Mesaba Avenue
Duluth, Minnesota 55811

Dear Mr. Sandahl:

The Minnesota Pollution Control Agency (MPCA) staff has reviewed the draft environmental impact statement (DEIS) and 4(f) Evaluation for the Minnesota Trunk Highway 33 project (affecting TH 33 from the junction of Interstate 35 to Junction of U.S. Trunk Highway 53). Our major concerns, as expressed to you in our letter of October 11, 1983 regarding the draft study outline and scoping document for the project, have been adequately addressed in the DEIS.

31 With regard to the rural or northern section of the proposed highway, the Range Line Corridor is preferable to the East/West Corridors from a noise impact standpoint. In addition, we recommend that you consider incorporating the existing two-lane section of roadway into the four-lane alternative in the East/West Cooridors. It is not clear in the DEIS if this is indeed an option.

32 It is not clear in the draft EIS what specific noise mitigation measures are being considered for affected receptors (those receptors which are predicted to experience violations of the state noise standards). The final EIS should contain a section identifying proposed noise mitigation measures for such receptors for a comparison of alternatives. This information should be incorporated into the selection process for the preferred alternative.

Please send us a copy of the final noise report for review as soon as it is available. If you have any questions regarding noise mitigation measures appropriate for the project, contact Dave Kelso at 612/296-7372.

Phone 612/296-7301
1935 West County Road B2, Roseville, Minnesota 55113-2785
Regional Offices • Duluth Brainerd Detroit Lakes Marshall Rochester
Equal Opportunity Employer

Thank you for the opportunity to comment on the project. Please contact Deborah Pile, Director of the Office of Planning & Review, at 612/296-7799 if further clarification is needed.

Sincerely,

Thomas Kalitowski
Executive Director

TK:es

31. The incorporation of the existing two lane section of TH 33 into the four lane Preferred Alternative was accomplished along most of the alignment.

32. See Noise Impacts Section and separate Noise Report (on file with MPCA). No significant noise mitigation measures are feasible for this project.

St. Louis County
HEALTH DEPARTMENT

HAROLD B LEPPINK M.D., M.P.H.

504 East Second Street • Duluth, Minn. 55805
Telephone 727-8661

October 3, 1984

John Sandahl
Minnesota Department of Transportation
District 1, Transportation Office
1123 Mesaba Avenue
Duluth, MN 55811

RE: HIGHWAY IMPROVEMENT OF TH33 FROM I-35 TO TH53

I have reviewed the environmental impact statement for the proposed highway improvement project of TH33 and have the following comments.

1. This department would be particularly interested if an individual sewage treatment (septic tank) system needed to be relocated or disturbed in any manner. A permit from this department is required before any septic system is installed or any major renovation is done to the system. 33

2. Any water well that is to be permanently abandoned due to the expansion of the highway must be abandoned in accordance with the State of Minnesota Water Well Code. Any abandoned well must be properly disconnected, filled, and sealed. This work must be done by a licensed water well contractor. 34

3. The environmental health specialist in the TH33 area is Jerry Zeleznikar.

If you have any further questions concerning these matters, please feel free to contact Mr. Zeleznikar or myself at any time during business hours.

Roger Bard

ROGER BARD
Supervisor
Environmental Health Division

RB/gl

33. Any septic system disturbed as a result of this project will be properly relocated or dismantled. The necessary permits will be obtained prior to such work.

34. Any well abandonment will be handled in accordance with State and Local Code.

CARLTON COUNTY ZONING OFFICE
CARLTON MINNESOTA 55718
Telephone (218) 384-4281

BRUCE E. BENSON, Zoning Officer

September 21, 1984

John E. Sandahl
MN/DOT
District 1, Transportation Office
1123 Mesaba Avenue
Duluth, MN 55811

Mr. Sandahl,

Thank you for the opportunity to comment on the Draft EIS for the TH33 from Junction of I-35 to Junction US53.

The area described in the three corridors is regulated by land use plans of the City of Cloquet and St. Louis County.

This office has no jurisdiction in these areas.

If you have any questions concerning this matter, please feel free to contact this office.

Sincerely,

Bruce E. Benson
Zoning Officer

BEB/brb

THE CITY OF CLOQUET, MINNESOTA

ADMINISTRATIVE OFFICES AT 508 CLOQUET AVENUE 55720

MEL TAN, MAYOR

November 1, 1984

John E. Sandahl, District Engineer
Minnesota Department of Transportation
District 1, Transportation Office
1123 Mesaba Avenue
Duluth, MN. 55811

Dear Mr. Sandahl:

This letter contains comments relative to the proposed upgrading of T.H. #33 from Interstate 35 to T.H. #53. These comments are in response to the Draft Environmental Impact Statement concerning this project.

35. The City Council of the City of Cloquet has gone on record as favoring upgrading the existing corridor of T.H. #33 as it passes through the City. It has always been the City's understanding that this upgrading would consist of four traffic lanes with possible frontage roads up to the north City limits. We continue to favor this alignment and feel that any bypass alternative would be excessively disruptive to the community, be far too costly, and achieve little comparative benefit to either the City or MN/DOT.

36. We also favor the construction and upgrading of T.H. #33 to a full four lane facility for its entire length from Interstate 35 to T.H. #53. We feel current and projected traffic usage warrants such upgrading, and anything less would only serve to create a bottleneck and reduce the service the highway is intended to provide. We feel sufficient space is available for such upgrading, and any economic, social or environmental impacts would be comparatively minimal and could be fairly easily ameliorated.

Thank you for this opportunity to respond and comment on the Draft Environmental Impact Statement. If you should have any questions or comments regarding this letter please do not hesitate to contact me.

Sincerely,

Mel Tan, Mayor
City of Cloquet

35. Mn/DOT recognizes the potential impact of a bypass alternative to the City of Cloquet. Until further studies are done to determine the impacts of a Build Alternative, the No Build Alternative has been chosen as a temporary Preferred Alternative in the Urban Section.

36. Refer to #37.

THE CITY OF CLOQUET, MINNESOTA

508 CLOQUET AVENUE 55720

WILLIAM J. SCHLENVOGT
CITY PLANNER

PLANNING DEPARTMENT
PLANNING
ZONING ADMINISTRATION
BUILDING DEPARTMENT

October 26, 1934

John E. Sandahl
Minnesota Department of Transportation
District 1, Transportation Office
1123 Mesaba Avenue
Duluth, MN 55811

Dear Mr. Sandahl:

This letter is in regards to the draft environmental impact statement for upgrading T.H. #33 from Interstate 35 to T.H. #53. It is in particular reference to that segment of the highway which passes through the City of Cloquet.

37 The City Council of the City of Cloquet is still on record as favoring upgrading the through town corridor to four lanes, and does not favor a bypass either to the east or west. None of the evidence cited in the DEIS would refute that position, but rather, in my opinion, it tends to support it. It is my feeling that sufficient evidence is available to support upgrading the existing corridor as opposed to constructing a bypass, and the no-build alternative is only suitable on a short-term basis. The bottleneck that would be created north of the St. Louis River if the no-build alternative is the final long range choice would be a far greater negative impact upon the highway and the City as a whole than the impacts caused by widening the highway.

38 I must also disagree in at least one of the conclusions of the DEIS which stated that either bypass would result in only minor land use alternations. It is my feeling that such a bypass would require major alternation of the City's long range land use plans to accomodate the necessary changes in future land use patterns and major transportation access routes. For this as well as other reasons cited above, I favor upgrading the existing corridor as the best long range solution.

I trust this information will be of use to you. Please let me know if you should have any questions or comments.

Sincerely,

William J. Schlenvogt
City Planner

WJS/lmj

cc: Mayor & City Council
Planning Commission
James Prusak - City Engineer
Lawrence Gustafson - City Clerk/Treasurer

CLOQUET . . . *the City of* WOOD INDUSTRIES

AN EQUAL OPPORTUNITY EMPLOYER

37. It is recognized that problems and potentially severe impacts of any alternative in Cloquet, in particular any bypass alternative. As a result, we have temporarily selected the No Build Alternative. Further studies will be done to determine which of the Build Alternatives, if any, should be constructed. The views of the Cloquet City Council are well known and will be given full consideration in future study and decisions.

38. Further study of the Urban Section will investigate potential land use changes in much greater detail than in the FEIS. The City Planner will be consulted during this study.

RESOLUTION #84-35

WHEREAS; State Highway 33, which ties Interstate 35 to U.S. Highway 53, has a very high traffic count,

WHEREAS; the State of Minnesota has proposed repair work or possibly re-routing Highway 33 to make a safer route,

WHEREAS; the route is used by the majority of Int'l Falls Citizens and Northern Minnesota residents traveling south to the Twin Cities,

WHEREAS; the City of Int'l Falls realizes the Highway is a very important link between Northern Minnesota and the rest of the State,

NOW, THEREFORE BE IT RESOLVED; that the city of Int'l Falls supports working on State Highway 33 to make it as safe as possible for travel and we support a 2 lane highway, 4 lane highway or even moving the route, whichever would make the Highway the safest for us to travel.

This is to certify that the above is an exact copy of a Resolution passed by the Int'l Falls City Council at their regular meeting held October 9, 1984

Gary B. Davison
Clerk-Treasurer

Office of Clerk-Treasurer
P. O. Box 392
International Falls, Minn. 56649

minnesota power / 30 west superior street / duluth, minnesota 55802 / telephone 218-722-2641

October 15, 1984

Mr. John E. Sandahl
Minnesota Department of Transportation
District 1, Transportation Office
1123 Mesaba Avenue
Duluth, MN 55811

Re: Draft EIS for TH 33 from Junction I-35 to Junction U.S. 53

Dear Mr. Sandahl:

Minnesota Power appreciates the opportunity to review the above referenced document and to submit comments on how the proposed highway construction project may impact our electric power transmission system. Having reviewed the draft EIS, including the proposed locations the highway's alternative routes, Minnesota Power has no preference in regards to route location, but we have several concerns about final highway centerline location.

39 Within the TH 33 project study area, MP has five existing high voltage transmission lines (HVTL's). The five HVTL's are described as follows: #9 line - 115 kV Cloquet to Blackberry, #98 line - 230 kV Arrowhead to Blackberry, #17 line - 115 kV Cloquet To Thomson, #22 line - 115 kV Cloquet to Arrowhead and the ± 250 kV D.C. line Arrowhead to Center, North Dakota. The descriptions of MP's concerns about the five HVTL's and the proposed TH 33 project will be divided into two groups: Existing TH 33 Route and Range Line Corridor. Minnesota Power's comments are directed to the "rural section", as well as, the "urban section" of the project.

Existing TH 33 Route

#9 line - Structures set well back from existing centerline. (T50N, R17W, Section 12)

#98 line - Structure on east side of TH 33 is close to highway right-of-way boundary. (T50N, R17W, Section 12)

D.C. Line- Structure on west side of TH 33 is close to highway right-of-way boundary. (T50N, R17W, Section 13)

If the elevation or the centerline of TH 33 are altered for the proposed four-lane highway, all three HVTL's could potentially be impacted because the minimum conductor clearance requirement, dictated by the National Electric Safety Code (NESC), may be violated. If the existing TH 33 right-of-way boundaries are expanded #98 line and the D.C. line would be impacted because of the inclusion of their existing structures within the revised TH 33 right-of-way boundaries.

39. Mn/DOT recognizes Minnesota Power's concerns and have noted the locations of these transmissions corridors. As detail design progresses, Mn/DOT will consult with MP to resolve any problems. Mn/DOT recognizes that any costs of relocating transmission lines outside our existing right of way must be included in the project.

minnesota power

Range Line Corridor
Rural Section

#9 line - Structure on immediate west side of section line. (T50N, R16W, Section 18)

#98 line - Structure on immediate east side of section line. (T50N, R16W, Section 18)

D.C. line- Structures set back from section line (T50N, R16W, Section 18)

Urban Section

#9 line - Unable to determine relationship of existing structures to highway right-of-way at this time. (T49N, R16W, Section 18)

#17 line - " "

#22 line - " "

The centerline for the proposed TH 33 will have to be carefully aligned to mitigate any problems to the structures of existing #9, 17, 22 and 98 lines. The existing conductor clearances for the five HVTL's and the NESC requirements must be considered when establishing the grade for the proposed TH 33.

If it becomes necessary to modify any structures, the Minnesota Department of Transportation (MDOT) will be responsible for the costs incurred by Minnesota Power. Minnesota Power will actively cooperate with MDOT to minimize the impact of the proposed project on our facilities and work to locate an agreeable centerline in our areas of concern. We desire to be included in the final centerline and design planning stages in order to lessen the costs to MDOT and ourselves, minimize the construction and operation problems for all and to reduce any aesthetic impacts.

If you should desire to discuss Minnesota Power's concerns now or wish to include us in the centerline location decision at a later date, please call me on 722-2641, extension 3342.

Sincerely,

Robert E. Lindholm

Robert E. Lindholm
Environmental Planning and
Regulatory Engineer

ECONOMY GARAGES CO.

218/729-5106
4472 HWY. 33 N.
SAGINAW, MN 55779

Oct. 18, 1984

Paul LaTour, Project Mgr.
Duluth, Minn.

Dear Paul,

First of all, we would like to go on record as being in favor of the Highway 33, 4 lane project.

Hwy 33 in its present form is a bottleneck between Texas and the Canadian border and since we are located at the intersection of U.S. Hwy 2 and St. Hwy 33, we have seen many bad accidents on this corner.

It is our understanding in the buy-out process for the road right-of-way you would be considering only buying part of our land and possibly one building.

40 We hereby request that you consider purchasing all of our land and buildings because of the following reasons:

1. All of the present buildings are facing easterly, old Hwy 33. We need the exposure of people traveling on Hwy 33 to be able to see the products we have to sell. Exposure sales are roughly 33% of our business.
2. There would have to be a ramp to elevate the bridge over Hwy 2 which would allow people traveling to only see the back and top of our buildings.
3. People traveling from north to south would not be able to see our place of business because they would be traveling up a ramp and would not see our business until they were past it.
4. Our expansion plans have been thwarted for 2 years now while we have been waiting for the consummation of the finalized plans for the route of the new proposed highway.

-2-

We need all of the land that we presently have for our expansion plans. We also need the gravel pit that is on the rear of our property for our gravel business.

On the assumption that you would bow to our wishes

41 and would purchase the whole of the property, we then also plead a hardship case as it will take considerable time to locate land and rebuild the entire complex all over again.

Kindest regards,

Stewart Tobias

Stewart "Toby" Tobias
Pres., Economy Garages

40. In the analysis of the final design, should it be determined that the proposed project would inhibit the ability to conduct business, Mn/DOT would consider acquisition of the entire property. Mn/DOT will continue to work with affected property and business owners along the alignment.

41. The determination of hardship will be resolved during the acquisition of right of way process.

Northwestern Bell
325 Lake Avenue South
Duluth, Minnesota 55802

September 19, 1984

John E. Sandahl
Minnesota Department of Transportation
District 1, Transportation Office
1123 Mesaba Avenue
Duluth, Minnesota 55811

Re: 330
FHWA-MN-EIS-84-01-D
TH 33 from I35 to TH 53

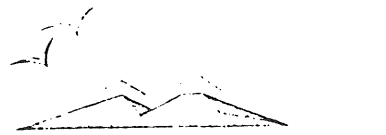
Dear Mr. Sandahl:

Thank you for the opportunity to review the DEIS for the Highway 33 project. Northwestern Bell has identified and submitted to the D.O.T. our facilities affected by proposed construction under previous correspondence.

This reply is support of the plan to use the existing corridor to complete the project. We feel it is the best plan, with the least adverse impact on all areas affected.

Sincerley,

E. F. Sellner
Manager Engineering



THE IZAAK WALTON LEAGUE OF AMERICA

October 26, 1984

TO: Mr. John Sandahl, Mr. Roger Borg, Governor Rudy Perpich

RE: Proposed Project for Minnesota Trunk Highway 33 from Junction of Interstate 35 to Junction of Trunk U. S. Highway 53

Dear Mr. Sandahl, Mr. Borg, and Governor Perpich:

The Duluth Chapter of the Izaak Walton League was represented at the Public Hearing conducted October 10, 1984 at the Albrook High School cafeteria.

We do have strong concerns about the environmental impacts of this project and will attempt to briefly highlight them here.

First of all, having reviewed the Draft Environmental Impact Statement, it is hard to understand the justification for a proposed four lane highway in this stretch. It is not a question of contention on our part that this stretch of highway should be improved. It would appear that improving the existing roadways, as has been done on numerous other stretches in Northeastern Minnesota (widening, curve and vision improvements) could achieve the traffic flows as forecast for the foreseeable future at a significant dollar savings, at a significant savings to the environment, and with little adverse impact on desired access by tourists and by businesses to the affected sections of Northeastern Minnesota. 42

Most specifically we object to the proposal which would cause construction of a new corridor some two miles east of the existing corridor impacting on an unusally high quality hardwood stand, and impacting on an area that appears to very definitely be an aquifer for the White Pine River. This construction could interfere with the spring seepage and contributions to the White Pine River, a stream which is a Trout stream, and an area which if impacted could negatively affect the existing wild populations of Trout which have been found to exist there by the Minnesota DNR. 43

If, and I repeat our above reservations about the justification and need for a four lane highway, the final design includes a four lane concept, it should definitely be along the existing corridor to minimize the environmental intrusion. The rationale given by Mn/Dot, that Federal regulations preclude construction where there is a longitudanal impact on a wetlands is certainly a misplaced emphasis in the conception of this project. There already exists in the current highway 33, a longitudanal impact on the existing flood plane, by placing another lane aside it, there will be minimal 44

impact, as compared with the environmental destruction accomplished by a new corridor some two miles to the east.

We can understand it is the intent of state government to accommodate Northeastern Minnesota with construction dollars in these economic times. Such well intended endeavors have to also be carefully examined in terms of their logic and their meaning and impact for long term on the environment of Northeastern Minnesota, their impact on our free flowing streams, and on the existing human populations along the route. What we propose is to cooperate with an upgrading of this roadway, but to very definitely resist what appears to be significant overkill in this initial presentation.

Sincerely,

David E. Zentner, President
Duluth Chapter IWLA

42. Please refer to the Purpose and Need Section of this document.

43. The White Pine River area was identified as the most sensitive in terms of potential natural resource impacts in the entire project study area. Our initial preferred alternative would have relocated TH 33 1/4 mile - 1/2 mile to the east of existing TH 33. The Range Line Alternative would have relocated the road one mile to the east. As a result of comments on the DEIS and further coordination, the Preferred Alternative in this area is a companion pair of lanes immediately to the east of the existing alignment. Representatives of the DNR and FWS believe this alternative to have the least overall impacts.

44. These concerns were taken into consideration and are reflected in the Preferred Alternative.

James R. Brekke
Crossroads Store
5711 5717 Hwy. 2
Saginaw Mn. 55779

Paul Letcur, Project Manager

45 Why are we spending $50 million to upgrade 20 miles of highway 33 to a four lane expressway?

The project as planned would uproot about 40 families from their homes, remove 3 out of 5 businesses from their locations at the intersec 46 of highways 2 and 33 , and force the other two out of business by restricting their access to the motoring public

The removal of all of these effected properties would also cause a tremendous loss of tax base to the county and our local school distric 47 which would result in higher taxes for those of us who are left.

The statistics I have receieved from the Minnesota Highway Dept show that the traffic count on highway 33 has dropped 25%since 1978. Highway traffic on highway 33 is only 64%of the traffic on highway 2 48 Highway 33 carries only 25%of the truck traffic that is carried on highway 2.

I believe that the upgrading they are doing right now on highway 33 between the Witte road and the south limits of St Louis county should have been done twenty years ago. The present upgrading of highway 33 to two lane roadwaywould make highway 33 equal to highway 2 in its capacity to carry traffic safely.

I think that some of this $50 million could be more wisely spent on other roadways such as 61 north which are known to be a hazard to the motoring public.

James R. Brekke
5711 -5717 highway 2
Saginaw Mn. 55779

James R. Brekke

45. Refer to the need section. The Table which appeared in the DEIS included a full bypass cost estimate. The estimate for the Preferred Alternative is $24.9 million.

46. The Preferred Alternative will cause the relocation of 24-33 residential properties and 3 commercial properties. Refer to the Relocation section in this document.

47. The county would experience a decrease in tax base only if displaced residents left the area, which is highly unlikely. The more common experience is that displaced residents relocate in the same general vicinity. In such a case, the tax base remains virtually unchanged.

48. Statistics can be misleading. First, a drop in traffic can be attributed to many variables, including increasing gasoline prices. Second, traffic congestion results from large numbers at the same time, which is not reflected in straight traffic counts. Third, as a link to recreational and not industrial resources, TH 33 would be expected to have less truck movement.

Mr. John E. Sandahl, P.E.
District Engineer
Minnesota Department of Transportation
1123 Mesaba Avenue
Duluth, Minnesota 55811

S.P. 0905-38 et al (T.H. 33)
From the Junction with I-35
to the Junction with U.S. 53
Public Hearing

Dear Mr. Sandahl:

Please include the following comments in the transcript of the above referenced public hearing:

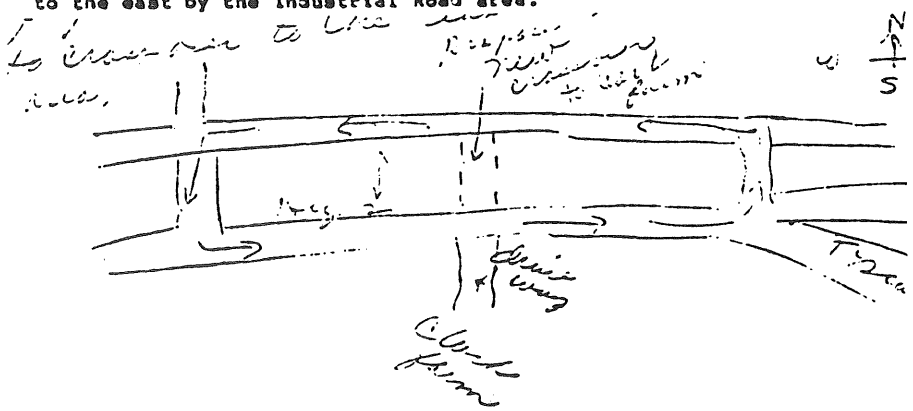
We have a dairy farm on Hwy. 2 about 1/2 mile west of Junction Hwy. 33 and 2. An interchange with Hwy. 33 is proposed with one mile section of Hwy. 2 being constructed to four lanes. This one mile affects our property: S 2 T50 R17 NW1/4 of SW1/4 and S3 T50 R17 NE1/4 of SE1/4.

49 Our concern is how much land would we loose off the front of our farm for this construction. To run our dairy farm we can't afford to loose any land. Even now we have to lease land a few miles away for enough crop land to feed our cows. We also own 120 acres of which about 50 is crop land in Stony Brook Township (no buildings). This farm is our only source of income. Our operation is set up on these 3-adjoining 40 acre tracts (120 acres) with the buildings, crop and pasture land. It cuts down the size of our farm on crop and pasture land which is vital.

It also devaluates the farm as far as resale value. It is set up to be a dairy farm not a hobby farm so it would be difficult to sell, which I had hoped to do when I am ready to retire. We would like to know if there is any state land adjoining ours which the State could exhange with us or purchase in place of what we will loose?

50 We are also concerned about not having a crossover from our driveway on to the west bound lanes coming in from the east. Our sons keep their bulk milk trucks here. We have several milk customers a day and we have to cross our farm equipment (hay wagon,

etc.) to and from our place. We feel it would be safer for all concerned if we were not to drive into conjested traffic areas of the new proposed scale area to cross to the west and to crossover to the east by the Industrial Road area.



We are waiting to hear from you.

Thank you.

Raymond P. Clark
Marion Clark

NOTE: Because the original handwritten letter was not reproducible, this is an uncorrected, typed copy of the writer's comments. Copies of the original are available upon request.

49. The transformation of some land is an unavoidable consequence of highway improvement. Applicable laws and Mn/DOT procedures insure that land owners are compensated in a fair and reasonabale manner.

50. Mn/DOT will be buying access rights to control driveways onto the expressway. Our policy on this project is that those homes and businesses that presently have driveways onto TH 33 are entitled to direct access to the expressway. On undeveloped lots of record we may ask that future access be at a common location with an adjacent lot. We will be contacting each of you individually regarding your driveway needs. This contact will be made first by a representative from our Right of Way department. It should be pointed out that each driveway will not have a median crossover. Access, for the most part, will be to either the northbound lanes or southbound lanes depending on which side of the road you are located. Median crossovers will be built at public road intersections and at selected locations that will best minimize circuity for residents along the highway. These locations will be determined after each of you have discussed your driveway needs with a Right of Way person.

Mr. John P. Sandahl, P.E.
District Engineer
Minnesota Department of Transportation
1123 Mesaba Avenue
Duluth, Minnesota 55811

S.P. 0905-38 et al (T.H. 33)
From the Junction with I-35
to the Junction with U.S. 53
Public Hearing

Dear Mr. Sandahl:

Please include the following comments in the transcript of the above referenced public hearing:

My name is Jim Thomas and I have lived at my present residence for 15 years. Our property is located appros. 1 1/2 miles north of Hwy. 2 and Hwy. 33. We are west of Hwy. 33 and south of the DM&IR RR tracks. I would like to thank you and the other gentleman for the fine presentation at the Albrook H.S. on Oct. 10. It was very much appreciated.

In the 15 years that we have lived here, I have had the opportunity to drive a lot of miles between our place and Cloquet to visit friends, go shopping and go to work. I have driven in many different traffic situations. I would like to go on record as being in favor of upgrading Hwy. 33 as is presently being done. We need the wider driving lanes and shoulders, as right turn lanes. I would also like to see the bridge over the DM&IR RR tracks replaced with a wider one.

I am very much opposed to any kind of 4 lane construction.

Thank you

Jim Thomas

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Mr. John E. Sandahl, P.E.
District Engineer
Minnesota Department of Transportation
1123 Mesaba Avenue
Duluth, Minnesota 55811

S.P. 0905-38 et al (T.H. 33)
From the Junction with I-35
to the Junction with U.S. 53
Public Hearing

Dear Mr. Sandahl:

Please include the following comments in the transcript of the above referenced public hearing:

First of all I want to thank you for sending me a notice in the mail of the Oct. 10th hearing at Albrook School. I had missed the previous meetings and Commissioner Braun had assured me that I and others would be notified by mail of future public meetings. I appreciate that.

My name is Erick Bloom and my residence is just adjacent to the intersection of Hwys. 2 and 33 where the proposed interchange would be constructed. It has been our home for over 48 years. I also operate my business of building from here and cabinet shop (some 40 years). Also part of our home is used for an assembly place for Christians (16 years) with a facility for year around immersion (baptism). In addition to that we have a pet cemetery and firewood sale landing.

It is our understanding at this time that our property will be acquired by the DOT. My wife and I, though grieved, want to be as cooperative as possible in this matter.

51. We are concerned however about the possible waste of valuable timber and firewood when the highway is constructed. In all these 48 years that we have lived here we have planted and preseved the forest both on our property and the adjoining highway right of way. We salvage only the dead trees. We travel highway 33 every day to work in Cloquet and this past summer we have observed how the right of way timber was bulldozed into huge piles and burned. This was on the miles of 33 that is being upgraded these past few months.

Very sad and wasteful! There were people with chainsaws and pickups trying to salvage valuable firewood from the burning piles on fire. Now in other states this summer I have observed that where highway construction is in the progress the usable trees have been limbed and laid along the edge of the right of way so the adjacent property owner, or whoever, can make use of it.

I would suggest, and appreciate it so much, that if and when the contracts are let that this be a requirement of the contractor and be strictly enforced. Perhaps too the area to be cleared could be marked out well in advance of construction so adjacent property owners could harvest the timber or wood if they so desired. In this day of rising energy costs, and fuel assistance from taxpayers, I am sure you would agree that we should do all that we can to eliminate waste of a precious natural resource.

Respectfully yours,

Erick Bloom

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51. Minnesota Laws, 1980, Chapter 614, Section 185 is designed to prevent the waste of fuel wood on construction projects. Any wood with a diameter greater than six inches should legally be offered to the public before burning or burial, with consent of the landowner. For this project, Mn/DOT will specify that this be done, but it is ultimately the responsibility of the Contractor to determine the method of removal from the right of way.

Mr. John E. Sandahl, P.E.
District Engineer
Minnesota Department of Transportation
1123 Mesaba Avenue
Duluth, Minnesota 55811

S.P. 0905-38 et al (T.H. 33)
From the Junction with I-35
to the Junction with U.S. 53
Public Hearing

Dear Mr. Sandahl:

Please include the following comments in the transcript of the above referenced public hearing:

The Hwy. 33 project does merit serious consideration. We have a terrible time getting onto the highway from our home. How do you figure the area of greater importance? In the meeting of Oct. 10th you stated that from Hwy. 2 to Hwy. 53, the accident ratio is much less than the national average. While Hwy. 2 to I-35 is above the national average, wouldn't it make more sense to get the lower (urban) section done first because of the accident problem and expense? In the years to come, prices go up with our taxes. Must we suffer with our lives and our pocketbooks? We are sure with a serious effort all parties involved could cooperate and get this area taken care of. Also we have considered selling our home for a few years but because of the Hwy 33 project still hanging, we can't find anyone who would put money into a home that will most likely be taken away. We know of other families along the highway who have the same bleak outlook. Now we must wait at least another four years to find out. We know that it will be completed then someway. The City of Cloquet will be better off with the Hwy coming thru the existing route so get busy and get this project on paper complete from one end to another. You sit in your office saying you are concerned. Prove it - get done and please considered common sense! People like to get on with their lives. How can we do this?

52

53

Dennis and Barbara Morris
460 Hwy. 33 North
Cloquet, MN 55720

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52. While accident reduction was identified as a project objective, many other variables were considered in the selection of a preferred alternative.

53. Mn/DOT recognizes the problems of selling or buying real estate in any area under consideration for highway development. Many safeguards have been built into existing laws and regulations that prevent Mn/DOT from acting without adequate public involvement and review. Unfortunately, this also prolongs the Highway Development Process. Mn/DOT has been using the FAST process to accelerate the development of the TH 33 project. The FEIS identifies our Preferred Alternative and right of way purchase can begin shortly after it has been published.

Mr. John E. Sandahl, P.E.
District Engineer
Minnesota Department of Transportation
1123 Mesaba Avenue
Duluth, Minnesota 55811

S.P. 0905-38 et al (T.H. 33)
From the Junction with I-35
to the Junction with U.S. 53
Public Hearing

Dear Mr. Sandahl:

Please include the following comments in the transcript of the above referenced public hearing:

54. I was at the meeting at Albrook School. I would like a crossover at Marker 590 or Smith Road because most of out travel for me and neighbors are to the south.

Thank you

James G. Fernandes
5739 Smith Rd.
Saginaw, MN 55779

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54. Refer to #50

Mr. John E. Sandahl, P.E.
District Engineer
Minnesota Department of Transportation
1123 Mesaba Avenue
Duluth, Minnesota 55811

S.P. 0905-38 et al (T.H. 33)
From the Junction with I-35
to the Junction with U.S. 53
Public Hearing

Dear Mr. Sandahl:

Please include the following comments in the transcript of the above referenced public hearing:

This letter pertains to the Hwy. 2 Section of the Hwy. 33 project no. 0905-38 et. al.

55 We the Peterson Family are concerned about a crossover connecting the westbound and eastbound lanes on Hwy. 2. The reason for our concern is that almost 100% of our vehicle movement is to or from the east.

In your plan now you have a crossover opposite our driveway. If there are any plans to eliminate this crossover, please consider this alternative. We are willing to move our driveway to the east property line, where it could join Mr. Brekke's west driveway and a crossover of the west and east bound lanes made at that location. This east line driveway would be our preference over the present plan of a crossover and service road. Thank you.

Sincerely,

Raymond R. Peterson
Michael R. Peterson
Lawrence R. Peterson
Ronald E. Peterson

NOTE: Because the original handwritten letter was not reproducible, this is an uncorrected, typed copy of the writer's comments. Copies of the original are available upon request.

55. Refer to #50.

RESPONSE TO COMMENTS - PUBLIC HEARING

In accordance with State and Federal regulations, a public hearing for the proposed project was held on October 10, 1984 at the Albrook High School, north of Cloquet. The objectives of the hearing were to receive comments on how well the DEIS addresses impacts associated with the proposed projects and to discuss location alternatives in the study area. The comments received are summarized and responses are presented below. Transcripts of the public hearing are available upon request.

57. COMMENT

Using the seven project objectives as criteria, the need for the proposed project is questioned.

RESPONSE

Please refer to the Purpose and Need Section of this document.

58. COMMENT

St. Louis County does not need an additional county state aid road, which the existing road would be designated if TH 33 is relocated off the present alignment.

RESPONSE

The Preferred Alternative utilizes the existing alignment wherever possible. Numerous concerns, however, made it necessary to design four lanes on new alignment. Because Mn/DOT, by law, cannot maintain two highways within the same corridor, the road not abandoned will be turned over to the county. This amounts to approximately 1.5 miles.

59. COMMENT

Relocation off the existing alignment would cause additional environmental impact.

RESPONSE

The design of the Preferred Alternative minimizes impacts in most cases. This was accomplished primarily by staying close to the existing alignment. Wherever environmental impacts were identified, mitigative measures have been provided.

60. COMMENT

Relocation of TH 33 off the present alignment will have an adverse effect on the access to local property owners and small businesses.

RESPONSES

Mn/DOT has and will continue to negotiate with property and business owners to provide acceptable access and maintain safe highway standards.

61. COMMENT

A permanent No Build decision in the urban section is favored. Any bypass, in particular one thru the Golf Club, is opposed.

RESPONSE

Mn/DOT recognizes the opposition and potential impact of a bypass alternative. Further study is necessary to outline future improvements in this area.

Appendix

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DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EXECUTIVE ORDER 11990
WETLANDS FINDING
Mn. Proj. F 073-1 ( )
S.P. 0905-38, 0905-39, 0906-31, 0906-32, 6911-25, 6911-26

This statement sets forth the basis for a finding that there is no practicable alternative to construction in the wetlands located adjacent to TH 33 and that this proposal includes all practicable measures to minimize harm to these wetlands which may result from such use. This finding is made in accordance with the requirements of Executive Order (E.O.) 11990 on the Protection of Wetlands, dated May 24, 1977.

I. PROJECT DESCRIPTION

A. Project Location

The proposed project is located in Carlton and St. Louis Counties and involves improvements to TH 33 from the junction of I-35 and TH 33 to the junction of TH 33 and TH 53, a distance of 19.7 miles.

B. Proposed Improvements

The preferred design options for TH 33 include improvements to the following segments: 1) TH 53 to Morris Thomas Road construction of a four lane roadway along part of the existing roadway and on new alignment, 2) Morris Thomas Road to I-35 - temporary no build.

II. IDENTIFICATION OF WETLANDS

The Preferred Alternative has a total of 73.4 acres of wetlands from 17 basins that will be impacted. The following table lists wetland types, number of basins impacted, and acres impacted:

TABLE A-1
IMPACTS BY WETLAND TYPE - PREFERRED ALTERNATIVE

Wetland Types Impacted		Number of Basins Impacted	Acres Impacted
2		1	1.3
2/6		5	16.9
2/3/6		1	1.0
2/6/7		6	47.8
3/6		2	2.2
6/7		2	4.2
	Total	17	73.4

III. SUMMARY OF WETLANDS IMPACTS IN THE STUDY AREA

Three alternative corridors and a No Build Alternative were studied in the rural sections of the TH 33 project area. Wetland impacts were evaluated for each alternative. The Preferred Alternative in the rural section is a combination of the East and West Corridor Alternatives. The Preferred Alternative in the urban section is a temporary No Build Alternative. The following tables summarize wetland impacts in the different alternative corridors, including the Preferred Alternative corridors:

TABLE A-2
IMPACTS TO WETLANDS IN THE URBAN SECTION

	No Build-(Preferred Alternative)	Through Town	West Cloquet Bypass	East Cloquet Bypass
Number of Wetlands	4	15	22	11
Wetland Types with Greatest Acreage	T2/6/7/8	T2/6	T2/6/7	T7
Acres Impacted	1	7	15	4

TABLE A-3
IMPACTS TO WETLANDS IN THE RURAL SECTION

	Preferred Alternative	West Corridor	East Corridor	Range Line Corridor	No Build
Number of Wetlands	17	31	30	38	24
Wetland Types With greatest Acreage	T2/6/7	T2/6/7	T2/6/7	T2/6/7	T2/6/7
Acres Impacted	73	48	73	159	15

Approximately 20 to 25 percent of the study area consists of wetlands. A total of 127 wetland basins covering a minimum of 3,600 acres were identified in the study area. In an area such as this, it is impossible for any alternative to entirely avoid wetlands. Even the No Build Alternative involves some wetland impacts because upgrading of the roads would result in filling of wetland fringes and damage by construction vehicles.

In the urban section of the TH 33 project, the Preferred Alternative is a temporary No Build and will result in one acre of wetland impact--the smallest amount of impact caused by any of the Urban Alternatives.

In the rural section of the TH 33 project, the Preferred Alternative will result in 73 acres of wetland impact. This is equal to or greater than the amount of impact caused by all the alternatives in this section except for the Range Line Alternative.

The No Build alternative would result in the least amount of wetland impact but is not practicable because it does not fulfill the transportation objectives.

The Range Line Corridor has greater wetland impacts than the Preferred Alternative. It is not practicable because it would result in duplication of roadways, i.e. two road corridors, one to two miles apart (old TH 33 and the new expressway), would be essentially performing the same transportation objective.

Building the highway exclusively in the East Corridor would impact the same amount of wetlands as the Preferred Alternative but is not practicable because it would impact a sensitive upland wildlife area and pose a serious roadway geometrics problem at the interchange with TH 2.

Building the highway exclusively in the West Corridor would impact fewer wetlands than the Preferred Alternative but is not practicable because it would result in a greater displacement of homes (30-40) and displacement of the AlBrook High School and the Brevator Cemetery.

The Preferred Alternative, by switching back and forth between the East and West Corridors and following the inplace TH 33, avoids these social and community service impacts. It also addresses the geometrics problem at the junction with TH 2 by proposing construction of a four lane roadway on new alignment between Witte Road and Smith Road. Minimization of these other impacts, however, results in greater wetland impacts. Mitigative measures have been provided for unavoidable wetland impacts.

IV. MEASURES TO MINIMIZE HARM

The following measures will be used during and/or after construction to minimize the impact of the project on the wetlands:

A. During roadway construction, hay bales, silt fences, etc. will be used to control erosion, gully formation, and sedimentation.

B. Sodding, seeding, and mulching of bare areas will be completed as soon as construction has ended.

C. Disposal of excess material will follow Mn/DOT guidelines to avoid disposal that damages environmentally sensitive areas such as wetlands.

D. The local drainage plan will be designed to maintain the normal water level in wetlands.

E. Exceptions to the use of 6:1 slopes in wetland areas will be determined through coordination between USFWS, DNR and Mn/DOT.

V. MEASURES TO MITIGATE IMPACTS

Mitigation of wetland losses will include habitat replacement through purchase of areas in order to improve existing wetland areas or create new wetlands. Borrow areas, created to supply fill for the project, can be converted to wetland areas in locations where the water table is high enough to maintain permanently saturated conditions.

Two locations within the project area and one off-site location are under study as potential mitigation sites:

A. A 26 acre site in the northwest quadrant of the TH 2 interchange will be used to provide fill for the interchange. A 30 plus acre wetland with 10:1 slopes, irregular contours and variable depths to a maximum of six feet will be created on this site. The pond will be lined with peat or topsoil.

B. An 11 acre site in the southwest quadrant of the TH 2 interchange will also be used to provide fill for the interchange. The site is partly saturated and contains scattered patches of type 6/7 wetland. Extraction of fill plus additional excavation down to the water table should create open water areas, e.g. type 3,4 and 5 wetlands. A berm may also be constructed at the site to help retain water.

C. Off-site mitigation will be used to compensate for a portion of the wetland impacts. A proposed mitigation site is located approximately 3 miles northeast of Barnum in Carlton County and is part of the proposed Culkin rest area. A control structure will be installed and a Type 2/6 wetland will be flooded to create 30 to 80 acres of a Type 3/4 wetland.

Habitat Evaluation Procedures (HEP), developed by the U.S. Fish and Wildlife Service, have been applied to existing and projected wetlands of the project. The number of HU's (Habitat Units) lost by impacts will be replaced through a combination of mitigation measures. Any HUs in excess of the number needed to fully mitigate the wetland impacts of TH 33 will be credited to the Mn/DOT District 1 Wetland Bank. Should the proposed mitigation not fully compensate for the impacts, the debt shall be compensated by the Mn/DOT District 1 Wetland Bank.

VI. COORDINATION

A scoping meeting was held on September 29, 1983 to receive input from agencies and the public regarding this proposed project.

A public hearing was held on October 10, 1984.

There has been ongoing coordination between Mn/DOT and the U.S. Fish and Wildlife Service, the MN Department of Natural Resources, and the MN Pollution Control Agency. This coordination is reflected in the continuing communication among these agencies regarding acceptable methods and amounts of minimization and mitigation for the proposed project.

VII. CONCLUSION

The above factors and considerations establish that there is no practicable alternative to construction in the wetland areas adjacent to TH 33 and that the proposed project includes all practical measures to minimize harm to the wetlands which result from such construction.

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EXECUTIVE ORDER 11988
FLOODPLAINS FINDING
Mn. Proj. F 073-1 ( )
S.P. 0905-38, 0905-39, 0906-31, 0906-32, 6911-25, 6911-26

Federal Insurance Administration Flood Hazard Boundary Maps have been examined for the possible TH 33 alternatives from the junction of TH 33 and I-35 south of Cloquet, Mn. to the junction of TH 33 and TH 53, a distance of approximately 20 miles. The floodplains illustrated on the segment maps were taken from the cities of Cloquet and Scanlon and from St. Louis and Carlton counties floodplain maps (Figures 12a and 12b). Possible floodplain crossings shown for the Preferred Alternative and other Alternatives are shown in Table A-5. In addition to the floodplains listed in Table A-5, there will be numerous small stream crossings. These streams usually have floodplains less than 100 feet in width. Due to mapping limitations, the flood Hazard Boundary Maps did not identify any floodplain areas for these small streams. The design of the roadway at the small stream crossings will include measures to minimize or eliminate any flooding problems.

Preferred Alternative Impacts

The Preferred Alternative is a combination of alignments chosen from the East and West Corridors. The Preferred Alternative has minimal floodplain impacts at all stream crossings (see Floodplain section) except at the White Pine River.

The Preferred Alternative in the White Pine River location is two adjacent lanes east of the existing two lanes.

TABLE A-5
POTENTIAL FLOODPLAIN ENCROACHMENTS FOR TH 33 ALTERNATIVES

RURAL SECTION

	Alternative				
	Preferred	East	West	Range	No Build
Chalberg Creek	500'(T)	500'(T)	500'(T)	2600'(T)	500'(T)
Beaver Lake	NC	NC	NC	2000'(L)	NC
Grand Lake	NC	NC	NC	12,000'(L)	NC
Bear Trap Creek	500'(T)	600'(T)	400'(T)	12,000'(T)	500'(T)
Dutch Slough	5400'(T,L)	NC/5400'(T,L)	3700'(L)	NC	5400'(T,L)
White Pine River*	2500'(T,L)	650'(T)	1000'(T,S)	200'(T)	2000'(T,L)

URBAN SECTION

	Alternative				
	Preferred	East Cloquet Bypass	West Cloquet Bypass	Through Town	No Build
St. Louis River	-	1000'(T)	2200'(T)	2000'(T)	-
Unnamed	400'(T)	1200'(T)	400'(T)	400'(T)	400'(T)

NC: no crossing.
T: transverse crossing.
L: longitudinal crossing.
S: skewed crossing.

*: For Dutch Slough, the East 4 lane option results in no floodplain crossing while the East 2 lane option results in a floodplain encroachment.

This alternative will result in approximately 2000 feet of longitudinal and transverse floodplain encroachment in the White Pine River. In addition, 1000 feet of the White Pine River channel will be reconstructed to accomodate the two additional lanes. The channel reconstruction and all stream hydraulic structures will comply with the Minnesota Statewide Standards and Criteria for Management of Floodplain Areas.

The reasons why the proposed action must be located in the floodplain are as follows:

1) The two additional lanes in the White Pine River floodplain will not result in any property severance.

   A.) Affected landowners along this alternative are willing sellers.

2) The construction of the two additional lanes through the floodplain will result in a cost savings of $2.6 million.

3) The Minnesota Department of Natural Resources Area Wildlife Manager and the United States Fish and Wildlife Service representative have expressed that, of all the alternatives (except the No-Build), the additional two lanes east would have the least overall environmental impact.

The Preferred Alternative floodplain crossings should not result in any significant impacts in the following areas.

A. There is no significant potential for interruption or termination of a transportation facility.

   1. Roadway elevations will be designed above the 100 year flood elevations.

B. No significant risks, such as increased flooding of property or hazard to life, will result from this project.

   1. All hydraulic structures will be designed so that no significant change in headwater or tailwater elevations result.

      a. The new channel for the White Pine River will have the same hydraulic capacity as the existing channel.

C. The proposed construction of a four lane highway should not support potential incompatible floodplain development for the following reasons:

   1. The counties of St. Louis and Carlton have zoning ordinances which regulate floodplain development in unincorporated areas. transverse crossings of their respective floodplains.

A significant impact to the natural and beneficial floodplain values of the White Pine river will result from the 1000 foot channel reconstruction.

The White Pine River is a designated trout stream. The river is very productive and has area-wide significance as a fishery. The channel reconstruction will destroy the existing aquatic habitat and introduce silitation and sedimentation to portions of the river channel immediately dowmstream. By employing mitigation measures (see Stream Modification section), however, the disruption of this aquatic habitat downstream could be minimal.

Special provisions will be included in the construction plans to insure that normal fish movement is not interrupted.

No threatened or endangered flora or fauna are known to lie within or adjacent to the Preferred Alternative.

Other Alternatives

In the vicinity of the White Pine River, three additional roadway alternatives were studied (Figure 20). Table A-6 summarizes the impacts to the White Pine River floodplain by the various alternatives. Below in outline form, the pros and cons of each alternative are presented.

I. East - four lanes on new alignment

A. This alternative would result in a 650 foot transverse crossing of the White Pine River. This alternative does not require any channel reconstruction.

B. The cost of this alternative is $5 million.

C. This alternative would impact approximately 25 acres of high quality upland wildlife habitat.

D. This alternative would bridge the White Pine river over an important trout spawning riffle and nursery area.

E. This alternative was opposed by representatives of the U.S. Fish and Wildlife Service and the Minnesota Department of Natural Resources.

Table A-6

White Pine River Floodplain Encroachments

Alternative	Type of Encroachment	Length
West-4-lanes	Transverse-skewed	1100'
East-4-lanes	Transverse-skewed	650'
West-2-lanes	Transverse-skewed	1000'
East 2-lanes (Preferred)	Longitudinal	2000'

II. West - four lanes on new alignment

A. This alternative would result in an 1100 foot transverse-skewed crossing of the White Pine River but does not require any channel reconstruction.

B. The cost of this alternative is $5.4 million.

C. This alternative would impact approximately 15 acres of good quality upland and lowland wildlife habitat.

D. This alternative results in property severance to two landowners and disrupts landowner plans to subdivide the area.

E. This alternative was opposed by representatives of the U.S. Fish and Wildlife Service and the Area Wildlife Manager of the Minnesota Department of Natural Resources.

III. West - Two Companion Lanes

A. This alternative would result in a 1000' transverse-skewed crossing of the White Pine River and would require 200' of channel reconstruction.

B. This alternative was dismissed because the Brevator Cemetary lies immediately west of existing TH 33 and this alternative would have required the relocation of ±50 graves.

Additional Floodplain Corridors Considered

IV. Range Line Corridor

A. The most significant impact associated with the Range Line Corridor is a 12,000 foot longitudinal encroachment into the Grand Lake floodplain. No encroachment would have occurred

in the lake. This corridor was dismissed because of the possible encroachment in the Grand Lake floodplain.

V. No Build Alternative

A. The No Build Alternative would result in a 2000 foot longitudinal encroachment in the flood fringe portion of the 100 year floodplain of the White Pine River. This alternative was dismissed because it did not meet the transportation objectives.

Conclusion

The above factors and considerations establish that there is no practicable alternative to construction of a longitudinal encroachment in the floodplain of the White Pine River and to significant impacts to natural and beneficial floodplain values. The proposed TH 33 project includes all practical measures to minimize harm to the floodplain of the White Pine river which will result from such construction.

VOYAGEURS NATIONAL PARK
MINNESOTA

ROAD ACCESS STUDY

Performed by:

FEDERAL HIGHWAY ADMINISTRATION

EASTERN DIRECT FEDERAL DIVISION

In cooperation with:

THE NATIONAL PARK SERVICE

EXECUTIVE SUMMARY

The purpose of this study has been to evaluate the existing access road network to Voyageurs National Park, to assess the impacts from future development, and to make recommendations on improvements necessary to assure adequate access to the park. This study was mandated by Public Law 97 - 405 as ~~amended~~ PASSED on January 3, 1983.

The conclusions from the study are as follows:

- The existing road system provides sufficient ground transportation access to the Park. Four different geographical areas are accessed ranging from points on the east and west ends of the Park to two points near the center of the Park. Internal circulation is provided by water and it is not considered feasable to consider construction of an internal road system.

- The roads can be expected to handle all future traffic volumes at an acceptable levels of service. This includes U.S. 53 and T.H. 11 which will have acceptable levels of service (C or above) in all locations except on T.H. 11 near its intersection with U.S. 53 in International Falls. During peak traffic periods, during peak days of peak summer months, some congestion could be exptected to occur at the intersection. This is due to the signals, width of roads, railroad track crossings and the many stores and driveways in the vicinity. The only feasible solution to this condition is to assign traffic to T.H. 11 by way of alternate routes through International Falls.

- Although the capacity on each of the roads is sufficient to meet the demand, the condition of each of the roads varies from unimproved roads such as NPS 1 to recently reconstructed roads such as CSAH 122 and 123. Based on our engineering evaluation, a number of recommendations are made to bring each road up to an acceptable standard, defined here as a 24-foot paved surface with 3-foot paved shoulders, a 9-ton base and design speeds that vary between 30 and 50 mph. NPS-1 is recommended for a 22-foot surface instead of 24-foot. The following table is a

brief overview of the recommendation and cost of each access road improvement. The Trunk Highways U.S. 53 and T.H. 11 do not need upgrading since reconstruction has already been accomplished or programmed by the State.

SUMMARY OF RECOMMENDATIONS AND PRIORITIES

Priority	Road	Length of Work (mi)	Condition	Recommendation	Estimation Program ($-Millions)
1	Co.RD.96	1.8	Very poor, sub-standard	Complete reconstruction	$ 1.1
2	NPS 1	4.0	Very poor, sub-standard	Complete reconstruction	2.7
3	CSAH 129	10.8	Good alinement, poor base & surface	Reconstruct base and surface, improve I curve	4.3
4	CSAH 23 & 24	20.0	Poor condition of surface, alinement sub-standard	Reconstruct base and surface minor realinement	13.3
5	CSAH 122 & 123	8.1	Very good condition	Shoulder paving, minor realinement of 2 curves, turn lanes	0.7
TOTALS		44.7			# 22.1

- o These recommended improvements are considered essential to the well-being of the traveling public. The improvements are required to bring the roads up to an acceptable standard and thereby provide "adequate" access to the park.

- o It does not appear that, based on the nature of the proposed work, that there will be any major social, economic or environmental impacts from implementation of these road improvements.

B. PROJECTION OF ANNUAL VISITATION

Various attempts have been made over the past 10 years to estimate the number of visitors that could be expected to use the Park once development was complete. These estimates have ranged as high as 1,500,000 during preliminary planning for the Park to later estimates, proposed by several consultants, ranging between 800,000 and 1,000,000 visitors per year. The 800,000 estimate was developed by Van Doren - Hazard - Stallings and the 1,000,000 estimate was developed by Lorimer, Chiodo and Associates. Both estimates have been widely accepted as legitimate projections and were based primarily on the visitor experience of several remote national parks around the nation. The review conducted for this report would indicate however, that these projections could be high since they are based on what would be classified as "tour" parks including Carlsbad Caverns, Mammoth Cave and Mesa Verdi. Voyageurs Park is more of a "destination" park where the primary recreation form is not "tourism" but participation in outdoor activities. In other words, since the Park consists mostly of water, ~~since~~ it is not a Park to be viewed as one passes through by car, its recreational potential is more limited than many other national parks and confined to boaters, fisherman and outdoorsmen.

In any case, the figure of 800,000 visitors a year by the year 2000 is probably the most realistic projection considering existing visitation and long range economic and population growth trends in the region. This is considering that existing use over the past five years, as shown in Table II-1, has varied from a low of 148,313 in 1982 to a high of 272,414 visitors in 1980. The downward trend may be due to the more difficult economic situation in the region during the last couple of years which may have reduced tourism to some degree.

At existing use levels then, it would take an increase of over 500,000 visitors a year to reach the projections of 800,000 visitors. Although certainly possible, it must be realized that Park Service proposed development is by no means elaborate. There will be provisions for little more than boat docking facilities, parking lots and visitors contact stations.

TABLE II-1

VOYAGEURS NATIONAL PARK

VISITOR USE STATISTICS

MONTH	1982	1981	1980	1979	1978
January	3,658	10,227	10,727	8,817	4,594
February	5,568	7,799	18,843	11,062	8,582
March	3,322	2,559	15,864	3,120	6,425
April	935	1,235	2,296	1,071	1,320
May	16,936	33,403	40,433	29,712	37,374
June	24,331	48,754	61,321	34,810	34,775
July	30,415	56,779	45,540	32,708	42,849
August	26,414	58,659	42,500	34,978	49,635
September	19,223	29,724	18,490	28,527	39,514
October	9,711	8,381	7,899	12,025	25,402
November	1,861	1,481	1,544	1,241	2,731
December	5,939	2,666	6,957	3,335	6,816
TOTAL	*148,313	261,722	272,414	201,406	260,017

	1982	1981	1980	1979	1978
Rainy Lake Dist.	29,663	52,344	54,484	40,281	52,004
Kabetogama/Ash Lake District	81,572	143,948	149,827	110,773	143,009
Sandpoint Dist.	37,078	65,430	68,103	50,352	65,004

* Lower visitation figures in 1982 reflect the high unemployment (47%) in the Iron Range Cities of Minnesota where a substantial percentage of Voyageurs National Park visitors originates.

In later sections of the report where an assessment is made of road impacts due to increases in traffic, this report takes the position that, while 800,000 is the more appropriate ultimate visitation, a figure of 1,000,000 visitors will be used in order to assure the most conservative estimation of impacts possible.

The number of visitors using each area of the Park has been shown in Table II-1. Based on an ultimate usage of 1,000,000 visitors and considering the future development scheme of the Park, future projections show some changes from existing percentages in each developed area. The existing and future expected use in each area is therefore shown in Table II-2.

TABLE II-2

Area	Avg. Existing Use	%	Avg. Future Use	%	Change in Use %
Black Day	54,000	20	300,000	30	+10
Kabetogama West	109,000	40	400,000	40	0
Ash River	41,000	15	150,000	15	0
Crane Lake	68,000	25	150,000	15	-10
TOTAL	272,414*	100	1,000,000	100	-

*High year - 1980
1/ Visitors per year

United States Department of the Interior

FISH AND WILDLIFE SERVICE

IN REPLY REFER TO:

St. Paul Field Office, Ecological Services
570 Nalpak Building
333 Sibley Street
St. Paul, Minnesota 55101

October 11, 1983

NOTE: This letter from the US Fish and Wildlife Service was published in the scoping document but the Draft Environmental Impact Statement omitted page two. For this reason, the entire letter is reproduced here in the Appendix.

Mr. Paul LaTour
Minnesota Department of Transportation
District 1, Transportation Office
1123 Mesabe Avenue
Duluth, Minnesota 55811

Dear Mr. LaTour:

This letter responds to your September 12, 1983 request for comments on the Draft Study Outline and Scoping Document (DSOSD) for proposed upgrading of T.H. 33 between Cloquet and Independence in Carlton/ St. Louis Counties, Minnesota. Proposed construction alternatives involve upgrading the existing 2-lane highway to a 4-lane expressway from the Jct. of I-35 to Jct. 53.

At this early planning stage, it is difficult to assess and identify site specific impacts to fish and wildlife resources. However, based on the limited information provided in the DSOSD, I offer the following general observations:

1. Numerous wetland basins will be adversely affected by the proposed upgrading. The amount of acreage and types of wetlands involved will be dependent on the corridor selected. In general, by-pass alternatives will have considerably more impacts on wetlands as compared to upgrading totally within the existing right-of-way.

2. A number of rivers, streams and associated floodplains will be bisected by all proposed alternatives. Again by-pass alternatives will involve additional river crossings of the St. Louis River. In addition, the amount of floodplain vegetation being affected will significantly increase if a 4-lane alternative is selected. Of particular concern are designated trout streams within the project area. Included in this group are the White Pine River, Big Otter Creek, Bear Trap Creek and Dutchess Slough Creek. Special precautions must be taken at all stream/river crossings to minimize soil erosion and sedimentation.

3. To facilitate compliance with Section 7(c) of the Endangered Species Act of 1973, an amended, federal agencies or their representatives are required to obtain from the Fish and Wildlife Service information concerning any species, listed or proposed to be lised, which may be present in the area of a proposed action. Therefore, we are furnishing you the following list of species which may be present in the concerned area:

Common Name	Scientific Name	Classification	Habitat
Gray Wolf	Canis lupus	Threatened	Forested
Bald eagle	Haliaeetus leucocephalus	Threatened	Forested
Peregrine falcon	Falco peregrinus	Endangered	Cliffs

Presently there is no designated critical habitat for threatened or endangered species within the project area. However, this region is within the peripheral range of the gray wolf and contains viable populations of breeding bald eagles.

4. The DSOSD provides no convincing data to support the contention that future traffic volumns will indeed increase. If supportive data are available, this information should be presented in the Draft Environmental Impact Statement (DEIS).

5. On pages 6 and 7 of the DSOSD, various deficiences in the existing roadway are identified. However, no discussion is presented indicating that many apparent deficiences may be resolved through site upgradings i.e. road/shoulder widening, bridge replacements, etc., along the existing alignment. For this reason and due to the limited justification provided in the DSOSD for a 4-lane upgrading, we recommend that a 2-lane upgrading alternative be considered and included in the DEIS. Our suggested 2-lane alternative includes, but is not limited to, lane/shoulder widening, bridge replacements, staggered passing lanes, an overpass at Jct. 2, frontage road construction within the City of Cloquet and limited roadway realignment. This alternative, being similar to that presently being accomplished on T.H. 53 north of Orr, Minnesota, would accommodate a majority of the project objectives identified on pages 5 and 6 in the DSOSD. Therefore, we recommend

that this or a similar 2-lane upgrading alternative be incorporated and given adequate consideration prior to formulation of the DEIS.

In summary, the Fish and Wildlife Service believes that all alternatives presently being considered go beyond addressing the existing and foreseeable traffic problems associated with this segment of T.H. 33. Any 4-lane alternative will result in significant and irreparable damage to fish and wildlife resources. To date, no 2-lane upgrading alternative has been considered and we recommend that such an alternative be designed and discussed in the DEIS.

We appreciate the opportunity to review the DSOSD and offer our assistance as a cooperating agency in the preparation and subsequent review of various project features.

These comments have been prepared under the authority of and in accordance with the provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) and the Endangered Species Act of 1973, as amended and are consisistent with the intent of the National Environmental Policy Act of 1969. This project was also examined for its conformance with Section 4(f) of the Department of Transportation Act (P.L. 89-670, 80 Stat. 931) and Executive Orders 11988 and 11990.

Sincerely,

Robert Welford
Field Office Supervisor

cc: MDNR, St. Paul, MN
MPCA, St. Paul, MN
COE, St. Paul, MN

United States Department of Agriculture
Soil Conservation Service
113 Federal Building
515 W. First Street
Duluth, MN 55802

April 23, 1985

Gerald Larson
Office of Environmental Services
Minnesota Department of Transportation
Room 612H - Transportation Bldg.
St. Paul, MN 55155

Dear Mr. Larson:

You requested the Soil Conservation Service complete FPPA form AD-1006 for the Highway 33 draft environmental impact statement. We have not completed worksheets for completing the land evaluation section of the form in St. Louis County. Therefore we cannot complete the required sections of AD-1006 in 45 days and we are returning it to you for your information.

I have completed an inventory and evaluation along the existing highway.

Carlton County abbreviated legend from page 158, Highway 33 draft E.I.S by order of importance

Mapping Unit Symbol	Important Farmland Designation	Land Capability	Yield (in bu of oats)
21	Prime	2S	80
502	Prime, if drained	3W	80
355	Statewide importance	3S	70
504C	Statewide importance	3E	70
21C	Statewide importance	3E	70
980	Local importance, if drained	4W	80
990	Local importance, if drained	4W	80
V166	Statewide importance	3W	80
186	Statewide importance	3W	65
All others	None	4E	0 - 72

The soils 21 and 502 are prime ag land. They make up very few acres in Carlton County.

St. Louis County The soils 21A, 21B, trial number 1313 (same as V166 in Carlton County), trial number 1316A and 1316B are prime ag land. There is substantial acreage of these soils along the corridors.

Sincerely,

Thomas A Fait

Thomas A. Fait
Area Soil Scientist

NOTE: Form AD-1006 is on file in the Office of Environmental Services.

cc: Wayne S. Oak, AC, SCS, Duluth

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NOTES

TH 33 FEIS

ERRATA SHEET

Page No.	Correction
26	The reference to Table 5 in the first paragraph should read Table 6.
52,53	The numbers "54" and "55" should be inserted in the Legend of each figure following "pp."
64	The word "will" in the description of Shrub Swamp should read "willow".
82	The dollar figure for the Foundation Aid received, 1983-84 for the Preferred Alternative should read "$3,764,000".
141	A computer error resulted in the omission of text between pages 141 and 142. The following should be inserted at this location: "... coarse grained outwash sediments are also good sources, and can approach 150 feet of thickness in buried valleys. Both of these sources should receive protection from contamination. Most cities in this region use groundwater for municipal water supplies. Seventy-five percent of those users rely on drift aquifers as their municipal water source. The Cloquet/Scanlon population is served by six municipal water wells. Depth of these wells range from 47 to 113 feet. The static water level ranges between 34 and 55 feet. Normal pumping is 347 million gallons/year with 83 million . . ."
A-12	In Table A-6, the type of encroachment for the East 2-lane (also the Preferred Alternative) should be longitudinal and transverse.
A-24	Pursuant to the Farmland Protection Policy Act, coordination with the Soil Conservation Service was initiated regarding the presence of prime and unique farmland. The results of that coordination are presented in the Appendix on Page A-24.