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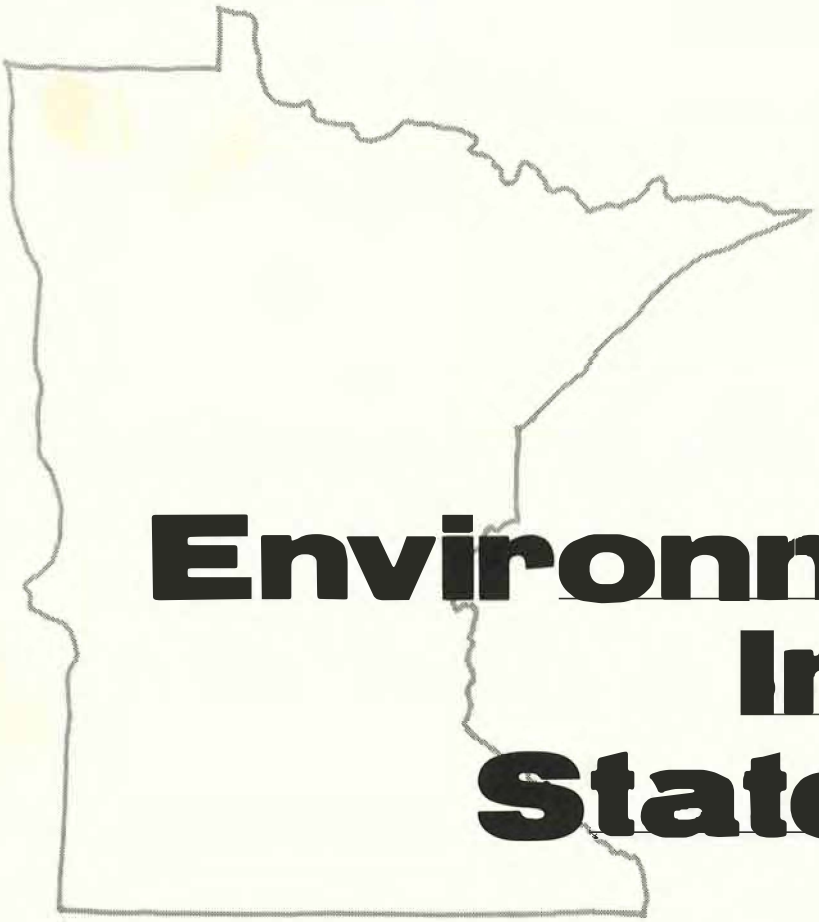

Final Environmental Impact Statement

U.S. 10

from
Wadena
to
Motley

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FHWA-MN-EIS 79-04-F
Region 5

Minnesota Trunk Highway 10 from C.S.A.H. 77 at Bluffton to C.S.A.H. 53 0.5 miles South of Motley

Minnesota Project F 002-2 ( ), and F 037-1 ( ),
Minnesota State Project 5605-08, 8001-21, 7702-29/30
and 4903-23

and
Minnesota Trunk Highway 210
from C.S.A.H. 21 TO U.S. 10
in Staples
Minnesota Project F 036-1 ( ), State Project 7701-18

Final Environmental Impact Statement and Section 4(f) Evaluation
Submitted pursuant to 42 U.S.C. 4332 (2)(c), 49 U.S.C. 303, and
Minnesota Statutes, Chapter 116D

U.S. Department of Transportation,
Federal Highway Administration
and the
Minnesota Department of Transportation.

10-20-87
Date of Approval

E E Ofstead
For Mn/DOT, E. E. Ofstead
Assistant Commissioner
Technical Services Division

2-25-88
Date of Approval

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The proposed action involves improvements to U.S. 10 from South of Motley to East of Bluffton, a distance of 31.1 miles. Various location and design alternatives are discussed, including a preferred alternative. A Final Section 4(f) Evaluation is attached.

SUMMARY

PROPOSED ACTION	The Federal Highway Administration (FHWA) and the Minnesota Department of Transportation (Mn/DOT) propose to improve U.S. Minnesota Trunk highway 10 (U.S. 10) from County State Aid Highway (CSAH) 77 near Bluffton, to CSAH 53, south of Motley. The proposed improvement consists primarily of converting a two-lane highway to a four-lane expressway between these termini. This is to be accomplished by constructing two lanes adjacent to the inplace highway, resulting in a completed four lane facility. Bypasses are proposed to be constructed for the communities of Wadena, Staples, and Motley. These bypasses will be constructed to a combination of expressway and freeway standards. A segment of Minnesota Highway (TH) 210 of approximately 2.0 miles in length near Staples will also be improved. The distance between termini is slightly more than 30 miles (31.1). However, the section between Motley and Staples has already been constructed to expressway standards, leaving 25.2 miles of two-lane roadway between the termini. Construction of the bypasses will extend the project length to an overall distance of 27.2 miles. The project will be located in Wadena, Todd, Otter Tail and Morrison Counties, and will travel through or around the cities of Wadena, Verndale, Aldrich, Staples, and Motley, Minnesota
MAJOR ALTERNATIVES	Several alternatives have been evaluated during the course of the development of this project. These alternatives are described fully in Section II of the Final Environmental Impact Statement (FEIS).
Alternative Route 1	This alternative involves the construction of two additional lanes immediately north of the existing highway. At each of the cities along the route between the termini, bypasses were considered as part of alternative 1.
Alternative Route 2	This alternative, also referred to as the through town route, involves improving U.S. 10 through the cities along the

route. In the rural areas, it is the same as alternative 1. Rather than U.S. 10 bypassing the communities, it would be upgraded to a modern four-lane facility through the cities.

No Build

This alternative would leave U.S. 10 as it is.

TH 210

Two alternatives, "A" and "B" have been considered for the improvement of TH 210 in Staples.

Each alternative is slightly less than two miles in length. Each would depart from existing TH 210 approximately one and one half miles south of the current junction of U.S. 10 and TH 210. Each would travel in northeasterly direction, on new right of way, to an interchange located on the east side of Staples.

ALTERNATIVES ELIMINATED

Early in project development a number of alternatives were studied, resulting in the conclusion that they were unreasonable or impracticable. These alternatives were eliminated from further study as a result of this process. Such a process would today be referred to as "scoping," although it was not referred to by that term at that time. The alternatives which were eliminated as a result of this process are:

South Route

This alternative would have been constructed south of and parallel to the Burlington Northern Railroad (BN) tracks. These tracks, a mainline of the BN system, run parallel to U.S. 10 between Bluffton and Motley. The presence of these tracks has constituted a major constraint to location and design decisions of U.S. 10 in this area of Minnesota. Since existing U.S. 10 in this area is located north of the tracks, a location south would have required the construction of a complete four-lane facility on new alignment. The "south route" would have turned south immediately east of Staples, and followed along the railroad tracks, bypassing Motley by a considerable distance to the west. It would have rejoined existing U.S. 10 in the vicinity of Lincoln, Minnesota.

Wadena Bypass Route 1	A northerly bypass of Wadena, on a relatively close-in alignment, was also eliminated from further study because of environmental impacts and community disruption. This is described in Section II of this FEIS.
PREFERRED ALTERNATIVES	The preferred alternative is alternative 1 in the rural segments. This generally consists of constructing an additional two lanes on the north side of the existing highway. However, immediately west of Staples, this alternative will involve construction on the south side of the existing roadway for a distance of approximately 1.3 miles. The preferred alternative through the communities of Verndale and Aldrich is Alternative 2, a through town route. The preferred alternative in the vicinity of the communities of Wadena, Staples, and Motley is alternative 1, a bypass route. The bypasses proposed at Wadena and Staples are proposed to be located north of the communities. The bypass at Motley will be located south and west of that community. The preferred alternative for TH 210 at Staples is alternative A.
SIGNIFICANT ENVIRONMENTAL IMPACTS	The preferred alternatives will: Provide design continuity for U.S. 10 throughout Minnesota. By the time construction of the proposed action is begun, this segment will be nearly the last segment of U.S. 10 in Minnesota not completed to modern four-lane standards. Remove through traffic from the residential and commercial districts in Wadena, Staples, and Motley. This will increase safety and reduce congestion and traffic conflict. Increase the traffic carrying capacity of U.S. 10, providing reduced travel time, and a higher level of service. Provide supporting infrastructure for local and regional development, including commodity movement. Cause the relocation of 21 residential and ten commercial properties.

Cause a change in land use totaling 904 acres, as follows:

developed land --	72 acres
wetlands -------	156 acres
cropland --------	213 acres
grassland -------	300 acres
woodland --------	163 acres

Cause 43 receptors along the proposed bypasses to an increase in noise levels of 10 dBa or more at the L50 level, and 39 to an increase of 10 dBA at the L10 level.

Result in substantial noise reductions to receptors along the through town routes in Wadena, Staples, and Motley. Fifty-six fewer receptors will be exposed to an L_{10} 70 dBA than with the no-build alternative, and 49 fewer will be exposed to an L_{10} 65 dBA.

AREAS OF CONTROVERSY

During the public hearings on these alternatives the choice of taking agricultural land versus land in some other use was an issue addressed by several of the people participating.

Many people at the hearings indicated that the road was in need of improvement, and urged that construction not be delayed any further.

SIGNIFICANT UNRESOLVED ISSUES

There are no remaining unresolved issues on the project.

OTHER GOVERNMENTAL ACTIONS

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

The proposed action will require the following permits or approvals:

Agency	Action Required
U.S. Corps of Engineers	Section 404
Minnesota Department of Natural Resources	Permit to work in Public Waters
City of Wadena	Plan Approval
City of Verndale	Plan Approval
City of Aldrich	Plan Approval
City of Staples	Plan Approval
City of Motley	Plan Approval

COOPERATING AGENCY

As indicated immediately above, the U.S. Army, Corps of Engineers, has permit authority (Section 404) on the proposed action. As a result, the agency may become a "Cooperating Agency," under rules of the Council on Environmental Quality. At the time of the preparation of the DEIS, rules regarding cooperating agencies had not been developed, and therefore, no agency was involved as a formally designated "Cooperating Agency" during early project development. Citing this, the Corps declined to become a cooperating agency on this proposed action. Refer to the letter at page 214 of this FEIS.

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PURPOSE AND NEED

INTRODUCTION

U.S. 10 crosses the state in a southeasterly (or northwesterly) direction between Fargo-Moorhead, at the west state line, through Minneapolis-St. Paul, and on into Wisconsin at a point southeast of St. Paul Near Hastings.

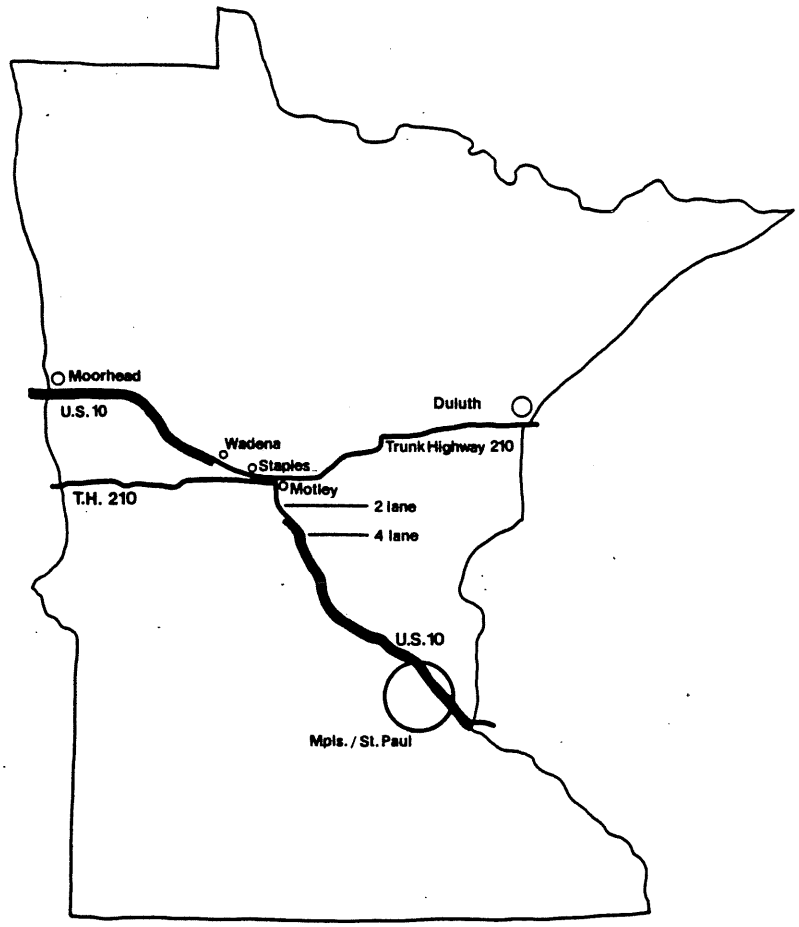


Figure 1 U.S. 10 and T.H. 210 in Minnesota

The proposed improvement to U.S. 10 involves the segment from the junction of CSAH 77 in Bluffton to the junction with CSAH 53, one half mile south of Motley. This segment totals 31.1 miles in length.

In 1972 a "Backbone" concept for the development of Minnesota Trunk Highways was developed in cooperation with the FHWA. This report identified U.S. 10 as being of major importance in rural

development, recreational use and road user benefits. U.S. 10 was classified at that time as an expressway facility and designated for improvement on a first priority basis.

The Burlington Northern Railroad (BN) is another mode of transportation which passes through the area in the same corridor. Approximately 20 to 25 freight trains per day and six passenger trains per week are carried through the area from Moorhead to Staples. These trains also pass through the cities of Wadena, Verndale, Aldrich and Staples. Motley is served by another line of the B.N., carrying approximately 16 trains per week, eastward, from Staples to Motley to Superior.

Both highway and railroad modes of transportation are expected to grow. The proposed highway improvement is not expected to affect railroad service. The major commodity hauled by the railroad is coal. It is expected that the railroad will grow substantially in its coal hauling service.

In addition, Greyhound Bus Lines provides bus service twice daily, in each direction, through this corridor.

PRESENT DEFICIENCIES

The segment of U.S. 10 which is proposed for improvement is a two-lane, two-way highway with generally uncontrolled access and inadequate design standards. Existing "No Passing" zones indicate that the geometrics of this highway are not adequate for contemporary vehicle speeds. Other features not meeting current design standards include slope design, bridge width and lateral clearances to obstructions.

The Present Serviceability Rating of a highway is indicated by a number. Each number indicates the amount of deterioration to the roadway surface, as follows:

1. Complete Deterioration
2. Severe Deterioration
3. Moderate Deterioration
4. Slight Deterioration
5. No Deterioration

The present serviceability rating of existing U.S. 10 in the area of the proposed improvement is as follows:

2.8 between Wadena and Verndale, 2.6 from Verndale to Aldrich, 2.8 from Aldrich to Staples.

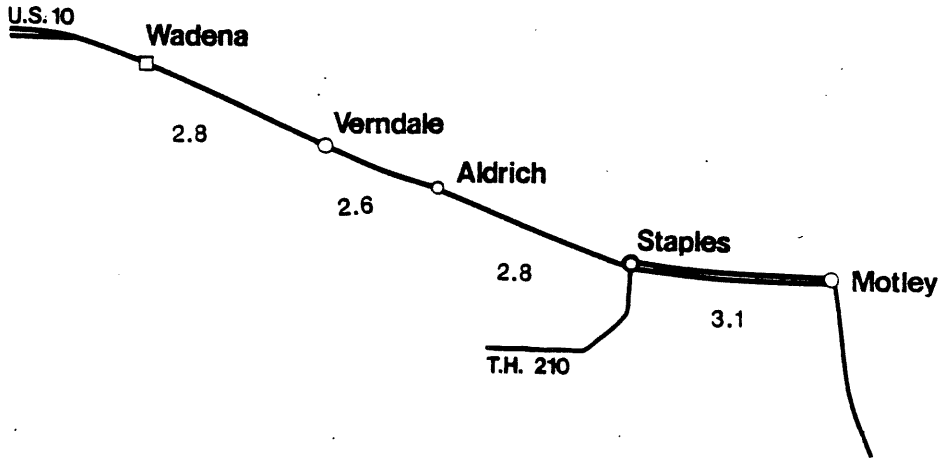


Figure 2 Present Serviceability Rating

This segment of the existing highway, in its present condition, can be salvaged for one roadway of the proposed four-lane facility. Continued use of the segment without improvement would cause deterioration to a rating of one, where complete reconstruction would be required.

TRAFFIC

1984 traffic volumes and year 2010 traffic projections are found in Figure 3, below. It is projected that year 2010 will see approximately 5,000 vehicles per day traveling on U.S. 10 in this vicinity. Heavy commercial vehicles comprise 17 percent of the above volumes.

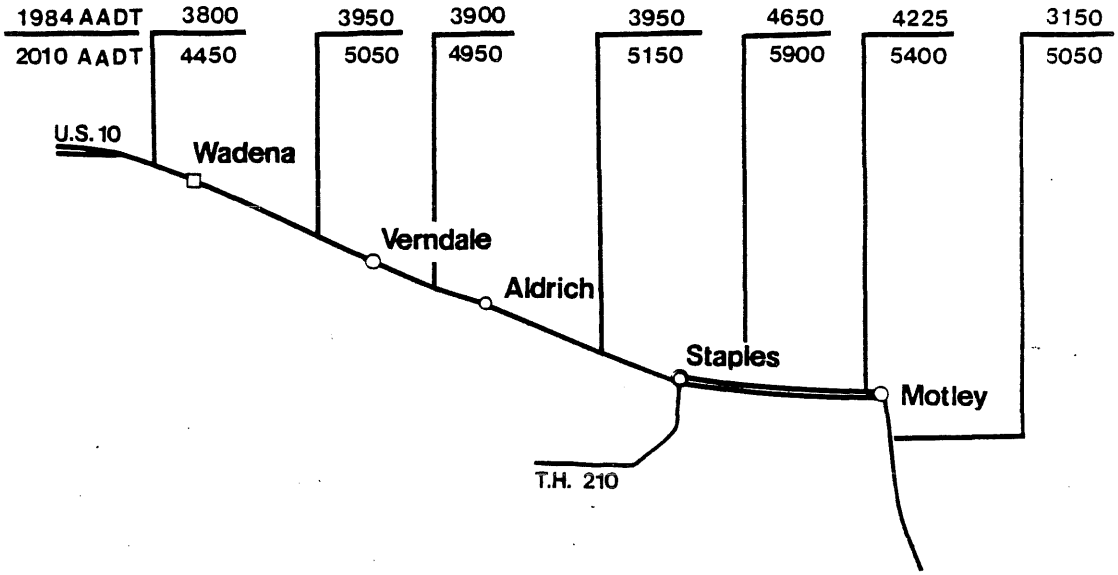


Figure 3 U.S. 10 Traffic Volumes

Note: 1. AADT means Annual Average Daily Traffic
2. Design hourly volumes for the year 2010 are estimated to be 667 to 885 vehicles per hour.

LEVEL OF SERVICE

Level of Service is defined in the Highway Capacity Manual as a term which, "broadly interpreted, denotes any one of an infinite number of differing combinations of operating conditions that may occur on a given lane or roadway when it is accommodating various traffic volumes."

There are six levels of service as follows:

Level of Service A -- A condition of free flow with low volumes and high speeds.

Level of Service B - Operating speeds beginning to be restricted somewhat by traffic conditions, but in the zone of stable flow.

Level of Service C - Still in the zone of stable flow, but speeds and maneuverability are more closely controlled by the higher volumes.

Level of Service D - Approaching unstable flow, with tolerable operating speeds being maintained, though considerably affected by changes in operating conditions.

Level of Service E - Flow is unstable and there may be stoppages of momentary duration. Volumes are at or near capacity.

Level of Service F - Forced flow resulting from queues of vehicles backing up from a restriction downstream. In the extreme, volume and speed can drop to zero.

A four-lane divided highway, as proposed, will have sufficient capacity to provide a high level of service into the foreseeable future.

Table 1

U.S. 10 Traffic Accident Data

LOCATION	DATE							
	1976		1979		1982		1985	
	PI*	PD**	PI	PD	PI	PD	PI	PD
RURAL								
From CSAH 77 at Bluffton to S. limits Motley	4	35	8	29	5	17	14	28
URBAN								
Wadena	7	25	9	30	4	14	5	20
Verndale	0	3	1	7	0	0	1	1
Aldrich	1	1	1	1	2	2	2	0
Staples	2	26	2	17	3	12	3	33
Motley	2	7	4	7	1	3	2	5

*PI = personal injury **PD = property damage

Removing through traffic from the streets of Wadena, Staples, and Motley will

create a safer environment within those cities. Mn/DOT does not have data which would allow the specification of how many accidents in the respective cities involve through traffic. However, it should be noted that increased safety to users and non-users alike is a frequently cited consequence of limited access highways.

SYSTEMS PLANNING

One of the major reasons for completing the segment of U.S. 10 under consideration is systems integration. Beginning at the western border of Minnesota in Moorhead, U.S. 10 crosses the state in a southeasterly direction. It exits the state at a point slightly southeast of St. Paul, at Point Douglas, Minnesota. This is a distance of approximately 231 miles. Nearly all of this distance has been constructed to expressway standards. While one small section immediately south of the project area is yet to be constructed as a divided four lane facility, it has been through the environmental review process. The improvement here being considered would complete the final link of expressway between Moorhead and the Twin Cities area.

City congestion is currently aggravated by through traffic which now must pass through the central business districts of Wadena, Verndale, Aldrich, Staples and Motley.

Local public input indicates that a grievance of motorists in the central business districts is the difficulty of crossing railroad tracks to gain access to that part of the city on the other side of the tracks.

Intersecting streets must cross both U.S. 10 and the adjacent railroad tracks. Citizens have reported waits as long as 20 minutes and occasionally longer. This is particularly true in Wadena and Staples where the storage of waiting motor vehicles conflicts with traffic on U.S. 10. Bypasses will eliminate these conflicts for through traffic on U.S. 10, but will not eliminate the waits involved in crossing the tracks since the at-grade

crossing of streets and tracks will not be eliminated.

PROJECT HISTORY

The corridor for U.S. 10 was probably first established in the early 1920's when it was graded for roadway purposes. The historical pattern of development has been to improve the roadway by dividing it in its present corridor, making minor revisions in alignment.

The existing facility was paved with concrete to a width of 22 feet in 1942-1948. Spot repairs to pavement and shoulders have been done occasionally from that date to the present.

PROJECT MEETINGS AND HEARINGS

The project has an extensive history of public involvement. Mn/DOT personnel held an informal informational meeting in Wadena in September, 1968 to explain the proposed bypass to the Mayor and members of the City Council and Planning Commission.

On May 28, 1969, a public hearing was held in Staples to establish the basic location for U.S. 10 from Bluffton to Little Falls. The concept of providing a four-lane facility which would avoid the congested areas of each city was well received and accepted.

In 1969, Mn/DOT and other local agencies began to make decisions related to the proposed highway. Many additional meetings have been held, as follows:

March 12, 1969 ------ Meeting with Staples City Council
June 12, 1969 ------- Meeting with Wadena City Officials
April 1, 1970 ------- Meeting with Wadena City Officials
September 22, 1971 -- Meeting with Wadena City Officials
January 28, 1974 ---- Meeting with Wadena City Officials
February 5, 1976 ---- Meeting with Staples City Council and Planning Commission
September 8, 1976 --- Meeting with Region V Transportation Advisory Committee
September 10, 1976 -- Meeting with Staples City Planners
February 6, 1976 ---- Meeting with Verndale City Council
May 24, 1978 -------- Meeting of Mn/DOT Commissioner, District Engineers, U.S. Highway 10 and U.S. highway 71 Associations
June 26, 1978 ------- Public Informational Meeting in Staples
June 27, 1978 ------- Public Informational meeting in Motley

June 28, 1978 ------- Public Informational Meeting in Wadena, included Verndale and Aldrich area
October 25, 1978 ---- Meeting with Wadena City Council
November 14, 1978 --- Meeting with Staples City Council
January 26 1979 ----- Public Meeting in Motley
January 10, 1980 ---- Public Hearing at Staples Area Vocational Technical Institute
May 2, 1985 --------- Meeting of Mn/DOT Assistant Commissioner, District Engineers, with TH 10 Association

March 27, 1986 ------ Public Hearing at Staples Area Vocational Technical Institute

PUBLIC HEARING 1980

A public hearing was held on January 10, 1980, at Staples, to discuss the alternatives for the proposed project, as discussed in the DEIS. Comments were received at this hearing from agencies, organizations, and interested persons. Written comments were accepted until January 30, 1980.

PUBLIC HEARING 1986

Because of the time lapse between the circulation of the DEIS and original public hearing and the preparation of the final EIS, an additional public hearing was held. This hearing was held in Staples on March 27, 1986. The status of the project was explained, alternatives were described, impacts discussed, and a tentative project schedule presented. Comments and questions from those in attendance were received and addressed at that time. Written comments were accepted until April 14, 1986. A transcript was generated and is available at the Brainerd and Detroit Lakes offices of Mn/DOT.

DRAFT EIS

The Draft Environmental Impact Statement was prepared and subsequently approved by the FHWA on October 17, 1979. It was then circulated to agencies, organizations and interested persons for review and comment.

RE-EVALUATION of DEIS

Due to the time lapse between the DEIS and comment period and the preparation and circulation of the Final Environmental Impact Statement, a written re-evaluation of the DEIS was prepared. This was performed to determine if there had been significant changes to the proposed action, the affected

environment, the anticipated impacts, or the proposed mitigation. This re-evaluation demonstrated that there had not been significant change in any of these areas sufficient to warrant the preparation or circulation of a new or supplemental DEIS. The DEIS circulated in October of 1979 was judged still valid. This re-evaluation was approved by FHWA in September of 1985.

LOCATION APPROVAL

Location approval was given by the Federal Highway Administration on May 14, 1970 for the segment of U.S. 10 from Bluffton to Little Falls.

LAYOUT APPROVAL

On October 26, 1971, FHWA gave approval for Design Study on segments of U.S. 10 from nine-tenths of a mile east of the eastern corporate limits of Wadena to the eastern corporate limits of Verndale, and from the Todd-Wadena County Line to two-tenths of a mile east of the eastern limits of Staples.

STAPLES DELEGATION

On May 11, 1977, a delegation from the City of Staples met with Mn/DOT personnel in the Central Office to discuss the status of the Staples Bypass. This group was in favor of the north bypass and urged all possible speed in the process to complete it. The delegation consisted of two county commissioners, two Staples City Councilmen, one representative fro the Staples Development Corporation, one State Senator, one State Representative and the Staples Mayor.

STATUS OF SEGMENTS ADJOINING EACH END

The segment of U.S. 10 adjoining the west terminus has recently been constructed to four-lane divided standards. It was completed in 1977.

A Negative Declaration for the segment from Little Falls to Motley, which adjoins the eastern terminus, was approved by the FHWA on April 23, 1975. The segment from Little Falls to Cushing has been completed. Other segments, from Cushing to Motley, have undergone environmental review.

The section between Cushing and Motley will be completed in two stages. The section from south of Motley to Lincoln

is scheduled for a January, 1988 letting. The section from Lincoln to Cushing is scheduled for letting in 1990.

ACQUIRED R/W

Some portions of the right of way of Alternative Route 1 within the City of Staples have been acquired. This right of way, acquired under "hardship procedures," is depicted in Figure 4. It is tabulated as follows

OWNER	DATE ACQUIRED	ACRES	COST
Ind. School Dist. 793	5-15-72	4.74	$210,855
P. L. Card, Jr.	11-25-74	1.45	46,500
B. J. Oden	5-29-75	12.42	29,600
International Homes, Inc.	8-11-75	1.50	24,675
P. Card	3-08-76	2.47	121,140
R. Rego	4-23-85	.88	67,500
R. Case	1-15-87	.35	39,000
Totals		23.82	539,270

The cost shown above includes replacement housing and moving costs. The general location of the right of way purchased in Staples in shown in the following figure. No Federal Aid funds were used in the purchase of these parcels. The property purchased from Independent School District 793 was not recreational in nature, and could not be construed as Section 4(f) property.

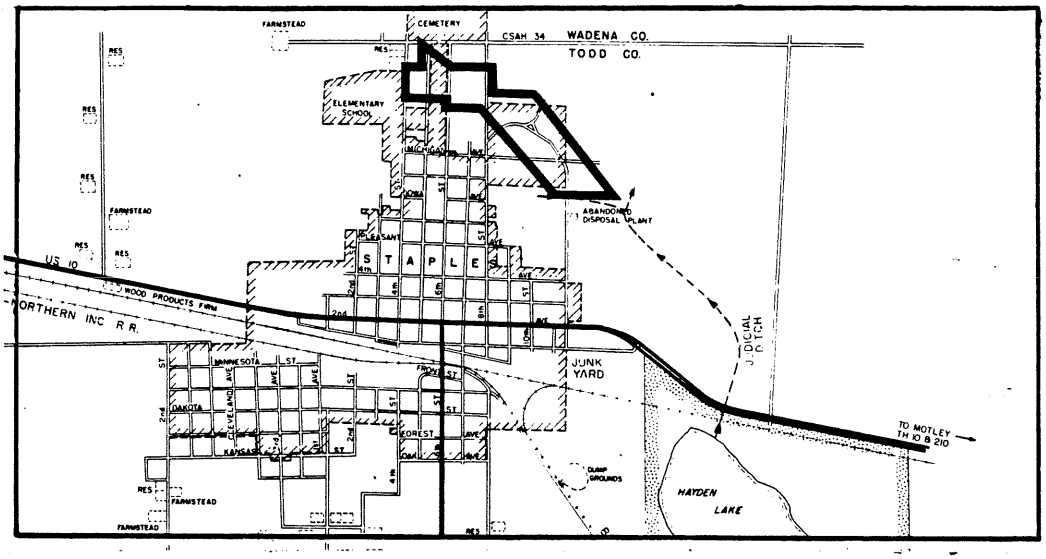


Figure 4 State Owned Right of Way

PROGRAMMING

The rural section of the proposed project, between east of Wadena and west of Staples, has been "programmed." By this is meant that funding has been allocated, a design schedule established, and a target date for contract letting established. None of the proposed bypasses has been programmed; no funding commitments for any of the bypasses currently exist.

TH 210

The proposed action also includes a segment of Trunk Highway (TH) 210 which passes through Staples.

TH 210 crosses the state in an east-west direction and links the Wahpeton-Breckenridge area at the west state line with the Duluth -- Superior area at the east state line.

The segment of TH 210 which is proposed for improvement is also a two-lane two-way highway with uncontrolled access. It also passes through the central business district of Staples, crossing four lines

of the Burlington Northern Railroad in a single intersection. Extended waits at this crossing are not uncommon.

The primary reason for relocating TH 210 in Staples is to eliminate the traffic bottleneck and hazard caused by the present at-grade crossing with the railroad and to provide access for emergency vehicles traveling from one side of Staples to the other.

PROPOSED IMPROVEMENT

The total length between termini is 31.1 miles. Construction from the western terminus to a point 1.4 miles east was completed to four lane divided roadway standards in 1977, and can be excluded from this improvement. Another segment of about 4.5 miles between Staples and Motley can be excluded from improvement since it was constructed to four lane divided standards in 1965 and 1966. This leaves a length of 25.2 miles of U.S. 10 for proposed improvement. City bypasses will add about 2.0 miles overall, resulting in a total of 27.2 miles.

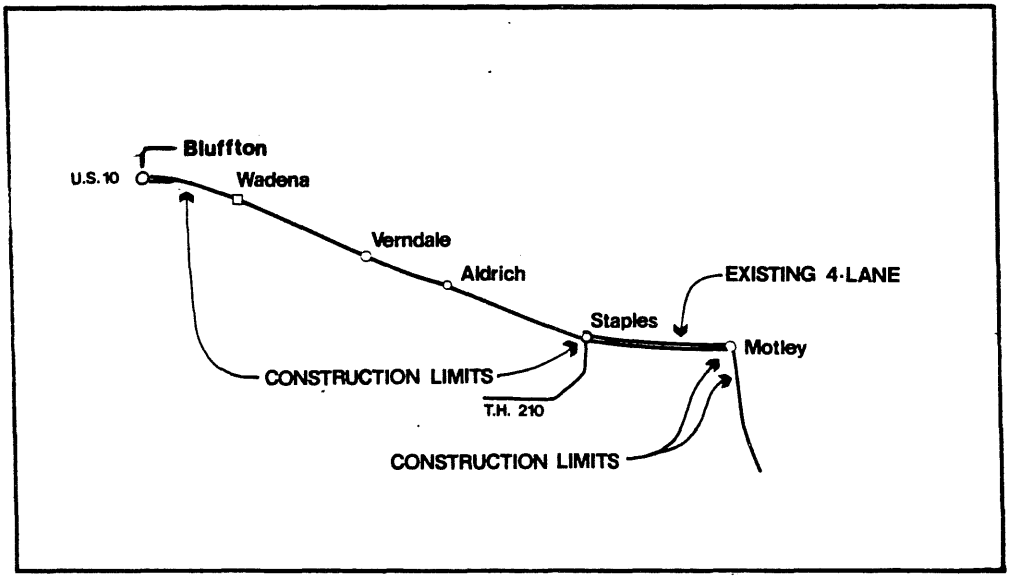


Figure 5 Construction Limits

This proposal also includes a segment of TH 210 which passes through Staples. This segment begins at the junction with CSAH 21, south of Staples, and ends at the junction with U.S. 10 in Staples, a distance of 2.5 miles. Of the total 2.5 miles in length, approximately 1.7 miles is proposed to be relocated and designed to undivided two-lane standards.

U.S. 10

The proposal is to construct two lanes adjacent and parallel to the existing two lane facility in the rural section, thus providing a four lane divided facility. Bypasses were considered for the cities of Wadena, Verndale, Aldrich, Staples, and Motley. The bypasses would require the construction of a complete four lane divided facility.

Construction staging will be used on this project. During the first stage, the construction of the future U.S. 10 westbound lanes will be undertaken in the rural areas, and full construction in Aldrich and Verndale. West of Staples for a distance of approximately 1.3 miles, construction will take place on the south side of existing U.S. 10. During this phase, traffic will be carried on the existing facility. Some short detours may be necessary during construction in Verndale and Aldrich. To minimize relocation, construction in Aldrich and Verndale will take place on the south side of existing U. S. 10, between the current highway and the rail tracks. As a result, through these two cities, the existing highway will eventually serve as the westbound travel lanes. During the second stage of construction, traffic will be shifted to the new facility, while the existing facility is improved. This stage will include such improvements as shoulder widening and surfacing, roadway widening and surfacing, slope flattening and the correction of other deficiencies.

The proposed bypasses would be constructed during a third stage, at some later date when funding considerations allow them to be programmed.

TH 210

For TH 210 in Staples, it is also

proposed to construct a single two lane rural type facility on new location for approximately two miles. This will require two bridges over the Burlington Northern Railroad.

COSTS

Uneven rates of inflation have made it impossible to predict long range costs with an acceptable degree of precision. Attempts to estimate cost far into the future are unduly speculative. Construction costs were estimated in 1978. At that time project costs, including the bypasses, were estimated at more than $35 million. Segments currently programmed are currently estimated to cost $10.5 million.

MAJOR DESIGN FEATURES

Right of Way, U.S. 10

As measured from the roadway centerline, the existing right of way is basically 75 feet north and 40 feet south (toward the railroad) from Wadena to the Wadena-Todd County line and then 75 feet north and south to Motley. Additional right of way required to complete the proposed action in the rural areas will be a strip of variable width. Bypasses will require new right of way, approximately 280 feet in width.

In the rural sections, the centerline of the new roadway will typically be 100 feet north of the existing roadway centerline. The right of way limits will typically extend 90 feet out from the centerline of both the eastbound and westbound travel lanes. The new right of way limits on the north side of the new highway will therefore typically be 190 feet north of the centerline of the existing highway. Since the right of way of the existing facility extends 75 feet north, a strip approximately 115 feet in width toward the north will be required to complete the proposed action. On the south, toward the railroad, the existing typical right of way is 40 feet from centerline. There a strip approximately 50 feet in width will be acquired.

Right of Way, TH 210

TH 210 in Staples will require all new right of way for the relocation. This

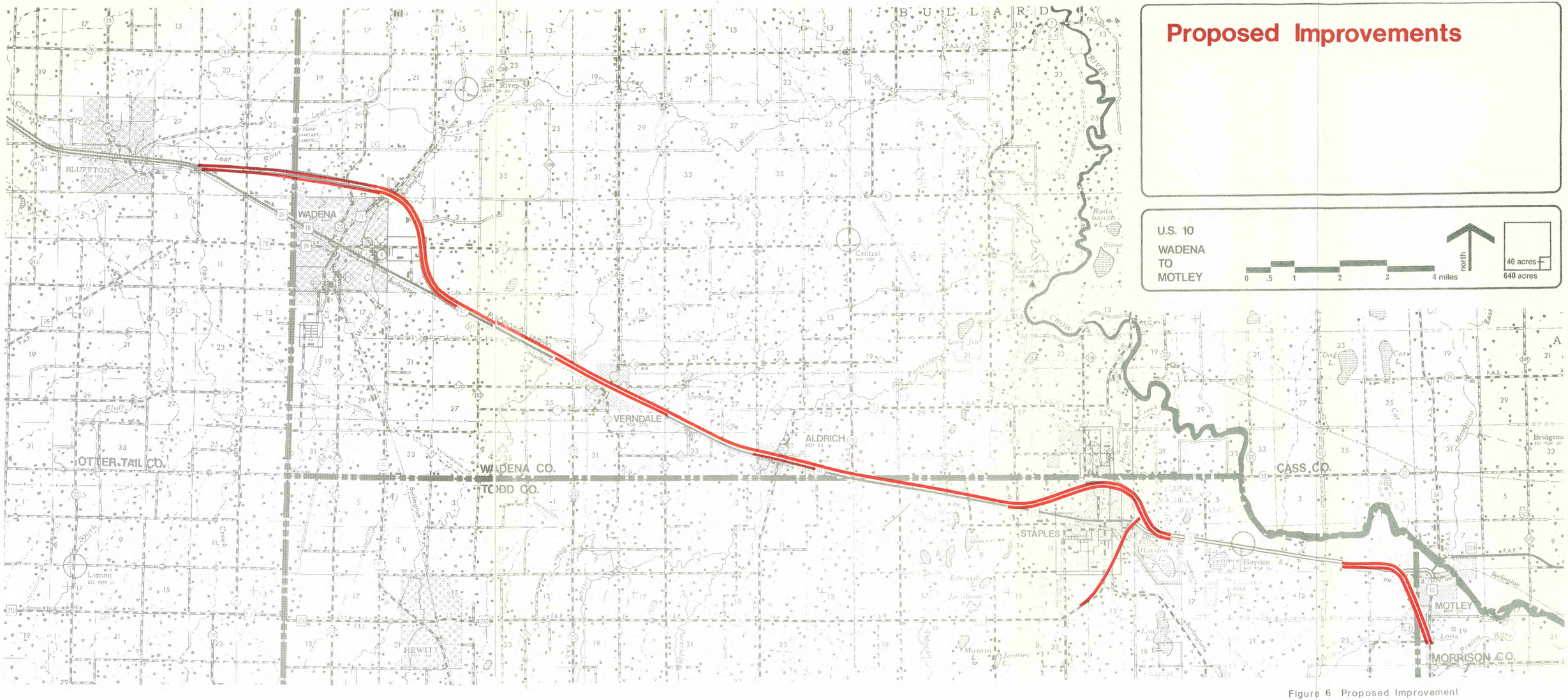


Figure 6 Proposed Improvement

right of way for TH 210 will require a corridor 200 feet in width.

Bypasses

Each proposed bypass will also require all new right of way for its construction. Proposed corridors are as follows:

Wadena Bypass	280 feet
Staples Bypass	280 feet
Motley Bypass	280 feet

Standards

The bypass sections for Wadena, Staples, and Motley, as discussed in the DEIS, were proposed to be constructed to "Freeway" standards. That is, they were to be constructed with full control of access, with no at-grade crossings. The Verndale and Aldrich bypass alternatives, and the rural sections of U.S. 10 were to be constructed to "Expressway" standards: a four lane divided facility with partial control of access, where some at-grade crossings and some direct access to adjacent land would be permitted.

The DEIS indicated that a basic right of way width of 290 feet would be required for the sections where a freeway design was called for. This would have been a 90 feet centerline separation and 100 feet from the centerline of each roadway to the right of way limits. The DEIS also indicated that where the facility would be constructed to expressway standards, 324 feet of right of way would be required. This would have provided for a centerline separation of 124 feet, and 100 feet from the centerline of each roadway to the right of way limits.

Standards for Preferred Alternatives

The standards described above have been modified for the preferred alternatives as identified in this FEIS. This decision was made after thoroughly studying the impacts and analyzing the comments from agencies, organizations, and concerned citizens. Costs played a major role in this decision making process, as did current and projected traffic. Standards proposed for the project are now as follows.

Standards for Bypasses	Bypass sections proposed for Wadena, Staples, and Motley will be constructed to a combination of freeway and expressway standards. Bypasses for the cities of Verndale and Aldrich have not been selected as preferred alternatives. Changing from freeway to expressway standards will result in a savings of several million dollars in construction costs. Current and projected traffic volumes are not sufficient to warrant construction of a complete freeway facility. Traffic volumes allow for construction of at-grade intersections at some locations and will provide for more economical construction.
Centerline Separation, Rural Section	A reduction in centerline separation, from 124 feet to 100 feet, has been accepted. This centerline separation of 100 feet is greater than the minimum standard of 75 feet. The distance from centerline to right of way limits will also be reduced from 100 feet to 90 feet. These reductions will reduce total right of way width in the rural sections from 324 feet to 280 feet. This reduction is approximately 50 acres. This will reduce environmental impacts, particularly in the areas of wetland and farmland. The bulk of right of way acquisition in the rural section will take place on the north side of the highway. The 124 foot centerline separation as described in the DEIS, accompanied by a 100 foot distance to right of way limits, would have required acquisition of a strip on the north side of the highway approximately 150 feet in width. The standards adopted for the preferred alternative in the rural section will typically require a strip of right of way 115 feet in width.
Local Roads	The proposed action will intersect local roads, and isolate various parcels of land. Some minor relocation of these roads will be required to provide continuity. Frontage roads will be constructed to provide access to isolated parcels of land, and other areas where a group of parcels may use one access in the interests of safety.

Typical Sections

Typical Sections are depicted below, in Figure 7.

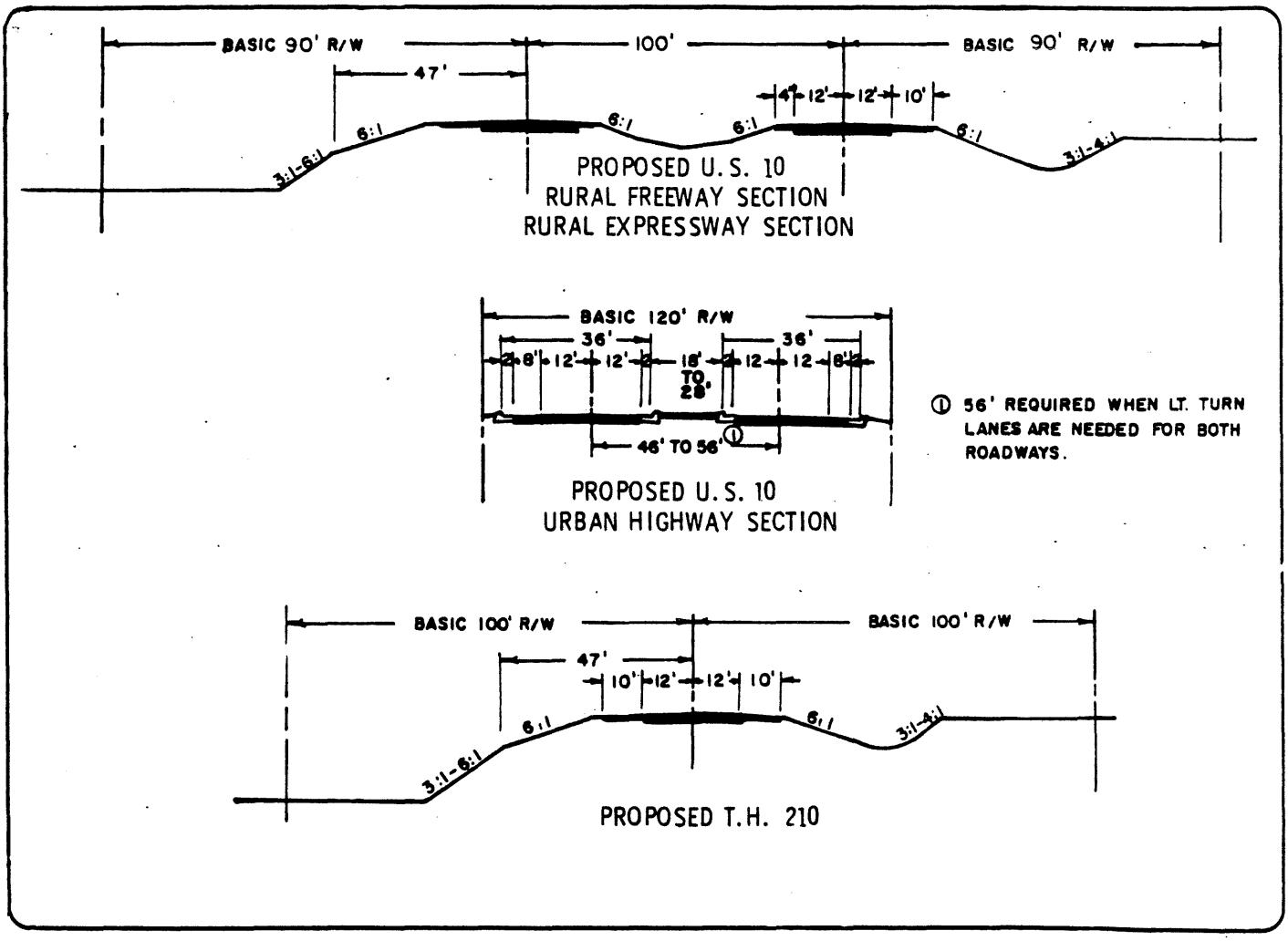


Figure 7 Typical Sections

ALTERNATIVES

INTRODUCTION

Public hearings were held in Wadena on September 23, 1968, and in Staples on May 28, 1969, to establish the basic corridor for the proposed highway improvement. Comments received at these hearings from city officials, organizations and the public in general indicated a preference for upgrading U.S. 10 from a two lane road to a four lane divided road. By-passes were preferred for the cities of Wadena, Verndale, Staples and Motley.

4(f) Involvement

Several 4(f) land parcels were potentially involved depending on alternative selected. The impact which each alternative considered would cause to Section 4(f) property is described in the Draft 4(f) Information Section at the end of this section. Section 4(f) impacts resulting from the Preferred Alternative are discussed fully in the Final Section 4(f) Evaluation which is appended to this FEIS.

Basic Alternatives

Three general alternatives were considered for upgrading this section of U.S. 10. They are:

1. Alternative Route 1 (North Route). See Figure 8. This route would follow the north side of existing U.S. 10 in rural segments and bypass cities on the north side except at Motley, where the bypass would be located west of the city.

2. Alternative Route 2 (Through City). See Figure 9. This alternative would follow existing U.S. 10 through all cities. It would connect to Alternative Route 1, rural segments, at the edges of the respective cities.

3. No Build. This would leave existing U.S. 10 as it is.

The following figures illustrate the North Route and the through City Route.

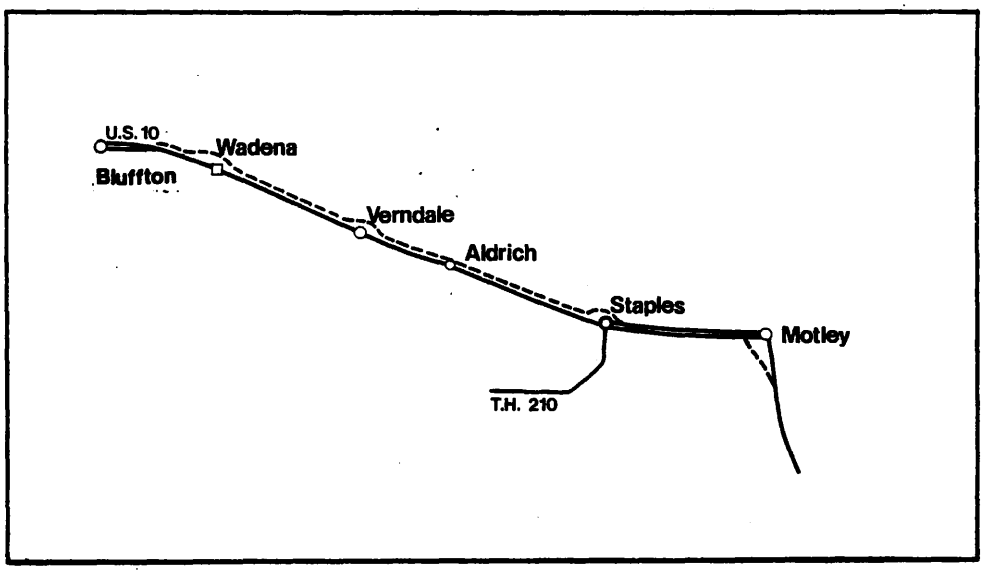


Figure 8 U.S. 10 North Route

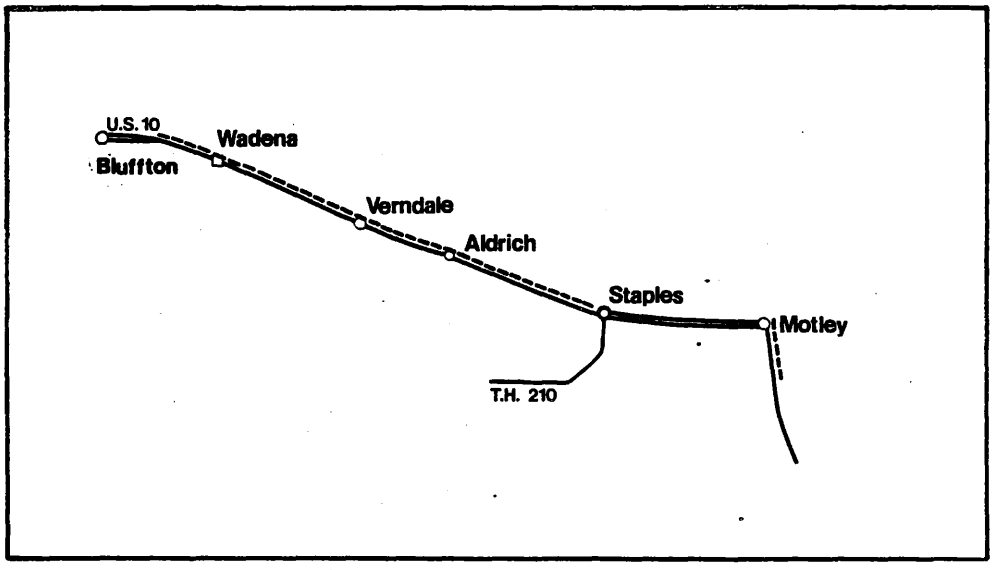


Figure 9 U.S. 10 Through City Route

ALTERNATIVES ELIMINATED

Certain alternatives were studied early in the EIS process and have been considered unreasonable or impractical. These are discussed below.

Wadena By-pass, Route 1

Alternative Route 1 would have bypassed the City of Wadena on the north side. This route was also known as the "Gibson Route." It would have begun approximately 1.5 miles west of Wadena and ended 0.75 miles east of Wadena. Alternative Route 1 would have been about 5.6 miles in length. (See Figure 10).

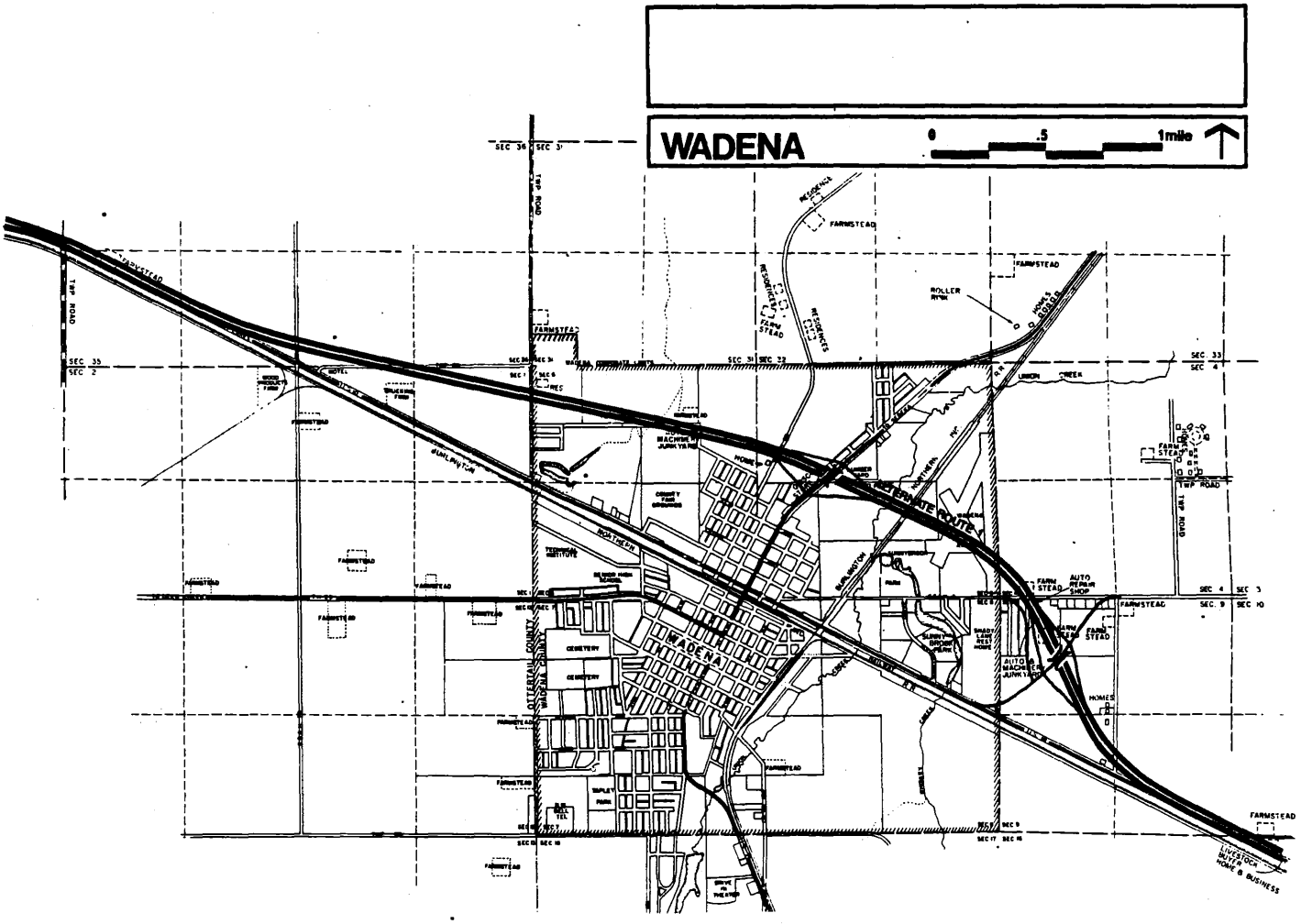


Figure 10 Wadena Bypass Route 1

Access for Wadena would have been provided at four locations:

1. At-grade intersection with CSAH 75 west of Wadena.

2. At-grade intersection with Township Road at west corporate limits of Wadena.

3. An interchange at U.S. 71 in north Wadena.

4. An interchange with CSAH 4, relocated, east of Wadena.

CSAH 20 was to be closed, having no direct access to U.S. 10. However, access would have been provided by way of a frontage road.

Approximately 1.4 miles of frontage roads and connectors were to be required for Route 1.

Alternative Route 1 involved the acquisition and relocation of the Gibson Store, a large retail outlet store for Pamida, Inc. Additional commercial and residential development is progressing rapidly at this location.

Twelve acres of the Wadena Airport were needed for Right-of-Way on the Gibson Route, requiring the relocation of the airport. (See PROJECT HISTORY in Section I of this report). A relocation proposal was stalemated by strong local opposition.

For these reasons, the Route 1 Bypass of Wadena was determined by Mn/DOT to be impractical and not in the best interest of the public.

"South Route"

The South Route would have followed existing U.S. 10, south of and parallel to the Burlington Northern Railroad in rural areas. It would have bypassed the cities of Wadena, Verndale, Aldrich and Staples on the south sides. (See Figure 11).

At Staples this route was to turn and follow on the west side of the Burlington Northern Railroad to Philbrook and on to

Lincoln where it would rejoin existing U.S. 10.

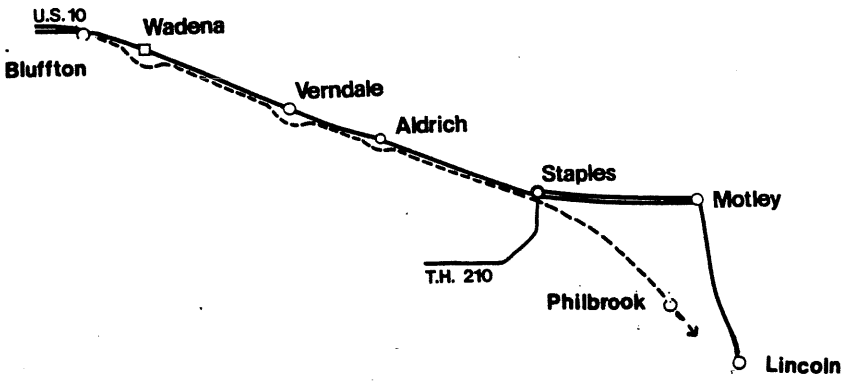


Figure 11 U.S. 10 South Route

The South Route was studied primarily with the assumption that it would be used throughout its length from Bluffton to Lincoln. Portions of the South Route were also considered as south bypasses for the cities of Wadena, Verndale, Aldrich and Staples in conjunction with Route 1. The construction of the South Route in either manner was judged not to be practical nor in the best interest of the public. It was dropped from further consideration for the following reasons:

1. All new right-of-way, approximately 1,789 acres, would have been required. This compares to less than 1,000 acres for the north route.

2. If used in conjunction with Alternative 1, bridges would have been required at both ends of each city by-pass to provide safe crossings of the Burlington Northern, Inc. Railway.

3. It would have required the complete construction of an additional 10 miles of roadway between city bypasses.

4. It would have required the complete construction of an additional 14 miles of 4-lane roadway from Staples to Lincoln.

5. It would have adversely impacted Pine Grove Park in Staples.

6. This route would not have served the City of Motley. U.S. 10 was established by the State Legislature and must serve the City of Motley. (Minnesota Constitution, Article XVI, Section 2--U.S. 10 is listed as Route 2 in a constitutional amendment adopted November 2, 1929).

ALTERNATIVES CONSIDERED

In order that readers may again become familiar with them, this section includes a description of all alternatives which were studied during the draft environmental impact statement process. This is followed by a discussion of the Preferred Alternatives. To minimize confusion, page headings have been inserted which indicate to the reader if the discussion on that page refers to "ALTERNATIVES CONSIDERED IN DEIS," or to "PREFERRED ALTERNATIVES."

Alternative routes that were considered will be described and discussed in the following order:

Rural Segments (Includes all segments between cities):

Route 1

Wadena:

Routes 1A, 1B and 2

Verndale:

Routes 1, 1A and 2

Aldrich:

Routes 1 and 2

Staples

Routes 1 and 2
Routes A and B (for TH 210)

Motley:

Routes 1 and 2

No Build

Alternative Route 1 (North Route) In Rural Areas

Alternative Route 1 was generally the most favored by persons and groups represented at the Location Study Public Hearing. It would follow the existing alignment in rural segments between cities, using the present roadway for the eastbound traffic. A second roadway, for westbound traffic, would be constructed north of and parallel to the existing roadway. Additional right-of-way required was a strip 149 feet in width. This would have been in a 324 foot corridor. The centerline separation of the roadways was proposed to be 124 feet in width. The additional facility was to be constructed north of the existing roadway.

Alternative 1 originally included bypasses which would have been constructed on the north side of the cities of Wadena, Verndale, Aldrich, Staples and on the west side of Motley. The bypasses required the construction of two complete roadways to provide a four-lane divided facility.

Wadena By-Pass, Route 1A (North Route)

Alternative Route 1A would bypass the city of Wadena on the north side. Its length would be about 6.5 miles.

Access for Wadena was to be provided at 3 locations:

1. On the west terminus, an at-grade exit for eastbound and a separated directional for the westbound would provide access for existing U.S. 10 through Wadena.

2. Interchange at U.S. 71.

3. Interchange at relocated CSAH 4.

Grade separations would occur at three locations.

1. At U.S. 10 and CSAH 75.

2. At U.S. 10 and the west corporate limits township road.

3. At U.S. 10 and CSAH 20.

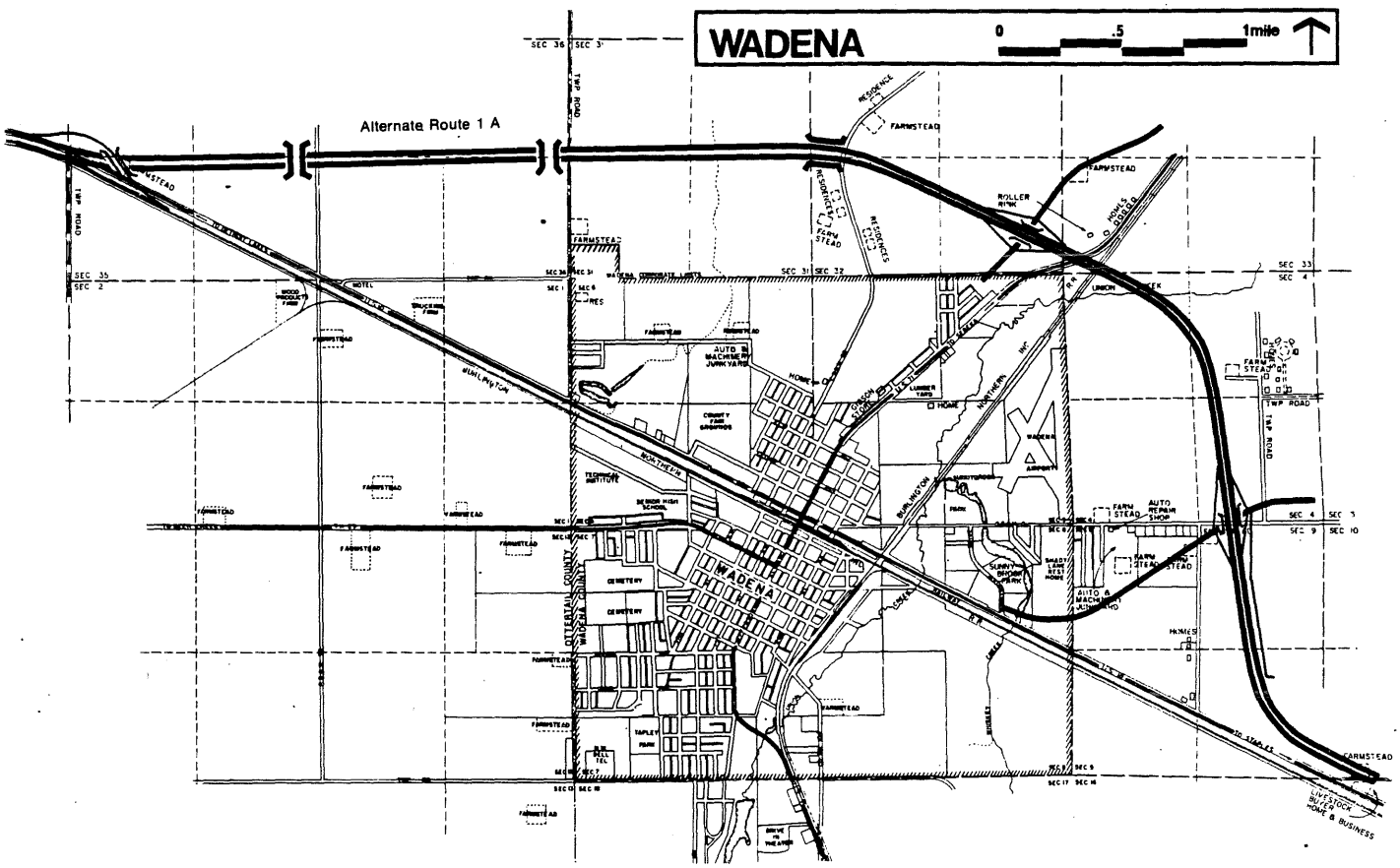


Figure 12 Alternative Route 1A Wadena

Route 1A would have required all new alignment and would have been constructed to Freeway Standards. A corridor width of 324 feet was to be carried from the beginning of the bypass to a point 3.3 miles east where it would converge to 290 feet. This 290-foot corridor would be carried to the end of the bypass where it would diverge to the 324-foot width, east of Wadena.

Wadena By-pass, Route 1B (North Route)

Alternative Route 1B is identical to Route 1A between U.S. 71 and a point 1.3 miles east of Wadena. Its total length is 5.9 miles.

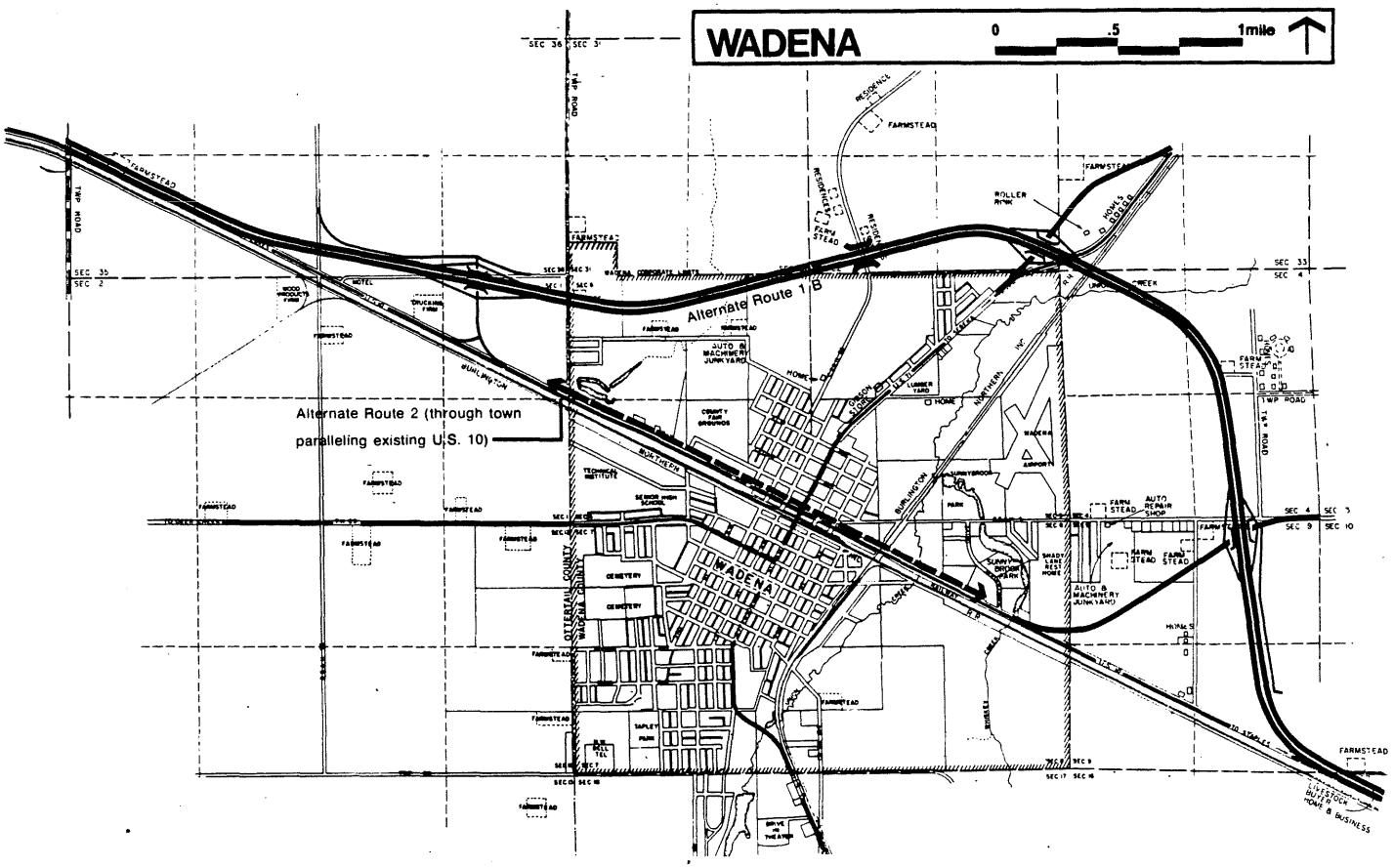


Figure 13 Alternative Routes 1B and 2 Wadena

West of U.S. 71, Alternative Route 1B would be located approximately 0.5 mile south of Alternative Route 1A.

Access points would be provided as follows:

1. 0.7 miles east of CSAH 75.

2. At U.S. 71.

3. At relocated CSAH 4.

Route 1B would have required new alignment and was to be constructed to freeway standards. A basic corridor 290 feet in width would have been required.

Alternative Route 1B was formulated after adverse environmental impacts of Route 1A became known. The adverse impacts of Route 1A, west of U.S. 71, are as follows:

1. The severence of productive farm cropland operations.

2. The severence and destruction of a wildlife habitat area.

Alternative Route 1B would have less adverse environmental impacts than Alternative Route 1A.

However, Route 1B posed an adverse social/economic effect by severing a newly platted residential area where development and construction of new homes has begun.

Wadena, Route 2 (Through City)

Alternative Route 2 would have passed through Wadena by paralleling existing U.S. 10. on the north side. See Figure 13.

The existing U.S. 10 urban section in Wadena is surfaced with concrete pavement, 50 feet wide, curb to curb.

The pavement is in fair condition with some cracking, bituminous patching and deterioration.

There are concrete walks, six feet wide, on each side of U.S. 10 throughout the half-mile long section. Parking is allowed except between Jefferson Street and Second Street Northeast.

The proposed urban typical section calls for a basic right-of-way of 120 feet, with curb to curb distance of between 90 and 100 feet. Alternative 2 would require the acquisition of all or part of every property located on either the north or south side of U.S. 10 its entire length through Wadena.

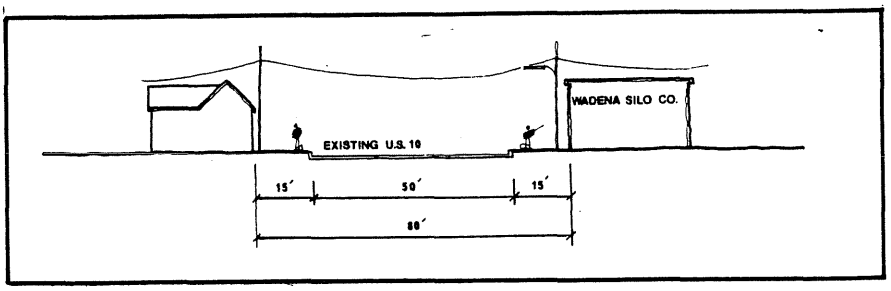


Figure 14 Wadena Existing Cross Section

Some examples of the types of businesses on existing U.S. 10 are: gas/auto service stations, cafes, supper club, lumber yards, auto dealerships, farm machinery sales and service, home appliance dealers and various other outlets of goods and services. All are dependent to some degree on U.S. 10 for business.

Verndale
Routes 1 and 1A
(North Route)

Alternatives 1 or 1A both would have by-passed north of Verndale. Each would have had the same beginning point, about 0.3 miles west of the corporate limits, and would have ended at the east corporate limit. Alternative 1 would be approximately 2.6 miles and Alternative 1A would be about 2.7 miles long. See Figure 15.

Alternative Route 1A would be located 0.4 miles farther north than Route 1.

Access for Verndale would have been provided at each end of the bypass and about midway, at Clark Street, via at-grade intersections.

The separated roadways bypassing Verndale would have been 124 feet apart, requiring a basic right-of-way corridor of 324 feet.

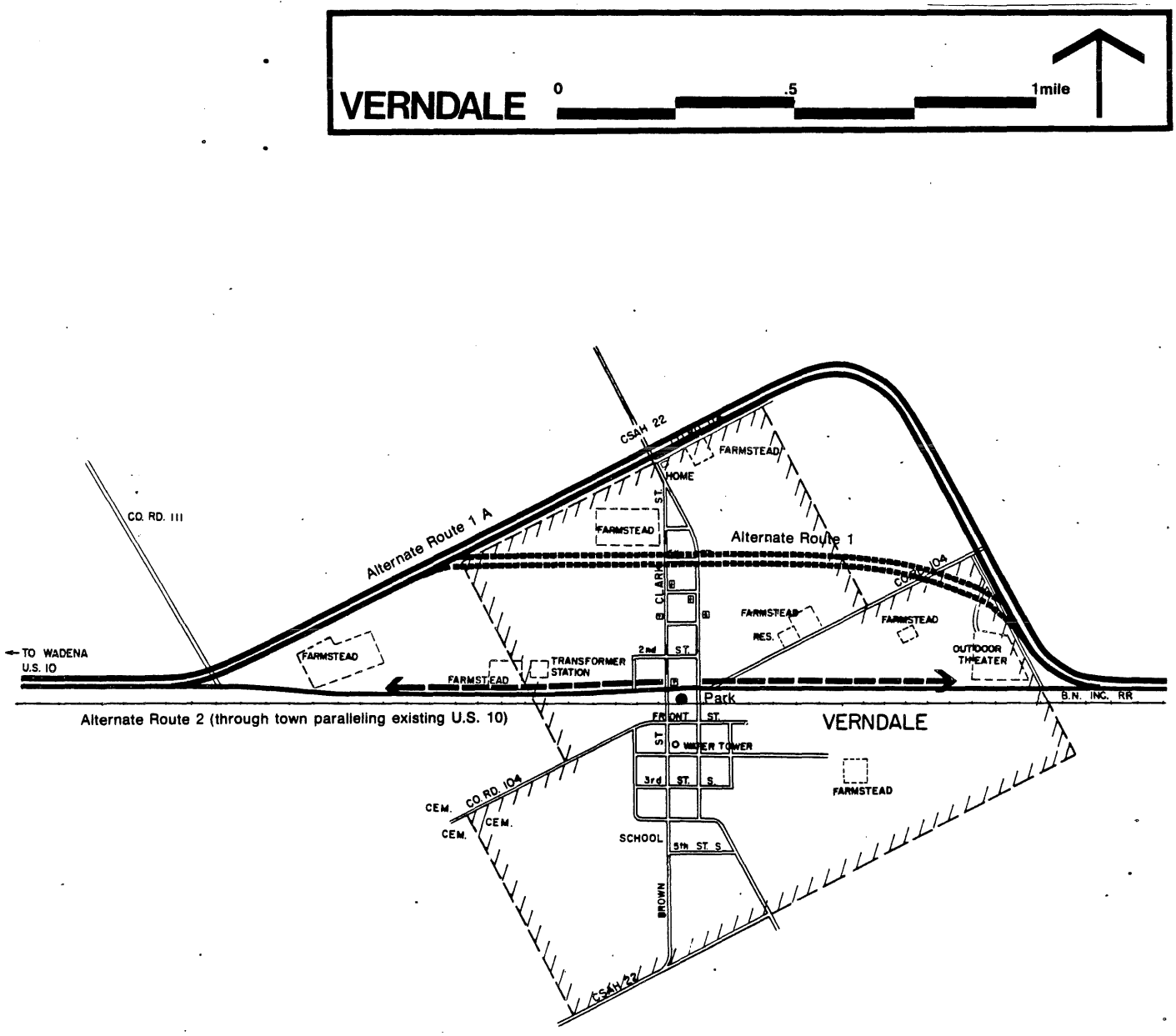


Figure 15 Allternative Routes 1 1A and 2 Verndale

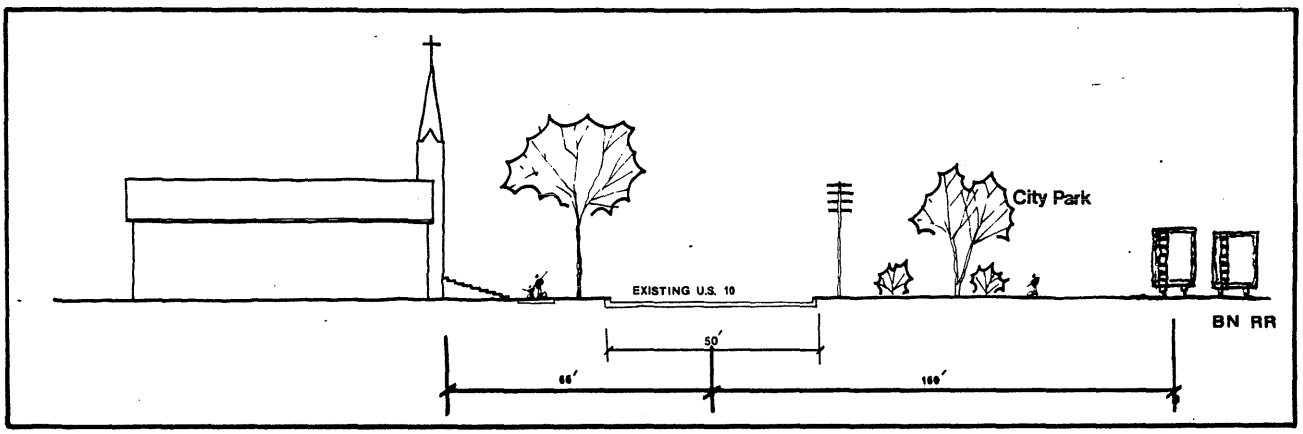


Figure 16 Verndale Existing Cross Section

Verndale, Route 2 (Through City)

Alternative Route 2 would pass through Verndale on and paralleling U.S. 10.

Existing U.S. 10, through Verndale, is concrete surfaced, 22 feet wide, and the sides are surfaced with bituminous to the curb and gutter totaling 50 feet. See Figure 16. The proposed urban typical section calls for a basic right-of-way width of 120 feet, with a curb to curb distance of between 90 and 100 feet. Alternative Route 2 would require the acquisition of essentially all property bordering either the north or south side of U.S. 10.

Aldrich, Alternative Route 1 (North Route)

Alternative Route 1 would have bypassed Aldrich on the north side. It was to begin one-quarter mile west of the corporate limits and end one-quarter mile east of the corporate limits. There would have been no significant change in length, which is about 1.3 miles. See Figure 17.

Access to Aldrich was to be at CSAH 26 with an at grade intersection.

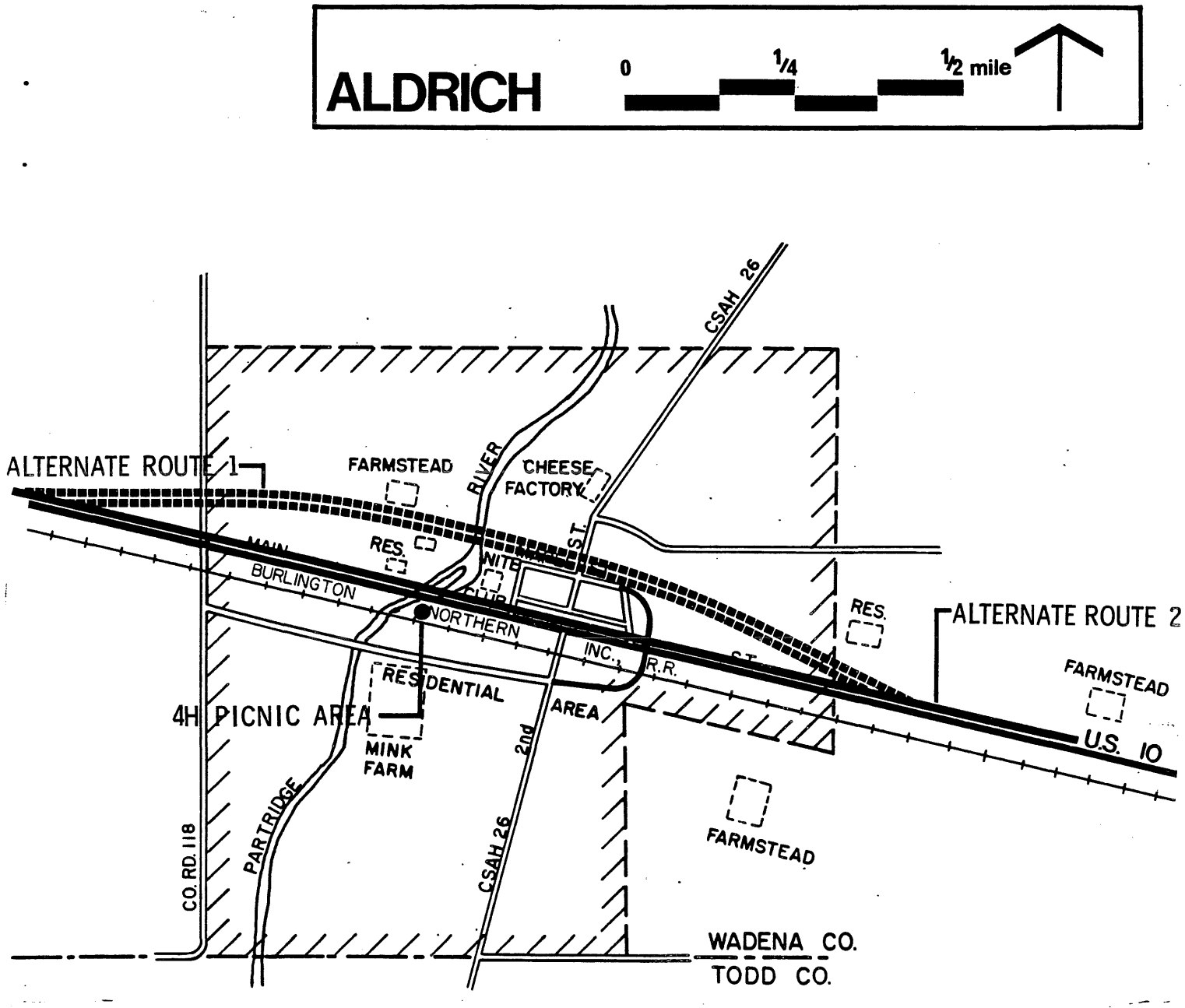


Figure 17 Alternative Routes 1 and 2 Aldrich

Aldrich Alternative Route 2

The urban section of U.S. 10, through Aldrich, is 50 feet wide, curb to curb. The main roadway is concrete pavement, 22 feet wide, surfaced with bituminous to the curb and gutter. The surface is smooth riding, but is in a cracked condition.

There are several businesses located along U.S. 10, through Aldrich, all dependent in varying degrees upon U.S. 10 for business. They include two supper clubs, a cheese store, a gas station, and a farm feed store.

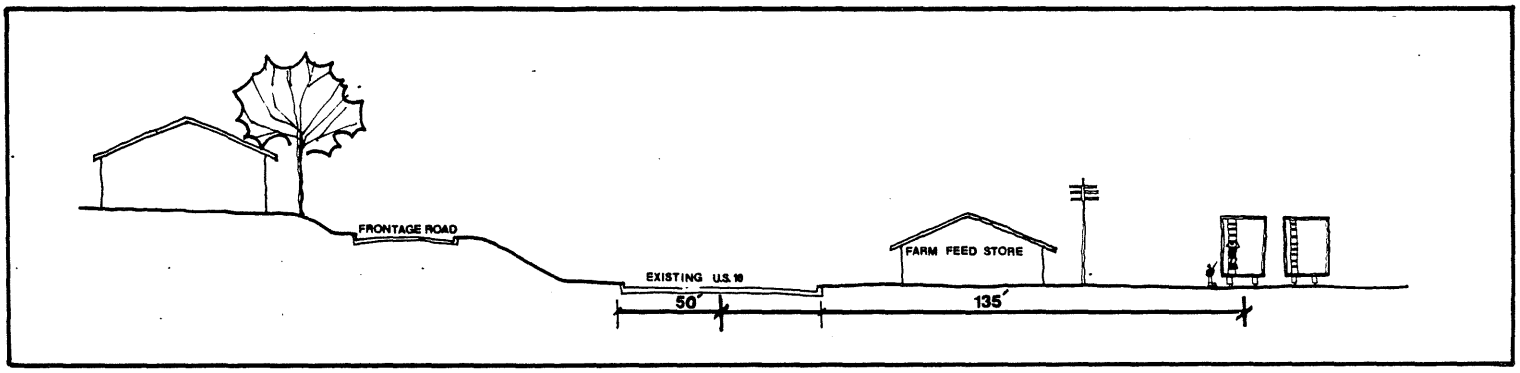


Figure 18 Aldrich Existing Cross Section

Alternative Route 2 would parallel existing U.S. 10. The centerlines of each roadway would converge to a separation of 46 feet, extending from the Partridge River to a point about 0.4 miles east.

The roadways would be separated by a raised median. A frontage road would be built 75 to 90 feet north of the proposed westbound roadway from the "River Inn" location to a point 1000 feet east.

In conjunction with Alternative 2, CSAH 26 would be relocated on the east edge of the city. The relocation length would be approximately one-half mile. New alignment for CSAH 26 is necessary to

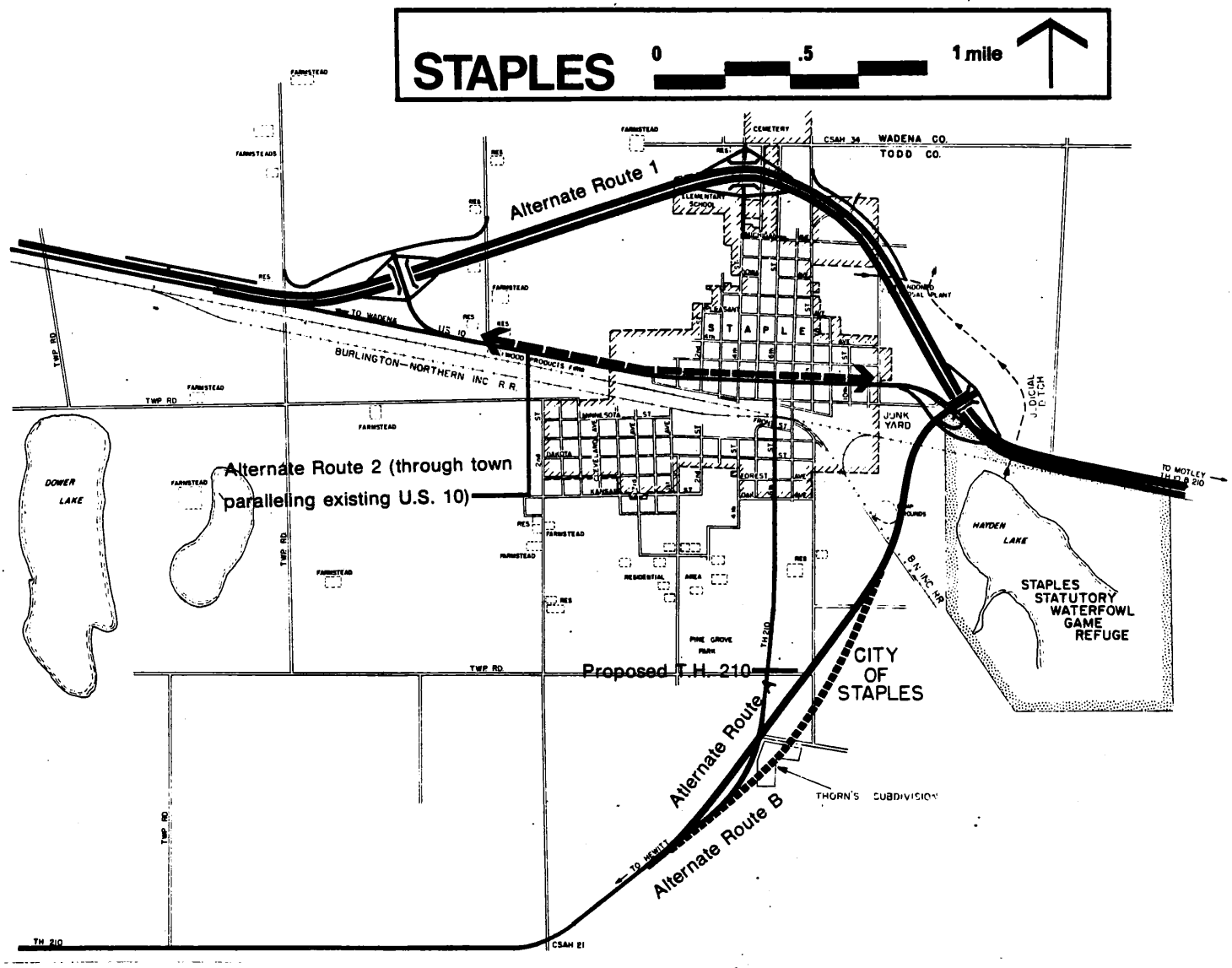


Figure 19 Alternative Routes 1 and 2 (U.S. 10) and A and B (T.H. 210) Staples

provide a right angle crossing of U.S. 10 and the Burlington Northern Railroad. This would avoid the mixing of CSAH 26 traffic with U.S. 10 traffic for approximately one block, thus eliminating an existing hazard.

Under this alternative, access to U.S. 10 will be provided near the River Inn and also at relocated CSAH 26.

Staples By-pass, Route 1 (North Route)

Alternative Route 1 would bypass Staples on the north side. It would begin 1 1/2 miles west of the corporate limits. The length of Route 1 would be approximately four miles.

Route 1 would be on new alignment and was to be constructed to freeway standards. A corridor of 290 feet would be required for this original design.

The separated roadways, west of Staples, were to be 124 feet apart. They would have converged to 90 feet for the bypass of Staples, and converge further to 75 feet to return to the existing divided facility, one half mile east of Staples.

Access to Staples would be provided at three points: west of town, at 4th Street, and east of town. Three frontage roads, totaling 1.6 miles would be required.

Staples, Route 2 (Through City)

Alternative Route 2 would pass through Staples by paralleling the existing facility.

Approximately one mile of existing U.S. 10 is of urban design, with concrete pavement 50 feet wide, curb to curb. The rural designed section is surfaced with concrete, 22 feet wide, and has 9-foot bituminous shoulders on each side.

The proposed urban typical section calls for a right-of-way width of 120 feet, with a curb to curb distance of between 90 and 100 feet. Alternative Route 2 would cause the acquisition of all or part of each property bordering either the north or south side of U.S. 10 through Staples.

Many businesses are located along existing U.S. 10 such as: gasoline service stations, car dealers, cafes, drive-ins, grocery store, drug store, motels, hardware stores, appliance stores, department stores, barber shop, beauty salon, law office, veterinary clinic, and electrical repair services.

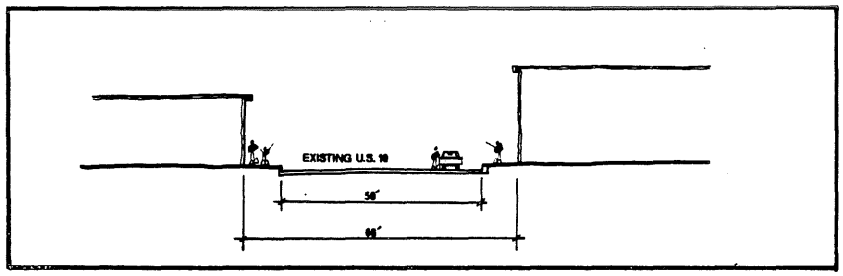


Figure 20 Staples Existing Cross Section

TH 210 Relocation Alternatives

In conjunction with U.S. 10, Route 1, it was also proposed to relocate a segment of TH 210.

Two alternative routes, A and B, have been considered for the relocation of TH 210. Both would end at the proposed interchange with U.S. 10, Route 1, east of Staples, and would begin at a point approximately 1.7 miles south of its present junction with U.S. 10 in Staples.

Two bridges would be required to cross two lines of the Burlington Northern Railroad on either alternative.

TH 210 Alternative A

Alternative A, from its proposed junction with U.S. 10. 10, east of Staples, would traverse 2.1 miles to its proposed connection to existing TH 210 south of Staples.

TH 210 Alternative B

Alternative B, from its proposed junction with U.S. 10. 10, east of Staples, would traverse 1.9 miles to a proposed connection to existing TH 210.

Advantages and Disadvantages of TH 210 Routes A and B

Either TH 210 alternative would eliminate the traffic bottleneck and hazard caused by the present at-grade crossing of TH 210 and the Burlington Nothern Railroad near the main business section of Staples.

Either alternative would provide continuous access for emergency vehicles, traveling from one side on Staples to the other (Staples is divided by the railroad), through use of the proposed interchange at U.S. 10, near the east corporate limits. There is currently no grade separated crossing of the rail tracks in Staples.

Alternative B would pass through Thorn's Subdivision, while Alternative A would bypass it to the west.

Thorn's Subdivision was platted in 1964. This plat is located in the southeast quadrant of the intersection of TH 210 and CSAH 7 on the south edge of Staples. It consists of more than 15 parcels, many of which have been developed.

Alternative B would cause the most damage in property severence by dividing Thorn's Subdivision.

Motley Bypass Route 1 (West Side)

Alternative Route 1 would bypass Motley on the west side. It would begin at a point one mile west of the corporate limits of Motley, on U.S. 10, and end at the Junction of CSAH 53, one-half mile south of Motley.

The length of Route 1, bypassing Motley, would be 2.5 miles as compared to the existing length of 2.8 miles through the city.

Access for Motley would be at the beginning of the bypass northwest of the city and again near the south limits of the city.

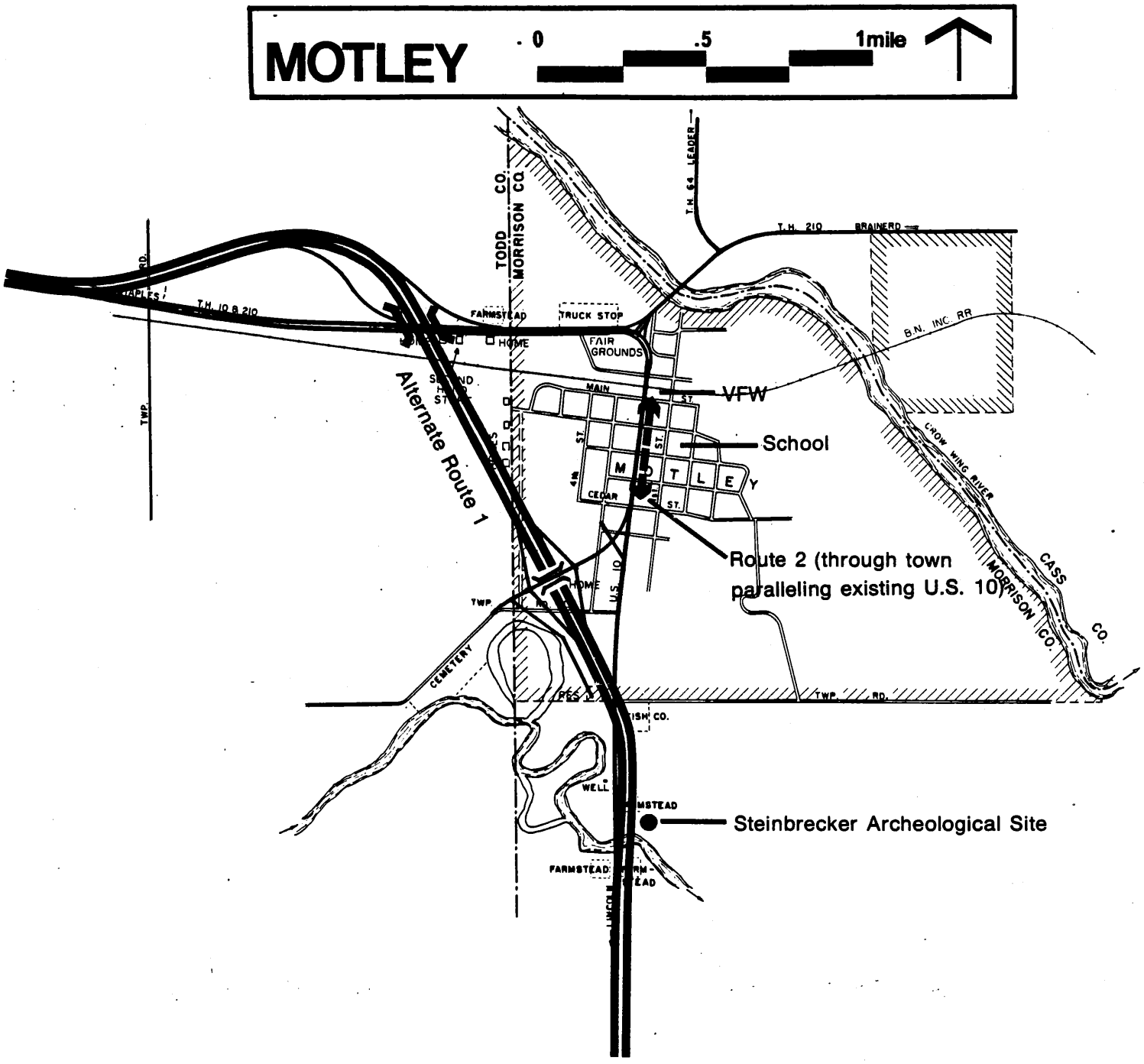


Figure 21 Alternative Routes 1 and 2 Motley

The separated roadways bypassing Motley would be 90 feet apart, requiring a basic corridor width of 290 feet. The roadway centerlines would diverge from 75 to 90 feet, west of Motley, and from 100 to 124 feet, south of Motley.

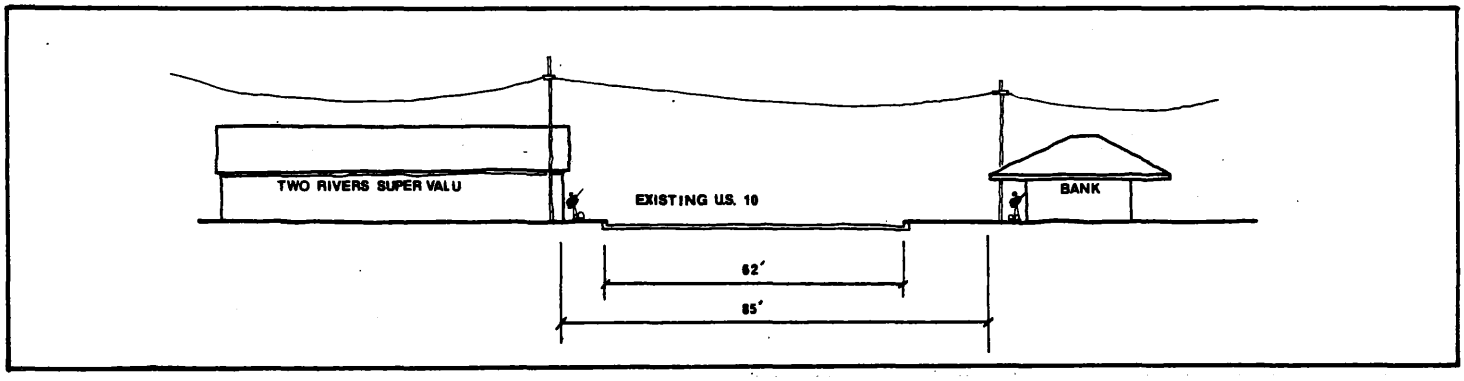


Figure 22 Motley Existing Cross Section

Motley, Route 2 (Through City)

Alternative Route 2 would pass through Motley by paralleling U.S. 10. This section has a bituminous surface, 62 feet wide, and concrete sidewalks, eight feet wide, along both sides. The sidewalks are elevated and act as curbs.

Existing U.S. 10 crosses two lines of Burlington Northern Railroad tracks as it enters, southbound, into Motley. This railroad carries about four trains per day from Staples to Duluth-Superior.

The proposed urban typical section calls for a basic right-of-way width of 120 feet, with a curb to curb distance of between 90 and 100 feet. Alternative Route 2 would require the acquisition of essentially all property bordering either the east of west side of U.S. 10 as it passes through Motley.

There are a number of businesses located along U.S. 10 in Motley. They are dependent to some extent on U.S. 10

for business. These businesses include gas stations, cafes, liquor shop, repair shops, feed store, hardware store, motel, seafood market, and other retail outlets.

No Build

The No Build Alternative would consist of leaving inplace U.S. 10 to remain as is between project termini.

To not improve the highway would deny the basic needs as established in Section I, "Need For The Project." Those needs are summarized as follows:

1. U.S. 10 is a highway of major importance in rural development, recreational use and road user benefits.

2. Traffic conditions during peak periods are hazardous. This condition will become worse as traffic projections for the future materialize.

3. Roadway deterioration will be hastened as future traffic increases.

4. The present servicability rating of U.S. 10 in the vicinity of the project varies from 2.6 to 2.8. It can be salvaged for two lanes of the completed four-lane facility.

5. Segments both east and west of the proposed improvement have been or are being improved to provide a four-lane divided facility. This proposed improvement would be the "final link" and would complete the construction of U.S. 10 to four-lane divided roadway standards.

6. The present lack of access control, increasing traffic volumes, sub-standard shoulders, slopes, geometrics and the through-city routes all serve to hamper the safety and efficiency of the existing facility, which is a concern to everyone, traveler and local resident alike.

ADVANTAGES & DISADVANTAGES
OF ALTERNATIVES CONSIDERED

Advantages, Route 1 (North Route)	1. Results in less traffic congestion through central business districts of cities of Wadena, Aldrich, Verndale, Staples and Motley.
	2. Completes the "final link" of improvements of U.S. 10, from trunk highways to expressways or freeway standards.
	3. Provides a higher level of service and greater safety.
	4. Removes some air and noise pollution from downtown area of cities bypassed.
	5. Creates less disruption of central business districts during construction.
Disadvantages, Route 1	1. City bypass segments require new alignment and right-of-way (847-882 acres). Rural segments require 189 acres.
	2. Loss of agricultural land and its production (301-337 acres).
	3. Relocation of 30-40 homes. Affects 8 or 9 businesses.
	4. Potential loss of trade by travel sensitive businesses that are bypassed.
	5. Alteration of wildlife habitat (556-564 acres) or 85% of wildlife habitat within right-of-way.
	6. Loss of approximately 9.5 acres of elementary school playground from School District 793 in Staples. However, the school district now owns approximately 552 acres. Approximately 65 acres of undeveloped school ground will also be acquired.
Advantages, Route 2 (Through Cities)	1. There would be little adverse impact on cropland, vegetation, wildlife and wetlands.
Disadvantages, Route 2	1. Would not relieve the traffic congestion through Central Business

Districts of Wadena, Verndale, Staples and Motley.

2. Would require the acquisition of highly valued property and the relocation of well established, growing businesses.

3. Would involve the following public lands that may be subject to Section 4(f) of the 1966 DOT Act:

a. Sunnybrook Park in Wadena.

b. City Park at Verndale. Subsequent analysis revealed that this area is privately owned, and further that the space between the road and the railroad track is not leased by the city. As a result, it has been determined that the area which Route 2 would use through Verndale does not constitute a Section 4(f) involvement.

c. City Park area in Motley.

4. It would disrupt and inconvenience business and traffic in the business districts of these communities during construction.

PREFERRED ALTERNATIVES

Following the circulation of the DEIS, comments were received from agencies, the general public, and interested citizens. As a result of that process, certain of the alternatives were designated as preferred alternatives for the various sections under study. These choices represent what is felt to be the alternative which best meets the transportation objective, while minimizing adverse environmental impacts and reducing cost. In some cases, design standards for the preferred alternatives are different from those described in the DEIS. In any case where the standards were modified from those described in the DEIS, such a change was made to reduce costs, to meet expressed community and public desires, to reduce environmental impacts, or to address agency concerns. None of the changes in the design standards now proposed will compromise

safety or comfort to the traveling public. These preferred alternatives are described immediately below.

Preferred Alternative Route 1, Rural Areas

Alternative Route 1 has been selected as the preferred alternative in the rural sections of the project area. This preferred alternative will follow the existing alignment in the rural segments between cities, using the present roadway for eastbound traffic. A second roadway for westbound traffic will be constructed north of and parallel to the existing roadway. Basically, an additional right of way strip 115 feet in width on the north side of the existing highway is needed to complete a 280 foot corridor. A strip approximately 50 feet in width will be acquired on the south side of the highway, toward the railroad. The centerline of the new roadway will be 100 feet north of the existing roadway. Immediately west of Staples, the new roadway will be constructed on the south side of inplace U.S. 10 for a distance of approximately 1.3 miles. This location was selected because of obtaining better foundation soils. It will also result in the new lanes being farther from the residences located west of Staples.

The preferred Route 1 includes city bypasses to be constructed on the north sides of Wadena and Staples and on the west side of Motley. Bypasses of the cities of Verndale and Aldrich have not been selected as preferred alternatives.

Preferred Alternative Wadena Bypass Route 1A-Modified (Figure 23)

The preferred alternative at Wadena is Route 1A-Modified. It is referred to as Route 1A-Modified because it contains some modifications from Route 1A as that alternative was described in the DEIS. It will bypass the city on the same alignment as Route 1A. Its length will be about 6.5 miles. Access for Wadena will be provided at various locations as follows:

- At-grade connection at the western terminus of the bypass.
- At-grade intersection at CSAH 75.
- At-grade intersection at the township

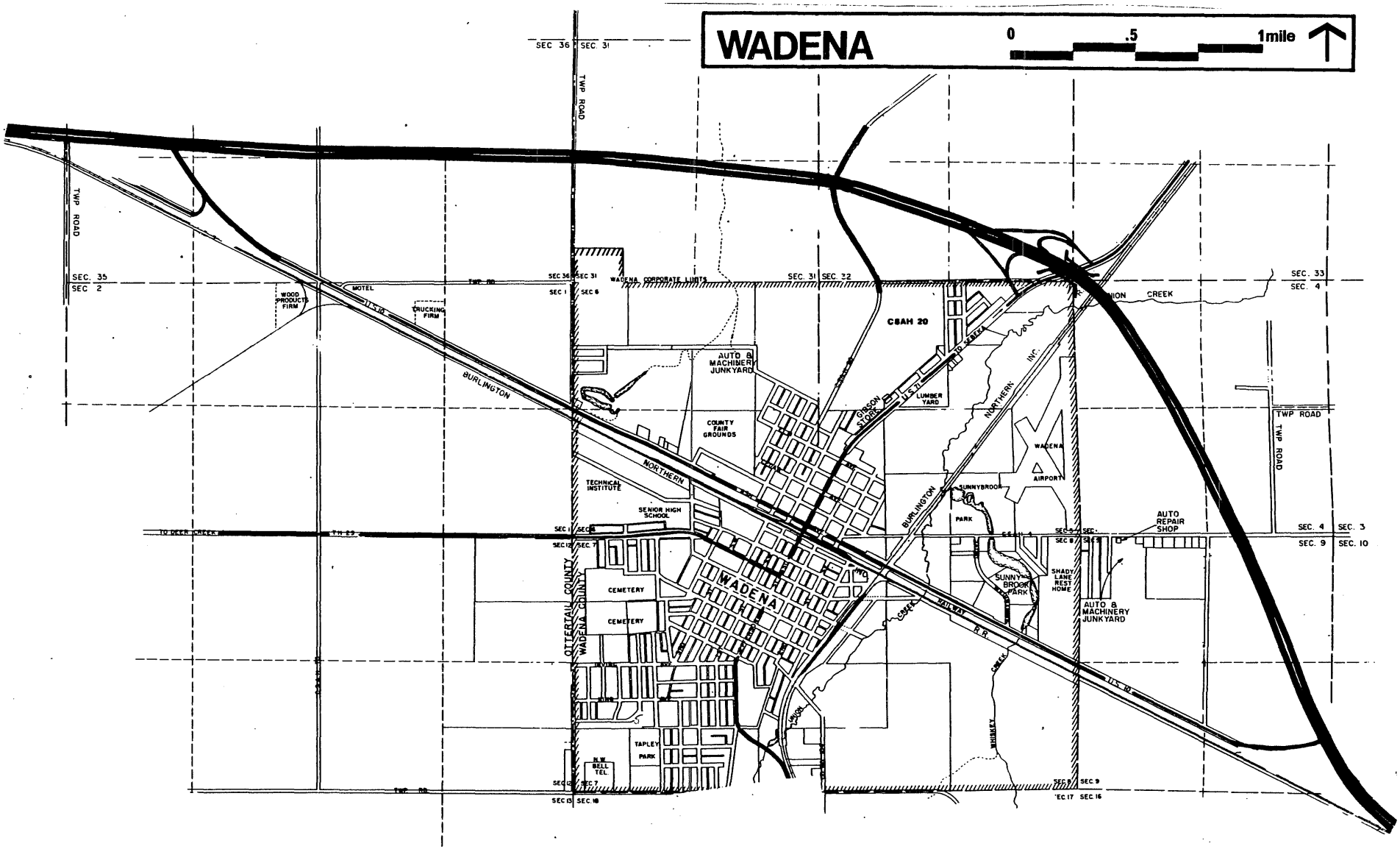


Figure 23

Preferred Alternative, Wadena

road on the Otter Tail/Wadena County Line.

- At-grade intersection at CSAH 20.
- Interchange at U.S. 71.
- At-grade intersection at CSAH 4.
- At-grade connection at the eastern terminus of the bypass.
- Route 1A - Modified will require all new alignment and will be constructed to Expressway Standards except for the portion through the interchange at U.S. 71, which will require Freeway Standards. Centerlines will be 100 feet apart.

These modified standards will save the costs of 7 bridges and approximately 700,000 cubic yards of borrow material.

Route 1A is supported by the City of Wadena in a Resolution dated January 10, 1980. A petition signed by 37 area persons strongly protested the construction of Route 1B, thereby supporting Route 1A. (See Resolution and Petition in Section VI of this FEIS)

Preferred Alternative Verndale, Route 2 (Figure 24)

Alternative Route 2 has been selected as the preferred alternative. After the Hearing in Staples on January 10, 1980, it was concluded that the costs for Alternative Route 1, 1A or 2 were practically the same, approximately 2.5 million dollars.

Testimony at the hearing, and a resolution from the City of Verndale show strong support for Route 2. (See Resolution in Section VI of this FEIS)

Alternative route 2 through Verndale will parallel existing U.S.10 through that city. Outside of the city the highway will carry a centerline separation of 100 feet. Approaching Verndale from either direction, these centerlines will converge as they pass through the city. Through the city the roadway centerlines will carry a separation of 46 feet. This will allow for eight-foot shoulders

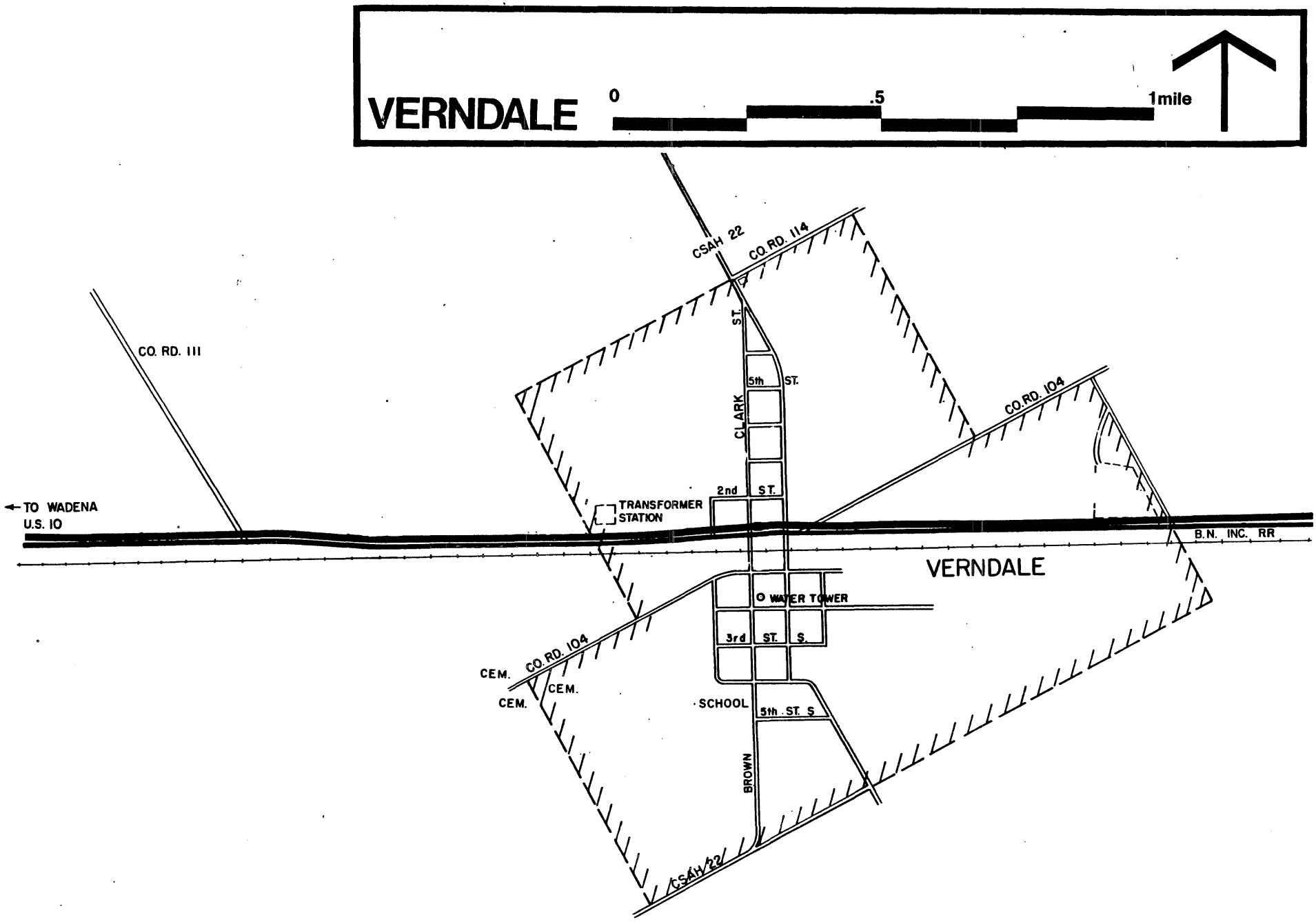


Figure 24 Preferred Alternative, Verndale

through the city. The four travel lanes will be 12 feet in width, with the two lanes nearest the raised median having an additional two feet of width to provide a reaction distance from the median. A raised median of variable width will be carried through the city, with a typical width of 18 feet. Channelized left turn lanes will be provided within this median. The median will have a minimum width of six feet for pedestrian and bicyclist refuge.

Because of residential use and the presence of St. Frederick's Catholic Church, the additional lanes through Verndale will be constructed on the south side of existing U.S. 10 through town.

Preferred Alternative
Aldrich, Route 2
(Figure 25)

Alternative Route 2 through Aldrich has been selected as the preferred alternative. It will pass through Aldrich and is described as follows:

The roadways through Aldrich will be similar to U.S. 10 through Verndale. A centerline separation of 46 feet will be carried through the city. The road will have eight-foot shoulders on each side of the road, and four 12-foot travel lanes. The lanes nearest the median will have two additional feet of width to provide a reaction distance from the raised median. A raised median of variable width will be provided, with a typical width of 18 feet. This will allow for channelized left turn lanes. The minimum width of the raised median will be six feet, providing sufficient width for pedestrian and bicyclist safety refuge.

A frontage road will be built 75 to 90 feet north of the proposed westbound roadway from the River Inn location to a point 1000 feet east.

In conjunction with Alternative 2, it is proposed that CSAH 26 be relocated on the east edge of the city. The relocation length would be approximately one-half mile. New alignment for CSAH 26 is necessary to provide a right angle

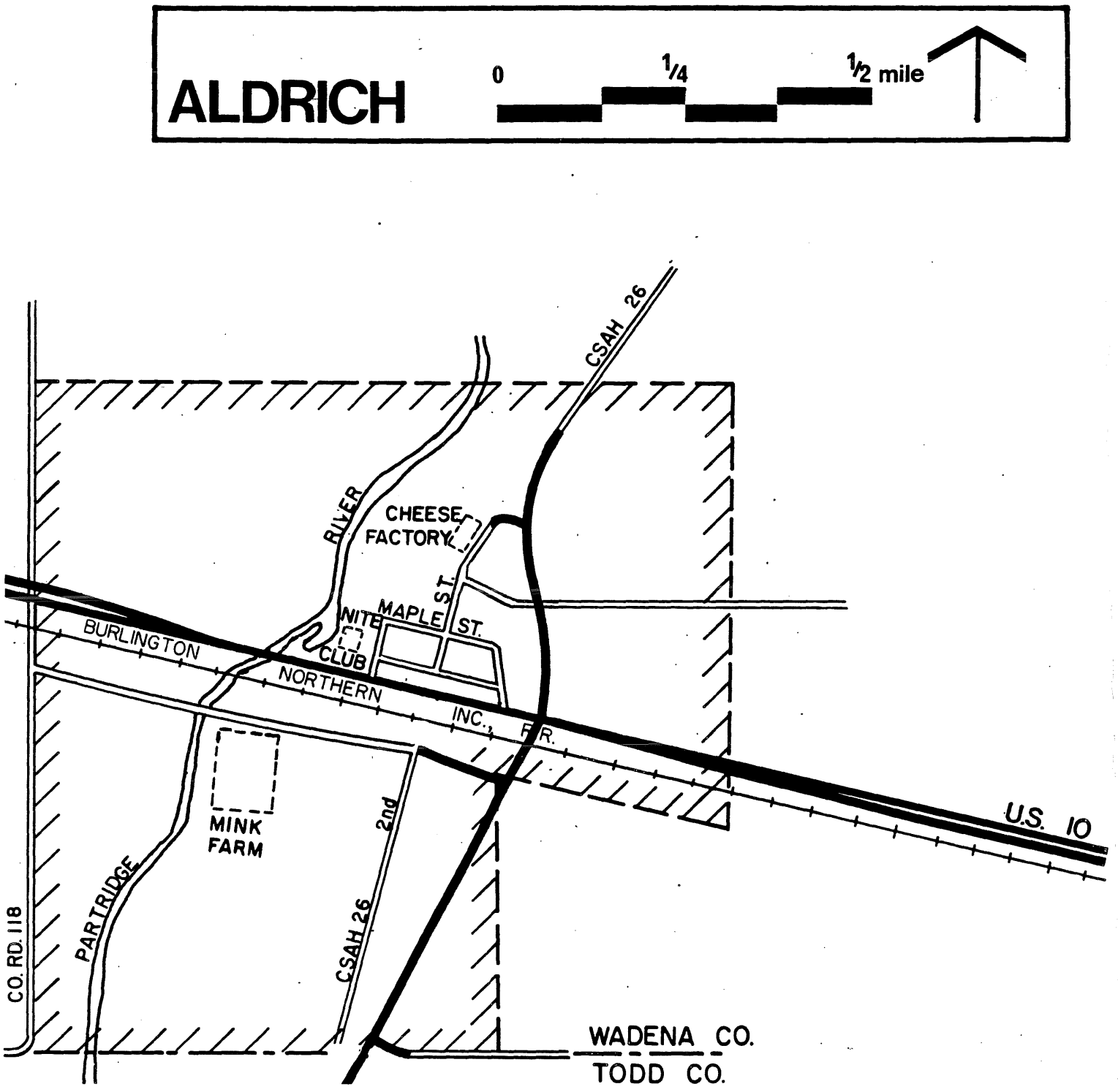


Figure 25 Preferred Alternative, Aldrich

crossing of U.S. 10 and the Burlington Northern Railroad. This will preclude the mixing of CSAH 26 traffic with U.S. 10 traffic for approximately one block, thus eliminating an existing hazard.

To minimize impacts through Aldrich, construction through the city will take place on the south side of existing U.S. 10, toward the railroad tracks.

Preferred Alternative Staples Bypass Route 1-Modified (Figure 26)

Route 1, modified, bypassing Staples on the north side, is the preferred alternative.

Route 1 - Modified is on the same location as Route 1, approximately four miles in length. A minimum corridor of 280 feet is needed.

The separated roadways, west of Staples will be 100 feet apart, remain at 100 feet for the bypass of Staples and finally converge to 75 feet to return to the existing divided facility, one half mile east of Staples.

Access to Staples would be provided at three points:

- At-grade intersection west of of town
- Interchange at 4th Street
- Interchange east of town.

A combination of freeway and expressway standards will be used for the bypass. The interchange previously planned for the western access has been changed to provide at-grade intersections with the existing local roads. This will save the cost of one bridge, approach embankment and approximately one mile of frontage road.

Preferred Alternative TH 210 Alternative A

Alternative Route A is the preferred route for TH 210 in Staples. It will traverse 2.1 miles from its proposed junction with U.S. 10, east of Staples, to its proposed connection with existing TH 210 south of Staples.

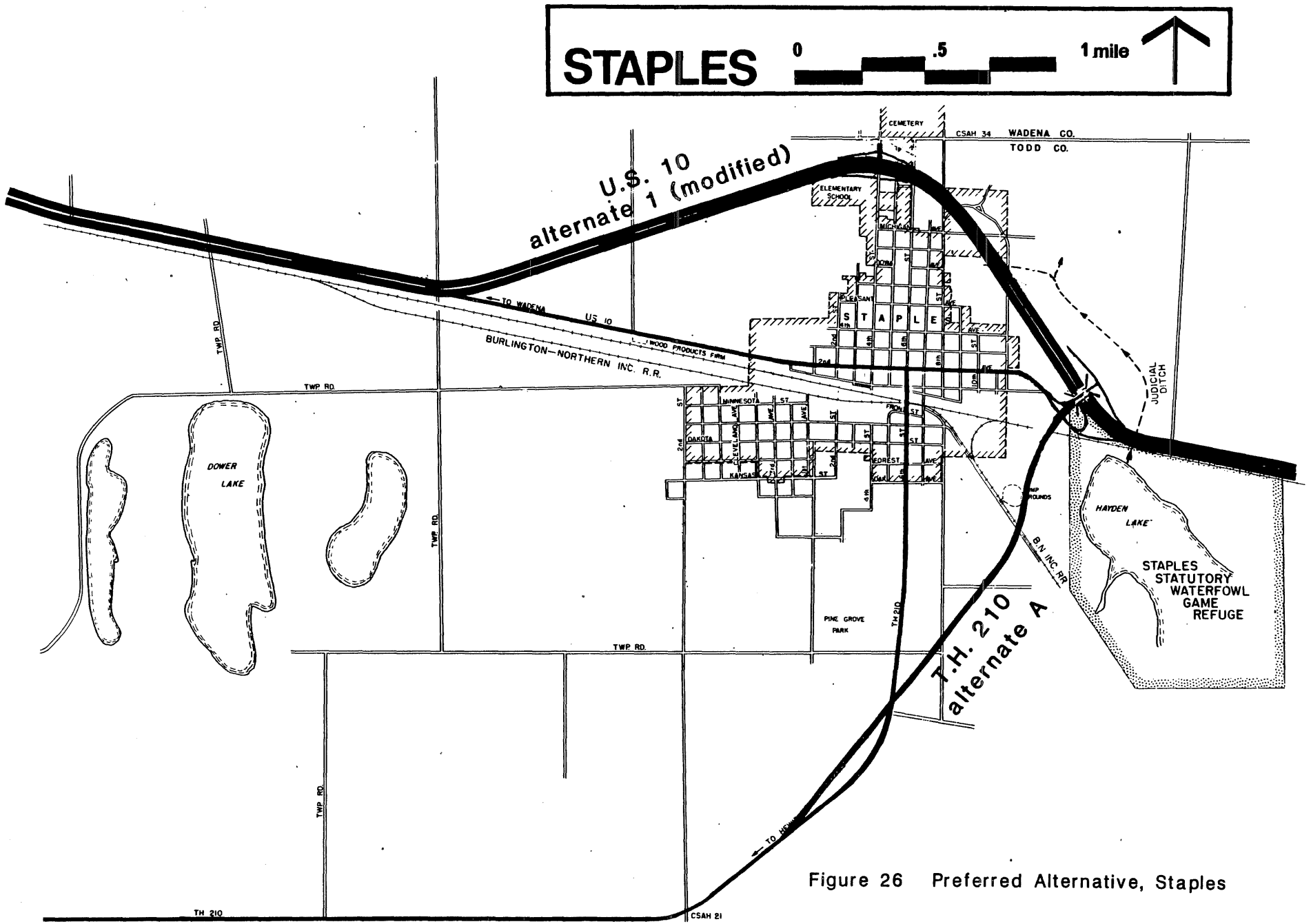


Figure 26 Preferred Alternative, Staples

Alternative Route A will eliminate the traffic bottleneck and hazard caused by the present at-grade crossing of TH 210 and the Burlington Northern Railroad in the Central Business District.

This route will provide for a grade separated access for emergency vehicles traveling from one side of Staples to the other. Currently there are no such grade separated crossings of the railroad tracks within the City of Staples. This will improve safety for those currently residing on the south side of the rail yards.

Route A will result in the avoidance of Thorn's Subdivision, a residential area in an advanced stage of development. Alternative B would have impacted this area.

Preferred Alternative
Motley Bypass
Route 1-Modified
(Figure 27)

Route 1-Modified has been selected as the preferred alternative at Motley. Route 1-Modified is on the same location as Route 1 described in the DEIS, and at pages 41-43 in this FEIS. Trunk Highway 64 will be extended from its junction with TH 210, north of the Crow Wing River, and carried on the existing U.S. 10 in Motley to a connection with new U.S. 10 north of the Long Prairie River. Freeway standards are proposed for the interchange area northwest of the city.

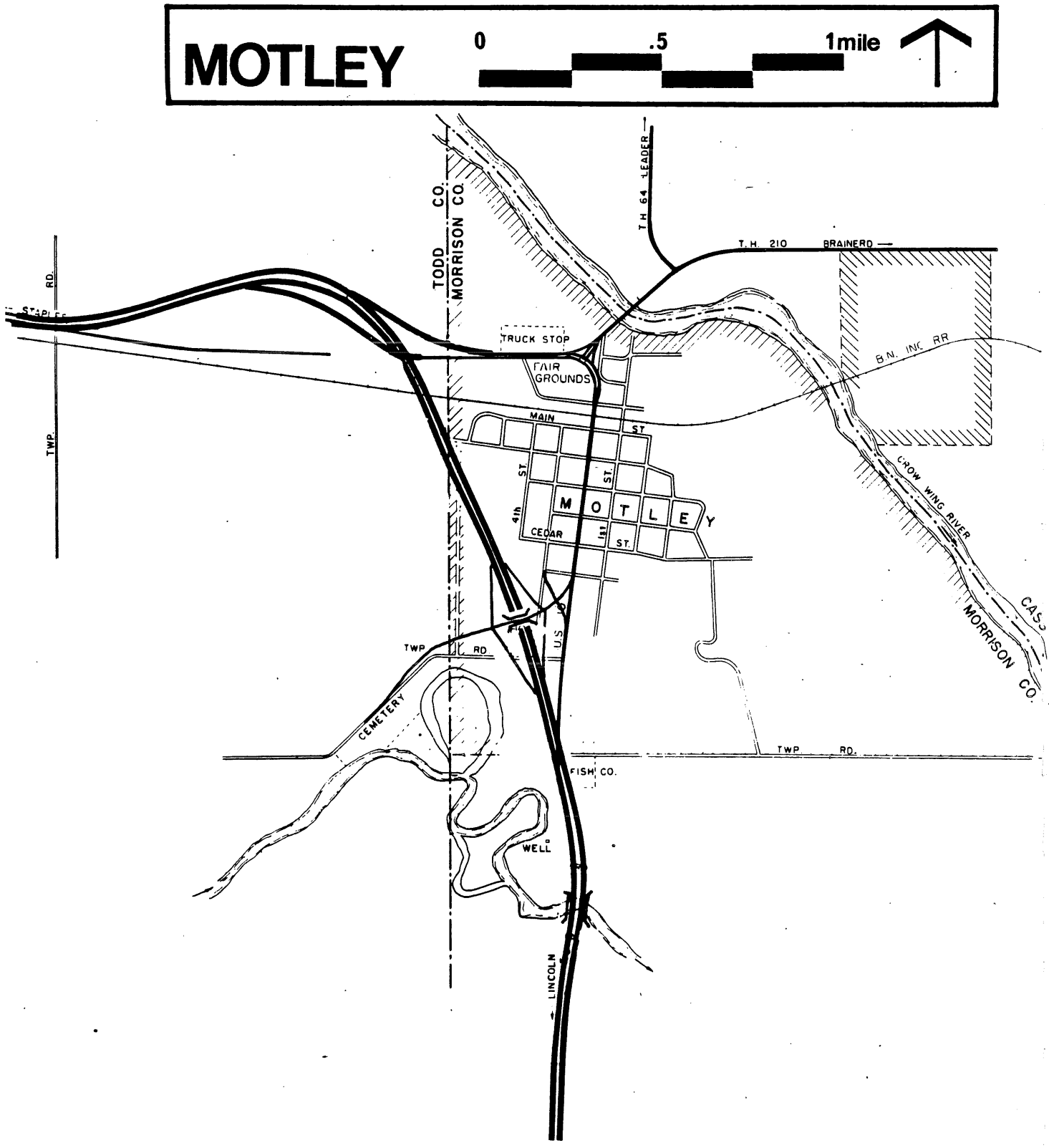


Figure 27 Preferred Alternative, Motley

ADVANTAGES & DISADVANTAGES
OF PREFERRED ALTERNATIVES

Advantages, Route 1

1. Relieves traffic congestion through central business districts of cities of Wadena, Staples and Motley.

2. Completes the "final link" of improvements of U.S. 10, from trunk highway to expressway or freeway standards.

3. Provides a higher level of service and greater safety.

4. Removes some air and noise pollution from downtown of cities bypassed.

5. The improved segments will fit the overall improvement of U.S. 10. It also creates less disruption of city business districts during construction.

Disadvantages, Route 1

1. City bypass segments will require all new alignment and right-of-way (755 acres). Rural segments require 149 acres.

2. Loss of agricultural land and its production (213 acres).

3. Relocation of 21 homes and ten businesses.

4. Potential loss of trade by travel sensitive businesses that are bypassed.

5. Alteration of wildlife habitat (489 acres), or 85% of wildlife habitat within right-of-way.

6. Loss of approximately 9.5 acres of elementary school playground from School District 793 in Staples. However, the school district now owns approximately 552 acres. Approximately 65 acres of undeveloped school ground will also be taken. Refer to the Final Section 4(f) Evaluation which is appended to this FEIS for a complete discussion of this issue.

Advantages, Route 2	1. There will be little adverse impact on vegetation, wildlife and wetlands. 2. Avoids the severence of farms and their loss of production. 3. No homes need relocation.
Disadvantages, Route 2	1. Will not eliminate through traffic from these communities. 2. It will require the acquisition of developed property and established businesses. Four businesses need to be relocated. 3. It will result in higher costs for right of way of way and access control. 4. It will require acquisition of a small portion of a privately owned open space at Verndale. This amounts to 0.5 acres 5. It will disrupt and inconvenience business and traffic in the cities during construction.

Table 2

Selected Statistics for Alternatives[a]

Segment/Alternative	Length in Miles	Number of Bridges Required	Total Est. Cost	Total Acres Required
Wadena				
1-A	6.4	9	$10.7M	358
1-A-M[b]	6.4	2	7.2	340
1-B	5.9	9	10.6	390
2	5.5	0	10.6	88
Wadena to Verndale				
1	3.4	2	4.3	63
1-M[b]	3.4	2	4.3	50
Verndale				
1	2.6	0	3.2	102
1-A	2.7	0	3.1	105
2	2.5	0	2.5	45
2-M[b]	2.5	0	2.5	34
Verndale to Aldrich				
1	2.5	0	1.9	36
1-M[b]	2.5	0	1.9	29
Aldrich				
1	1.3	2	2.6	36
2[b]	1.3	2	2.5	13
Aldrich to Staples				
1	4.9	0	3.6	90
1-M[b]	4.9	0	3.6	70
Staples				
1	3.9	4	7.0	201
1-M[b]	3.9	2	6.3	185
2	3.3	0	8.5	65
TH 210-A[b]	2.1	2	2.1	49
TH 210-B	1.9	2	2.1	45
Motley				
1	2.5	7	6.1	150
1-M[b]	2.5	6	5.4	134
2	2.8	2	5.3	45

[a]All cost figures are in millions of dollars and are 1980 estimates. Differences between alternatives 1-A and 1-A-M, 1 and 1-M, and 2 and 2-M are design differences discussed in the text in Section I and Section II.

[b]Preferred Alternative. Acreage figures reflect reduction in right of way and centerline separation discussed in text.

DRAFT 4(F) INFORMATION

This section repeats much of the information which was contained in the Draft Environmental Impact Statement. A Final Section 4(f) Evaluation detailing the impacts resulting from the Preferred Alternative in Staples is appended to this FEIS.

Involvement

Certain of the build alternatives will involve public lands which are used for recreational purposes. The use of such lands for transportation purposes is governed by Section 4(f) of the Department of Transportation Act of 1966, as amended by the Federal-Aid Highway Act of 1968.

Lands that were potentially affected by certain project alternatives are:

Sunnybrook Park ----------	Wadena
Verndale Park ----------	Verndale
School Playground ----------	Staples
Motley Park ----------	Motley

Sunnybrook Park
Wadena

Sunnybrook Park in Wadena is a city park of 70 acres, located adjacent to and north of U.S. 10, near the eastern limits of Wadena.

Alternative Route 2 would impact this park. It would require 0.7 acre for right of way from the south edge of the park. This is approximately 450 in length. This would involve a green lawn portion of the park and a small portion of water pond. The pond is a widened section of Whiskey Creek, which passes through the park. The encroachment into the pond would total approximately 600 square feet, which is about 0.1 percent of the total water area of the park.

Impacts of Alternative Route 2 include the following:

-- Loss of 0.7 acre of parkland from the 70 acres of the park.

--Pond encroachment of 0.1 acre

--An increase in noise level at the park of less than 3 dBA, which would not be

perceptible to the normal human ear.

Alternative Routes 1A and 1B would avoid impact to the park.

City Park, Verndale

At the time the DEIS was written, it was thought that Alternative Route 2 through Verndale would impact a part of Verndale Park. Investigation subsequent to the DEIS has revealed that the 0.5 acre area in question is not publicly owned or leased. In 1950 the City of Verndale and the Northern Pacific Railroad (now the Burlington Northern Railroad) entered into a lease which conveyed certain rights and responsibilities to the city regarding a parcel owned by the railroad. Verndale Park is now on this parcel. The area covered by this lease is located entirely on the south side of the railroad tracks. None of the land required for Alternative Route 2 through Verndale is included within the lease area, but is located on the north side of the track.

Alternative Route 2 will require the acquisition of this 0.5 acre open space in the center of Verndale. This area is planted to grass and shrubs. To the south, across the Burlington Northern rail tracks is a 1.1 acre area, covered by the lease, which is utilized as a park. The existing facilities on this 1.1 acres include a picnic shelter, water, barbecue broiler, more than ten benches, several picnic tables, three swings, horse-shoe courts, and two memorial markers. Toilet facilities are across the street in the Fire Hall.

While both of these areas are owned by the Burlington Northern Railroad, the southerly 1.1 acres is leased to the city. As a result, it has been determined that Alternative Route 2 in Verndale does not have any Section 4(f) impacts associated with it.

School Playground in Staples

Alternative Route 1 would impact the playground of North Elementary School in Staples. The playground is part of the recreational area used for physical

education during the school year, and by the community during the summer. This impact is the subject of a separate Section 4(f) Evaluation. A Draft Section 4(f) Evaluation was circulated in 1983, and a Final Evaluation is appended to this FEIS. The reader should refer to the Final Section 4(f) Evaluation for a detailed discussion of this impact.

City Park in Motley

Motley City Park, which is approximately 0.7 acres in size, is located in the north park of Motley adjacent to U.S. 10 and the Burlington Northern rail tracks.

Existing facilities include a water tap, drinking fountain, and a number of picnic tables. There are not plans to add facilities to this park. The Burlington Northern Railroad owns the land and has leased it to the city. Alternative Route 2 would encroach into this park.

Impacts of Alternative Route 2 would include the following:

-- conversion of approximately 0.2 acre of the total area of 0.7 acres.

-- an increase in noise of less than three dBA, which is not perceptible to the normal human ear.

Alternative Route 1 would avoid any impact to lands which are subject to the provisions of Section 4(f).

Construction Impacts

The control of construction operations by laws, regulations, and special provisions will protect users of Section 4(f) lands from significant impact.

Coordination

In the process of planning the proposed action, many contacts have been made with the agencies owning or exercising jurisdiction over the Section 4(f) property. These contacts have revealed strong support for the proposed action. This coordination will continue with the appropriate agencies through subsequent stages of project development.

Table 3 Description of Section 4(f) Property

DESCRIPTION OF 4(F) PROPERTIES

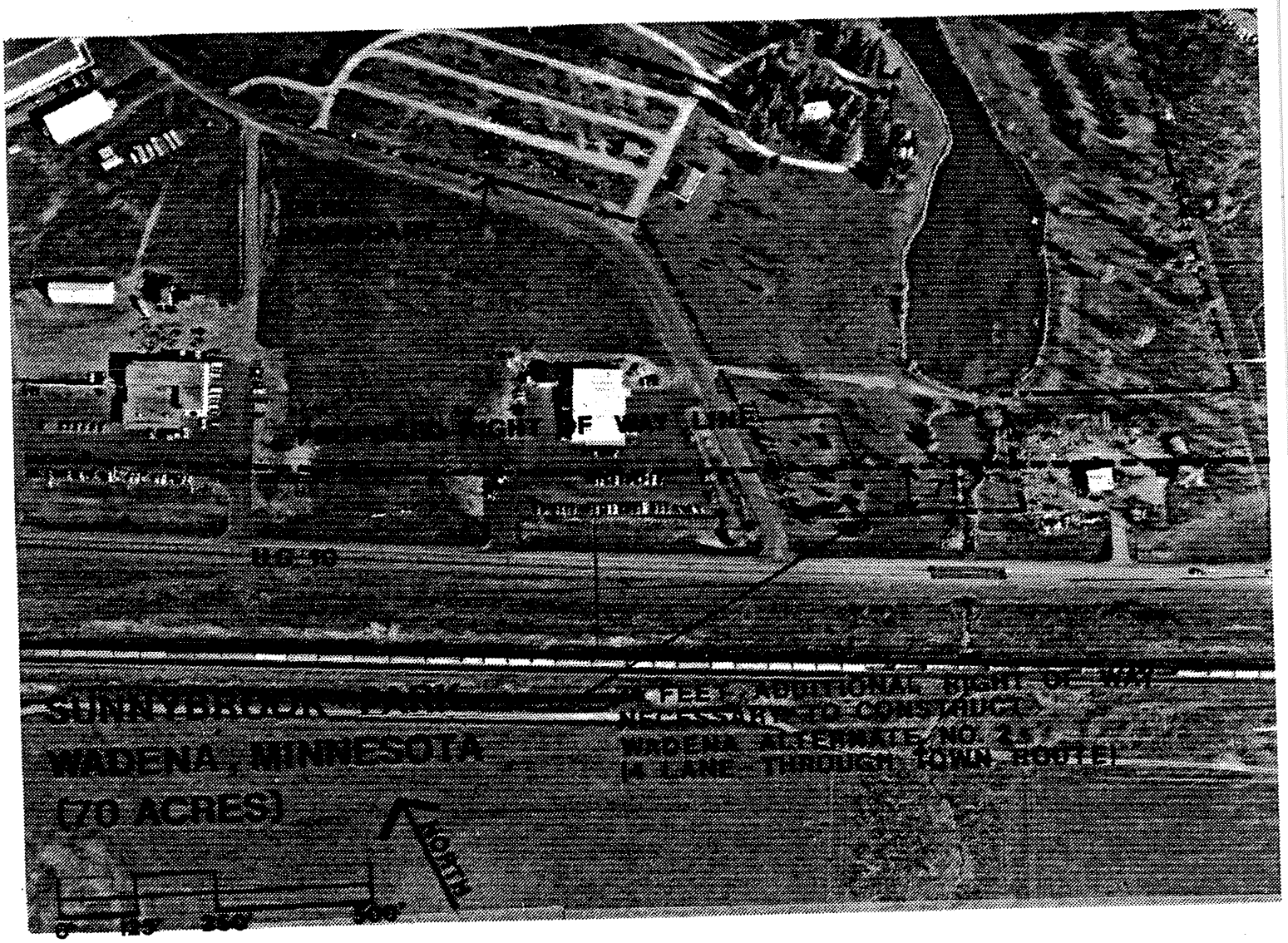
	Sunnybrook Park in Wadena	Verndale Park	Staples School Playground	Motley Park
Size	70 acres	1.1 acres	41.8 acres	0.7 acre
Type	Recreational	Recreational	Educational-Recreational	Recreational
Available Activities	Camping Picnic Zoo (Buffalo, Deer) Baseball/Softball Playground	Picnic, Horseshoe play	Softball, Basketball Swings, Football, Track, Tennis	Picnic
Existing Facilities	Sewer pumping station 3 picnic shelters Rest Rooms Utilities (water, sewer, Electricity)Baseball/ softball diamond 3 footbridges Roads	Water, Shelter, Barbecue broilers, picnic tables, benches, horseshoe game area	Bituminous playground, Childrens playground equipment 2 ball fields 3 tennis courts Parking Lot	Water, 5 picnic tables
Planned Facilities	Additions to 2 existing Picnic shelters. 4 new picnic shelters additional footbridges Road Improvements	No change-continued use as it now exists.	Track & Football Field Soccer Field 3 add. Tennis Courts	No change for existing, additional 1-block site being acquired for future recreational purposes.
Useage	Moderate	Moderate	Moderate	Minimal
Relationship to other similar lands	other parks in the city provide similar activities except camping.	None other in city.	other parks in the area provide baseball field in Pine Grove Park, 2 softball fields at Dower Lake, 5 tennis courts in smaller parks in the city.	None other in city.
Access	Vehicular and pedestrian from U.S. 10, and CSAH 4 Via Sunnybrook Drive	Pedestrian access from U.S. 10 on the northside & city & streets surrounding other 3 sides.	Vehicular and Pedestrian from 4th Street 3rd Street	Pedestrian access from U.S. 10 on Westside, Main St. on Southside, & 1st St. on Eastside.
Ownership	City of Wadena	Burlington Northern R.R. Leased to city	Staples School	Burlington Northern R.R. Leased to city
Deed Restriction	None	None	None	None
Significance	Regional	Local	Local	Local
Unusual Characteristics	None	None	Once had flooding problem. Corrected by reclamation projects of Area Vocational-Technical Institute's Heavy Equipment Class.	None
Existing/Planned use is compatible with local Goals and Plans	Yes	Yes	Yes	Yes

Table 4

Section 4(f) Involvement of Alternative Routes

	Alternative Route			
	1	1-A	1-B	2
Wadena, Sunnybrook Park	NA[a]	Avoids	Avoids	Involves
Acres Required				0.7
Acres Remaining				69.3
Facilities Affected				None
Access Effects				None
Effect on Remainder				None
Verndale, City Park[b]	Avoids	Avoids	NA	Avoids
Staples, School Playground	Involves	NA	NA	Avoids
Acres Needed	9.5			
Acres Remaining	32.3			
Facilities Affected	0.3 acre of paved play area 9.2 acre of grass playground			
Access Effects	No Adverse Impact			
Effect on Remainder	Noise Increase			
Motley, City Park[b]	Avoids	NA	NA	Involves
Acres Needed				0.2
Acres Remaining				0.5
Facilities Affected				None
Access Effects				None
Effect on Remainder				Noise Increase

[a]NA means not applicable to the park in question
[b]Each is on land owned by the railroad and leased to the respective city.



VIEW LOOKING NORTHWEST

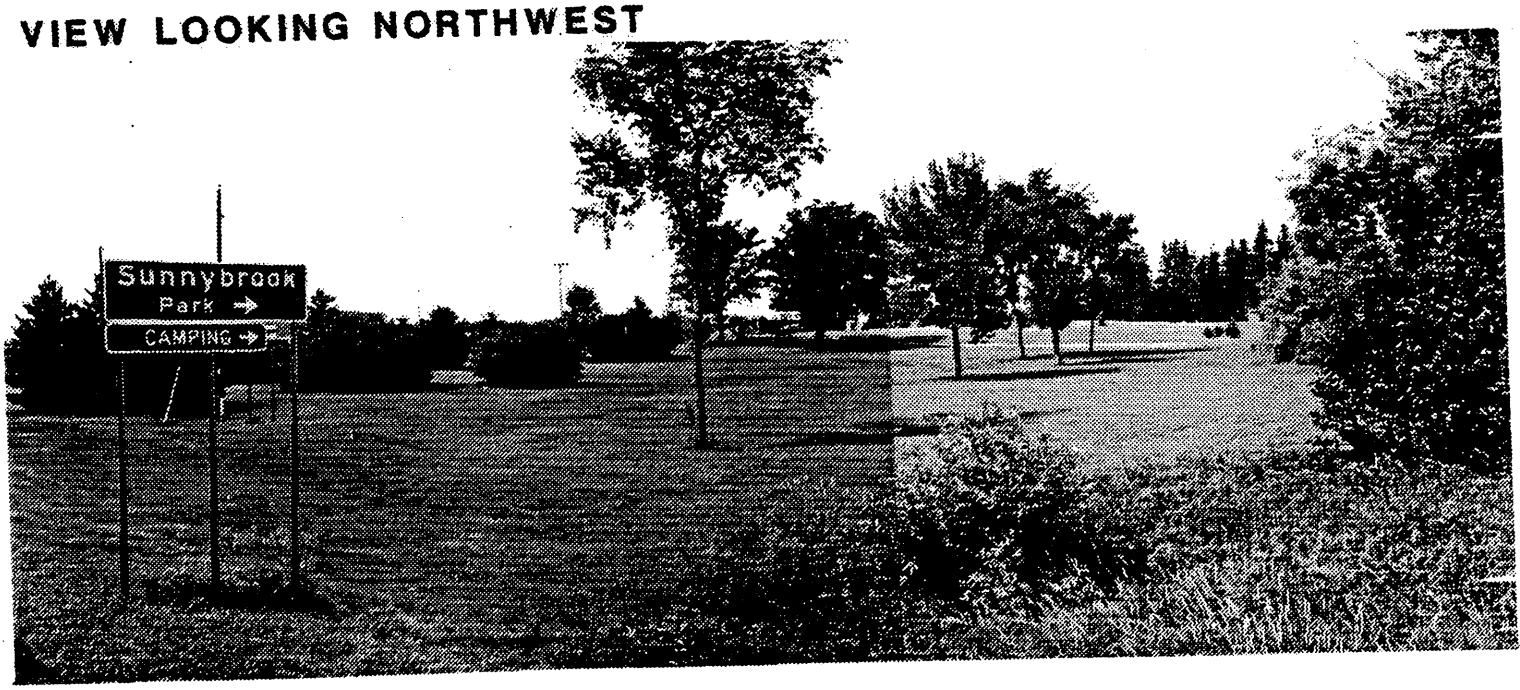


Figure 28 Sunnybrook Park in Wadena

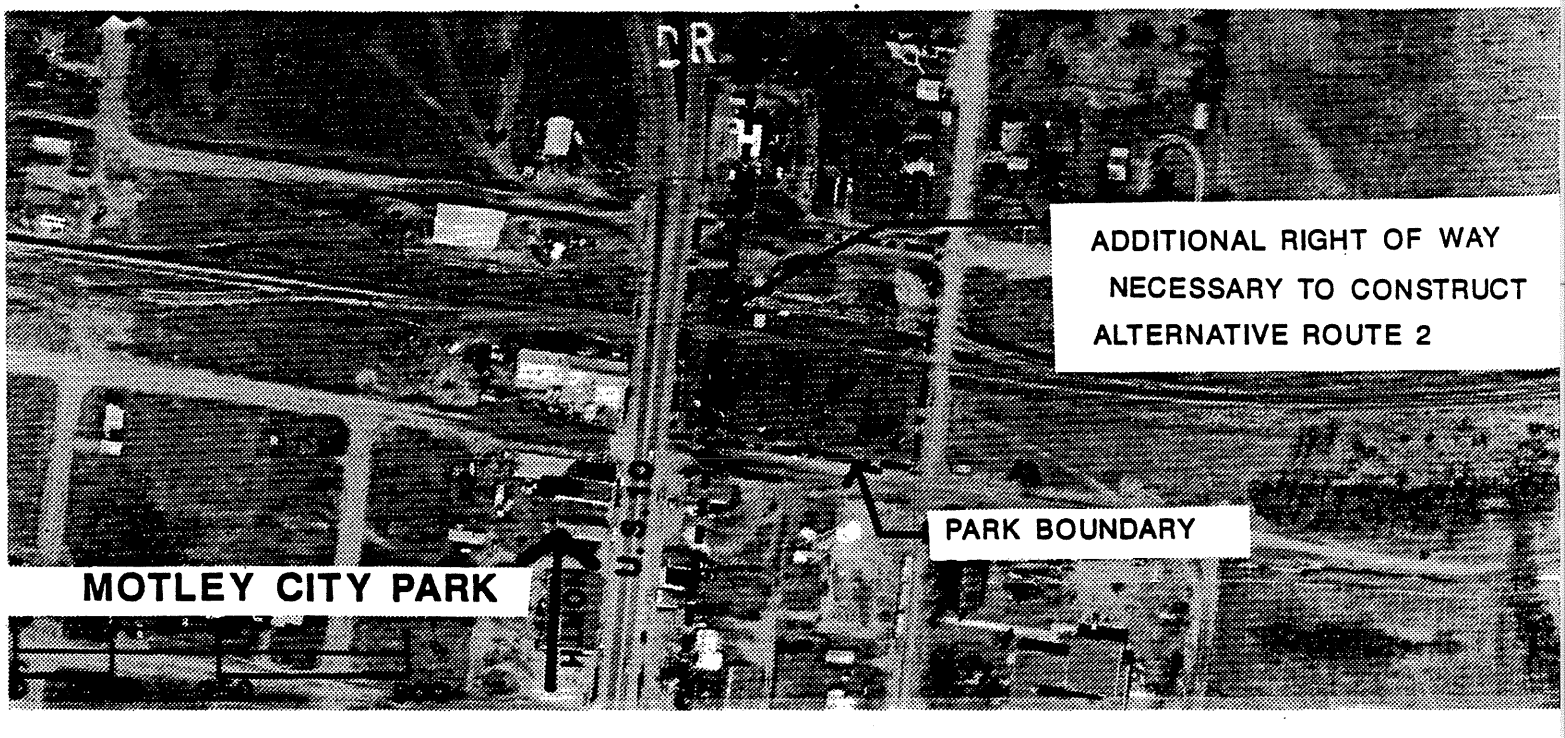


Figure 29 Verndale Park

VIEW LOOKING SOUTHEAST



Figure 29a Open Space in Verndale



VIEW LOOKING NORTHEAST

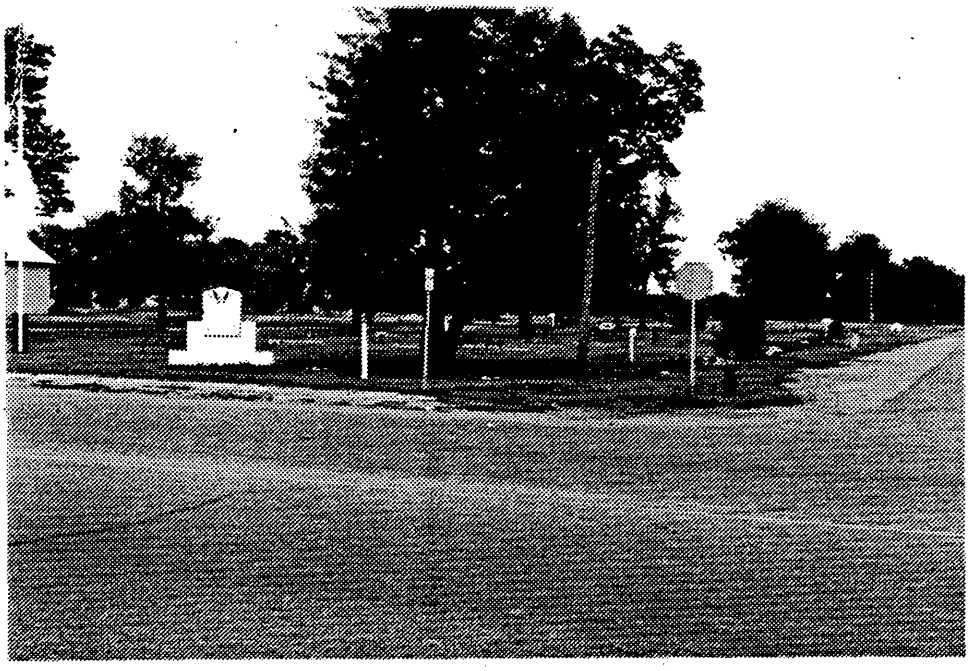
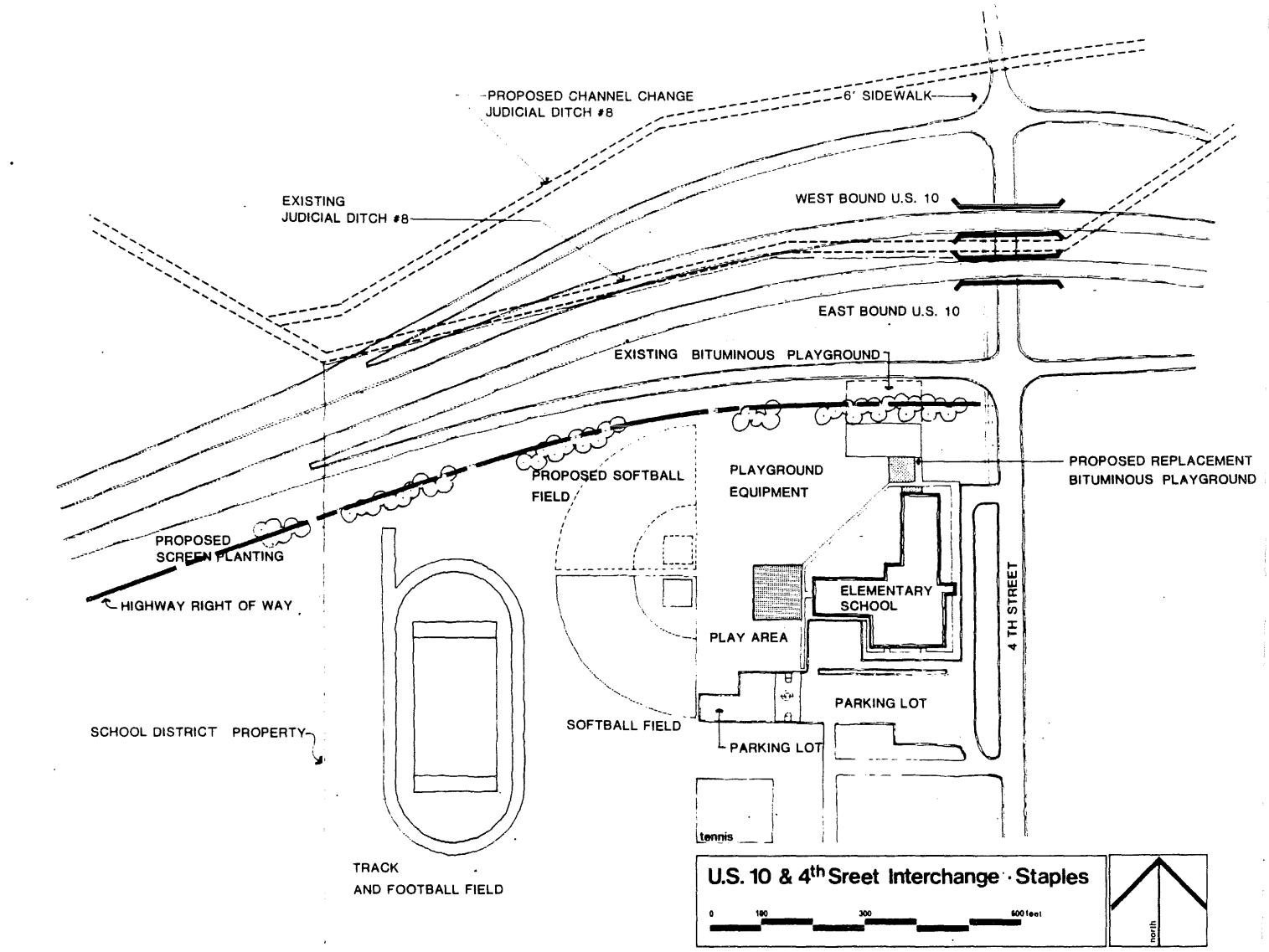


Figure 31 Motley City Park



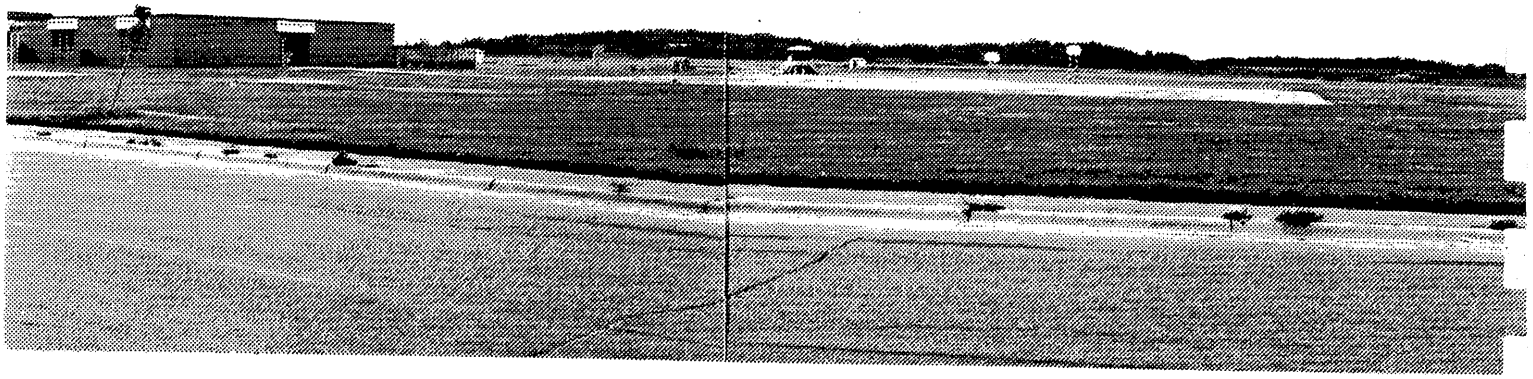


Figure 30 Staples Elementary School Playground

AFFECTED ENVIRONMENT

NATURAL FEATURES

Climate

The project area has a continental climate with hot summers and cold winters. The climate is subject to great fluctuations due to the influx of warm moist subtropical air masses and cold dry arctic air masses. Temperature extremes range from highs over 100 degrees F and lows below -40 degrees F. Average July and January temperatures are 70 degrees and 11 degrees respectively. Normally, about ten days per year have highs of 90 degrees or more and 180 days have lows of freezing temperatures or below. The frost free period is from mid-May to mid-September.

Precipitation is characterized by deep winter snows and reliable summer rains. However, periodic droughts do occur. During droughts, precipitation failure usually comes in July and August with rainfall 50 to 90% below normal. Average annual precipitation is 26 inches. Rainfall from mid-April through early November comprises 75 to 80% of the annual precipitation; the remainder occurs as snow. Average annual snowfall is about 42 inches. Continuous snowcover normally extends from mid-November through early April.

Annual precipitation usually exceeds evapotranspiration by about 10%.

Landscape

The landscape from Motley to Wadena along U.S. 10 traverses a patchwork of woodlands, wetlands, and farmlands. The area is drained by several slowflowing streams which meander northeasterly and empty into the Crow Wing River, north of U.S. 10. A few marshy lakes and ponds with open water occur. Large areas of other heavily vegetated lowland exist, including wet meadow, shrub swamp and tamarack bog, but these wetlands lack open water.

These heavily vegetated wetlands are a prominent feature of the landscape. In the project area they cover about 15% of the land surface.

Topography

The land surface is relatively flat to undulating between Motley and Wadena. The broad valleys of several rivers traverse the area.

The land generally slopes from northwest to southeast. Elevation above mean sea level is approximately 1350 feet near Wadena and 1230 feet near Motley.

Past glacial activity is considered responsible for most existing topographic features. Low hills, 20-30 feet high, and shallow depressions are typical.

Glacial Deposits

Sandy and gravelly material overlie the bedrock throughout most of the highway corridor. This glacial material (till and outwash) was deposited by moving ice masses and water.

Well drilling indicates that bedrock may be present at 280 feet at Aldrich. U.S. Geological Survey Data indicates the average thickness of glacial deposits to be 250 feet.

Drumlins

Hills fan out over Wadena, Todd and adjacent counties. From Wadena to Aldrich, these glacially formed hills, called drumlins, are generally oriented north-south, have gradual slopes, and are usually separated by wetlands. These drumlins are 1-4 miles long and 0.1-0.5 miles wide. Between Aldrich and Staples drumlins are more prominent, being 50-100 feet high and 0.1-0.5 miles long. Extensive wetlands have developed in the depressions between the drumlins. These depressions have filled in with peat and organic deposits from plant growth. The resulting organic soils are poorly drained.

Soils

Along the proposed alignment from Wadena to Aldrich, sandy soils have developed from coarse-grained glacial outwash under prairie or prairie and forest vegetation. North of Wadena, these soils are generally loamy sands (1 to 3 feet thick) underlain by sands and gravels (3 to 20 feet thick). The upper four feet are well-drained. Approximately 10 percent is sandy loam soil. This soil type belongs to the Salida-Hubbard Soil Series.

GEOLOGY: NEAR SURFACE
PROJECT AREA: U.S. 10 (FROM WADENA TO MOTLEY)

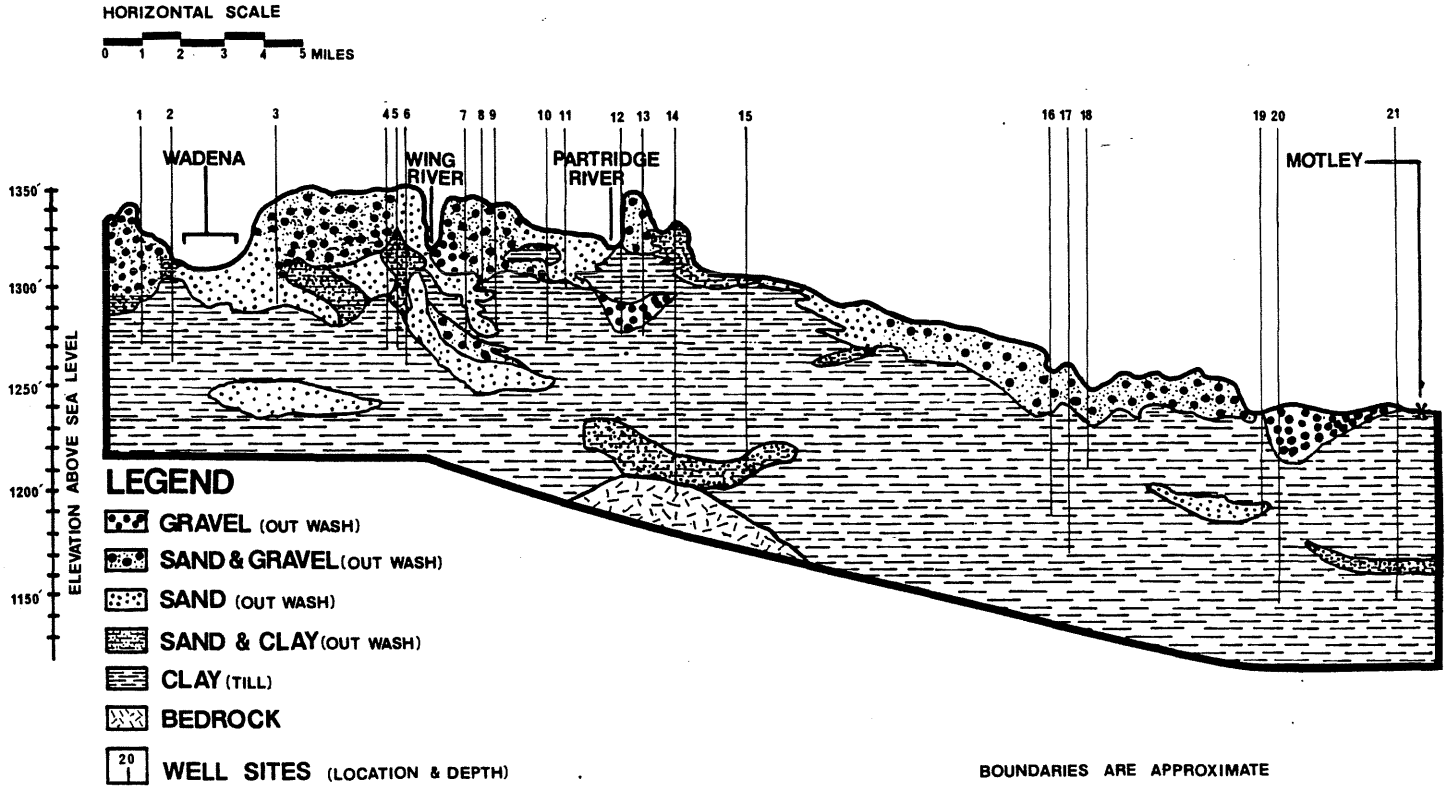


Figure 32 Near Surface Geology

SOIL DRAINAGE
PROJECT AREA: U.S. 10 (FROM WADENA TO MOTLEY)

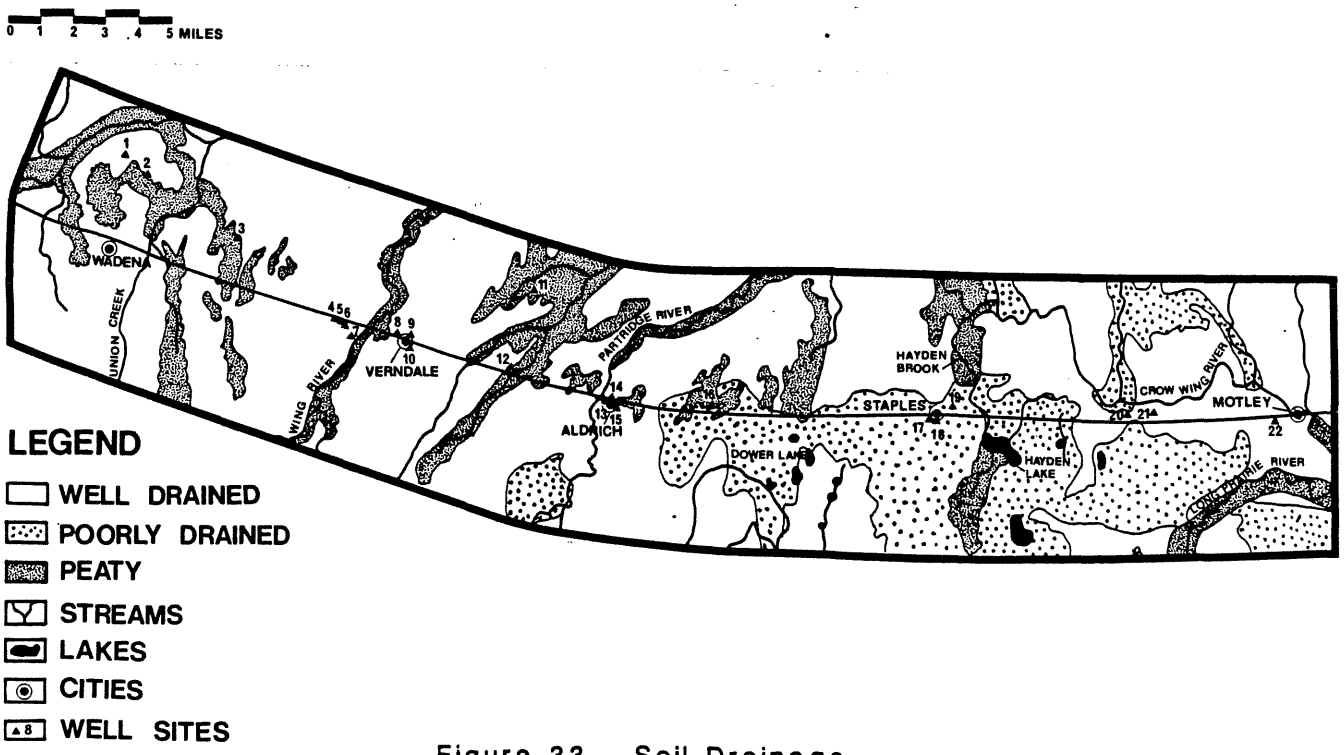


Figure 33 Soil Drainage

From Wadena to four miles east of Aldrich, sandy loam soils two to three feet thick with a high degree of permeability are predominant. Upland soils consist of a thin surface layer of dark organic matter underlain by sand and gravel. Soil layers are thinner on drumlin crests and slopes where erosion has occurred. These soils have fair fertility levels. When not properly managed, these soils are subject to wind erosion. The porous texture results in droughtiness. This soil type belongs to the Horset-Esterville Soil Series.

From four miles east of Aldrich to Motley, medium textured forest soils occur. These soils are loamy sands one to three feet thick, underlain by sand and gravel. Sandy loam fragipan layers frequently occur beneath the subsoils. Perched water tables are often found above the fragipan during the spring, and after rains. Fertility is low in these soils, and areas of peat and muck occur often. Peat is usually 1 to 15 feet deep. Near Aldrich, 30 to 40 percent of the soils are peat. Management concerns include problems from wind erosion, low fertility and droughtiness. These soils belong to the Runeberg, the Nebish-Rochwood and the Marquette-Nymore Series.

Groundwater

The water table is generally 10-20 feet beneath the ground surface. The water table usually conforms to surface topography and ties into streams, lakes and wetlands. From Wadena to Motley the water table generally slopes eastward as does the land surface.

Surface sands and gravels are the main source of water for domestic, municipal and agricultural use. Estimated water yields from these surface deposits are 25-100 gallons per minute west of Aldrich and 100-500 per minute east of Aldrich (Minn. Geological Survey).

Groundwater Quality

Moderate amounts of mineral matter are present in the groundwater. Calcium, magnesium, and bicarbonates are the major mineral constituents.

Groundwater Recharge

Within the project area the relative recharge potential to glacial deposits is greater in the granular sediment west of Aldrich. The steeper slopes and more clayey soils with lower permeability east of Aldrich are considered to be poorer recharge zones.

Surface Water

The most significant surface waters in the project area are the numerous streams which flow through it. These streams, Leaf River, Union Creek, Whiskey Creek, Wing River, Partridge River, Hayden Brook and Long Prairie River, are all part of the Crow Wing River Watershed (See Natural Features Map).

Crow Wing River

The Crow Wing River is a tributary of the Mississippi River. Near U.S. 10 the Crow Wing River is wide, shallow, and has a sandy bottom. The river receives substantial recreational use. Fishing and canoeing are typical activities.

The river supports a roughfish-gamefish population. White sucker and redhorse are the principal fish. Northern pike, walleye, largemouth bass and panfish are also present.

Tributaries of the Crow Wing River

Physical characteristics of the tributaries are similar to the Crow Wing River. They are generally shallow, and have a sandy bottom. Roughfish and gamefish inhabit all of these rivers. However, roughfish are predominant. Hayden Brook and Union Creek are both smaller streams. Hayden Brook may be used by Northern Pike for spawning during the spring, but is otherwise not an important fish resource. Union Creek is a DNR designated trout stream 1.3 miles upstream of the crossing of U.S. 10. Union Creek is not presently being managed for trout by the DNR. The city of Wadena discharges its treated sewage into Union Creek in Wadena.

Surface Water Quality

The quality of water in the Crow Wing Rive and its tributaries between Motley and Wadena is generally good. However, like the groundwater, the surface waters contain moderate amounts of dissolved

minerals. This is due to the abundance of minerals in the glacial outwash and till which supply groundwater flow to the rivers.

Nutrients such as phosphorous and nitrogen are present in moderate to high concentrations. Existing surface water quality is discussed in further detail in Section IV, Water Resources Impact.

Lakes (over 10 acres)

Hayden Lake (253 acres), located southeast of Staples, is the only lake located close to existing and proposed U.S. 10. Hayden Lake does not support a permanent gamefish population. The lake is valuable for waterfowl, furbearers and shorebirds (See Figure 26).

Only 1.1% of the area of Wadena County is in lakes of 10 acres or more. This includes 39 lakes (3,802 acres), of which 28 have been at least partly drained.

The eastern half of the project is in Todd County which contains more lakes. About 4.4% of the area of Todd County is in lakes over 10 acres (215 lakes or 27,901 acres).

Vegetation

The proposed action is located in the original transition zone between hardwood forest to the south, coniferous forest to the north and tall grass prairie to the west. East of Motley, forest still predominates. From Motley to Wadena the vegetation changes from forest to prairie (now mostly agricultural land).

Before settlement, prairie fires maintained the forest-prairie transition. Frequent fires suppressed tree growth and encouraged the development of grassland. This created a savanna which contained islands of oak and aspen trees scattered over a prairie of grassland and marshes. The original prairie and savanna west of Motley has been virtually all cultivated or grazed. Many of the wetlands have also been completely or partially drained. Fire suppression has allowed trees and brush to encroach upon much of the area that is not disturbed by cultivation or grazing.

Land in the project area was cleared, drained and plowed for farming during the late 1800's and early 1900's. Many of the farms were abandoned during the 1920's and 1930's. The abandoned lands regenerated to second growth woodlands of oak and aspen. Currently farming is again expanding in the area due to advent of economical irrigation equipment. The future trend in land use will be a continuing conversion of second growth woodlands and undrained wetlands into agricultural production.

Threatened or Endangered Plant Species

The project area is not within the range of any federal threatened or endangered plant species. According to the Minnesota DNR Natural Heritage Program, the project area does not contain any documented observations of any plant species which are endangered, threatened or of special concern.

Woodlands

Aspen is the most abundant woodland vegetation. On dry, sunny sites red oak, burr oak, and birch are associated with the aspen. On moist, shady sites red maple, ironwood and basswood occur. Prominent understory shrubs in the aspen type include beaked hazel, juneberry, honeysuckle, and mountain maple. Large-leaved aster, wild sasparilla, false lily of the valley and bracken fern are the more common herbaceous plants.

Along stream bottoms and adjacent to some wetlands the dominant overstory species are American elm, black ash, ironwood, yellow birch, and basswood. The understory often consists of hazel, willow, elderberry, choke cherry, alder and ferns.

On poorly drained peat soils lowland forests of tamarack and black spruce occur. The lowland forests are associated with shrub swamps of willow, red-osier dogwood and alder. Common understory species include labrador tea, mosses, leather leaf, sedge, and grasses.

Upland coniferous trees are uncommon. A few relict red and white pine and some stands of jack pine, spruce and balsam

exist in woodland areas. A few pine plantations for windbreaks and timber have been planted.

Farmland

Agricultural land in the project area consists of grainfields, hayfields and pastures. Agriculture presently comprises the major land use in the project area, Area farms are not highly productive due to naturally low fertility, sandy soils and short growing season. New farming practices, such as irrigation, have improved agricultural production.

Wetlands

Wetlands are abundant throughout the project area, comprising about 15 percent of the total land acreage. Within a six mile band, (three miles on either side of existing U.S. 10) approximately 18,500 acres of wetland are found between Wadena and Motley. The size and distribution of these wetlands can be seen on the Natural Features Map.

Wetlands range from seasonally flooded depressions to permanent areas of open water. Water levels in most of these wetlands are maintained by the near surface groundwater. Shallow, heavily vegetated wetlands, such as sedge meadow and shrub swamps , are most abundant. Open water ponds and marshes with deep water are not common. Many of the wetlands in the project area have been partially drained and have less overall value for wildlife than would deeper marshes and ponds.

Wetlands were inventoried and classified into types according to the publication, "Wetlands of the United States," Circular 39, Fish and Wildlife Service, U.S. Department of the Interior.

The following wetland types are found within the project area.

Wetland Types

Type 1 -- Seasonally Flooded Basins

Soil is flooded for brief periods with shallow water during spring and after heavy rains, but is usually well drained for most of the growing season. Common plants are grasses and forbs, sometimes

with scattered brush or tall weeds. These areas are often farmed or pastured.

Type 2 -- Wet Meadows

Soil may be flooded for only a few weeks after spring snow melt, but is without standing water most of the growing season. Common plants are grasses and forbs, sometimes with scattered brush or tall weeds These areas are often farmed or pastured.

Type 3 -- Shallow Marsh

Soil is waterlogged to surface and often covered with three inches or more of water. Surface water remains during spring and early summer. Plants include grassed,bull rushes, spike rushes, cattails, arrowheads and smartweeds. The vegetation may form a complete cover or may have scattered areas of open water.

Type 4 -- Deep Marsh

Soil is covered with six inches to three feet or more of water during the growing season. Emergent vegetation is usually confined to the marsh rim, or forms scattered clumps and islands. Vegetation includes cattails, sedges, rushes, arrowheads, duckweeds, and submerged aquatic plants.

Type 5 -- Open Water

Wetlands of this type contain open water from five to ten feet deep fringed by a border of emergent vegetation. Aquatic plants may include cattails, rushes, arrowheads, pondweeds, coontail, and lily pads.

Type 6 -- Shrub Swamps

The soil in Type 6 wetlands is water logged during the growing season, and may be inundated by six inches or more of water. Common vegetation includes alders, willows, and dogwoods which form a dense woody cover. Understory vegetation may consists of grass, sedge, horsetail, and cattail.

Type 7 -- Wooded Swamps

Soil is at least waterlogged close to the surface during the growing season and is often covered with a foot or more of water. Woody vegetation includes ash, elm, willow, alder, dogwood, and tamarack.

Wildlife

A wide variety of plant communities occur along the proposed project. Included are stands of northern hardwoods, pine groves, conifer swamps, marshes, grasslands, and agricultural lands. This varied mixture of plant communities provides good habitat for many different kinds of wildlife, both game and nongame.

Birds

Approximately 225 species of birds are can be found in the project area. Migrants account for perhaps 200 species, of which half are also summer residents. Normally only approximately 15 species are year round residents, while perhaps 20 species are found in the area only during the winter. Many of the 225 species are uncommon or rare. This is due to the project being located in the transition zone between three major vegetation types, and is thus situated on the edge of the range of many bird species.

Principal game birds include the ruffed grouse, mallard, blue-winged teal, wood duck, ring necked duck and American woodcock. Less important game species include the ring-necked pheasant, Hungarian Partridge, common snipe, American coot, sora rail, and several less abundant waterfowl species.

The proposed action is located on the eastern edge of the prairie-pothole region. This region of 300,000 square miles in the upper midsection of the North American Continent produces 50 percent of the continent's duck crop in a normal year. Field investigations have revealed moderate use of the project area by waterfowl. The great percentage of wetlands in the area are naturally shallow or have been partially drained.

Many of these wetlands have little open water, except in early spring, and have become choked with a heavy growth of cattails, sedges, and grasses. This dense vegetation has reduced the wetlands usefulness as prime waterfowl habitat.

The project area is also attractive to many kinds of non-game birds. A large number of shorebirds can be found in the extensive wetlands. Warblers, flycatchers, vieros, woodpeckers, and thrushes are found in the upland forests. Open fields and pastures are used by swallows, bobolinks, meadowlarks, sparrows, grackles, and blackbirds. Several kinds of predatory birds are present, including hawks and owls.

Mammals

Approximately 50 species of mammals are found in the project area. Prominent game species include the eastern cottontail, snowshoe hare, gray squirrel, fox squirrel, beaver, muskrat, raccoon, mink and white-tailed deer. The white tailed deer and ruffed grouse are the most important and popular game species. Common nongame species include porcupine, woodchuck, coyote, weasel, skunk, red squirrel, thirteen-lined ground squirrel, chipmunk, pocket gopher, and shrews. Also present are the ubiquitous bats, voles, mice and moles.

Reptiles and Amphibians

Several species of reptiles and amphibians are also found in the project area. These species include the tiger salamander, blue spotted salamander, American toad, eastern hog nosed snake, snapping turtle, western painted turtle, and others.

Threatened or Endangered Animal Species

The project area is not within the primary breeding range of any species of wildlife listed as threatened or endangered by the U.S. Fish and Wildlife Service or the Mn/DNR. The project does lie near the edge of the normal breeding range of the eastern timber wolf and the northern bald eagle. These threatened species may infrequently move through the project area but do not normally reside there. The American and arctic peregrine falcons are endangered species which may rarely pass through the project area

during spring and fall migrations.

Wildlife in Need of Special Consideration

Some species of wildlife in the project area are included on the Mn/DNR list of species in need of special consideration. Three species, the snapping turtle, the osprey, and the red shouldered hawk, have been so designated. These species are locally uncommon, but are not endangered on a statewide basis.

Within the project area three major areas of natural vegetation and wildlife habitat were identified which may be significantly impacted by the proposed action (see Figure 10). These three areas are considered important because they are large contiguous blocks of natural vegetation and because they have special values for wildlife, as follows.

North Wadena Area

This area of approximately two square miles consists primarily of lowlands of thick tamarack swamps and shrub swamps. Intermixed throughout the swamp are islands of highland covered with northern hardwoods or grass meadows. This area is especially valuable to wintering deer because its swampy nature makes it somewhat inaccessible. This provides security for the deer. The swamp also contains extensive stands of red-osier dogwood, a highly preferred deer food. Winter signs observed in the area indicated heavy use by wintering deer.

West Staples Area

This area is approximately 1.3 square miles in size. It is a low wetland, predominantly of sedge meadow and shrub swamps. Some islands of aspen and grass also occur. No open water exists except in drainage ditches. It is most valuable for small game such as rabbits and grouse, and for a variety of nongame birds and mammals.

Some of this area has been altered by the training of heavy equipment operators from the Staples Area Vocational Technical Institute.

East Staples Area

This area is a sizable complex of wetlands and woodlands of several square miles. It encompasses Hayden Lake and a large type 3 cattail marsh directly north of U.S. 10. Hayden Creek runs through the center of the area and drains into the Crow Wing River. The diversity of vegetation provides good habitat for all kinds of wildlife found in the project area. The marshy character of the area makes it especially valuable for waterfowl. This area has the best overall value as wildlife habitat of the entire project area.

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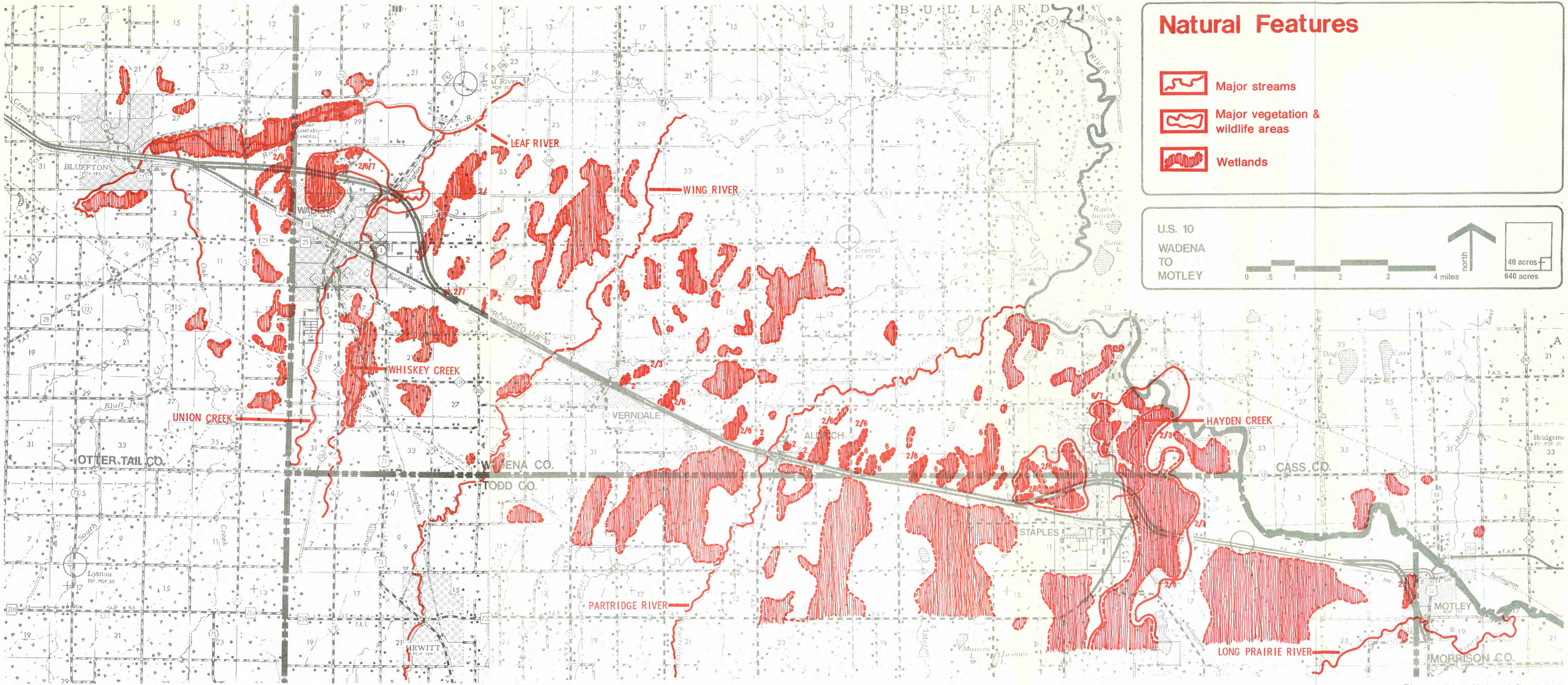

Figure 34 Natural Features

Population Size

Although there have been population changes in area counties and cities over the years, the most striking feature is the relative consistency, as indicated in Table 5. Indeed, the population changes between 1940-1980 are very small in area counties, less than one percent in aggregate. According to estimates from the Minnesota State Demographer, these numbers have increased from the 1980 census.

Table 5
Population in Area Counties And Cities, 1940-1984

COUNTY	1940	1960	1970	1980	1984
Morrison	27,473	23,641	26,949	29,311	30,019
Otter Tail	51,896	48,960	46,097	51,937	55,132
Todd	27,438	23,199	22,114	24,991	25,973
Wadena	12,722	12,199	12,412	14,192	13,935
CITY					
Wadena	2,916	4,381	4,640	4,699	4,497
Verndale	521	606	570	504	540
Aldrich	152	90	85	88	85
Staples	2,952	2,706	2,657	2,831	2,817
Motley	368	430	351	442	428

Source: Various volumes of the Bureau of the Census. Figure for 1984 from Minnesota State Demographer, "Minnesota Population and Household Estimates, 1984."

Demographic Structure

The age structure of the area is somewhat different from that of the state. The population tends to be somewhat older, as indicated by the relatively higher proportion of it aged 65 or more. The population is, on the average, somewhat less likely to have graduated from high school than the remainder of the state. This is likely a corollary of the age structure of the population.

Table 6
Selected Demographic Statistics

ITEM	GOVERNMENTAL UNIT				
	MN	Morrison	Otter Tail	Todd	Wadena
Population Change 1970-1980, percent	7	9	13	13	14
Age Structure					
Pct less than 5 years	8	9	7	9	8
Pct 5-17 years	21	26	21	24	23
Pct 65 years or older	12	14	18	16	16
Median age	29	29	34	30	31
Percent Urban	67	25	24	22	35
Pct 12 or more years ed.	73	55	59	56	58
Pct 16 or more yrs ed.	17	8	10	8	11
Pct families below poverty level (1980)	7	17	12	17	15

Source: U.S. Department of Commerce, Bureau of the Census, "County and City Data Book 1983."

Agriculture Influence

The area is dominated by a rural character. The economic setting of the project area is heavily influenced by agriculture. Agriculture is the principal land use, accounting for approximately 75 percent of land use in each county. Although the area is not one of the richest agricultural regions in Minnesota, it is an intensely farmed area (Table 7). Farms tend to be somewhat smaller than for the state, and land values are lower as well. Other agricultural indicators are generally lower than comparable state figures, e.g. per acre crop yields are lower than state figures, but not markedly so. In all counties in the project area, the majority of the population is rural.

Table 7
Selected Agricultural Statistics

ITEM	MN	GOVERNMENTAL UNIT Morrison County	Otter Tail County	Todd County	Wadena County
Number of Farms (000)	94	2.2	3.2	2.1	.77
Avg Farm Size (acres)	294	215	285	205	240
Avg Farm Value ($000)	343	142	193	146	135
Avg Value ($/acre)	927	679	677	743	572
Harvested Acres (000)	19.7K	189	296	223	76
Value of Products Sold per Farm ($000)	63	48	47	44	37
Operator Avg Age	47	47	49	49	48
Corn Yield	107	76	64	83	56
Soybean Yield	33	25	24	29	23
Wheat Yield	47	35	41	35	34
Oats Yield	65	57	62	58	48
Hay Yield	3.0	2.5	2.9	2.9	2.0

Source: U.S. Department of Commerce, Bureau of the Census, "1982 Census of Agriculture." U.S. Department of Agriculture, cooperating with the Minnesota Department of Agriculture, "Minnesota Agricultural Statistics, 1985. Value of Minnesota Farmland is for 1985, County Values for 1982. All yields are in bushels per acre, except hay which is tons per acre.

Economic Setting

Although agriculture is the predominant land use, the economy of the region demonstrates diversification as well, as depicted in Table 8.

Table 8
Distribution of Selected Occupations in the Project Area by Percent, 1984

	GOVERNMENTAL UNIT				
	Minnesota	Morrison County	Otter Tail County	Todd County	Wadena County
Total Employees	1.5M	5,392	10,239	3,952	2,827
Percent Employed in:					
Construction	4.3	6.0	3.7	0.0	1.7
Manufacturing	24.5	18.9	8.1	30.7	12.7
Transportation	5.7	3.9	10.8	3.7	6.4
Wholesale Trade	7.8	6.3	5.9	9.3	11.3
Retail Trade	22.1	24.5	26.9	17.7	29.7
FIRE	7.4	3.8	5.6	5.4	4.7
Services	27.2	35.3	26.6	19.3	31.8

Source: U.S. Department of Commerce, Bureau of the Census, "County Business Patterns 1983." March, 1986. Not all occupational categories included, no column will sum to 100 percent. Cells with zeros indicate that data was suppressed by Census Bureau for privacy reasons. FIRE is acronym for Finance, Insurance, Real Estate.

Employment

Compared to the state as a whole, area counties have a somewhat smaller proportion of their workforce employed in the manufacturing sector. County figures fluctuate around a mean figure of 17.5 percent, whereas the comparable figure for the state is approximately 25 percent. Todd county leads area counties with a substantially higher part of its workforce in manufacturing. Figures for retail employment in the area are similar to those of the state, led by Wadena County with nearly 30 percent of its workforce so employed. The third major sector of the employment picture is services, which is comprised of many diverse occupations. Statewide this sector accounts for approximately 27 percent of employment. Area counties range from Todd, with somewhat less than 20 percent, to Morrison with somewhat more than 35 percent in the service sector.

Income

Income figures for the area are generally lower than comparable statistics for the State of Minnesota, which are in turn lower than Metropolitan figures. Recent per capita personal income figures for area counties are lower than the state average (Table 9). This ranges from a figure of 39 percent less in Morrison County to 17 percent less in Otter Tail County. Comparing with non-metropolitan Minnesota, the area fares much better. While Todd County is still more than 26 percent below state figures, Otter Tail is approximately 1.5 percent higher. All counties, however, rank relatively low in the state.

Table 9
Selected Economic Indicators

ITEM	GOVERNMENTAL UNIT				
	MN	Morrison County	Otter Tail County	Todd County	Wadena County
Per Capita Income ($)	13,212	8,314	10,976	7,945	8,875
Rank in State		82	45	83	77
Median Family Income 1983 ($)	24,714	14,420	16,012	13,289	14,315
Pct increase 1979-1983	23.8	14.3	19.5	12.4	13.5
Unemployment Rate	6.2	10.3	8.8	9.6	11.0

Source: Per capita income figures and county rankings are from U.S. Dept of Commerce, Bureau of Economic Analysis, "Survey of Current Business," April, 1986. Statistics are for 1984. Estimates of median family income are from the Office of the Minnesota State Demographer, for the year 1983. Unemployment figures from Minnesota Department of Jobs and Training, figures are for April, 1986.

These income figures are likely a reflection of a number of factors, including general wage levels, a higher

unemployment level, and a greater proportion of its population either aged 65 and older, or under age 18, both of which have relatively low incomes.

Community Facilities

Community facilities are quite variable between towns. The location of these facilities can be found on the following maps.

Parks and Recreation Areas

There are a number of parks and recreational areas located within or near the corridor of the proposed project. Their locations are indicated on the parks/rec. maps and are described as follows:

Black's Grove Park

This park is located one-half mile south of U.S. 10, two miles west of the west corporate limits of Wadena. It measures 66 acres and is used by the public for picnicing. It is also used as an environmental education area by schools, scout troops and 4-H groups. There would be no impact by any of the proposed alternatives.

Wadena County Fairground

This is located in Wadena, north of the existing U.S. 10. It consists of 62 acres of commercial land owned by the county. There are about 30 buildings, most of which are owned by the Fair Board. It is used for an annual fair. It has a lighted baseball field with grandstand seating where about 100 amateur games are played yearly. Other uses include occasional horse races, horse shows, dog shows, dairy cattle shows, etc. The National Guard Units are allowed to bivouac on occasion. Both open and building space is rented for storage uses during the off season. Alternative Route 2 would require right of way from the south edge of this area. This parcel is not 4(f) land.

Sunnybrook Park in Wadena

This is a city park of 70 acres located north of U.S. 10 near the eastern limits of Wadena. Alternative 2 would require land from Sunnybrook Park. The Preferred Alternative will not impact this park.



Figure 35 Wadena Community Facilities

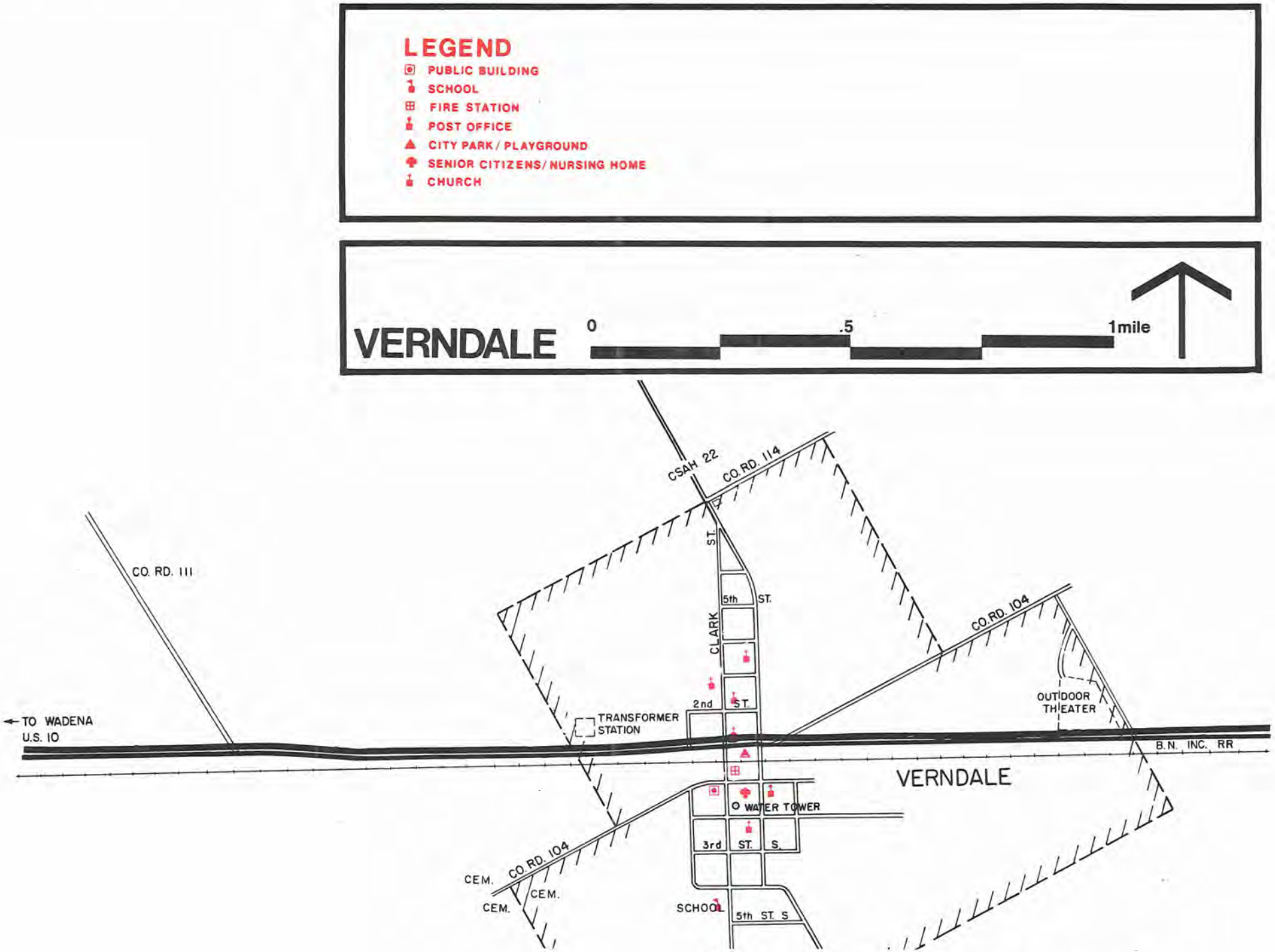

Figure 36 Verndale Community Facilities

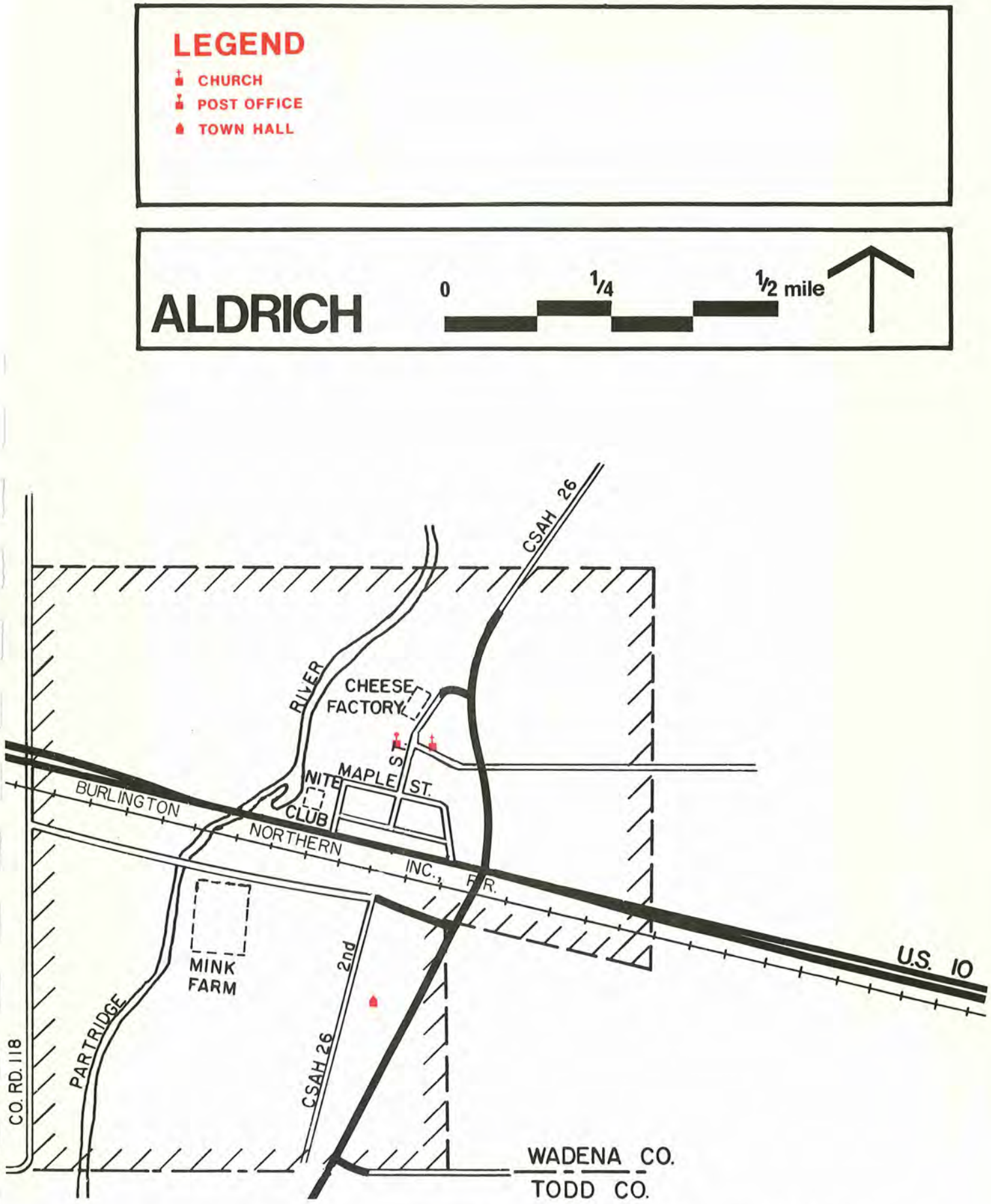

Figure 37 Aldrich Community Facilities

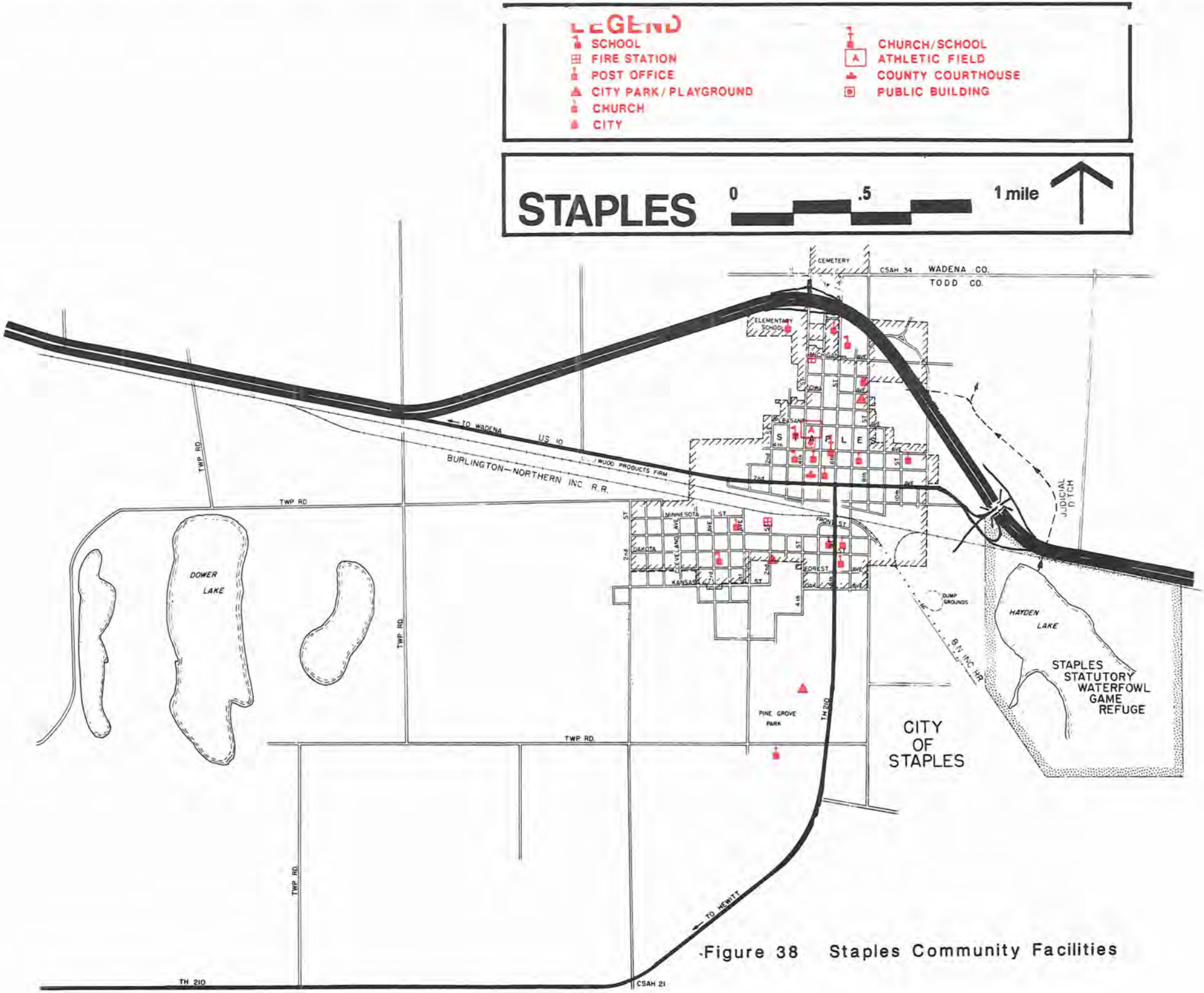

Figure 38 Staples Community Facilities

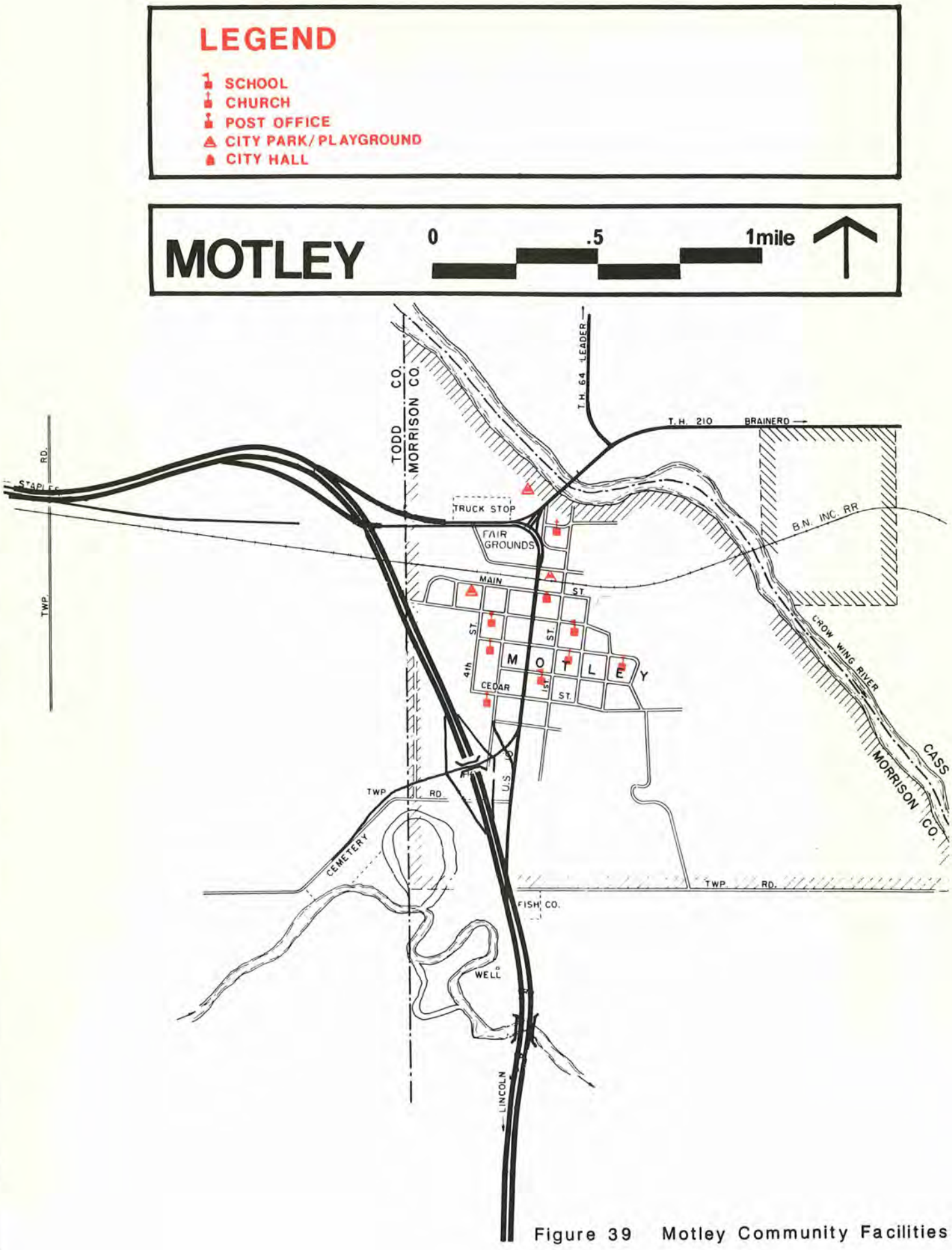

Figure 39 Motley Community Facilities

Tapley Park in Wadena	This public park, 20 acres in size, is located in the south part of Wadena, and is nearest to Alternative Route 4. There would be no involvement with any of the proposed alternative routes.
Other Parks in Wadena	There are other small parks in Wadena, ranging from 0.3 to 2.0 acres in size. None will be impacted by the proposed project.
Verndale Park/Open Space	An area commonly referred to as Verndale Park is located along the south side of U.S. 10 in Verndale. The rail tracks divide this parcel. The smaller parcel, 0.5 acre open space will be impacted by Route 2. This area is on land owned by the Burlington Northern Railroad, as rail right of way. Its use for private or transportation uses has never been relinquished. The City of Verndale has determined that this parcel is not being used as a park (See letter appended to this FEIS.) As a result, this impact does not constitute 4(f) involvement.
4-H Picnic Area in Aldrich	This area is located alongside existing U.S. 10 in Aldrich. It is all on Highway and Railroad right of way between the highway and the railroad. It is sponsored and maintained by a local 4-H group, providing two picnic tables, which almost cover the area. Alternative Route 2 will eliminate this area as a picnic stop. This area is not considered 4(f) since its intended use for transportation has never been relinquished for other purposes.
Dower Lake Park	This is a regional park supported by the community of Staples. It is located about one-half mile south of existing U.S. 10/Alternative Route 1, or about three miles southwest of Staples. It covers an area of 217.6 acres and has permanent buildings and supervised swimming. It has camping facilities, softball area, snowmobile racetrack, picnic facilities, and other areas for open space recreation. The proposed project will have no impact on this park.

Staples Elementary School	This is located in the north part of Staples along Fourth Street and will be affected by Alternative Route 1. The proposed interchange on Alternative Route 1 at Fourth Street will require about 9.5 acres of the playground. This is 4(f) property, and is the subject of a draft and final Section 4(f) Evaluation. The Draft Section 4(f) Evaluation was circulated in 1983, and the Final Evaluation is appended to this FEIS.
Pine Grove Park in Staples	This is located just south of the corporate limits of Staples. This park has an area of 40 acres. It has mature Norway and White Pines, excellent walking and picnic areas. It has a lighted baseball field, and playground equipment for small children, such as teeter-totters, swings, and slides. The preferred alternative will have no impact on this park, although a southerly route could have an impact on the park
Other Parks in Staples	There are a number of small neighborhood parks in Staples ranging in size from one to four acres. None of these would be impacted by the proposed project.
Wayside Rest Area near Motley	This is located immediately outside of the north corporate limits of Motley, alongside TH. 210. It measures 1.4 acres, all of its being on highway right of way. It is used for a Highway Maintenance Sub-station, having facilities for truck storage, salt sheds, gas pumps, etc. There are vault type toilet facilities and two/three picnic tables available. One entrance from existing U.S. 10 and one from TH. 210 provide access to this facility. There will be no impact to this area by the proposed project.
Motley Fairgrounds	The Motley fairgrounds (five acres) is located in the north part of Motley alongside the curved segment of the existing U.S. 10. It is used for an annual fair and for occasional other events throughout the year, such as auctions, shows, and exhibitions with no admission fee being charged. The

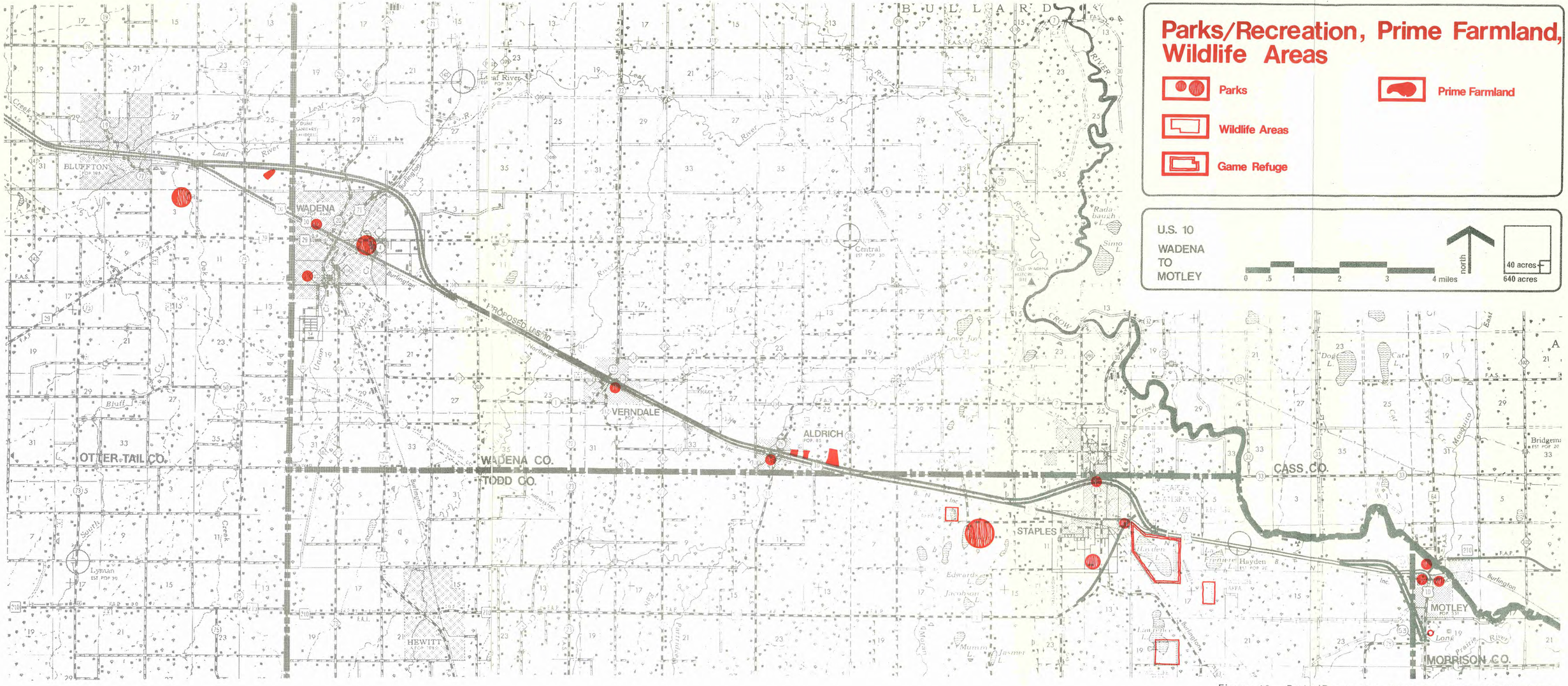

Figure 40 Parks/Recreation, Prime Farmland, Wildlife Areas

Preferred Alternative will not impact this area.

City Park at Motley

This park, about one-half block in size, is located in the north part of Motley adjacent to the existing U.S. 10. There are 5 picnic tables and drinking water is available. Alternative 2, Through Town, would impact this park. The Preferred Alternative will not involve this park.

Wildlife Management Area

Three State Wildlife Management Areas (WMA) are south of U.S. 10 near Staples. They are:

- Dower WMA, 40 acres, Sec. 4, Staples Township.
- Lawrence WMA, 200 acres, Sec. 19, Villard Township.
- Villard WMA, 80 acres, Sec. 17, Villard Township.

None of these WMA's would be directly affected by the proposed action. See Figure 40. A fourth WMA, the Staples Wildlife Management Area, is being enhanced as wetland mitigation. See Section IV for additional information.

Another wildlife area, the Staples Statutory Waterfowl Game Refuge, is located immediately south of existing U.S. 10 just east of Staples. This refuge was established in 1971, primarily as a nesting area for Canada geese. This 607 acre refuge is all privately owned and encompasses Hayden Lake. Approximately six acres in the north-west corner of the refuge, between U.S. 10 and the BN Railroad, would be within the right-of-way of the proposed action. There are no easements by the Minnesota Department of Natural Resources or the U.S. Fish and Wildlife Service. Minnesota Law providing for the establishment of such privately owned refuges is found in Minnesota Statutes, Chapter 99.

Present Land Use

The four counties which are affected by the proposed project have a variety of land uses of which agriculture and forest land are predominant. The following is a land use breakdown of each county by 40 acre parcels, with the classification of each parcel determined by its dominant land use:

Table 10
Current Land Use
by 40-acre parcel

LAND USE	COUNTY			
	Otter Tail	Wadena	Todd	Morrison
Forested	5,844	3,562	3,913	6,129
Cultivated	20,557	3,421	6,682	5,803
Pasture/Open	3,764	1,290	4,010	5,188
Water	4,111	57	565	340
Marsh	668	245	274	661
Urban	784	114	229	338
Other	24	7	8	14
Total Parcels	35,712	8,696	15,681	18,477

Source: Minnesota Pocket Data Book

As indicated earlier, agriculture is a predominant economic activity. This predominance is also indicated in the land use patterns throughout the area. As found below in Table 11, a decline in the acreage devoted to agriculture may have been reversed in the last decade.

Table 11
Agricultural Land Use, Acres by County 1959-1982

	YEAR					
COUNTY	1959	1964	1969	1974	1978	1982
Otter Tail	588829	578167	562739	611584	593373	620185
Wadena	86027	84320	75858	86031	86369	82717
Todd	248285	241642	229864	242922	259509	254926
Morrison	225865	216561	216183	235687	242756	229706

Source: Minnesota Department of Agriculture

Planning

Land uses are expected to slightly change whether or not the proposed highway improvement is constructed. The slowly expanding population and movement from employment based upon agriculture to a variety of other vocations, have resulted in this change. Farmland and undeveloped areas are being converted into residential, recreational, and industrial-commercial sites.

Regional Planning

For many years the Regional Planning Commission (Region 5) has been aware of the proposal to upgrade U.S. 10 to 4 lanes. They have concurred with the general proposal but have not gone into detail on alternate route recommendations.

Local Zoning

Otter Tail County

No county zoning exists in the vicinity of the project.

Wadena County

County zoning north and east of the City of Wadena dictates three basic land uses: suburban residential, transitional, and general agriculture. Both Alternatives 1A and 1B pass through areas zoned suburban residential and transitional agriculture.

City of Wadena	Alternative 1A does not pass through the City of Wadena. Alternative 1B passes through a portion of the City which is zoned residential and then extends north and outside of the city limits. The "North Area Study" does designate lands along the perimeter of Wadena--both inside and outside of the city limits--into specific use areas for industrial, commercial, agricultural, environmental, and residential purposes. This study, as previously stated, is contingent upon the adoption of Route 1A.
City of Verndale	No zoning exists.
Todd County	Lands along the highway corridor are currently zoned agricultural in Todd County.
City of Aldrich	No zoning exists.
City of Staples	The proposed bypass has been addressed within city planning for several years. The bypass will pass through mainly existing and proposed residential or commercially zoned areas. The city planning efforts clearly support this project.
Morrison County	From the south of the limits of Motley to the south terminus of this project, lands have two basic zoning types. They are commercial (along frontage roads and U.S. 10) and shoreline residential (along and near the Long Prairie River).
Motley:	The bypass at Motley will travel through an area zoned heavy-commercial.

Community Planning

Wadena	A comprehensive Guide Plan for the City

of Wadena was completed in 1967. It did not include the "North Area" where the proposed U.S. 10 Bypass might be located.

North Area Study

The city began to update their comprehensive city plan early in 1977. They obtained consultant planning service in May, 1977. A schedule of study for the "North Area" was prepared, extending through the years 1977 and 1978.

At least 15 progress meetings and 3 public hearings were held by City Planning Staff and the PLanning Commission for the "North Area" study. The overall study coordination process included input from the City Planning Staff, City Planning Commission, County Planning Commission, Leaf River Township Board, consultant engineers, Mn/DOT, interested community groups, and the general public.

The result of this study is a land use plan that is highly consistent with highway and city planning goals.

Verndale, Aldrich and Motley

The cities of Verndale, Aldrich and Motley do have a comprehensive guide plan for growth and development. However, the City of Verndale employs engineer-consultant services pertaining to sewers, water systems, etc.

Staples

The City of Staples formulated a comprehensive plan for its development in 1972.

This comprehensive guide discusses plans for Land Use, Thoroughfares, and Community Facilities.

The proposed projects covered in the plan include U.S. 10 Bypass and TH. 210 relocation plans. The proposed action is consistent with the Staples Comprehensive Plan.

Historical Sites

There are two sites of historical significance in the vicinity of U.S. 10. These two sites are listed in the National Register of Historic Places. Both are located in Wadena County and are listed as follows:

1. Reaume's Trading Post - It is located six and one-half miles north of U.S. 10.

2. Old Wadena Historic District - This is the common name for this site. Other historic names include Old Wadena, Cadotte's Trading Post, Prescott's Trading Post, Little Round Hill Trading Post and Partridge River Battle Site. It is located five miles north of U.S. 10.

The construction of the proposed project will have no impact on either of these two historical sites.

Archaeological Sites

Early in the preliminary project planning, an archaeological site was discovered within the proposed construction corridor of U.S. 10. This area, called the Steinbrecker site, is located directly east of U.S. 10 on the north bank of the Long Prairie River south of Motley. In 1975, based on surface collection and excavation of a 1 X 1 meter formal test unit, the Minnesota Historical Society indicated that the site was potentially significant and that further testing would be necessary before a decision could be reached regarding site preservation.

Negotiation regarding access to the site and deposition of any artifacts was begun in 1980, and involved Mn/DOT, FHWA, the State Historical Society and Mr. Steinbrecker. These negotiations resulted in a site survey and sample excavations being conducted during the summer of 1981 by the Highway Archaeologist, Minnesota Historical Society. The investigation and resulting analysis revealed that the area had been occupied periodically between A.D. 500 and 1500. Density of the cultural material observed was low, and long-term historic cultivation of the

area had severely altered the cultural strata.

Results and recommendations are further discussed in the Environmental Consequences section of this FEIS.

ENVIRONMENTAL CONSEQUENCES

NATURAL FEATURES IMPACTS

The construction of the proposed highway improvements will cause the acquisition of several hundred acres of land. This land is of various types, and is subject to a number of land uses. For ease of understanding, the land which will be impacted by the proposed action has been classified into five categories.

1. Cropland
2. Developed, both commercial and residential
3. Grassland
4. Woodland
5. Wetland

The amount of each type of land which would be impacted by the proposed action was estimated. These estimates are found in Table 12. These figures indicate that the larger proportion of these impacts are associated with the community bypasses. The figures shown for the bypass corridors are for freeway/expressway design and include the area which would be required for the construction of frontage roads and interchange connections. They reflect the reduction in centerline separation discussed earlier.

Borrow Pits

Borrow pits will be needed to obtain fill material which the proposed action will require. Preliminary indications are that the right-of-way does not contain sufficient fill material to construct the project, and that borrow will be needed at the sites of the proposed bypasses. Recent estimates are that the Wadena bypass would require a 10-15 acre pit, the Staples bypass a 20-40 acre pit, and Motley bypass a 10-15 acre pit. One potential borrow area has been identified at Wadena. It is located in the northeast quadrant of the proposed interchange of U.S. 10 and 71. This area is currently in an agricultural use. No other potential borrow sites have been identified. Other sites will not be known until detail design of the project has progressed further.

Table 12

Land Type Impacts for Alternatives

Segment/ Alternative	Land Type: cropland	developed	grassland	woodland	wetland	Total
Wadena						
1-A	160	0	59	60	79	358
1-A-M[a]	142	0	59	60	79	340
1-B	193	13	59	35	90	390
2	41	22	11	9	5	88
Wadena to Verndale						
1	46	2	9	2	4	63
1-M[a]	35	2	7	2	4	50
Verndale						
1	51	7	27	8	9	102
1-A	54	2	21	10	18	105
2	11	16	12	4	2	45
2-M[a]	8	12	9	3	2	34
Verndale to Aldrich						
1	24	0	2	4	6	36
1-M[a]	19	0	2	3	5	29
Aldrich						
1	12	11	4	6	3	36
2[a]	0	6	3	4	0	13
Aldrich to Staples						
1	8	6	36	8	32	90
1-M[a]	6	5	28	6	25	70
Staples						
1	0	27	103	33	38	201
1-M[a]	0	27	95	25	38	185
2	2	20	29	4	10	65
TH 210-A[a]	3	2	28	15	1	49
TH 210-B	3	5	21	15	1	45
Motley						
1	0	18	81	49	2	150
1-M[a]	0	18	69	45	2	134
2	0	22	20	3	0	45

[a]Preferred Alternative. Number in each cell indicates number of acres affected. Differences between alternatives 1 and 1-M, 1-A and 1-A-M, 2 and 2-M are design differences discussed in the text in Section I and Section II.

Waste and Disposal	With the many wetlands crossed by this project, it is likely that materials such as peat and muck, which are unsuitable for road building purposes, will be encountered. This material, because of its high water content and retention, is unusable for road base and must be excavated and replaced with granular fill. The exact amount of unsuitable soil that will need disposal cannot be determined until after detail design of the project is completed. Mn/DOT Technical Memorandum No.83-11-ENV-1, "Guidelines for Disposal of Excess Materials" will be followed. The objectives of these guidelines are to avoid disposal that could damage environmentally sensitive areas; to dispose of materials in the most economical way; and to prevent the wasting of materials having potential engineering use or economic value. Preliminary indications are that the unsuitable material can be used as slope dressing, cross-hauled with borrow sites or otherwise disposed of within the right-or-way on non-wetland areas. Should disposal area within the right-or-way not be sufficient, there would be no disposal of unsuitable soils in wetlands unless there is no practicable alternative to such disposal.
Esthetic Effects	The total length of the proposed project is approximately 27 miles. All but 10 miles will be new roadway construction which parallels existing U.S. 10. The only areas where the road will not parallel the inplace road will be in the bypass areas of Wadena, Staples and Motley. In these locations, alterations to the visual environment will occur. Areas of greatest visual impact will be where the mainline or frontage roads and ramps will be on high fills (15 to 25 feet). Areas that would be visually affected by a road that would parallel the inplace U.S. 10 would be a park and fairgrounds in Wadena, and parks in Verndale, Aldrich, and Motley.

The northern bypass of Staples would be located approximately 400 feet north of the elementary school on Fourth Street.

Disruption of scenic resources such as trees, topography and wetlands will occur as a result of new road construction.

Roadway design features such as variable median and variation of the horizontal grade will help preserve scenic areas, which will be an esthetic benefit to motorists and residents alike. A specific area where special road design will be implemented is discussed in the 4(f) statement regarding Staples Elementary School.

Potential to disrupt scenic resources also exists in borrow sites. Borrow sites should be designated in grassland or cropland areas that can be restored to their original condition.

Measures to Minimize Harm

Opportunities exist to visually enhance the highway right-of-way and areas adjacent to it.

These include:

- Ponding areas (wildlife ponds) along right-of-way.
- Preservation of interesting or scenic trees and topography.
- Borrow sites shaped to form attractive water bodies.
- Plantings in interchange areas and entrances to towns. Little or no landscaping will be necessary in rural areas.
- Special esthetic design considerations for bridges.
- Controlling access to prevent undesirable strip development.

Erosion

Disruption of the soil and landscape will occur during highway construction. Erosion of exposed soil and underlying sediment is the primary concern. Potential for erosion to occur during

construction of U.S. 10 is low since most of the immediate project area is flat.

Erosion Control

Permanent and 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 re-establish vegetation after construction. Vegetation cover is the best permanent means of controlling and reducing erosion in large exposed areas. Permanent erosion control measures are included in the construction plans by the designer and it is the project engineer's responsibility to see they are implemented.

Temporary control of erosion includes items such as bale ditch checks, earth diversions, bale diversions, and temporary sediment basins. Temporary controls will be included in construction plans and 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.

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, organic matter, phosphorus and potassium content. From test information 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) will have to be used.

Fertilizer applied to the soil will either be removed from the soil or be stored in the soil. Nutrients in fertilizer may be removed from the soil by vegetation, leaching (nutrients dissolve and move downward through the

soil) or microorganism breakdown. Nutrients may be stored in soil by being incorporated into microbes, fixed by clay, absorbed by organic matter and/or absorbed by the soil.

Little or no adverse effects upon the quality of ground and surface waters are anticipated due to the use of fertilizer. The soil and vegetation will store nutrients and inhibit their entrance to ground or surface waters. In fact, the beneficial effect of fertilizer in re-establishing vegetative cover, will far outweigh the effect of fertilizer contributing nutrients to aquatic areas.

Bedrock Geology

Bedrock lies at least 100 feet or more beneath the soil surface. Therefore, construction of any of the alternatives will not affect bedrock formations.

Groundwater Effects

The abundance of wetlands along proposed U.S. 10 indicates a high water table. Well log data from the USGS and private borings for structures and wells confirm this. Potential problems are likely to occur where the water table is close to the ground surface, usually less than 10 feet. These problems include: frost heave of the new road surface, pumping of soil fines from below the pavement surface, flooding and early pavement deterioration. The new road surface will be kept a minimum of 5 feet above the water table. Groundwater problems will be minimal.

Deicing Salt

Deicing salt is a potential groundwater pollutant. Though present ice control policies reduce the amount of salt used for deicing, some salt still enters the environment. For deicing salt to enter the groundwater system it must move directly downward through the soil. To date, no instance of groundwater contamination from highway runoff of deicing salts has been documented in Minnesota.

In Minnesota, contamination of wells has occurred from runoff of deicing salt stock piles. This is not expected to be a problem because existing stock pile sites are expected to be used to service

proposed U.S. 10. The amount of salt stored at any given time should not exceed quantities presently being stored. All stock piles will also be covered when not actively being used.

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 Crow Wing River in Morrison County, from Motley to the confluence with the Shell River, is a potential candidate for inclusion in the National Wild and Scenic River System. However, TH 10 will not cross the Crow Wing River. In addition, all road design options are located at least one mile from the river. Therefore, no adverse impacts should occur to the Crow Wing River.

Canoe and Boating Routes

The Crow Wing River, a designated Minnesota canoe and boating route, is within the study corridor, however, it is located at least one mile from any planned road construction. Standard erosion control measures, which will prevent any significant amount of sediment from being washed into the Crow Wing River or into any tributaries of the river, will insure that scenic qualities of the Crow Wing River will not be affected.

Floodplains

Federal Insurance Administration Flood Hazard Boundary Maps have been examined for the Th 10 project between the project termini. Figure 41 approximates the floodplain areas.

The following floodplains will be encroached upon by the proposed action between Bluffton and Motley.

Floodplain	Location	Type of Crossing	Length	Bridges
Long Prairie	S. of Motley	Transverse	300′	2
Long Prairie	S. of Motley	Longitudinal	2200′	0
Hayden Brook	Staples	Longitudinal	2000′	0
Partridge River	Aldrich	Transverse	200′	1
Wing River	N of Verndale	Transverse	500′	1
Union Creek	Wadena	Transverse	2000′	2

The Crow Wing and Leaf Rivers lie within the study area. However, these two rivers lie well outside any proposed construction limits and will not be encroached upon.

TRANSVERSE ENCROACHMENTS

Long Prairie River

The improvement of U.S. 10 just south of Motley will result in a 300 foot transverse crossing of the Long Prairie River. The Long Prairie River in this area has a main channel width of approximately 50 feet. In this area the Long Prairie River meanders extensively within a well defined riverbank in a wide floodplain, approximately 300 feet in width. The riverbanks are steep, approximately 2:1 slopes, and are covered with grasses and trees.

Partridge River

The construction of two additional travel lanes immediately west of Aldrich will result in a 200 foot transverse crossing of the Partridge River. The Partridge River has a main channel width of 20-30 feet. The river is devoid of meanders, and is basically straight in this area. The adjacent floodplain area is open and covered almost exclusively by grasses. The river has very well defined banks in this area. A lowhead dam (3-4 feet) is located approximately 300 yards downstream of the proposed crossing. This dam will not be affected by the U.S. 10 project. Field review showed no unique features.

Wing River

The improvement of U.S. 10 west of Verndale will result in a 500 foot transverse crossing of the Wing River Floodplain, immediately north of the existing travel lanes. The Wing River in this area has a main channel width of approximately 20-25 feet. The river is somewhat sinuous in this area, approximately 1-3 feet in depth, flowing within well defined banks. The floodplain consists mainly of grasses, with a few small trees.

Union Creek

The northerly bypass of Wadena will result in a 2000 foot transverse crossing of Union Creek. Union Creek in this area has a main channel width of approximately 10-20 feet. The floodplain is quite wide, 2000 feet, and the creek meanders extensively throughout most of its length. The vegetation in the floodplain consists mostly of small shrubs and grass groundcover. The creek itself in this area no significant fisheries habitat. The broad floodplain however, does provide extensive food and cover for wildlife. Consequently, during construction, only the brush necessary to accomplish the construction should be removed.

LONGITUDINAL ENCROACHMENTS

Long Prairie

The alignment of the Township Road for the proposed interchange in the southern part of Motley will result in a longitudinal encroachment in the Long Prairie River floodplain. (See Figures 27 and 41)

The Twp. road currently runs longitudinal to the Long Prairie River. The realignment of the township road will actually result in the road being further away from the river, by a distance of 50-100 feet.

Avoiding this longitudinal encroachment is not practicable for the following reasons:

1. In addition to providing for general transportation movements in the area, the township road provides access to a cemetery just west of Motley. To reach this cemetery via other roads would require a round trip of approximately six miles from Motley. Thus, not having the road is impractical.

2. In addition, because the floodplain is extensive, minor alignment changes would not remove the road from the floodplain.

3. The township road is approximately 10-12 feet above the normal river water surface elevation. Consequently, it should not be subject to frequent flood events. The existing longitudinal encroachment does not create or add to any known flooding problem. A detailed Flood Insurance Study has not been done in this area. The realignment of the township road is not expected to change the risk of flooding in this area.

As a result of these factors, it has been determined that the alternatives to this longitudinal encroachment are not practicable.

Hayden Brook

The interchange proposed for TH 10 and TH 210 in Staples would result in a longitudinal encroachment of approximately 2000 feet. This longitudinal floodplain encroachment at Hayden Creek could be avoided either by shifting the alignment slightly to the west or approximately 1.0 mile east.

If the alignment were shifted to the west, more than ten homes and businesses would require relocation. This relocation of homes and business would constitute a significant disruption to the community to avoid a minor longitudinal encroachment. If the alignment were shifted to the east, it would result in an additional 1.0 mile of construction, with increased right of way

requirements involving agricultural and other impacts.

As a result of these factors, it has been determined that the alternatives to this encroachment are not practicable.

The construction of the additional two lanes and bypasses should not result in any significant floodplain impacts for the following reasons.

1. No significant potential for interruption of a community's only evacuation route.

A) All roadway profiles will be designed above the 100 year flood elevation.

2. No significant increased risk of flooding will result.

A) All bridges or culverts will be designed to meet or exceed Minnesota DNR Public Waters Permit Criteria for new crossings and statewide standards and criteria for management of floodplain areas.

B) All bridges and culverts will be designed to insure that flood damage potential will not be increased upstream or downstream.

1) If an existing flooding condition is discovered, the design of hydraulic structures will try to lessen or alleviate the flooding problem.

C) Fill will not be placed in any floodways.

1) Fill placed in the Hayden Creek 100 year floodplain will not significantly change the risk of flooding because the area proposed to be filled is a flood fringe area.

3. No significant impact on natural and beneficial floodplain values should result.

A) No threatened or endangered plants or animals will be affected.

B) Appropriate turf establishment and erosion control measures will be used.

C) No fish spawning sites or activities will be altered.

D) The abandoned TH 10 right of way south of the Long Prairie River will be investigated for the possibility of constructing a canoe access.

E) Wetland Habitat lost to highway construction will be mitigated. See Wetland Section for additional information.

4. The proposed additional two lanes and associated bypasses should not support incompatible floodplain development.

A) The Minnesota DNR has shoreland ordinances in both Todd and Wadena Counties to regulate development along lakes and rivers. These ordinances require a minimum structure setback from the river and a minimum first floor elevation above known high water elevation.

Based on the above factors, no significant floodplain impacts are anticipated.

Stream Channelization

Channelization can cause serious alteration of physical and biological characteristics of a stream, which include the following:

1. Loss of natural stream length.
2. Increased sediment loading and deposition downstream.
3. Disturbances of the stream bottom.
4. Decrease in the total number and diversity of stream organisms.
5. Loss of cover and food for

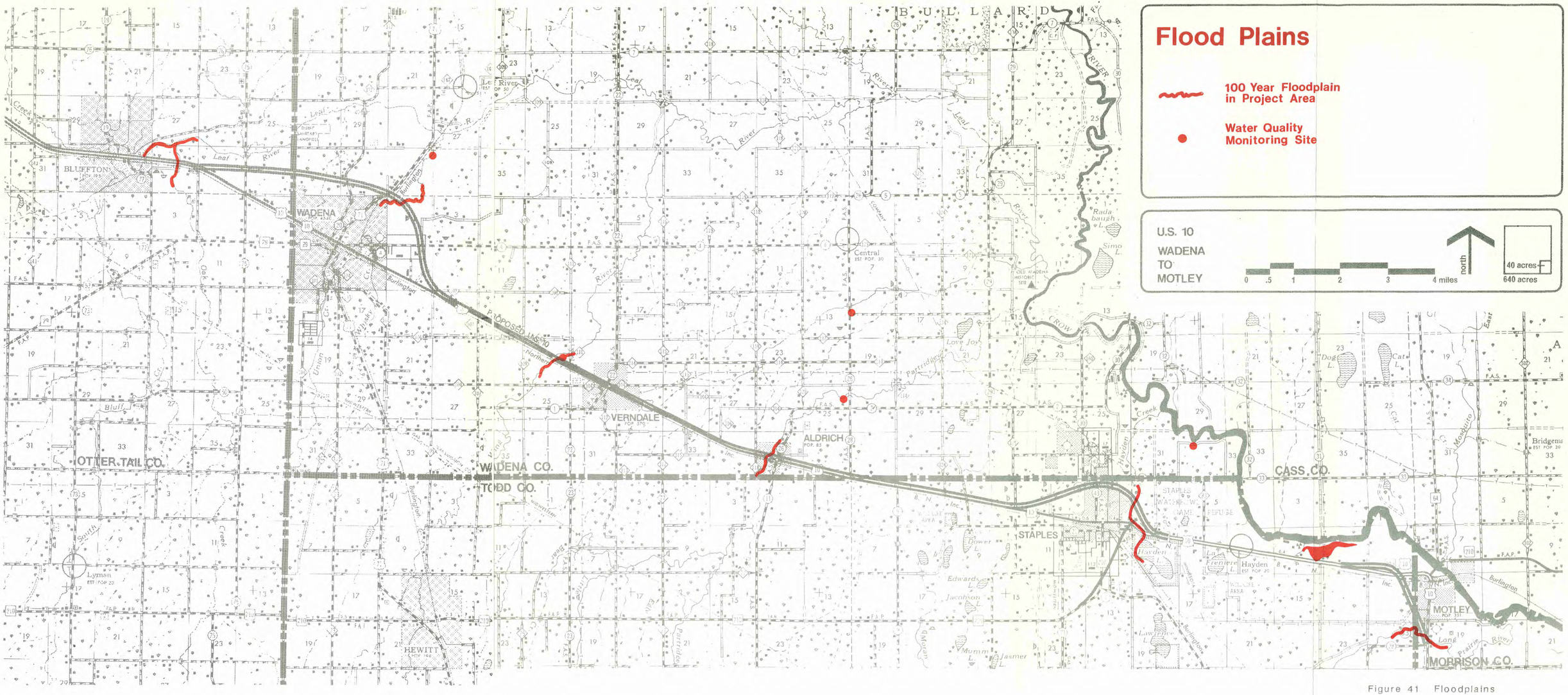

Figure 41 Floodplains

gamefish and subsequent decline in gamefish populations.

The Partridge River and Union Creek Channelization will require stream channel modifications at the two stream crossings. The purpose of creating a new or modified stream channel at these crossings is to provide adequate hydraulic capacity and to ensure a stable channel configuration beneath the bridges. The Partridge River crossing is located near Aldrich and the Union Creek crossing is near Wadena and is part of the Wadena Bypass (See Section III for description of these water courses).

Partridge River

Alternate Route 2 at Aldrich requires that a 200 foot segment of the Partridge River south of the existing bridge be moved slightly east in order to improve the hydraulics under the existing and proposed bridge. The new channel would use 50% or more of the present channel beneath U.S. 10. The river appears to have been channelized previously, for about 450 feet downstream of the U.S. 10 crossing. The Partridge River channel change should not result in significant long-term degradation of the river because:

1. The length of the new channel will be approximately equal to the present river channel.

2. Increased sediment loading and deposition of sediment downstream of the channel change should cease shortly after construction is completed.

Mitigation Measures for the Partridge River

The design of the reconstructed Partridge River will essentially maintain the length, width, and depth of the existing channel. The stream banks will be stabilized and rip-rapped to prevent erosion and establish better habitat for stream organisms (i.e. invertebrates) and small fish.

Final mitigation design will be developed in coordination with the MnDNR, the U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers.

Union Creek

Alternative 1A-M crosses Union Creek in an area where the stream meanders considerably. Approximately 515 feet of stream will be lost and replaced by culverts. Length of the culvert(s) will be about 250 feet. Up to an additional 70 feet of stream may have some excavation done to improve flow into and out of the culverts.

Mitigation Measures for Union Creek

Union Creek has only a limited fishery value, so any mitigation efforts will go into improving wildlife habitat. Refer to the Wetlands Section for discussion of possible mitigation on Union Creek.

Surface Water Effects

The Partridge River, Wing River, Effects Leaf River, Long Prairie River, Union Creek and Hayden Brook will receive runoff from proposed U.S. 10. These streams and rivers are all tributaries of the Crow Wing River.

Water Classification

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

	Classification
Domestic Consumption	1
Fisheries and Recreation	2
Industrial Consumption	3
Agriculture and Wildlife	4
Navigation and Waste Disposal	5
Other Uses	6
Limited Resource	7

The 6 uses are subject to minimum chemical and biological quality standards denoted by the letters (A-D). Standard (A) is most destructive (of the highest quality) and (D) is least restrictive.

Maintenance of water quality in receiving waters is achieved by applying the most destructive standards for each use (1-6). The Crow Wing River, Hayden Brook, Partridge River, and Leaf River are classified 2B, 3C, 4A, 5 & 6. The Long Prairie River is classified 2B, 3B, 4A and 5. Union Creek is classified 2B, 2C, 3B, 3C, 4A, 4B, 5 & 6. The proposed action will not change any of these

classifications.

Water Quality Monitoring

Mn/DOT collected water samples and other stream data at 5 sites. These sites are located on the Crow Wing River near Staples, Partridge River, Wing River near Verndale, Union Creek near Wadena and an unnamed creek. The MPCA also collects water quality data on the Long Prairie River at Motley.

The sites were selected to provide an indication of the present quality of surface waters in the project corridor. All of these streams and rivers receive runoff from existing U.S. 10 and will also receive runoff from proposed U.S. 10.

The data indicate that nutrients (e.g. nitrogen and phosphorus) are abundant at 4 of the 6 sample sites. Nutrients encourage the growth of algae and other plants and organisms and can degrade rivers and streams for many uses. Union Creek contains the most nutrients and has probably lost some species of stream dwelling organisms and fish as a result. Chloride concentrations were low at five samples sites and moderate in Union Creek. Chloride levels can be elevated in surface waters due to chloride in deicing salt and other man-caused and natural sources.

Quality of Highway Runoff

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

1. Sediment generated primarily by erosion during construction and also by winter sanding on roadways.

2. Deicing salt, usually 95% or more sodium chloride by weight.

3. Trace pollutants:

   A) Heavy metals such as lead, zinc, chromium, copper or nickel.

   B) Petroleum product residues such as rubber, n-paraffin, grease, oil or gas.

C) Pesticides or fungicides.

D) Nutrients such as nitrogen or phosphorus.

3A and 3B are residues of motor vehicle emissions or from wear of tires and mechanical parts. 3C and 3D are caused by normal maintenance of highway rights of way and from accumulation of dust, dirt, and organic matter.

U.S. 10 Drainage

In general, runoff from existing and proposed U.S. 10 should not contain high concentrations of pollutants. Highways in rural areas do not generate or collect pollutants as intensely as urban highways.

Drainage from U.S. 10 will be discharged into shallow wetlands and ditches whenever feasible to minimize the effects of discharge directly into streams or lakes. The use of wetlands and ditches to collect highway runoff pollutants is intended to deposit these pollutants in ditches and wetlands rather than transporting them via surface flow to streams or lakes. Studies indicate that shallow wetlands can reduce certain pollutant loads without being rendered less biologically productive. Similar processes can occur in ditches if they are vegetated and open.

No significant adverse effects are anticipated to streams and aquatic areas as a result of deicing salt applied to U.S. 10. Hayden Lake near Staples is actually a type 5 wetland and will receive runoff from TH. 210. Most of the deicing salt applied to U.S. 10 will infiltrate into the near surface groundwater or will be carried by surface runoff into the Crow Wing River. The large amount of dilution which occurs in the surface and groundwater systems leads to the conclusion that deicing salt will have no significant adverse effect on the biology of the streams receiving drainage from U.S. 10.

Permits Required

The proposed action will require permits from the following agencies:

U.S. Army corps of Engineers
Individual Section 404 Permit

Minnesota Pollution Control Agency
Section 401 Certification

Minnesota Department of Natural Resources
Protected Waters Permit

Pesticides

The term pesticide means any substance used to destroy or repel a pest. Pests include plants, animals, insects, etc. Pesticides used by Mn/DOT are generally limited to herbicides (weed control chemicals). Herbicides are used along highway rights of way to control noxious weeds, as required by law, and as a tool in vegetation management. Herbicide use is generally limited to spot spraying, where an application is made to a highly focused target. All herbicides are applied under the supervision of a licensed pesticide applicator. Herbicide use will be governed by all applicable laws and administrative rules in effect at the time of application.

Based upon topography and surrounding land use, limited amounts of herbicides will probably be used adjacent to U.S. 10. Small infestations of noxious weeds (Canada thistle, bull thistle, musk thistle, plumless thistle, spurge, sow thistle) will be controlled with hand application of appropriate herbicides. Due to the limited amount of herbicide use and because many herbicides biodegrade, the impact upon aquatic areas will be negligible.

Vegetation Removal

Removal of vegetation and the resultant loss of wildlife habitat is the primary impact of highway construction upon the natural environment. Roughly 85% of the natural vegetation within the proposed right of way will be converted to pavement or grassland roadsides.

Woodland Effects

The right-of-way of the proposed action with construction of freeway-design bypasses would contain approximately 160

acres of woodland. Not all of this acreage would be destroyed. Some forestland can be preserved within the right-of-way by restricting clearing and grubbing to within the grading construction limits. This can be done throughout the project, but is especially effective in large interchange areas.

Woodland sites are less adversely affected by highway construction than lowland sites. Construction through woodlands will alter the forest edge. Tree growth often increases due to increased sunlight, moisture and nutrient supply. A new edge community develops which is composed of plants which require more sunlight and are tolerant to wind exposure.

Some trees may be lost along the forest edge due to wind throw, root compaction, and changes in soil moisture.

Measures to Minimize Harm to Woodlands

1. Restrict clearing and grubbing operations to within the grading construction limits.

2. Identify and protect large specimen trees or esthetically important stands of vegetation.

3. Require the contractor to repair damage to trees and shrubs caused from construction by trimming and dressing tree wounds and by pruning to balance root damages.

Wetland Effects

Due to the nature of the terrain through which the proposed action will travel, a large number of wetland impacts will occur. Impacts to wetlands are discussed both in the section immediately to follow, and also in the "Wetland Finding," which is appended to this FEIS.

Wetlands are more adversely affected by highway construction than uplands. Aside from direct wetland loss through

excavation and filling, the most important effect of construction in wetlands is the change of natural soil drainage conditions. Deep road cuts or fills can raise or lower water table levels near the edges of the roadway. In the wooded swamps which are valuable habitat for wintering deer, alterations in natural drainage and water circulation patterns can cause the die-off of trees far from the roadway. Natural drainage patterns can be kept intact, and vegetation changes associated with shifts in water depths can be minimized by installing level drainage culverts every 100-200 feet when crossing wetlands.

Impeding wetland drainage could have a beneficial impact. Shallow, vegetation-choked wetlands without open water areas have low value for waterfowl. These wetlands can be upgraded by raising their water table levels. This will be done where practical, if suitable sites occur along the selected routes.

Secondary drainage by adjacent landowners is another potentially significant impact. Highway ditches will be designed to minimize the potential for their use as drainage ways for adjacent lands. This can be best done by eliminating ditch sections through wetland basins wherever possible.

Several other less significant impacts to wetlands can happen. Contamination of soils and waters by deicing salts and auto pollutants may occur but will probably be minimal. Soils and wetlands act as "natural sinks" for pollutants when present at low levels.

Even with standard erosion control measures, increased soil erosion and sedimentation will occur during construction. Because most of the wetlands involved lack areas of open water which are most susceptible to sediment and turbidity, impacts from erosion should be minor.

A large amount of wetland will be directly impacted by this project. Table 13 shows the approximate acreages of

wetland impacted by type for each alternative. The rural portion of the project will account for 34 acres of wetland loss. The urban portion of the project, consisting of the Wadena, Staples and Motley bypasses, will account for 119 acres of wetland loss. These acreages are based on right-of-way limits rather than construction limits, and therefore, the estimation of impacts is not changed as a result of the design changes discussed in sections I and II. They also constitute an overestimation of the wetland loss that will actually occur as a result of construction.

Most of the wetland acreage affected is comprised of sedge meadow and shrub swamp. These wetland types are common throughout the project area, comprising about 15% of the total land acreage. Within a three mile band on either side of U.S. 10 within the project area, there are approximately 18,500 acres of wetland. The proposed project would affect 1% of this wetland acreage.

Habitat Evaluation Procedures (HEP) developed by the USFWS have been applied to wetlands affected by the project (Table 14). In terms of Habitat Units (HUs), the wetland impact resulting from the project could range up to 2516 points. HUs were derived from the generic HEP model currently being used for wetlands in Mn/DOT District 3, in which the proposed action is located.

Executive Order 11990 issued May 25, 1977, allows Federal funding to be granted for an action which involves construction in wetlands, only when the following determinations have been made: (1) there are no practicable alternatives to construction in wetlands; (2) the proposed action includes all practicable measures to minimize harm to wetlands. This information is detailed in the Wetlands Finding which is appended to this FEIS.

The only alternative that completely avoids wetlands is the "no build".

Table 13
Acreage of Wetland Impacts
by Wetland Type and Alternative

Segment	Alternative[a]	Wetland Type							
		1	2	2/6	3	4	6	7	Total
Wadena	1-A, 1-A-M	0	11	13	0	0	25	30	79
Wadena	1-B	0	13	5	0	0	43	29	90
Wadena	2	0	3	0	0	0	2	3	5
Wadena to Verndale	1, 1-M	0	1	0	0	0	1	2	4
Verndale	1	1	0	4	1	3	0	0	9
Verndale	1-A	0	0	14	1	3	0	0	18
Verndale	2, 2-M	0	0	2	0	0	0	0	2
Verndale to Aldrich	1, 1-M	0	0	4	0	0	1	0	5
Aldrich	1	0	3	0	0	0	0	0	3
Aldrich	2	0	0	0	0	0	0	0	0
Aldrich to Staples	1, 1-M	0	5	6	0	0	14	0	25
Staples	1, 1-M	0	3	6	0	11	12	6	38
Staples	2	0	5	3	1	0	0	1	10
Staples,	TH 210 A	0	0	0	1	0	0	0	1
Staples,	TH 210 B	0	0	0	1	0	0	0	1
Motley	1, 1-M	0	2	0	0	0	0	0	2
Motley	2	0	0	0	0	0	0	0	0

[a]Differences between alternatives 1 and 1-M, 1-A and 1-A-M, and 2 and 2-M are design differences discussed in the text in Section I and Section II.

Table 14
Wetland Impacts in Rural Segments

Wetland Type	Acres Impacted	x HV per Acre	= HUs Lost
1	0	28	0
2	6	72	432
2/6	10	75	750
3	0	92	0
4	0	96	0
6	16	75	1200
7	2	67	134
Total	34		2516

The alternative of upgrading the existing alignment to 4 lanes from Wadena to Motley by building through town, rather than building bypasses, would reduce the wetland encroachment to 51 acres. Upgrading the existing alignment to 4 lanes through town would have serious social and economic effects.

Measures to Minimize Harm

1. Reducing the median width and distance from the edge of the roadway to right of way limits, as described in Section I, has resulted in reduced impacts to wetlands. This achieved a reduction of wetland impact of 8 acres.

2. Fill slope ratios within the clear zone will be governed by Technical Memorandum No. RD-70-2 concerning highway design standards in wetlands. Outside of the clear zone, high fill slopes will be broken from 6:1 to 4:1 or 3:1 in order to reduce wetland encroachment.

3. Temporary erosion controls such as hay bales, ditch blocks and sedimentation basins, and the prompt installation of permanent erosion controls such as seeding or sod placement will reduce siltation in wetlands.

4. Contractors will be restricted from using wetlands for borrow pits or waste and disposal sites except for mitigation purposes.

5. Equalizer culverts will be used every 100 to 200 feet along fills through wetlands (especially Type 7) where maintenance of existing drainage patterns is needed to prevent adverse wetland alteration.

6. Ditches will be designed so they cannot be used for secondary drainage.

Off-Site Mitigation at Staples Wildlife Management Area

The possibilities of on-site mitigation proposed in the draft Environmental Impact Statement for this project were investigated and found to be not practicable. An excellent mitigation site was found approximately four miles south of the community of Staples. This site, the Staples Wildlife Management Area

(WMA), is owned and managed by the Minnesota Department of Natural Resources. It is located on the site of a now-drained lake basin. This site will be restored and enhanced to provide wetland benefits in the form of increased wildlife and waterfowl habitat, and recreational benefits for local residents and others. A public hearing on the mitigation project was held in Staples on June 17, 1987.

The wetland restoration at this site will result in an increase in wetland quantity and quality. The proposed pool area presently contains approximately 510 acres of Type 2/6 wetlands (grassy meadow with scattered shrubs), 40 acres of Type 3/4 wetlands (cattail marsh) and 120 acres of upland. The proposed impoundment would result in the restoration of 510 acres of original wetland basin. An additional 120 acres of upland would be flooded via a system of dikes, thus creating a total impoundment area of 670 acres. Type 3/4 wetlands are more diverse in structure and function than Type 2/6 wetlands, and as a result provide better habitat for a greater number of wildlife species. In addition to the flooding, the mitigation will include construction of approximately twenty wildlife habitat islands within the restored wetland basin.

A Habitat Evaluation Procedure (HEP) will be performed after the construction of the proposed project. The "before construction" HEP has already been completed. These HEPs will document and quantify the wetland habitat improvements associated with the project. The resulting increase in quantity and quality of wetland habitat will be credited to the District 3 Wetland Habitat Mitigation Banking (WHMB) account. MnDOT is committed to replacing wetland wildlife habitat lost through construction of the U.S. 10 project. The habitat credits gained as a result of the Staples WMA improvements will be used to compensate for the wetland habitat debits incurred during construction of the U.S. 10 project.

Restoration of the wetland basin will require the purchase of an additional 120 acres of land. This land will be turned over to the Department of Natural Resources for future site management. Acquisition of this parcel and conversion to publicly owned land will insure that it is managed to provide optimum wildlife habitat.

The restoration project at this site also has the support of the U.S. Fish and Wildlife Service (USFWS). Both the DNR and the USFWS have participated with MnDOT in the pre-construction wetland habitat evaluation of the site in its present and proposed condition, and will will continue to be involved in design.

Wildlife Effects

Removal of woodland, grassland and wetland vegetation will cause a reduction in the available wildlife habitat. The proposed action would alter about 619 acres of these natural vegetation types. In addition, about 285 acres of cropland and developed land would be affected.

The construction of the highway will create two new habitat types: The grassy right-of-way vegetation and shrubby edge (ecotone) vegetation along forested sections. These new habitats will result in an increase in populations of several species of small mammals and song birds On the other hand, loss of habitats which originally occupied the highway site will cause reduction in numbers of other wildlife species. Since the paved highway and shoulders represent a permanent loss of habitat for any animals found in the project area, the overall effect of the project will be a net loss of habitat.

Population Changes

Species composition will be changed. Species of wildlife which live in grassland and forest edges will increase as a result of highway construction. The grassland and shrubby edges created in the revegetated roadsides will be better wildlife habitat than the original cropland and developed land. The roadsides will be poorer habitat than the woodlands and wetlands altered by

construction.

Grassland species likely to benefit include sparrows, starlings, blackbirds, goldfinches, killdeer, crows, woodcocks, skunks, weasels, and meadow voles. Studies reveal that roadsides are also used by to nesting pheasants and ducks.

Wildlife associated with forest areas such as hares, grouse, deer, coyotes, vireos, thrushes, ovenbirds, wood warblers and most woodpeckers will probably be adversely affected as a result of habitat loss. It is unlikely that any game animals will change their local distribution or population.

One exception to this may be the deer wintering area north of Wadena. Alternative 1A would bisect the length of this wooded swamp. A high concentration of deer occurs in this area. The preferred Alternative will reduce its value for deer. Alternative 1B would have less effect because it skirts the southern edge of the swamp.

Loss of wetlands will adversely affect species common to that habitat. These species include heron, bitterns, snipe, rails, blackbirds, marsh hawks, waterfowl, mink and muskrat.

Predators and scavengers such as foxes, coyotes, ravens, hawks and owls will be attracted to the roadsides due to the increase in small animals (especially meadow voles) and carrion from roadkills. Raccoons, beavers, porcupines, woodchucks and muskrats will utilize culverts, ditches, embankments and other structures created by highway construction.

Roadkills

Considerable mortality of wildlife on the highway can occur. In general, the effect of this loss on wildlife populations is unknown. Roadkill will probably be greatest immediately after the highway is opened. Wildlife populations seem to "adjust" to the road's presence in a few years and mortality declines. Highways with moderate traffic volumes do not create impassible barriers.

Roadkills are not expected to be a significant problem except for the deer wintering area located north of Wadena. The potential for deer roadkill at this site is higher for Alternative 1A, which travels through the deer wintering area, than for Alternative 1B which passes to the south of this area. No other known wildlife travel lanes will be impacted by the proposed project.

Secondary Effects

In addition to directly removing vegetation from the highway right-of-way, the proposed action may also have secondary effects. A common secondary impact is land use conversion, where wildlife habitat is converted to residential or commercial land use. The rate and exact location of such conversion is a function of individual location decisions, and cannot be accurately predicted. However, it is a historically common occurrence along highway rights of way.

Measures to Minimize Harm to the Natural Environment

1. To minimize the effects from borrow, waste, or disposal sites, Mn/DOT will require that the contractor reshape all borrow pits and disposal sites to a natural contour; that topsoil be replaced and seeded, and that wetlands not be used as waste or disposal sites except as those activities may enhance the value of the wetland for wildlife.

2. The minimization of roadkills in the deer wintering area divided by the Wadena Bypass will be a priority planning item at such time as the Wadena Bypass is constructed. Such items as "deer-proof" fences or light reflectors placed along the highway will be considered.

Ecological Summary

Original plant and animal communities in the project area have been greatly altered by the history of logging, farming and drainage. The project area is in several successional stages, ranging from annually disturbed rowcrop fields to nearly mature stands of deciduous forest. Each successional stage has its own plant community which determines the kinds of wildlife it supports. Impacts will be greater along the bypass routes where no

road currently exists than along the alignments between towns, where a highway is already in place. The three major areas of habitat shown on the Natural Features Map, and other wetland areas, are the sites which would be most adversely affected by highway construction. The impacted biotic communities will be largely replaced by new plant and animal associations. Although species composition and diversity will change, the necessary nutrient and energy transformations to maintain the existing food chains and ecosystem integrity can be maintained.

Air Quality

No air quality impacts are anticipated. This project is in an area where the State Implementation Plan is not required to contain any transportation control measures. Therefore, the conformity procedures of 23 CFR 770 do not apply to this project.

A Memorandum of Understanding between Mn/DOT and the Minnesota PCA specifies: (1) prior consultation with the MPCA is considered accomplished for highway sections outside a Standard Metropolitan Statistical Area; (2) an air quality analysis demonstrating that the project is considered consistent with the approved SIP, is considered accomplished for highway proposals outside an SMSA where the annual average daily traffic is not expected to exceed 20,000 vehicles per day within ten years following construction. This highway meets those criteria.

Screening

The EPA volume "Evaluating Indirect Sources," updated with the EPA "Mobile One" emission factors was used to estimate the peak carbon monoxide concentration at the nearest critical receptors along this project. The screening procedure assumptions include a 1 meter per second wind at 10 degrees to the roadway (variable direction at intersections), a Pasquill-Gifford stability classification of "D", an 8-hour persistence factor of 0.6 10% cold starts at 20 degrees F, and a 1975 background concentration of 5 and 2 ppm for 1- and 8-hour periods, respectively.

The 1975 background concentration for rural areas is 1 ppm for both the 1- and 8-hour periods. The following 1- and 8-hour concentrations have been calculated (and background concentrations added) for

Table 15 Carbon Monoxide Predictions in Parts per Million

Receptor Location	Year 1987 1 hour	8 hour	Year 2000 1 hour	8 hour
(1) Approx., 3 miles east of the East Corp. limits of Aldrich (residence) 4-lane divided road (115 ft. north of proposed westbound roadway	1.2* (5050 AADT)	1.1*	1.5* (6570 AADT)	1.1*
(2) Present U.S. 10 & 4th St. signalized intersection in Staples. (Business w/upstairs apt. 34 ft. north of existing U.S. 10 centerline)				
a) with bypass constructed	5.1** (2360 AADT)	1.6**	3.2** (3080 AADT)	1.3**
b) No build	11.6** (8760 AADT)	3.1**	6.9** (10,220 AADT)	2.0**
c) 4-lane upgrade thru-town (N.E. quadrant of 4th St. & U.S. 10 in Staples. A doctor's office 198 north of U.S. 10 centerline	5.6** (8760 AADT)	1.7**	3.3** (10,220 AADT)	1.4**

* Rural Background Concentration Used

** Urban Background Concentration Used

the critical receptors. Daily volumes utilized are in parentheses.

Federal and State Air Quality Standards

Although the no-build alternative would increase the concentrations at the present signalized intersection in Staples (worst in-town receptor), all predicted concentrations are well below the Federal Standards of 35 ppm and 9 ppm and the Minnesota Standards of 30 ppm and 9 ppm for 1- and 8-hour concentrations, respectively. This air quality analysis was based on the measured and projected traffic in 1979. Since that time, revised projections have resulted in a lowering of the projected traffic levels. As a result, the analysis above would overstate impacts to air quality. Actual air quality would be even better than estimated in the above table. No standard would even be approached, let alone violated. An indirect source permit is not needed for this project.

Lead Analysis

Under current operating guidelines, Mn/DOT undertakes lead analysis if one or more of three criteria are met:

1) Lead is raised as an issue during scoping,

2) There exist monitored results showing values of at least 90% of standards,

3) A major local point source of lead has been identified by MPCA.

None of these criteria are met on this project.

Noise

Traffic noise from developed or proposed highways has historically been of concern to communities along highway routes. The requirements for addressing these concerns are outlined in the Federal Aid Highway Program Manual (FHPM) Sections 7-7-2 and 7-7-3.

This portion of the EIS addresses some of the requirements of that Federal document and the concerns of the state government. Supplemental documents that complete this process include the Preliminary Noise Analysis, November, 1979, and the Minnesota State Noise Standards Supplement.

The information presented below is a

summary of the facts, conditions and comparisons of the probable noise impacts on the preferred alignment of U.S. 10. The noise projections were based on traffic projections forecast to the year 2000. Updated forecasts, to the year 2010, project reduced traffic using U.S. 10 than earlier forecasts. Therefore, the analysis probably overstates the noise levels which receptors along the preferred alternatives would actually experience. Since the revised traffic projections would result in a lowering of noise impacts, a new noise analysis was not performed using year 2010 traffic projections.

The proposed improvements to U.S. 10 involve the construction and reconstruction of highway segments with full or partial access control. This action, therefore, is a Type I project per FHPM 7-7-3. These improvements generally traverse agriculturally zoned land. Wadena, Staples and Motley highway bypasses traverse agricultural or residentially developed and zoned areas. The two smaller towns of Verndale and Aldrich have an improved highway section passing through residentially or commercially developed areas.

The noise analysis was conducted using monitored data and predicted values. The monitored data was acquired using accepted practices for a "field survey" with Type II instrumentation. The predicted values were generated using Noicomp computer program, an approved Minnesota version of FHWA's Highway Traffic Noise Prediction Model.

The factors considered in developing the predicted noise levels included traffic volume, speed, distance from noise source to receiver, and the other physical characteristics of the roadway and surrounding areas. The traffic volumes used in this report were developed from Mn/DOT Traffic Studies F4-2 and Fe-5.

The other dominant factor in analyzing noise impact is the consideration of what activity with which the noise will interfere. The method of addressing that

concept is land use. Tables 16 and 17 show the general land classification for state and federal noise analysis.

The values presented in this report involve two statistical descriptors: the L10 and L50, measured in dB(A). The L10 is a level which is exceeded 10% of some predetermined period of time. Federal and State authorities have defined the time period as the noisiest one hour. Therefore, the L10 standard would define a level which cannot be exceeded for more than six minutes in the hour. Likewise, the L50 would define a level which could not be exceeded for more than 30 minutes. The decibel (dBA) is a logarithmic ratio that measures the loudness of sound in a fashion similar to the way the human ear hears.

Three specific comparisons evaluate noise impact:

1. Comparison of existing noise levels to predicted future traffic noise levels and federal and state criteria.

2. Comparison of predicted future noise levels to federal noise abatement criteria.

3. Comparison of predicted future noise levels to state standards.

Table 16
FHWA Noise Abatement Criteria

NOISE LEVEL/ACTIVITY RELATIONSHIPS -- FHWA

Activity Category	Noise Level - L10	Description of Activity Category
A	60 dBA	Lands on which serenity and (exterior) quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	70 dBA	Picnic areas, recreation (exterior) areas, playgrounds, active sports areas, parks, and residences, motels, hotels, public meeting rooms, schools, churches, libraries and hospitals.
C	75 dBA	Developed lands, properties (exterior) or activities not included in Categories A and B above.
D	n/a	Undeveloped lands.
E	55 dBA	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals and auditoriums.

Source: Federal Highway Program Manual 7-7-3

Table 17
MPCA State Noise Standards

NOISE STANDARDS -- MPCA

Category	General Land Use Types	Daytime Noise Level	Nighttime Noise Level (10 PM to 7 AM)
NAC-1	Residential & Institutional	L10 of 65 dBA L50 of 60 dBA	L10 of 55 dBA L50 of 50 dBA
NAC-2	Commercial & Recreational	L10 of 70 dBA L50 of 65 dBA	L10 of 70 dBA L50 of 65 dBA
NAC-3	Industrial	L10 of 80 dBA L50 of 75 dBA	L10 of 80 dBA L50 of 75 dBA

Source: NPC-2 - Noise Standards adopted September 17, 1974.

The following evaluations are generalized ones, dealing with the number of structures impacted on two routes. The first evaluation deals with U.S. 10 as it exists today. The second as it would be in the Year 2000, if no major improvements to the roadway take place, the third deals with the preferred alignment in the proposed construction of new U.S. 10.

1. Based upon analysis of existing levels on the present alignment of U.S. 10, it has been determined that numerous receptors are currently exposed to noise levels which exceed federal noise abatement criteria and state noise standards. The following table shows the number of receptors which are exposed to these levels of noise.

2. Analysis of the no-build alternative reveals that the present noise levels on U.S. 10 may increase by up to 2 decibels by the year 2000. The addition of 2 decibels will increase the number of receptors exposed to noise levels exceeding FHWA noise criteria and MPCA state day and/or nighttime standards. The following table identifies the number of receptors along existing U.S. 10 which are expected to be exposed to noise

levels exceeding federal and state noise criteria in the year 2000.

3. The evaluation of proposed TH 10 is an analysis of the preferred alignment. This alignment has been selected from the alternatives and is as follows:

Wadena	- Alternate 1M	- Bypass
Verndale	- Alternate 2	- Through town
Aldrich	- Alternate 2	- Through town
Staples	- Alternate 1M	- Bypass
Motley	- Alternate 1	- Bypass

Further, this evaluation is an analysis of the conditions as they may exist in the Year 2000. It addresses land uses where federal abatement levels and state noise standards are exceeded.

Table 18
Sites Currently Exceeding Standards

	Federal Noise Abatement Criteria		Minnesota Noise Standards (L10/L50)	
Location	Category B 70 dBA	Category C 75 dBA	NAC - 1 65dBA/60dBA	NAC - 2 70dBA/65dBA
Wadena	6	16	9 / 6	54 / 0
Wadena-Verndale	1	0	1 / 0	0 / 0
Verndale	6	0	7 / 1	7 / 0
Verndale-Aldrich	0	0	0 / 0	0 / 0
Aldrich	0	0	2 / 0	0 / 0
Aldrich-Staples	0	0	0 / 0	0 / 0
Staples	40	0	45 / 40	31 / 0
Motley	0	0	24 / 0	1 / 0

Table 19
Sites Exceeding Standards for the No-Build Alternative

Location	Federal Noise Abatement Criteria		Minnesota Noise Standards (L10/L50)	
	Category B 70 dBA	Category C 75 dBA	NAC - 1 65dBA/60dBA	NAC - 2 70dBA/65dBA
Wadena	7	32	10 / 9	70 / 15
Wadena-Verndale	2	0	4 / 3	1 / 0
Verndale	7	2	7 / 6	11 / 0
Verndale-Aldrich	0	0	1 / 1	0 / 0
Aldrich	2	0	3 / 0	0 / 0
Aldrich-Staples	2	0	6 / 2	0 / 0
Staples	45	13	45 / 40	13 / 9
Motley	7	0	28 / 1	20 / 0

Table 20
Sites Exceeding Standards for Preferred Alternative

Location	Federal Noise Abatement Criteria		Minnesota Noise Standards (day/night)	
	Category B	Category C	NAC - 1	NAC - 2
Wadena	0	0	9 / 6	0 / 0
Wadena-Verndale	1	0	4 / 4	0 / 0
Verndale	6	0	6 / 6	2 / 0
Verndale-Aldrich	0	0	0 / 0	0 / 0
Aldrich	3	0	5 / 3	0 / 0
Aldrich-Staples	3	0	6 / 6	0 / 0
Staples	2	0	18 / 10	0 / 0
Motley	1	0	7 / 3	0 / 0

Examination of the data in the preceding tables reveals that a number of receptors will be exposed to levels of noise

exceeding federal and State criteria regardless of the alternative selected. However, as the data in Table 21 indicate, future projected noise impacts in residential areas are lowest under the build alternatives. The build alternatives reduce the number of impacted receptors by a substantial number over both existing and projected no build levels.

Table 21
Summary Table of Noise Impacts

	Federal Category 'B'	Minnesota NAC-1 Day	
	L1070dBA	L1065dBA	L5060dBA
Current Noise Levels	53*	88	47
Year 2000 No-Build	72	104	62
Year 2000 Build Preferred Alternates	16	55	41
Reduction (Difference between No-Build and Build)	56	49	21

* Numeral in each cell is the number of receptors exceeding the standard denoted by the column head.

The preferred alternatives in this report are not all currently programmed for construction. The rural segments are programmed and will be completed in the next several years. Some or all of the bypasses however, may not be programmed in the next five years.

In order to estimate the actual noise impacts in Wadena, Staples and Motley over the next several years, the reader should refer to the no-build noise level values which do not include the construction of bypasses.

Table 22 Noise Data

Receptor	Predominant Use	Federal Land Use Classification	State Land Use Classification	NOISE STANDARDS: Federal Design Noise Levels: 1 Hr. Exterior	NOISE STANDARDS: State Noise Standard: 1Hr Exterior Day L_{10}	NOISE STANDARDS: State Noise Standard: 1Hr Exterior Day L_{50}	NOISE STANDARDS: State Noise Standard: 1Hr Exterior Night L_{10}	NOISE STANDARDS: State Noise Standard: 1Hr Exterior Night L_{50}	NOISE LEVELS: Ambient Levels 1 Hr. Exterior L_{10}	NOISE LEVELS: Ambient Levels 1 Hr. Exterior L_{50}	NOISE LEVELS: Year 2000 No-Build L_{10}	NOISE LEVELS: Year 2000 No-Build L_{50}	NOISE LEVELS: Year 2000 Build L_{10}	NOISE LEVELS: Year 2000 Build L_{50}	NOISE LEVELS: Year 2000 Peak Night Time Hour L_{10}	NOISE LEVELS: Year 2000 Peak Night Time Hour L_{50}	NOISE IMPACTS: Existing Federal L_{10}	NOISE IMPACTS: Existing State L_{10}	NOISE IMPACTS: Existing State L_{50}	NOISE IMPACTS: Year 2000 No. Build Federal L_{10}	NOISE IMPACTS: Year 2000 No. Build State L_{10}	NOISE IMPACTS: Year 2000 No. Build State L_{50}	NOISE IMPACTS: Year 2000 Build Federal L_{10}	NOISE IMPACTS: Year 2000 Build State Day L_{10}	NOISE IMPACTS: Year 2000 Build State Day L_{50}	NOISE IMPACTS: Year 2000 Build State Night L_{10}	NOISE IMPACTS: Year 2000 Build State Night L_{50}
Wadena			NAC																								
1	RES	B	1	70	65	60	55	50	69	57	70	63	62	58	56	47	-	4	-	-	5	3	-	-	-	1	-
2	RES	B	1	70	65	60	55	50	69	57	70	63	61	58	56	47	-	4	-	-	5	3	-	-	-	1	-
3	RES	B	1	70	65	60	55	50	69	57	70	63	60	57	55	47	-	4	-	-	5	3	-	-	-	-	-
4	RES	B	1	70	65	60	55	50	51	45	52	45	68	60	58	48	-	-	-	-	-	-	*	3	-	3	-
5	RES	B	1	70	65	60	55	60	45	41	45	41	63	57	55	45	-	-	-	-	-	-	*	-	-	-	-
6	RES	B	1	70	65	60	55	50	45	41	45	41	58	54	52	42	-	-	-	-	-	-	*	-	-	-	-
7	RES	B	1	70	65	60	55	50	45	41	45	41	62	57	55	45	-	-	-	-	-	-	*	-	-	-	-
8	RES	B	1	70	65	60	55	50	51	45	51	45	65	58	59	50	-	-	-	-	-	-	*	-	-	4	-
9	RES	B	1	70	65	60	55	50	51	45	45	41	68	60	61	52	-	-	-	-	-	-	-	3	-	6	2
10	RES	B	1	70	65	60	55	50	51	45	45	41	60	56	58	48	-	-	-	-	-	-	*	-	-	3	-
11	RES	B	1	70	65	60	55	50	51	45	51	45	66	58	58	48	-	-	-	-	-	-	8	1	-	3	-
12	RES	B	1	70	65	60	55	50	54	45	51	45	62	57	55	45	-	-	-	-	-	-	-	-	-	-	-
13	RES	B	1	70	65	60	55	50	54	45	51	45	58	54	52	44	-	-	-	-	-	-	-	-	-	-	-
14	RES	B	1	70	65	60	55	50	51	45	51	45	63	52	48	39	-	-	-	-	-	-	-	-	-	-	-
14a	RES	B	1	70	65	60	55	50	45	41	45	41	59	55	53	44	-	-	-	-	-	-	-	-	-	-	-
15	RES	B	1	70	65	60	55	50	45	41	45	41	62	57	55	45	-	-	-	-	-	-	-	-	-	-	-
15a	RES	B	1	70	65	60	55	50	51	45	57	51	60	56	55	46	-	-	-	-	-	-	-	-	-	-	-
16	RES	B	1	70	65	60	55	50	57	47	63	60	63	60	57	48	-	-	-	-	-	-	-	-	-	-	-
17																											
18	RES	B	1	70	65	60	55	50	65	55	68	63	68	63	60	50	-	-	-	-	3	3	-	3	3	5	-
Wadena - Verndale																											
19	RES	B	1	70	65	60	55	56	65	55	68	63	64	60	58	48	-	-	-	*	3	3	*	-	-	3	-
20																											
21																											

*See note at end of table

Table 22 Noise Data (Continued)

Receptor	Predominant Use	Federal Land Use Classification	State Land Use Classification	NAC	Federal Design Noise Levels: 1 Hr. Exterior	NOISE STANDARDS: State Noise Standard: 1Hr Exterior Day L_{10}	NOISE STANDARDS: State Noise Standard: 1Hr Exterior Day L_{50}	NOISE STANDARDS: State Noise Standard: 1Hr Exterior Night L_{10}	NOISE STANDARDS: State Noise Standard: 1Hr Exterior Night L_{50}	NOISE LEVELS: Ambient Levels 1 Hr. Exterior L_{10}	NOISE LEVELS: Ambient Levels 1 Hr. Exterior L_{50}	NOISE LEVELS: Year 2000 No-Build L_{10}	NOISE LEVELS: Year 2000 No-Build L_{50}	NOISE LEVELS: Year 2000 Build L_{10}	NOISE LEVELS: Year 2000 Build L_{50}	NOISE LEVELS: Year 2000 Peak Night Time Hour L_{10}	NOISE LEVELS: Year 2000 Peak Night Time Hour L_{50}	NOISE IMPACTS: Existing Federal L_{10}	NOISE IMPACTS: Existing State L_{10}	NOISE IMPACTS: Existing State L_{50}	NOISE IMPACTS: Year 2000 No. Build Federal L_{10}	NOISE IMPACTS: Year 2000 No. Build State L_{10}	NOISE IMPACTS: Year 2000 No. Build State L_{50}	NOISE IMPACTS: Year 2000 Build Federal L_{10}	NOISE IMPACTS: Year 2000 Build State Day L_{10}	NOISE IMPACTS: Year 2000 Build State Day L_{50}	NOISE IMPACTS: Year 2000 Build State Night L_{10}	NOISE IMPACTS: Year 2000 Build State Night L_{50}
Wadena-Verndale																												
22																												
23	RES	B	1	70	65	60	55	50	65	55	65	51	65	61	58	48	-	-	-	*	-	1	*	-	-	3	-
24	RES	B	1	70	65	60	55	50	57	47	65	61	65	61	58	48	-	-	-	*	-	1	*	-	-	3	-
25	RES	B	1	70	65	60	55	50	65	55	74	66	74	66	61	51	-	-	-	4	9	6	4	9	6	6	1
Verndale																												
26	RES	B	1	70	65	60	55	50	73	60	76	68	76	68	62	52	3	8	0	6	11	8	6	11	8	7	2
27	RES	B	1	70	65	60	55	50	73	60	76	68	76	68	62	52	3	8	0	6	11	8	6	11	8	7	2
28	RES	B	1	70	65	60	55	50	73	60	76	68	76	68	62	52	3	8	0	6	11	8	6	11	8	7	2
29	RES	B	1	70	65	60	55	50	73	60	76	68	76	68	62	52	3	8	0	6	11	8	6	11	8	7	2
30	RES	B	1	70	65	60	55	50	73	60	76	68	76	68	62	52	3	8	0	6	11	8	6	11	8	7	2
31	RES	B	1	70	65	60	55	50	74	61	75	66	75	66	63	54	4	9	1	5	10	6	6	10	6	8	4
32	COM	C	2	75	70	65	70	65	74	61	75	66	75	66	63	54	-	4	-	-	5	1	-	5	1	-	-
33	COM	C	2	75	70	65	70	65	73	60	75	66	75	66	62	52	-	3	-	-	5	1	-	5	1	-	-
34	COM	C	2	75	70	65	70	65	71	59	63	58	63	59	57	47	-	1	-	-	-	-	-	-	-	-	-
35	COM	C	2	75	70	65	70	65	71	59	66	56	66	56	52	43	-	1	-	-	-	-	-	-	-	-	-
36	P	B	1	70	65	60	65	60	71	59	65	59	65	59	56	46	1	6	-	-	-	-	-	-	-	-	-
37	COM	C	2	75	70	65	70	65	71	59	58	49	58	49	46	37	-	1	-	-	-	-	-	-	-	-	-
38	COM	C	2	75	70	65	60	65	73	60	70	63	70	63	60	50	-	3	-	-	-	-	-	-	-	-	-
39	COM	C	2	75	70	65	70	65	63	55	59	57	59	57	53	45	-	-	-	-	-	-	-	-	-	-	-
40																												
Verndale-Aldrich																												
41	RES	B	1																									

Table 22 Noise Data (Continued)

Receptor	Predominant Use	Federal Land Use Classification	State Land Use Classification	NAC	NOISE STANDARDS: Federal Design Noise Levels: 1 Hr. Exterior L_{10}	State Noise Standard: 1Hr Exterior Day L_{10}	State Noise Standard: 1Hr Exterior Day L_{50}	State Noise Standard: 1Hr Exterior Night L_{10}	State Noise Standard: 1Hr Exterior Night L_{50}	NOISE LEVELS: Ambient Levels 1 Hr. Exterior L_{10}	Ambient Levels 1 Hr. Exterior L_{50}	Year 2000 No-Build L_{10}	Year 2000 No-Build L_{50}	Year 2000 Build L_{10}	Year 2000 Build L_{50}	Year 2000 Peak Night Time Hour L_{10}	Year 2000 Peak Night Time Hour L_{50}	NOISE IMPACTS: Existing Federal L_{10}	Existing State L_{10}	Existing State L_{50}	Year 2000 No. Build Federal L_{10}	Year 2000 No. Build State L_{10}	Year 2000 No. Build State L_{50}	Year 2000 Build Federal L_{10}	Year 2000 Build State Day L_{10}	Year 2000 Build State Day L_{50}	Year 2000 Build State Night L_{10}	Year 2000 Build State Night L_{50}
Aldrich																												
42	RES	B	1	70	65	60	55	50	65	49	65	60	65	60	57	47	-	-	-	-	-	-	-	-	-	2	-
43	RES	B	1	70	65	60	55	50	65	49	63	59	63	59	56	46	-	-	-	-	-	-	-	-	-	1	-
44	Com	C	2	75	70	65	60	65	65	49	67	61	67	61	59	48	-	-	-	-	-	-	-	-	-	-	-
45	RES	B	1	70	65	60	55	50	67	49	67	61	67	61	59	48	-	2	-	-	2	1	-	2	1	4	-
46	RES	B	1	70	65	60	55	50	67	49	67	61	67	61	59	48	-	2	-	-	2	1	-	2	1	4	-
47	RES	B	1	70	65	60	55	50	67	49	67	61	67	61	59	48	-	2	-	-	2	1	-	2	1	4	-
48	COM	C	2	75	70	65	70	65	67	49	67	61	67	61	59	48	-	-	-	-	-	-	-	-	-	-	-
49	COM	C	2	75	70	65	70	65	67	49	67	61	67	61	59	48	-	-	-	-	-	-	-	-	-	-	-
50	RES	B	1	70	65	60	55	50	57	47	46	36	46	36	-	-	-	-	-	-	-	-	-	-	-	-	-
51	RES	B	1	70	65	60	55	50	57	47	46	36	46	36	-	-	-	-	-	-	-	-	-	-	-	-	-
Aldrich-Staples																												
52	RES	B	1	70	65	60	55	50	65	56	71	65	71	65	61	51	-	-	-	1	6	5	1	6	5	6	1
53	RES	B	1	70	65	60	55	50	63	53	70	64	70	64	60	50	-	-	-	-	5	4	-	5	4	5	0
54	RES	B	1	70	65	60	55	50	61	51	60	57	60	57	54	46	-	-	-	-	-	-	-	-	-	-	-
55	RES	B	1	70	65	60	55	50	61	51	61	58	61	58	54	46	-	-	-	-	-	-	-	-	-	-	-
56	RES	B	1	70	65	60	55	50	63	53	72	64	72	68	61	51	-	-	-	2	7	4	2	7	4	6	1
57	RES	B	1	70	65	60	55	50	61	51	70	64	70	64	61	52	-	-	-	-	5	4	-	5	4	6	1
58	RES	B	1	70	65	60	55	50	63	53	76	67	76	67	63	53	-	-	-	6	11	7	6	11	7	8	3
59	RES	B	1	70	65	60	55	50	63	53	72	65	72	65	62	52	-	-	-	2	7	5	2	7	5	7	2
Staples																												
60	RES	B	1	70	65	60	55	50	61	51	68	63	68	63	60	50	-	-	-	-	3	3	*	3	3	5	0
61	RES	B	1	70	65	60	55	50	61	51	68	63	68	63	62	51	-	-	-	-	3	3	-	3	3	5	1

Table 22 Noise Data (Continued)

Receptor	Predominant Use	Federal Land Use Classification	State Land Use Classification	Federal Design Noise Levels: 1 Hr. Exterior	NOISE STANDARDS: State Noise Standard: 1Hr Exterior Day		NOISE STANDARDS: State Noise Standard: 1Hr Exterior Night		NOISE LEVELS: Ambient Levels 1 Hr. Exterior		NOISE LEVELS: Year 2000 No-Build		NOISE LEVELS: Year 2000 Build		NOISE LEVELS: Year 2000 Peak Night Time Hour		NOISE IMPACTS: Existing Federal	NOISE IMPACTS: Existing State		NOISE IMPACTS: Year 2000 No. Build Federal	NOISE IMPACTS: Year 2000 No. Build State		NOISE IMPACTS: Year 2000 Build Federal	NOISE IMPACTS: Year 2000 Build State Day		NOISE IMPACTS: Year 2000 Build State Night	
					L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{10}	L_{50}	L_{10}	L_{10}	L_{50}	L_{10}	L_{10}	L_{50}	L_{10}	L_{50}
Staples			NAC																									
62	RES	B	1	70	65	60	55	50	61	51	72	65	72	65	62	51	-	-	-	2	7	5	2	7	5	7	1
63	RES	B	1	70	65	60	55	50	61	51	70	64	70	64	61	50	-	-	-	-	5	4	-	5	4	6	-
64	RES	B	1	70	65	60	55	50	47	43	47	43	70	64	61	50	-	-	-	*	5	4	*	5	4	6	-
65	RES	B	1	70	65	60	55	50	47	43	47	43	66	63	57	47	-	-	-	-	-	-	*	1	3	2	-
66	S	B	1	70	65	60	55	50	45	41	45	41	65	61	57	47	-	-	-	-	-	-	*	-	1	x	x
67	RES	B	1	70	65	60	55	50	45	41	45	41	65	60	55	45	-	-	-	-	-	-	*	-	-	-	-
68	S	B	1	70	65	60	55	50	45	41	45	41	66	62	57	47	-	-	-	-	-	-	*	1	2	x	x
69	RES	B	1	70	65	60	55	50	45	41	45	41	68	64	59	49	-	-	-	-	-	-	*	3	4	4	-
70	RES	B	1	70	65	60	55	50	45	41	45	41	70	65	60	49	-	-	-	-	-	-	*	5	5	5	-
71	RES	B	1	70	65	60	55	50	45	41	45	41	68	64	60	49	-	-	-	-	-	-	*	3	4	5	-
72	RES	B	1	70	65	60	55	60	45	41	45	41	64	60	56	46	-	-	-	-	-	-	*	-	-	1	-
73	RES	B	1	70	65	60	55	50	45	41	45	41	76	67	55	46	-	-	-	-	-	-	6	11	7	-	-
74	RES	B	1	70	65	60	55	50	45	41	45	41	65	63	54	45	-	-	-	-	-	-	*	-	3	-	-
75	RES	B	1	70	65	60	55	50	45	41	45	41	65	63	54	45	-	-	-	-	-	-	*	-	3	-	-
76																											
77	RES	B	1	70	65	60	55	50	45	41	45	41	70	64	65	52	-	-	-	-	-	-	*	5	4	10	2
78	RES	B	1	70	65	60	55	50	45	41	45	41	64	61	56	47	-	-	-	-	-	-	*	-	1	1	-
79	RES	B	1	70	65	60	55	50	45	41	45	41	62	59	55	46	-	-	-	-	-	-	*	-	-	-	-
81	RES	B	1	70	65	60	55	50	45	41	45	41	60	57	52	44	-	-	-	-	-	-	*	-	-	-	-
82	RES	B	1	70	65	60	55	50	45	41	45	41	59	57	52	44	-	-	-	-	-	-	*	-	-	-	-
83	RES	B	1	70	65	60	55	50	45	41	45	41	59	57	52	44	-	-	-	-	-	-	*	-	-	-	-
84	RES	B	1	70	65	60	55	50	45	41	45	41	61	58	54	45	-	-	-	-	-	-	*	-	-	-	-
85	RES	B	1	70	65	60	55	50	45	41	45	41	62	59	55	46	-	-	-	-	-	-	*	-	-	-	-
86	RES	B	1	70	65	60	55	50	45	41	45	41	64	60	56	47	-	-	-	-	-	-	*	-	-	1	-

Table 22 Noise Data (Continued)

Receptor	Predominant Use	Federal Land Use Classification	State Land Use Classification	NAC	NOISE STANDARDS: Federal Design Noise Levels: 1 Hr. Exterior	NOISE STANDARDS: State Noise Standard: 1Hr Exterior Day		NOISE STANDARDS: State Noise Standard: 1Hr Exterior Night		NOISE LEVELS: Ambient Levels 1 Hr. Exterior		NOISE LEVELS: Year 2000 No-Build		NOISE LEVELS: Year 2000 Build		NOISE LEVELS: Year 2000 Peak Night Time Hour		NOISE IMPACTS: Existing Federal	NOISE IMPACTS: Existing State		NOISE IMPACTS: Year 2000 No. Build Federal	NOISE IMPACTS: Year 2000 No. Build State		NOISE IMPACTS: Year 2000 Build Federal	NOISE IMPACTS: Year 2000 Build State Day		NOISE IMPACTS: Year 2000 Build State Night	
						L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{10}	L_{50}	L_{10}	L_{10}	L_{50}	L_{10}	L_{10}	L_{50}	L_{10}	L_{50}
T.H. 210																												
86a	RES	B	1	70	65	60	55	50	57	51	60	49	53	46	44	34	-	-	-	-	-	-	-	-	-	-	-
87	RES	B	1	70	65	60	55	50	57	51	60	49	53	46	47	39	-	-	-	-	-	-	-	-	-	-	-
88	RES	B	1	70	65	60	55	50	57	51	58	49	56	47	45	35	-	-	-	-	-	-	-	-	-	-	-
89	RES	B	1	70	65	60	55	50	57	51	58	48	56	47	45	35	-	-	-	-	-	-	-	-	-	-	-
90	C	B	1	70	65	60	55	50	57	51	58	48	58	48	46	36	-	-	-	-	-	-	-	-	-	-	-
91	RES	B	1	70	65	60	55	50	45	41	45	41	57	48	45	36	-	-	-	-	-	-	*	-	-	-	-
92	RES	B	1	70	65	60	55	50	45	41	45	41	55	47	45	35	-	-	-	-	-	-	*	-	-	-	-
92a	RES	B	1	70	65	60	55	50	45	41	60	57	63	60	56	47	-	-	-	-	-	-	*	-	-	-	-
b	RES	B	1	70	65	60	55	50	57	61	60	57	61	58	54	47	-	-	-	-	-	-	-	-	-	-	-
c	RES	B	1	70	65	60	55	50	57	51	60	57	60	58	53	47	-	-	-	-	-	-	*	-	-	-	-
d	RES	B	1	70	65	60	55	50	57	51	60	57	60	57	53	46	-	-	-	-	-	-	*	-	-	-	-
e	RES	B	1	70	65	60	55	50	57	51	60	57	59	57	52	46	-	-	-	-	-	-	*	-	-	-	-
f	RES	B	1	70	65	60	55	50	63	55	69	61	69	61	57	46	-	-	-	-	4	1	*	4	1	2	-
93	RES	B	1	70	65	60	55	50	55	45	60	57	71	63	59	49	-	-	-	-	-	-	1	6	3	4	-
94	RES	B	1	70	65	60	55	50	55	45	60	57	69	59	55	46	-	-	-	-	-	-	*	4	-	-	-
95	RES	B	1	70	65	60	55	50	55	45	60	57	68	58	54	45	-	-	-	-	-	-	*	3	-	-	-
96	RES	B	1	70	65	60	55	50	47	45	47	45	61	56	52	41	-	-	-	-	-	-	*	-	-	-	-
97	RES	B	1	70	65	60	55	50	47	45	47	45	64	58	53	43	-	-	-	-	-	-	*	-	-	-	-
98	RES	B	1	70	65	60	55	50	49	45	49	45	57	49	53	43	-	-	-	-	-	-	-	-	-	-	-
99	RES	B	1	70	65	60	55	50	49	45	49	45	63	56	52	42	-	-	-	-	-	-	*	-	-	-	-
100	RES	B	1	70	65	60	55	50	49	45	49	45	70	56	53	42	-	-	-	-	-	-	*	-	-	-	-
101	RES	B	1	70	65	60	55	50	49	45	49	45	60	55	52	43	-	-	-	-	-	-	*	-	-	-	-
102	RES	B	1	70	65	60	55	50	49	45	49	45	60	55	52	43	-	-	-	-	-	-	*	-	-	-	-
103	RES	B	1	70	65	60	55	50	55	45	71	63	61	50	46	37	-	-	-	1	6	3	-	-	-	-	-

Table 22 Noise Data (Continued)

Receptor	Predominant Use	Federal Land Use Classification	State Land Use Classification	NOISE STANDARDS: Federal Design Noise Levels: 1 Hr. Exterior	NOISE STANDARDS: State Noise Standard: 1Hr Exterior Day		NOISE STANDARDS: State Noise Standard: 1Hr Exterior Night		NOISE LEVELS: Ambient Levels 1 Hr. Exterior		NOISE LEVELS: Year 2000 No-Build		NOISE LEVELS: Year 2000 Build		NOISE LEVELS: Year 2000 Peak Night Time Hour		NOISE IMPACTS: Existing Federal	NOISE IMPACTS: Existing State		NOISE IMPACTS: Year 2000 No. Build Federal	NOISE IMPACTS: Year 2000 No. Build State		NOISE IMPACTS: Year 2000 Build Federal	NOISE IMPACTS: Year 2000 Build State Day		NOISE IMPACTS: Year 2000 Build State Night	
					L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{50}	L_{10}	L_{10}	L_{50}	L_{10}	L_{10}	L_{50}	L_{10}	L_{10}	L_{50}	L_{10}	L_{50}
			NAC																								
Motley																											
104	RES	B	1	70	65	60	55	50	54	45	71	63	63	53	47	39	-	-	-	1	6	3	-	-	-	-	-
105	COM	C	2	75	70	65	70	65	55	45	71	67	61	50	46	37	-	-	-	-	1	-	-	-	-	-	-
106	RES	B	1	70	65	60	55	50	55	45	71	63	61	58	53	44	-	-	-	-	6	3	-	-	-	-	-
107	COM	C	2	75	70	65	70	65	55	45	71	62	65	60	58	48	-	-	-	-	1	-	-	-	-	-	-
108	RES	B	1	70	65	60	55	50	57	47	71	63	69	63	58	48	-	-	-	1	6	3	-	4	3	5	-
109	RES	B	1	70	65	60	55	50	57	47	72	64	65	60	56	46	-	-	-	2	7	4	-	-	-	1	-
110	RES	B	1	70	65	60	55	50	57	47	69	63	69	63	58	48	-	-	-	*	4	3	-	4	3	3	-
111	RES	B	1	70	65	60	55	50	57	47	69	63	69	63	58	48	-	-	-	*	4	3	-	4	3	3	-

*10 dBA change from ambient, still within appropriate state or federal standard

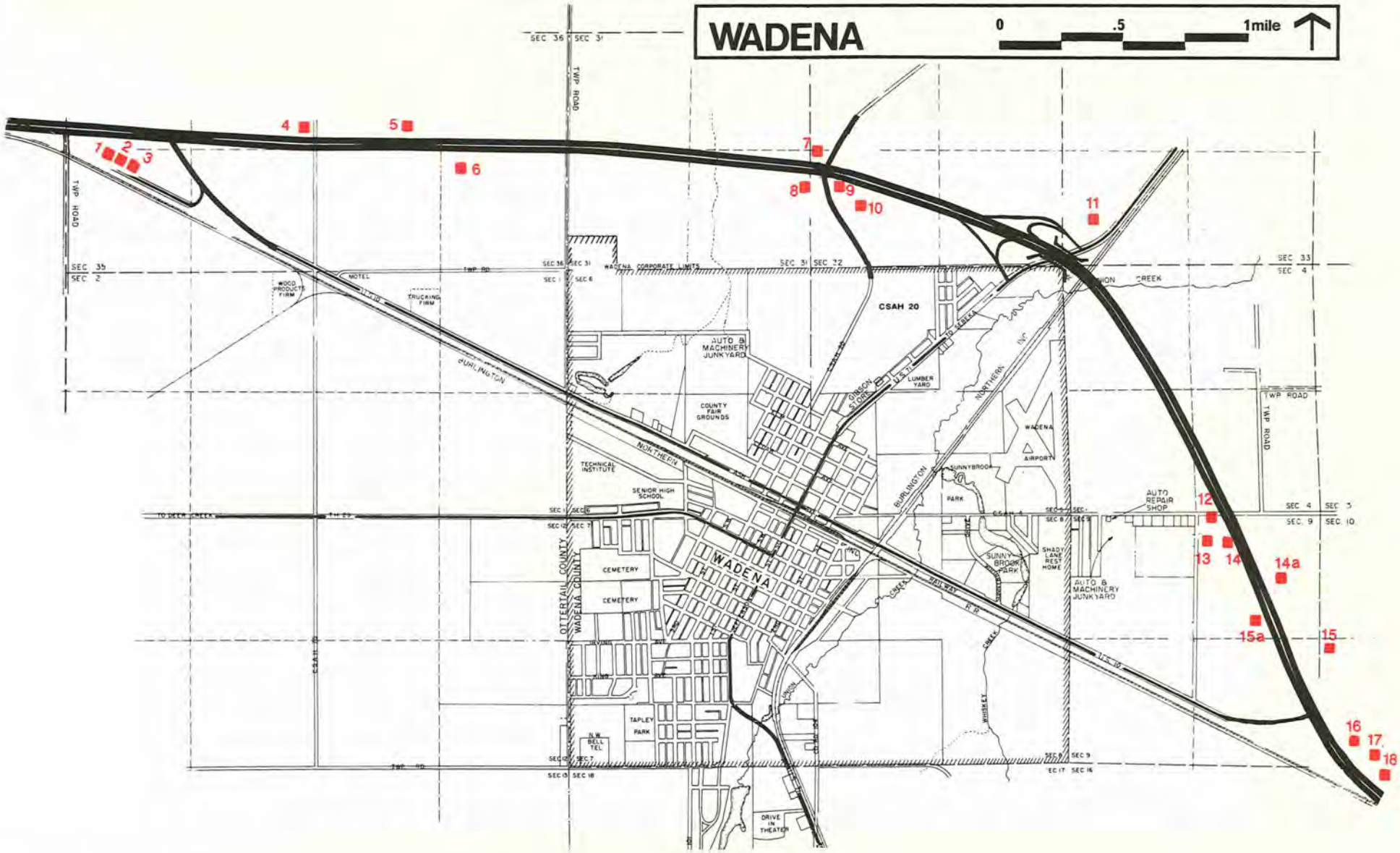

Figure 42 Noise Receptors, Wadena

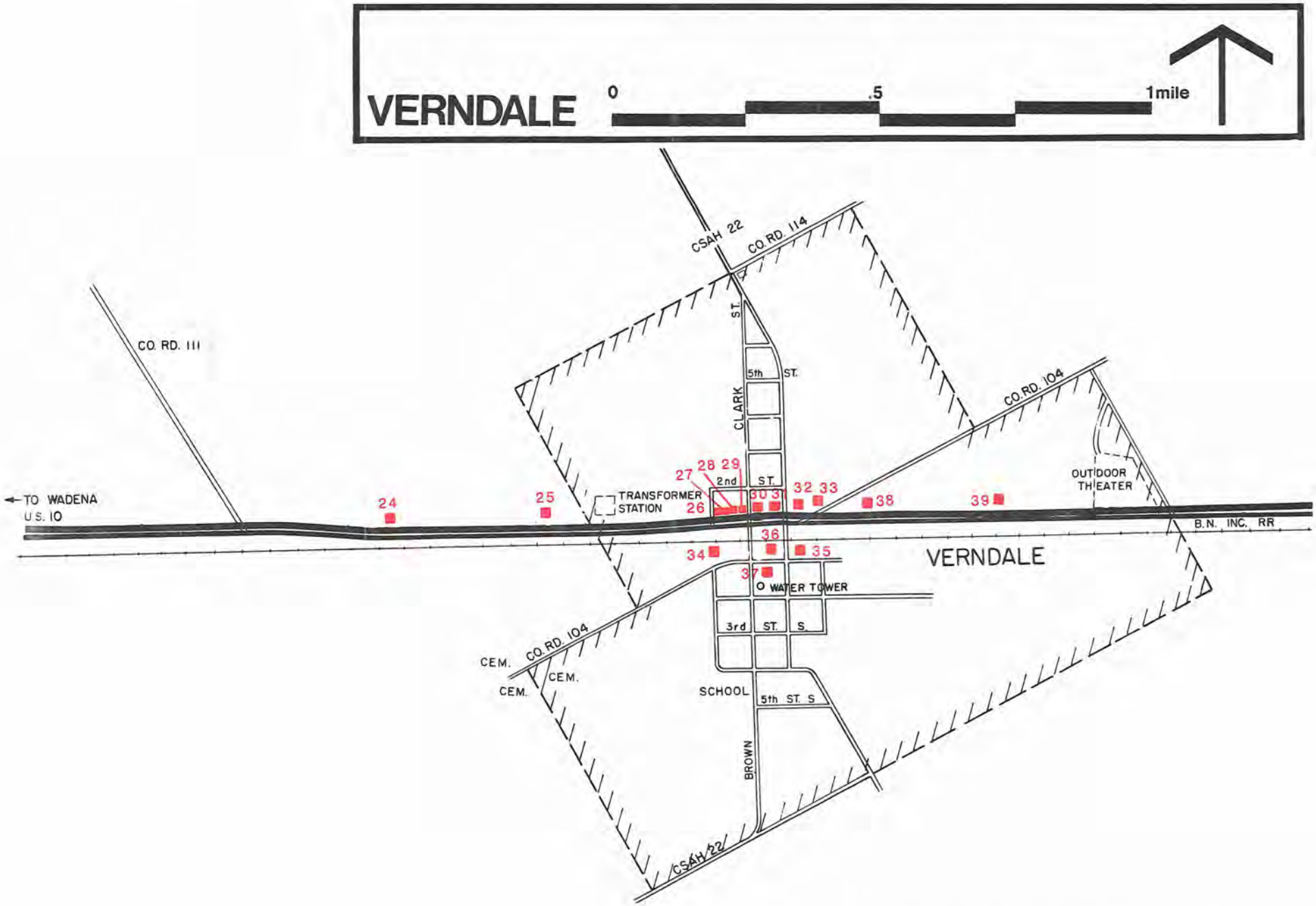

Figure 43 Noise Receptors, Verndale

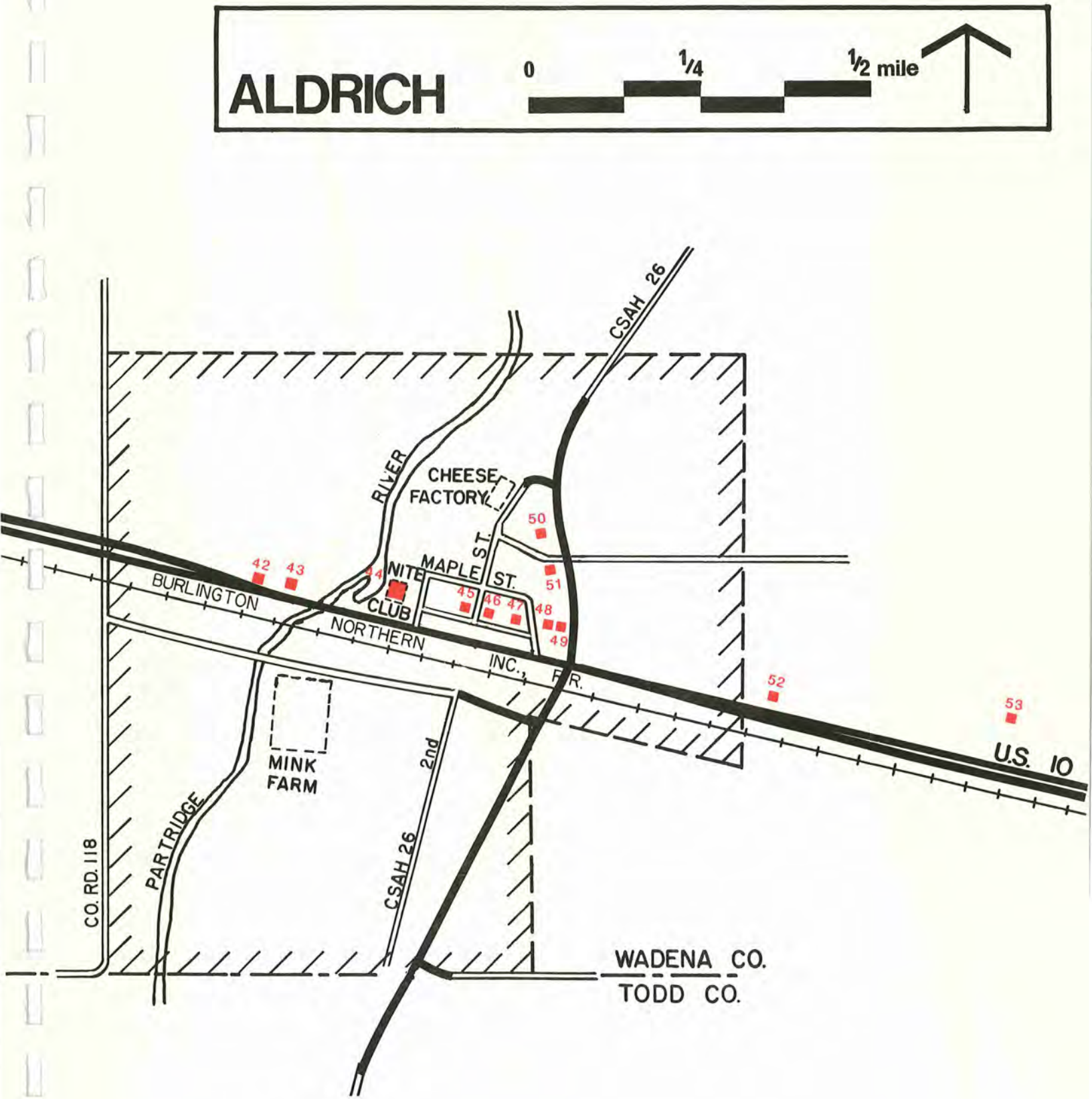

Figure 44 Noise Receptors, Aldrich

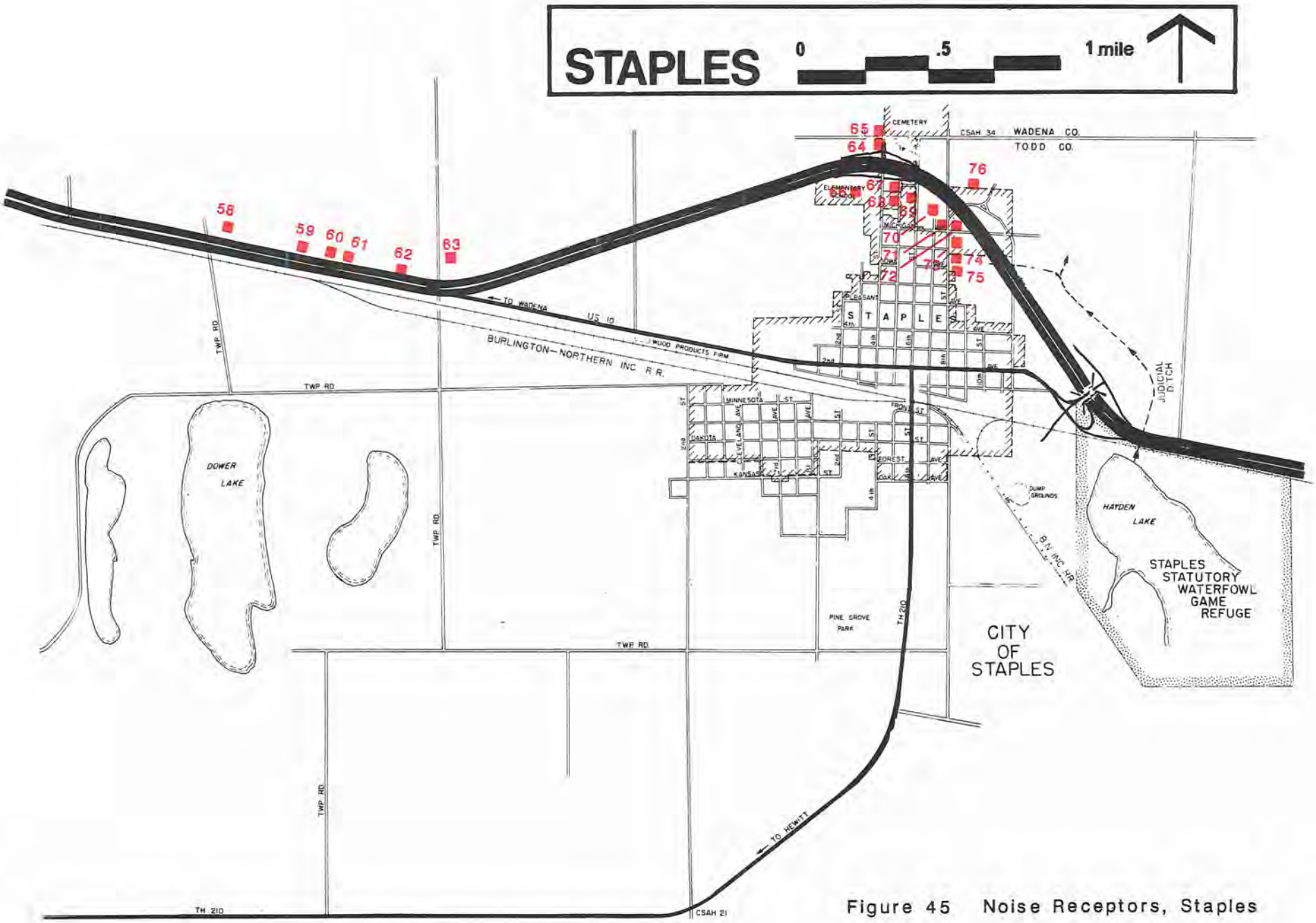

Figure 45 Noise Receptors, Staples

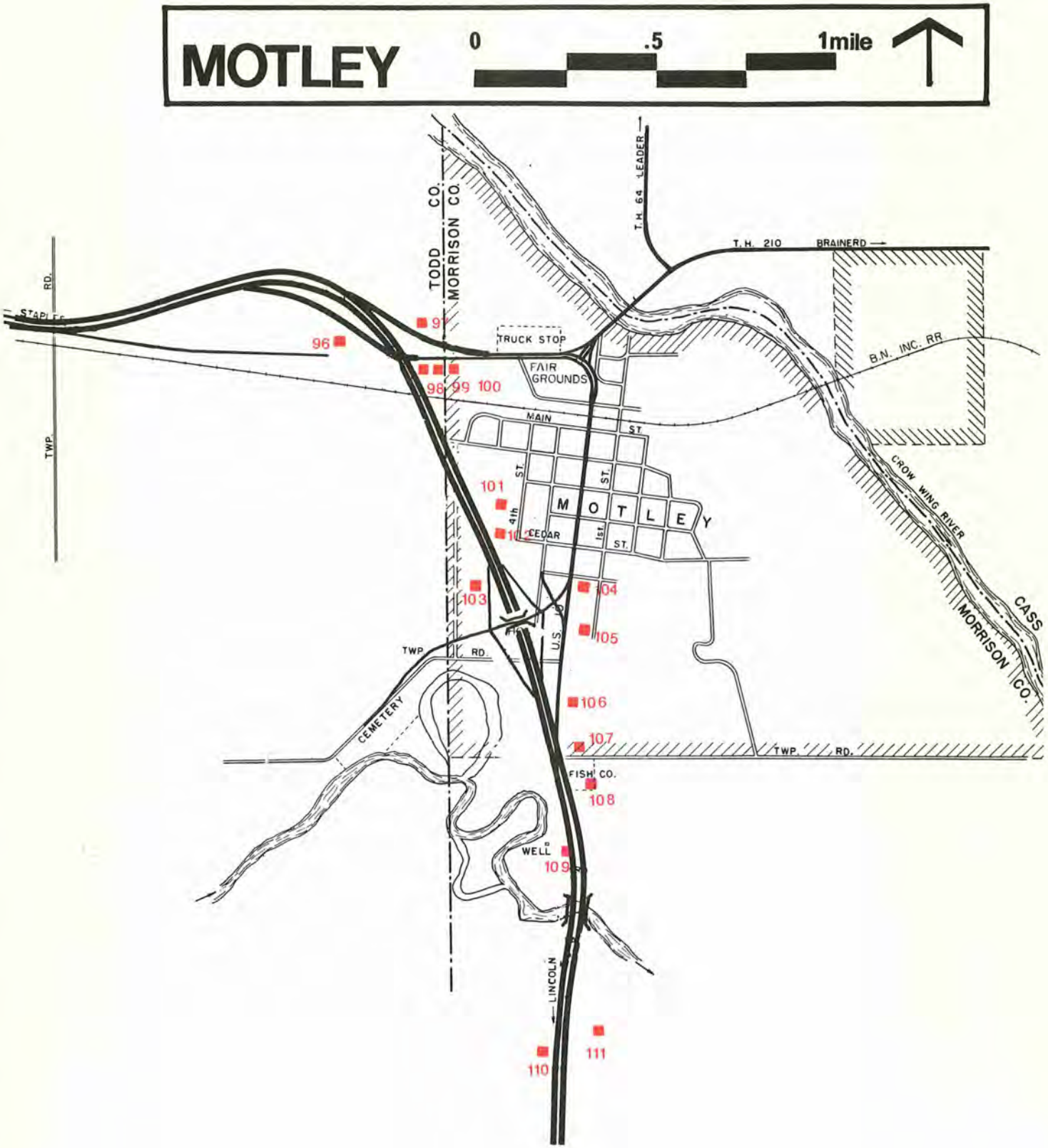

Figure 46 Noise Receptors, Motley

Noise Abatement Measures

For those sites which will experience predicted noise levels exceeding FHWA noise abatement criteria levels and MPCA State standards, noise abatement measures have been considered.

Noise walls have been evaluated as an abatement measure to reduce predicted noise levels. Noise walls are most effective when there is full control of access, so that wall openings are minimized. Nearly all of the proposed action is of expressway design, which would require many barrier openings. This would substantially reduce the effectiveness of noise walls as mitigation. In addition, housing along the route of the preferred alternatives is typically very scattered. This results in noise wall mitigation being very expensive given the number of receptors impacted. Cost for noise wall construction varies with the type of material and wall height. Depending on type of material, a five foot wall would cost between $17.00 and $80.00 per lineal foot, a ten foot wall from $55.00 to $120.00 per lineal foot, and a fifteen foot wall from $80.00 to $183.00 per lineal foot (Source: Mn/DOT Environmental Engineering Unit, January, 1987). Preliminary analysis indicates that the partial access control on the urban sections of U.S. 10, the distance between many of the site receptors on rural segments, and the cost of wall construction may not justify the construction of noise walls as an abatement measure.

Mounding and/or a combination of timber walls and mounding were considered. This abatement measure is also not justified for the same reasons indicated above.

Noise abatement measures were also evaluated for the sites which do not exceed FHWA noise abatement criteria levels but which do experience substantial increases in noise levels of 10 dBA or more. Preliminary analysis indicated that timber walls, timber walls and mounding or mounding alone are not effective for the reasons outlined above, and are not economically justified. Therefore, no abatement measures of this type are proposed for these sites.

Noise Insulation

Noise insulation of private residences or businesses is not within the scope of the Federal Highway Administration regulations pertaining to noise (FHPM 7-7-3). If the noise impact is especially severe and if conventional abatement measures are unacceptable, this extraordinary measure could be considered on a case by case basis. FHPM 7-7-3, does not define "especially severe impacts". This determination must be made by Mn/DOT. Any proposal of extraordinary abatement measures must be approved by the Region Federal Highway Administrator.

Traffic Control

Prohibition or time use restrictions (curfews) of heavy commercial vehicle types (trucks) on U.S. 10 would hinder commercial transportation in the central portion of the State as well as hinder or cut off needed services to the rural and urban communities along U.S. 10 between Wadena and Motley.

Truck Noise Standards

As mentioned, the noise predictions for the proposed projects are based on projected traffic counts, but use present day traffic noise emissions for comparison. At the present time there are programs in operation to lower the noise output of traffic related noise generators. Areas of concern are muffling systems on trucks and vehicle tire designs. The Minnesota Pollution Control Agency, in cooperation with the Environmental Protection Agency, has established a maximum noise level of 83 dBA at 50 feet for trucks traveling at 35 miles per hour or less. This standard became effective on January 1, 1978, and applies only to new trucks manufactured after that date. The present noise level at 50 feet for trucks traveling at speeds above 35 miles per hour is 87 dBA. The establishment of such "noise source" standards may help minimize the impacts of noise to adjacent receivers.

Based upon the analysis it has been determined that noise abatement measures (traffic management measures) as stated in FHPM 7-7-3, Paragraph 8.c would not be practical for the elimination or reduction of highway noise impacts on the affected receptors on this project.

Construction Noise	Construction noise has been considered and no long term impacts are anticipated. Those residences located near proposed bridges may be exposed to excessive noise levels due to pile driving operations. Effects will be short term and limited to daytime activity hours. The 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 in the performance of the construction. This would include any local noise control laws.
Local Coordination and Land Use Planning	The Minnesota Department of Transportation has furnished all Cities, Counties and Regional Development Commissions in Minnesota with copies of "The Audible Landscape". This handbook provides guidance for land use planning, plat layout and building design for compatible development near traffic noise corridors. In addition, local officials will be informed that noise abatement measures will not normally be approved by Federal Highway Administration for those activities and land uses which come into existence after the dates of public knowledge of the U.S. 10 project. The date of public knowledge is the date following FHWA highway location approval, when Mn/DOT officially notifies the public of the adoption of the location for proposed improvement to U.S. 10.
Plat Reviews	Proposed plats for land adjacent to all Minnesota State Highways are submitted to the Department of Transportation for review prior to plat approval by local units of government. When potential for noise impact is identified in the review process, it is noted in Mn/DOT review comments to insure that the approving authority is aware of an existing or possible highway noise impact on land areas proposed for development.

Energy Analysis

Alternatives Analyzed

Alternative 1

Alternative 1 is a build alternative consisting of four lanes throughout and

bypassing the cities of Wadena, Staples, and Motley. The alignment follows that of inplace U.S. 10, except for the bypass segments which go around the cities.

Alternative 2
Alternative 2 is a build alternative consisting of four lanes throughout. The alignment follows inplace U.S. 10. It differs from Alternative 1 in that there are no bypasses of cities.

Alternative 3
Alternative 3 is a no-build alternative in the strictest sense of the word. Only routine maintenance is considered.

Alternative 4
Alternative 4 is a no-build alternative that is combined with Traffic Systems Management (TSM) projects. It is different from the no-build alternative in that it takes into account intersection revisions, right turn lanes; overlays to improve structural strength, etc.

Methodology and Assumptions

This energy analysis was done in accordance with the procedures outline in the Federal Highway Administration Manual "Energy Requirements for Transportation Systems" and modified by using the Minnesota location factors.

The following assumptions were made and are considered valid for all alternatives:

1. Since the grades of the proposed (and inplace) roadways are not known, the assumption is made that the grade is a constant 1.0% for all alternatives.

2. Heavy commercial traffic is considered to be 12% of the AADT. Medium commercial is 3%.

3. The Gas-Diesel split for heavy commercial is 2 to 1. The Gas-Diesel split for medium commercial is 9 to 1.

4. Traffic for bypasses at Wadena, Staples & Motley will be considered as the largest of the AADT's on either side plus 10% for local traffic.

5. Average Speed--Autos = 50 MPH; medium commercial trucks = 45 MPH; heavy commercial trucks = 40 MPH.

6. Direct energy consumption is computed for the Year 2000. This is assumed to give an average for the 20 year period from 1990 to 2010. This 20 year period is considered to be the project life.

Summary

Table 23, below, provides the results of the energy analysis expressed as equivalent daily energy consumption by each alternative, averaged for the time period of 1990-2010.

Table 23
Energy Analysis

Energy Consumption By Source	(Energy Expressed in BTU/Day) Alternative 1	Alternative 2	Alternative 3	Alternative 4
Direct (Vehicle Fuels)	1.69×10^9	1.89×10^9	2.07×10^9	1.96×10^9
Indirect (Vehicles)	1.35×10^9	1.38×10^9	1.38×10^9	1.38×10^9
Indirect (Construction)	2.66×10^8	2.58×10^8	0	8.06×10^8
Indirect (Maintenance)	1.89×10^7	1.89×10^7	9.44×10^6	9.44×10^6
Peripheral Effects	NIL	NIL	NIL	NIL
TOTALS	3.32×10^9	3.55×10^9	3.46×10^9	3.43×10^9
Total Energy Expressed as Barrels of Oil Per Day	572 Bbl	612 Bbl	597 Bbl	591 Bbl

At the current state of analysis, the 7% difference between the high and low alternatives should not be construed as proof that one alternative is more energy intensive than the other. It can be concluded however, that all alternatives will consume essentially the same amount of energy, the initial construction expenditures being offset by reduced fuel consumption of vehicles.

SOCIAL AND ECONOMIC IMPACTS

Land Use Impacts

Construction of the preferred alternatives in any of the locations within the project area will cause some land to be converted to a transportation use. The amount of land which can be accurately predicted to be converted is the land which is directly converted as a result of right-of-way acquisition. Mn/DOT is not aware of any large scale commercial, industrial, residential or other developments are planned for the area which could be contingent upon highway project construction. Land use impacts are summarized in Table 24.

Indirect Impacts

A common occurrence following the construction of a limited access highway is that businesses oriented to the traveling public develop along the new highway, particularly near access points. There does not exist a model which can be used to predict the location or the timing of such development, or even if it will occur at all. However, such development is a historically common event, and may be presumed to take place in the project area over the long term. It therefore may be assumed that land located adjacent to the bypass routes, especially that near access points, will likely over time be converted to a commercial land use.

Agricultural Impacts

As indicated above, construction of any of the preferred alternatives will cause the conversion of some amount of land to a transportation land use. General impacts to agricultural land can be seen in Table 12. For purposes of assessing impacts to agricultural land, that term is defined quite broadly. The definitions of agricultural land embodied in state and federal rules go beyond actual or historical land use. Included is cropped fields, but also pastureland, woodland, and other land as well. Agricultural land is thus defined as land in cropland, grassland, or woodland. Land classified either as developed, or as wetland, shall not be considered as agricultural land. Construction of the preferred alternatives throughout the length of the project will cause the direct conversion

of 676 acres of agricultural land. The largest proportion of this land is associated with the construction of the community bypasses. Only 135 acres are associated with the construction of the rural portion of the project, also referred to as phase 1.

Prime/Unique Farmland

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 classes I and II is generally defined as prime farmland. Steep slopes, poor drainage, and shallow or droughty soil are a few of the many features which may limit soils from being prime.

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. Examples of unique farmland in Minnesota include cranberry bogs, wild rice areas, orchards, and commercial vegetable gardens.

Impact to Prime Farmland

No unique farmland was identified in the vicinity of the proposed action. Because of conditions noted earlier, prime farmland is not common in the project area, the major limiting factor being the nature of the soil. As a result, impacts to prime farmland are relatively minor, considering the length of the project.

Approximately 96 acres of prime farmland were identified which would be impacted by project construction. All identified prime farmland is located in Wadena County. As may be seen in Table 12, the through town routes are associated with

correspondingly less farmland impacts, and the no-build alternatives with no farmland impacts at all.

Farmland Protection Policy Act (FPPA)

This project complies with the provisions of the Farmland Protection Policy Act (FPPA). Appropriate forms AD-1006 were developed by Mn/DOT and submitted to the U.S.D.A. Soil Conservation Service (SCS) for the takings anticipated in each county through the project would pass. Currently, SCS does not have information available for each county to fully complete the analysis contemplated by the FPPA. However, the SCS did return some completed forms. These indicated that the land to be acquired generally was not highly productive farmland. In no case did the numerical rating approach the level required to consider additional sites or other mitigation. See page 241 and following.

Indirect Agricultural Impacts

Generally, the preferred alternative follows the existing alignment of U.S. 10 in the rural segment of the project. As a result, indirect farm impacts through severence and/or triangulation will be avoided. Construction of the bypasses, however, will cause some of these impacts. These are discussed in the section relating to each community.

The conversion of agricultural land at interchange locations is function of many factors, including the price of the land, agricultural prices, the availability of alternative sites, etc. Municipalities and/or counties may control or influence such conversion through the exercise of their planning or zoning powers. U.S. 10 through the project area is heavily used for the movement of agricultural commodities by truck. The construction of the preferred alternatives will result in an improved transportation system for these movements. The project is not anticipated to cause a significant adverse impact upon agricultural viability in the project area.

Mitigation

The original design, described in the DEIS, called for a median between the east and west bound lanes of 124 feet, with a basic right of way of 324 feet. This has been changed, with design of the

preferred alternative in the rural area being 100 feet between centerlines, and right of way ending at approximately 90 feet from centerline. This gives a basic right of way width of 280 feet. This reduces farmland acquisition by approximately 50 acres. The preferred alternative in Verndale was selected at least partially to reduce impacts to agricultural land.

The conversion of agricultural land at the interchange locations is a function of many factors, including the price of land, crop prices, the availability of alternative sites, etc. Cities and/or counties can also influence such conversion through the exercise of planning or zoning powers.

U.S. 10 through the project area is heavily used for the movement of agricultural commodities. The construction of the preferred alternatives will result in an improved transportation system for such movements. The proposed action is not anticipated to cause significant adverse impact upon agricultural vitality in the project area.

Relocation

The relocation impacts of the proposed action are as described in Table 24. As discussed earlier, the proposed action is anticipated to be constructed in three stages: (1) the construction of the rural section between Wadena and Staples, including through Verndale and Aldrich; (2) During the second stage, traffic will be routed on the new facility while the existing facility is rehabilitated; and (3) at some undefined point in the future, the community bypass construction.

The majority of both residential and commercial relocation is associated with the construction of either the bypasses or the through town routes within the cities of Wadena, Staples, and Motley. The first stage of project construction -- the section lying generally between the communities of Staples and Wadena -- will cause the acquisition of one residence and four commercial properties.

Table 24

Farms, Residences, Businesses Affected

Segment/ Alternative	Farms Affected	Farms with Severence	Residences Relocated	Businesses Relocated
Rural Section, Route 1-M,[a] Wadena to Motley	27	0	1	0
Wadena 1-A, 1-A-M[a]	4	13	9	1
Wadena 1-B	7	9	9	1
Wadena 2	0	0	7	22-27[b]
Verndale 1	1	2	7	1
Verndale 1-A	5	0	3	0
Verndale 2, 2-M[a]	2	0	0	3
Aldrich 1	2	1	6	1
Aldrich 2[a]	0	0	0	1
Staples 1, 1-M[a]	5	1	3	3
Staples 2	0	0	30	25-33[b]
Staples (TH 210) A[a]	2	1	3	1
Staples (TH 210) B	1	0	1	2
Motley 1, 1-M[a]	10	5	5	1
Motley 2	0	0	9	12-14[b]

[a]Preferred Alternative. Differences between alternatives 1 and 1-M, 1-A and 1-A-M, and 2 and 2-M are design differences discussed in the text in Section I and Section II. Figures in cells of preferred alternatives reflect the reduction in centerline separation and right of way width discussed in text.

[b]Actual number relocated would depend on whether a through town route is located on the south or north side of inplace U.S. 10. Estimates as of February, 1987.

The section below describes in a general way the relocation which will be caused as a result of all three stages of this project, and in a detailed way the relocation which is necessitated by stage one construction. The Minnesota Department of Transportation commits to undertaking an additional detailed relocation study of the project area at such time in the future as the third stage of the project -- the bypasses of Wadena, Staples, and Motley, -- is funded and is placed in the construction program.

Residential Relocation

The first stage of project construction will cause the relocation of only one residential property.

At this stage of project development, no contacts regarding purchase have been made with potentially affected property owners or rentors. Relocation was discussed at the March, 1986 Public Hearing, relocation staff were available to discuss benefits with area residents, and brochures detailing relocation benefits and procedures were available and taken by a number of residents. Field drives were undertaken to estimate the number of homes involved, and their characteristics, and to survey the residential characteristics of the proposed project area. The types of homes along the proposed routes cover a general range.

In both the urban and rural areas, the homes tend to be medium sized to smaller. They are typically well kept and maintained. The appearance of the homes would indicate that the income level of the families and individuals living in these properties is reasonably representative of the area.

Business Relocation

The first stage of project construction is anticipated to cause the relocation of four commercial properties. Three of these are located in Verndale, and one in Aldrich. In Verndale, these include a second hand sales business, an irrigation and grain equipment sales and service business, and a cooperative feed and seed store. Of these, none can be categorized as oriented to transient motor traffic. Each of these businesses is located on land which is located between the existing highway and the Burlington Northern Railroad tracks which lie to the south. The land is owned by the railroad. A rail spur runs is located behind these businesses. The feed and seed store in Verndale employs between four and eight people, according to season and business level. They have expressed a desire to relocate during the winter months, which is their slack time. The irrigation and grain equipment business has three employees. They sell

both new and used equipment, and desire to relocate where they will have highway visibility.

Coordination with the operators of these businesses indicates that they will remain in business in the area following relocation. The right of way office in Mn/DOT District has indicated that adequate replacement property is available. Suitable land exists on the north side of the highway within and near the city, and property would appear to be available south of the railroad track to provide a replacement site.

In Aldrich the only relocation is that of feed and seed outlet. This is located adjacent to U.S. 10 on the south side of the highway, and north of the railroad track. This business is on land owned by the Burlington Northern Railroad. Depending on season and business levels, this business employs approximately three persons. Coordination with the operator indicates that he does indend to relocate and remain in business. However, he intends to relocate in Verndale, which is approximately three miles west of Aldrich.

The Mn/DOT relocation office will provide advisory services to these businesses in finding suitable replacement sites.

Residential Availability

To determine the availability of suitable replacement housing, realtors in the project vicinity were contacted, newspapers were reviewed, and a field drive was undertaken. This review revealed that an adequate supply of suitable housing is available to meet any demand for housing which the project could conceivably generate. The survey field review revealed no evidence that any potential displaced residents have a mobility impairment, or other special need. The large stock of available housing is sufficient to insure that comparable replacement housing is available to meet the needs for housing which the preferred alternatives will generate.

This review revealed that in the project

area, in February and March, 1987, 100 homes were for sale in the Wadena and vicinity, 90 were for sale in the Staples area, and eight were for sale in the vicinity of Motley. These homes were distributed within a wide price range. The available homes also vary in size. The largest number of homes were of two and three bedrooms. A number of both smaller and larger homes were also available. These homes are distributed throughout the project area, although more are available in the communities of Wadena and Staples. Given the fact that but one residence will be displaced by acquisition associated with construction of the first stage of the proposed action, there should be adequate housing stocks available to meet the needs of those displaced during stage one.

It is not anticipated that the U.S. 10 project will present significant problems in finding safe, sanitary, and decent replacement housing for all displaced households. The large number of homes for sale, together with the relatively small number of residential displacements in each community should insure that functionally equivalent housing will be available for each displaced resident. Nor is it anticipated that the residential relocation required by this project will exert a significant disruptive effect upon communities in the project area.

Relocation Assistance

It is the policy of the Minnesota Department of Transportation that no person shall be displaced by its construction projects unless and until adequate replacement housing has already been provided for or is built and has been made available to all affected persons regardless of their race, color religion, sex or national origin. It is also the policy that, to the greatest extent practicable, no person lawfully occupying real property shall be required to move from his dwelling or move his business, farm operation or nonprofit organization without written notice at least 90 days prior to the date such move is required.

The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, codified in U.S. Code, Title 42, Section 4601 et seq., has provided the legal framework which has regulated and guided relocation assistance since its passage. Regulatory material implementing this law is found in Code of Federal Regulations, Title 49, (49 CFR). The purpose of the law and regulation was to establish a uniform policy for fair and equitable treatment of persons displaced as a result of federal and federally assisted programs in order that such persons shall not suffer disproportionate injuries as a result of programs designed for the benefit of the public as a whole. A state law is found in Minnesota Statutes, Chapter 117, "Eminent Domain," which commits the Minnesota Department of Transportation to follow the procedures of the federal law and rule. Together, these laws have provided that specific forms of assistance be granted to persons, businesses, farms, and non-profit organizations which are displaced by public improvements. Specific financial amounts and procedures were set forth as well. The actions of the The Minnesota Department of Transportation (Mn/DOT) have been regulated and guided in this matter by these laws for nearly two decades. The forms and amounts of assistance, and rights of property owners and others are set forth in detail in two publications of the Minnesota Department of Transportation: "Guide for Property Owners," and "Relocation Assistance." These booklets were available at the public hearing and are available at Mn/DOT offices without charge.

The intent of these laws is to insure that each displaced household is relocated into decent, safe, and sanitary replacement housing within reasonable distances from their present place of employment. Mn/DOT attempts to complete each relocation within 90 days from the date of property acquisition. The Mn/DOT relocation office, through many sources,

has listings of available homes for sale and apartments for rent. Persons of lower income are given priority for public housing. Reasonable and necessary residential moving expenses are reimbursible, both for owner occupants and rentors. Businesses, non-profit orgnaizations, and farm operations are also granted reasonable and necessary moving expenses, payment for time spent in search of a replacement site. Appraisal fees are reimbursible, for residential, business, non-profit organizations and farms. Other items are also reimbursible.

A displaced owner-occupant may receive a supplemental replacement housing payment from Mn/DOT. This payment is the amount determined, 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. The amount of this has recently been increased from $15,000 to $22,500, under the federal law.

Increased interest payments are available to eligible owner-occupants to compensate for the increased cost required for financing a replacement dwelling. Mn/DOT will also pay most closing costs on the purchase of a replacement 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. Owner-occupants and tenants of 90 days or more may be eligible for a rental assistance payment. This payment is designed to enable the displaced person or family to rent a comparable decent , safe, and sanitary replacement dwelling. If a replacement rental dwelling is chosen where the rental payments are higher than had been being paid, the rentor may be eligible for payments. The

recent federal legislation discussed below has increased the total amount of payments which may be received from $4,000 to $5,250, and shortened the duration of such payment from four years to 42 months.

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.

1987 Amendments

The federal law regarding relocation assistance was substantially modified in April of 1987 by the U.S. Congress. In April, 1987, the "Surface Transportation and Uniform Relocation Assistance Act of 1987," Public Law 100-17, became law. Title IV of that law is "Uniform Relocation Act Amendments of 1987." At this writing, the U.S. Department of Transportation has not issued guidance or regulations to implement this law. However, it is clear that the revised law will provide increased benefits to residents, both owners and rentors. Increased benefits will also be available to business operators. The law raises the ceiling on the additional payment which may be made to obtain comparable replacement housing from $15,000 to $22,500. For tenants, it provides for a payment of up to $5,250 over a period of 42 months for a comparable rental unit. It also provides that this may be applied as a down payment on the purchase of a replacement property.

Operators of businesses, farms and non-profit organizations may be reimbursed for actual reasonable costs incurred in moving their enterprise. Alternatively, they may receive a fixed payment in

lieu of actual expenses of not less than $1,000 nor more than $20,000. Under the old law, an "in lieu of" payment could not exceed $10,000. In addition, the new law allows for up to $10,000 which may be necessary to reestablish a farm operation, non-profit organization, or small business at a new site.

At this writing, The Minnesota Legislature has not passed enabling legislation which would allow Mn/DOT to provide for the increased benefits which are contained in the federal law. It is anticipated that this will be addressed in the next session of the Minnesota Legislature.

The Minnesota Department of Transportation will comply with all relevant and applicable laws, rules, and regulations in the provision of relocation services and benefits which are in force at the time such relocation is undertaken.

The above discussion is intended as a fair and accurate outline of relocation assistance which is available to those displaced by a Mn/DOT project. Interested, or potentially affected residents, business operators, staff of non-profit organizations, or farmers are encouraged to contact the Mn/DOT district office for additional information.

Bypass Impacts

The economic effects of a community bypass will be discussed in general, rather than focusing the discussion on each community.

The construction of any community bypass can be expected to exert some adverse impact upon those businesses currently located along U.S. 10 which serve, and are to some degree dependent upon, transient motorists. Examples of such businesses include automobile service stations, motels, and convenience food outlets.

There does not exist an economic technique which allows the projection or specification of an effect to a particular business or type of business. Research to date has focused on an outcome variable, e.g. retail sales, or has focused on a particular community or business, in a case study approach. More specific models providing for the disaggragation of effects, have not been developed. This subject however, has been the subject of a substantial body of research literature. Many bypass studies have been conducted by or for FHWA, and by many states. The conclusions of this body of literature are strikingly consistent, as follows.

A. When examined at the level of community or county, a bypass does not exert a discernible economic effect. That is, when examined before and after a bypass is constructed, the normal economic indicators for counties and/or communities, (e.g. total retail sales), do not reveal any significant difference from similar non-bypassed communities or counties.

B. Although overall community economy is not affected, in a detectable manner, some individual businesses may be adversely impacted.

1. There is evidence that individual businesses whose market segment consists largely of the motoring public may be adversely impacted by traffic rerouting. Generally, these businesses have been defined on an ad hoc

basis. Businesses normally included are service stations, motels, and convenience food outlets.

a) Some of these businesses may regain customer flow through a variety of measures which include more aggressive marketing, focusing on a segment of the market, specialization of goods or services, etc.

b) Some businesses may relocate. Frequently businesses relocate near the new highway and may realize great success. The many vital retail areas located along community bypasses throughout the state are examples of relocation and growth.

c) Some businesses may close.

C. There is no evidence that "non-motorist" businesses are adversely affected. There is no evidence that businesses which offer "shopping" or "specialty" goods or services (e.g. major consumer durable goods such as television sets or refrigerators, or financial services are at all affected.

D. Bypasses sometimes exert a beneficial impact upon local shopping areas. In many small communities which have a major highway running through them, the traffic situation is frequently very congested. There are often conflicts between through traffic and traffic which is destined for the local shopping area. On-street parking may be difficult or non-existent. When traffic whose origins and destinations both lie outside the community is routed away from the center of town, congestion and conflict between through and local traffic is virtually eliminated. This may result in a more pleasant shopping experience for local repeat shoppers, upon whom most businesses depend.

Fiscal Impacts

Property acquired for transportation right of way is permanently removed from the rolls of the taxing district in which it located. Commonly, many property owners relocate within the same general

area. This will normally result in a property tax impact of insignificant proportion. If all, or a substantial proportion, of displaced residents chose to leave the area, this could cause an increase in the tax on real property remaining in the taxing district.

A precise estimate of fiscal impacts is not possible at this stage of project development. Many of the acquisitions within the project area, including the cities, are such that only a portion of the property will be acquired. In such a case, the valuation of the remaining property must be determined by the appropriate assessor, and is difficult to estimate in any reasonably precise manner.

The amount of property which would be acquired in association with a bypass of any of the communities is greater than for a through town route. However, the valuation of the property associated with a through town route is significantly higher. Typically both the right of way costs and fiscal impacts of any corridor requiring developed residential or commercial property are higher than a corridor in which the property is undeveloped. Any through town route which requires sufficient right of way as to displace structures is normally the most expensive.

In the rural areas and along the routes of the bypasses, residential properties are commonly located on multiacre lots, or are farmsteads. In such a case, it is common for the resident to build further back on the property, or to move the original house further back on the lot.

SOCIAL AND ECONOMIC IMPACTS
BY COMMUNITY

WADENA

Social Impacts

The preferred alternative includes an at grade intersection east of the city limits. The intersection will provide access to the business district via old highway 10 from the west. This corridor is proposed in an area in which nine residences would be displaced. This corridor would also cause the acquisition of agricultural land and result in some degree of farm severence in thirteen cases. This severence will result in several areas being detached from the farmstead itself. All farmsteads are located north of the highway corridor. Farm operations may become more difficult as a result of this severence.

Community Cohesion

The preferred alternative will not adversely affect community cohesion. To the contrary, the construction of a community bypass generally has the effect of increasing community cohesion. U. S. 10 currently divides the community and presents a barrier of high speed traffic. A large proportion of this traffic is "through" traffic. It has both its origin and destination outside Wadena. By rerouting this high speed through traffic away from the center of the city, social interaction will be easier. This is particularly true for certain categories of people, e.g. those without access to an automobile, children or the aged.

A through town route, by maintaining a high speed corridor through the center of the city, would perpetuate the adverse effect upon neighborhood and community cohesion which is associated with the present facility.

Travel Patterns/ Accessibility

Construction of the preferred alternative will alter travel patterns in the vicinity of Wadena. The bypass would attract virtually all vehicles whose origins and destinations are outside Wadena. Removing this traffic from the city will result in generally improved access for motorists whose origins and/or

	destinations are within Wadena. Motorists whose origins and/or destinations lie outside Wadena will benefit from not having to reduce speed to travel through the city.
Community Facilities	
Schools	Construction of the preferred alternative will not cause any adverse impact to schools, or school district operations. No other alternative would cause adverse impacts either.
Recreation Areas	No publicly owned recreation area will be adversely impacted by any of the project alternatives, including the preferred alternative.
Churches	No churches will be adversely impacted by any of the project alternatives, including the preferred alternative.
Public Safety/ Emergency Services	Removing through traffic from the streets of Wadena will beneficially impact public safety by eliminating conflict between that traffic and local vehicles and pedestrians. Emergency vehicles, fire and other, also must now cross TH 10 in Wadena.
Special Group	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 of Wadena County is 16.4, compared with 11.8 percent of the state and 11.3 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 adversely affected in any way. The through town alternative and the no-build alternative would be expected to exert some adverse

impact upon those in the population who are non-drivers.

Economic Impacts

Business Impacts

Along existing U.S. 10 a number of businesses operate which are to some degree dependent upon U.S. 10 traffic. These businesses include motels, restaurants, service stations, and many others. Construction of the preferred alternative will cause the relocation of through traffic to the new facility. These businesses will therefore lose the direct exposure to transient traffic which they now enjoy. As a result, these businesses may have to engage in more aggressive marketing or advertising. The market itself will not be changed. That is, the demand for gasoline, motel rooms, or food service will not be affected by the project. Increased effort may be required by these businesses to maintain their market share and consumer flow which previously had been directly exposed to on-site advertising.

The preferred alternative will facilitate access to the shopping area which has developed in the northern section of Wadena, along TH 71. This area will be somewhat easier to reach from origins either east or west of Wadena than is currently the case. However, the current access is not unduly circuitous, or deficient.

Other Project Alternatives

No-Build

The no-build alternative would perpetuate the existing condition.

Through Town

A through town alternative would require the acquisition of a strip of land directly adjacent to existing U.S. 10 through the corporate limits of Wadena. This in turn would result in the acquisition of a row of businesses on either the north or south side of U.S. 10. This may cause the displacement of as many as 27 businesses within Wadena. This would be a significant adverse impact of this alternative.

VERNDALE

Social Impacts

The preferred alternative at Verndale is Alternative Route 2, the Through Town route. At the DEIS stage, this alternative was thought to cause severe economic impact because of having to acquire and relocate as many as ten businesses, four residences, and some domestic fowl production facilities. At that time this alternative was thought not be be practical. However, the City of Verndale, at public hearing, showed strong support for the through town route (See appended letter).

Business Impacts

Analysis subsequent to the DEIS indicates that the through town alternative will require the displacement and relocation of three businesses: a feed store, a second hand sales business, and a irrigation and grain equipment sales and service firm. See the Relocation section, above, for a detailed discussion of this impact.

Community Cohesion

A through town route, by maintaining high speed traffic through the center of this small community, can be expected to exert an adverse impact upon community cohesion. U.S. Highway 10 has for many years run through the middle of the community. As a result of this condition, residents have become accustomed to the presence of the road. However, the construction of a community bypass would have had a beneficial impact upon social cohesion in Verndale. The No-Build alternative would perpetuate the existing condition in Verndale, in which the high speed traffic on U.S. 10 bisects the city

Travel Patterns/ Accessibility

The Through Town alternative will perpetuate a condition similar to the existing situation, with through traffic traveling through the center of the hamlet. While this is not the ideal situation, residents have become accustomed to this and take this traffic into consideration when moving from one side of the city to the other. A bypass alternative would facilitate movement within Verndale by removing through traffic from the community. U.S. 10 through Verndale will have a raised

median island, providing refuge to pedestrians or bicyclists crossing the highway. Regarding accessibility and travel patterns, the no build alternative would have similar impacts to those of the through town alternative.

Community Facilities

The preferred alternative will not impact any schools, recreation areas, churches or other public facilities. Within Verndale the improvements to U.S. 10 will take place on the south side of the highway, thereby avoiding St. Frederick's Church, which is located immediately adjacent to U.S. 10 on the north side of the highway. All of the 0.5 acre open space located south of U.S. 10, on railroad property, will be required for improvements through the city. None of the other project alternatives would have adversely impacted community facilities.

Other Project Alternatives

Alternative 1 and 1A were bypass alternatives passing northerly of Verndale. Both included three at grade intersections. The primary adverse impact of these alternatives was the taking of land associated with bypass right of way acquisition. No other significant impacts were anticipated in the DEIS. However, alternative 1, being located much closer to existing U.S. 10, had displacement effects, as described in Table 24. The no build alternative would adversely impact the movement of pedestrians within the community. The current facility within Verndale does not have any type of safety island for anyone crossing U.S. 10. Increased traffic would make this problem more serious.

ALDRICH

Social Impacts

The preferred alternative at Aldrich is Route 2, the through town route. Two at grade intersections will be provided within the limits of the village. The impacts of a through town route at Aldrich are essentially the same as described above for Verndale. Currently U.S. 10 runs through the middle of this hamlet, dividing it.

The through town route, by maintaining high speed traffic through the center of

this small hamlet, can be expected to perpetuate the adverse effect on community cohesion which is associated with the current U.S. 10. However, U.S. 10 currently runs through the middle of the community, and as a result of this condition, the residents have become accustomed to the presence of the road and associated traffic. While this is not the ideal situation for resident mobility, residents have learned to take this traffic into consideration when moving from one side of the village to the other. A bypass alternative would have facilitated movement within Aldrich by removing through traffic from the community.

Alternative 2 will not impact any schools, recreation areas, churches, or other public facilities.

Business Impacts

A limited number of businesses exist along highway 10 in Aldrich. The only adverse impact is the acquisition of the feed store. This business is located on land owned by the railroad. This business may relocate outside Aldrich.

Mitigation at Verndale and Aldrich

The typical section for the through town route in both Aldrich and Verndale provides for a median of variable width through both towns. This will be a raised concrete median with a minimum width of six feet through each town. This will provide a pedestrian/bicyclist refuge. No more than two lanes will have to be crossed at one time.

STAPLES

Social Impacts

Alternative 1-M is the preferred alternative at the City of Staples. This alternative bypasses Staples to the north. It includes one intersection and two interchanges. The intersection is proposed for the western terminus of the bypass, as shown on Figure 27. A central interchange is proposed to be located at Fourth Street. This will be located near the northern edge of the city, between the cemetery and the North Elementary school. This interchange will provide excellent access into the central part of

Staples from the north. The eastern interchange is proposed to be located near the eastern edge of the city. It will provide access to Staples from the east via existing U.S. 10. TH 210 will also be connected to this interchange. This alternative will cause the acquisition of three residential properties and three commercial properties.

Community Cohesion

U.S. 10 currently traverses the middle of Staples, exerting an adverse effect upon social cohesion in the community. It provides both a physical barrier, and a barrier of traffic to movements north and south within the city. Within the city, the rail yards of the Burlington Northern Railroad also act as a similar barrier, and in this case, a more significant one. The construction of a northerly bypass in Staples will remove through traffic from the Main Street in Staples, thereby making movements easier in the central business district.

Substantial residential development has been taking place in the northern part of Staples, north of the proposed location of the bypass. The original design of the facility did not call for any bridges between Fourth Street and the Eastern interchange. This bypass is not currently programmed, and therefore is many years away from detail design, contract letting and construction. Prior to detail design of this facility, Mn/DOT will re-examine this growth and associated issues, and further solicit community input. Residential growth and other associated issues shall be integrated into future decisions regarding the location and/number of bridges providing for north-south movement under or over the facility. Municipal plan approval for the portion of U.S. 10 through Staples is required from the Staples City Council.

Travel Patterns

Construction of the preferred alternative will alter travel patterns in the vicinity of Staples. The bypass will attract virtually all the vehicles whose origins and destinations lie outside Staples. Removing this through traffic

will result in generally improved access for motorists whose origins and/or destinations are within Staples. The business district will become more convenient for consumers, as through traffic/local traffic conflicts are virtually eliminated. The current location of U.S. 10 in Staples, also known as 2nd Avenue, will again be able to serve its primary function as the major commercial street in Staples.

Community Facilities

Schools	Construction of the preferred alternative will not cause adverse impacts to schools or school district operations, except for right of way required from North Elementary School. That right of way is the subject of the "Section 4(f) Evaluation" which is appended to this FEIS. The interchange at Fourth Street will result in improved access to several schools, including the North Campus of the area Vo-Tech Institute, from any easterly or westerly direction.
Recreation	One publicly owned and used recreation area will be impacted by the proposed action. That is the elementary school playground. See the "Section 4(f) Evaluation" appended to this document.
Churches	No churches will be adversely impacted by any of the project alternatives, including the preferred alternative.
Public Safety	Removing through traffic from the streets of Staples will beneficially impact public safety by eliminating conflict between that traffic and local vehicles and pedestrians. Emergency vehicles movement in a north-south direction is now hindered by having to cross U.S.. 10 and the rail tracks. The tracks act as a more significant barrier, which this project cannot affect. As a result, north-south movement will not be helped as much as would otherwise be the case.
Special Groups	Previous research has shown that some categories of people are more sensitive to the personal and social dislocations which transportations improvements may sometimes cause. These categories

include the elderly, handicapped, nondrivers, and minorities. The percentage of elderly in the population in found in Todd County during the 1980 census was 15.5, compared with 11.8 for the state, and 11.3 for the nation. Within the City of Staples, the figure was 26.9. This indicates that the proportion of the population who are elderly is higher than other areas. However, the nature of the project is such that elderly are not apt to adversely impacted. Indeed, a bypass, by removing through traffic from the community, should beneficially impact the elderly, and non-drivers. The proportion of the area population which is minority is so small that none are likely to be affected.

Economic Impacts

Business Impacts

Along existing U.S. 10 are a number of businesses which are to some degree dependent upon U.S. 10 traffic. These businesses include motels, restaurants, service stations and others. Construction of a northerly bypass will cause the relocation of traffic away from these businesses. As a result, they will lose the direct exposure they have to transient traffic. To maintain their position, some of these businesses may have to engage in more aggressive marketing efforts. See the "Bypass Impacts" section for a fuller discussion of this issue.

Other Project Alternatives

No-Build

The no-build alternative would perpetuate the existing condition. There is currently a difficulty with parking and conflict between through traffic and local traffic. Increasing traffic volumes would add to the level of noise and air pollution along. Transient oriented businesses would not be adversely impacted.

Through Town

A through town alternative would require the acquisition of a strip of right of way directly adjacent to U.S. 10 through the corporate limits of Staples. This would cause the acquisition of a row of

businesses and residences on either the north or south side of U.S. 10. Such an alternative would cause the acquisition and displacement of as many as 30 residences and 22 businesses. A significant proportion of the business district would have to be acquired under this alternative. This would be a significant adverse impact to the City of Staples. In addition, it would exacerbate conflicts between through traffic and local traffic and pedestrians. Refer to the Section 4(f) Evaluation for a fuller discussion of this issue.

In addition to the adverse impacts to business caused by relocation, fiscal impacts to the taxing districts which levy on this property would be significant. This would be a significant adverse impact.

TH 210

The preferred alternative for the relocation of TH 210 in Staples is Alternative A. This will cause the relocation of three residences and one business. No other social or economic impacts are associated with TH 210.

MOTLEY

Social Impacts

The preferred alternative in Motley is Alternative 1, Modified. This alternative is a bypass to the west of the community. Access will be provided at the south edge of the community through a full interchange, and at the north edge of the community, also through a grade separated interchange. This alternative will require the relocation of five residences and one business. In addition, some degree of farm severence would occur in five cases.

Community Cohesion

The situation in Motley is similar to the other communities along U.S. 10; the city developed along both sides of the highway. This again has resulted in the routing of high speed through traffic through the center of the community. Residents have to cross this highway many

	times daily to reach school, church, recreational area, or for shopping. The construction of a bypass will have a beneficial effect upon community cohesion, making it easier to travel from one part of Motley to another. This is particularly true for children, or for anyone with any type of mobility impairment.
Travel Patterns/ Accessibility	The construction of a west bypass will alter travel patterns within the City of Motley. A bypass will attract virtually all vehicles with origins or destinations outside of Motley. This will reduce traffic in Motley itself, and result in travel within Motley being easier and safer. Accessibility will be increased for resident trips within Motley. For trips between Motley and other destinations, accessibility will not be increased, since U.S. 10 both south of Motley and west of Motley will be completed to four lane, divided standards prior to the completion of a bypass. This will result in excellent access for points outside Motley, regardless of what improvements are undertaken within the city.
Community Facilities	
Schools	The preferred alternative will not adversely affect any school facility or operation.
Recreation Areas	No recreation area will be adversely affected by construction of the preferred alternative
Churches	No church facility will be adversely affected by construction of the preferred alternative.
Public Safety	Construction of the preferred alternative will enhance public safety in Motley. Removing through traffic from the Main Street in this community will increase safety.
Special Groups	The population of Morrison county contains 14.0 percent aged 65 and older. This is somewhat higher than other areas in the state. No undue adverse impact is anticipated. Indeed, by removing

through traffic from the center of Motley, the preferred alternative should beneficially impact elderly and other non-drivers. No other concentration of special groups is known to exist within Motley. No adverse impact is anticipated.

Economic Impacts

Business Impacts

A number of businesses are located along the highway in Motley which are to some degree dependent upon U.S. 10 traffic. Refer to the "Bypass" section for a more complete, but general discussion of this issue.

These businesses include the Morey Fish Company, Antique shops, food and Liquor establishments, automobile service facilities, and others. These businesses will lose the direct exposure to the highway traffic which they now enjoy. However, the community will still enjoy excellent access (Figure 37). Traffic originating in the Brainerd area, traveling in a southerly direction, will continue to travel through Motley, to continue south on U.S. 10. Traffic which is north-bound will also travel on existing U.S. 10 in order to travel east on TH 210. Traffic from the west can easily enter the city from that direction as well. At the public hearing in 1980, concern was expressed that the proposed south interchange was located too far north to attract traffic to business located near the south edge of the community. In response to this, the current design calls for an at-grade exit for north bound traffic at approximately the township road. This will provide excellent access to the Motley business district.

Other Alternatives

No-Build

The no-build would perpetuate the existing condition. This may carry beneficial effects to the business community and adverse effects in other areas.

Through Town

Upgrading U.S. 10 through the City of

Motley would require the acquisition and relocation of a strip of property parallel and adjacent to the current highway. This would require acquisition of essentially all the property on one side or the other of the current highway. This alternative could displace as many as eleven residences and seven businesses. This would be a significant adverse impact in this small town.

Impact on Area Parks

In Aldrich, the preferred alternative will eliminate the area south of U.S. 10 which is sometimes used as a picnic area. This is located on property owned by Mn/DOT and BN RR. This does not constitute a Section 4(f) involvement. In Verndale, the preferred alternative will result in the elimination of the open space which lies between U.S. 10 and the BN RR tracks. This property is also on property owned either by Mn/DOT or the railroad and does not constitute a Section 4(f) involvement. The City of Verndale has stipulated that this property is not used as a park. No other parks will be affected by the preferred alternatives.

Staples School

A portion of the playground at North Elementary School in Staples will be acquired as a result of Alternative 1 in that city. Refer to the "Section 4(f) Evaluation" appended to this EIS for a full discussion of this issue.

Bikeways

U.S. 10 is identified as a major east-west corridor in the State Bicycle Transportation System Plan. The existing roadway design along this section of U.S. 10 presently rates "good/fair" for bicycle travel except for the urban design segments within Wadena and Staples, which rate "unsatisfactory." The proposed expressway design, including the Wadena and Staples and Motley bypasses, will provide for a "good" bicycle travel corridor throughout the length of the project.

TH 210 is not identified as a corridor in the State Bicycle Transportation System

Plan. The urban design of TH 210 within Staples presently rates "poor" for bicycle travel. The proposed realignment of TH 210 would provide a satisfactory corridor connection to U.S. 10.

Construction Impacts

The proposed action would have a number of "construction impacts" associated with it. Most of these impacts would be temporary in nature and would terminate with the completion of the construction. The impacts would be temporary air, noise and water pollution, erosion during construction, traffic management during construction, mixing plant operations and borrow pit areas outside the right-of-way.

Proposed Mitigation for Construction Impacts

The Mn/DOT Standard Specifications for Highway Construction provides controls over the contractor's construction operations. This document can be augmented by special provisions in the contract to provide additional controls relating to the prevention of air, noise and water pollution and erosion control.

Air and noise pollution by construction equipment will be subject to the standards established by the MPCA, and other applicable agency rules.

Water pollution and erosion will be controlled by monitoring the contractors progress and limiting the amount of surface area of erodible earth exposed by operations. Examples of such operations are clearing and grubbing, excavation, borrow and embankment, grading, paving, and revegetation. Once side slopes are shaped, immediate revegetation of these slopes will commence by sodding, seeding, or ground cover and a mulch placed to limit erosion.

Some temporary measures may also be used for erosion control. These include slope drains, dikes, sediment basins, and temporary quick growing grasses.

During construction, polluting materials such as gasoline, oil, and hydraulic fluids will be stored in areas which will preclude spills of such substances from

	reaching streams or storm water collection systems.
Traffic Safety and Management in Construction Zones	Any of the build alternatives will cause some disruption to the local traffic patterns. Unless otherwise provided, the road will be kept open to traffic during construction. Where so provided in the contract, or when ordered by the Engineer, traffic shall be carried on an approved detour route. Minnesota Standard Specification for Highway Construction require the contractor to keep the portions of the project being used by public traffic in such a condition that the traffic will be accomodated at all times. The contractor shall provide and maintain temporary approaches, crossings, and intersections with trails, roads, streets, businesses, parking lots, residences, garages, and farms, and other abutting property in acceptable condition.
Mixing Plant Operations	Any mixing plants which may be required for construction materials would be required to meet local, state, and federal pollution requirements.
Borrow Pit Treatment	The construction of the proposed action may require fill material from a site outside of the construction limits. Should a borrow pit be used, the site shall be restored. This restoration shall include shaping, replacement of topsoil, and revegetation of all disturbed areas to the extent reasonable and practicable. Borrow pits may also be used to create wetlands for wildlife and waterfowl.

Impacts to Historic or Archaeological Sites

No historic sites will be affected by the proposed action. One archaeological site - the Steinbrecher Site - is involved at Motley.

Steinbrecher Site

Early in the preliminary project planning, an archaeological site was discovered within the proposed construction corridor of U.S. 10. This area, called the Steinbrecher site, is located directly east of U.S. 10 on the north bank of the Long Prairie River in Morrison Co. In 1975, based on surface collection and excavation of a 1 X 1 meter formal test unit, the Minnesota Historical Society indicated that the site was potentially significant and that further testing would be necessary before a decision could be reached regarding site preservation.

Negotiation regarding access to the site and deposition of any artifacts was begun in 1980, and involved Mn/DOT, FHWA, the State Historical Society and Mr. Steinbrecher. These negotiations resulted in a site survey and sample excavations being conducted during the summer of 1981 by the Highway Archaeologist, Minnesota Historical Society. The investigations revealed that the area had been occupied periodically as a campsite between A.D. 500 and 1500. However, because density of the cultural material observed was low, and long-term historic cultivation of the area severely altered the cultural strata, it was determined that the site did not warrant preservation in place.

Because artifacts do occur, the society has recommended that the site be plowed and disced after right-of-way acquisition to allow surface collection of artifacts. If unique artifacts or significant concentrations or patterns of artifacts are found, limited test excavation not to exceed 25 square meters should be conducted. It is further recommended that provisions be included in the construction contract to insure coordination with and allow monitoring of

topsoil stripping by the Trunk Highway Archaeologist. If sub-plow zone cultural features are exposed during stripping, they could be excavated by the Trunk Highway Archaeological Reconnaissance Survey staff without major project delay.

Refer to the letter of July 15, 1982 from the Minnesota Historical Society found at page 215-216 of this FEIS.

PREPARERS

LIST OF PREPARERS

NAME	EDUCATION	YEARS EXPERIENCE	EIS INVOLVEMENT
Mn/DOT DISTRICTS 3 AND 4			
Ron Bray	B.S. C.E.	8	Preliminary Design Engineer Mn/DOT District 3
Lee Kessler	B.S. C.E.	24	Pre-Construction Coordinator Mn/DOT District 4
James Povich[a]	B.S. C.E.	10	Project Manager
John Rolfe	Dist. 4, Retired		Purpose and Need, Route Selection
Howard Bellefeulle	District 4, Retired		Project Manager
Dave Smilonich[b]	M.S. C.E.	25	Geometrics, Layout Development
Tom Swenson	B.S. C.E.	3	Farmland
[c]James Weingartz	B.S. C.E.	12	Project Manager, Section 4(f)
Mn/DOT CENTRAL OFFICE			
James Aswegan		20	Noise Analysis
Scott Carlstrom	M.S. Hydrology	10	Water Quality
Mike Christianson[a]	M.S. C.E.	20	Layout Development, Geometrics
Andrew Datko[d]	B.S. Geography	4	Social, Economic, Land Use
L.E. Foote	Ph.D. Agronomy	25	EIS Supervision
Gerald Larson	M.A. Sociology	6	General EIS editing
Lee Markel[d]	BLA	6	Landscape
Frank Pafko	B.S. Fisheries	8	Stream Modification, Water Quality

Elizabeth Pawlak-Kanyusik	B.A. Economics	2	Social/Economic
Ron Peterson[d]	M.S. Wildlife Biology	5	Wildlife, Wetlands
Ken Schrader[a]	B.S. C.E.	20	Energy Analysis
Roxanne Sullivan[d]	B.S. Geology	5	Geology, Groundwater
Nancy Radle	M.S. Geology	3	Wetlands Finding, EIS editing
Sarma Straumanis	M.S. Wildlife Biology	4	Wetlands, Wildlife
Joe Thomas	B.S. Soil and Water Mgt.	7	Floodplains

FEDERAL HIGHWAY ADMINISTRATION

James Bednar[e]	B.S. C.E.	5	EIS Review
Pat Carpenter[f]	B.S. C.E.	8	EIS Review
James Cheatham	M.S. C. E.	15	EIS Review
Max Grogg	B.S. C.E.	4	EIS Review
Ron Lacy (Ret)	B.S. C.E.	29	EIS Review
William Miller	B.S. C.E.	25	EIS Review
Wallace Oien	B.S. Forestry	30	EIS Review

[a]Currently with Mn/DOT District 5, Golden Valley
[b]Currently District Engineer, Mn/DOT District 6, Rochester
[c]Currently with Mn/DOT Central Office, St. Paul
[d]No longer with Mn/DOT
[e]Currently with FHWA, Washington, DC
[f]No longer with FHWA

COMMENTS AND COORDINATION

The lengthy history of this proposal has resulted in extensive coordination and contact between the Minnesota Department of Transportation and various agencies, persons, and interest groups. An earlier section of this FEIS reports on the large number of meetings which have taken place through the years.

THE FOLLOWING ORGANIZATIONS WERE CONSULTED IN THE PREPARATION OF THE DRAFT AND FINAL ENVIRONMENTAL IMPACT STATEMENT.

U.S. Department of Agriculture, Soil Conservation Service

U.S. Department of Interior

U.S. Fish and Wildlife Service

Minnesota Department of Natural Resources
- Fish and Wildlife Division
- Waters Division
- Minerals Division

Minnesota Historical Society

Minnesota Pollution Control Agency
- Division of Water Quality
- Noise Unit

City Councils and Planning Commissions of
- Wadena
- Verndale
- Aldrich
- Staples
- Motley

Todd and Wadena County Highway Engineers

Staff of Staples School District, 793

THE DRAFT ENVIRONMENTAL IMPACT STATEMENT WAS SENT TO THE FOLLOWING AGENCIES, WHICH WERE INVITED TO COMMENT.

FEDERAL
- Environmental Protection Agency, Regional Office
- U.S. Army, Corps of Engineers
- U.S. Coast Guard
- Department of Agriculture
- Department of Health, Education, and Welfare
- Department of Transportation
- Department of Interior
- Department of Housing and Urban Development
- Department of Commerce
- Department of Energy
- Office of Economic Opportunity

Federal Railroad Administration
Federal Aviation Administration
Urban Mass Transportation Administration

STATE
Minnesota Pollution Control Agency
Minnesota Department of Natural Resources
Minnesota State Planning Agency
Minnesota Environmental Quality Board
Minnesota Historical Society
Minnesota Regional Development Commissions, Four and Five

COUNTY
County Planning Commissions
Otter Tail
Wadena
Todd
Morrison

County Board of Commissioners
Otter Tail
Wadena
Todd
Morrison

MUNICIPAL
City Councils

Wadena	Staples
Verndale	Motley
Aldrich	

Town Boards

Bluffton	Staples
Wadena	Villard
Aldrich	Motley
Bartlett	Compton
Thomastown	Leaf River

COMMENTS HAVE BEEN RECEIVED FROM THE FOLLOWING AGENCIES:

FEDERAL
U.S. Department of Transportation,
Federal Aviation Administration
U. S. Coast Guard
U.S. Department of Commerce,
National Oceanic and Atmospheric Administration
Environmental Protection Agency
Department of Agriculture,
Soil Conservation Service
Forest Service
Federal Energy Regulatory Commission

Department of Interior,
U.S. Fish and Wildlife Service
U.S. Army, Corps of Engineers

STATE
Minnesota Pollution Control Agency
Minnesota Historical Society
Department of Natural Resources

MUNICIPAL
City of Wadena, Resolution
City of Verndale, Resolution

AGENCIES AND ORGANIZATIONS TO WHOM COPIES OF THIS FINAL ENVIRONMENTAL IMPACT STATEMENT ARE BEING SENT.

FEDERAL AGENCIES

U.S. Department of Agriculture
Forest Service
Soil Conservation Service

U.S. Department of the Army, Corps of Engineers
St. Paul District

U.S. Department of Health, Education and Welfare

U.S. Department of Housing and Urban Development

U.S. Department of Interior
Fish and Wildlife Service
National Park Service

U.S. Department of Transportation
Federal Aviation Administration
Coast Guard
Urban Mass Transportation Administration

Advisory Council on Historic Preservation

Environmental Protection Agency

Federal Energy Administration

STATE AGENCIES

Minnesota Department of Agriculture

Minnesota Department of Energy and Economic Development

Minnesota Department of Health

Minnesota Department of Natural Resources

Minnesota Environmental Quality Board

Minnesota Historical Society

Minnesota Pollution Control Agency

Minnesota State Planning Agency

REGIONAL AGENCIES

Regional Development Commissions, Four and Five

COUNTY GOVERNMENTS/AGENCIES

Otter Tail County Board of Commissioners
Otter Tail County Planning Commission

Wadena County Board of Commissioners
Wadena County Planning Commission

Todd County Board of Commissioners
Todd County Planning Commission

Morrison County Board of Commissioners
Morrison County Planning Commission

CITY GOVERNMENTS

Wadena	Staples
Verndale	Motley
Aldrich	

TOWN GOVERNMENTS

Bluffton	Staples
Wadena	Villard
Aldrich	Motley
Bartlett	Compton
Thomastown	Leaf River

LIBRARIES

Environmental Conservation Library
Minnesota Legislative Reference Library
Wadena Public Library
Staples Public Library
Verndale High School Library
Motley High School Library

OTHER

Staples Public School System

This section of the Final Environmental Impact Statement contains a record of the extensive interagency coordination which has taken place on this project. It also contains the comments on the Draft Environmental Impact Statement which were received from agencies and the public, and responses to them.

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ORDER ESTABLISHING
THE STAPLES STATUTORY WATERFOWL GAME REFUGE
TODD COUNTY

GAME REFUGE ORDER NO. 373

TO WHOM IT MAY CONCERN:

WHEREAS, a petition having the required number of signatures has been presented to the Director of the Division of Game and Fish, State of Minnesota, requesting that the following described lands in Todd County be established as a state waterfowl refuge:

All of Section Seven (7) lying South of U.S. Highway 10 and lying East of the Northern Pacific Railroad right-of-way;

All of the North One-half of the Northeast Quarter (N½ NE¼) of Section Eighteen (18);

All of the North One-half of the Northwest Quarter (N½ NW¼) of Section Eighteen (18) lying East of the Northern Pacific Railroad right-of-way;

All located within Township One Hundred Thirty-three North, Range Thirty-Two West (T. 133N., R. 32W.).

WHEREAS, all of the owners, lessees or persons in possession of the above described lands have joined in said petition;

WHEREAS, it has been found that public interest would be best served by the establishment of this waterfowl refuge;

NOW, THEREFORE, UNDER AUTHORITY OF MINNESOTA STATUTES 1969, SECTION 99.25, SUBDIVISIONS 3, 5 AND 6A, IT IS ORDERED THAT THE ABOVE DESCRIBED AREA BE AND IS ESTABLISHED AS A STATUTORY WATERFOWL GAME REFUGE TO BE KNOWN AS THE STAPLES STATUTORY WATERFOWL GAME REFUGE, TODD COUNTY, MINNESOTA. THIS ORDER BECOMES EFFECTIVE UPON DUE PUBLICATION THEREOF AND COMPLETION OF POSTING IN ACCORDANCE WITH LAW.

Dated at Saint Paul, Minnesota,
this 24th day of February, 1971.

ROBERT HERBST, COMMISSIONER
DEPARTMENT OF NATURAL RESOURCES

By: Milo Casey
Milo Casey, Director
Division of Game and Fish

NOTE: The Northern Pacific Railroad is now the Burlington Northern, Inc.

STATE OF MINNESOTA
DEPARTMENT OF NATURAL RESOURCES

August 3, 1973

Mr. R. W. Wagner
District Design Engineer
Department of Highways
Detroit Lakes, Minnesota

Dear Mr. Wagner:

In reference to your letter dated July 3, 1973, regarding the Staples Waterfowl Game Refuge, I will try to answer the questions you asked.

The refuge does have significant local and state interest as the Staples Sportsmen's Club started a resident Canadian geese flock approximately six years ago and it seems to be developing very satisfactory at the present time.

The north boundary line of the refuge is Highway No. 10. Enclosed find a copy of the Game Refuge Order No. 373 dated February 24, 1971, establishing the Staples Statutory Waterfowl Game Refuge.

I feel that the proposed route of Highway No. 10 will not have a significant impact on the waterfowl in the refuge or in general on the Staples Waterfowl Game Refuge.

Yours sincerely,
Orville Meyer
Conservation Officer
Rural Route #1
Staples, Minnesota

OM:mec
Encl. (1)

STATE OF MINNESOTA
DEPARTMENT OF NATURAL RESOURCES

August 7, 1973

Mr. R. W. Wagner
District Design Engineer
Box 666
Department of Highways
Detroit Lakes, Minnesota 56501

Dear Mr. Wagner:

In answer to your request for information on the Staples Statutory Waterfowl Refuge I have attempted to answer your questions and also I have included some additional materials.

The Statutory Waterfowl Refuge was established officially in February of 1971 in response to a request by the Staples Sportsmen's Club and other interested citizens of the community. The Staples Sportsmen's Club has a small flock of Canada Geese established year-around on Hayden Lake. The refuge protects these breeding geese and also resident ducks. During spring and fall migration periods a number of other ducks and geese use the refuge, most notably, a number of redhead and canvasback ducks which are no longer numerous in Minnesota. The Refuge Order No. 373 describes the refuge boundaries clearly. The north boundary is located between the railroad right-of-way and the south highway right-of-way. Signs are present along this line.

In terms of environmental impact of the proposed re-routing of U.S. 10 and 210 north, I see no adverse effect unless normal movement of water under the highway and railroad is disrupted. This might change or alter the level of Hayden Lake. During periods of construction, the presence and use of large equipment could adversely affect the geese if it occurred during nesting season, mid-April to mid-June.

At this time I see no other adverse effects. I am forwarding a copy of this letter and the materials you sent me to D.N.R. Conservation Officer Orville Meyer in Staples. He works much more closely with the local sportsmen's club and knows the history of Hayden Lake well. He may have some other comments to make.

Thank you for contacting me. I hope I may be of service to you in the future.

Sincerely yours,
Gary H. Johnson
Area Game Manager
Game & Fish - D.N.R.

GHJ:bj
Enclosure
cc: Reg. Game Office
G.O. Orville Meyer, attach.

ADMINISTRATIVE SERVICES • WATERS, SOILS, AND MINERALS • LANDS AND FORESTRY
GAME AND FISH • PARKS AND RECREATION • ENFORCEMENT AND FIELD SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
P. O. Box 358, Fergus Falls, MN 56537

SUBJECT: Highway 10 - Prime and Unique Farmland DATE: January 12, 1978

TO: Ken Christensen
Minnesota Department of Transportation
Box 666
Detroit Lakes, MN 56501

We have conducted the investigation to determine the prime and unique farmland on the proposed route of Highway 10 from west of Wadena, Minnesota to Motley, Minnesota.

Small areas of prime farmland are in Sec. 36, Bluffton Township, Otter Tail County, MN. and Sec. 35 and 36, Aldrich Township, Wadena County, MN. The location of these areas are shown in green on the attached location map. These areas have a total of approximately 38.5 acres, based on a 500 foot corridor for the Highway. No unique farmland was observed on the proposed Highway route.

If you have any questions please contact me.

Donald E. DeMartelaere, Soil Scientist
SCS, Fergus Falls, MN

cc: Alva E. Broyles, Acting AC, Fergus Falls, MN
Clarion Meseth, DC, SCS, Perham, MN
Merlin R. Jennings, DC, SCS, Wadena, MN
Robert E. Krause, DC, SCS, Long Prairie, MN
Steve Wilson, DC, SCS, Little Falls, MN

COMMUNITY CENTER STAPLES, MINN. 56479 218-894-2553

April 10, 1979

Mr. Lee Markell
Office of Environmental Affairs
Minnesota Dept. of Transportation
1000 W. Th. 10, Box 666
Detroit Lakes, MN 56501

RE: Section 4 (f) Involvement

Dear Mr. Markell:

Enclosed is a copy with the answers to your questions from your letter of January 3 regarding Alternative Route 1 affecting the elementary school grounds in Staples.

Please feel free to contact us again if you have further questions.

Sincerely,

Eric F. Lloyd, Director

Enclosures

INFORMATION RELATIVE TO THE MDOT REQUEST DATED 1/3/79 ...

1) What recommended uses does the school property provide to the community?

The hardsurfaced area is used for physical education activities during the school year, and during the summer months, by the community. It is especially useful in providing an area in which to play in the wet, muddy periods of the year.

2) What uses will be eliminated as a result of our project?

Approximately two-thirds of the bituminous-surfaced playground. The remaining one-third of the area will be virtually useless, because of its minimal size.

The other concern we have is one of safety. The portion not disrupted by the highway interchange will abut the exit ramp for eastbound traffic. If a vehicle were to lose control, it could intrude on the playground area. The cross traffic of exit ramps and Fourth Street also poses a threat due to the close proximity to the playground.

3) Do other parks in the area provide for the types of recreational facilities that will be impacted by the highway?

No. A replacement area west of the school would be very adequate.

4) Your determination as to the significance of the entire park (not the portion which may be acquired) to the recreational needs of the community.

The North Elementary School and adjacent Bicentennial Memorial Athletic Field are very important to the school and community.

5) A map showing the dimensions and size of the park (acres or square feet).

Acceptable, providing two revisions are included ...

a) Additional screen planting on right-of-way edge. Hopefully, a complete row of plants, instead of sporadic spacing as indicated on the map. Perhaps a low eastern berm should be considered.

b) Replacement of a bituminous playground area west of the school building.

6) Location of the park, including specific boundaries.

Currently -

a) 2 - baseball fields
b) 2 - softball fields
c) 3 - tennis courts

Planned for future construction -

a) Football field
b) Eight-lane track
c) Soccer field
d) Football practice field
e) 3 - additional tennis courts

7) Type of facility, e.g., historic, recreation, etc.

Recreational.

8) Available recreational activities, e.g., fishing, swimming, golfing, etc.

The City of Staples has a number of other parks, but land availability and location to populace served makes the Bicentennial Memorial Park the only one capable of providing space for a recreational complex of this massive nature.

9) Facilities existing and planned, e.g., description and location of ball diamonds, tennis courts, etc.

The attached map correctly indicates current and planned construction. A portion of the current and future development extends to the south of the area included on the map, and will not be directly affected by the Highway 10 bypass.

10) Usage (approximate number of users for each activity).

During winter months, the usage is minimal, except for the playground areas.

Spring, summer and fall usage -

a) Baseball 500/day
b) Track 250/day
c) Tennis 100/day
d) Football 200/day
e) Softball 150/day
f) Playground 500/day
g) Jogging 100/day

1800/day average when the park is fully developed

11) Access, e.g., pedestrian, vehicular, and effect thereon.

The Highway 10 bypass will have minimal effect on the access to the area. Vehicular access from the west and east will be improved by the proposed highway construction. In a few, overflow crowd situations, vehicles might park on Fourth Street, which would increase traffic congestion. Pedestrian movement would not be influenced by the proposed highway plans. The major pedestrian concern is for students walking and biking to school from the north along Fourth Street when they cross the exit and entrance ramps of the interchange. Construction of special design for pedestrian safety is urged at these potentially dangerous crossings.

12) Applicable clauses affecting title, such as covenants, restrictions or conditions, including forfeiture.

The Staples Public School has clear title to the land involved. There are no convenants or restrictions, to our knowledge.

13) Unusual characteristics of the 4 (f) land, e.g., flooding problems, terrain conditions, or other features that either reduce or enhance the value of the portions of the area.

The area once had a flooding problem, but this has been corrected through the effects of reclamation by the Staples Area Vocational-Technical Institute's Heavy Equipment as a class project.

The land is highly valued, being free of streets and traffic, and its adjacent location to the Elementary School.

United States Department of the Interior

FISH AND WILDLIFE SERVICE

IN REPLY REFER TO:

St Paul Field Office, Ecological Services
538 Federal Building and U.S. Court House
316 North Robert Street
St. Paul, Minnesota 55101

11 JAN 1979

Mr. John R. Rolfe
Preliminary Design Engineer
Minnesota Department of Transportation
District 4
Detroit Lakes, Minnesota 56501

Dear Mr. Rolfe:

This letter provides U.S. Fish and Wildlife Service preliminary comments regarding Minnesota Department of Transportation's proposed construction of U.S. Highway 10 from Wadena to Motley, Minnesota.

This project was reviewed for its conformance with the National Environmental Policy Act of 1969 (P.L. 91-190, 83 Stat. 852), Section 4(f) of the Department of Transportation Act (P.L. 89-670, 80 Stat. 931) and Executive Orders 11988 and 11990. Our review included a field review of the alternatives with MN DOT and MN DNR representatives on October 27, 1978 and review of addition data provided by District 4, MN DOT.

Construction as proposed would involve upgrading a 30 mile segment of U.S. Highway 10 from west of Wadena to south of Motley, Minnesota to 4 lane expressway standards between cities and freeway standards at city bypasses. Based on available data relating to the alternatives being considered for the proposed reconstruction, approximately 185 acres of wetland, 177 acres of forestland, 359 acres of grassland, 300 acres of cropland and 179 acres of residential and commercial land would be required for highway right-of-way. We believe that expansion along the existing U.S. Highway 10 corridor would be least environmentally damaging. This is planned for the majority of the proposed construction, with the exception of new alignments bypassing the cities of Wadena, Verndale, Staples and Motley. These proposed new alignments impact natural areas that provide wildlife habitat and therefore are the sites of major concern to the U.S. Fish and Wildlife Service.

The alternatives being considered for the bypass of Wadena will affect, in varying degrees, a deer wintering area of approximately 2 sq. miles. This area consists primarily of wetland Type II, VI, and VII interspersed with areas of upland hardwood and grass meadows. Both alternatives now being considered for the bypass will have an impact on the area. Alternative 1A will bisect the area, opening it up to development and reducing its value to wildlife. Alternative 1B will traverse the south edge of the area. Although it would require taking wetland and woodland acres, Alternative 1B is preferred over 1A because it would leave most of the deer wintering area intact. Intrusion into the area should be minimized by aligning the roadway closer to the city limits in Section 5 and 6 of Wadena Township.

The alternatives being considered for the bypass of Verndale are variations of a route north of the city. An approximately 30 acre Type II/VI wetland complex is found east of the city and north of existing U.S. Highway 10 in Sections 12, 20, 29 and 30 of Aldrich Township. The route chosen should avoid encroachment into this complex by shifting the alignment north or steepening the inslope on fill sections adjacent to the wetland. It is recommended that this site be an area where the DOT's policy of wetland enhancement be implemented. The quality of this wetland complex can be improved by using culverts to increase the water flow into the area or constructing the highway on the north so that it increases ponding of water in the wetland complex.

The preferred alternative for the bypass of Staples will go north of the town and will result in the loss of 38 acres of wetlands, Type II, IV, VI, and VII. Because of the diversity of vegetation in this complex and the adjacent Hayden Lake Statutory Waterfowl Game Refuge, this area has the best overall value as wildlife habitat in the project area. For the bypass of Staples we recommend that the roadway be compressed to decrease the amount of right-of-way needed in the wetland complex and that the inslopes be as steep as possible on fill sections to minimize encroachment. Since this area around Staples provides some of the best wildlife habitat in the project area, this would be an appropriate area to implement DOT Order 5660.1A, Preservation of the Nation's Wetlands. Protection by purchase or enhancement by creating open water areas in the wetlands adjacent to the designated right-of-way in Section 1, Stapes Township and Section 6, Villard Township is recommended.

For the bypass of Motley the major concern is the crossing of Long Prairie River. The Long Prairie River fish population is dominated by red horse and sucker, with northern pike and walleye being the principal sport species. To minimize disturbance to the river and the adjacent floodplain, the crossing of the river for new U.S. Highway 10 should maximize use of existing right-of-way.

Impacts on water resources and fisheries will be more carefully reviewed when specific plans for stream crossings have been developed. When the required Section 404, Public Notices of permit applications for stream crossings are reviewed, additional recommendations may be made to minimize impacts on fish and wildlife resources.

Please keep us informed as project plans are being developed.

Sincerely,

Richard F. Berry
Field Office Supervisor

cc: MN DNR - St. Paul
MN DOT - R. Staffon

STATE OF MINNESOTA
DEPARTMENT OF NATURAL RESOURCES
CENTENNIAL OFFICE BUILDING · ST. PAUL, MINNESOTA · 55155

December 27, 1978

DNR INFORMATION
(612) 296-6157

John R. Rolfe
Preliminary Design Engineer
Mn/DOT - District 4
Detroit Lakes, Minnesota 56501

RE: T.H. 10 Motley to Wadena
State Project No. 8001-21
7702-29
7702-80

Dear Mr. Rolfe:

The Department of Natural Resources (DNR) has reviewed the preliminary plans and alternatives for upgrading T.H. 10 between Motley and Wadena and offers the following comments.

The upgrading of the existing highway along its present alignment between the five towns involved (Motley, Staples, Aldrich, Verndale, Wadena) will help to minimize the environmental impacts to natural resources. However, the numerous wetlands adjacent to the existing roadway ensure that there will be substantial wetlands impact. A rough estimate was made that of 180 acres of wetlands involved in the project approximately 85% will be impacted. Therefore, adequate mitigation of the impacts on wetlands will be examined closely. This could include acquisition of additional wetland area, improvement of existing wetlands (dugouts, drainage of water from roadway into the wetlands, level ditching, creation of islands, improve type I, II and possibly VI wetlands to type III and IV by increasing their water holding capacity) and construction techniques to minimize adverse impacts.

The proposed by-passes around the five towns have the potential for impacts of varying degrees on wildlife, fisheries and water resources. The specific concerns we have identified thus far with existing data are as follows:

- Motley - potential impacts on the Long Prairie River, however, the rip rapping of the river bend at the existing bridge does not appear necessary.
- Staples - several wetland areas will be impacted and the Hayden Lake Refuge should be avoided.
- Aldrich - Either proposed route does not appear to significantly impact wildlife habitat however, we would prefer route 2.
- Verndale - Three routes are presently proposed. We would prefer route 1 as it would impact the least amount of farmland.
- Wadena - The deer yarding area north of town and the Union Creek area are both sensitive wildlife habitat areas and should be avoided to the extent possible.

Several streams will be crossed by the project. These include Union Creek, Hay Creek, Wing River and the Partridge River. Area Fisheries Manager indicated that no important fishery resources are involved and no objections to the proposed project are foreseen. However, placement of culverts and bridges will require review and coordination in addition to protective measures to be taken to control whatever stream erosion and siltation that may occur as the result of construction.

A DNR Division of Waters Permit will be required where waters of the State are impacted.

Thank you for the opportunity to review this project in its early stages of development. We are looking forward to continued cooperation and coordination with your agency as the project evolves.

Sincerely,

Jerome H. Kuehn, Administrator
Bureau of Planning and
Programming

JHK: rlh
cc: Oliver Jarvenpa
Al Wald
Henry Wulf
Dave Hills
Rich Staffon MnDOT
Joe Fraune

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:
NCSCO-GR(SF 79-224-13)

9 May 1979

Mr. E. Dean Carlson
Division Administrator
Federal Highway Administration
Suite 490, Metro Square Building
St. Paul, Minnesota 55101

Dear Mr. Carlson:

We have reviewed the preliminary copy of a pre-draft version of an environmental impact statement for the proposed T.H. 10 in Otter Tail, Wadena, Todd and Morrison Counties.

The following are our comments on this document:

1. We concur with the motion that the FHWA serve as the lead agency for the development of the environmental documentation for this highway section (U.S. 10, Wadena to Motley).

2. The reader would be aided in commenting on alternatives if, in figures 17 and 27, wetlands and other important resource features were delineated where it is appropriate.

Thank you for the opportunity to comment on this matter.

Sincerely,

FRANK J. MAZURKIEWICZ
Acting Chief, General Regulatory Branch
Construction-Operations Division

MINNESOTA HISTORICAL SOCIETY
690 Cedar Street, St. Paul, Minnesota 55101 • 612-296-2747

August 24, 1979

Mr. C.P. Kachelmyer
Preliminary Design Engineer
Department of Transportation
Room 604 - Transportation Building
St. Paul, Minnesota 55155

Dear Mr. Kachelmyer:

RE: S.P. 5605-08, 8001-21, 7702-29 (TH 10)
From 2.2 Mi. W. of the east Ottertail County Line to 0.2 Mi. E. of the east corps. limits of Staples
Ottertail, Wadena and Todd Counties

S.P. 7701-18 (TH 210)
From 1.9 Mi. S. of Proposed Jct. TH 10 to proposed Jct. TH 10 at Staples, Todd County

S.P. 4903-26, 7702-30 (TH 10)
From 1 Mi. S. of Motley to 1 Mi. W. of W. Morrison County Line
Morrison and Todd Counties

MHS Referral File Number H 4

Our office has received a revised status report from the Trunk Highway Archaeologist on the above referenced projects. This report states that the reconnaissance survey of the newly designed Wadena Bypass for T.H. 10 has been completed, thus culminating the survey of the entire length of the proposed upgrading project. We concur with the findings of the archaeologist that no new sites were found; consequently, the Steinbrecker Site (21 MO 15) remains the only known archaeological site which appears to be affected by the proposed construction.

At this time, we wish to reiterate our recommendation that intensive test excavation and surface collection be conducted at the site to provide data to thoroughly assess the site's nature, extent, and condition. This work will provide the information necessary to determine whether the site is eligible for inclusion on the National Register of Historic Places.

With the exception of the Steinbrecker Site, there are no additional sites of historic, architectural, cultural, or archaeological significance on or eligible for inclusion on the National Register which may be affected by your proposal.

We hope that this information aids you in your continued planning and assessment.

Sincerely,

for Russell W. Fridley
State Historic Preservation Officer

RWF/cjb

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DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
1135 U.S. POST OFFICE & CUSTOM HOUSE
ST. PAUL, MINNESOTA 55101-1479

REPLY TO
ATTENTION OF

December 18, 1987

Construction-Operations
Regulatory Functions (SF88-049-12)

Mr. Donald Raisanen
Minnesota Department of Transportation
District 3
301 Laurel Street
Brainerd, Minnesota 56401

Dear Mr. Raisanen:

This is to acknowledge receipt of the Final Environmental Impact Statement (FEIS) for the roadway construction along United States Highway No. 10 from Wadena to Motley, Minnesota (S.P. 5605).

A Department of the Army permit will be required for the placement of fill material into the various rivers and wetlands located along the proposed alignment. This is pursuant to Section 404 of the Clean Water Act. Application forms have been enclosed for your use.

Your letter of November 23, 1987, requests that the Corps of Engineers become a cooperating agency in accordance with the Council on Environmental Quality regulations. The National Environmental Policy Act requires that cooperating agencies substantially participate in the EIS scoping and preparation. Because we have not been sufficiently involved in the preparation of the EIS, we cannot be designated as a cooperating agency. However, we do intend to use this EIS in our permit evaluation process and anticipate it will be adequate for that purpose.

We suggest that you further describe all proposed mitigation for wetland losses as completely as possible in your permit application. If you have any questions, please contact Mr. Tim Fell at (612) 725-7557.

Sincerely,

Ben Wopat
Chief, Regulatory Functions Branch
Construction-Operations Division

Enclosure

MINNESOTA HISTORICAL SOCIETY
FOUNDED IN 1849
690 Cedar Street, St. Paul, Minnesota 55101 • (612) 296-6126

22 July 1982

Mr. C.P. Kachelmyer
Preliminary Design Engineer
Department of Transportation
Room 604 - Transportation Building
St. Paul, Minnesota 55155

Dear Mr. Kachelmyer:

RE: S.P. 5605-08, 8001-21, 7702-29 (T.H. 10)
From 2.2 Mi. W. of the east Ottertail Co. line
to 0.2 mi. E. of the east corp. limits of Staples
Ottertail, Wadena, and Todd Counties

S.P. 7701-18 (T.H. 210)
From 1.9 Mi. S. of proposed Jct. T.H. 10
To proposed Jct. T.H. LO
at Staples, Todd County

S.P. 4903-26, 7702-30 (T.H. 10)
From 1 Mi. S. of Motley
to 1 Mi. W. of W. Morrison Co. line
Morrison and Todd Counties

MHS Referral File Number: H-4

Thank you for the opportunity to review and comment on the above project. It has been reviewed pursuant to responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and the Procedures of the National Advisory Council of Historic Preservation (36CFR800) and the Minn. Field Archaeology Act of 1963.

With one exception, this review reveals the location of no known sites of historic, architectural, cultural, archaeological, or engineering significance within the area of the proposed project.

The exception is the Steinbrecher Site (21-MO-15). This site does offer potential for yielding information regarding the regional culture history. It is recommended that the Minnesota Department of Transportation conduct a data recovery operation at the Steinbrecher Site prior to proposed construction. This date recovery should consist of precise controlled collection and plotting of surface artifacts and additional formal excavation within the 20% of the site which has been shown to contain remnants of undisturbed occupation materials. It is felt that such a recovery program would adequately serve to salvage the levels of cultural information which may be contained within the Steinbrecher Site.

Again, thank you for your participation in this important effort to preserve Minnesota's heritage.

Sincerely,

Russell W. Fridley

Russell W. Fridley
State Historic Preservation Officer

cc: Les Peterson
Fort Snelling History Center
St. Paul, MN 55111

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

ER 79/1129

FEB 12 1980

Mr. E. Dean Carlson
Division Administrator
Federal Highway Administration
Metro Square Building, Suite 490
Seventh and Roberts Streets
St. Paul, Minnesota 55101

Dear Mr. Carlson:

This is in response to the request for the Department of Interior's comments on the draft environmental statement with Section 4(f) information for US-10 (from CSAH-77 to CSAH-53) and SH-210 (from CSAH-21 to US-10), Morrison, Otter Tail, Todd, and Wadena Counties, Minnesota.

GENERAL COMMENTS

In general, this statement is a well prepared and coordinated document regarding resources within the areas of our jurisdiction and expertise.

PRELIMINARY SECTION 4(f) COMMENTS

Four possible Section 4(f) situations are discussed. They include Through-City Alternate Route 2 which would require (a) 0.7 acre of right-of-way (including lawn and lake) from the 70-acre Sunnybrook Park in Wadena, (b) 0.5 acre from the 1.6-acre City Park in Verndale, and (c) 0.2 acre from the 0.7-acre City Park in Motley. Also, By-pass Alternate Route 1 would require 9.5 acres of the 41.8-acre Bicentennial Memorial Athletic Field at Staples Elementary School in Staples.

Two potential Section 4(f) conflicts were not discussed and should be examined.

1. Through-City Route 2 would require an undetermined amount of right-of-way along the southern edge of the Wadena County Fairgrounds in the City of Wadena. Since public outdoor recreation opportunities are available at this publicly-owned site, we hold that Section 4(f) would apply.

A

A. The FHWA has determined that the fairgrounds located along Alternate Route 2 does not constitute a Section (4f) parcel. However, the contention is moot because the selected alternative, 1A-M, does not affect this parcel.

2. Alternate 1 at Motley involves a potential Section 4(f) at the Steinbrecker Archeological Site.

It seems apparent that some semblance of Federal, State or local significance is inherent in this historic site based on the facts in the draft statement, e.g., "The contents of the site are significant enough, however, to require further testing (by the Minnesota Historical Society) and possible salvage excavation . . . ." Hence, we hold that Section 4(f) applies here also.

B

B The Minnesota State Historic Preservation Officer has determined that a data recovery operation prior to construction is sufficient to meets the needs of cultural preservation at this site. See letter at page 215, and discussion at page 200.

To achieve project objectives and to obviate the adverse social and economic effects associated with the Through-City Alternate Route 2, we believe that we could concur that there is no feasible and prudent alternative to By-Pass Route 1.

The lack of site-specific mitigation for each 4(f) involvement precludes our commenting at this time on the second proviso of Section 4(f): measures to minimize harm. Notwithstanding, we agree with your commitment to work out such measures with the governing agency. Concerning the Staples Athletic Field, we recommend that full consideration be given to the April 10, 1979, letter from Mr. Eric Lloyd, Director, Staples Community Center. Although we would stress replacement of land, we believe Mr. Lloyd's comments provide an excellent starting point for all possible planning to minimize harm.

C

C Full Consideration has been given to this issue. See the Final Section 4(f) Evaluation appended to this FEIS for a full discussion of the issue.

ENVIRONMENTAL STATEMENT COMMENTS

The statement recognizes that borrow pits (for fill material) will be located outside of the construction limits. No estimate of borrow needed is given nor is there any estimate of the amount of spoil from demucking of traversed wetlands. Also lacking is an indication of the location of the borrow/spoil areas. The statement should discuss this significant part of the project.

D

D Much of the information is not developed until the detail design of a project. Borrow and spoil is discussed at pages 113 and 115. Wetland impacts and mitigation is extensively discussed beginning at page 134.

The section dealing with the description of the project should be expanded to include estimates of borrow needed and spoil generated, and location of proposed borrow/spoil areas. Other sections should be supplemented to include (1) description of the borrow/spoil areas under pre-project conditions as related to flora, fauna and cultural resources; (2) assessment of potential impacts created by the borrow/spoil operations; and (3) description of the mitigation measures which will be employed to lessen the impact of the borrow/spoil operations on the environment.

Borrow pit operations often can be designed and carried out to create impoundments suitable for providing public outdoor recreation opportunities as well as fish and wildlife habitat. We suggest that this be explored with local park officials and the Minnesota Department of Natural Resources. The results of this consultation should be discussed in the final statement.

Pursuant to Section 147 of the Federal-aid Highway Act of 1976 (P.L. 94-280), we recommend that consideration be given to the development of access ramps at waterway crossings. The opportunity to develop public boat launching areas should be explored with State and local officials. We would identify the Wing, Partridge and Prairie River crossings as sites worthy of evaluation. Results of this consultation should be described in the final statement.

E

E The Wing and Partridge Rivers are neither large nor deep enough to allow easy use of trailered motorized boats. Wide shoulders to be constructed as part of the U.S. 10 project will allow safe parking off the roadway and carry down access to the river. At the Long Prairie River, the construction of a parking area and carry down access on abandoned U.S. 10 right of way south of the river will be considered during the detail design of the project. Coordination with State or local officials will occur prior to permit application.

The project's involvement with the Steinbrecker Archeological Site and Mr. Steinbrecker's objection to site testing poses a problem for a determination of the site's eligibility for the National Register. Since some site-investigation has uncovered data which suggests ". ... that potentially significant late Woodland Habitation material exists . . . in this location," we would suggest that you urge the State Historic Preservation Officer to reassess his current position and to submit what information is available to the National Register office for a determination of eligibility. Assuming it was determined eligible, you would then be in a position to concurrently comply with Section 106 at the same time you were doing the Section 4(f) work.

F

F See response at B, above

FISH AND WILDLIFE COORDINATION ACT COMMENTS

The draft statement shows that three types of project actions will require permits from the Corps of Engineers under Section 404, i.e., (1) bridge work (includes mid-stream piers), (2) channelization of the Partridge River and Union Creek and (3) filling of wetlands. The discussion of fish and wildlife resources and project impacts thereon is very general and the measures to minimize harm are discussed either in terms of what might be done or are deferred until the final statement. More site-specific information with details about mitigation measures for the construction alternatives is needed. Accordingly, the comments on this statement do not preclude separate evaluation and comments by the Fish and Wildlife Service (FWS) when it reviews the "404" permit applications.

G

G Specific detailed measures cannot be addressed until the detail design of the proposed action is complete. Mitigation for the Partridge River is discussed at page 129, and for Union Creek at page 130. An extensive discussion of wetland impacts and mitigation is found beginning at page 134.

In review of the applications, FWS may concur, with or without stipulations, or object to the proposed work depending on the detailed information then available. Based on current data and its knowledge of the area, FWS advises that its tentative position will probably be to concur to permits with stipulations.

Should appropriate site-specific information be available for the several "404" permit involvements, FWS would be pleased to cooperate and coordinate with you, the Corps of Engineers, the Minnesota Department of Transportation, the Minnesota Department of Natural Resources, and other interested parties in tentative resolution now of all factors, including stipulations for mitigation measures, relating to the needed permits so that this information may be included in the final environmental statement. Indeed, we think this additional "scoping" must be done now to comply with the views of the Secretary of Transportation in his January 10, 1979, letter to the Secretary of the Interior. G

SUMMARY COMMENTS

The comments in this letter do not constitute formal Department of the Interior consultation as required by Section 4(f) of the Department of Transportation Act. This requirement will only be fulfilled when this office comments separately on any Section 4(f) statement prepared after more specific planning has been done.

The Department of the Interior would be willing to cooperate and coordinate with you on a technical assistance basis in further project evaluation and assessment. The field office assigned responsibility for park, recreation, cultural resource and Section 147 matters is the Regional Director, Heritage Conservation Service, U.S. Department of the Interior, Federal Building, Ann Arbor, MI 48107 (phone: FTS 378-2059; comm. 313/668-2023). For facets relating to fish and wildlife, wetlands, and 404 permit matters, responsibility rests with the Area Manager, Fish and Wildlife Service, U.S. Department of the Interior, 530 Federal Building, 316 N. Robert St., St. Paul, MN 55101 (phone: FTS 725-7641; comm. 612/725-7641).

Thank you for the opportunity to comment on this statement.

Sincerely,

James H. Rathlesberger
Special Assistant to
SECRETARY

Assistant

cc: Mr. J. W. Youngquist, District Engineer
Minnesota Department of Transportation
1000 W. T.H. 10
Box 666
Detroit Lakes, MN 56601

Corps of Engineers

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

82 JAN 29

Mr. J. W. Youngquist
District Engineer
Minnesota Department of Transportation
1000 W. T.H. 10
Box 666
Detroit Lakes, Minnesota 56601

RE: 79-070-424
D-FHW-40143-MN

Dear Mr. Youngquist:

We have completed our review of the Draft Environmental Impact Statement (EIS) for U.S. Highway 10 from Wadena to Motley, Minnesota dated October 1979. The proposed project consists of the upgrading of U.S. 10 from a two-lane single roadway to a four-lane divided roadway. It involves about 31 miles of U.S. 10 from C.S.A.H. 77 at Bluffton to C.S.A.H. 53, one-half mile south of Motley. Bypasses for the cities of Wadena, Verndale, Aldrich, Staples, and Motley are being considered as well as the relocation and construction of about two miles of T.H. 210 in and south of Staples. T.H. 210 would be constructed to two-lane rural highway standards. We have classified our attached comments as ER-2. Specifically, this means that we have reservations regarding the environmental impacts of the proposal, and we believe additional information should be provided in the Final EIS. The classification and the date of our comments will be published in the Federal Register in accordance with our responsibility to inform the public of our views on proposed Federal actions under Section 309 of the Clean Air Act.

The major topic we would like to see addressed in more detail in the Final EIS is the proposed project's impact on wetlands. Other topics we feel should be addressed further, include secondary impacts of the project.

The attached comments are for your use in preparing the Final EIS. If you have any questions regarding our categorization procedures or our comments, please contact Rick Pitorak at 312/353-2307.

Sincerely yours,

Barbara J. Taylor, Chief
Environmental Impact Review Staff
Office of Environmental Review

Attachment

COMMENTS BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY
ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR
U.S. HIGHWAY 10 FROM WADENA TO MOTLEY, MINNESOTA

WETLANDS

Potential wetland impacts of the proposed highway project are of major concern. Under Section 1.(a) of Executive Order 11990 each agency is directed to take action to minimize the destruction, loss or degradation of wetlands. Understandably, in an area with 17 percent of the total land acreage comprised of wetlands, some difficulty is encountered in establishing highway alignments which do not impact wetlands. However, mitigative measures can be employed under most circumstances which will limit the impacts to wetlands and result in compliance with the Executive Order. Mitigation such as minimal wetland encroachment of roadway embankments accomplished by the use of steeper side slopes, narrower median strips in the case of divided facilities, or alignment shifts to avoid wetlands entirely should all be considered. Careful management of deicing salt should also be employed to minimize harm to sensitive areas.

A

Although all wetlands impacted by the proposed project should be considered, two areas appear to be worthy of particular note. The North Wadena Area which consists of approximately two square miles of tamarack and shrub swamps. The value of this area for wintering deer requires careful consideration of the impacts of proposed project construction. Trade-offs between environmental damage associated with construction of Alternate Route 1A which severely impacts the wetland as well as 13 farms, and 1B which poses an adverse social/economic effect by severing a newly platted residential area where development has begun, must be considered in further detail. A more thorough analysis of the trade-offs, as well as the possibility of the need for additional alternatives which minimize impacts to both the wetland and the residential area should be addressed in the Final EIS.

B

The East Staples Area is the other area of particular concern. It consists of several square miles of a complex of wetlands and woodlands. This area has the best overall value as wildlife habitat in the entire project area. Mitigation should be employed to limit the negative effects of project construction in this valuable area. Measures previously described should be considered.

SECONDARY IMPACTS

Secondary impacts of the proposed project will stem from the use of borrow areas to obtain fill material, and disposal sites to dump unsuitable material. Soil maps and soil interpretive data for potential borrow and dump sites, as well as water table information should be included in the Final EIS to allow an assessment of the effects of this land use on the environment.

C

The potential for development near interchanges should also be described in more detail for a more complete assessment of both wetland and soil impacts. Again, an assessment of the soil resource base in these areas and the suitability of the development potential of the soils should be described. Such soil characteristics as water table depth, K factor, permeability rate, soil depth, shrink-swell potential, bearing strength and other charactacteristics necessary to understanding the lands' capability should be evaluated to assess the potential for

D

secondary development to adversely impact adjacent, environmentally sensitive areas.

In general, soil maps at a scale of approximately 4 inches equal to 1 mile and delineated at the mapping unit level, along with necessary interpretive data in the interchange areas, as well as along the various bypass routes would facilitate an assessment of potential environmental impacts associated with the soil resource base.

E

A The wetland mitigation measures suggested by the EPA have been evaluated as design of the project has progressed. Refer to the FEIS text beginning at page 134 for a discussion of wetland impacts and mitigation. Right of way width has been reduced from a typical 324 feet to 280 feet, reducing wetland impacts by approximately eight acres. Technical Memorandum RD-79 2 was developed by Mn/DOT to address the use of reduced slide slope standards in sensitive wetland areas. This memorandum will be followed in the design of this project. Regarding deicing salt, Mn/DOT has reduced the amount of salt applied over the past several years by a significant factor. The Minnesota Pollution Control Agency has adopted Mn/DOT's standard procedure of salt application on a statewide basis for reducing the adverse effects of salt on the environment.

B The preferred alternatives for Wadena and Staples are Alternatives 1-A and 1, respectively, with modified design. It is felt these alternatives constitute the most favorable overall social, economic, and environmental choice. Refer to Section IV of this FEIS.

C Sites for borrow and disposal of excess material are closely monitored for environmental effects. Mn/DOT Technical Memorandum 83-11-ENV-1 regulates the disposal of excess material by Mn/DOT. This allows excess material to be disposed of in wetlands only as a last resort, if there is no practicable alternative. Borrow pits and waste and disposal sites are discussed at pages 113 and 115 of this FEIS.

D Secondary development is a function of many factors, of which highway location is only one. The rate and specific location of such development cannot be accurately predicted with any precision. The historically common finding of development along highways is acknowledged. See the discussion at page 182 of this FEIS

E The soils information has been collected and is available to anyon who may care to examine it. Howeve the inclusion of such a detailed level of information on such a specific topic is inappropriate for an EIS. This information was collected and analyzed during the development of the DEIS. These and other raw data will be made available to anyone wishing to review them.

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:
NCSCO-RF(CC457-21)

FEB 14 1980

Mr. J. W. Youngquist
District Engineer
Minnesota Department of Transportation
1000 W. T. H. 10
Box 666
Detroit Lakes, Minnesota 56601

Dear Mr. Youngquist:

We have reviewed the Draft Environmental Impact Statement for the proposed upgrading of U.S. 10 - Wadena to Motley.

1. The following are our comments on this document:

a. The water quality sections on page 103 should include a map delineating the sample sites and a table with the data. | A

b. The meaning of number 7. in the section "Measures to Minimize Harm on Wetlands" is unclear. | B

c. Based on the available data, our preliminary recommendation for the Wadena By-Pass alternate is alternate 1B, which would leave most of the deer-wintering area intact. | C

2. The project will require Department of the Army permits under Section 404 of the Clean Water Act. The following information should be submitted with your permit application.

a. The final detailed hydraulic and design data for the alternate(s) chosen. This will enable us to determine all permit requirements, including wetland crossings as well as the stream crossings mentioned in the draft. | D

b. For all crossings that will require an individual permit we will need a listing of flora and fauna and photographs of the sites.

A The water quality monitoring sites are identified in Figure 41, which also contains the floodplain boundaries. Water quality is discussed in this FEIS beginning at page 130.

B See the revised wetland section, beginning on page 134. The measure questioned simply means that the borrowing of material from or the spoiling of material into wetlands will not be allowed unless it will result in improved wetland habitat.

C The preferred alternative for the Wadena Bypass is Alternative 1A with a modified design. Measures to minimize harm to wildlife are discussed at pages 140-143.

D All necessary information will be included in the permit applications at the time of application.

NCSCO-RF(CC457-12)
Mr. J. W. Youngquist

FEB 14 1980

c. A complete description of all mitigation measures to be implemented, such as those discussed in the sections on Stream Channelization and Wetlands. The reason(s) for choosing not to implement any of these measures would also be helpful.

We suggest you apply for our permit(s) as soon as possible. We appreciate the opportunity to comment on this project.

Sincerely,

Wm. L. Starbird for

WILLIAM W. BADGER
Colonel, Corps of Engineers
District Engineer

STATE OF MINNESOTA
DEPARTMENT OF NATURAL RESOURCES
CENTENNIAL OFFICE BUILDING • ST. PAUL, MINNESOTA • 55155

February 7, 1980

Mr. J. W. Youngquist, District Engineer
Minnesota Department of Transportation
1000 W. T.H. 10, Box 666
Detroit Lakes, Minnesota 56601

RE: Draft EIS T.H. 10, Motley to Wadena

Dear Mr. Youngquist:

The Department of Natural Resources has reviewed the Draft EIS for the above referenced project and offers the following comments for your consideration.

Our review indicates that in rural areas Alternate Route 1 is the most reasonable and practical alternative although there will be significant resource impacts, particularly to wetlands, which will have to be mitigated. — A

A — Alternate 1 is the selected alternate in all rural locations. Measures to minimize harm to wetlands are discussed on pages 138 - 140 .

In the Wadena area the by-pass alternative 1-B is preferred since it minimizes intrusion into an extensive Type 2-4-7 wetland complex. This is a deer yarding area and provides considerable habitat for various other wildlife species. Impacts to this area could possibly be reduced by shifting the alignment, reducing the width of the right-of-way, or steepening the grade slopes. It is also possible that barrier fences or other measures may be necessary to reduce deer kills along the highway. A new crossing of Union Creek would be required by either of the by-pass alternatives. The through-city route would require crossings of both Union and Whiskey Creeks. — B

B — The selected alternative for the Wadena By-pass is Alternative 1A with a modified design. The measures to minimize harm suggested by the DNR have been incorporated into the project design or will be considered.

At Verndale alternate 1-A appears to be preferable since it neither partitions the town as do the other alternatives, nor bisects further a Type 2-3 wetland which is already partitioned by existing Highway 10. — C

C — At Verndale, Alternate 2, through town, was selected as the alternate having the least overall impact. City officials and residents preferred alternate 2.

Both alternative routes at Aldrich involve crossings of the Partridge River. Route 2 also involves stream channelization. There may be some public waters affected by both routes at the eastern edge of the city. — D

D — At Aldrich Alternate 2, through town, was selected. Both of the alternatives cross the Partridge River at the same location and both required some stream channelization.

At Staples a large Type 3 (cattail) complex on the east edge of town, north of U.S. 10 and Hayden Lake will be affected as well as a Type 2-6 wetland west of town. The impacts on these wetlands could be reduced by the measures mentioned in paragraph three above. For the proposed T.H. 210 tie-in, Alternate A seems preferable as it would shift the alignment further from a Type 2-6 wetland. — E

E — Measures to minimize harm to wetlands are discussed in section by that title and in the Wetlands Finding. For TH 210 at Staples the selected alternative is Alternate A.

AN EQUAL OPPORTUNITY EMPLOYER

Our letter of December 27, 1978 (p. 154 of EIS), outlined various means of mitigating impacts of the proposed project. Fish barriers may also be desirable in some streams to control rough fish, especially where trout streams or wetlands are to be maintained or improved for fish and wildlife purposes. We understand that MnDOT will contact the appropriate area fish and wildlife managers as detailed plans are developed, regarding development of mitigation measures. It is vital to the resources involved that this coordination takes place. The individuals who should be contacted are as follows:

F

Joe Fravne, Area Fisheries Manager, Brainerd, 218-828-2552.

Dennis Hansen, Area Wildlife Manager, Brainerd, for Cass and Wadena Counties, 218-828-2555.

Gary Johnson, Area Wildlife Manager, Little Falls, for Todd County, 612-632-2321.

There may also be a new Area Fisheries Manager assigned to Little Falls in the near future.

F As detail design of this project progresses specific mitigation measures will be coordinated with the appropriate Area Fish and Wildlife Managers.

It is requested that wildlife habitat losses in Sections 9 and 10, T. 134, R 35, be mitigated by the purchase of additional unaffected wetlands in Sections 9 and 10. These wetlands along with an adequate amount of upland could serve as a valuable wildlife area. A sketch map of the wetlands that could be purchased for mitigation is attached. MnDOT should contact Regional Wildlife Manager Henry Wulf, Brainerd, or the Area Managers listed above for more information regarding this proposal.

G

Many public waters will or may be affected by the proposal which will require permits from the DNR Division of Waters. A listing of potential permit requirements is given in the attached memo. Regional Hydrologist Dave Hills, Brainerd, should be contacted for further information regarding permit requirements.

For other questions regarding these comments, please contact Ken Wald, Environmental Review Section, St. Paul, at 612-296-4794.

Sincerely,

Donald W. Buckhout

for Thomas W. Balcom
Environmental Review Coordinator

TWB:KW:mp

cc: Ron Harnack
Earl Huber
Roger Lorenz

Attachments

G The mitigation developed for wetland impacts resulting from the proposed action is extensive. It is the result of extensive and on-going coordination between Mn/DOT, the MnDNR, and the USF&WS. The discussion of wetland impacts begi s and page 134, and discussion of wetland mitigation at page 138.

STATE OF MINNESOTA

DEPARTMENT of Natural Resources - Waters

Office Memorandum

TO : David L. Hills
Regional Hydrologist

DATE: January 25, 1980

FROM : Ronald L. Morreim
Sr. Engineering Aide

PHONE: 2605

SUBJECT: REVIEW OF DRAFT EIS FOR U.S. #10 -- WADENA TO MOTLEY

This review is intended primarily to determine what public waters are affected by the proposed construction and, consequently, the Chapter 105 permits that would be required. Some of the permit requirement determinations are obvious as in the case of major stream crossings, whereas others such as the intermittent streams and public waters basins cannot be determined until more detailed plans are reviewed and on-site inspections conducted.

It should be noted, also, that review of this EIS does not suggest any prior approval of the required permits. These can be made only after review of specific plans by the affected disciplines.

The following lists the watercourses and basins that would appear to be affected as public waters.

Wadena County

Wadena Township, T 134N, R 35W

Section 4: Union Creek Crossing -- permit required. Also, an impoundment and stream channelization on Union Creek are proposed -- these may require separate permits.

Section 15: Unnamed Stream Crossing -- permit may be required.

Section 24: Wing River Crossing -- permit required.

Aldrich Township, T 134N, R 34W

Sections 28 & 29: Unnamed Stream Crossings -- permit may be required.

Section 35: Partridge River Crossing -- permit required. Stream channelization of Partridge River may require separate permit.

Section 36: Possible alteration of (proposed) public water basin No. 80-81B.

Todd County

Staples Township, T 133N, R 33W

Section 5: Possible alteration of public water basin No. 80-7.

Section 4: Possible alteration of (proposed) public water basin No. 80-78B.

Villard Township, T 133N, R 32W

Section 6: Hayden Creek Crossing -- permit required.

Note: EIS indicates Hayden Creek is a judicial ditch; however, Todd County Auditor indicated it is not a judicial ditch. Two County Ditches (Nos. 5 and 8) outlet into Hayden Creek in Section 1 and Section 31.

Morrison County

Motley Township, T 133N, R 31W

Section 18: Service road may affect oxbow of Long Prairie River -- permit may be required.

Section 19: Long Prairie River Crossing -- permit required.

ls

Minnesota Pollution Control Agency

vember 29, 1979

W. Youngquist
strict Engineer
nnesota Department of Transportation
1000 W. T.H. 10
Box 666
Detroit Lakes, Minnesota 56601

BJECT: Draft Environmental Impact Statement for U.S. 10, Wadena to Motley

ear Sir/Madam:

e purpose of this letter is to acknowledge receipt of the above referenced document. The staff is currently reviewing this document and will transmit any significant comments in an additional letter.

appreciate receiving this document. Please contact me concerning any questions regarding our review.

Sincerely,

Dale E. McMichael
Project Manager
vironmental Planning & Review Unit

No response necessary

(612) 296-7293

1935 West County Road B2, Roseville, Minnesota 55113
Regional Offices • Duluth / Brainerd / Detroit Lakes / Marshall / Rochester / Roseville
Equal Opportunity Employer

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Airports District Office
6301 - 34th Avenue South
Minneapolis, Minnesota 55450

February 1, 1980

Mr. James Povich, P.E.
District Preliminary Design Engineer
Minnesota Department of Transportation
District 3
301 Laurel St., Box H
Brainerd, Minnesota 56401

FHWA-MN-EIS-70-04-D
Draft EIS
For U.S. 10 - Wadena to Motley

Dear Mr. Povich:

This letter is in reply to your letter dated January 23, 1980, transmitting preliminary plans for the relocation of T.H. 10 near Morey Fish Co. Airport, Motley, Minnesota. Our review of the plan indicates adequate airway-highway clearance provided there is no change in the highway grade, as indicated on the plan. Should this situation change in the final design stage, we would request permission to review such change.

We thank you for prompt and cooperative submittal of the requested information.

Sincerely,

DONALD R. STOCKDALE
State Program Officer

cc: FHWA

No response necessary



MINNESOTA HISTORICAL SOCIETY

690 Cedar Street, St. Paul, Minnesota 55101 • 612-296-2747

January 3, 1980

Mr. C.P. Kachelmyer
Preliminary Design Engineer
Department of Transportation
Room 604 - Transportation Building
St. Paul, Minnesota 55155

Dear Mr. Kachelmyer:

RE: Draft EIS of US 10 Wadena to Motley, in Otter Tail, Wadena, Todd and Morrison Counties, Minnesota.

MHS Referral File Number H4

Thank you for the copy of the above referenced project. We concur with the opinion of the Trunk Highway Archaeologist which states that the draft EIS accurately reflects the results of field surveys. I would like to note one typographical error on page 48 -- the word extant appears as extent, which confuses the recommendation. A

Again, thank you for your participation in this important effort to preserve Minnesota's heritage.

Sincerely,

Russell W. Fridley
State Historic Preservation Officer

RWF/cjb

A Noted and corrected

UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Science and Technology
Washington, D.C. 20230
(202) 377- 4335

January 15, 1980

Mr. J. W. Youngquist
District Engineer
Minnesota Department of Transportation
1000 W. T.H. 10
Box 666
Detroit Lakes, Minnesota 56601

Dear Mr. Youngquist:

This is in reference to your draft environmental impact statement entitled "U.S. 10 (Wadena to Motley, Minnesota)." The enclosed comments from the National Oceanic and Atmospheric Administration are forwarded for your consideration.

Thank you for giving us an opportunity to provide these comments, which we hope will be of assistance to you. We would appreciate receiving three (3) copies of the final statement.

Sincerely,

Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs

Enclosure Memo from: Robert B. Rollins
National Ocean Survey
National Oceanic and Atmospheric Administration

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

Rec'd PPIEC 09 JAN 1980

JAN 8 1980 OA/C52x7:SKM

TO: PP - Richard L. Lehman

FROM: OA/C5 - Robert B. Rollins

SUBJECT: DEIS #7912.07 - U.S. 10 (Wadena to Motley, Minnesota)

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

The following comment is offered for your consideration.

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 includes the cost of any relocation required for NOS monuments. Attached are data locating and describing monuments in the vicinity of the proposed project. A

A Every effort will be made to preserve geodetic control survey monuments. If relocation of any monument is required, it will be done in accordance with the National Ocean Survey's requirements.

Attachments (DEIS #7912.07)

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

MAILING ADDRESS:
Commander (dpl/eis)
Second Coast Guard District
1430 Olive Street
Sta Louis, MO 63103

16475
Ser 206
18 January 1980

J. W. Youngquist
District Engineer
Minnesota Department of Transportation
1000 W. T. H. 10
Box 666
Detroit Lakes, MN 56601

Gentlemen:

We have reviewed the draft environmental impact statement for U.S. Highway 10 in Otter Trail, Wadena, Todd and Morrison Countiesd, Minnesota. We have no comment to offer on this document.

Thank you for the opportunity to review this environmental impact statement.

Sincerely,

C. E. Johnson, Jr.

C. E. JOHNSON, JR.
Environmental Protection Specialist
By direction of the District Commander

Copy to:
COMDT (G-WEP-7)
DOT SECREP Region V
DOT (tes), Office of Environemtal Affairs

230

FEDERAL ENERGY REGULATORY COMMISSION
CHICAGO REGIONAL OFFICE
230 SOUTH DEARBORN STREET. ROOM 3130
CHICAGO. ILLINOIS 60604

February 1, 1980

J. W. Youngquist
District Engineer
Minnesota Department of Transportation
1000 W. T.H. 10
Box 66
Detroit Lakes, Minnesota 56601

Dear Mr. Youngquist:

This is in response to your recent request inviting our review and comments on the Draft Environmental Impact Statement on the proposed upgrading for U.S. 10 - Wadena to Motley.

Comments of this office are made in accordance with the National Environmental Policy Act of 1969 and the August 1, 1973 Guidelines of the Council on Environmental Quality. Our review of the draft Environmental Impact Statement is to determine the effect on matters concerning the Federal Energy Regulatory Commission's responsibilities. Such responsibilities stem from the Federal Power Act and the Natural Gas Act and relate to the licensing of non-Federal hydroelectric projects and associated transmission lines; participation in planning and development of Federal hydroelectric projects; certification for construction and operation of natural gas pipeline facilities, defined to include both interstate pipeline and terminal facilities; and the permission and approval required for the abandonment of natural gas pipeline facilities.

Because the above-noted proposed development would not pose a major obstacle to the construction or operation of such facilities and because the Draft does not indicate that existing natural gas or hydroelectric developments would be adversely affected, we have no specific comments.

These comments are of this office and therefore do not necessarily represent the views of the Federal Energy Regulatory Commission.

Thank you for the opportunity to comment on this Draft Environmental Statement.

Sincerely,

Lawrence F. Coffill

Lawrence F. Coffill
Regional Engineer

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
NORTHEASTERN AREA STATE AND PRIVATE FORESTRY
370 REED ROAD — BROOMALL, PA. 19008
(215) 596-1672 - Telephone

1950
January 22, 1980

Mr. J. W. Youngquist
District Engineer
Minnesota Department of Transportation
1000 W. T.H. 10, Box 666
Detroit Lakes, Minnesota 56601

Refer to: FHWA MN-EIS 70-04-D
Draft Environmental Statement
U.S. Hwy 10, Wadena to Motley

Dear Mr. Youngquist:

Coordination of planning construction in wetland areas with State Fish and Wildlife Specialists should ensure adequate mitigation of wildlife impacts. Road construction should allow adequate drainage where new roads cut across wetland areas, as occurs several places around Wadena and Staples. If water flow is blocked, marshland will become too wet or too dry to maintain wetland vegetation. **A**

Scarcity of woodland in this area of farms and small cities renders it comparatively valuable; this factor should be considered in routing route 10 through woodland. **B**

Thank you for the opportunity to review this Statement; please send us a copy of the Final Statement.

Sincerely,

DALE O. VANDENBURG
Staff Director
Environmental Quality Evaluation

A Mn/DOT will evaluate the need for adequate drainage on roadways through wetland areas during detail design of this project. Unless alteration of drainage is identified as improving wetland habitat as a mitigation measure, existing drainage patterns will be maintained. Refer to section, "Measures to Minimize Harm to Wetlands."

B The presence and scarcity of woodlands was one of numerous factors considered in determining the selected alternatives on this project.

CITY COUNCIL

Mayor..... Wayne Maroney

Councilmen..... Manley Erickson
James Baymiller
Gervase Richter
Gene Reger

From the Office of
Bruce L. Brown, City Clerk-Treasurer

CITY OF WADENA

8 Bryant Ave. Southeast

P.O. BOX 30 WADENA, MINNESOTA 56482

TELEPHONE 218-631-2383

January 10, 1980

TO: Minnesota Department of Transportation;

At a regular meeting of the City Council held January 9, 1980, the following resolution was adopted.

RESOLUTION 01-08-80 Highway # 10 By-Pass Route

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF WADENA, MINNESOTA:

That contingent on giving all possible consideration to providing an on grade crossing for ingress and egress to the Joe Goeden Property, ALTERNATE ROUTE 1 A (North Route) of the highway # 10 by-pass around the city of Wadena, Minnesota is hereby supported as the most desirable route for said by-pass.

Adopted by the council this 9th day of January, 1980.

Wayne R. Maroney
Mayor

R Bruce L Brown
Clerk-Treasurer

Route 1-A with a modified design has been selected as the preferred alternative.

City of Verndale

VERNDALE, MINNESOTA 56481

WHEREBY, the City of Verndale, MN has been asked to submit an impact statement concerning the effects of routing Highway 10 through the city as opposed to the north route, we hereby submit the results of a public hearing held at a special meeting of the Verndale City Council on January 17, 1980, attended by 31 townspeaple and affected farmers:

1) Preserving seven good producing farms that would be severely affected by the north route.

2) Several of our businesses benefit greatly by trru traffic thereby affecting the economics of our entire town.

3) Businesses can be moved more readily than farm boundaries, irrigation ares and equipment.

4) We already have rest area facilities adjacent to the highway for travelers.

At this meeting there was almost unanimous support (1 opposed) for Highway 10 to be routed through Verndale. There were some reservations about pedestrians crossing due to increased truck traffic. Also pointed out were possible problems with traffic at intersections while trains are enroute, controlling speed within city limits and access for transporting of buildings by Verndale Customs, our largest industry.

Note: The land between Highway 10 and the B N railroad tracks is not being utilized as a park area.

Therefore, as a result of this hearing, the City Council supports the thru-city route.

Madonna Desrochers- clerk

The through town route has been selected as the preferred alternative

Route #3 Box 40
Wadena, Minnesota
56482

J.N. Youngquist
District Engineer
Minnesota Department of Transportation
1000 West T.H. 10, Box 666
Detroit Lakes, Minnesota 56601

Dear Sir:

I would like to make this statement to be entered into the transcript of the E.I.S. for the improvement of Trunk Highway 10, Wadena bypass.

I would urge you to cincider the southern corridor. Route 1-B, over the Northern corridor, Route 1-A, for several reasons.

Number 1, and of prime concern to me, is be severance of a large number of farms by Route-1-A. At a time when farm land is at a premium I think every effort should by made to preserve this irrecoverable resource. Highways and urban development are taking up a larger number of acers of farmland each year. In a state where farming is the major industry I think it should be given more consideration where highways and development are concerned. A

The figures on the E.I.S. indicate that Rou te 1-A would take less farm land than Route 1-B, however I think it should be noted that these figures are estimates only and are likely to be inaccurate since a number of acres within Route 1-B have already been taken out of production. I think accurate figures would show that less farmland would be destroyes by Route 1-B and it also borders several farms rather than divide them.

Route 1-A alsodivides a large swamp north of Wadena which is a prime Deer and wildlife area. Route 1-B would stay on the southern edge of the area. An effort should be made to leave this area intact. B

Within the corridor of Route 1-A, west of C.S.A.H. 75, there is a shallow aquifer and a number of natural springs. I do not know what effect road construction would have on this area. It is a natural wildlife area and some study should be done to see what effect construction would have on the aquiferand springs. Route 1-B does not affect this area. C

I don't know which route the city of Wadena prefers. since to my knowledge, they have never supported one route over the other, publicly at least. It would seem to me that Route 1-B, which provides 3 interchanges very near the city, would offer the best access, whereas Route 1-A has only two, and a directional three miles west of town. D

Please concider these arguements along with the others you have recieved.

Sincerely Yours;

Gerald A. Gordon

A The change in land use associated with highway improvements is one of the factors considered in selecting an alternative. Refer to the text section which considers the impacts of the various alternatives.

B Alternate 1A does affect a portion of this area. See pages 140-142 for a discussion of mitigative measures.

C In this section of the route, no road cuts are anticipated. As a result, even though the acquifer is shallow, it should not be affected.

D The City of Wadena prefers Route 1A. See copy of Wadena's Resolution on page 232.

The following petition was received from citizens of the Wadena area following the circulation of the DEIS, and the public hearing held in 1980

"We the property owners in the area of the new proposed Highway 10 Route "Blue" object to the road going through a rapidly developing residential area."

(Ed. note: the "Blue" route referred to in the foregoing petition was Alternative Route 1B.)

Petition signed by 37 Wadena area residents.

OTHER COMMENTS ON THE DEIS
RECEIVED AT A PUBLIC HEARING IN STAPLES
ON JANUARY 10, 1980

Joe Goeden
Route 3, Wadena, Minn.
(private citizen)

"Well I know this by reading the Environmental Impact Statement that the Highway Department is looking forward to about the year 2000, and I also notice that the City Planner is kinda looking to the year 2000 also; so us folks in agriculture, I think we ought to be looking to the year 2000 also to see what's coming. I'd like to just state a few things here. During the past decade three million acres of agricultural land have been converted to non-agricultural uses each year. That's the equivalent of losing three hundred and twenty acres every hour. Another two million annually have been isolated, made unproductive by scattered development. The four hundred million acres now under cultivation in the United States is feeding three hundred million people. According to Gus Faith, the Chairman of the Council on Environment Quality, every time we lose a couple million acres of crop land, that's another million and a half people that aren't going to be fed. If the present trend of agricultural losses continues, by the year 2000 the U.S. will be producing only enough food to feed itself. Eventually we will have to import food. Now we all know that's impossible to import food; so all I can say is we need roads but golly when we get the roads built lets leave some agricultural land; lets not bite the hand that feeds us. That's an old saying. (Mr. Goeden prefers Route 1B for the Wadena Bypass, d.

Kathleen M. Hanson
R.R. 3, Box 22C
Wadena, Minnesota
(public agency representative)
(planning commission)

I feel that Alternate 1-B (for Wadena) has interchanges that are too elaborate - I feel that tax payer money should not be used quite so freely. Being a home owner also on the route of 1-B and being a wildlife lover, I feel 1-A would be the best route.

Nolan H. Hanson R.R. 3, Box 22C Wadena, Minnesota (private citizen)	From a personal standpoint, we would prefer Alternate 1A, Bypass for Wadena.
Donald L. Koranda 839 10th St. N.W. Wadena, Minnesota (private citizen)	If we need highway No. 10 to be four lanes, and with todays reduced driving because of gas shortages and slower speeds (55 MPH) I'm not totally sure that we do. I would urge you to pick Alternate Route 1-A. The reason being the location of my home, that may sound like a poor reason to some people or a selfish one. I have a nice home and do not want Highway No. 10 to be 100 or 500 feet from my front door. I'd rather you go through my house than to be on my doorstep. Thank you for the copy of the Draft Environmental Impact Statement and the chance to say how I feel. I would not want to have to make the decision you people must make, but I do hope you either do nothing at all (outside of maintenance) or pick Alternate Route 1-A. Thank you again. Donald L. Koranda.
Ron Rickers Peterson-Biddick Co. Box 190 Wadena, Minnesota	Land has been purchased by Peterson-Biddick in area of diamond interchange on Alternate 1-B.
Robert Schwartz R.R. 1, Box 12A Wadena, Minnesota (private citizen)	Highway No. 10 bypass at Highway No. 71 North of Wadena. 1) I believe Highway No. 71 presently has an S curve which is unsafe and needs to be straightened: 2) The present S curve has 8 driveways to residences or businesses. That makes for dangerous left and right hand turns. 3) I feel that diamond interchange should be located about 50 yds. north of the skating rink to line up with a straight Highway No. 71.
Jay P. Perius Verndale, Minnesota (private citizen)	I would like to see the new road go through Verndale instead of the Rt. 1-A you have planned on, it would help me stay in farming which I make my living on. The route 1-A is dividing to my farms in smaller sections. Thank you.

Keven Perius Verndale, Minnesota (private citizen)	I live on the farm in Verndale that it looks like they are planning on going through, my dad lives there too and he would not like it to come through his farm. He is sick and doesn't farm but I do so we think we would like it to go through the town of Verndale.
Robert Sommars Verndale, Minn. (private citizen)	Opposes Route 1A Bypass at Verndale because it will take farmland out of production. Favors Route 2 as buildings can be moved -- farmland cannot be moved.
Allan Erbe 700 NE 8th St. Staples, Minnesota (elected official) (councilman - Staples)	The faster the highway is done the better. Alternate Route 1. The bypass around Staples is the best possible route.
Bob Doll Star Route Staples, Minnesota	I feel the by-pass will have a great impact on our city businesses. I own the Dairy Queen and I know what that will be without traffic.
Frank L. Williams 130 10th St. Staples, Minnesota (elected official) (councilman - Staples	As a representative of City of Staples we feel an undue hardship has been placed on us as a community. We feel that construction should begin as soon as possible. (Prefers Route 1 for Staples bypass, Ed.)

William T. Hansen
Route 3,
Wadena Minnesota

As director of Animal Acres Zoo, I must request that an exit off 10 to Co. Rd. 20 be effected as it is a half million dollar business and has existed for 10 years. An exit for zoo on 20 is a must or zoo could not operate. Only alternative would be a reimbursement to the non-profit corporation of 1/2 million dollars and thereby it would close which would not be the choice of the zoo. It very definitely is a tourist attraction and must be recognized by DOT as such. A grade crossing would be fine or whatever but an exit on 20 is a must! We have made 4 contacts (2 to D.L. and 2 to Br.) in this regard and so far we have been completely ignored (As you discussed the route tonight, 20 was never mentioned!) The $$ figure which I have stated is very conservative and if we were to relocate now it would be 3 times that amount. I hope we do not have to resort to an attorney, as we have tried to be fair in our previous contacts.

(An at grade intersection will be made at CSAH 20. This will provide direct access for the Zoo, (Ed))

GRANT'S TV & APPLIANCE
Harry Grant, Owner
101 2nd Ave. West Tel. (218) 894-1580
Staples, Minn. 56479

Sept. 12, 1980

Minn. Dept. of Transportation

Re: Proposed Improvement
On Highway #10

Sir

I own and operate a small business in Staples on west U.S. Highway #10. I wish to express my sentiments concerning this project.

I have heard and seen what it does economically to these small towns and businesses that the highway has already by-passed and its not good for the community, with the 55 MPH speed limit and at the price of gas. The public drivers doesn't need the super highways (We have one 30 miles So.) At Staples there could be no parking on the original U.S.#10 and still be a 4-lane. Let the auto traveler see what our county is made of (many small towns). Let (drivers) them slow down and smell the roses.

Sincerely,

Mr. & Mrs. Harry Grant /s/
Mr. & Mrs. Harry Grant

Build alternatives were selected in each case.

Bypass effects are discussed beginning at page

1-16-80

Dear Sir:

As I didn't get to the Highway Department hearing on Hy. 10 from Wadena to Staples, I'd just like to comment a bit. Maybe we shouldn't expand Hy. 10. Just leave as is.

The expense will be much more than the good to be accomplished as we have a freeway just south a few miles.

Sincerely,

Tony Schmitz /s/
Tony Schmitz
Route 1
Wadena, Minn. 56482

Build alternatives were selected Refer to Sections II and IV

January 27, 1980

Mr. John R. Rolfe

Dear Sir,

We here at Hammes's are very proud you set up the township line route for U. S. No. 10 hi-way by-pass mostly for our sake, also our near neighbors.

Even with our limited knowledge of engineering, and for the least interruption of wildlife and environment plus it seems better and cheaper to us all for construction considering soil, mileage, etc.

Also route 1-B with the overpass for County 20, construction labs both Mr. & Mrs. Kern and our house yard into dungeons.

Our talks among the area home owners in this north area have sure been in favor of Route 1-B, if we must see this thing happen to us. We don't feel we few are selfish to the need of many after all, just a few of highway planners decide, or maybe the few, care-less City of Wadena members, anyway.

In my many intimate discussions with south neighbor Mr. Hofferth as from the first mention of by-pass, he is ready and wants the money. He doesn't farm and cares less about selling. Also, this just fringes the wildlife area.

The way we look at it, as you must know, the least interruption and disturbance of us rural home owners as well.

Please check environmental impact from Route 1-A and you certainly can see what we mean.

Sincerely,

Joe Florence Hammes /s/
Joe Florence Hammes
& Family of 10 Children, Wadena

Route 1-A has been selected as the preferred alternative.

It is felt this alternative has the least overall impact.

We, James and Jane Merickel, address Rt. 3, Box 23 (Greenwood Avenue) Wadena, Minnesota, would definitely prefer the northern-most route available for the new highway. From our present location we have enjoyed viewing and raising a magnitude of wildlife in our immediate area. We feel the southern route of this highway would have a tremendous negative affect on the natural ecosystem that exists not only on our personal property but also the adjoining property of others in the area. Many forms of wildlife now transverse across the southern route in question, to my property. This highway would impair their travel and sure would deprive my family and others of the enjoyment we've had watching them over the years we've lived here. We realize that not everyone along these proposed routes cannot be satisfied. But, if there is a route choice to be made, my family would just like to go on record as favoring the most northern route possible.

James Merickel /s/
James Merickel

Route 1-A has been selected as the preferred alternative.

It is felt this alternative has the least overall impact.

Feb. 30,1980
Hewitt, Mn.

Dear Sir:

I am a landowner two places along the hyway #10 bypass around Wadena. Being involved in farming, I feel route 1-B destroys less prime farmland than 1-A.

Using plan 1-B would skirt the south edge of the wildlife habitat, which would tend to keep the deer on the north side of the hyway. Whereas route 1-A would cut the wildlife area in two which would create more movement onto the hyway from the deer population. This movement would cause more accidents resulting in personal and property damage.

I would also be in favor of a full diamond interchange at 71 and 10 and hyway 71 being rerouted as in 1-B, leaving more economic possibilities.

I feel that route 1-B is the superior plan over 1-A.

Sincerely
Don McIntire /s/
Don McIntire

Route 1-A has been selected as the preferred alternative.

It is felt this alternative has the least overall impact.

J. W. Youngquist
Dear Sir:

We live about 3 miles north of Wadena and are concerned about an entrance and exit on proposed hiway 10. We certainly do not want to take any more farm land out of production than absolutely necessary, but according to the drawings, for us to go east of Wadena we will have to drive into town, then the blank number of miles north on hiway 71. Going west would make quite a difference also as now we travel about 1 mile west to the county line road which leads into 10, but I understand there will be no entrances there either. We are one of the closest farms from Wadena and this would affect a lot of people.

We feel sorry for anyone who would have to re-locate,but many houses were built on the site after the hiway had been proposed.

Wildlife have a right to live too but I think to much emphasis is put on their welfare. They certainly aren't going to put food on our tables for very long.

We would favor alternate route 1-B as it would take less farm land.

Mr. & Mrs. Larry Olson /s/
Mr. & Mrs. Larry Olson
Wadena, Minn.

Route 1-A has been selected as the preferred alternative.

It is felt this alternative has the least overall impact.

55

27 January 1980
Verndale, Mn. 56481

J. W. Youngquist
District Engineer
P. O. Box 666
Detroit Lakes, Mn. 56501

Dear Sir:

Regarding the Verndale by-pass of highway 10; I am in favor of the route "2" passing thru town.

I own 40 acres of land which lies north of the old drive-in theatre. Approximately 10 acres of this land harbors wildlife, which includes ducks and pheasants plus other birds and animals. Last year approximately 100-150 ducks lived on this land.

If the road way should happen to go by that area, I will do all in my power to stop it.

I, also, have a 16 inch cased water well used for irrigation of remaining land.

If the highway should go north of town, I'm in favor of alternate route 1 A, because it effects less land owners.

Bob Sommars 40 acres is the only land being divided by this route and he doesn't even live close by this land; besides, he is a semi-retired farmer.

As part owner of the old drive-in theatre; We are dividing it into lots - commercial and residential. Therefore, I prefer the thru town route.

Sincerely,
Rodney & Judy Bounds /s/
Rodney & Judy Bounds

The through town route is the preferred alternative.

Jan. 16 - 1980

Dear Sir,

I am writing in regards to the #10 road project.

I think the burden should be shared equally between neighbors, when land is taken. Therefore, I feel the road should be moved south 200 feet from the sketch. (Alt. A-1)

I feel they could build a new church in Verndale, easier than take a considerable amount of farmland.

Thanks for your consideration.

Very truly yours,
Allan Anderson /s/
Allan Anderson, Verndale

The through town route is the preferred alternative.

PUBLIC HEARING
MARCH 27, 1986

On March 27, 1986, the Minnesota Department of Transportation held a public hearing on the proposed action at the north campus of the Staples Area Vocational-Technical Institute. Approximately 50 persons attended the hearing, in addition to several Mn/DOT staff members. The purpose of the hearing was threefold: to bring area residents up to date regarding the proposed action; to solicit further citizen input regarding the proposed action; and to insure compliance with all public hearing requirements. Following a presentation of the proposed action, anticipated environmental impacts, and relocation benefits and procedures; questions and comments were sought from the aduience. Comments and questions were few, and are here summarized rather than presenting the entire transcript. Anyone wishing to review the full transcript may obtain one free of charge from the Brainerd District office of the Minnesota Department of Transportation.

1. A number of questions and comments were made relative to scheduling and programming of the proposed action.

Mn/DOT staff explained the status of the project within the Mn/DOT project development process, including funding. The status of the section of U.S. 10 south of Motley was also described.

2. Some questions were asked regarding right of way widths through the rural section, particularly as they would impact agricultural operations.

Mn/DOT staff responded that the median width of the proposed facility has been reduced from that described in the DEIS. The right of way needed to provide for adequate safety for turning movements, especially for trucks, was explained.

3. The issue of the impacts of through town routes, particularly in the larger communities, was raised.

Mn/DOT staff responded that a modern facility would require the acquisition of a strip of right of way on one side or the other of existing U.S. 10 through these communities, and that such an acquisition would involve extensive relocation of both a residential and commercial nature. It was also explained that segments in the cities are not presently funded.

4. A number of questions were asked regarding the relocation process, including procedures and benefits.

Mn/DOT relocation staff further explained the right of way acquisition process, answered all questions, and remained following the close of the hearing to respond to specific questions. Literature describing these benefits and procedures was distributed.

United States
Department of
Agriculture

Soil
Conservation
Service

January 2, 1986

Mr. Jerry Neseth
District Conservationist
Soil Conservation Service
222-2nd Avenue S.E.
Perham, MN 56573

Mr. Tom Swenson
Mn Dot
Box 66
Detroit Lakes, MN 56501

Dear Mr. Swenson:

We do not have a soil survey in Otter Tail county. Because of this there hasn't been a land evaluation system set up yet.

Conservationally,

Jerry

Jerry Neseth
District Conservationist

Enclosure
CJN:jmm

* U.S. GOVERNMENT PRINTING OFFICE: 1984-451-159/1324

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request: 11-20-85
Name Of Project: T.H.10 Wadena to Motley	Federal Agency Involved: FHWA, MN/DOT
Proposed Land Use: Transportation	County And State: Wadena, MN
PART II *(To be completed by SCS)*	Date Request Received By SCS: 12-24-85

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply — do not complete additional parts of this form).* Yes ☒ No ☐	Acres Irrigated: 8640	Average Farm Size: 240 acres	
Major Crop(s): Hay, Corn, Oats	Farmable Land In Govt. Jurisdiction: Acres: 207,689 % 60.5	Amount Of Farmland As Defined in FPPA: Acres: 79,782 % 23.3	
Name Of Land Evaluation System Used: LESA	Name Of Local Site Assessment System: None	Date Land Evaluation Returned By SCS: 1-29-86	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating: Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	321			
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	321			
PART IV *(To be completed by SCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	96			
B. Total Acres Statewide And Local Important Farmland	1			
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	0.1216			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	64%			
PART V *(To be completed by SCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	41			

PART VI *(To be completed by Federal Agency)* Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use		14			
2. Perimeter In Nonurban Use		6			
3. Percent Of Site Being Farmed		12			
4. Protection Provided By State And Local Government		0			
5. Distance From Urban Builtup Area		0			
6. Distance To Urban Support Services		0			
7. Size Of Present Farm Unit Compared To Average		7			
8. Creation Of Nonfarmable Farmland		25			
9. Availability Of Farm Support Services		5			
10. On-Farm Investments		3			
11. Effects Of Conversion On Farm Support Services		25			
12. Compatibility With Existing Agricultural Use		0			
TOTAL SITE ASSESSMENT POINTS	160				
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	41			
Total Site Assessment *(From Part VI above or a local site assessment)*	160	97			
TOTAL POINTS *(Total of above 2 lines)*	260	138			

Site Selected: A	Date Of Selection: 2-12-86	Was A Local Site Assessment Used? Yes ☐ No ☒	

Reason For Selection:

Sites which have a combined score of less than 160 should be given a minimal level of consideration for protection.

* U.S. GOVERNMENT PRINTING OFFICE: 1984-451-159/1324

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request: Date of Transmittal 11-20-85
Name Of Project: T. H. 10 - Wadena to Motley	Federal Agency Involved: FHWA, Mn/DOT
Proposed Land Use: Transportation	County And State: Todd
PART II *(To be completed by SCS)*	Date Request Received By SCS: 12-24-85

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply – do not complete additional parts of this form).*	Yes ☒	No ☐	Acres Irrigated	Average Farm Size: 212

Major Crop(s): CORN	Farmable Land In Govt. Jurisdiction: Acres: 447795 % 74.3	Amount Of Farmland As Defined in FPPA: Acres: 375240 % 62.2
Name Of Land Evaluation System Used: NONE	Name Of Local Site Assessment System: NONE	Date Land Evaluation Returned By SCS: 1/27/86

PART III *(To be completed by Federal Agency)*	Alternative Site Rating: Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	~~252~~ 209.4			
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site				
PART IV *(To be completed by SCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	0.0			
B. Total Acres Statewide And Local Important Farmland	4.4			
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	.0012			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value	74.4			
PART V *(To be completed by SCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	12.86			

PART VI *(To be completed by Federal Agency)* Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use		15			
2. Perimeter In Nonurban Use		5			
3. Percent Of Site Being Farmed		0			
4. Protection Provided By State And Local Government		0			
5. Distance From Urban Builtup Area		0			
6. Distance To Urban Support Services		0			
7. Size Of Present Farm Unit Compared To Average		4			
8. Creation Of Nonfarmable Farmland		25			
9. Availability Of Farm Support Services		5			
10. On-Farm Investments		0			
11. Effects Of Conversion On Farm Support Services		25			
12. Compatibility With Existing Agricultural Use		0			
TOTAL SITE ASSESSMENT POINTS	160	79			
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	12.86			
Total Site Assessment *(From Part VI above or a local site assessment)*	160	79			
TOTAL POINTS *(Total of above 2 lines)*	260	91.86			

Site Selected: A	Date Of Selection: 2-4-86	Was A Local Site Assessment Used? Yes ☐ No ☒

Reason For Selection:

Sites which have a combined score of less than 160 should be given a minimal level of consideration for protection.

* U.S. GOVERNMENT PRINTING OFFICE: 1984-451-159/1324

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request: Date of Transmittal 11-20-85
Name Of Project: T. H. 10 - Wadena to Motley	Federal Agency Involved: FHWA, Mn/DOT
Proposed Land Use: Transportation	County And State: Morrison,
PART II *(To be completed by SCS)* Transportation	Date Request Received By SCS: Wadena 12-27-85

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply – do not complete additional parts of this form).*	Yes ☐	No ☒	Acres Irrigated	Average Farm Size
Major Crop(s)	Farmable Land In Govt. Jurisdiction: Acres: %		Amount Of Farmland As Defined in FPPA: Acres: %	
Name Of Land Evaluation System Used	Name Of Local Site Assessment System		Date Land Evaluation Returned By SCS	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating: Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	156			
B. Total Acres To Be Converted Indirectly	-			
C. Total Acres In Site	156			
PART IV *(To be completed by SCS)* Land Evaluation Information	~~343~~			
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by SCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*				

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
TOTAL SITE ASSESSMENT POINTS	160				
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100				
Total Site Assessment *(From Part VI above or a local site assessment)*	160				
TOTAL POINTS *(Total of above 2 lines)*	260				

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

FINAL SECTION 4(f) EVALUATION

U.S. Department of Transportation

Federal Highway Administration

FINAL SECTION 4(f) EVALUATION

prepared by the
State of Minnesota
Department of Transportation

for

Minnesota Project F 002-2( )

State Project 7702-29

involving

Staples North Elementary School Playground
in Staples
Todd County, Minnesota

Submitted Pursuant to 49 U.S.C. 303

MINNESOTA DEPARTMENT OF TRANSPORTATION

10-20-87
Date

E.E. Ofstead
Assistant Commissioner
Technical Services Division

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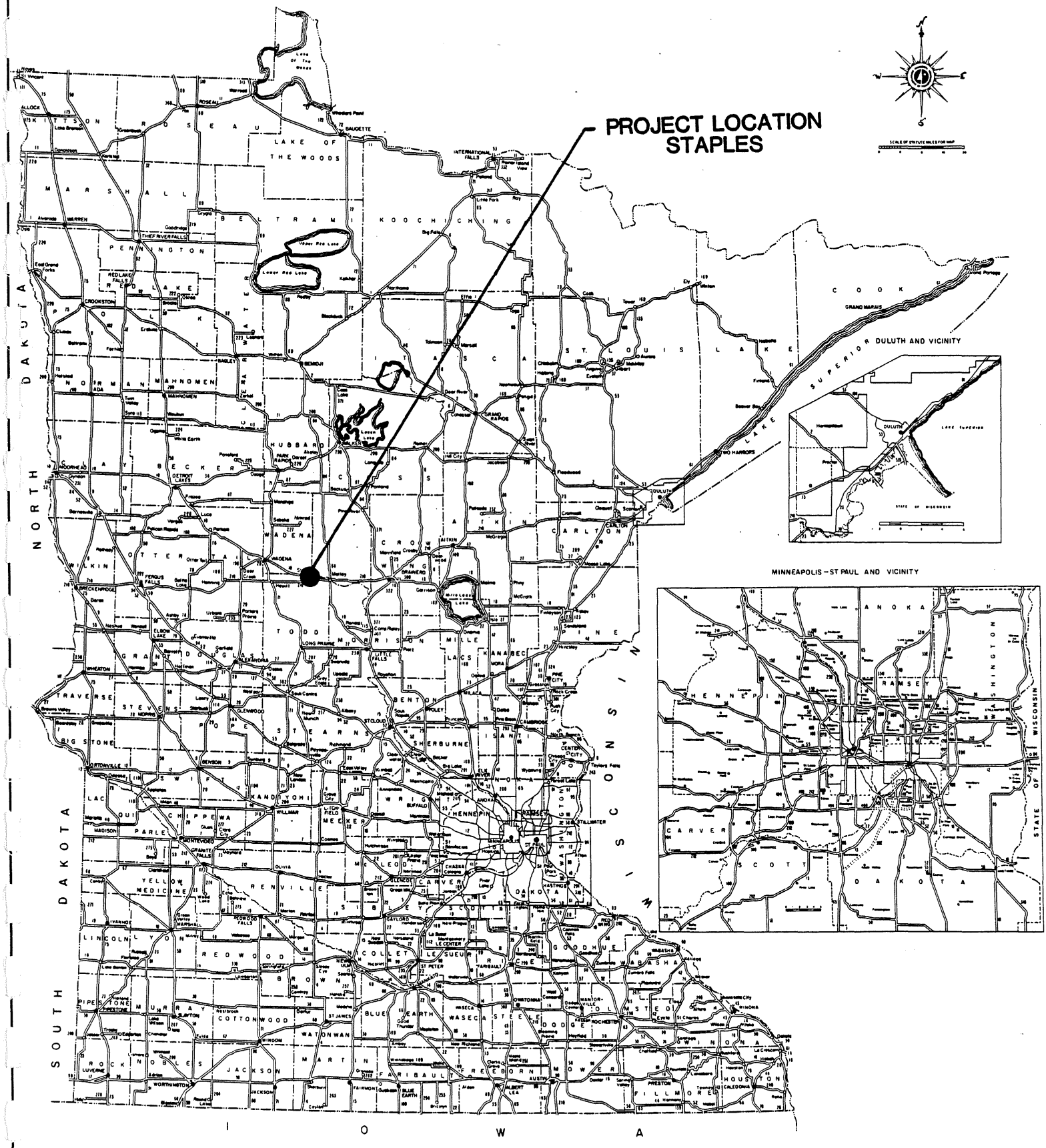
STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION
WORK MAP



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INTRODUCTION

This statement will discuss the proposed use of 9.5 acres of an elementary school playground in Staples, Minnesota, for the proposed construction of a U.S. 10 bypass of that community. This statement describes the Staples elementary school playground as it relates to the highway project. Also discussed are measures proposed to be undertaken to enhance the usage of the playground affected by the proposed project.

PROJECT DESCRIPTION

Present Road

The section of U.S. 10 which is proposed for improvement is a two lane, two-way highway with generally uncontrolled access. It is located between Wadena on the west and Motley on the east, a distance of approximately 31 miles. The section between these termini has a number of deficiencies:

One

The many no-passing zones which are found on the existing road indicate that the road is not adequate for current vehicle speeds. Neither does it meet contemporary design standards regarding horizontal and vertical curvature.

Two

Slope design, bridge widths, and lateral clearances to obstructions do not meet current design standards.

Three

The "Present Serviceability Rating" is a number which indicates the amount of deterioration to a roadway surface, as follows:

1. Complete Deterioration
2. Severe Deterioration
3. Moderate Deterioration
4. Slight Deterioration
5. No Deterioration

The Present Serviceability Rating of existing U.S. 10 within the area of the proposed improvement is as follows: 2.8 between Wadena and Verndale, 2.6 from Verndale to Aldrich, and 2.8 from Aldrich to Staples.

This segment of highway, in its present condition, can be salvaged for one roadway of the proposed four-lane divided facility. Continued use of this segment without improvement would cause deterioration to a rating of 1.0, where complete reconstruction is required.

Traffic Year 2010 traffic forecasts have been prepared, and are shown in the following figure.

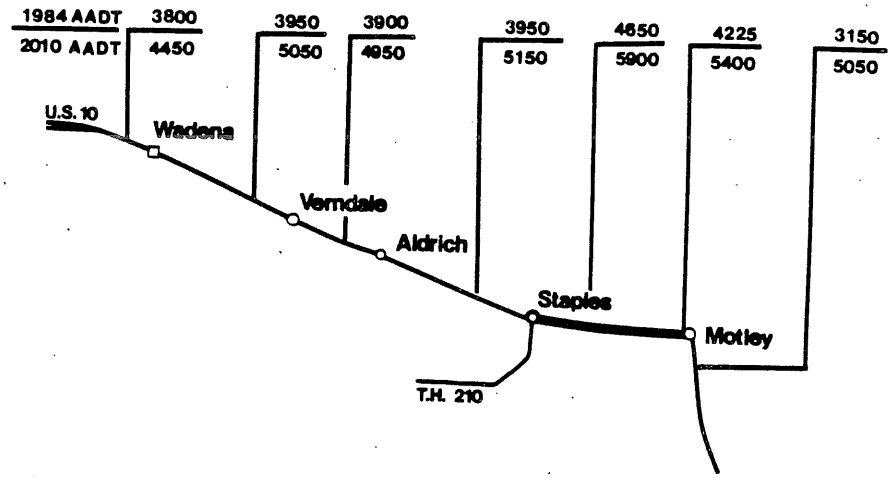


Figure 1 U.S. 10 Traffic

Note: (1) AADT = Average Annual Daily Traffic
(2) Heavy Commercial Vehicles comprise 16.8% of the above figures
(3) Design year hourly volumes for the year 2010 are estimated to be 667 to 885 vehicles per hour

Safety

The table immediately below summarizes the accident history for the years 1976 through 1985 on U.S. 10 from Wadena to Motley.

Table 1
U.S. 10 Accident History

LOCATION	DATE							
	1976		1979		1982		1985	
	PI*	PD**	PI	PD	PI	PD	PI	PD
RURAL								
CSAH 77 at Bluffton to S. limits Motley	4	35	8	29	5	17	14	28
URBAN								
Wadena	7	25	9	30	4	14	5	20
Verndale	0	3	1	7	0	0	1	1
Aldrich	1	1	1	1	2	2	2	0
Staples	2	26	2	17	3	12	3	33
Motley	2	7	4	7	1	3	2	5

*PI = personal injury **PD = property damage

The removal of through traffic from the streets of Wadena, Staples, and Motley will create a safer environment within those cities. Data which would allow the specification of how many accidents in the respective cities involve through traffic are not available. However, increased safety to users and non-users alike is a frequently observed consequence of constructing limited access highways.

Systems Planning

One of the major reasons for completing the segment of U.S. 10 under consideration is systems integration. Beginning at the western border of Minnesota in Moorhead, U.S. 10 crosses the state in a southeasterly direction. It exits the state at a point slightly southeast of the Twin Cities, near Hastings. This is a distance of approximately 231 miles. Nearly all of this distance has been completed as a

four lane divided expressway. While one segment immediately south of the project area has not been constructed, it has been through the environmental review process, and is scheduled for contract letting in 1990.

The only rural sections of this 231 mile distance then uncompleted as expressway will be the 17 miles between Wadena and Staples, and a segment approximately two miles in length at the Wisconsin border. That segment is also in the process of being upgraded to modern standard, although not as a four-lane divided facility. The highway improvement here being considered would complete the final link of expressway between Moorhead and and Point Douglas, Minnesota.

Traffic Conflict

A historically common pattern of community development associated with highways has been for residences and commercial establishments to locate along both sides of a roadway as it passes through a small city or town. Virtually every village, town and city in Minnesota developed in this manner. The notable exceptions were those towns which grew adjacent to a river or lake. Prior to the completion of the interstate highway system in Minnesota, one could not travel any significant distance in the state without having to pass through or near the center of a number of small towns or cities.

During the 19th and early 20 century, this development pattern posed no particular difficulty, either for the through traveler or local residents. Traffic volumes were low, as were vehicle speeds. Crossing the highway, either on foot or by vehicle, did not present any particularly great danger, and did not create any time delays or other inconvenience as there was no congestion. Neither were travelers particularly inconvenienced by having to pass through the town. As these villages and towns grew, the highways very often came to serve as the "Main Street" in these communities. Frequently the hub of commercial activity in the town was the intersection of a highway and some major

cross street. The central business district grew and prospered around and along these highways.

As time passed, roads were improved, and vehicles traveled at higher speeds. This greater speed and volume began to cause occasional conflict within communities. Motorists whose sole intention was to get through the town desired quick and expedient travel. They were often at cross purposes with those who wished to cross the highway within the community, or who had local destinations. Traffic signals were often installed to provide protection for local motorists and pedestrians and to facilitate local vehicular movements. Having to slow significantly, or stop one or more times in each small town, was a source of great irritation for many motorists. It also constituted an increased cost for road users, particularly large trucks. Further, a highway with high vehicle volume and speed passing through the middle of these towns was seen as a danger to local citizens. Children, and others with a mobility impairment, were at risk crossing a high speed highway. As traffic grew, congestion sometimes became a serious problem. This is still a serious issue in many smaller cities throughout Minnesota which have a major highway passing through the center of the city.

As a solution to the many problems associated with highways in small towns, states began to construct roads which were designed to route "through traffic" away from the downtown area. Sometimes truck routes were constructed or designated. The aim was twofold. The first goal was to provide a highway which would facilitate the movement of motorists who did not have origins or destinations within the community. The second goal was to reduce traffic conflict and congestion within the business district so that the "Main Street" would again function as commercial avenue. Increased safety, and many other local benefits, resulted from this practice.

The history of U.S. 10 communities was to grow in a manner as described above. This resulted in the highway passing essentially through the middle of many small communities throughout central Minnesota. One result of this is that vehicular and pedestrian movement within these cities is sometimes aggravated by the conflict between local traffic and traffic with both origins and destinations outside the community.

A grievance of motorists in the business districts of the affected communities in the project area is the difficulty of having to cross railroad tracks to gain access to that part of the city on the other side. Intersecting streets cross both U.S. 10 and the adjacent railroad tracks. Citizens have reported waits of 20 minutes, and occasionally longer. This is particularly true in Wadena and Staples, where the storage of waiting motor vehicles sometimes conflicts with through traffic on U.S. 10. Bypasses will eliminate these traffic conflicts for through traffic, but will not eliminate the delays experienced by local traffic which are caused by rail operations.

The corridor for U.S. 10 was established in the early 1920's when it was first graded for roadway purposes. The existing highway was paved with concrete to a width of 22 feet between 1942 and 1948. The improvement trend for U.S. 10 has been to divide the existing facility in its present corridor, making minor revisions in alignment.

Those sections which are still two lane, two way highway have received only spot improvement since approximately 1948.

Acquired Right of Way

Between 1972 and the present, Mn/DOT has acquired land within the corridor for alternative 1 in the City of Staples. This right of way has been acquired under hardship procedures. A total of 23.82 acres has been acquired at a cost of $539,270. No federal funds were involved in the purchase of these properties. None of the acquired property has been of

a recreational nature, nor of any other type which would subject it to Section 4(f) provisions. The location of this right of way is shown in the following figure.

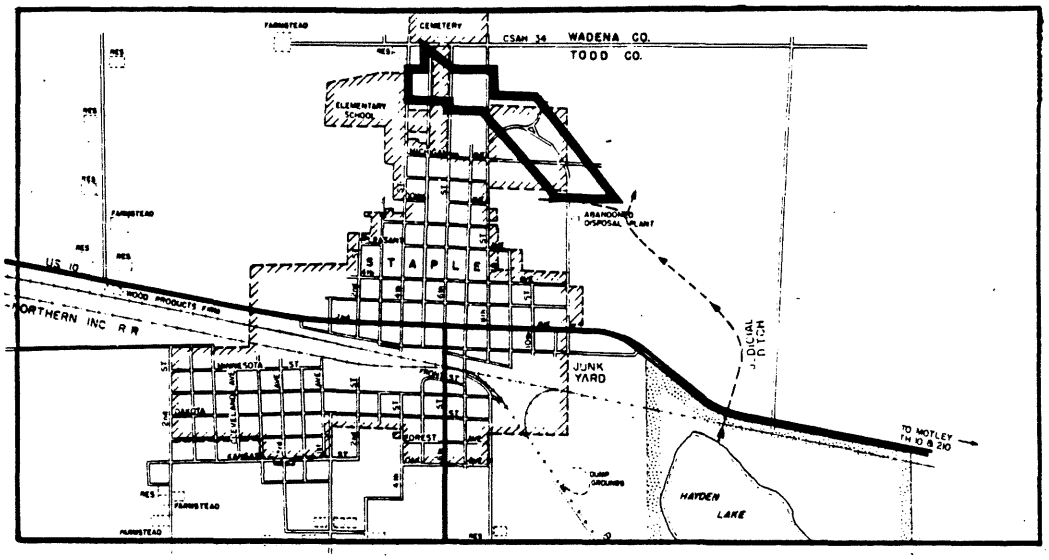


Figure 2 State Owned Right of Way

Project Meetings and Hearings

Public Hearings were held in Wadena in September, 1968; and in Staples in May, 1969 to establish the corridor for the proposed improvement of U.S. 10. Comments received at those hearings from city officials, organizations, and the general public, indicated a preference for upgrading U.S. 10 from two lanes to a four-lane divided highway. A bypass was preferred for the city of Staples. The many various meetings and hearings are outlined below:

September, 1968	Public Hearing in Wadena
March, 1969	Meeting with Staples City Council
May, 1969	Public Hearing in Staples
February, 1976	Meeting with STaples City Council and Planning Commission

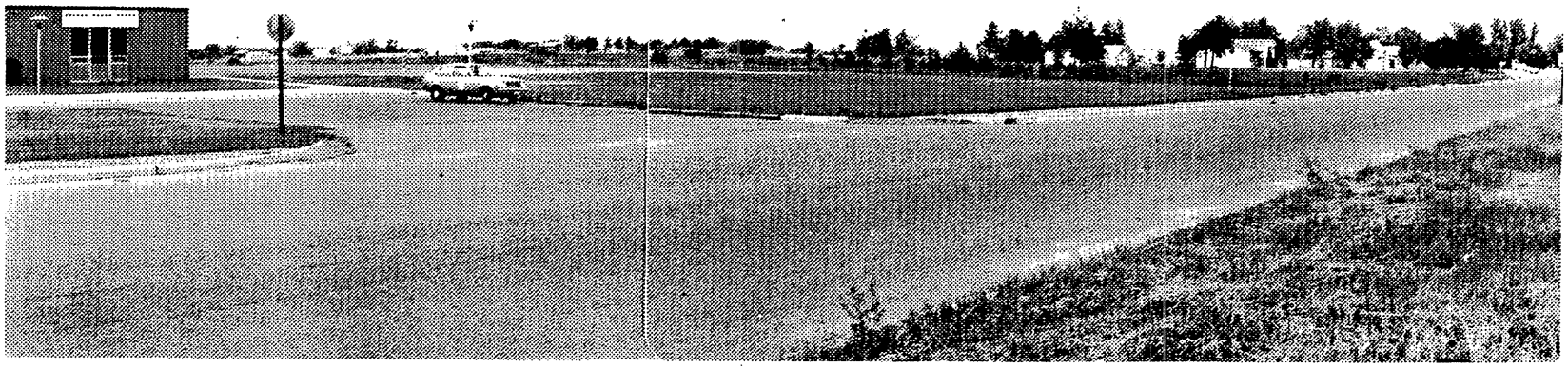
September, 1976	Meeting with Region V Transportation Advisory Committee
September, 1976	Meeting with Staples City Planners
May, 1978	Meeting of Mn/DOT Commissioner, District Engineers, Highway 10 Association, Highway 71 Association
June, 1978	Public Informational Meeting in Staples
November, 1978	Meeting with Staples City Council
January, 1980	Public Hearing in Staples
May 2, 1985	Meeting of Assistant Commissioner for Program Management, District Engineers, Preliminary Design Engineers, with Highway 10 Association in Wadena
March 27, 1986	Public Hearing in Staples

In May, 1977 a delegation from the City of Staples met with Mn/DOT personnel in the Central Office to discuss the status of the Staples Bypass. This delegation favored the north bypass and urged all possible speed in the completion of the project. This delegation consisted of two county commissioners, two persons from the Staples Development Corporation, a State Senator, a State Representative, and the Mayor of Staples.

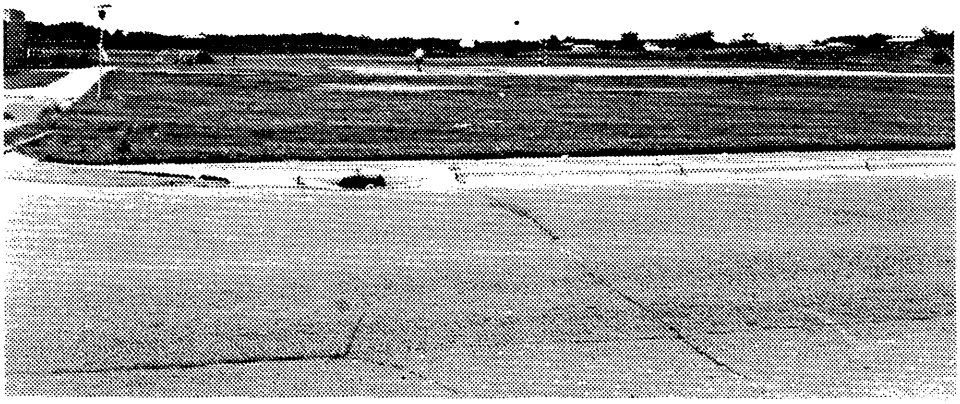
In the many years of planning for the proposed action, many contacts have been made with those having jurisdiction over the 4(f) lands. These contacts revealed a strong support for the project, with the consensus favoring a north bypass of Staples.



Staples Elementary School and Playground

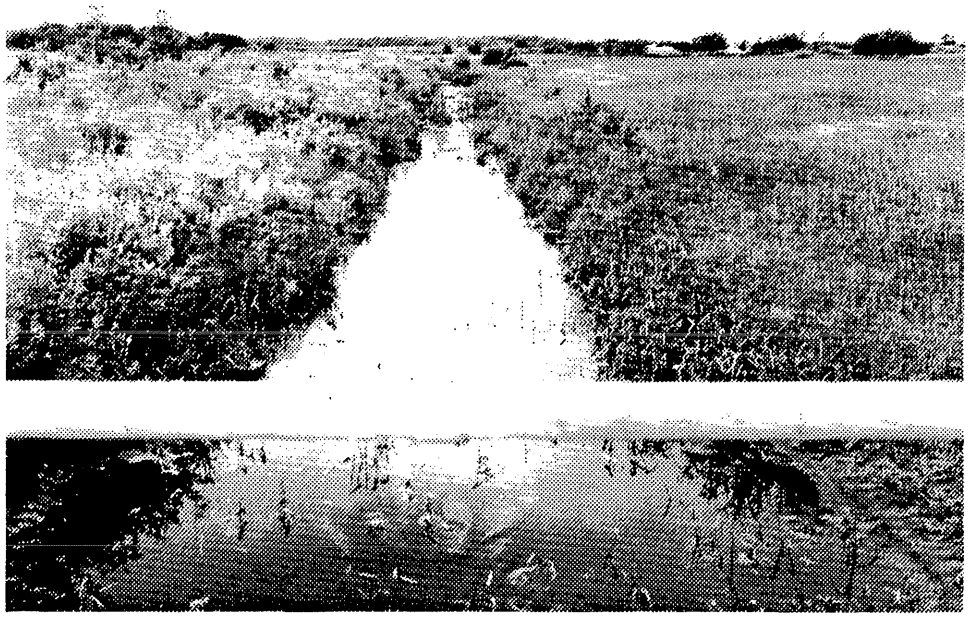


Staples School Playground





Staples School Playground



Judicial Ditch #8

Looking West From Fourth Street

4(f) LAND DESCRIPTION

The bypass proposed for the City of Staples is a four lane divided facility, which would encroach upon the north edge of the Staples North Elementary School playground. Approximately nine and one half acres would be directly impacted.

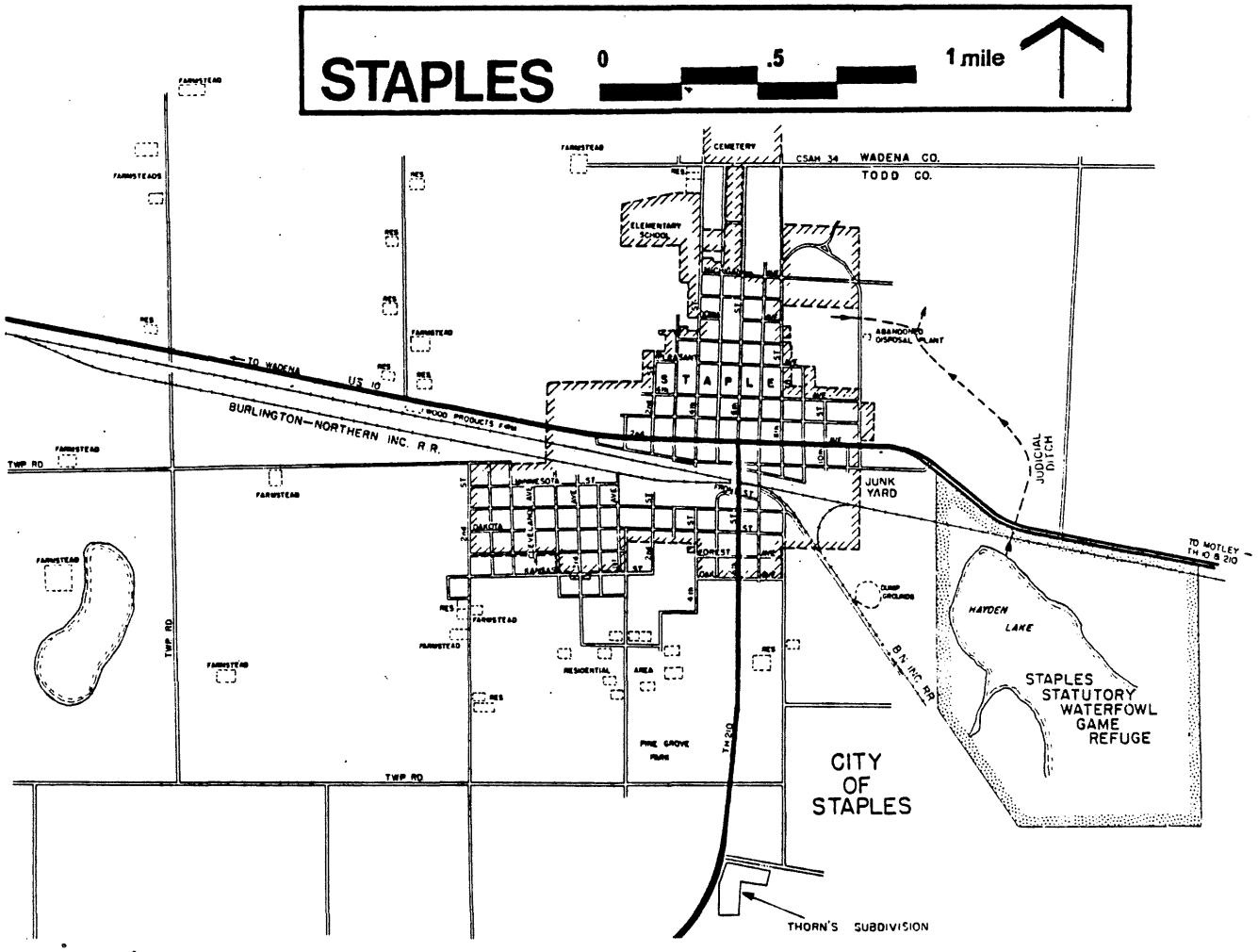


Figure 3 Existing U.S. 10 Through Staples

Location, Size, Type

The property of concern is located in the City of Staples. It is part of a playground of North Elementary School in northern Staples. The playground is bounded by 4th street on the east, Judicial Ditch #5 on the west, and Judicial Ditch #8 on the north. The

playground is a part of a recreation area used both by school children and community members which totals nearly 42 (41.8) acres. It is known as the Bicentennial Memorial Athletic Field. The school also owns adjacent unimproved land totaling more than 500 acres. The recreational part of the property serves both educational and recreational functions.

Ownership and Jurisdiction — The Staples Public School System owns and has jurisdiction over the land.

Existing Facilities — Existing facilities on the playground include a bituminous play area with basketball hoops, a children's playground with assorted playground equipment, four tennis courts, two baseball fields, a football field with a track enclosing it, a practice football field, and a parking lot.

Planned Facilities — Planned facilities include the addition of a soccer field, and as many as four additional tennis courts.

Usage — The Staples Community Center has estimated that several hundred persons a day may use the park during periods of peak usage, with perhaps 500 per day involved in any particular activity.

ESTIMATED USAGE OF SCHOOL PLAYGROUND, BY ACTIVITY, PER DAY

Activity	Estimated Number
Baseball	500
Track	250
Tennis	100
Football	200
Softball	150
Playground	500
Jogging	100

Relationship to Other Similar Lands — Other parks in the area include a baseball field in Pine Grove Park, (in Southern Staples), two softball fields at Dower Lake, (four miles west of Staples), and nine tennis courts in smaller parks located throughout the city.

Access	Vehicular and pedestrian access to the facilities associated with the school playground is from Fourth Street and Third Street.
Unusual Characteristics	The area once had a flooding problem. This was corrected by the Area Vocational-Technical Institute's Heavy Equipment Class.
Clauses Affecting Title	No known restrictions, covenants, or conditions affect the title of the school playground.

ALTERNATIVES

There are several alternative configurations which the project may assume. Four alternatives have been given consideration. One alternative is to route traffic through the city, allowing U.S. 10 to remain as it now exists. This is the no-build alternative. A second alternative is to route traffic through the city, but to upgrade U.S. 10 to current standards to provide needed capacity along the existing alignment. This is the through city alternative, also referred to as Route 2. A third alternative is to route traffic around the city by constructing a bypass loop which would be located south of the city. This is referred to as the south route. A fourth alternative is to construct a bypass loop which would be located on the northerly side of the city. This is referred to as the north route, and is also referred to as route 1.

A major feature which has influenced decisions regarding this highway throughout its history is the presence of a major railroad artery lying directly adjacent to it. A mainline of the Burlington Northern Railroad is parallel and adjacent to U.S. 10 between the Twin Cities and the Dakota border, except for a short segment between Lincoln and Motley. Rather than shifting back and forth over this railroad, the tendency has been to keep crossovers to a minimum.

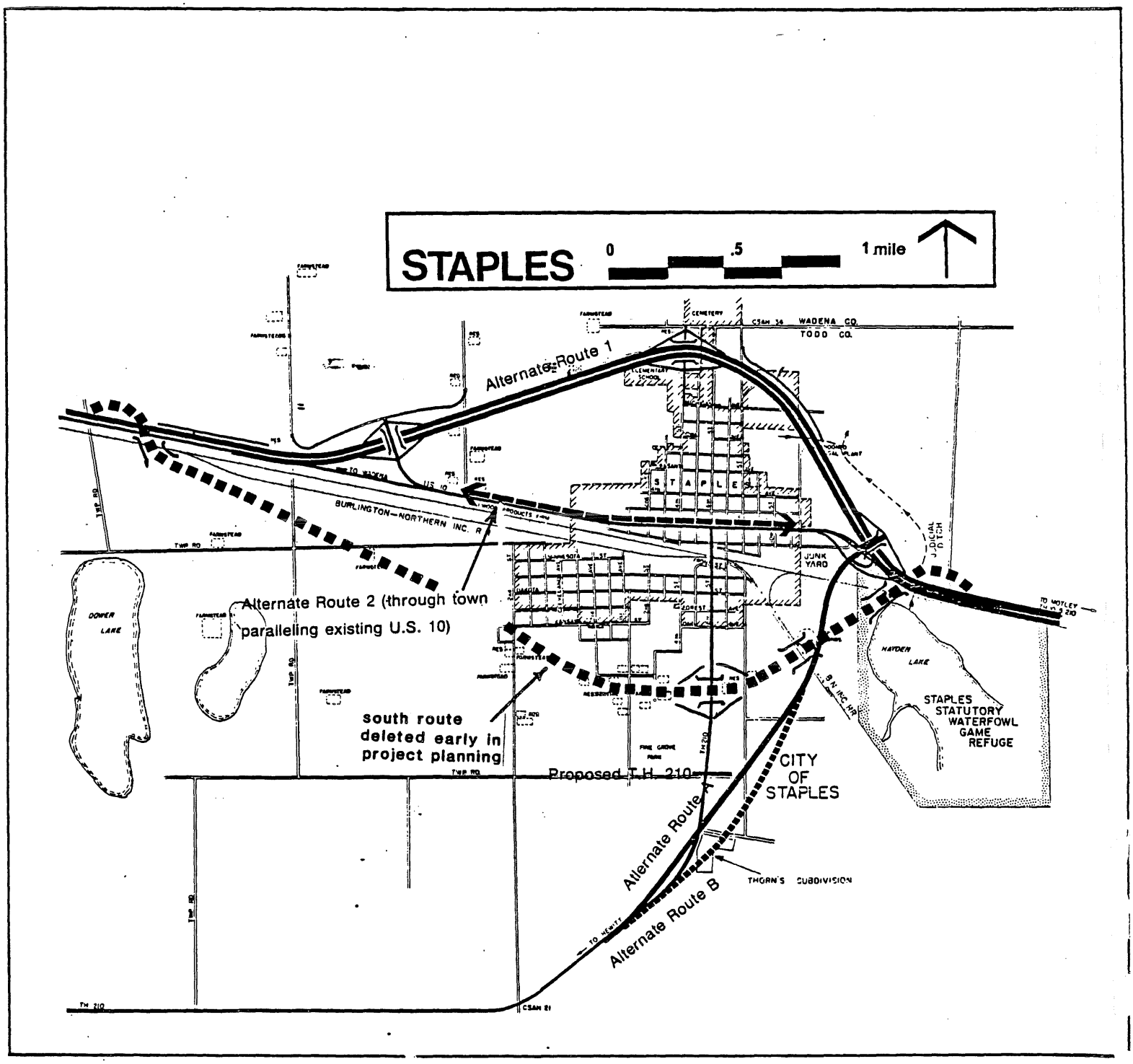


Figure 4 Alternative Configurations
U.S. 10 and T.H. 210

No Build Alternative

The no-build alternative would leave U.S. 10 as it currently exists through Staples. A problem currently exists along U.S. 10 (2nd Avenue) with traffic-parking conflicts. Currently there is a parking lane in each direction, and one travel lane in each direction. On-street parking is allowed in each direction. This results in the condition where vehicles which are traveling through the city may have to slow or stop for vehicles entering or leaving parking spaces. Any vehicle entering a parking space along U.S. 10 through the city must stop in a travel lane in order to back into the parking spot. Traffic in the area is projected to increase, further aggravating this problem.

This condition could be alleviated by eliminating parking on this section of U.S. 10. This would present serious problems for merchants and consumers alike. U.S. 10 serves as a primary commercial street through Staples. Nearly 60 (58) businesses are located on U.S. 10 in Staples. While many businesses do have off-street parking available, many do not, particularly near the main intersection in town, the intersection with Fourth Street. Removing on-street parking would have serious local economic effects. In addition, such an choice would result in highway travel lanes being located directly adjacent to sidewalks, and only a few feet from the many commercial structures located adjacent to the highway. Neither could a median for pedestrian/bicyclist safety be provided by a design of this type.

Another serious problem associated with eliminating parking and establishing a travel lane in the current parking lane lies in geometrics. Right hand turning movements of large trucks or school buses would not be possible from the right hand lane of U.S. 10 configured in this way. This would force those vehicles either to make a right turn from the left lane, crossing the travel lane of same direction traffic, or to turn into the oncoming traffic in the left lane of the intersecting street. This would be an

unsafe situation.

The no-build alternative would have minimal adverse social impacts within Staples. The community is now physically divided, both by U.S. 10 and the rail yards of the Burlington Northern Railroad. By leaving a major traffic corridor in town, the no build alternative would perpetuate this separation. However, the separation effects of the rail facility are likely much more significant than those of the highway.

As indicated in the FEIS, there are currently 40 sites within Staples which exceed FHWA noise abatement criteria. Forty-five sites exceed a similar but more severe state standard. The no-build alternative would result in the perpetuation of this condition.

Route 2 Through City

Alternative Route 2 would pass through Staples paralleling the existing facility. Approximately one mile of existing U.S. 10 in Staples is of urban design, with concrete pavement 50 feet wide, curb to curb. This road serves as "Main Street" in Staples with virtually the entire central business district being on or directly adjacent to the highway as it passes through the city. Staples has nearly 60 (58) businesses located along the highway, directly fronting on U.S. 10. Many others are directly adjacent to U.S. 10, on cross streets. Thirty-three businesses are located on the north side of U.S. 10, and an additional 25 on the south side.

The urban section of a through town route meeting modern standards and requirements would require a basic right of way width of 120 feet. This would provide sufficient width for two travel lanes in each direction, parking lanes in each direction, and a median or +/- 18 feet for left turn lanes and pedestrian and bicyclist refuge. Somewhat less could be required if left turn lanes were omitted. However, left turn lanes would be required at many of the intersections through the city, certainly at the

intersection of U.S. 10 and Fourth Street.

This indicates that the through city route would require a strip of right of way on one or the other side of the existing facility approximately 70 feet in width. All of the properties in Staples which have frontage on U.S. 10 on either the north side or south side would have to be acquired for construction of this alternative. This would cause the acquisition and subsequent relocation of as many as 30 residences, and very extensive commercial relocation. A field review of U.S. 10 through Staples in February of 1987 revealed that as many as twenty-three commercial structures housing thirty-three businesses would be displaced by locating a through town alternative on the north side of the highway. This would involve many major commercial structures, including the multi-tenant building located at the northwest corner of U.S. 10 and Fourth street. Other major structures which would likely be displaced by such an alternative include a liquor store, the Sears outlet, a large automobile dealership, perhaps two motels, and several other major buildings. A route on the south side could require the displacement of 19 buildings housing 25 commercial operations. Included would be Batchers Department Store, (one of the largest buildings in the city), Williams Floral, a grocery, a large automobile dealership, and several other major buildings. Potential displacements are found in Table 2, below.

The short term effects of such extensive relocation would be very significant. Short term disruption to local merchants and consumers would be significant. The long term effects of this relocation would be very significant as well, although they cannot be quantified. First, the businesses located along U.S. 10 are in business in Staples because there is sufficient market for the goods and services which they provide. The relocation associated with a through town alternative will not exert a long term effect upon that market. Therefore, it

Table 2

Potential Commercial Relocations
of a Through Town Route in Staples

TYPE OF BUSINESS AFFECTED	NORTH OF U.S. 10	SOUTH OF U.S. 10	TOTAL IN STAPLES
RETAIL			
Building Materials, Hardware, Garden, Mobile Home	2	0	3
General Merchandise	1	1	1
Food Stores	0	1	6
Auto Dealerships	2	2	4
Gas Service Station	3	1	4
Apparel	1	1	3
Furniture/Home Equipment	0	1	1
Eating/Drinking	5	5	9
Drug	1	0	2
Misc. Retail	3	4	7
SERVICE			
Total	11	7	18
Lodging	3	0	7
WHOLESALE			
Total	0	0	4
VACANT	1	2	unk

Sources: Potential relocations were estimated February 1987. Businesses were categorized according to predominant business focus. Retail figures for Staples from Census of Retail Trade, 1982, businesses categorized by census bureau by Standard Industrial Classification (SIC) number. Service figures from 1982 Census of Service Industries. Wholesale figures from 1982 Census of Wholesale Trade. Figures may be inconsistent due to changes from the time census data were collected and/or differential classification.

is reasonable to assume that most businesses will relocate within the same market area, i.e. somewhere in or near Staples. The subsequent demand for commercial sites could have substantial social and economic impacts within the the Staples area. Sufficient land to provide for construction of commercial structures near their present locations would be possible only if residential structures were acquired and dwellings demolished. As a result, the "downtown" of Staples could be maintained only through very extensive residential relocation. Another alternative is that displaced businesses would relocate elsewhere in the Staples vicinity. This could have the effect of changing the character of the entire city.

This would be a signicant adverse effect upon the community.

In addition, the construction of a modern four lane facility through Staples would exert a significant adverse effect upon social cohesion in the community, by enlarging the current physical barrier between the north and south sections of the city.

Noise would continue to be a problem, with no possibility of significant reductions from mitigation because of the need to have access to the highway through town.

For these reasons, alternative 2 has not been selected as the preferred alternative through Staples.

South Route

A southerly alternative was studied primarily under the assumption that a southerly location could be used throughout the length of U.S. 10 between Wadena and Lincoln, Minnesota. (Lincoln is a community along U.S. 10 approximately ten miles south of Motley.) Constructing southerly bypasses of the cities between Wadena and Motley was also considered, assuming that a rural route located north of the rail tracks would be selected. A southerly bypass of Staples was considered during the early planning process of U.S. 10. This bypass would

turn south near the west corporate limits of Staples and bridge the tracks of the Burlington Northern Railroad. Depending on the location selected, rail yards rather than tracks may have to be bridged. An interchange would be provided with TH 210, about midway through the bypass. Immediately upon crossing TH 210, it would swing in a northeasterly direction, and cross another railroad track. It would then traverse a portion of the Hayden Lake Waterfowl Refuge, and cross another railroad track before rejoining existing U.S. 10 east of Staples. The Hayden Lake Refuge is privately owned. Legislation providing for privately owned refuges is found in Minnesota Statutes, Chapter 99.

North Route

The last alternative to be discussed is a bypass of the City of Staples on the north side of the city. This bypass would begin 1 1/2 miles west of the city limits, where it would depart existing U.S. 10 and travel in a northeasterly direction. It would traverse generally undeveloped land to a point where near 4th Street, where an interchange would be provided. It would then turn in a southeasterly direction, and rejoin existing U.S. 10 near the east corporate limits of Staples. The approximate length would be four miles. As originally conceived, the bypass was to be constructed to freeway standards. Interchanges were to be constructed at three access points: west of Staples, at 4th Street in Staples, and east of the city. A corridor width of 290 feet would have been needed. The separated roadways west of Staples were to have been 90 feet apart, remain at 90 feet for the bypass, and finally converge to 75 feet to return to the existing divided facility, east of Staples.

Preferred Alternative

The preferred alternative for U.S. 10 in the vicinity of Staples is the north route. It is referred to as Route 1-M because it involves certain modifications from alternative 1 as it was originally proposed. The preferred alternative is depicted in Figure 5. Factors involved in this selection and designation are as follows.

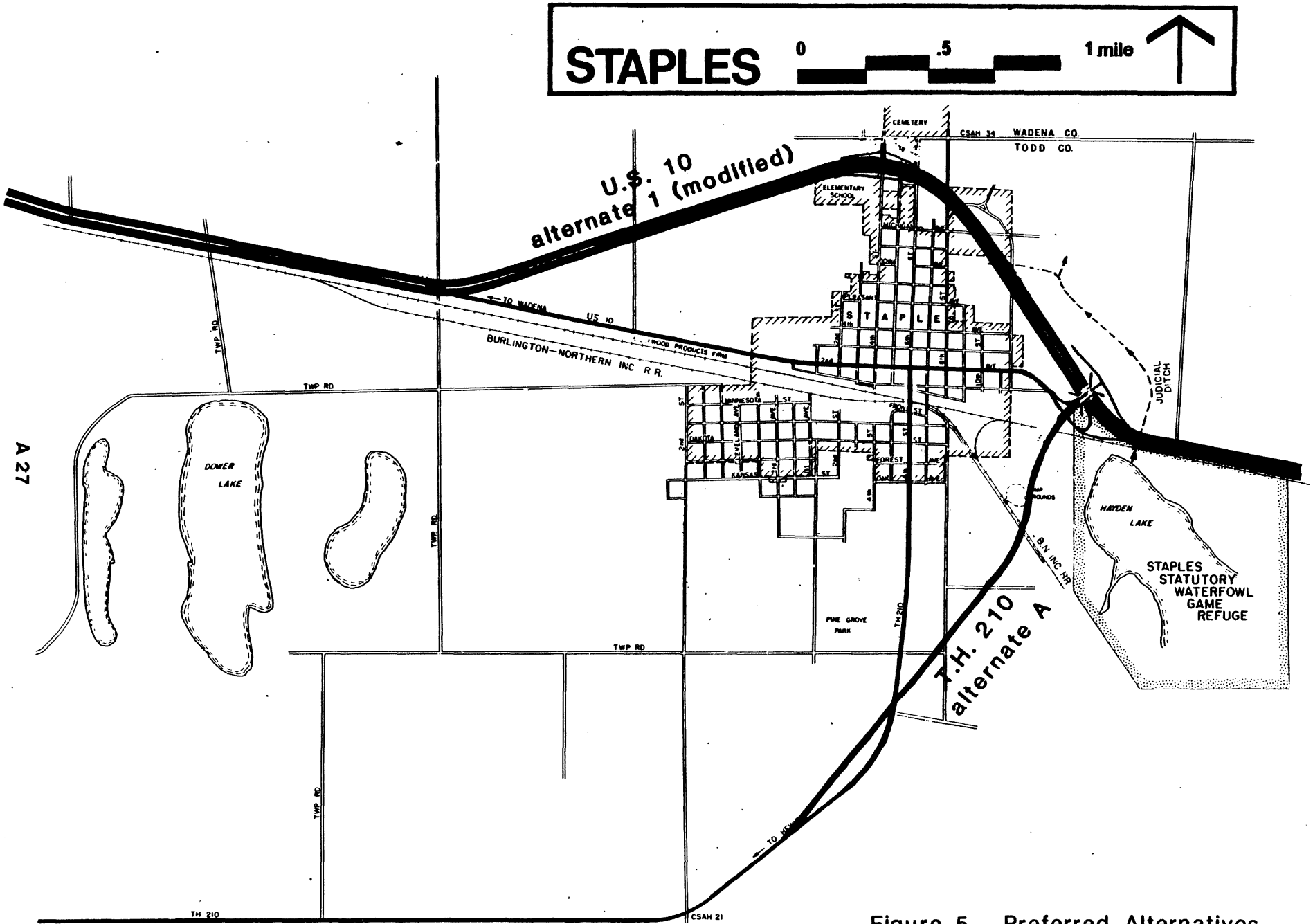


Figure 5 Preferred Alternatives

No Build

The no-build alternative was rejected because of congestion and conflicts between current through traffic and local traffic. Structural and operational problems are significant and would only grow worse over time, as the facility ages further and traffic increases. Considerations of traffic, noise, and motorist and pedestrian safety all argue against the no build alternative.

Through City

Reconstructing U.S. 10 to contemporary design standards on a through town alignment would have the most serious social and economic impacts of any of the alternatives considered. Major adverse impacts resulting from this alternative include extensive residential and commercial displacement, adverse impacts of traffic noise, mixing of through and local traffic, and inconsistency with local comprehensive plan.

For these reasons, both alternatives which would route traffic through the city were rejected. This then left the choice of a northern or southern bypass of the city. The selection of the northern route as the preferred alternative was compelled by the following factors:

One

A southerly bypass of Staples would involve acquisition of right of way from the waterfowl game refuge on the eastern edge of Staples. This alternative would therefore involve adverse impacts not only to this major wetland, but to wildlife as well. The conceptual layout which was developed to examine a south bypass was not developed to sufficient degree to precisely determine impacts to Pine Grove Park. However, such a highway would be located very close to that park.

Two

In anticipation of a northerly bypass, approximately $540,000 of right of way has been acquired. This amounts to approximately 20 percent of the right of way needed for the project.

Three
A southerly bypass would require at least two and more likely three structures over railroad tracks. Depending on the point where a southerly bypass would leave U.S. 10, near the west side of the city, rail yards rather than tracks may have to be crossed. A north bypass would not cross any rail facility. These bridges would add approximately $ 2.4 Million of cost to the proposed action.

Four
A northerly bypass has been in varying stages of the planning process for many years, being the choice of the community since the late 1960's. Right of way mentioned in #2 above, was purchased beginning in 1972. Major residential, commercial, and governmental location decisions have undoubtedly been influenced by the assumption of a northerly bypass. The adoption of a southerly route as the preferred alternative would disrupt the plans and decisions of those who have been so influenced.

Five
As mentioned above, there is a history of strong public support for the northerly route. The delegation from Staples, mentioned earlier in this report urged the early completion of the northerly bypass. This group included not only the Staples Mayor, but also officials representing county and state level government.

The City of Staples has included the northerly bypass as part of its Comprehensive Plan since its adoption in 1972.

These factors, considered together, lead to the conclusion that the northern bypass, alternative route 1-M, is the best choice as a preferred alternative.

Design Features

The preferred alternative is proposed to be constructed to a combination of freeway and expressway standards. It has come to be referred to as Route 1-M, because of modifications to the design

originally proposed. It will be constructed on the same location as Route 1, and is approximately four miles in length. A corridor width of approximately 280 feet will be required.

West of Staples, the separated roadways will be 100 feet apart, centerline to centerline. They will remain at 100 feet for the bypass of Staples, and finally reduce to 75 feet to join the existing divided facility east of the city.

Access to Staples will be provided at three points: west of town, at Fourth Street, and east of the city. The interchange previously proposed for the western access has been deleted. In its stead, it is proposed to provide an at-grade intersection with local roads.

The central interchange within the city limits of Staples is to be at 4th Street. Fourth Street is a major north-south route in Staples and is the most appropriate location for an interchange. Locating the interchange at 4th Street requires the acquisition of the portion of school playground which is the subject of this report. This Section 4(f) involvement could be avoided through the selection of certain design alternatives or location alternatives within a north bypass corridor.

Design Avoidance Alternatives

<u>One</u>

One alternative which would avoid impacts to the school playground would be to provide no access to and from U.S. 10 within the corporate limits of Staples in the vicinity of the school. This would cause adverse impacts to the social and economic context of the community. It would not meet the transportation needs of those who require access between Staples and U.S. 10 near the central part of the city. For these reasons, the alternative of not allowing access within the corporate limits of Staples is not prudent and is not in the best interests of the public.

<u>Two</u>

Another alternative which would avoid the impact would be to move the north bypass

to an even more northerly location. A cemetery is located immediately north of the proposed location. This means that any more northerly location would have to be at least 1000 feet further north. This is not prudent for the following reasons.

(a) A location immediately north of the cemetery would displace the local hospital and nursing home. it would also displace more than twenty residences, in a rapidly growing area of new homes. It would also divide this area.

(b) The Staples Area Airport lies north and west of the cemetery. A highway in this location may encounter problems with this airport.

(c) A shift to the north would imply a geometrics related shift in location near the eastern end of the project. This could take the road further into the wetland associated with the waterfowl refuge. This would present significant engineering problems, since soil borings have found unsuitable soils to a depth of at least 40 feet in this location.

Three

A third avoidance alternative is to locate the roadway on the south side of the school property, but north of existing U.S. 10. Depending on the route such an alternative would take through Staples, between 35 and 50 residential relocations would be required. In addition, any such alternative could require the relocation of as many as seven commercial structures, two churches, the community center, the junior and/or senior high school, and a church related school. Fourth Street between the school and U.S. 10 serves as a major residential, commercial and institutional street. Structures located along Fourth Street between the school and U.S. 10 include the manufacturing facility of Benson Optical, 3M, churches, the fire department, two large apartment buildings, a medical center, the city watertower, and the Junior and Senior High Schools and associated athletic fields, the community center, a church related school mentioned above and dense commercial development

immediately north of U. S. 10. This alternative would cause the displacement of at least some of the structures along 4th Street, and the large number of residential structures mentioned above. Relocation resulting from this alternative would probably be even more significant than that of a through town route.

In addition to the significant impact relocation of this magnitude would cause, a highway in this location would create a major physical barrier between the town and the school, and thereby cause a significant adverse impact to community cohesion.

Traffic noise would also be a major adverse impact from such an alternative.

All of these factors considered together lead to the conclusion that the alternatives which would avoid conversion of a portion of the school playground to a highway purpose are not feasible nor prudent. The preferred alternative for this project is the construction of a north bypass of Staples which will require the acquisition of a portion of the playground from North Elementary School.

IMPACTS ON SECTION 4(f) LANDS

None of the alternatives except alternative 1-M impact the school playground property. This playground is bounded by 4th Street on the east, Judicial Ditch #5 on the west, and Judicial Ditch #8 on the north.

Land to be Taken

The construction of Alternative 1-M will require the acquisition of 9.5 acres from the original school site area. The land is located along the northern edge of the school property and is of a generally rectangular shape. A map detailing the intrusion of the project into the school ground is found on the following page.

Facilities Affected

The majority of the 9.5 acres consists of open play area. The major facility within the 9.5 acres which will be affected is an existing bituminous play area immediately north of the school building itself. This hard surfaced 0.5

	acre area is valuable for certain types of recreational activities, and also when the grounds are wet. This will be lost, and will have to be replaced. Replacement will be as near the existing location as possible, or at some other location on the playground, at the discretion of the school officials. No other developed facility within the playground area will be taken.
Access	Immediate access to the area will not be changed. People whose normal access patterns are from the south will have unchanged access. People who travel to the area from any northerly direction will have to cross proposed U.S. 10 at 4th street. This crossing is proposed to be accomplished by carrying U.S. 10 over 4th Street. People traveling to the area from outside Staples will have access improved as a result of the bypass.
Air Quality	No federal or state standard will be exceeded, even without mitigation. Refer to Table 3, below.

Table 3
Air Quality Statistics

Carbon Monoxide Predictions in Parts per Million
Receptor Location: U.S. 10 and 4th St. in Staples*

	Year 1987		Year 2000	
	1 Hour	8 Hour	1 Hour	8 Hour
Bypass Alternative	5.1	1.6	3.2	1.3
No-Build Alternative	11.6	3.1	6.9	2.0
Through-Town Alternative	5.6	1.7	3.3	1.4

*Urban Concentration Used in Prediction

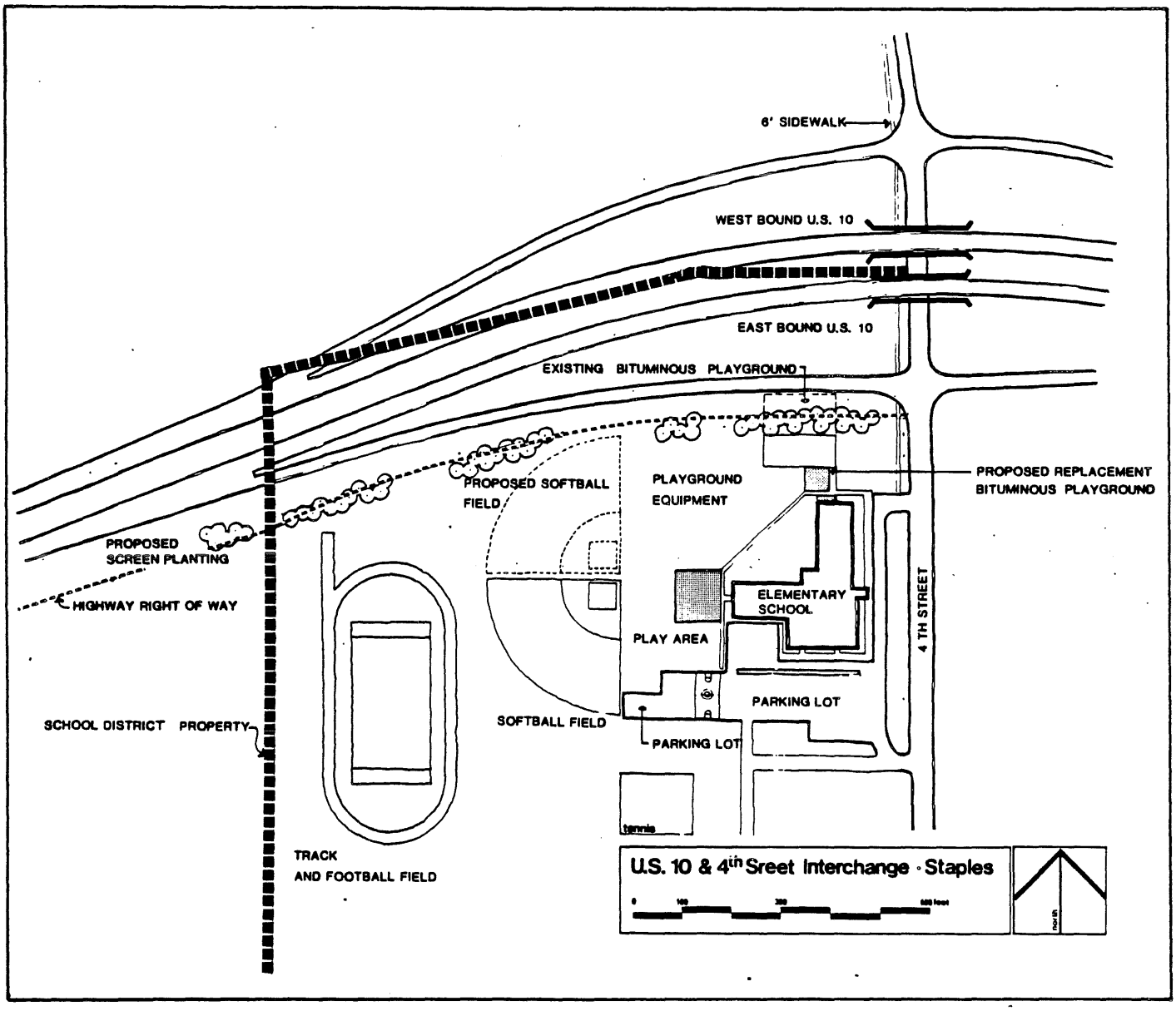


Figure 6 Proposed Conversion

Noise

The preferred alignment of U.S. 10 will result in increased traffic noise on the Staples Elementary School Playground. The current ambient levels are L10=45 and L50=41 dBA. These levels reflect values obtained near the school on the playground when the playground was not being used. Ambient noise will be significantly higher when the playground is in use.

Peak hour traffic noise in the year 2000 is expected to produce L10=66 dBA and L50=62 dBA. A playground falls within FHWA Noise Activity Category "B", which has a noise abatement criteria value of L10=70 dBA. Projected values on the playground are less than this and are within the the guideline values suggested by the FHWA. They exceed Minnesota State Standards by 2 dBA.

The building can be expected to provide approximately 15-20 dBA of exterior to interior noise attenuation. This figure would be slightly less with windows open. These attenuation figures indicate that interior levels of traffic induced noise will be well below FHWA guideline values of L10=55 dBA. There are no recommended interior values in the state code.

Although noise will increase as a result of the proposed action, no FHWA noise abatement criteria will be exceeded. Given the typical activity on the playground when in use, it may be concluded that traffic induced noise will not impair the functional utility nor intended purpose of the playground, nor interfere with typical playground activities. As a result, no noise attenuation measures are proposed. The reader may refer to the FEIS to which this Section 4(f) Evaluation is attached for a more complete discussion of noise impacts associated with the proposed action.

Water Quality

Runoff from existing and proposed U.S. 10 is not expected to contain high levels of pollutants. Water related impacts in the Staples area are estimated to be non-significant. Refer to the Final EIS for additional information on this subject.

Wetlands

Extensive study of wetlands was undertaken for the entire project, of which the Staples

Bypass is one part. No wetland areas lie within the Staples Elementary School property. Therefore, no wetlands of any type will be impacted by the portion of the project considered in this 4(f) Evaluation.

Floodplains

A Federal Insurance Administration Flood (FIA) Flood Hazard Boundary Map was examined to determine floodplain involvement within the elementary school property. This map shows that no FIA designated floodplains are within the area of 4(f) involvement. The project area does contain two judicial ditches and their respective floodplains. These ditches are approximately 16 feet in width and 12 feet deep.

The configuration of these ditches will be changed somewhat by project construction. (See Figure 7). Reconstructed Judicial Ditch #8 will be relocated approximately 300 feet north of the existing ditch. Judicial Ditch #5, located at the west school boundary, will have to be extended a short distance to join relocated ditch #8. Both these ditches will have hydraulic capacity equal to or greater than current capacity.

Therefore, no significant hydraulic impacts are associated with the relocation or extension of these judicial ditches.

Historic Preservation

A review for potential historical or archaeological significance was undertaken for the entire 31 mile -- Wadena to Motley -- length of the project. That review indicated that no such sites exist in the vicinity of the Staples Elementary School (See letter from State Historical Society at p. A-45).

MEASURES TO MINIMIZE HARM

To insure that any potentially adverse impacts to the school playground are minimized, all possible planning to minimize harm must be undertaken. This has included extensive coordination with the school system, and coordination with other appropriate agencies. In response to comments on the Draft Section 4(f) Evaluation from Department of Interior regarding the possibility of further reducing the amount of land acquired, two

additional ramp/mainline configurations in the vicinity of the school were developed and analyzed. The first additional configuration maintained the standard diamond interchange, but moved the location further north. This achieved only a slight reduction in land required, but resulted in increased residential and commercial relocation. In addition, this design resulted in the ramp touchdowns on the north side of the highway being close to CSAH 34, compromising the safety of turning movements between U.S. 10, CSAH 34, and 4th Street. This was not judged to be prudent.

The second additional design configuration eliminated the ramp in the southwest quadrant of the proposed interchange. Access to Staples from eastbound U.S. 10 would be provided via a loop which would be located in the south east quadrant of the interchange. This alternative design would cause the relocation of the school bus facility, the 3M manufacturing facility, and additional residential relocation as well. This design was also judged not prudent.

A number of measures and design features which have been incorporated into the project to insure the minimization of harm to the Section 4(f) resource are discussed immediately below. These may be taken as commitments by the Minnesota Department of Transportation to the Staples Public School System.

Payment

Fair and just compensation will be made for the land and facilities acquired for the right of way needs for the proposed improvement.

Bituminous Play Area Replacement

Mn/DOTwill be responsiblefor the construction and paving of two bituminous play surfaces. One is proposed to be located in the general vicinity of the one acquired, north of the school. The second is proposed to be constructed west of the school. The exact design and location of these replacement bituminous pads within the playground area of North Elementary School will be determined by

officials of the Staples Public School System. The replacement pads will be constructed before the existing pads are demolished.

Fencing	A safety fence approximately eight feet in height will be constructed along the south right of way line. The fence will be of a type to effectively prevent school children from entering highway right of way. Similar fencing shall be installed in other quadrants of the interchange if needed to discourage school children from entering the highway right of way on foot or bicycle.
Traffic Barrier	A guardrail will be installed along the south right of way to insure that errant automobiles do not intrude into the playground area.
Other	Sidewalks will be constructed along both sides of 4th Street within the U.S. 10 right of way. Financial participation by the City of Staples will not be required. Judicial Ditch #8 will be relocated along the north side of proposed U.S. 10, thereby increasing safety to schoolchildren during periods of high water. Vegetation will be planted along the southerly edge of proposed U.S. 10 right of way. This will be of a type to reduce visual intrusion of the new highway upon school children and others using the area.
Jersey Barriers	The Draft Section 4(f) Evaluation indicated that Jersey Barriers would be placed between the new sidewalk and 4th street within the right of way of the new highway for safety purposes. Further analysis has revealed that this measure is not prudent, and in fact would serve to reduce safety. Such barriers would seriously reduce sight distance for motorists using any of the interchange ramps, either leaving or entering the highway. This would present a safety problem for those exiting U.S. 10 and motorists on 4th Street.

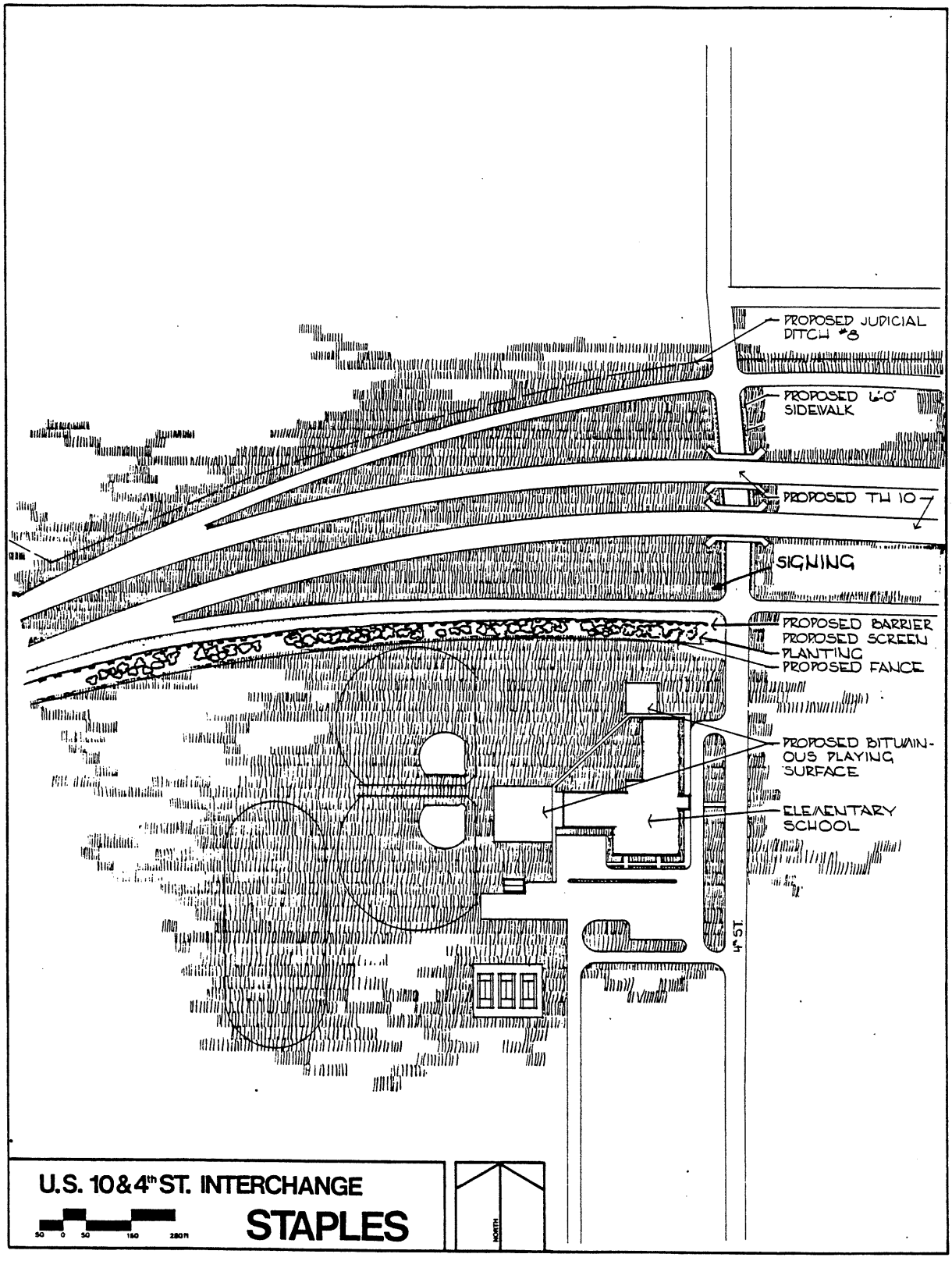


Figure 7 Proposed Mitigation

More importantly however, smaller school children may be effectively hidden behind such a barrier while using the sidewalk. A child could easily be hidden behind these barriers while walking on the sidewalk. A motorist making a turn to any of the interchange ramps could not easily see such a child until he or she stepped out to cross the ramp.

Further, the barriers would present significant problems for snow removal efforts. For these reasons, the Jersey Barriers have been deleted from the plans in this location.

Construction

Construction of the proposed improvement may cause some short term disruption to the Staples Elementary School. Construction will be planned, and implemented to insure safety to school children, staff, and visitors, and will insure that disruption to school operation is minimized to the maximum extent practicable.

COORDINATION

An earlier section, "Project Meetings and Hearings," outlined the public meetings and hearings which have taken place on this project. Further, in 1972 the City of Staples formulated a Comprehensive Plan which includes the U.S. 10 bypass.

In November, 1980, Mn/DOT Central Office and District Personnel met with staff of the Staples School District #793, to discuss the 4(f) land associated with a north Staples Bypass, and the measures to minimize any harm which might result from this acquisition. A number of measures were proposed by Mn/DOT, and other suggestions made by representatives of the school district. Growing out of this meeting and discussion were the mitigation concepts presented above in the section immediately above.

The history of formal coordination between Mn/DOT and the school board is indicated in the following letters and Contact Report.

Staples Public Schools

Staples, Minnesota 56479

Office of Superintendent

November 8, 1973

Mr. Howard R. Bellefeuille
Design Engineer
Department of Highways
Detroit Lakes, Minn. 56501

Dear Mr. Bellefeuille,

In response to your inquiry of October 30. I am pleased to say that I believe we can "live" with the plans for the Highway 10 by-pass.

The school does have enough acreage to rebuild the playground area.

The area in which you are interested, is not used by the public - it is only used by our elementary school children.

Sincerely,

Duane R. Luhd
Supt. of Schools

DRL:hd

COMMUNITY CENTER STAPLES, MINN. 56479 218-894-2553

May 19,1978

Tom Johnson
Office of Enviromental Affairs
Room 807
State Transportation Building
Saint Paul, Minnesota 55155

Dear Mr. Johnson,

This letter is concerning the future site of Highway 10 north od Staples, Minnesota.

The proposed area just north of the Elementary School will be used by the Highway Department, and will not interfeer with our local recreational programs or activities. We have used this area in the past but it is not essential to our program.

We look forward in having this work completed in the next few years. If you have any further questions please feel free to contact me at any time.

Sincerely,

Eric F. Lloyd, Director
Community Services
City of Staples
Staples, Minnesota 56479

STATE OF MINNESOTA - DEPARTMENT OF TRANSPORTATION
TRANSPORTATION SERVICES DIVISION

CONTACT REPORT - OFFICE OF ENVIRONMENTAL SERVICES

Date:	November 7, 1980
State Project:	S.P. 7702-29
Job Location:	TH 10 Staples Bypass, Staples, Minnesota
Reason for Contact:	Review Staples Elementary School proposed mitigation concept
Persons Contacted:	Richard Donat, Staples School District, #793 Dr. Duane Lund, Staples School District, #793 Jack Nelson, Staples School District, #793 Bob Rego, Staples School District, #793 Richard Goodermont, Mn/DOT OES John Rolfe, Mn/DOT, District 4
Date of Contact:	November 4, 1980
Status of Work:	Proposed Mitigation

Remarks:

Staples bypass involves a freeway bypass and interchange on the north edge of the Staples Elementary School.

Proposed Mn/DOT mitigation of the bypass and interchange area were reviewed by Staples school district officials and Mn/DOT representatives. Elements of the proposed mitigation included:

1. Pedestrian access on sidewalks under 4th Street Bridge, on east and west sides.

2. Installation of "Jersey Barriers" between sidewalks and street under 4th Street Bridge for pedestrian protection.

3. Replacement of bituminous playground pad from South right-of-way area to areas west and north of Elementary School.

4. Installation of cableguard between south right-of-way tree plantings and south right-of-way highway safety fence. Cableguard would improve safety of school personnel and property from possible errant freeway vehicles.

5. Screen planting of coniferous trees inside (north) of south right-of-way, and safety fence.

6. Installation of highway safety fence along right-of-ways. In addition, School officials suggested extending safety fence from the southwest corner of the 4th Street interchange, south along sidewalk terminating at the elementary school driveway. School officials also favored a taller safety fence (8') adjacent to the softball field. This would reduce a potentially hazardous situation between freeway traffic and the softball facilities.

7. Relocation of Judicial Ditch #8 from the bypass alignment area to a position on the inside (south) of the north right-of-way and safety fence.

Proposed mitigation review meeting adjourned with the Staples School officials concurring with proposals and offering future cooperation and coordination of project efforts.

Richard Goodermont
T.H. 10 Acting Project Manager, EEIS
Office of Environmental Services

cc: Attendees
L.E. Foote



MINNESOTA HISTORICAL SOCIETY
690 Cedar Street, St. Paul, Minnesota 55101 • 612-296-2747

August 24, 1979

Mr. C.P. Kachelmyer
Preliminary Design Engineer
Department of Transportation
Room 604 - Transportation Building
St. Paul, Minnesota 55155

Dear Mr. Kachelmyer:

RE: S.P. 5605-08, 8001-21, 7702-29 (TH 10)
From 2.2 Mi. W. of the east Ottertail
County Line to 0.2 Mi. E. of the east
corps. limits of Staples
Ottertail, Wadena and Todd Counties

S.P. 7701-18 (TH 210)
From 1.9 Mi. S. of Proposed Jct. TH 10
to proposed Jct. TH 10
at Staples, Todd County

S.P. 4903-26, 7702-30 (TH 10)
From 1 Mi. S. of Motley
to 1 Mi. W. of W. Morrison County Line
Morrison and Todd Counties

MHS Referral File Number H 4

Our office has received a revised status report from the Trunk Highway Archaeologist on the above referenced projects. This report states that the reconnaissance survey of the newly designed Wadena Bypass for T.H. 10 has been completed, thus culminating the survey of the entire length of the proposed upgrading project. We concur with the findings of the archaeologist that no new sites were found; consequently, the Steinbrecker Site (21 MO 15) remains the only known archaeological site which appears to be affected by the proposed construction.

At this time, we wish to reiterate our recommendation that intensive test excavation and surface collection be conducted at the site to provide data to thoroughly assess the site's nature, extent, and condition. This work will provide the information necessary to determine whether the site is eligible for inclusion on the National Register of Historic Places.

With the exception of the Steinbrecker Site, there are no additional sites of historic, architectural, cultural, or archaeological significance on or eligible for inclusion on the National Register which may be affected by your proposal.

We hope that this information aids you in your continued planning and assessment.

Sincerely,

Donn Caddington
for
Russell W. Fridley
State Historic Preservation Officer

RWF/cjb

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

In Reply Refer To:
ER 83/1141

NOV 2 1983

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

Dear Mr. Borg:

This is in response to the request for the Department of the Interior's comments on the draft Section 4(f) statement for US-10 (Wadena to Motley), Todd County, Minnesota.

SECTION 4(f) STATEMENT COMMENTS

Staples Elementary School Recreation Land

We concur that there is no feasible and prudent alternative to the proposed use of some land from the Staples Elementary School Recreation Area. However, we do not concur that the statement shows adequate site-specific sensitivity in the planning to satisfy the second proviso of Section 4(f), i.e., measures to minimize harm.

1. Proposed alternate 1-M will result in a four-lane urban freeway bypass. Roadways will be 90 feet apart in a 290-foot wide corridor. Use of this inordinately 90-foot wide median is of concern as is the distance between the eastbound lane and the exit ramp. To minimize harm, i.e., the scope of taking of school lands, we recommend that (a) the median be reduced to a maximum of 30 feet by shifting the eastbound lane northward; (b) shifting the exit ramp alignment as close to the eastbound lanes as reasonable geometrics for the south half of the diamond interchange will allow. We understand that a 30-foot median is in accord with AASHTO/FHWA standards for this type of freeway. Reducing the median alone results in a reduction of about 1.82 acres in the take of recreation land (20%). Shifting the exit ramp would produce further reductions. A primary benefit of the shifts will be to increase the distance between the right-of-way fence and the outfield area of the proposed softball field. We view this as a safety measure, also. A B

2. The statement acknowledges that compensation will be made for the land affected by the right-of-way needs. No indication is given as to whether the compensation will be (a) the provision of replacement land of reasonably equivalent utility and location or (b) monetary payment, earmarked for capital recreational improvements to increase the recreational opportunities on the residual lands. We suggest coordination with the local officials in resolution of this matter. C

3. We commend the inclusion of grade-separated 6-foot wide sidewalks on 4th Street for pedestrian and bicycle access to the recreation area by school children and residents living north of Staples School. We recommend, however, that two safety features be evaluated and considered for implementation for the benefit of these individuals: D

   a. The installation of pedestrian-actuated traffic lights where the diamond interchange ramps intersect with 4th Street; E

   b. A barrier on each side of the two US-10 bridges sufficient to deter the overthrowing of snow and ice on the sidewalk when the roadway is plowed in winter. F

We concur with all other measures to minimize harm as described on page 22 and depicted in Figure 7. G

Steinbecker Historic Site

Page 29 exhibits unresolved concerns about the Steinbecker archeological area. Has the applicability of Section 4(f) to that area been resolved--reference: 23 CFR 771.135(f)(1)? The final statement should evidence approval of the Minnesota State Historic Preservation Officer (SHPO) of the completion of compliance with all mandates pertaining to the identification and protection of cultural resources at the Steinbecker Site. H

If Section 4(f) is applicable to this site, we would be willing to expeditiously comment on your 4(f) statement for that involvement.

FISH AND WILDLIFE COORDINATION ACT COMMENTS

The statement adequately describes existing wildlife resources and discusses general construction impacts for converting a portion of the Staples Elementary School Playground to highway purposes. Based on available information, the Fish and Wildlife Service would likely have no objection to the issuance of Corps of Engineers permits, if needed, for realignment of Judicial Ditches #5 and #8.

SUMMARY COMMENTS

The Department of the Interior offers no objection to Section 4(f) approval of this project, providing the final Section 4(f) statement includes a description of:

(1) project modifications to reduce the take of school recreational lands;

(2) resolution with local officials about compensation;

(3) results of the consideration of the two safety features discussed in item (3) under the above Section 4(f) comments.

As this Department has a continuing interest in this project, we are willing to cooperate and coordinate with you on a technical assistance basis in further project evaluation and assessment. If you wish such assistance in matters pertaining to cultural and recreational resources, please contact the Regional Director, Midwest Region, National Park Service, 1709 Jackson Street, Omaha, Nebraska 68012 [telephone: FTS 864-3431 or commercial (402) 221-3431]. For matters pertaining to fish and wildlife resources and the Fish and Wildlife Coordination Act, please contact the Field Supervisor, Fish and Wildlife Service, St. Paul Field Officer (ES), 570 Nalpak Building, 333 Sibley Street, St. Paul, Minnesota 55101 [telephone: FTS 725-7131 or commercial (612) 725-7131].

We appreciate the opportunity to provide these comments.

Sincerely,

Bruce Blanchard, Director
Environmental Project Review

cc: Mr. F.C. Marshall
Assistant Commissioner
Technical Services Division
Minnesota Department of Transportation
John Ireland Blvd.
St. Paul, Minnesota 55155

Mr. Russell W. Fridley
Director, Minnesota Historical Society
690 Cedar Street
St. Paul, Minnesota 55101

RESPONSE TO U.S. DOI COMMENTS

A At the time the Draft Section 4(f) Evaluation was circulated, it was proposed to construct a facility with 90 foot centerline separation, and 100 feet outward from centerline to the edge of right of way. This would have required a basic corridor 290 feet in width. As indicated in the FEIS to which this Section 4(f) Evaluation is attached, this has been changed. It is now proposed to construct with 100 foot centerline spacing, and 90 feet outward from centerline to edge of right of way. This can be accomplished within a corridor 280 feet in width. This will result in less right of way acquisition from the school area. However, since the proposed encroachment is only five feet less than that described in the Draft Section 4(f) Evaluation, the impacts should be construed as the same as described in that document.

It is not correct that a 90 foot "median" is proposed. The 90' figure refers to a centerline to centerline spacing. This would have left a "median" of approximately 68 feet. The proposed 100 foot centerline spacing will have a median of approximately 78 feet. This is near minimal for a rural expressway with at-grade intersections, which is the type of roadway proposed both east and west of Staples. The median width must be sufficient to provide for an adequate recovery zone for errant vehicles. It also must be sufficient to provide for a smooth ditch bottom, that is of sufficient depth and slope so as not to cause a vehicle to overturn if it leaves the road. The introduction of a narrow median, as suggested by the U.S. DOI, would call for the inclusion of a solid concrete traffic barrier, such as typically seen in urban freeway design. This in itself presents a hazard for the motorist using the facility. A concrete median barrier would also act as a snow fence. During a snow storm drifting will occur, predominantly across the eastbound lane, but possibly across the westbound lanes as well. This would cause additional maintenance and safety problems.

The selection of a design with a narrower median would present a sight restriction. This would limit the availability of sufficient distance to stop in time at the design speed. In order to correct this, the barrier would have to be offset approximately 25' from the edge of the traveled lanes. Considering both the east and westbound lanes, this would narrow the median even further. The problem in Staples is further compounded by the fact that the entire interchange is on a horizontal curve. For an eastbound motorist, the curve is to the right. This means that should a vehicle leave the road, it would be directed towards the westbound lane at a sharper angle than if the interchange were constructed on a tangent (straight) alignment. As a result, it would take a driver longer to recover, which again dictates a wider median. The recovery zone for this type of curve is approximately the same width as the proposed median. For these reasons, it is concluded that a reduction in centerline spacing is not prudent.

B Further analysis of this issue indicates that it may be desirable to shift the exit nose for the eastbound ramp further to the west than was originally proposed, perhaps by as much as 200 feet. This would present a better vertical grade line for the ramp, and would require less fill to construct. It would also be less obtrusive to th surrounding neighborhood. There seems to be a reasonable probability that the ramp could be shifted toward the mainline, somewhere between five and fifteen feet. As this issue is studied further, it may be possible to accommodate such a shift. This shift will be made if the detail design of the project results in a determination that it is possible. In further response to the concerns expressed by the Department of Interior regarding the minimization of impact, two additional alternative designs were developed as layouts for this interchange. One design would avoid the school property completely, but this alternative would cause significant adverse impact to other adjacent property. Residential, industrial, and public service relocations of a significant nature would be caused. The second additional layout reduces the amount of impact, but also increases the residential and commercial takings. Safety is also compromised for turning movements with this design. Further discussion of these alternatives is found in the text, beginning at page A-30.

For these reasons, it was concluded that the original design is the most prudent. the possibility of shifting the exit ramp further to the north will be studied further during the detail design of the interchange, and will be moved if practicable.

C | Payment for property aacquired for highway purposes will be monetary. The disposition of such funds will be at the discretion of the Staples Public School System. It is felt that the authority and expertise to direct the recreation budget and operations of a local school properly lies within the staff of that school system.

D | Sidewalks will be located adjacent to 4th Street, and will be located beneath the new highway.

E | The installation of traffic signals at either of these intersections is not warranted at this time. The projected traffic volumes are not of sufficeint magnitude to warrant such signals. The use of pedestrian-only traffic signals is not justified because the gaps projected between vehicles using the ramp will be nearly two minutes in length.

F | The barrier on each side of the bridges will be a standard bridge rail design. It is a Jersey Barrier with or without a top railing included.

G | The Jersey Barriers proposed to be located between the sidewalks and 4th Street have been eliminated for safety reasons. See revised text at Section, "Measures to Minimize Harm," page A-36.

H | It has been determined that the Steinbrecker site does not warrant preservation in place. See the FEIS text at page 200, and the letter from the Minnesota Historical Society at page 215.

REGION 5
REGIONAL
DEVELOPMENT
COMMISSION

611 Iowa Avenue, Staples, Minnesota 56479 (218) 894-3233 KATHY GAALSWYK, Executive Director

Dave Smilonich, P.E.
Mn/DOT
301 Laurel Street
Brainerd, MN 56401

Dear Mr. Smilonich:

The Region 5 Transportation Advisory Committee (TAC) and the Region 5 Regional Development Commission have reviewed the Draft Section 4 (f) Evaluation of the Staples bypass on U.S. 10. After review of the four alternatives stated, both the TAC and Commission approve of the North Route of the bypass even though the route will require the use of 9.5 acres of the North Elementary School playground.

If you have any questions, please feel free to contact Jim Hodgson, Transportation Planner, at 218/894-3233.

Sincerely,

Kathy Gaalswyk
Executive Director

CC: Jack Wilson, City of Staples Mayor
Dick Donat, Staples School District

REGION 5 COMMENT

No Response required.

United States Department of Agriculture
Forest Service
Northeastern Area State & Private Forestry
370 Reed Road
Broomall, PA 19008

Reply to: 3520

Date: October 20, 1983

Mr. Dave Smilonich
Acting District Engineer
Minnesota Department of Transportation
301 Laurel Street, P.O. Box 978
Brainerd, Minnesota 56401

Dear Dave:

We have reviewed the Draft Section 4(f) Evaluation U.S. 10, State Project 7707-29 and find it to be acceptable. We have no comments.

Sincerely,

THOMAS N. SCHENARTS
Area Director

U.S. FOREST SERVICE COMMENT

No response required.

Minnesota Pollution Control Agency

October 21, 1983

Mr. Dave Smilonich
Acting District Engineer
MN Department of Transportation
301 Laurel Street
P.O. Box 978
Brainerd, Minnesota 56401

Dear Mr. Smilonich:

The Minnesota Pollution Control Agency (MPCA) staff has reviewed the draft 4(f) Evaluation of U.S. 10 in Staples in Todd County, involving the Staples Elementary School playground, and has comments to offer with regard to noise level impacts due to the project.

An error was noted on page 20 of the 4(f) Evaluation in the noise section. Peak hour traffic noise (L_{50}) in the year 2000 is predicted to be 62 dBA, not 61 dBA, according to the noise analysis report. Thus, the L_{50} noise level will exceed state standards by 2 dBA, not 1 dBA.

Also, it is stated in the draft noise section that the noise values projected indicate an impact between "acceptable and unacceptable" as defined in Agency noise rule NPC-2. The state noise rule does not include acceptable and unacceptable categories. The projected noise levels either meet the standard (noise levels are at or below a daytime L_{10} level of 65 dBA and nighttime L_{10} level of 55 dBA) or they do not. A

Thank you for the opportunity to comment on this project.

Sincerely,

Deborah R. Pile

Deborah R. Pile
Director
Office of Planning & Review

(612) 296-7799
1935 West County Road B2, Roseville, Minnesota 55113
Regional Offices • Duluth Brainerd Detroit Lakes Marshall Rochester Roseville
Equal Opportunity Employer

MPCA COMMENT

A | Text corrected, refer to page A-35 .

STATE OF
MINNESOTA
DEPARTMENT OF NATURAL RESOURCES

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

DNR INFORMATION
(612) 296-6157

FILE NO._____

September 23, 1983

Mr. Dave Smilonich
Acting District Engineer
Minnesota Department of Transportation
301 Laurel Street, P.O. Box 978
Brainerd, Minnesota 56401

RE: 330 Draft 4(f) Evaluation for
S.P. 7702-29, T.H. 10, Staples

Dear Mr. Smilonich:

The Department of Natural Resources (DNR) has no comments to offer at this time regarding 4(f) involvement of the proposed project.

Sincerely,

for Thomas W. Balcom
Environmental Review Coordinator

pje
1476F

MN/DNR COMMENT

No Response required.

Staples Public Schools

STAPLES, MINNESOTA 56479

Federal Programs Office

(218) 894-2430

September 14, 1983

Mr. Dave Smilonich,
Acting District Engineer
MINNESOTA DEPARTMENT OF TRANSPORTATION
301 Laurel Street, P. O. Box 978
Brainerd, Minnesota 56401

Dear Dave:

The Draft Section 4(f) Evaluation U. S. 10 has been reviewed in detail. Staples Public School District #793 personnel are in agreement with the project design, based on current and anticipated conditions. A lengthy delay in construction could result in a change of circumstances.

We appreciate the Minnesota Highway Department's willingness to incorporate design suggestions made during the November 7, 1980 meeting with School personnel. This attitude of cooperation is most valued.

There are two minor typographical changes that should be made on Page 27 under 'Persons Contacted': A

Richard Donat (not Rich)
Dr. Duane Lund (not Richard)

The Staples By-pass has been anticipated for several years, and has been incorporated into the community's comprehensive plans. The frustration has been in the delay of actual construction. We wish to take this opportunity to endorse and urge completion of the Staples By-pass in the near future.

My best,

Richard Donat, President
STAPLES DEVELOPMENT, INC.

Federal Programs Director
STAPLES PUBLIC SCHOOLS

RD:eap

A | Noted and corrected.

CONCLUDING STATEMENT	Based upon the above considerations, it is determined that there is no feasible and prudent alternative to the use of land from the playground of North Elementary School in Staples, Minnesota, and that the proposed action includes all possible planning to minimize harm resulting from such use.

WETLAND FINDING

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EXECUTIVE ORDER 11990
WETLANDS FINDING

Mn. Proj. F002-2 ( ) S.P. 5605-08
Mn. Proj. F002-2 ( ) S.P. 8001-26
Mn. Proj. F002-2 ( ) S.P. 7702-29
Mn. Proj. F002-2 ( ) S.P. 7702-30
Mn. Proj. F037-1 ( ) S.P. 4903-23
Mn. Proj. F036-1 ( ) S.P. 7701-18

This statement sets forth the basis that there is no practicable alternative to construction in the wetlands located adjacent to U.S. 10 and that this proposal includes all practical measures to minimize harm to the wetlands that may result from such construction. This finding is made in accordance with the requirements of Executive Order 11990 on the Protection of Wetlands, dated May 24, 1977. Additional information regarding wetland impacts and mitigation can be found in the FEIS to which this Wetland Finding is attached, pages 134-140.

I. PROJECT DESCRIPTION

A. Project Location

The proposed project is located in Otter Tail, Wadena, Todd, and Morrison Counties, and involves a 27.2 mile segment of U.S. 10 between County State Aid Highway (CSAH) 77 in Bluffton and CSAH 53, one-half mile south of Motley. Also included in the proposed project is a 2.5 mile segment of TH 210 between CSAH 21 and the junction with U.S. 10 in Staples.

B. Proposed Improvements

The proposed action is to construct an additional two lanes adjacent to the existing 2 lane roadway to provide a 4 lane divided expressway between cities. Within cities, a combination of freeway/expressway design standards are proposed for bypasses around the cities of Wadena, Staples and Motley, and for through-town routes in the cities of Verndale and Aldrich. A 1.4 mile segment east of Bluffton and a 4.5 mile segment between Staples and Motley were constructed to 4 lane divided standards in 1977 and 1966, respectively. The proposed improvement to TH 210 south of Staples consists of relocation of the roadway which will be constructed to 2 lane undivided standards.

A detailed discussion of the project location, proposed improvements and alternatives, and project justification is included in Sections I and II of the Environmental Impact Statement for this project, to which this Finding is attached.

C. Project Alternatives

Three general alternatives were considered for upgrading U.S. 10:

1. Alternative Route 1 - the North Route

This alternative would follow the north side of existing U.S. 10 in the rural segments, and by-pass cities on the north side.

2. Alternative Route 2 - the Through City Route

This alternative would follow existing U.S. 10 through all cities, but would follow the north side of existing U.S. 10 in rural segments.

3. No-build alternative

In this project, the no-build alternative is a no-action alternative and would leave U.S. 10 unchanged.

4. One other alternative was considered and eliminated early in the EIS process. This was the South Route, an alternative that would have paralleled existing U.S. 10 on the south, with the cities of Wadena, Verndale, Aldrich and Staples being bypassed on the south.

II. WETLAND IMPACTS

A. Project Alternatives

1. Alternative 1 - Alternative 1 in the rural section of the project would impact a total of 34 acres. These wetland impacts are unavoidable because the design calls for building two new lanes adjacent to the existing two lanes of T.H. 10. As a result, there is very little flexibility in the placement of the two new lanes and although wetland impacts can be minimized, they cannot be avoided entirely.

Alternative 1 in the urban section of the project would impact 129-149 acres, depending on the design. These impacts are also unavoidable, primarily because of the constraints imposed by the alternatives being located in a developed area.

2. Alternative 2 - Alternative 2 is identical to Alternative 1 in the rural section.

Alternative 2 in the urban section of the project would impact 17 acres. These impacts are unavoidable because of the constraints imposed by the alternatives being located in a developed area.

3. Alternative 3 - This alternative would avoid impacting any wetlands. Because of the abundance of wetlands in the project area, the no build is the only alternative which could avoid all wetland impacts.

B. Preferred Alternative

The preferred alternative consists of a combination of Alternatives 1 and 2 for various segments in the project. Table WF-1 lists the design alternatives and corresponding wetland impacts for each segment in the proposed project.

Table WF-1
Wetland Impacts

Segment	Alternative	Total Wetland Impacts (acres)	
Wadena	1A-Modified (NB)	79	Preferred Alt.
	1B (NB)	90	
	2 (TT)	5	
	No Build	0	
Wadena-Verndale	1,2	4	Preferred Alt.
	No Build	0	
Verndale	1 (NB)	9	
	1A (NB)	18	
	2 (TT)	2	Preferred Alt.
	No Build	0	
Verndale-Aldrich	1,2	5	Preferred Alt.
	No Build	0	
Aldrich	1 (NB)	3	
	2 (TT)	0	Preferred Alt.
	No Build	0	
Aldrich-Staples	1,2	25	Preferred Alt.
	No Build	0	
Staples	1-Modified (NB)	38	Preferred Alt.
	2 (TT)	10	
	No Build	0	
Staples, TH 210	A	1	Preferred Alt.
	B	1	
	No Build	0	
Motley	1-Modified (SB)	2	Preferred Alt.
	2 (TT)	0	
	No Build	0	

NB = North Bypass SB = South Bypass TT = Through Town

1. Rural Sections

The total wetland impact of the preferred alternatives is 34 acres. The only alternative having less impact is the No Build, which avoids all wetlands. The No Build was rejected because it does not improve traffic safety; it does not reduce the congestion in Wadena and Staples; and it leaves segments of two-lane highway on an almost completed four-lane expressway between St. Paul and Moorhead.

2. Urban Sections

Wadena - Alternative Route 2 and the No Build would impact fewer wetlands than the preferred alternative (1A-M). The No Build Alternative was dismissed for reasons listed above, and the Route 2 Alternative was dismissed because it would cause extensive relocation of businesses and residences in Wadena.

Verndale - The preferred alternative impacts fewer wetlands than any alternative except the No Build, which was dismissed for reasons listed above.

Aldrich - The preferred alternative avoids all wetlands.

Staples - Alternative Route 2 and the No Build would impact fewer wetlands than the preferred alternative (1-M). The No Build Alternative was dismissed for reasons listed above, and the Route 2 Alternative was dismissed because it would cause extensive relocation of businesses and residences.

The preferred alternative for TH 210 south of Staples (Alternative A) would impact more wetlands than the No Build and the same amount of wetlands as Alternative B. However, the No Build was dismissed because it would not eliminate the traffic bottleneck and hazard caused by the present at-grade intersection with the B.N. Railroad.

III. IDENTIFICATION OF WETLANDS

Approximately 156 acres of wetlands will be located within the right of way (ROW) limits and may be directly impacted by construction. However, ROW limits represent a worst case estimate of wetland impacts and the actual impact, based on construction limits, may be somewhat lower. In addition, only the rural segments of this project are currently programmed for construction. Thus, the total impact currently anticipated for this project is 34 acres.

The following table lists wetland types, number of acres impacted (based on ROW limits) for all of the preferred alternative segments, and number of acres impacted for the rural segments which are all currently programmed for construction.

Table WF-2
Wetland Impact of Preferred Alternatives

Wetland Types Impacted	Preferred Alternative Impacted Acres (All Segments)	Programmed Construction Impacted Acres (Rural Segments)
2	23	6
2/6	31	10
3	1	0
4	11	0
6	53	16
	38	2
Total	156	34

IV. MEASURES TO MINIMIZE HARM

Early in the design process, a decision was made to reduce the median width between the east and west bound lanes in the rural segments of U.S. 10. Refer to Section I of the FEIS to which this Finding is attached for a full discussion of this decision. This resulted in a reduction of wetland impact of 8 acres. In addition to design modifications to minimize wetland impacts, the following measures will be used during or after construction to minimize the impact of the roadway on wetlands:

A. Fill slope ratios within the clear zone will be reduced as much as is practicable in order to reduce wetland encroachment.

B. Culverts will be placed where appropriate so that the existing drainage will be maintained to the extent possible, to maintain water level in adjacent wetlands.

C. Care will be taken to restrict the use of heavy construction equipment in adjacent wetland areas (areas outside the construction limits but within the right of way) as much as possible.

D. Standard erosion controls as specified in Mn/DOT's "Standard Specifications for Highway Construction" will be used during construction to prevent erosion and sedimentation into adjacent wetland basins.

E. Disposal of excess material will follow Mn/DOT guidelines, specifically, to avoid disposal that damages environmentally sensitive areas such as wetlands.

F. Organic soils removed from the project area will be utilized as slope dressing. Sodding, seeding and mulching of

bare areas will be completed as soon as construction has ended.

V. MEASURES TO MITIGATE IMPACTS

The mitigation of wetland losses resulting from the construction of this project will be accomplished through enhancement of existing wetlands on state-owned land. The Staples Wildlife Management Area, located approximately two miles south of U.S. 10, is the site of a previously drained lake basin. Mn/DOT will create a Type 4 (deep marsh) wetland by constructing an impoundment at the site. This project has been, and will continue to be, evaluated and monitored jointly by Mn/DOT, the USFWS, and the Mn/DNR. See the FEIS to which this Wetland Finding is attached for a more detailed discussion of this mitigation effort, at page 138.

Habitat Evaluation Procedures (HEP), developed by the U.S. Fish and Wildlife Service, will be applied to existing and projected wetlands of the project. The number of Habitat Units (HUs) gained with implementation of the mitigation measures described above will offset the HUs lost through wetland impacts incurred during construction of U.S. 10. The projected excess of HUs resulting from this mitigation project will be entered into the District 3 Wetland Habitat Mitigation Bank as credit.

VI. COORDINATION

There has been extensive and ongoing coordination between Mn/DOT, the U.S. Fish and Wildlife Service, and the Minnesota Department of Natural Resources. 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 U.S. 10 and that the proposed project includes all practical measures to minimize harm to the wetlands which result from such construction.

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