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# Milwaukee Road Corridor Study

## Social and Physical Inventory

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October, 1979

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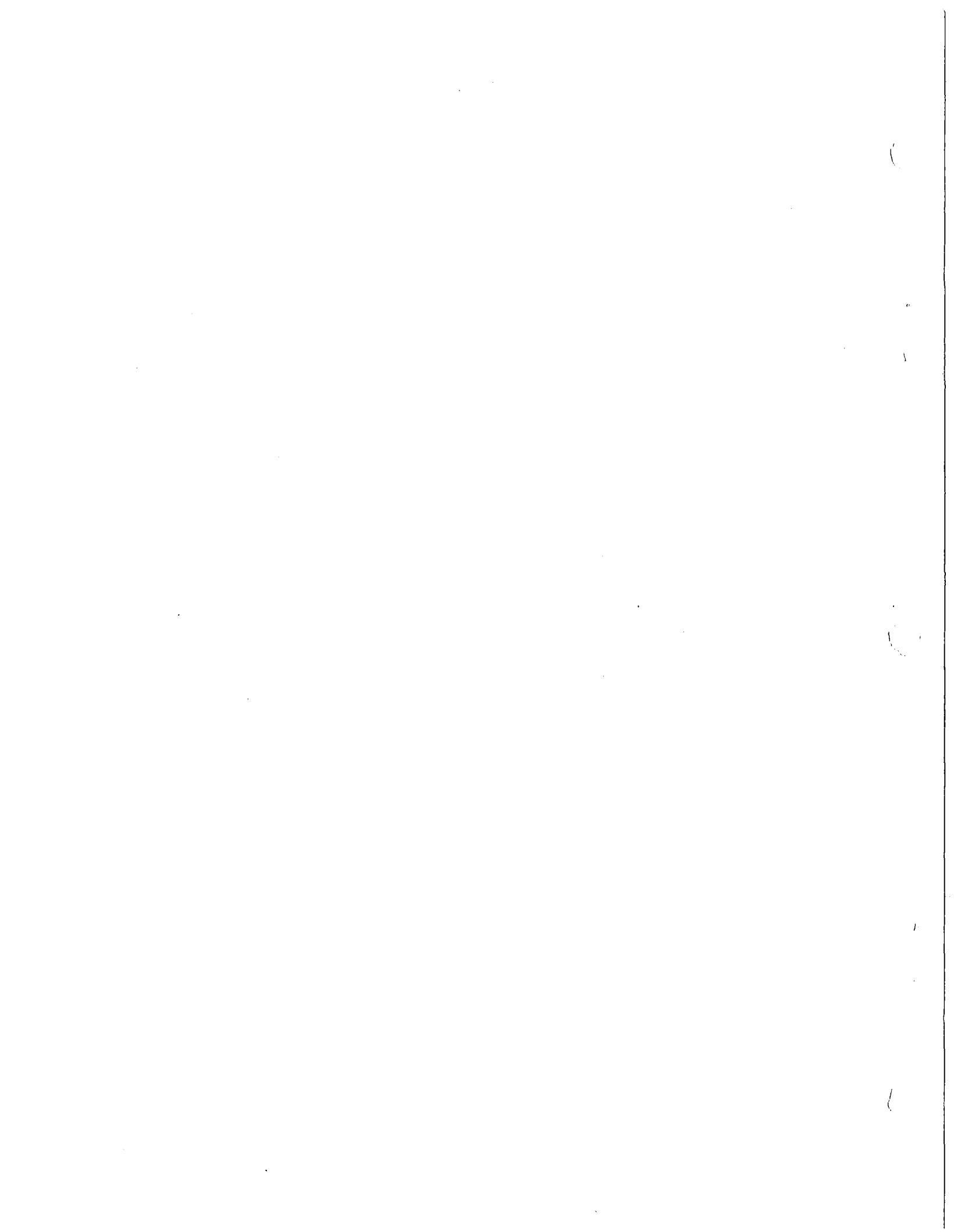
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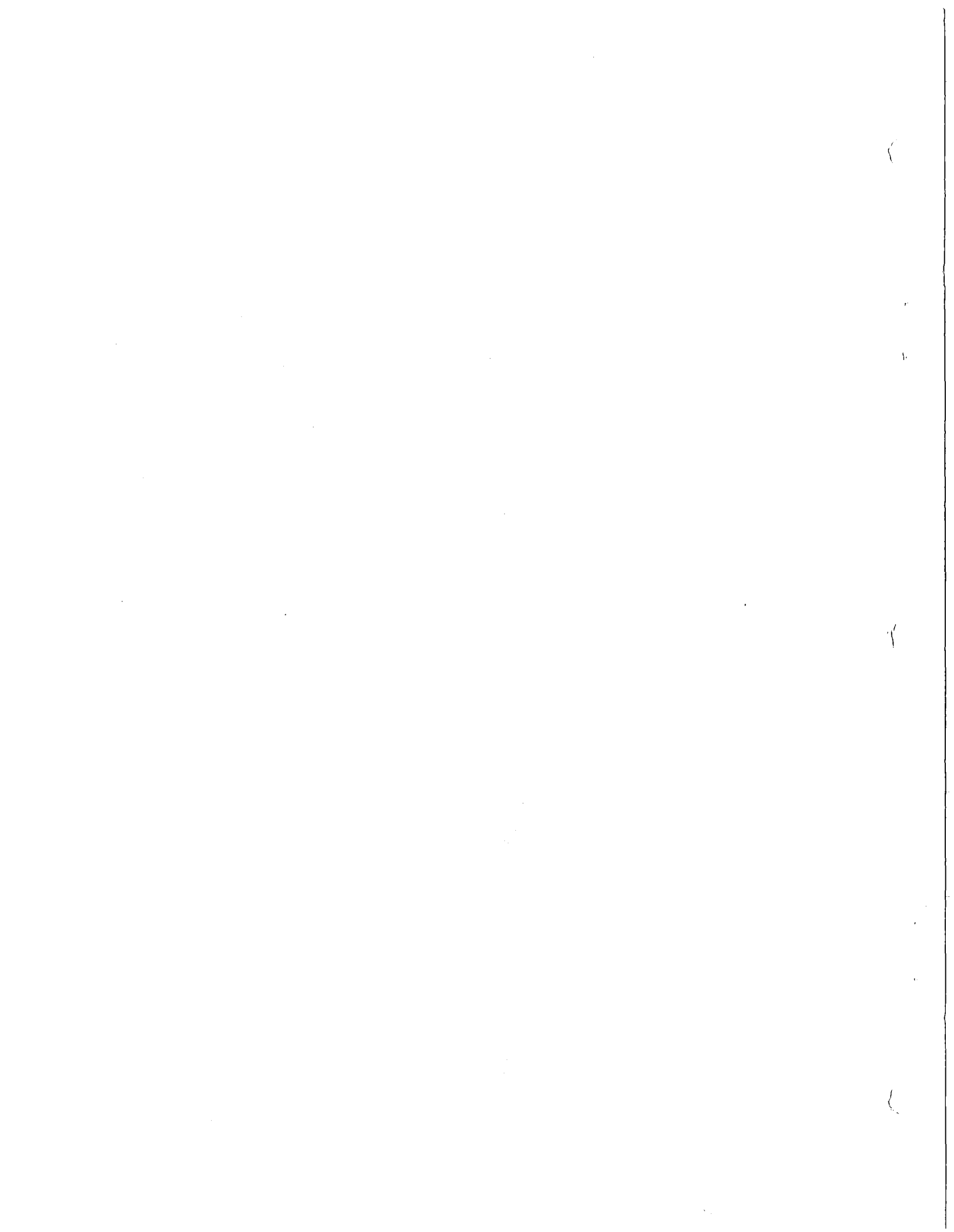


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## INTRODUCTION

This is the first of two reports on the results of the Department of Natural Resource's (DNR) feasibility study on the Milwaukee Road abandoned railroad right-of-way (ROW). The key question addressed by this study was "Should the DNR seek to acquire all or any part of the Milwaukee Road ROW between La Crescent and Ramsey for recreational trail purposes?"

Based on a study of high altitude photographs, topographical maps and finally a flight over the study area, the portion of ROW between Ramsey and Spring Valley was dropped from further consideration as a recreational trail. It was judged to have little potential because of its relatively low scenic quality and because it traversed prime agricultural farmland. However, both the cultural and natural resource inventories were initiated prior to this decision and consequently make some reference to resource highlights found in that area.

As we proceeded with this study, which began in mid-July 1979, we found the issues to be many and complex. It became apparent that, in order to reach rational conclusions, the analysis of alternatives required additional effort and time. In the course of the study, commitments were made to share the information collected with the public. Therefore, to make the initial information publicly available at the earliest date, a decision was made in September to produce two reports, "A Social and Physical Inventory" (this report), followed by a report tentatively titled "Alternatives: Analysis and Recommendations."

The social and physical inventory is not intended to provide a comprehensive analysis or to draw conclusions. It is a presentation of information about a variety of elements, or factors, necessary for a comprehensive analysis. The actual analysis will



Regional Location Map

Abandoned Milwaukee Road Row

Study Area

Map 1

be presented in the second report. The reader, however, will note that some analysis is present. The second report will go further; it will attempt to draw together all of the study elements, analyze all findings, and make recommendations concerning the key question we set out to address.

### Emerging Governmental Philosophy

We, who attempt to carry out legislatively mandated or authorized public policy and programs, have found it essential to involve the affected publics as we gather information, analyze data and develop alternatives. We need to work with interested parties in our search for the best approach to providing an adequate supply of outdoor recreation facilities within reasonable fiscal limits and without causing intolerable side effects to nearby landowners.

We believe this feasibility study is being conducted with an appropriate degree of public involvement. We have met with interested citizens during the past several weeks to learn of their concerns and to get suggestions. We have obtained opinions and advice concerning adjacent lands, farms, homes and businesses; outdoor recreational needs; potential impacts; and ways the DNR might work with the adjacent landowners in this matter.

Among other efforts, the DNR contracted with a social science research firm in July to seek out the feelings and advice of all adjacent landowners. Their findings are covered later in this report.

Several other contacts were made by the DNR, including the State Farm Bureau, local landowner groups, a southeastern Minnesota trail advocate group, the Minnesota Department of Transportation, Economic Development Region 10 (at Rochester), and others.

If the outcome of this study effort indicates that all or any part of the railroad ROW is to be purchased by the DNR, public informational meetings, local government contacts, and formal public hearings will follow.



## Legislative Authority

Public policy in a democracy flows from the people, through their elected officials, and once legislation is enacted, to the executive branch agencies of government. Thus, Minnesota's citizens of the 1970s saw the need to provide certain recreational trails and also to examine the possibility of using abandoned railroad for such trail needs.

In 1971, the State Legislature enacted Minn. Stat. 85.015, entitled "State Trails," as law. It provided, among other things, that "The Commissioner of Natural Resources shall establish, develop, maintain, and operate... the Root River Trail in Fillmore and Houston Counties." This statute further specified that this particular trail be developed primarily for riding and hiking, originate at Chatfield, and extend easterly in the Root River Valley to Minnesota trunk highway No. 26 (south of La Crescent).

Earlier, in 1969, the Legislature, by means of Minn. Stat. 84.029, enabled the Commissioner of Natural Resources to acquire abandoned railroad rights-of-way for trails.

Neither of these laws provide for or suggest any land acquisition except through dealing with willing sellers. Therefore, no condemnation powers are in effect in this specific corridor.

While this particular study encompasses part of the Root River Trail area as legislated in 1971, to some extent it also examines the feasibility of the entire length of abandoned Milwaukee Road ROW from Ramsey to a point near La Crescent, (However, as stated in the opening paragraphs, less emphasis has been placed on the 30-mile section from Ramsey to Spring Valley.) Thus, we chose to identify this study as "The Milwaukee Road Corridor Study".

Additional pertinent legislation was passed in early 1979. Chapter 301, Laws of Minnesota for 1979 (House File 1253), Section 7 (subd. 1 and 2), entitled "Trail Acquisition Criteria; Public Meetings," sets forth explicit instructions for land acquisition. Accordingly, the DNR is to "...maximize the number of potential

(trail) users and minimize adverse affects on adjoining agricultural land and property owners." Also, the DNR must publish notices in local newspapers, notify the county boards, conduct a public informational meeting, and hold a Chapter 15 public hearing. Following these steps, the Commissioner of Natural Resources shall determine whether to proceed with any acquisition and, if so, issue a written order stating that decision.

As mentioned earlier, all of these steps remain to be taken if this feasibility study indicates that the DNR should pursue any land acquisition.

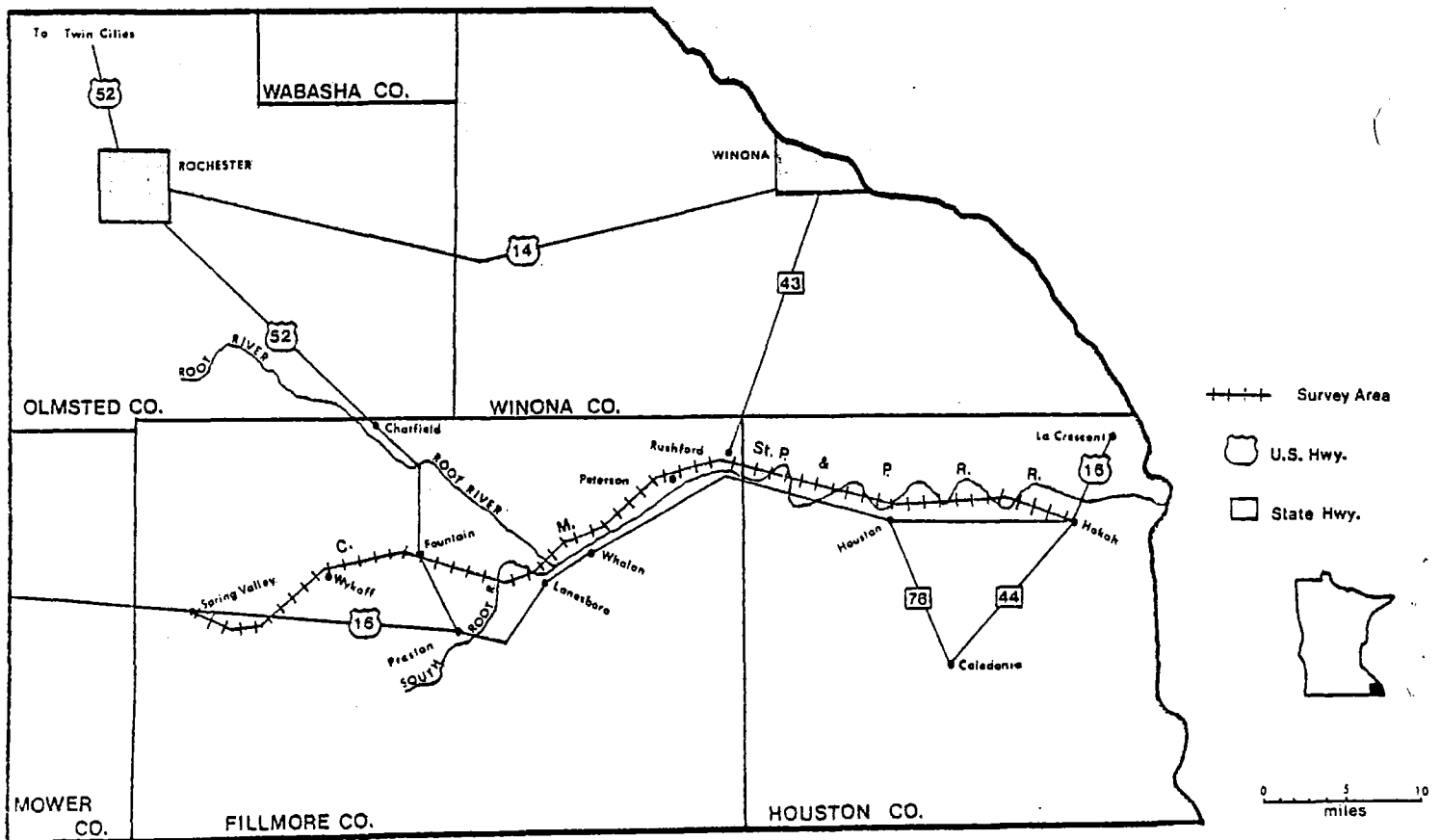
### Railroad Abandonment

This process is handled by the Federal Interstate Commerce Commission (I.C.C.) and the Minnesota Department of Transportation (MN/DOT). Once the abandonment is determined to be appropriate, a "public use negotiation period," usually of 120 calendar days, is provided for by the I.C.C. Only after abandonment is granted can the DNR become involved.

In this instance, the Milwaukee Road took action in early 1978 indicating that formal abandonment was probable. Then, in July 1979, the I.C.C. decided on and permitted this Milwaukee Road line to be abandoned. Also, in July 1979, the I.C.C. granted a 120-day public use negotiation period, which is to end March 19, 1980.

Therefore, any acquisition following this study must be decided upon before that date next Spring.

# MILWAUKEE ROAD CORRIDOR STUDY AREA



Map 2

## STUDY PROCESS

The process for this study consisted of four steps:

1. Determining what elements were the most important in deciding on acquisition of the Milwaukee Road ROW
2. Finding information about those elements
3. Drawing together the findings and analyzing them
4. Deciding whether to pursue acquisition of all or part of the ROW

As stated in the Introduction, we are now finished through step #2. This publication contains summaries of the different reports which will help in making the final decision. If as you read through them, you notice errors or significant omissions please let us know. The rear flap of this report can be detached and used as a self-addressed mailer.

### Studies Conducted

1. Adjacent Landowner Studies - In an attempt to determine the effects a trail might have on adjoining landowners, and to identify concerns related to the trail proposal, a social science research firm (John & Michele Genereux) was retained to interview landowners along the Milwaukee Road ROW. They also assisted in the development of a questionnaire administered to adjacent landowners along existing trails.

DNR staff contacted by phone and received input from approximately two-thirds of the landowners along the nearby Sparta-Elroy Trail in Wisconsin, the Heartland Trail in northcentral Minnesota, and the Douglas Trail between Rochester and Pine Island, Minnesota.

These studies provide a good review of issues related to the operation of recreational trails and pinpoint specific problem areas. They have the advantage, too, of comparing the perceived problems of those adjacent to the Milwaukee Road ROW with those actually encountered by residents living along existing trails.

2. Police and Fire Considerations - In the event that a recreational trail is developed on part or all of the abandoned railroad grade, additional tourists would surely be attracted to the area. What effect would this have on existing fire and police departments? Would they be able to adequately provide service for a trail?

To answer these and other questions, the DNR's Trails Planning Section turned to law enforcement agents and fire protection officials along existing trails developed upon abandoned railroad grades. Although one can never be sure, it was assumed that officials along the Milwaukee Road corridor might reasonably be expected to face problems similar to those experienced by those that we questioned.

In total, eleven fire officials and six county sheriffs having administrative jurisdiction over parts of the Elroy-Sparta Trail, the Heartland Trail, and the Douglas Trail were questioned by phone during September of 1979. They were asked specific questions, and encouraged to make additional comments.

3. Recreational Trail Needs - Of major concern to the DNR, is the question of use. How many people would take advantage of a state investment in a trail along the Milwaukee Road ROW? Is the Milwaukee Road area a good place to develop a state trail? Utilizing surveys of public opinion as to the desire for additional recreation facilities, and supplementing that information with usage figures from select recreation areas, both of these questions were examined by the DNR's Policy Planning Section.

4. Rare Natural Elements (Literature Search) - From a trails point of view, it is important to identify the occurrence of rare natural elements. This information is pertinent to the choice of recreation uses and development to be allowed, and contributes to the trails interpretive potential.

Therefore the DNR's Natural Heritage Program was asked to assemble information regarding the occurrence of rare plant and animal species and/or unique natural areas along the abandoned Milwaukee Road ROW. The information was taken from secondary sources, including university herbaria, museum collections, and knowledgeable individuals.

5. Natural Resource Assessment (Field Investigation) -The natural resource assessment was an on-site investigation of the natural features of the ROW from La Crescent to Ramsey Junction. The survey was performed jointly by the staffs of the DNR's Scientific and Natural Area Committee and the DNR's Regional Naturalist in Rochester.

6. Scenic Inventory - We have generally assumed that portions of the railroad corridor are beautiful enough to qualify as a state trail. But where are these stretches located, and how do they compare with the rest of the ROW? Knowing this information will be important when alternatives that could include all or parts of the railroad ROW are evaluated. The DNR's Trail Planning Section developed a list of criteria for evaluating visual quality, walked the abandoned railroad grade, and evaluated the landscape against those criteria at one-quarter mile intervals.

7. Agricultural Suitability - According to a recent report by the State Planning Agency (SPA) nearly 45% of the state's gross production is derived from agricultural products. Minnesotans, including the DNR, are rightfully concerned about a resource so important to the state's economy. But does this mean that development should not be undertaken if it has some adverse impact on the agricultural community? Perhaps, but where is the balance? Reports from the SPA and Soil Conservation Service were used to address these issues. This section of the study provides the reader an opportunity to look at soil resources of southeastern Minnesota in a statewide context.

8. Historic and Prehistoric Records Check - As in the case of natural resources, it is also important to know of an area's cultural resources. Therefore, we arranged for the Minnesota State Archaeologist's Office to conduct a records check on a two mile wide corridor along the abandoned ROW.

## INVENTORY RESULTS

### A SURVEY OF ADJACENT LANDOWNERS

#### Abstract

Two surveys were conducted for this study: Interviews with landowners whose properties are adjacent to the Milwaukee Road ROW between Spring Valley and a point east of Hokah, Minnesota; and interviews with landowners along the active Douglas, Heartland, and Sparta-Elroy trails in Minnesota and Wisconsin (see map 3). The former was conducted by a consultant and the latter by the DNR's Office of Planning staff.

Results of the surveys show that opposition to a proposed recreational trail in southeastern Minnesota is widespread among rural and urban landowners, with some variability in different geographic areas. Landowners along the well-traveled Sparta-Elroy trail reported more problems than those along less traveled trails in Minnesota.

Problems associated with trails reported by near-trail residents are not as varied or numerous as those reportedly anticipated by respondents along the Milwaukee Road Corridor. Problems reported by near-trail residents are more in the category of apprehensions than real, negative experiences. Many of the problems anticipated by landowners near the Milwaukee Road ROW are rooted in mistrust of the DNR as well as in a belief that railroad-related problems will be compounded if a trail is established on the ROW. Underlying this opposition is a belief that land, as it becomes available in rural areas, ought to be evaluated as farm land before it is considered for other uses---especially public uses such as outdoor recreation.



# Location of Trails in Survey



Map 3

The complete Survey of Adjacent Landowners report (Appendix A) includes sections on methods and findings accompanied by several attachments. Attachments include landowner lists, land use maps, and additional comments made by survey respondents.

### Process

1. John P. and M. Michele Genereux, Consulting and Research in the Social Sciences, were retained by the Minnesota DNR in July 1979. Their task was to determine the opinions and concerns of adjacent urban and rural landowners regarding conversion of the Milwaukee Road ROW to a recreation trail under state management.
2. For purposes of this study, the Milwaukee Road ROW is defined as the ROW 50 feet on either side of the Milwaukee Road railroad between Spring Valley and a point east of Hokah, Minnesota.
3. Affected landowners are defined as those persons owning, managing, or renting properties which are adjacent to and abut the ROW.
4. The principal research tool used in the study was a questionnaire designed by the consultant for use in telephone and at-home interviews.
5. A draft questionnaire was reviewed, separately, by the Milwaukee Road Study Task Force of DNR staff and the leadership of Citizens Rights to Purchase Property Inc. (CRPP) and Proper Land Use Supporters (PLUS) and their legal counsel and found acceptable by them, with proposed revisions.
6. A total population sample was used for the survey---that is, an attempt was made to identify and interview all adjacent landowners between Spring Valley and Hokah.
7. Prior to drafting a questionnaire, the consultants: flew the route with DNR staff, interviewed 8 administrative staff members at the DNR, interviewed 8 landowners at their homes, and visited each community along the study corridor.

8. Landowners were interviewed by the consultants between August 7 and August 20 from field bases in Winona and Lanesboro. Approximately 184 persons were interviewed by phone or at their homes or places of business representing ownership or use of 196 parcels of land.
9. Maps and aerial photos were used during interviews. Land use problems associated with the present railroad ROW or anticipated in connection with any trail development were noted on maps.
10. Maps and reference notes were submitted to the DNR for interpretation. Data was transferred from these maps to drawings for publication by DNR staff.
11. In a simultaneous study effort, DNR staff interviewed a randomly selected sample of landowners whose properties abut the Douglas, Heartland and Sparta-Elroy trails in Minnesota and Wisconsin. The consultant compared findings from this survey with those of the Milwaukee Road ROW survey.

#### Summary of Findings

1. DNR administrative staff believe that views expressed in public participation (e.g., landowners surveys, public meetings, hearing testimony) will have a weight of "9" on a scale of 1-10 when the state considers alternatives as it pursues a final decision on whether to purchase the corridor for public recreation.
2. Two out of every three landowners surveyed are opposed to public ownership of the corridor.
3. Three out of every four landowners surveyed are opposed to development of the corridor as a state trail.
4. 72% of the landowners surveyed own or farm agricultural land.
5. Land use along the abandoned Milwaukee Road ROW Corridor can be broadly defined as:

25% Urban	60% Rural farm
2% State-owned	12% Rural, non-farm

6. The railroad right-of-way borders adjacent properties in the following ways:
  - a) 48% Forms boundary outside the property
  - b) 13% Parallels boundary inside the property line
  - c) 28% Cuts diagonally through a parcel
  - d) 11% Is a combination of (a) - (c)
7. If the price were right, 88% of the survey respondents would buy the ROW adjacent to their properties.
8. The ROW has no productive uses for 17% of the respondents.
9. 68% of respondents do not believe the DNR could be trusted to maintain a Root River Corridor Trail.
10. If a trail were established along the ROW, respondents would prefer that the following activities be restricted or prohibited. Those who wanted all activities restricted are not included.

54% Night use  
52% Trail bikes  
50% Fires  
37% Camping  
37% Snowmobiles  
34% Hunting  
8% Horses

11. 85% of respondents believe that they understand what the state wishes to do with the ROW if the DNR purchases the land.
12. In the event that respondents had any questions about the right-of-way issue, 40% of them would trust the CRPP or PLUS groups to give them good answers. DNR was considered a trustworthy source by 13% of respondents.
13. Over 50% of respondents believe that the DNR should take sole responsibility for trail management. Respondents feel the following groups should be included in trail design and development. Many persons did not respond to this question (48%).

- 60% Local committee
- 59% County
- 56% Landowners
- 55% Township

14. Respondents name the following as land use problems associated with the ROW as it currently exists:

- 46% Weeds
- 26% Access
- 26% Reduced productivity
- 24% Equipment movement
- 18% Drainage
- 12% Moving stock
- 10% Pooling, ponding, yellowing of crops
- 10% ROW reduces flooding
- 10% Position of ROW increases privacy
- 1% Irrigation

15. Landowners along the Douglas, Heartland and Sparta-Elroy trails claim to have had the following trail-related problems:

- 25% Insecurity about property
- 23% Litter
- 17% Insecure about family safety
- 16% Noise
- 14% Access problems
- 9% Reduced productivity of land
- 9% Problems moving machinery about farm
- 7% Weeds

16. The homes of 72% of the respondents along the Douglas, Heartland, and Sparta-Elroy Trails are located within one mile of the trail ROW. Trails cut diagonally through 41% of the properties investigated. This does not appear to be significantly correlated with the problems associated with trails. Problems seem to be correlated with high use.

17. 90% of the respondents along the Minnesota trails think the DNR has done "an excellent job of trail management." 67% of the residents along the Sparta-Elroy Trail agree with this statement.
18. Roughly 70% of the residents along the three existing trails believe that, "having a trail has benefited the local economy."
19. Respondents in the Milwaukee Road survey and those in the existing trails surveys disagree about probable and actual effects; for example, one-third of the Milwaukee Road survey respondents believe local people would use a trail if one were built near their lands. 95% of the Minnesotans along the Douglas and Heartland Trails say, "local people use and enjoy" the trails; 78% of the Wisconsin respondents believe local people actually use the Sparta-Elroy Trail.
20. 80% of the respondents along the Sparta-Elroy Trail have been asked for help or services by trail users. 11% of these respondents are annoyed by such requests.
21. Residents along the three existing trails would prefer that the following users be prohibited:
  - 73% Motorbiking
  - 64% Hunting
  - 54% Night-time use
  - 35% Horseback riding
  - 26% Camping
  - 15% Picnicking
  - 13% Snowmobiling
  - 12% Ski-touring
  - 2% Bicycling
22. The DNR should discuss survey and other study results with affected landowners in small town meetings. Recommended meeting places are:
  - a) Rushford
  - b) Houston
  - c) Spring Valley

23. A township by township analysis reveals differences in data. Perhaps because they have fewer land use problems associated with the location of the ROW, residents in the area between Lanesboro and Rushford (Carollton Twp. - Rushford Twp.) may be less apt to strongly oppose trail negotiation with the DNR.

# SURVEY OF FIRE DEPARTMENT OFFICIALS ALONG SELECT RECREATIONAL TRAILS ON FORMER RAILROAD GRADES

## Background

A survey was conducted in September, 1979 to examine the impact on local fire departments of a recreational trail constructed on an abandoned railroad ROW. The procedure for this study consisted of telephone interviewing at least one fire official from each of the towns along three developed recreational trails: the nearby Elroy-Sparta trail in Wisconsin; the Douglas Trail between Rochester and Pine Island, Minnesota; and the Heartland Trail in northcentral Minnesota. The survey was conducted by DNR staff. A list of those contacted along with transcripts from the longer interviews can be found in Appendix B.

## Summary

The unanimous response of the officials was that fire hazards along these trails are very minor and present no special problems for their departments.

Fire officials along the Heartland Trail reported that there had been no fires at all along that trail. The fire officials responsible for the Douglas Trail reported that only one fire---a small grass fire---had occurred there. Although four of the fire officials located along the Elroy-Sparta Trail did report answering several fire calls on the trail in recent years, in all cases, it was reported that these fires were not serious and were not necessarily related to trail use. The fires mentioned were easily-controlled grass or brush fires which generally occurred in the early spring or fall fire seasons and which resulted in minimal property damage.

The fire officials responsible for the Elroy-Sparta Trail did, however, mention one problem related to fire protection along the trail; that was a jurisdictional one. The officials from Kendall and Sparta, in particular, reported uncertainty as to whether they or the DNR officials located in Tomah and Black River Falls were responsible for answering fire calls along the trail.



In summary, the results of this survey show that fire hazards on the Elroy-Sparta, Douglas, and Heartland Trails have been of minimal concern to fire department officials in those areas. The findings are in accordance with surveys of adjacent landowners conducted by the DNR along the same three trails reported on earlier. One of the nearby landowners interviewed along the Douglas and Heartland Trails mentioned fire as a trail-related problem; and only about 9% of those interviewed along the Elroy-Sparta mentioned it as a trail-related problem. In general, these findings tend to discount fears expressed by residents along the abandoned Milwaukee Road ROW of an increase in fire danger.

## SURVEY OF LAW ENFORCEMENT OFFICIALS ALONG SELECT RECREATIONAL TRAILS ON FORMER RAILROAD GRADES

### Background

A survey was conducted in September, 1979 to examine the impact on law enforcement agencies having jurisdiction over existing trails developed on abandoned railroad ROWs. Survey findings are reported to provide realistic information pertaining to expressed fears that crime might significantly increase as a result of trail development of the abandoned Milwaukee Road ROW. The procedure for this study consisted of telephone interviewing all county sheriffs whose jurisdictions cover portions of the Elroy-Sparta Trail in Wisconsin or the Douglas or Heartland Trails in Minnesota. This survey was conducted by DNR staff. A list of those contacted along with all interview transcripts can be found in Appendix C.

### Summary

In general, the county sheriffs all had favorable reactions to the trails. They reported receiving only a minimal number of complaints regarding the trail and were unanimous in stressing that none of those complaints were of a very serious nature. Most, complaints had to do with the use of motorized vehicles on the trail, some involved trespassing (mostly during snowmobiling and hunting seasons); but few involved anything so serious as theft or property damage.

None of the sheriffs reported that their workload had increased to any significant degree as a result of trail-related complaints. In fact, the Cass County sheriff responsible for the Heartland Trail asserted that his workload had actually decreased since the trail was established. The Heartland Trail, in his opinion, by providing snowmobilers with a permanent route, had resulted in a reduction in the total number of complaints received regarding trespassing during the snowmobile season.

In terms of the actual number of complaints received on the different trails, the largest number was reported by a county sheriff responsible for a portion of the Douglas Trail. He estimated receiving about a dozen calls per season, mostly regarding "renegade" snowmobilers or hunters plus a couple regarding theft or property damage. The other county sheriffs, however, did not report any incidents of theft or property damage and they described the number of complaints they received only in terms of "a few" or a "minimal" number. In fact, the Cass County sheriff did not remember receiving any calls at all this past season. In general, the county sheriffs responsible for the Heartland Trail had the most favorable reactions toward the trails.

In conclusion, although some sheriffs have received a small number of complaints regarding the trail, few, if any, were identified as serious. It appears that there is little reason to fear development of the abandoned Milwaukee Road ROW from a law enforcement point of view.

## TRAIL NEEDS OF SOUTHEASTERN MINNESOTA

### Background

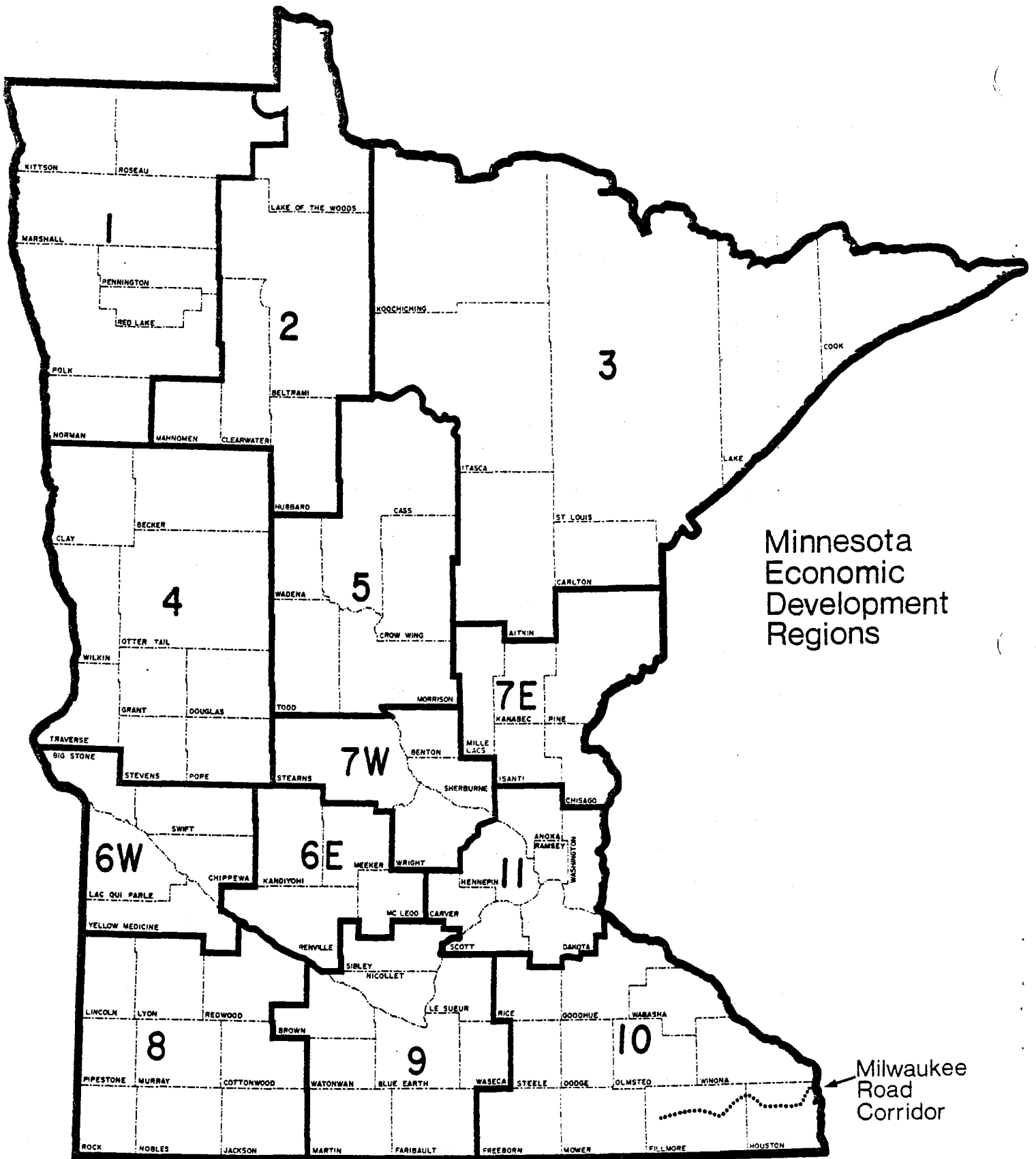
The investigation is based on data collected through the 1977-78 State Comprehensive Outdoor Recreation Plan (SCORP) surveys and a field survey of users on Wisconsin's Sparta-Elroy trail. See Appendix D for the complete report.

This investigation addresses four questions to measure the need for trail recreation opportunities in southeast Minnesota:

1. How often do Minnesotans participate in trail activities?
2. What is the size of the public desiring additional trail opportunities?
3. How many annual use occasions can be expected to occur on a trail along the Root River?
4. Based on where people live in Minnesota, what is the most accessible area in southeast Minnesota for trail opportunity development?

### Results

1. Trail activities are quite popular with Minnesotans. SCORP surveys estimate that Minnesotans bicycled more than 56 million times in 1978. Region 10 (southeastern Minnesota) residents contributed six million of those occasions. Twin Cities Metro Area residents (Region 11) contributed nearly 27 million. Statewide, snowmobiling was the next most popular trail activity (9.5 million occasions). Region 11 contributed three million of those and Region 10, one million. Hiking and cross-country skiing followed in popularity both statewide and in Region 11. In Region 10, horseback riding and hiking were followed by cross-country skiing.
2. More respondents to the 1978 SCORP asked for increased bicycling opportunities than for an increase in any other recreational facility. Region 10 and Region 11 residents voiced a stronger desire with approximately 22



Minnesota  
Economic  
Development  
Regions

Map 4

percent of the residents in each region wanting more bicycling opportunity. The desire for additional opportunities for other trail-oriented activities was mixed. At the state level, between 7 percent and 11 percent wanted more cross-country skiing, snowmobiling and hiking. Increased hiking opportunities were more popular with Region 10 residents (12 percent) than increased snowmobiling (8.7 percent) or cross-country skiing (8.1 percent). In Region 11 increased cross-country skiing opportunities (11.9 percent) were more popular with residents than increased hiking (8.2 percent) or increased snowmobiling (6.3 percent).

Increased bicycling, snowmobiling, cross-country skiing and hiking opportunities all rank in the top 10 requested activities by statewide, Region 10 and Region 11 residents.

3. Based on a judgement of the similarities of the resources and markets served by the Wisconsin Sparta-Elroy trail and a potential trail along the Root River it is estimated that a Root River trail would be used 23,000 times in the fifth year of use.
4. In general, based only on the location of Minnesota residents and their estimates of reasonable distances to travel for average trail experiences, trail opportunities developed in the Root River area would attract fewer users than trail opportunities developed in the area bounded by the Twin Cities Metropolitan Area, Rochester and Winona. This generally holds true for all types of trail use except bicycling. Both linear trail alignments examined in this report appear to serve the same size bicycling public. Therefore, resource qualities should be the determining factor for bicycle trail locations.

## RARE NATURAL ELEMENTS (LITERATURE SEARCH)

### Background

A literature search was conducted to assemble information regarding the occurrence of rare plant and animal species and/or unique natural areas along the abandoned railroad right-of-way between La Crescent and Spring Valley, Minnesota. The information presented in the report was gathered from secondary sources, including university herbaria, museum collections and knowledgeable individuals. It supplements and complements field survey work documented in this report's next section---Natural Resource Assessment (Field Study).

### Summary

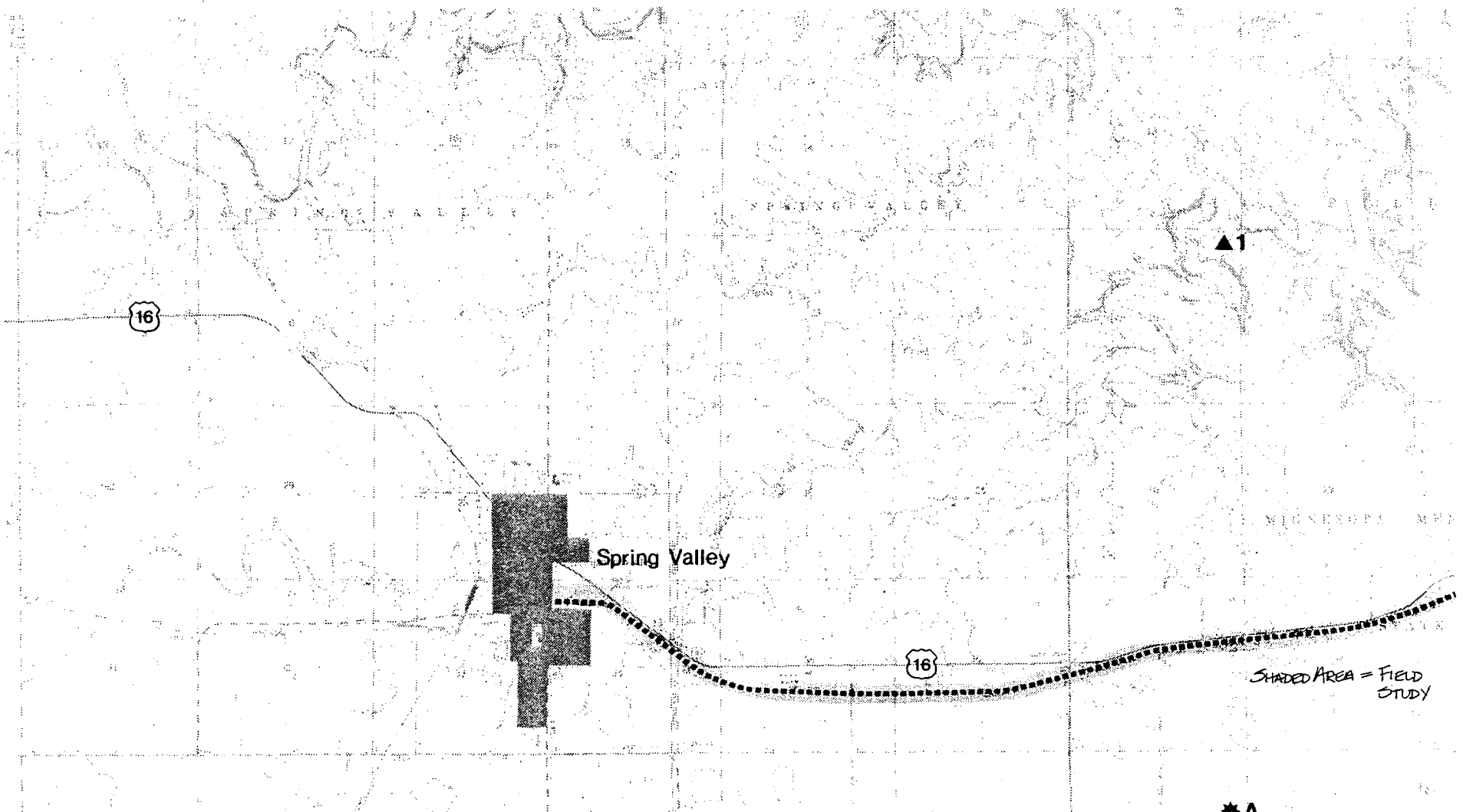
#### Rare Plants

Three of the 60 plant species that have initially been designated as rare natural elements in Minnesota are found in the Root River Valley: Botrychium dissectum (grape-fern), Hamamelis virginiana (witch hazel), and Chrysosplenium isense (golden saxifrage). The latter is widely distributed in the arctic but is known in temperate regions only in northeast Iowa and the Root River Valley. Prime consideration should be given to these species in the planning of any development in the area.

Sixteen additional plants that are uncommon in Minnesota are also found in the Root River Valley. These species are currently potential candidates for inclusion as rare natural elements.

#### Rare Animals

Three of Minnesota's 20 rare bird elements have occurrence records near the proposed trail: the great blue heron, great egret, and bobwhite. Both the heron and egret are found at the Hokah colony nest site. With a combined total of nearly 600 nesting pairs, the Hokah colony is among the largest in the state. Recent observation of the third rare bird element, the bobwhite, suggests that it



SHADED AREA = FIELD STUDY

**Milwaukee Road Corridor - Study Area**  
**Resources of Natural Significance**

- Potential rare animal element occurrence
- Rare animal element occurrence
- △ Potential rare plant element occurrence
- ▲ Rare plant element occurrence
- ★ Geologic feature
- ▣ Area of natural significance

Source: Natural Heritage Program  
Division of Parks and Recreation

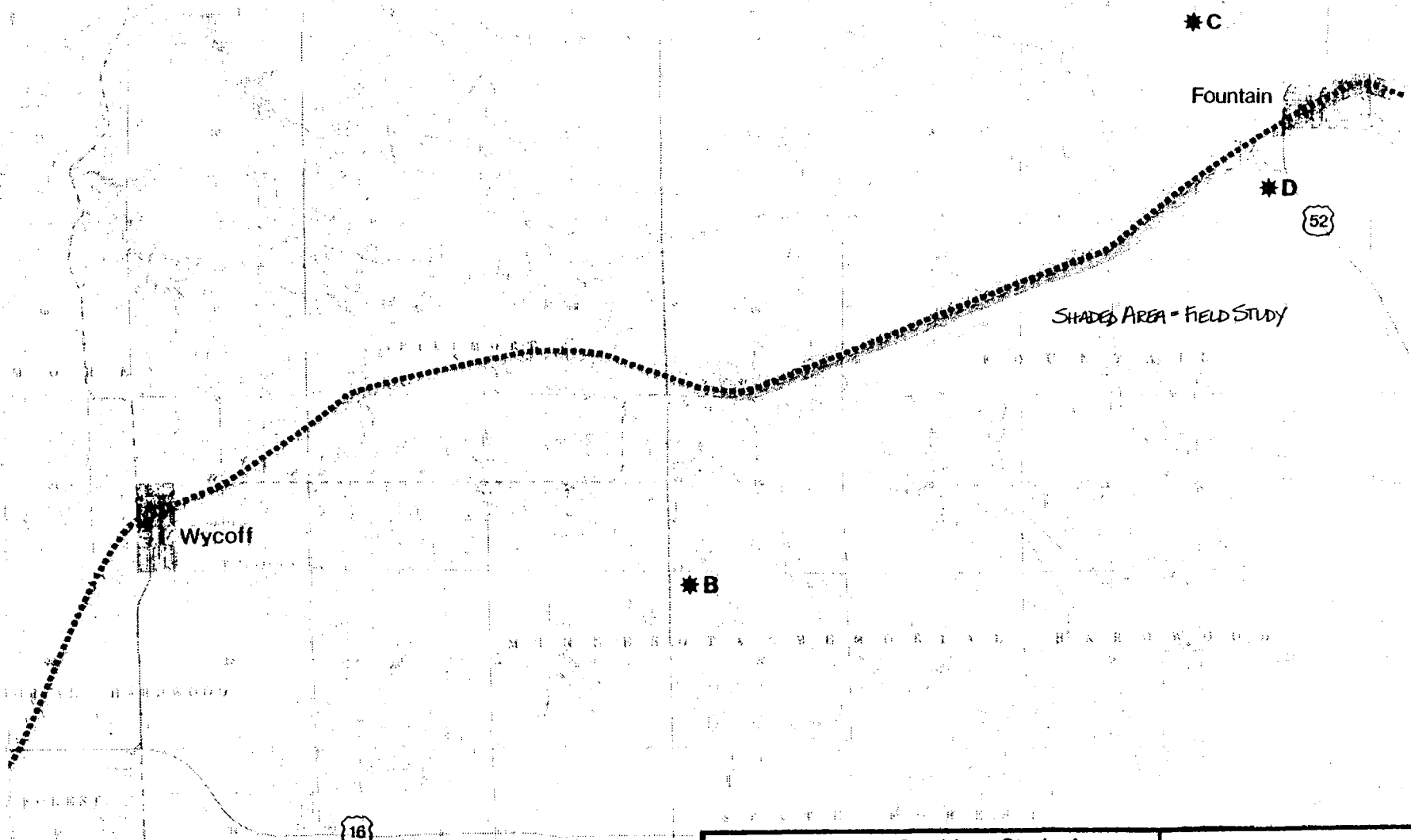
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**Location Map**  
 Approx. Scale 1:62,500

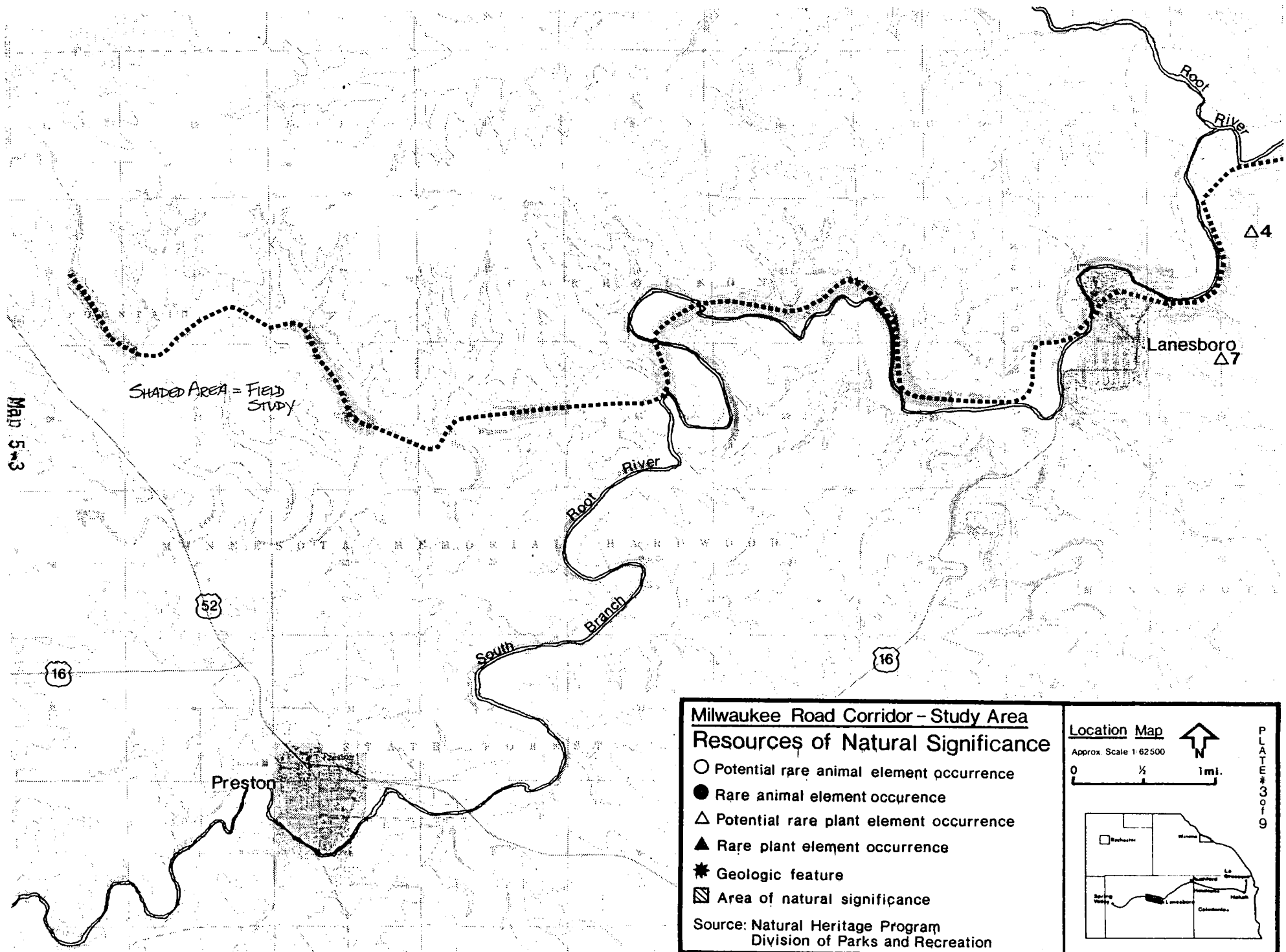
0 1/2 1 mi.

Racine Waubesa Spring Valley Columbus





<p><b>Milwaukee Road Corridor - Study Area</b>  <b>Resources of Natural Significance</b></p> <ul style="list-style-type: none"> <li>○ Potential rare animal element occurrence</li> <li>● Rare animal element occurrence</li> <li>△ Potential rare plant element occurrence</li> <li>▲ Rare plant element occurrence</li> <li>* Geologic feature</li> <li>▣ Area of natural significance</li> </ul> <p>Source: Natural Heritage Program          Division of Parks and Recreation</p>		<p><b>Location Map</b></p> <p>Approx. Scale: 1:62,500</p> <p>0 1/2 1 mi.</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">PLATE # 2019</p>
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Map 5-3

SHADED AREA = FIELD STUDY

**Milwaukee Road Corridor - Study Area**  
**Resources of Natural Significance**

- Potential rare animal element occurrence
- Rare animal element occurrence
- △ Potential rare plant element occurrence
- ▲ Rare plant element occurrence
- ★ Geologic feature
- ▨ Area of natural significance

Source: Natural Heritage Program  
 Division of Parks and Recreation

---

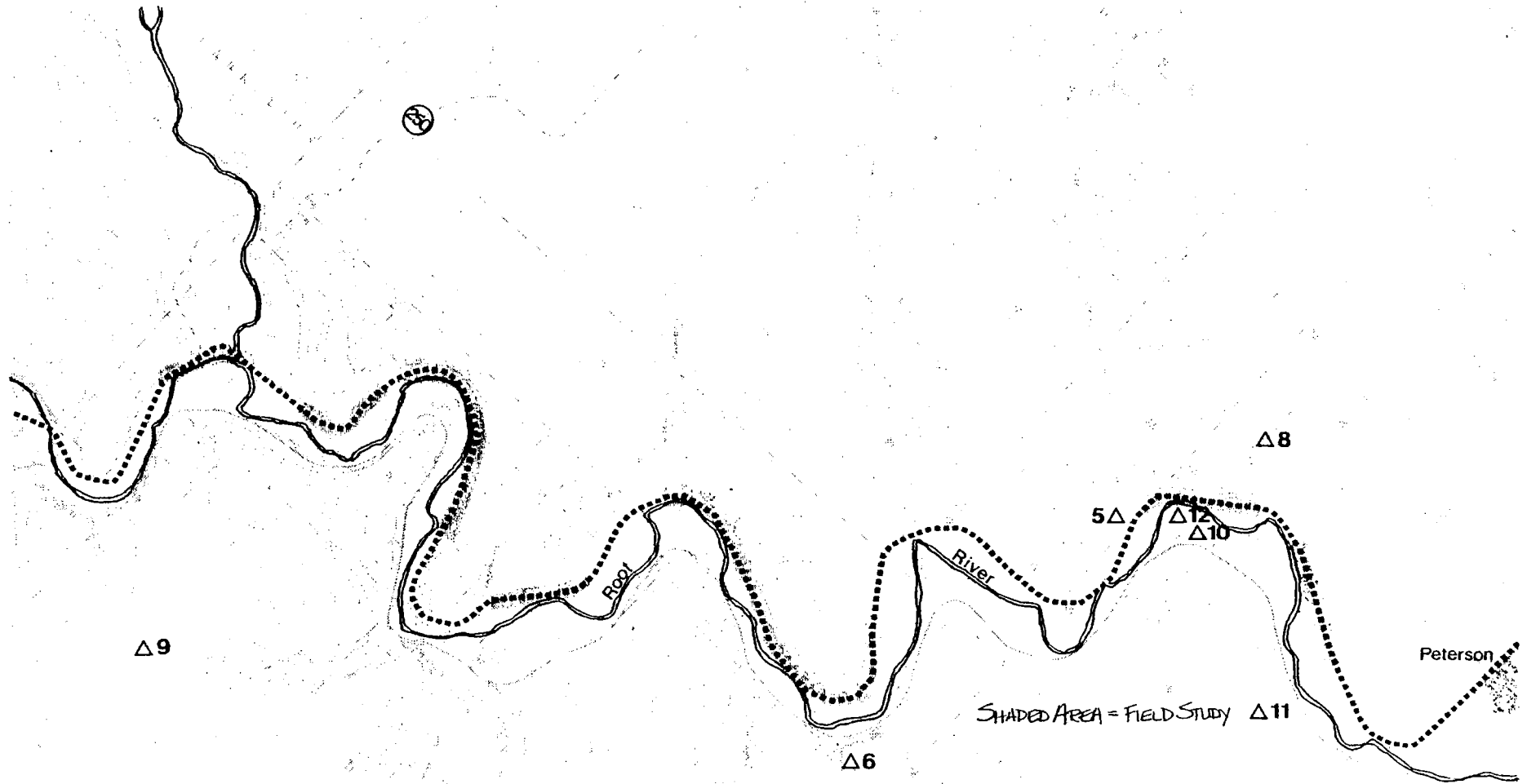
**Location Map**

Approx. Scale 1:62,500

0 1/2 1 mi.

PLATE # 3019

30  
Map 5-4



**Milwaukee Road Corridor - Study Area  
Resources of Natural Significance**

- Potential rare animal element occurrence
- Rare animal element occurrence
- △ Potential rare plant element occurrence
- ▲ Rare plant element occurrence
- \* Geologic feature
- ▣ Area of natural significance

Source: Natural Heritage Program  
Division of Parks and Recreation

**Location Map**

Approx. Scale 1:62500

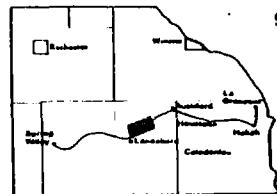
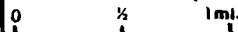


PLATE # 4 of 9

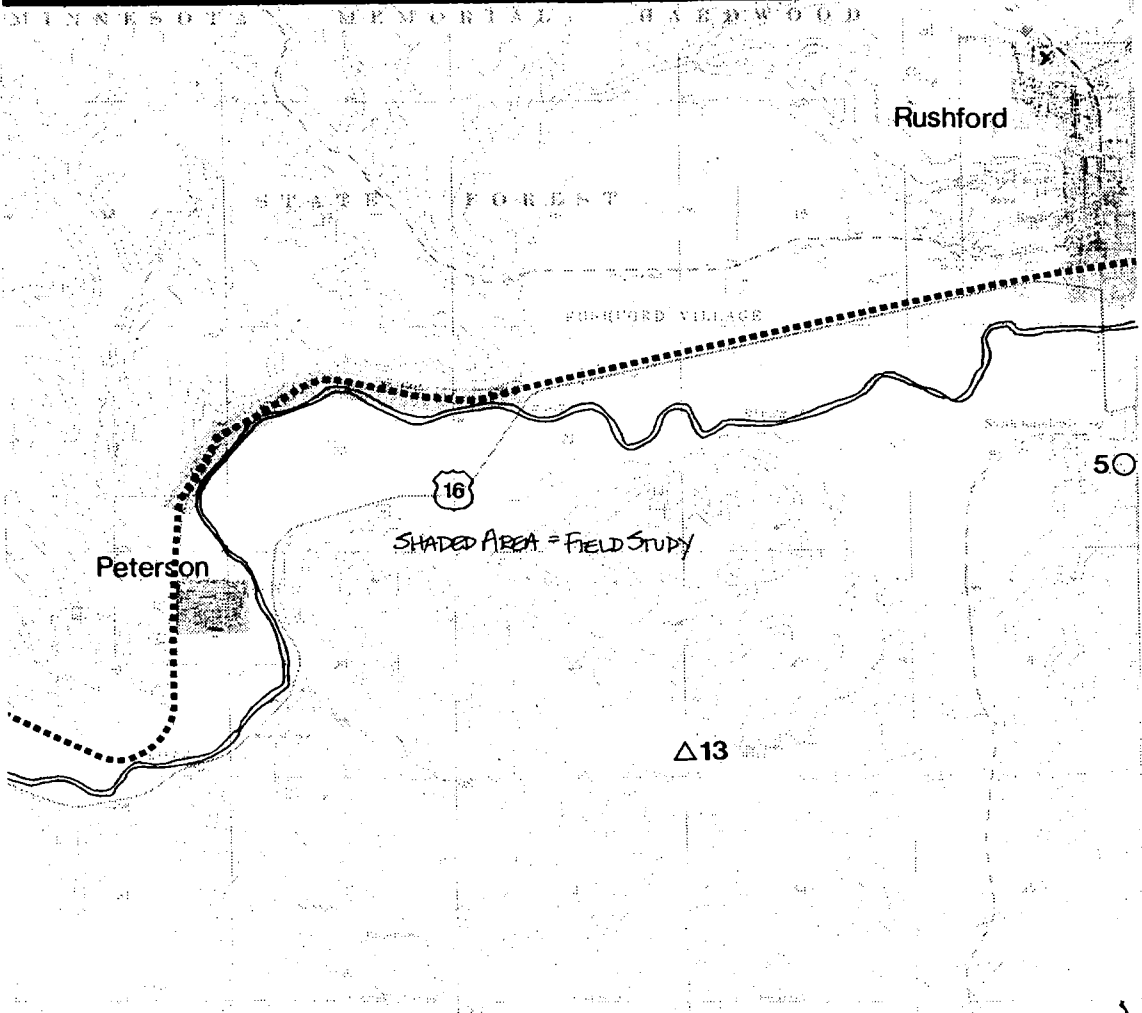
**Milwaukee Road Corridor - Study Area**  
**Resources of Natural Significance**

- Potential rare animal element occurrence
- Rare animal element occurrence
- △ Potential rare plant element occurrence
- ▲ Rare plant element occurrence
- ★ Geologic feature
- ▨ Area of natural significance

Source: Natural Heritage Program  
 Division of Parks and Recreation

**Location Map**  
 Approx. Scale: 1:62,500  
 0 ¼ 1 mi.

PLATE # 5 of 9



**Milwaukee Road Corridor - Study Area  
Resources of Natural Significance**

- Potential rare animal element occurrence
- Rare animal element occurrence
- △ Potential rare plant element occurrence
- ▲ Rare plant element occurrence
- \* Geologic feature
- ▨ Area of natural significance

Source: Natural Heritage Program  
Division of Parks and Recreation

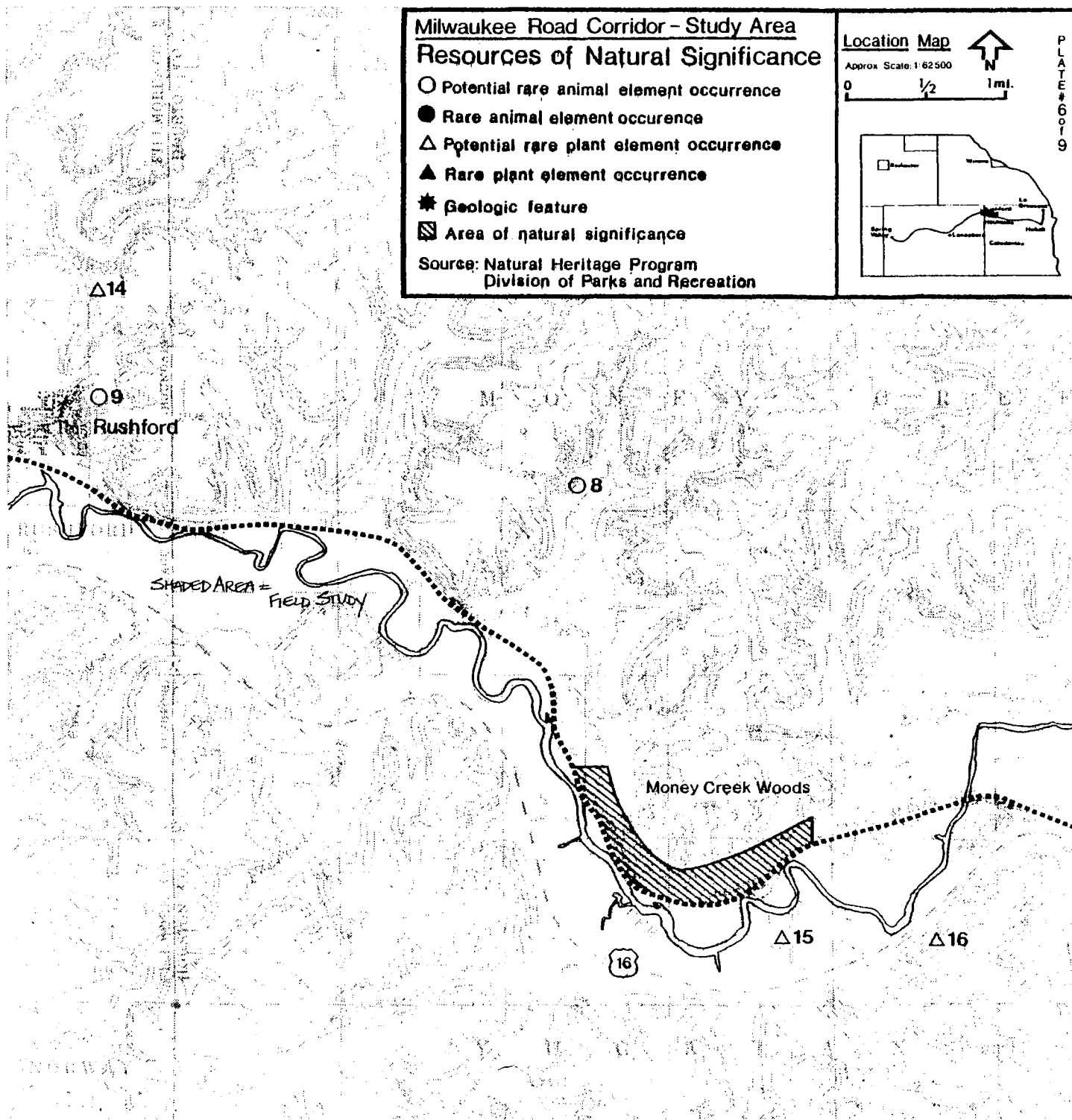
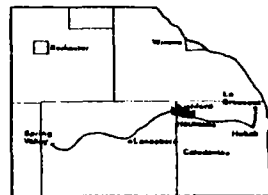
**Location Map**

Approx. Scale: 1:62,500

0 1/2 1 mi.



PLATE # 6019



**Milwaukee Road Corridor - Study Area  
Resources of Natural Significance**

- Potential rare animal element occurrence
- Rare animal element occurrence
- △ Potential rare plant element occurrence
- ▲ Rare plant element occurrence
- \* Geologic feature
- ▣ Area of natural significance

Source: Natural Heritage Program  
Division of Parks and Recreation

**Location Map**

Approx. Scale: 1:62500

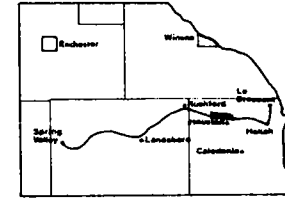
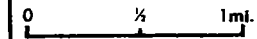
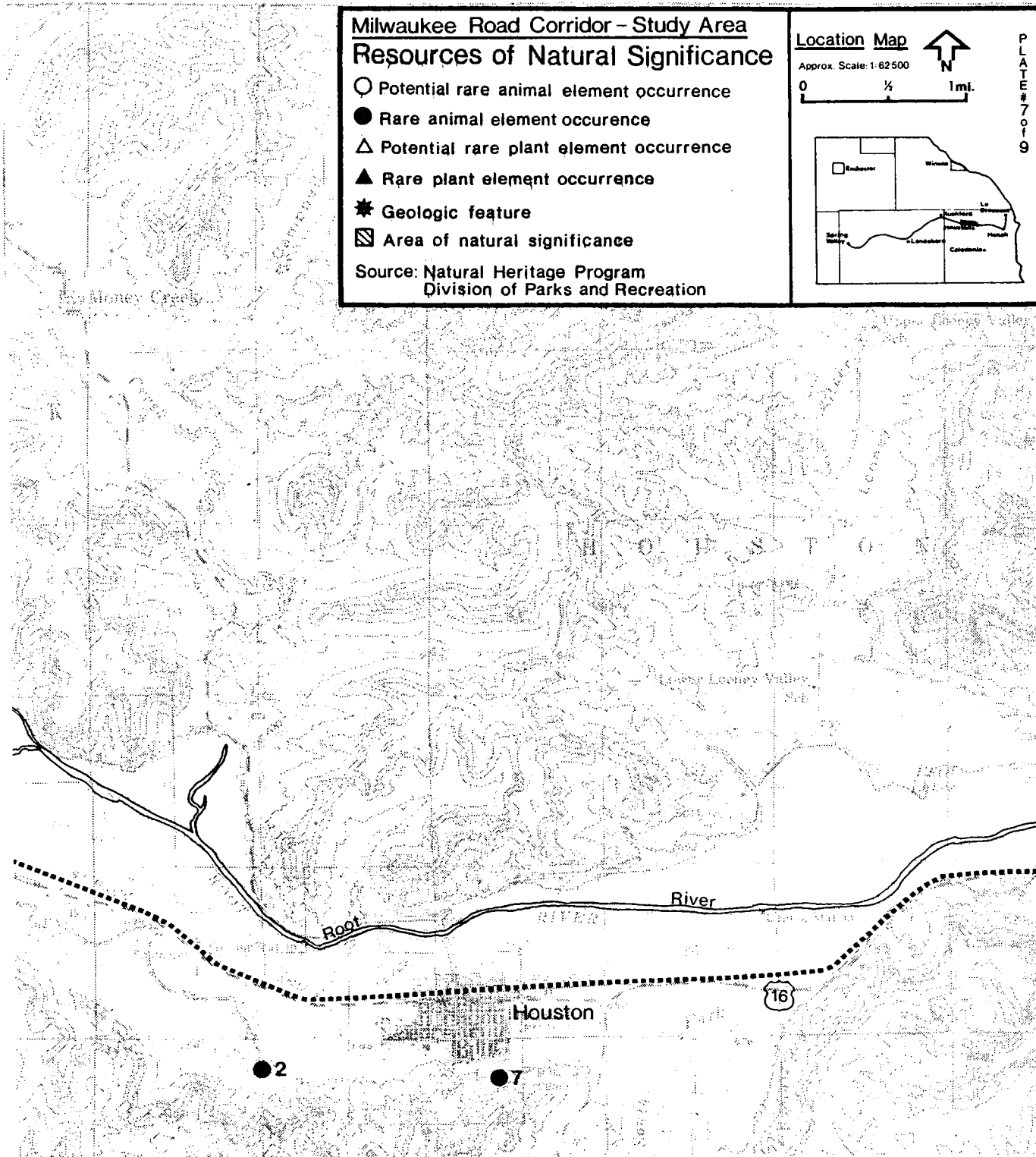


PLATE # 7 of 9



**Milwaukee Road Corridor - Study Area**  
**Resources of Natural Significance**

- Potential rare animal element occurrence
- Rare animal element occurrence
- △ Potential rare plant element occurrence
- ▲ Rare plant element occurrence
- ★ Geologic feature
- ▨ Area of natural significance

Source: Natural Heritage Program  
 Division of Parks and Recreation

**Location Map**

Approx Scale 1:62500

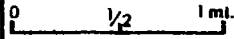
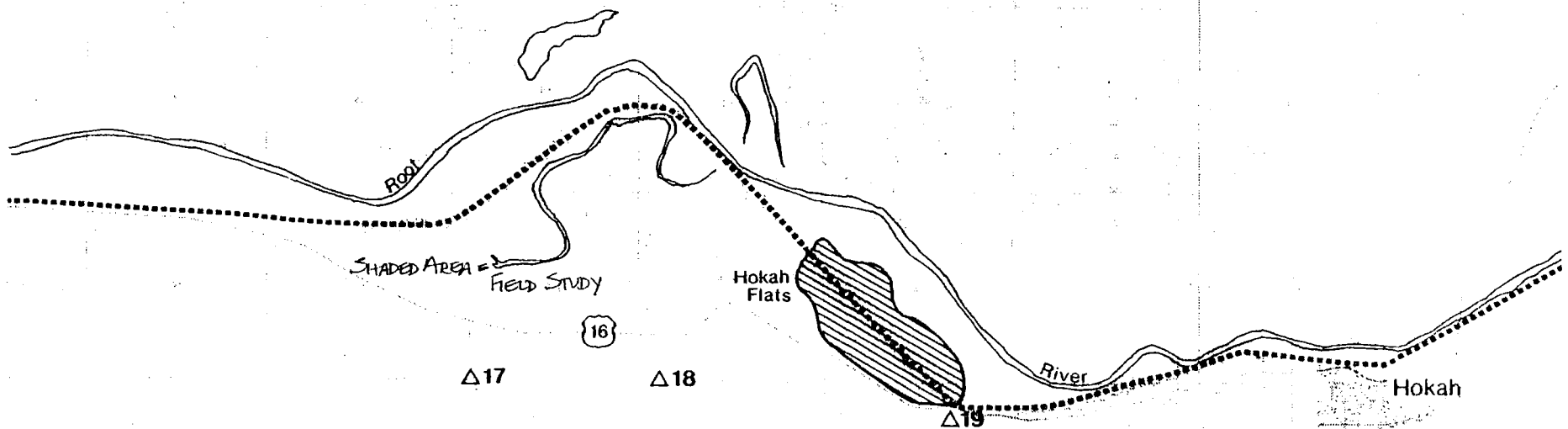
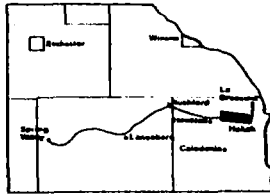


PLATE #8019



**Milwaukee Road Corridor - Study Area  
Resources of Natural Significance**

- Potential rare animal element occurrence
- Rare animal element occurrence
- △ Potential rare plant element occurrence
- ▲ Rare plant element occurrence
- \* Geologic feature
- ▨ Area of natural significance

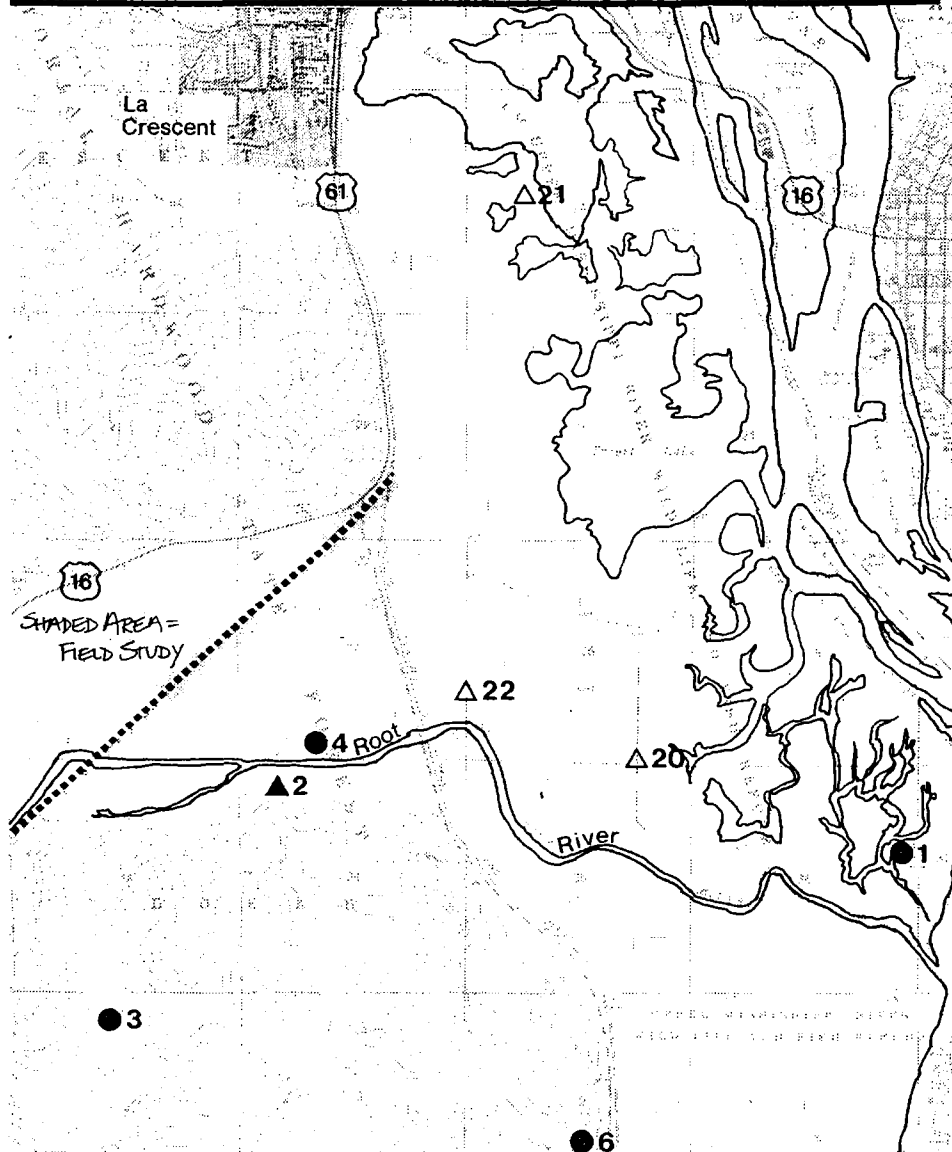
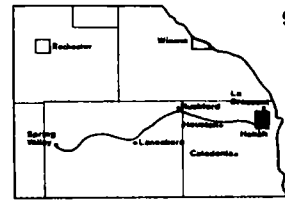
Source: Natural Heritage Program  
Division of Parks and Recreation

**Location Map**

Approx. Scale: 1:62500



PLATE # 99-9



Map 5-9



is restricted to western Houston and Fillmore Counties. In January 1978, a covey of 12 was observed near the town of Houston. Although there are no recorded sightings from the valley, the Bell's vireo, another rare element, may also occur in the area. Other birds that have been sighted in the valley that may be added to Minnesota's list of rare elements in the future include the Acadian flycatcher, Louisiana waterthrush, Copper's hawk and marsh hawk.

Two of Minnesota's 17 mammal rare elements may be observed in the vicinity of the proposed trail---the eastern pipistrel bat and the pine vole. Four other species that may be included as rare elements in the future and that may also be observed in the valley include the least weasel, silver-haired bat, Keen's myotis bat and opossum.

Among Minnesota's 13 rare amphibian and reptile species, four have been collected (during the 1940s) near the Root River: the pickerel frog, cricket frog, prairie ringneck snake and blue racer. There are also recent sightings of the six-lined race runner near the town of Hokah. Other rare species that have been reported in Houston and/or Fillmore Counties include the bullfrog, black rat snake and Blanding's turtle.

Three uncommon fish species have also been reported from the Root River: the pugnose shiner, highfin carpsucker and pugnose minnow. The pugnose shiner is the rarest of the three species and is considered one of Minnesota's rarest shiners.

Among Minnesota's 14 rare butterflies, one, the olive hairstreak, has been collected in the Root River Valley (in the town of Houston). A second species, the wild indigo dusty wing, may also occur in the area.

Finally, a rare tiger beetle, Cicindella macra, has been collected from the shores of the Root River in Rushford.

#### Geologic Features

The Root River Valley is of interest geologically for three major reasons:

1. The exposures of Cambrian stratigraphy that are revealed most fully in the lower reaches of the Root River

2. The extensive development of caves, underground streams and karst topography found throughout the area, particularly from Spring Valley to Fountain
3. The river flows through the "Driftless Area". One of the conspicuous features in this area is the alluvial terrace found along the river (as well as along the Cannon, Zumbro, and Whitewater Rivers).

### Plant Communities

A brief description of the major communities found in southeastern Minnesota was presented. More detailed information regarding the presence and frequency of rare plant communities along the proposed trail can be found in the full report (Appendix E).

## NATURAL RESOURCE ASSESSMENT (FIELD STUDY)

### Background

In August of 1979, 103 miles of the Milwaukee Road Corridor were surveyed by DNR personnel. The purpose of the survey was to identify and classify community types, with special attention being given to native vegetation.

The full report (Appendix F) includes discussions of: community types, significant resource areas, wildlife potential, and interpretive potential, as well as an overview of the area's landscape regions. Due to the limited time allotted for the study only the plants in bloom or those whose vegetation characteristics were positively known to the researchers could be identified.

The study corridor was roughly divided into three sections: Ramsey to Spring Valley, Spring Valley to Fountain, and Fountain to La Crescent. While the full report discusses the resources of all three sections, the first section, Ramsey to Spring Valley, has not been included in the summary. This is due to the fact that this section of the corridor was excluded from further consideration for recreational trail use (see Introduction).

### Summary of Findings

#### Community Types

Eight vegetation community types, one aquatic community and three disturbance types were evaluated for quality and occurrence. The community types and classifications for the ROW and adjacent land from Spring Valley to La Crescent are reported in Table I.

The grass plant Melica mitans (three flower melic), unique to the southeastern portions of Minnesota, was found in the ROW between Fountain and La Crescent. (This is one of four known locations in Minnesota.)

Significant Natural Areas (see Map 5)

Table 1: Community Types and Classification of the ROW and Adjacent Land Between Spring Valley and La Crescent, Minnesota

Right of Way	Total Miles	Miles Class 1	Miles Class 2	Miles Class 3	Unnatural un-classified
Prairie	9.1	1.1	2.5	5.5	
Disturbed grassland	15.3		8.2		7.1
Brush	22.5		2.0	14.4	6.1
Agriculture	3.1				3.1
Photo interpreted: Ag./disturbed	22.0				22.0
<b>TOTAL</b>	<b>72.0</b>	<b>1.1</b>	<b>12.7</b>	<b>19.9</b>	<b>38.3</b>
<b>Adjacent Land</b>					
Aspen	1.2		.4	.6	.2
River bottom forest	9.2	1.2	3.2	4.8	
Oak-Elm-Walnut	6.4	2.0	2.2	2.0	.2
Maple-Basswood	.6	.4			.2
Oak barrens	1.2		.8	.4	
Brush	2.8	.2	1.0	1.2	.4
Prairie	2.2		1.0	1.2	.4
Disturbed grassland	.2			.2	
Marsh	.6	.2	.2		.2
Open water	3.8				3.8
Agriculture	15.5				15.5
Development	2.4				2.4
Roadside	3.9				3.9
Photo interpreted: Ag./disturbed	22.0				22.0
<b>TOTAL</b>	<b>72.0</b>	<b>4.0</b>	<b>8.8</b>	<b>10.0</b>	<b>49.2</b>

Hokah Flats: 150 acres containing high quality marsh with a wide diversity of undisturbed plant communities. The unique plant Melica mitans is found here.

Money Creek Woods: contains good examples of mature oak and some maple-basswood forests.

### Wildlife Potential

The wildlife values of undisturbed grasslands along and within the ROW, where the surrounding areas are intensively cropped, are great.

### Interpretive Potential

The east-west transect nature of the ROW would provide an opportunity to observe a large number of both the native flora and fauna existing in Minnesota's prairie and woodland biomes.

The Fountain to La Crescent section of the ROW provides an excellent opportunity to interpret features that are uncommon or nonexistent in other portions of the state.

## SCENIC INVENTORY

### Purpose

The intent of this study element was to look at the railroad ROW throughout its entirety from Spring Valley to La Crescent, Minnesota and rate its visual quality. The purpose was not to compare this potential trail with others around the midwest (although the chosen methodology might allow that in the future).

The entire length was surveyed and rated at quarter-mile intervals on the following qualities:

- Complexity of the visual field
- Complexity of the visual edge
- Enclosure
- Distance of views
- Orientation to water
- Landform ruggedness
- Important views of SE Minnesota

The entire report can be found in Appendix G.





### Relevance to Users and Recommendations

Results are summarized graphically on Map 6.

From the scores alone it appears that the better scenery on the railroad ROW can be found between Fountain and La Crescent, with the highest scores being located between Lanesboro and La Crescent. A trail developed between Fountain and La Crescent would provide the user an opportunity to experience the last two of the four major landscapes identified in the process of this study. (i.e., "the" valley floor "and the" Mississippi backwaters"). On the other hand, if greater weight is placed upon providing the user with the opportunity to experience the many differing aspects of the region, it would be necessary to continue a trail further west through the "transition zone", up out of the valley, and on to the "rolling uplands" near Fountain, on to Wycoff or even Spring Valley. This would provide the trail user an opportunity to experience all four of the major landscapes in the area.

# Milwaukee Road - Study Area

## VISUAL INVENTORY

-  GOOD VISUAL VALUE
-  BETTER VISUAL VALUE
-  BEST VISUAL VALUE
-  MILEMARKER

Physiographic Map of Root River Area

Original Cartography by Ramesh Venkatakrishnan

Minnesota Geological Survey, University of Minnesota

Southeast Minnesota Karst Project

funded through

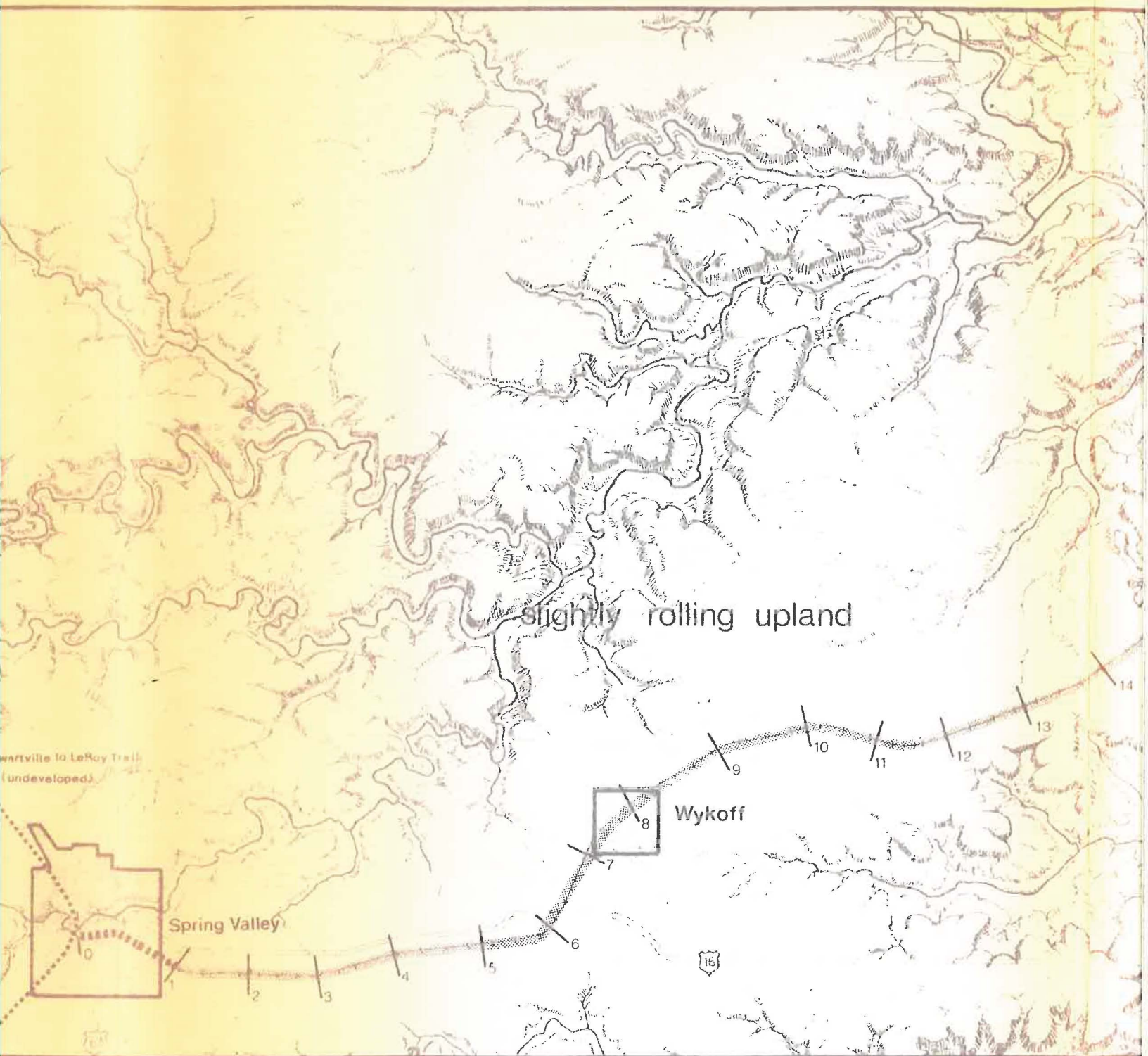
Legislative Commission on Minnesota Resources, 1979

Approximate Scale 1 100,000



Source: DNR Study - Trails and Waterways, October 1979





slightly rolling upland

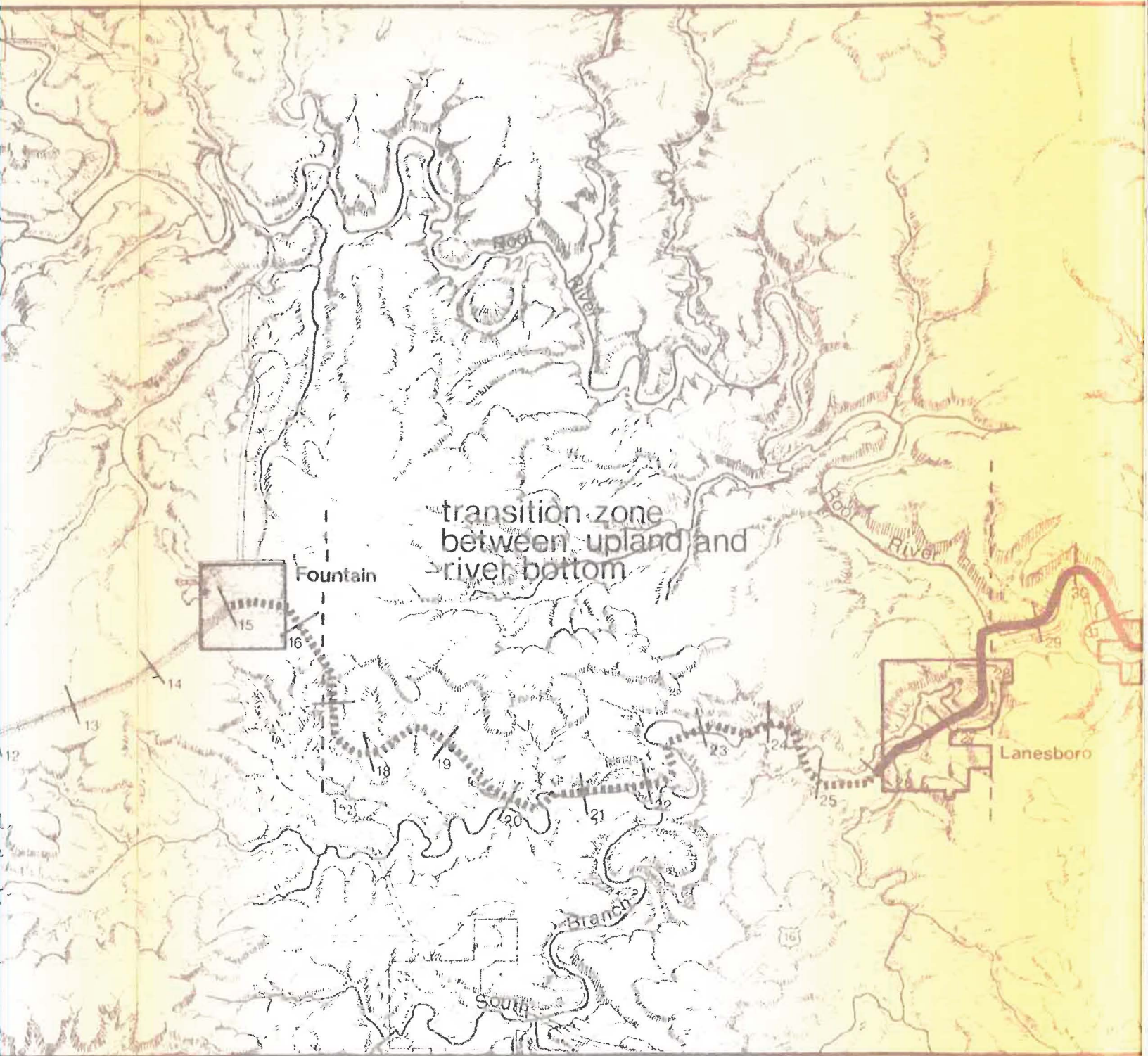
Springville to LeRoy Trail  
(undeveloped)

Spring Valley

Wykoff

18





transition zone  
between upland and  
river bottom

Fountain

Lanesboro

South

Branch

River



12  
13  
14

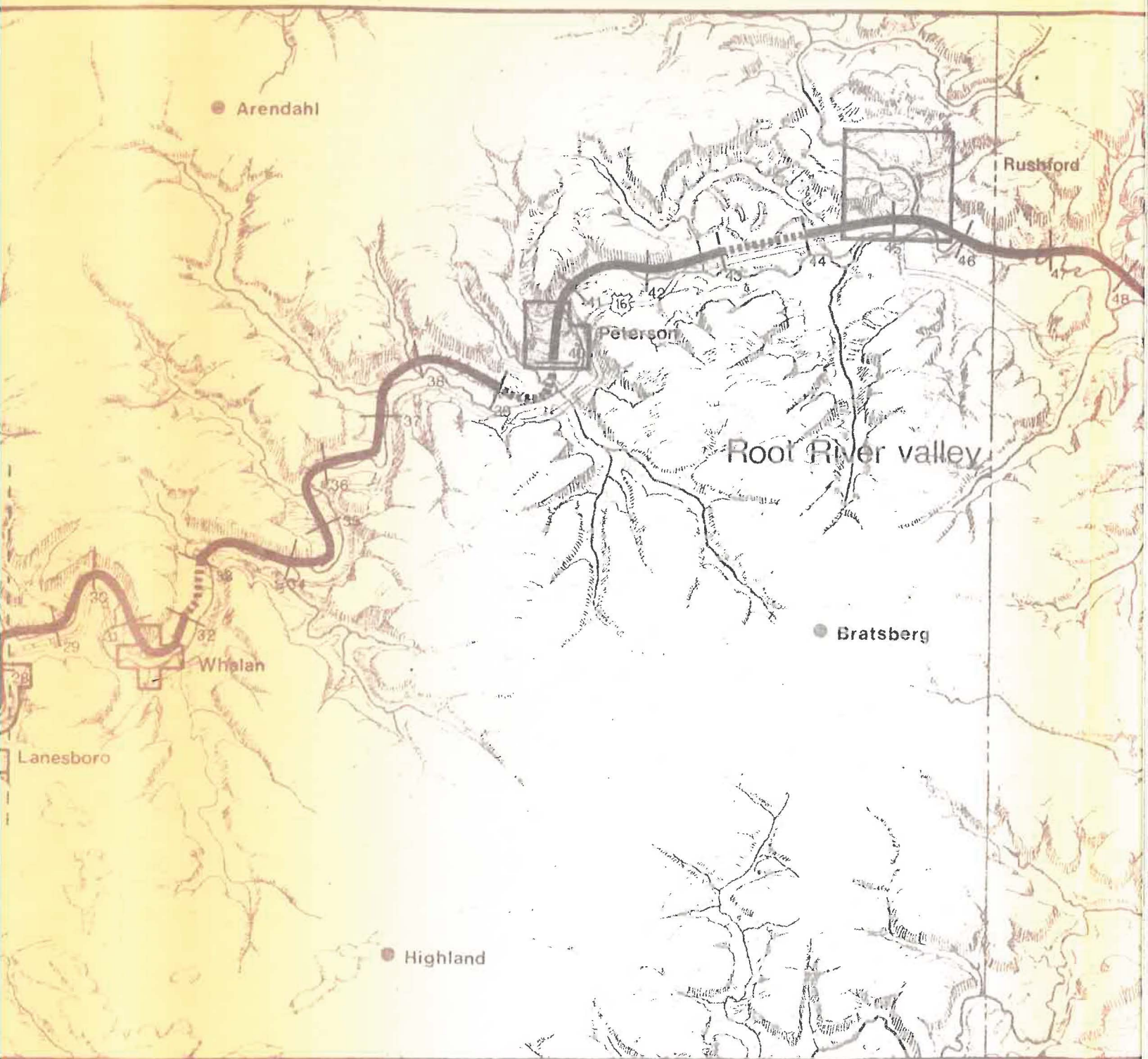
18  
19

20  
21

23  
24

25

28  
29  
30  
31



● Arendahl

Rushford

Peterson

Root River valley

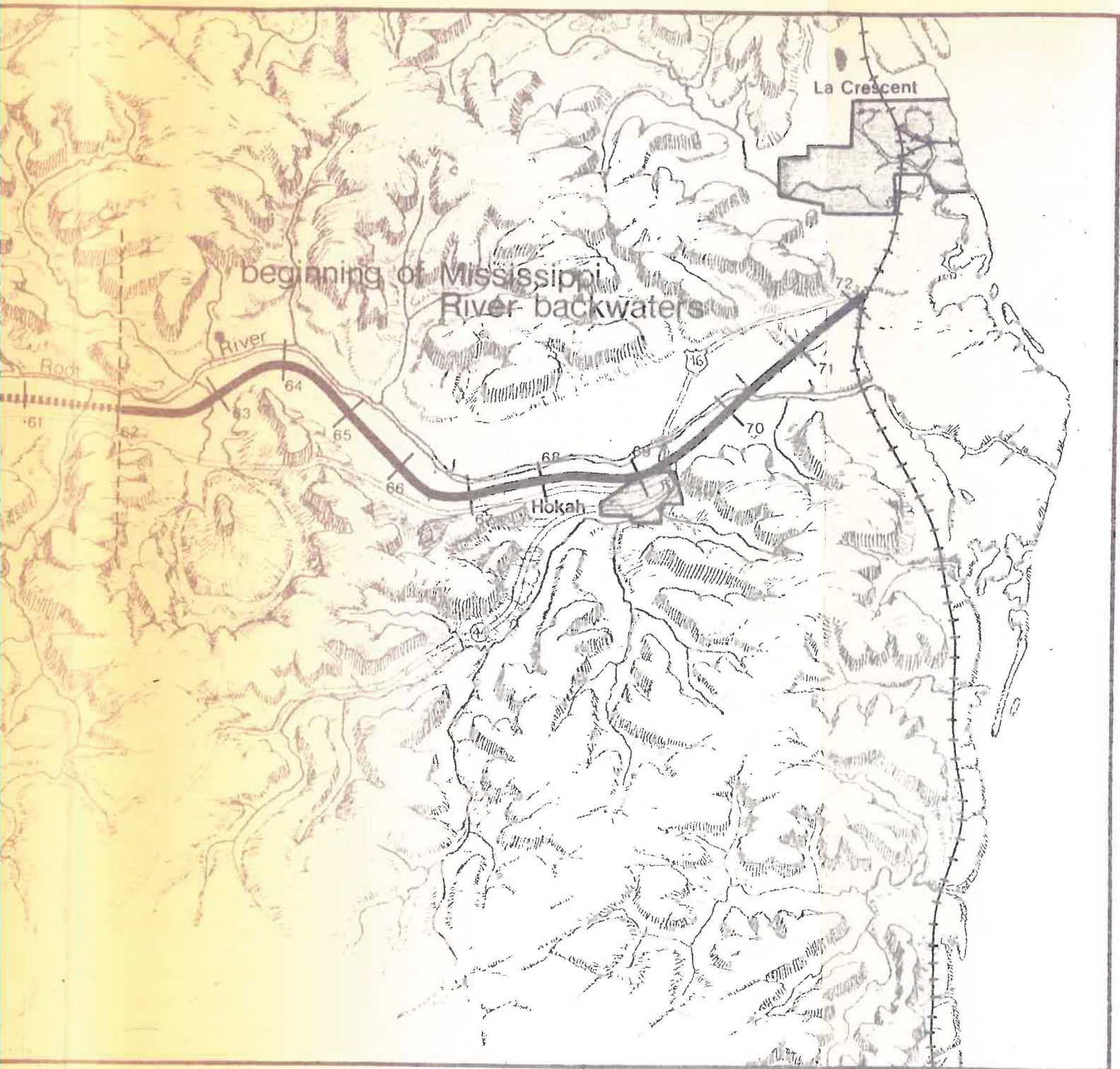
● Bratsberg

Whalan

Lanesboro

● Highland





beginning of Mississippi  
River backwaters

La Crescent

River

Hokah

16

61

62

63

64

65

66

68

69

70

71

72

Assuming that it would not be feasible to acquire the entire railroad grade from Spring Valley almost to La Crescent, from a visual appreciation point of view; acquiring the stretch between Fountain and Rushford would provide the best combination of individual site characteristics and maximum environmental variety. On this stretch, the user would be exposed briefly to the rolling uplands the transition zone, and finally, a sizable portion of the valley floor environment. The only major landscape missed would be the Mississippi backwaters.

## AGRICULTURAL SUITABILITY

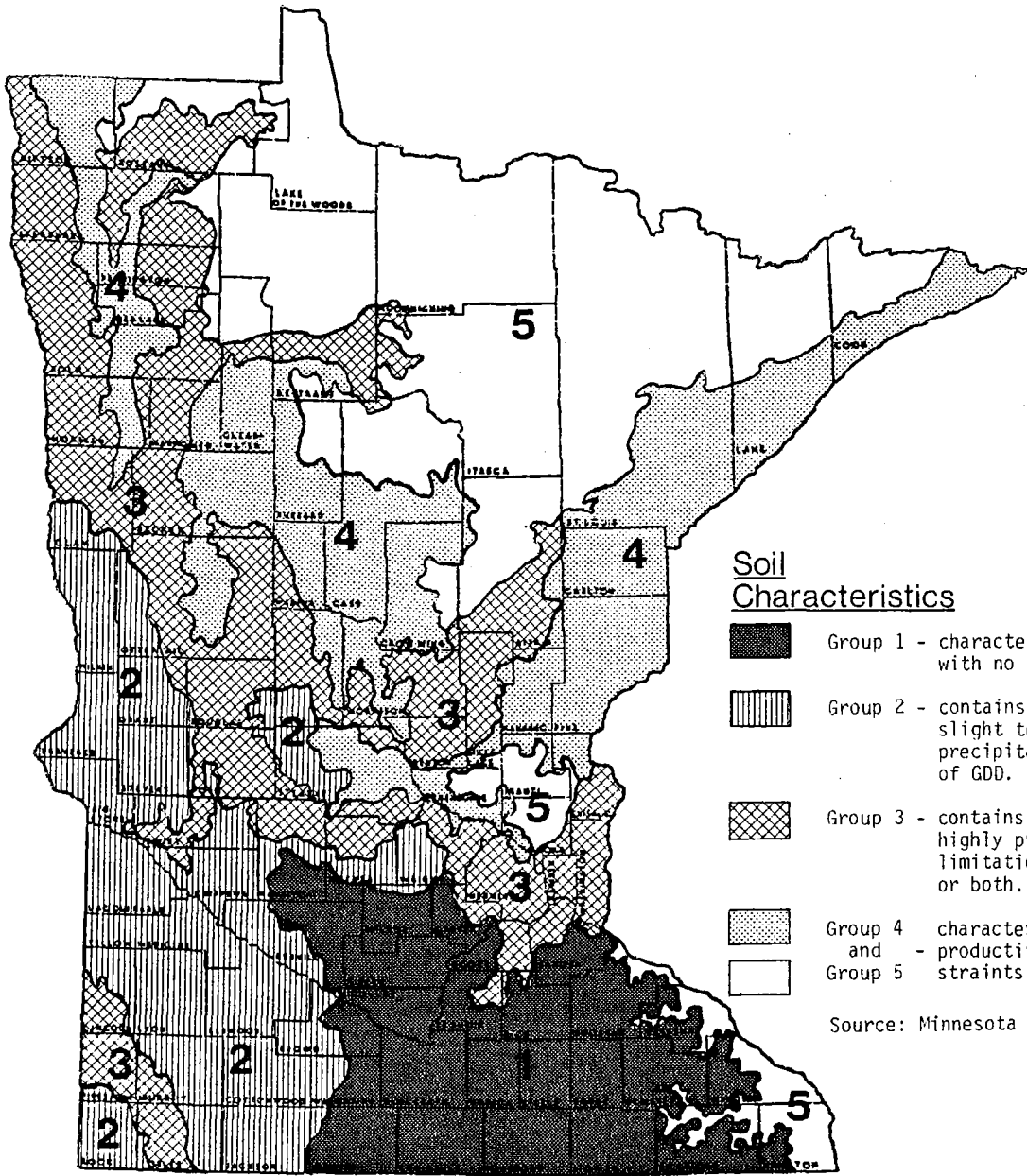
### Background

It is state policy to discourage use of prime farmland for purposes other than agriculture. When prime farmland is used for non-agricultural purposes, the use should possess sufficient value to the general public to minimize the loss of productivity. Other sections of this report examine the positive aspects of a non-agricultural use from a public interest point of view. The purpose of this section is to review the agricultural productivity of Minnesota in general, and the land along the abandoned railroad ROW in particular. A fuller discussion of this subject can be found in Appendix H.






### Minnesota's Agricultural Productivity

The central purpose of a recent State Planning Agency (SPA) study was to rank all Minnesota soils by their agricultural productivity using a mathematical model. Minnesota Cropland Resources assigned scores to each soil association based on texture, natural wetness or drainage, soil color, slope, rooting zone thickness, available phosphorous and potassium, and the likelihood of drainage. In addition to inherent soil characteristics, two climatic variables, average annual precipitation and heat accumulation (growing degree days (GDD)), were also considered.

The result of combining the soil capability information with the climatic data is summarized on Map 7. (Note: this map merely is a generalization of a detailed map found in the SPA report). When inherent soil characteristics in combination with climatic factors are considered, northwestern Minnesota is removed from the most important soil group leaving only southcentral Minnesota in the highest soil group. The lowest soil group is most widely distributed in northeastern and the extreme north central area of Minnesota. Soils in the middle two groups occur in places throughout central Minnesota.



**Soil Characteristics**

- 
 Group 1 - characterized by highly productive soils with no climate limitations.
- 
 Group 2 - contains highly productive soils under slight to moderate limitations of precipitation and/or slight constraints of GDD.
- 
 Group 3 - contains soils that are moderately to highly productive under low to moderate limitations of either GDD or precipitation or both.
- 
 Group 4 - characterized by low to moderately low soil and - productivity with moderate to severe constraints of GDD, precipitation, or both.
- 
 Group 5

Source: Minnesota State Planning Agency (1979)

Map 7

Group 1 is characterized by highly productive soils with no climatic limitations.

Group 2 contains highly productive soils under slight to moderate limitations of precipitation and/or slight constraints of GDD.

Group 3 contains soils that are moderately to highly productive under low to moderate limitations of either GDD or precipitation or both.

Group 4 and 5 are characterized by low to moderately low soil productivity with moderate to severe constraints of GDD, precipitation, or both.

#### Important Farmlands Along the Abandoned Milwaukee Road ROW

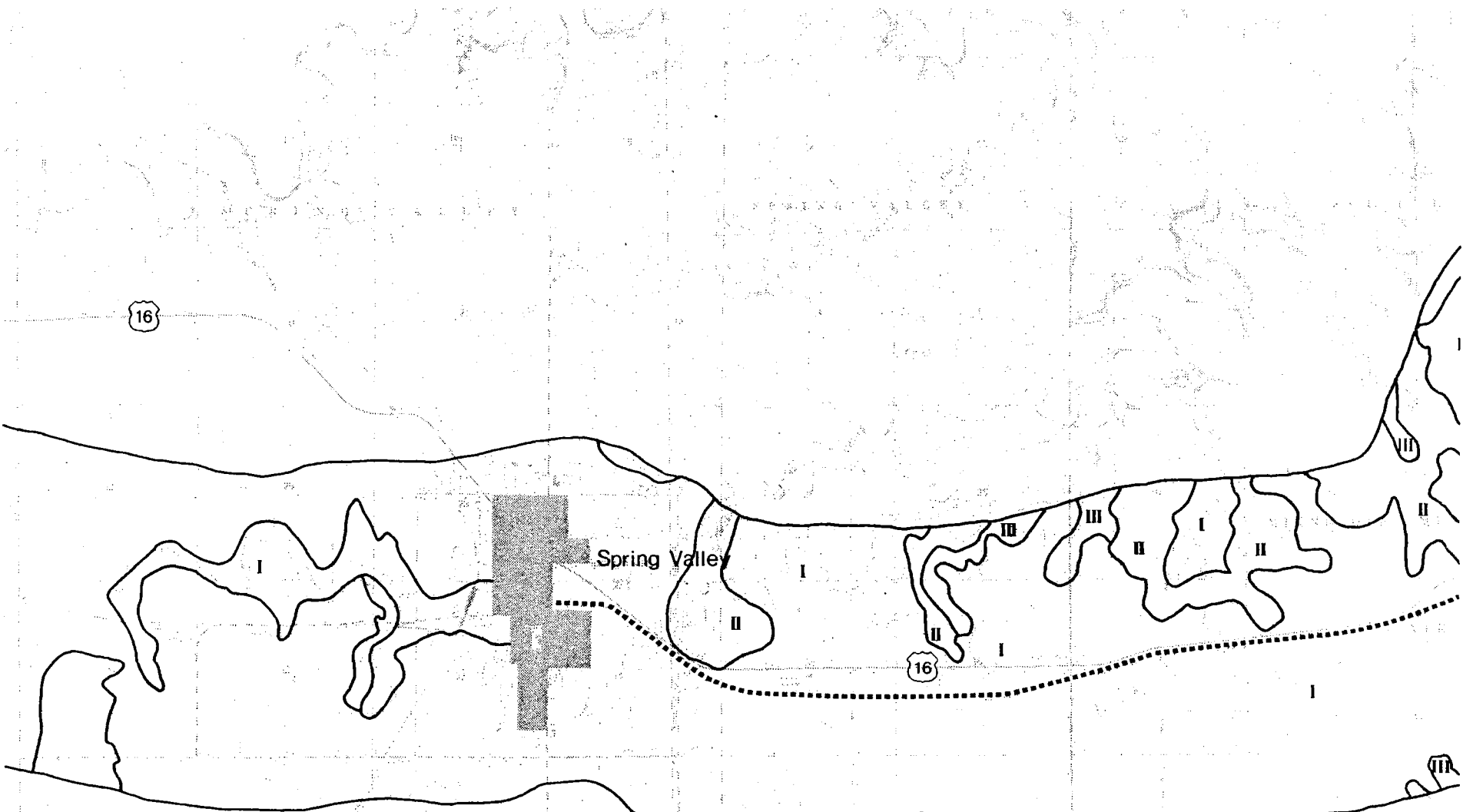
The Soil Conservation Service (SCS) has developed a series of maps which show important farmlands on a county scale. The maps are based primarily on soil characteristics and the SCS capability system. Map 8 summarizes this information along the abandoned ROW.

Farmlands along the Milwaukee Road ROW can be classified into three categories:

1. Prime farmlands which have soil qualities, growing seasons, and moisture contents necessary to sustained high yields of crops, when managed with modern farming methods.
2. Additional farmlands of statewide importance which have some limitations (such as steep slopes, wetness, or droughtiness) which can to be overcome with comprehensive soil and water conservation practices.
3. Lands which do not qualify in one of the previous categories, primarily because of steep slopes or persistent wetness.

Table 2 summarizes the distribution of these categories along the railroad ROW. In total 52% of the 72 miles east of Spring Valley is considered prime farmland. The primary concentration of this category is between Spring Valley and Fountain and, to a lesser extent, between Rushford and Hokah.





**Milwaukee Road Corridor - Study Area**

- I Prime Farmlands**
- II Additional Farmlands of Statewide Importance**
- III Other Land**

[Source: Important Farmland Maps, U of M Ext. Service]

**Important Farmlands**

**Location Map**

Approx. Scale 1:62500

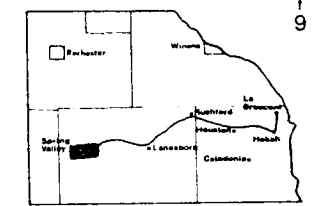
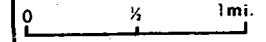
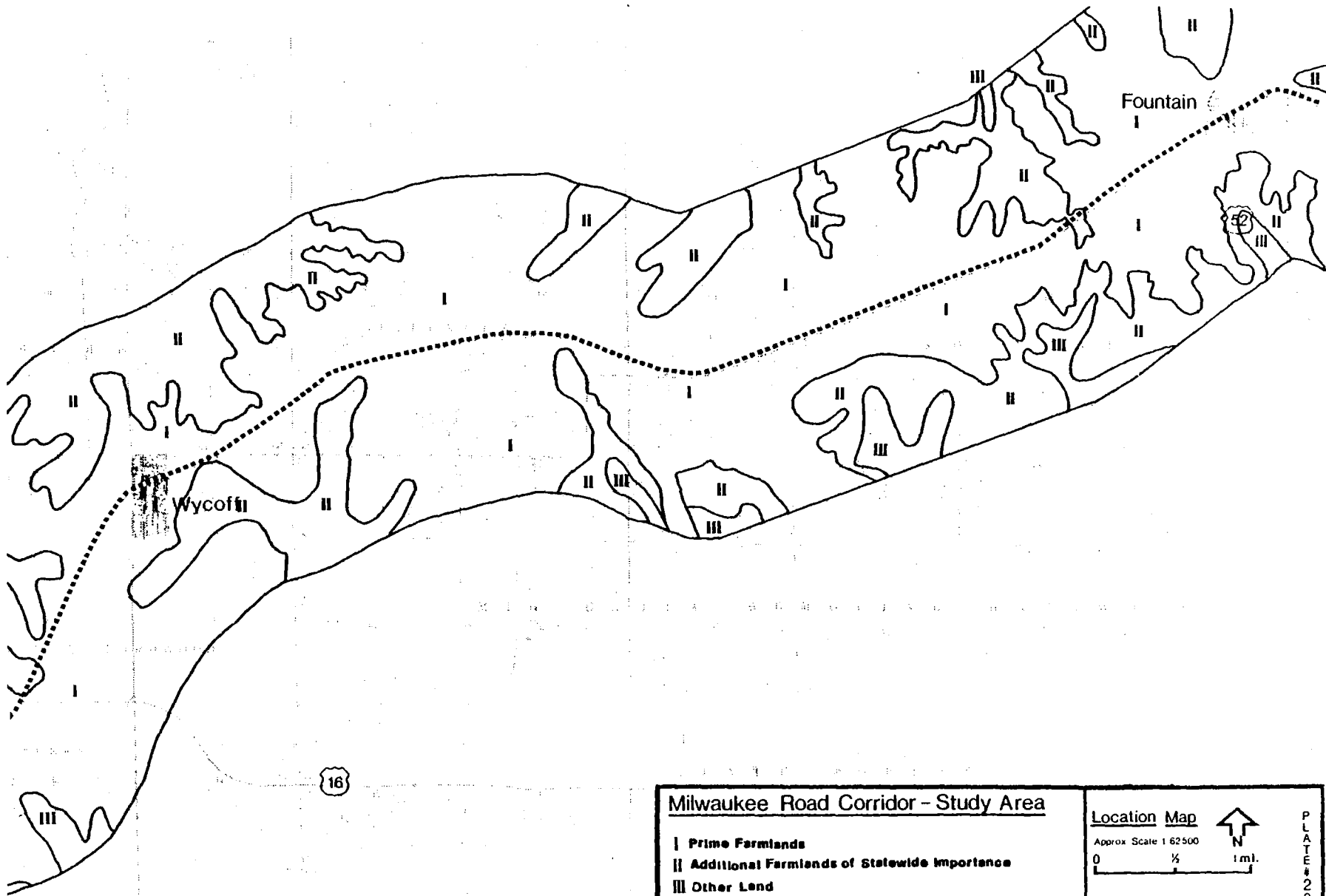


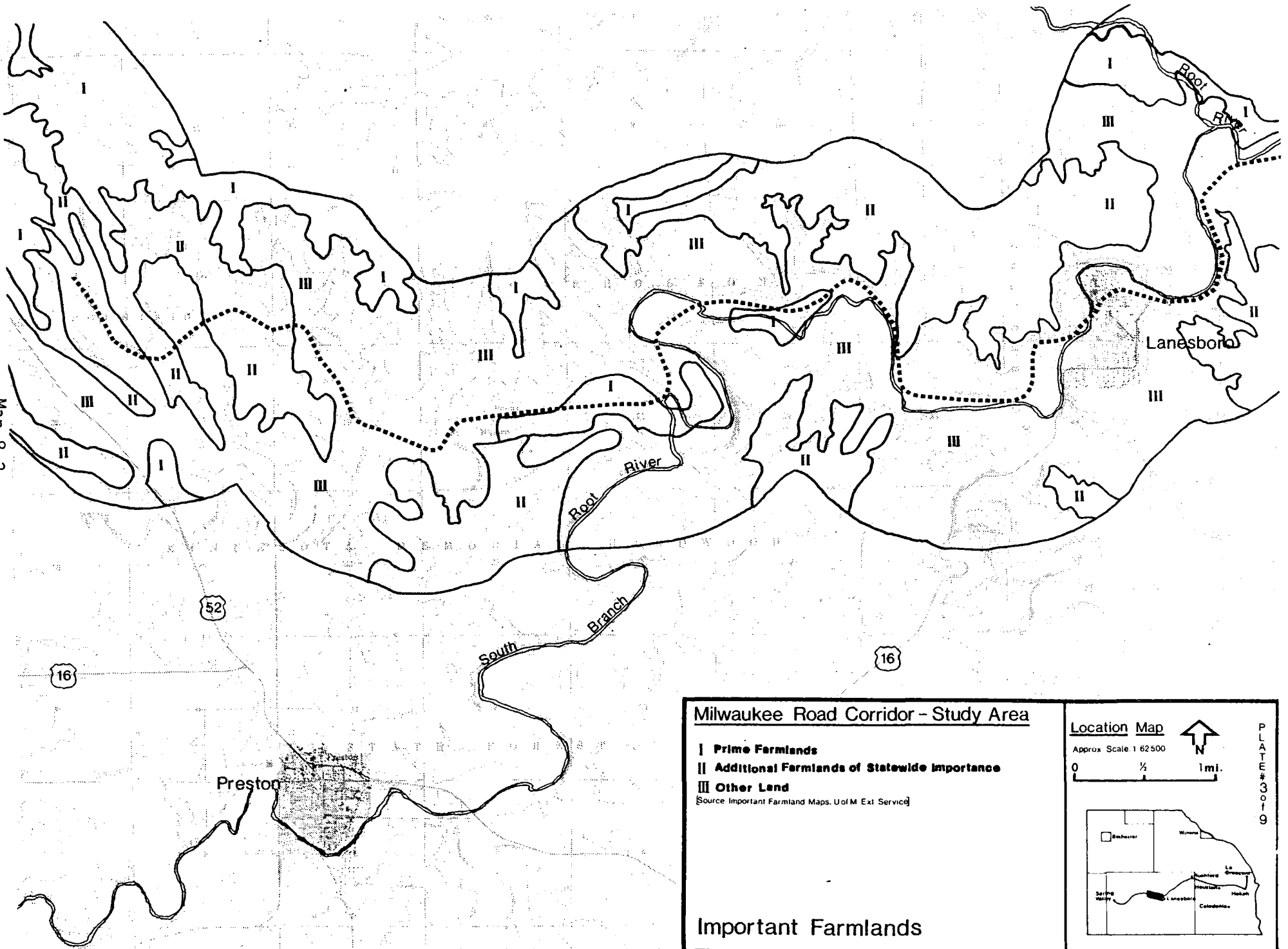
PLATE #1019

Map 8-2



<h3>Milwaukee Road Corridor - Study Area</h3> <ul style="list-style-type: none"> <li>I Prime Farmlands</li> <li>II Additional Farmlands of Statewide Importance</li> <li>III Other Land</li> </ul> <p><small>[Source: Important Farmland Maps, U of M E &amp; I Service]</small></p>		<p><b>Location Map</b></p> <p>Approx. Scale 1:62,500</p> <p>0 1/2 1 mi.</p> <p>N</p>	<p>PLATE # 2019</p>
<h3>Important Farmlands</h3>			

Map 8-3  
49



### Milwaukee Road Corridor - Study Area

- I Prime Farmlands
- II Additional Farmlands of Statewide Importance
- III Other Land

[Source: Important Farmland Maps, U of M Ext. Service]

### Important Farmlands

### Location Map

Approx. Scale 1:62,500

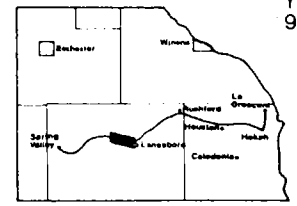
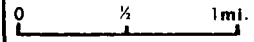


PLATE # 3 of 9

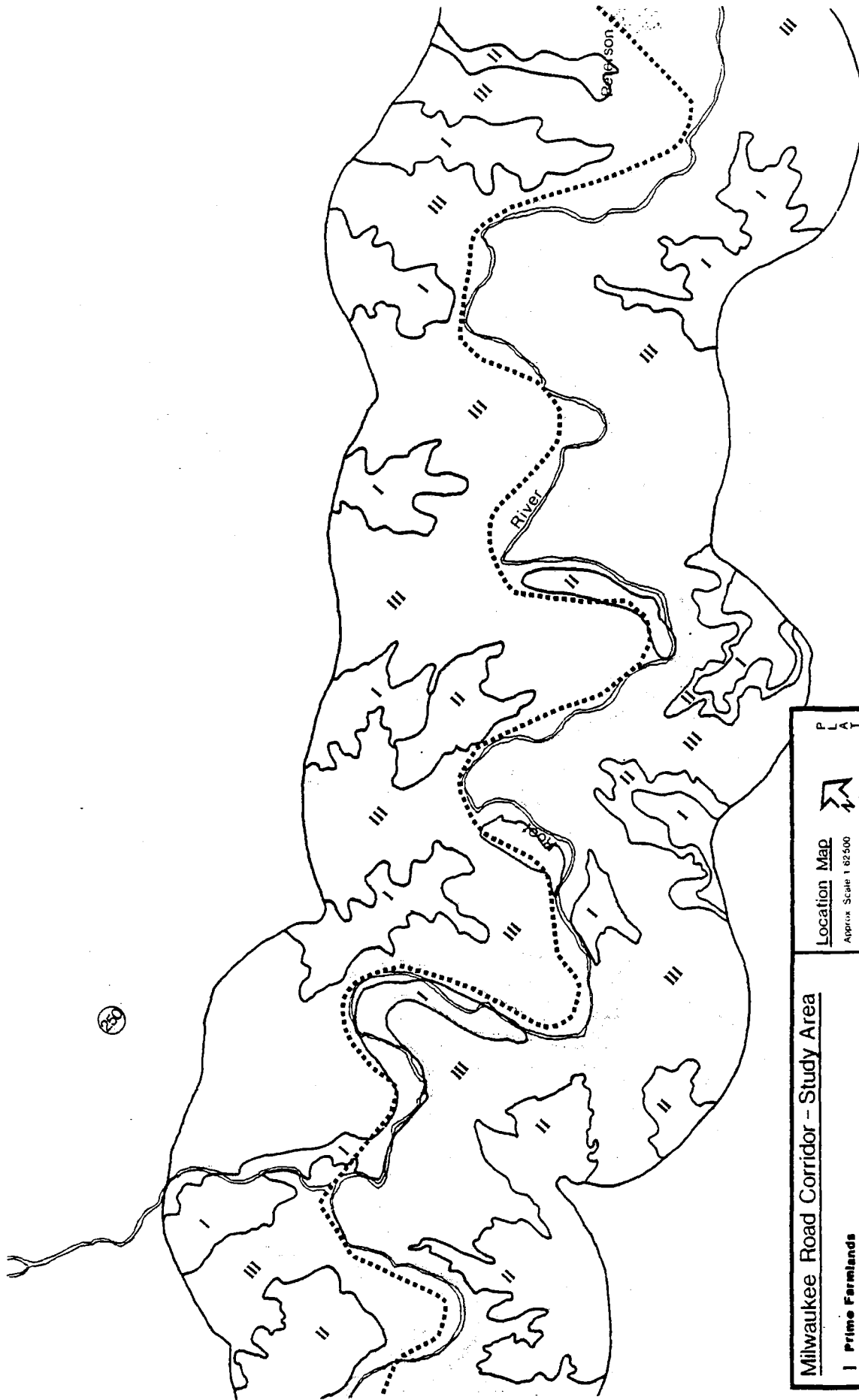


PLATE 40-9

**Location Map**  
Approx. Scale 1:82,500

0 1/4 1/2 1 mi.

**Milwaukee Road Corridor - Study Area**

- I Prime Farmlands
- II Additional Farmlands of Statewide Importance
- III Other Land

Source: Important Farmland Maps, U.S. Forest Service

**Important Farmlands**

Map 8-4

# Milwaukee Road Corridor - Study Area

- I Prime Farmlands
- II Additional Farmlands of Statewide Importance
- III Other Land

[Source: Important Farmland Maps, UoIM Ext. Service]

## Important Farmlands

### Location Map

Approx. Scale: 1:62,500

0 1/2 1 mi.

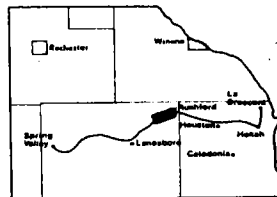
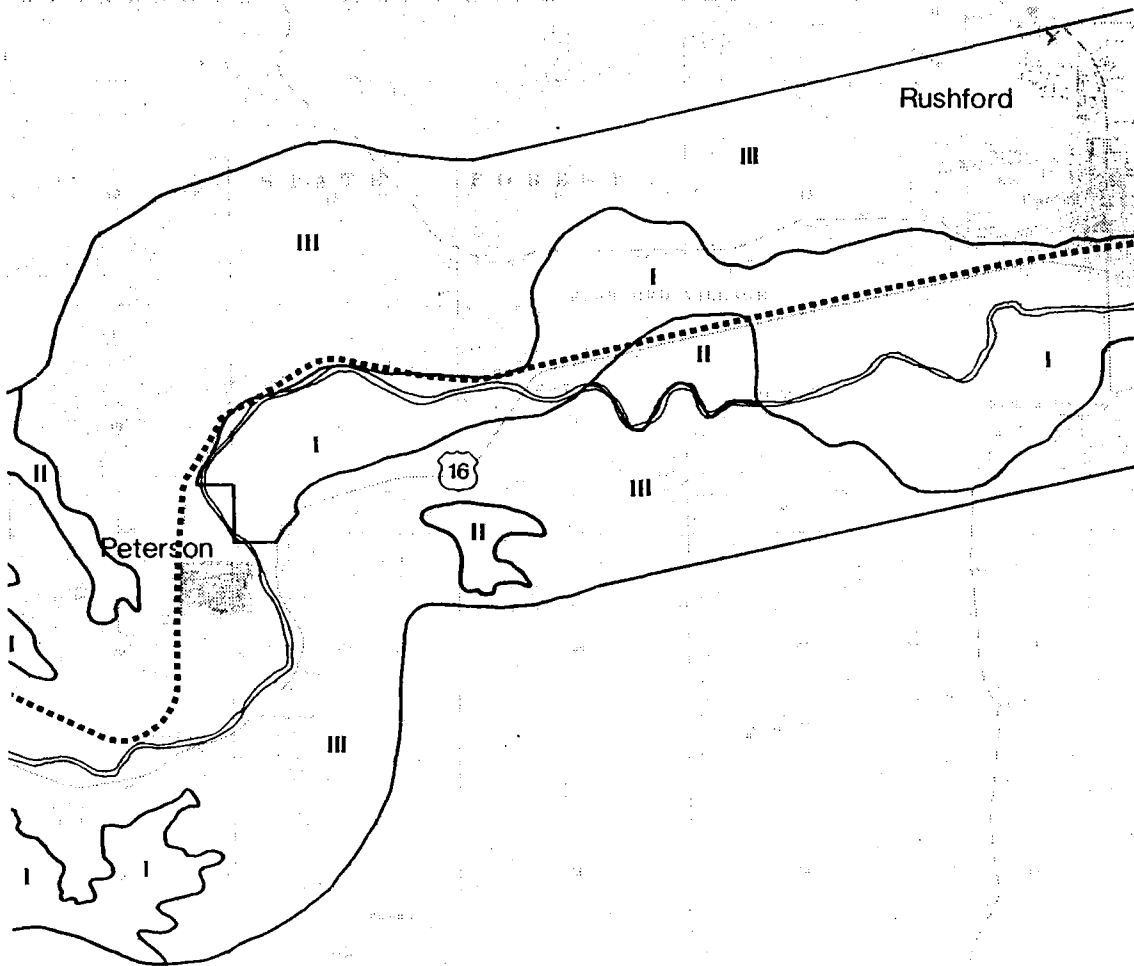


PLATE # 5 of 9



**Milwaukee Road Corridor - Study Area**

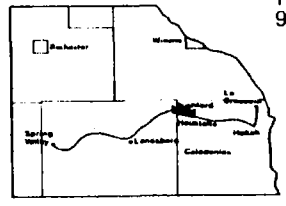
- I Prime Farmlands
  - II Additional Farmlands of Statewide Importance
  - III Other Land
- [Source: Important Farmland Maps, U of M Ext Service]

**Location Map**

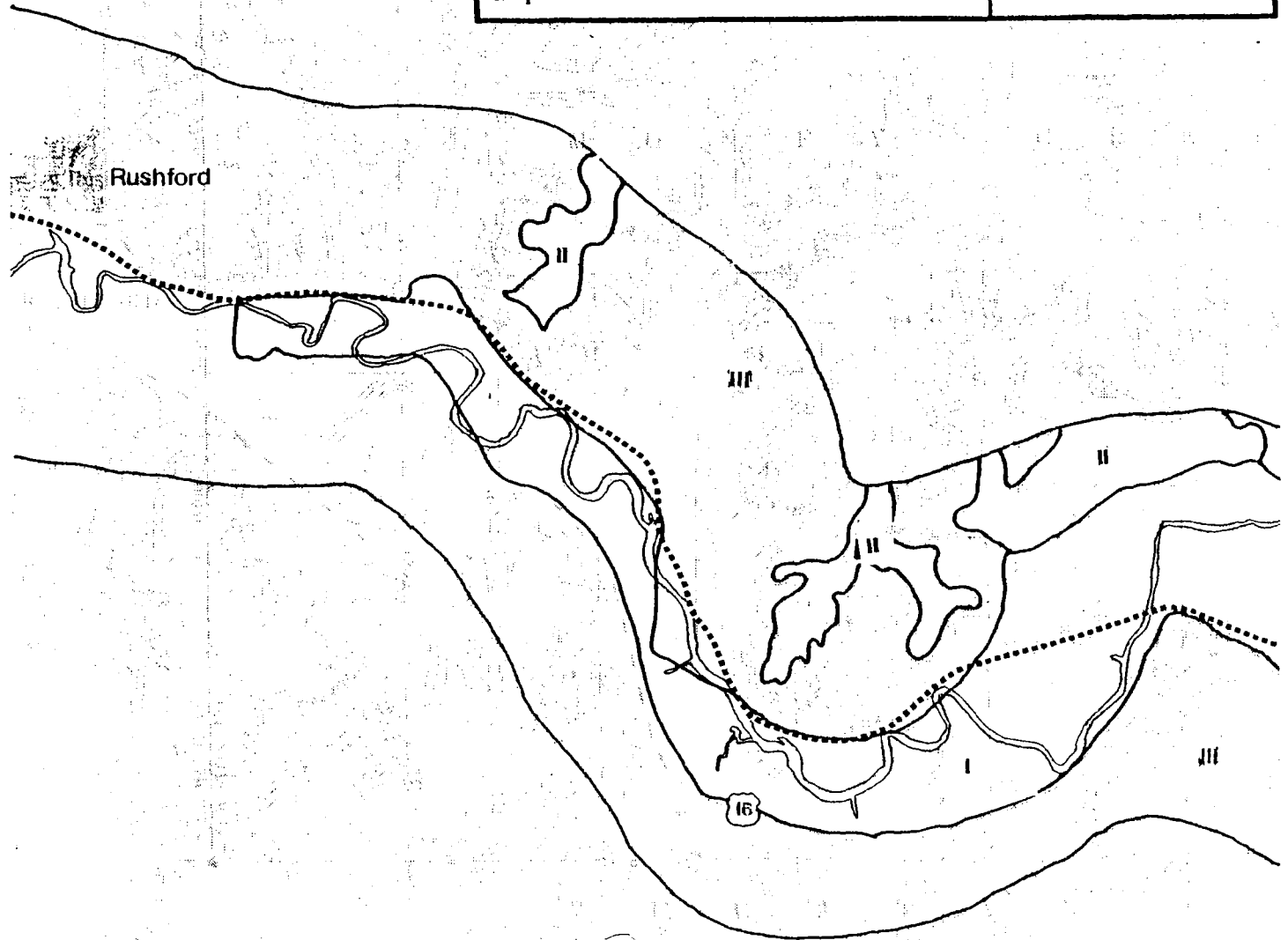
Approx. Scale 1:62,500  
0 1/2 1 mi.



PLATE # 6 of 9



**Important Farmlands**



Map 8-6

# Milwaukee Road Corridor - Study Area

- I Prime Farmlands
  - II Additional Farmlands of Statewide Importance
  - III Other Land
- [Source: Important Farmland Maps, U of M Ext. Service]

## Location Map

Approx. Scale 1:62,500

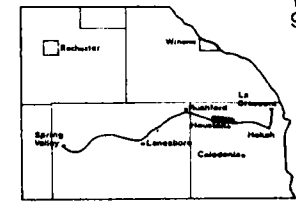
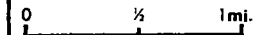
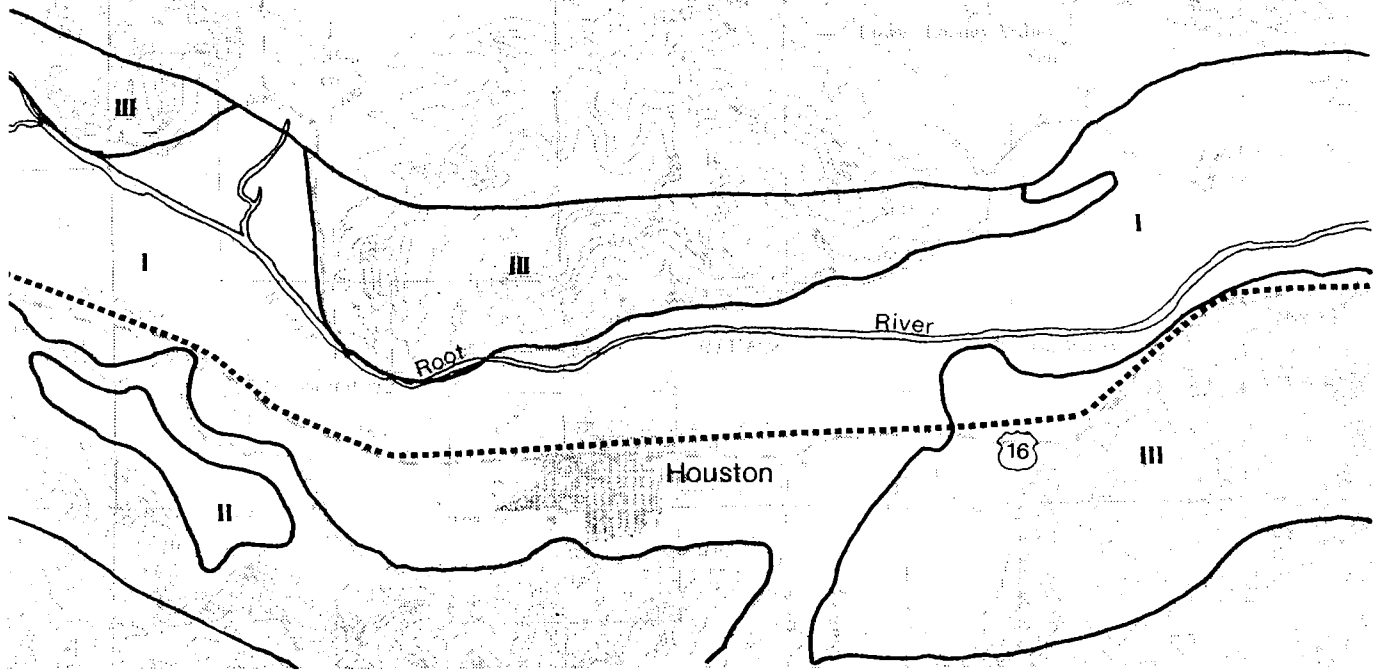


PLATE # 7019

## Important Farmlands



Milwaukee Road Corridor - Study Area

Archeological Resources  
& Historic Sites

1 thru 69 - Individual resource sites  
(see text)

○ - Section # in which each  
resource is located

Source: Minn. State Archeological Office

Location Map

Approx Scale 1:62500

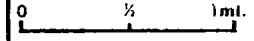
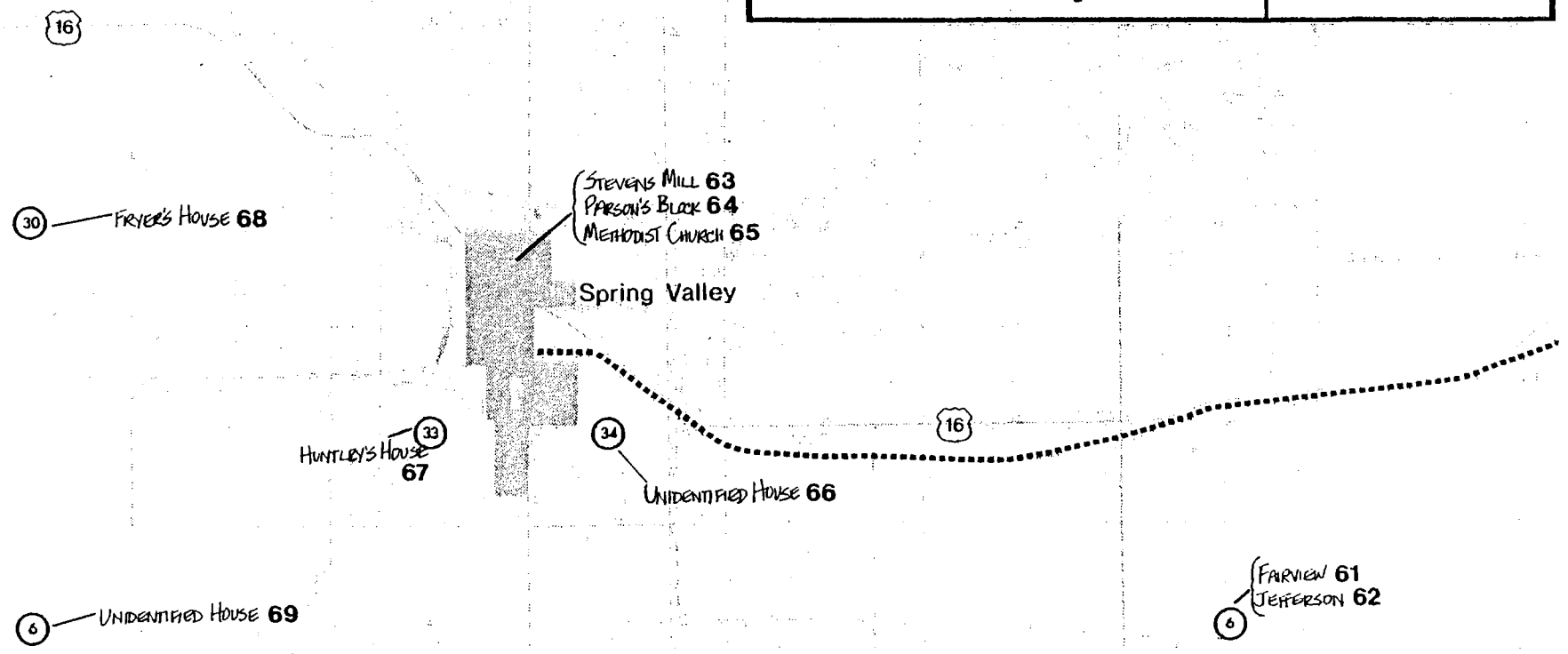
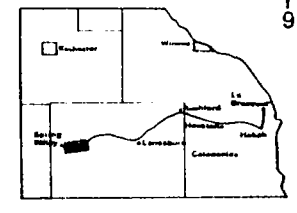
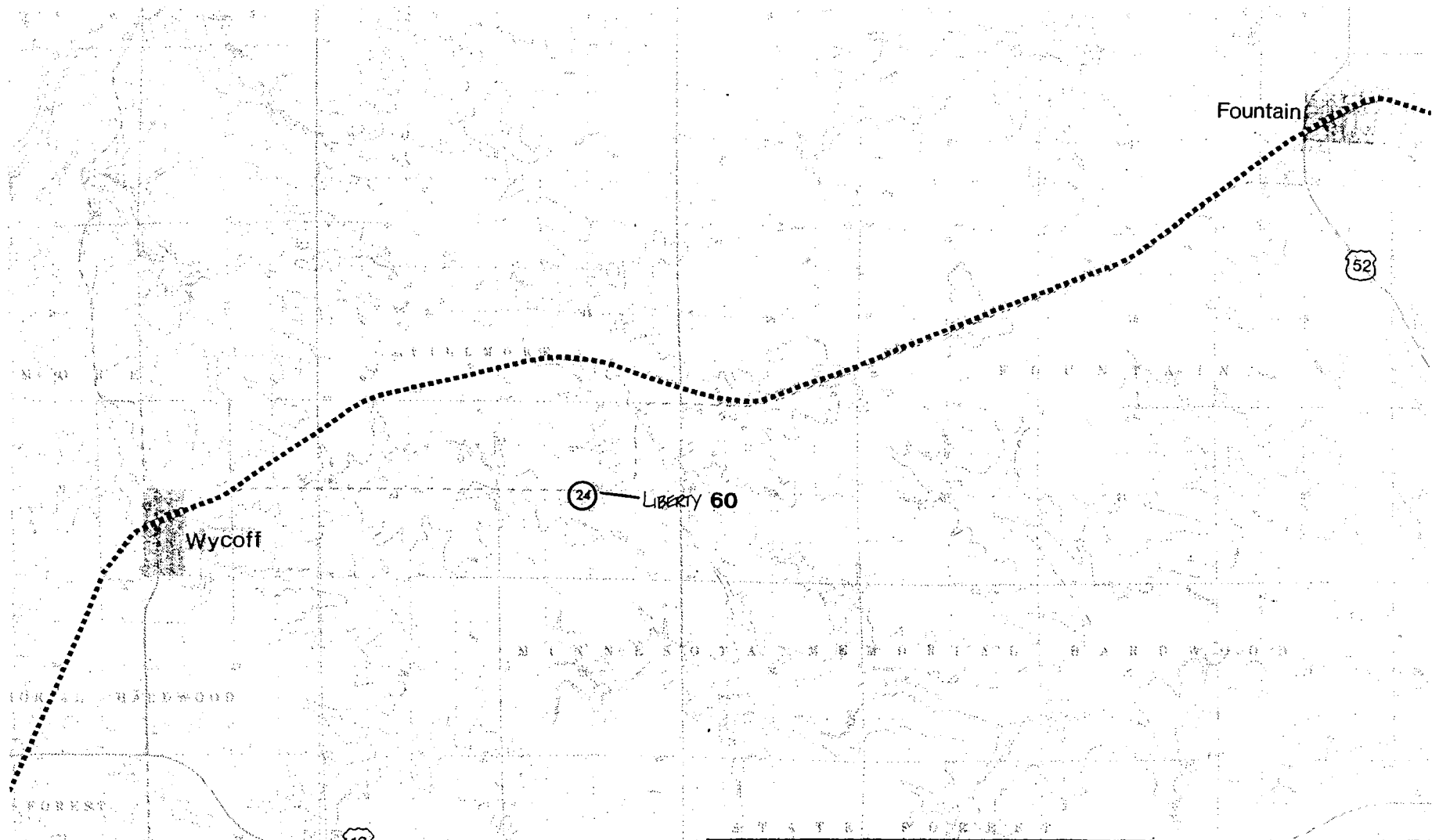


PLATE #10109







**Milwaukee Road Corridor - Study Area**

**Archeological Resources & Historic Sites**

1 thru 69 - Individual resource sites  
(see text)



- Section # in which each resource is located

Source: Minn. State Archeological Office

**Location Map**

Approx. Scale: 1:62,500

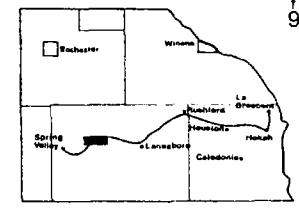
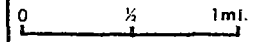
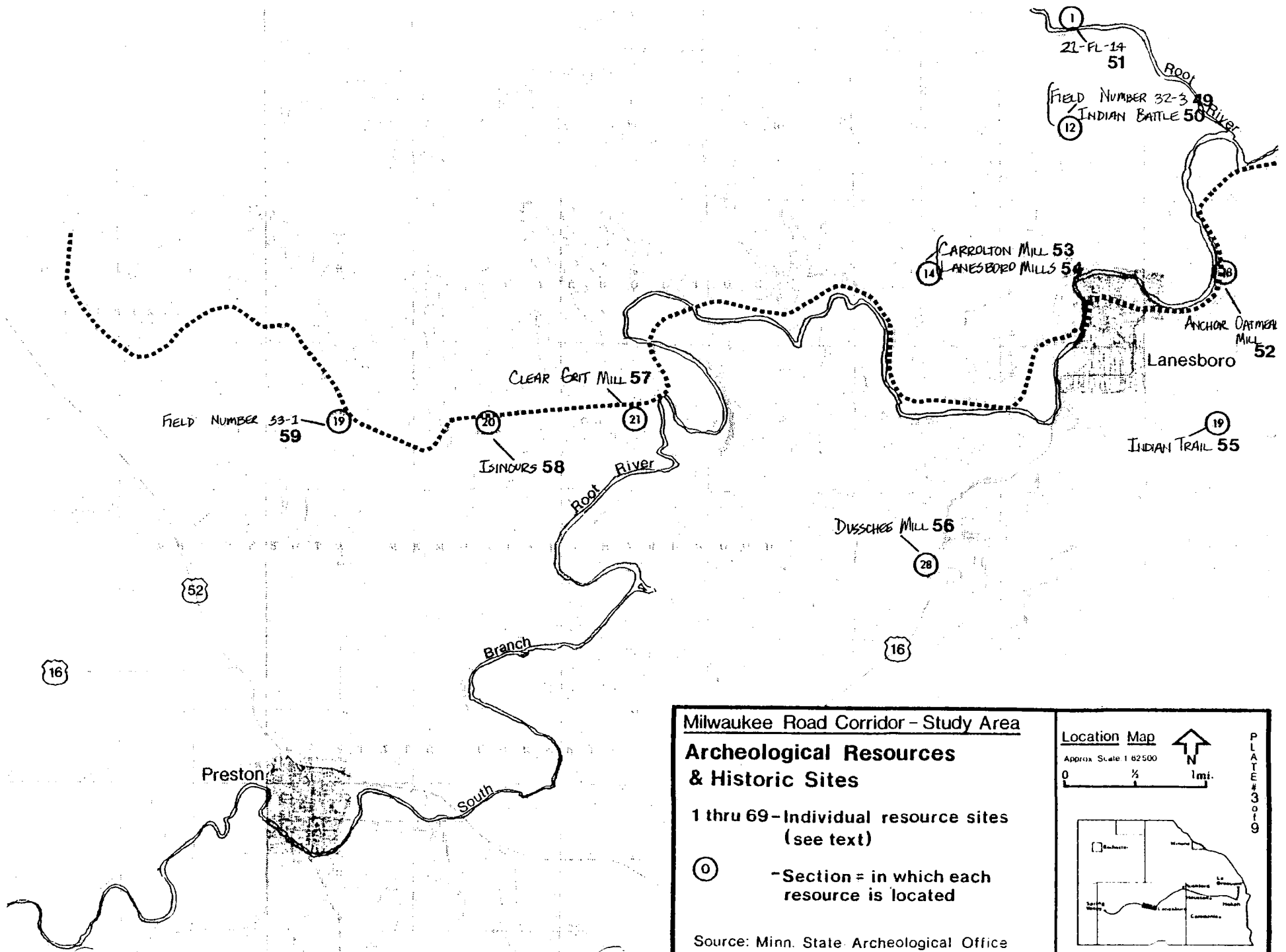


PLATE # 20-0



**Milwaukee Road Corridor - Study Area**  
**Archeological Resources & Historic Sites**

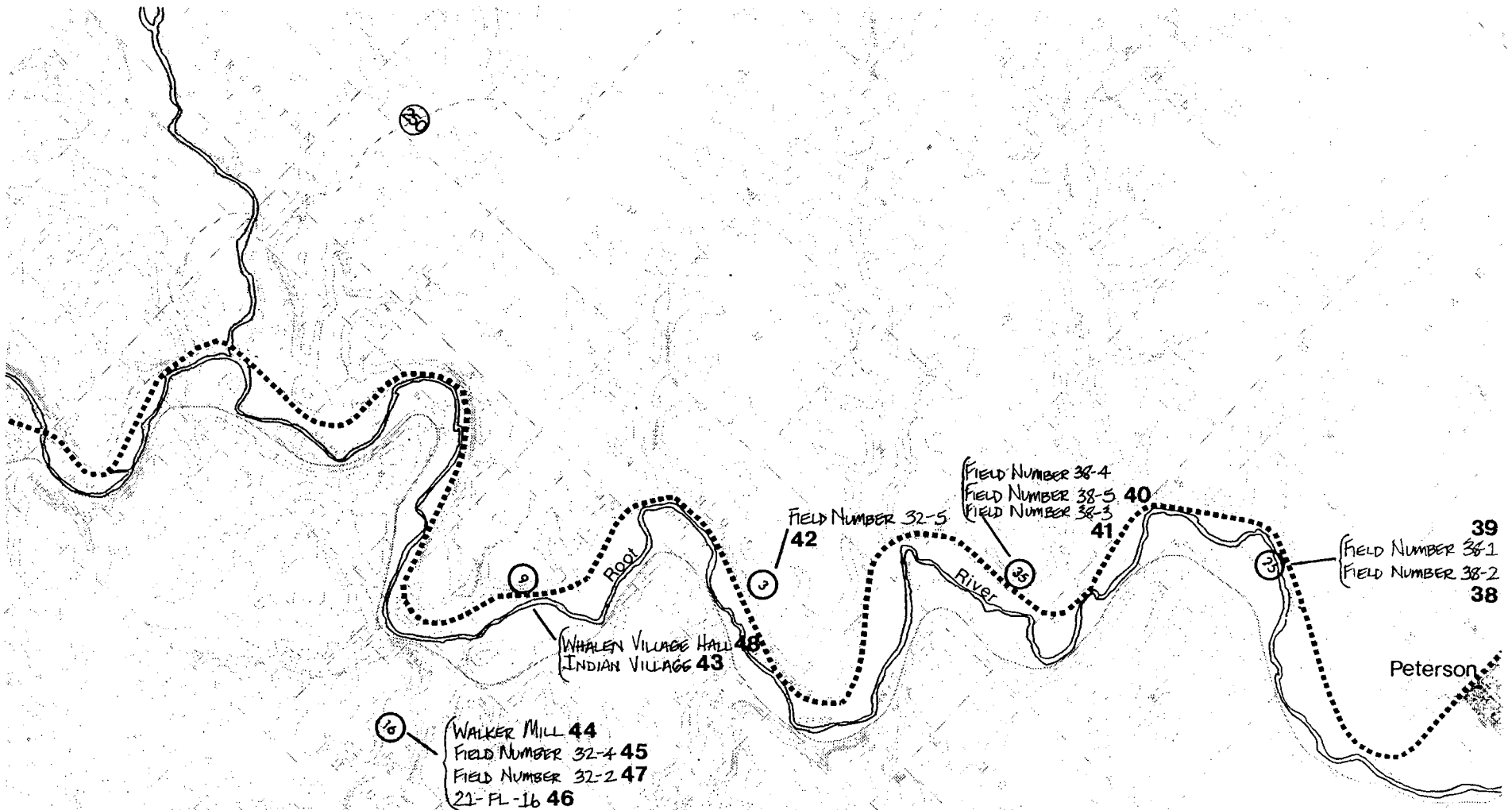
1 thru 69 - Individual resource sites (see text)

○ - Section = in which each resource is located

Source: Minn. State Archeological Office

**Location Map**  
Approx. Scale 1:82500  
0 1/2 1 mi.

PLATE # 3 of 9



<p><b>Milwaukee Road Corridor - Study Area</b></p> <p><b>Archeological Resources &amp; Historic Sites</b></p> <p>1 thru 69 - Individual resource sites (see text)</p> <p>① - Section # in which each resource is located</p> <p>Source: Minn. State Archeological Office</p>		<p><b>Location Map</b></p> <p>Approx. Scale: 1:62500</p> <p>0 1/4 1 mi.</p> <p>PLATE # 4 of 9</p>
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Milwaukee Road Corridor - Study Area

**Archeological Resources  
& Historic Sites**

1 thru 69 - Individual resource sites  
(see text)

① - Section # in which each  
resource is located

Source: Minn. State Archaeological Office

**Location Map**

Approx. Scale: 1:62500

0 1/2 1 ml.

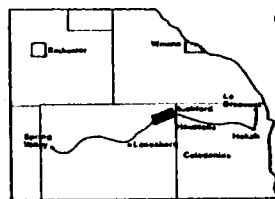
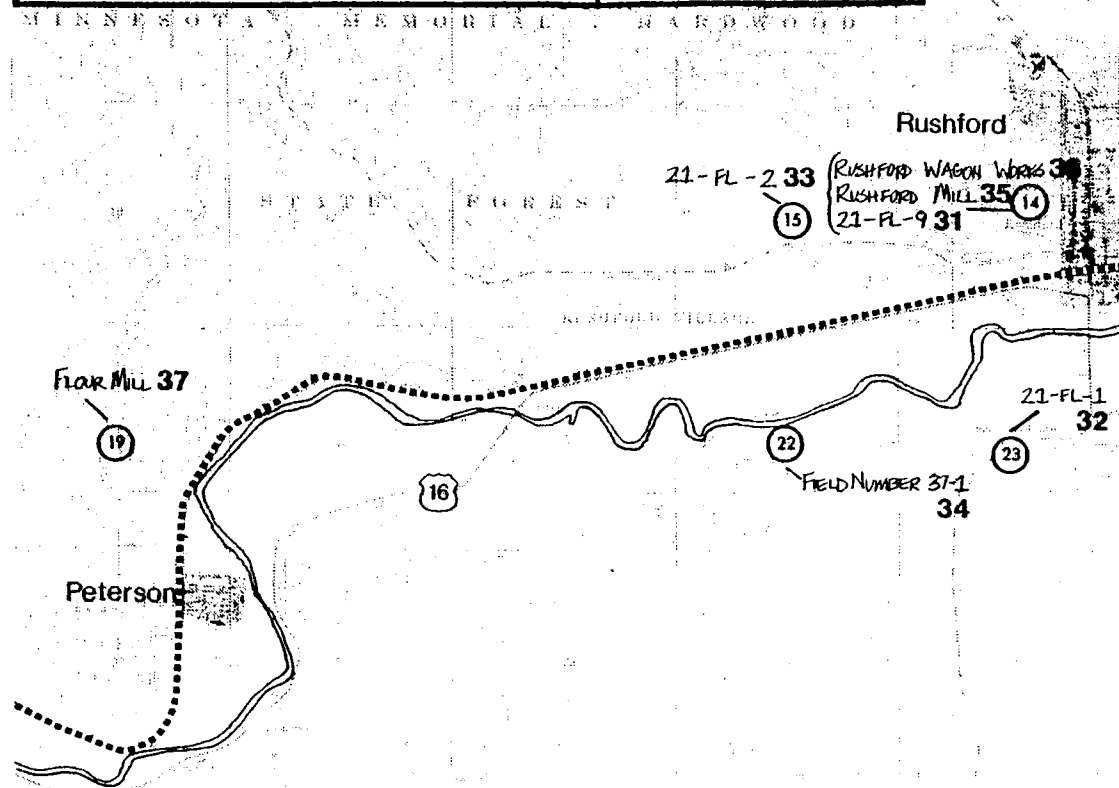


PLATE # 5 of 9



**Milwaukee Road Corridor - Study Area**  
**Archeological Resources**  
**& Historic Sites**

1 thru 69 - Individual resource sites  
(see text)



- Section # in which each  
resource is located

Source: Minn. State Archeological Office

**Location Map**

Approx. Scale: 1:62500

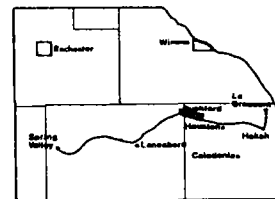
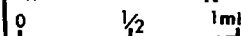
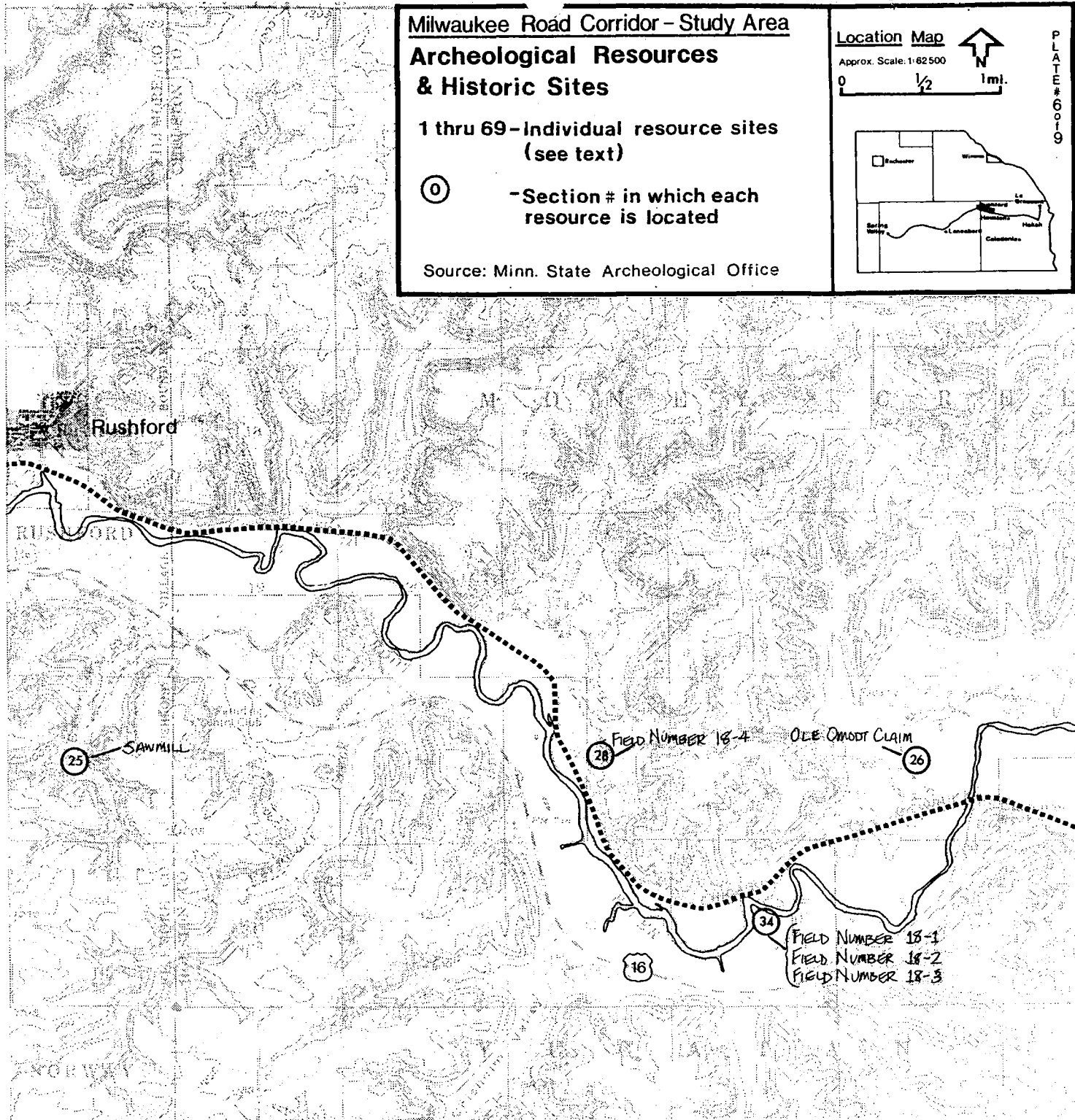


PLATE # 6019



Milwaukee Road Corridor - Study Area

Archeological Resources  
& Historic Sites

1 thru 69 - Individual resource sites  
(see text)



- Section # in which each  
resource is located

Source: Minn. State Archeological Office

Location Map

Approx. Scale: 1:62,500

0 1/2 1 ml.

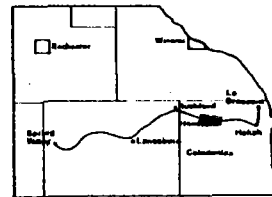
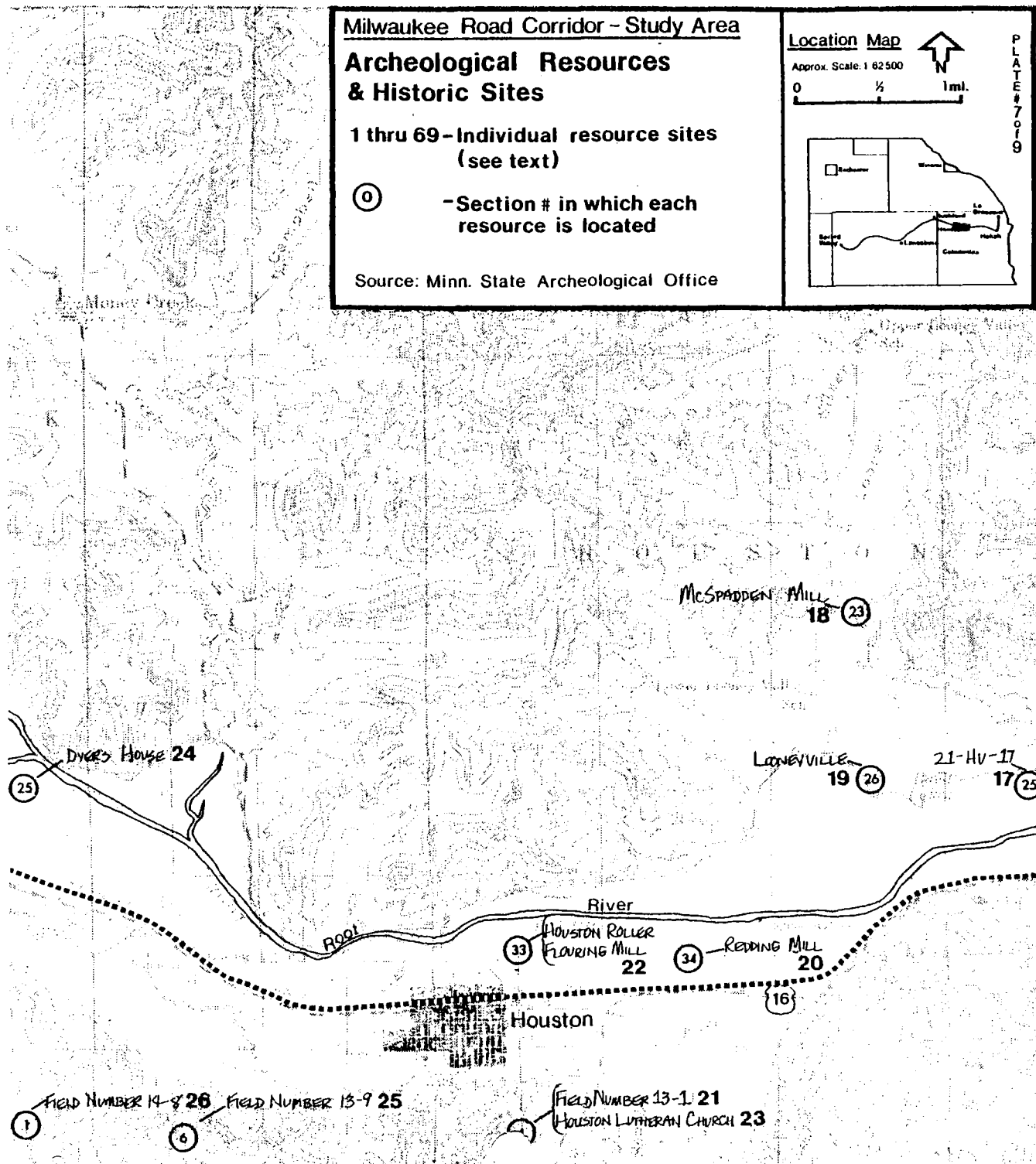


PLATE # 7 of 9



Milwaukee Road Corridor - Study Area

Archeological Resources & Historic Sites

1 thru 69 - Individual resource sites (see text)

① - Section # in which each resource is located

Source: Minn. State Archeological Office

Location Map

Approx. Scale: 1:62500

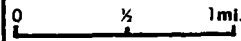
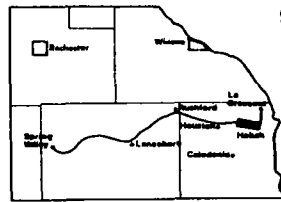
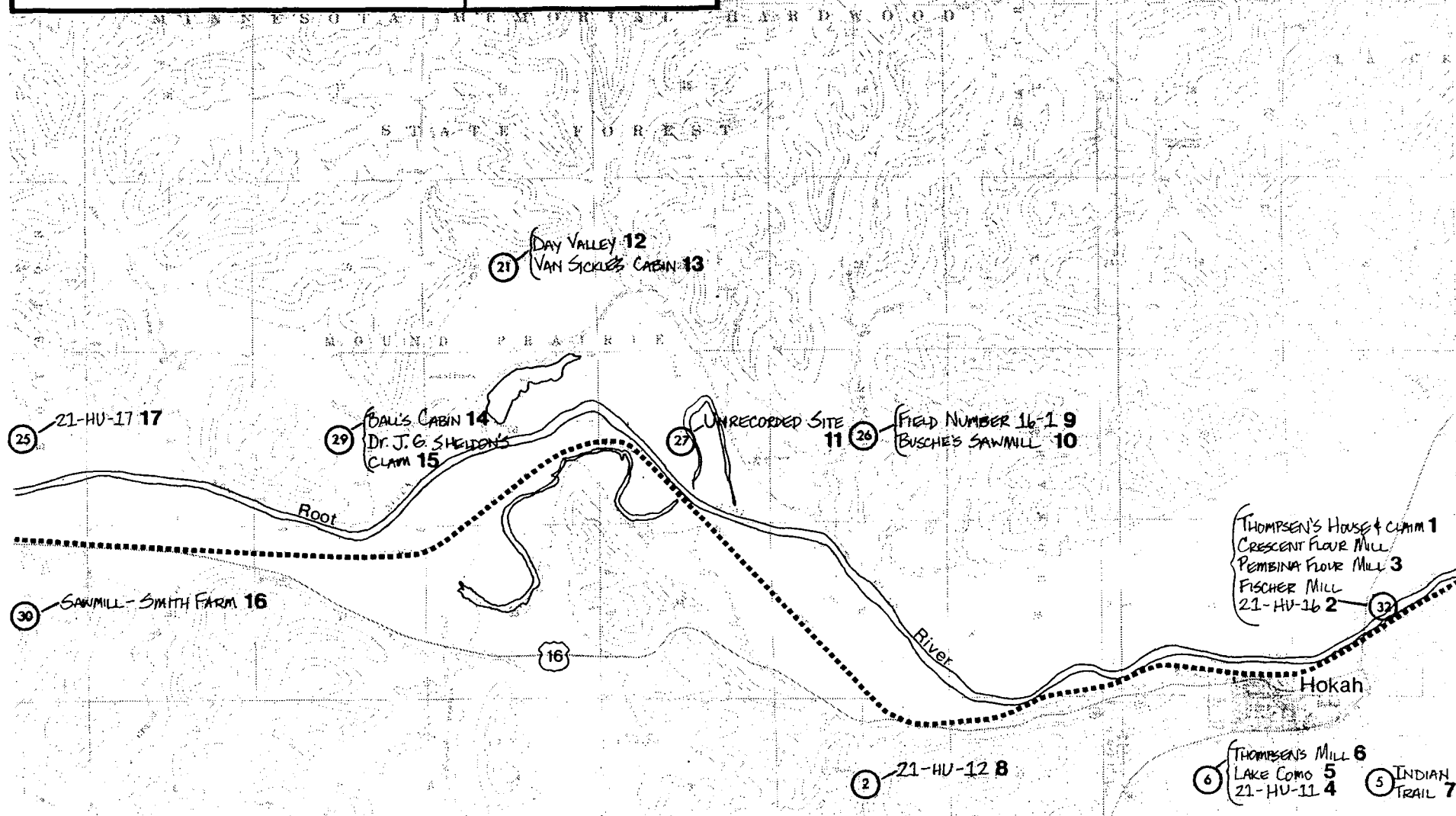


PLATE # 8 of 9



Map 9-8  
65



**Milwaukee Road Corridor - Study Area**

**Archeological Resources  
& Historic Sites**

1 thru 69 - Individual resource sites  
(see text)

○ - Section # in which each  
resource is located

Source: Minn. State Archeological Office

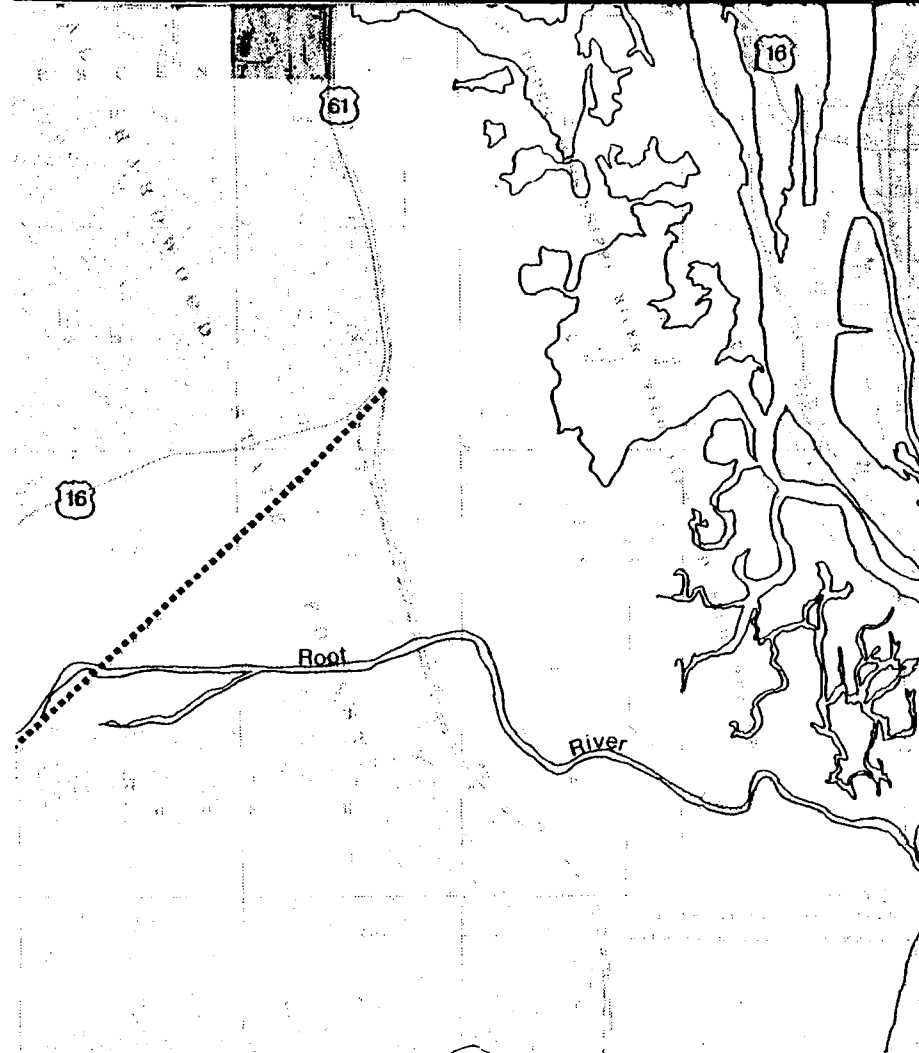
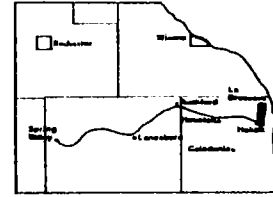
**Location Map**

Approx. Scale: 1:62500

0 1/2 1 mi.



PLATE 9009





shelter which was occupied for hundreds of years, and village and burial sites associated with the prehistoric Oneota culture of the Mississippian period. (For a general outline of Minnesota prehistoric periods see Eldon Johnson, Prehistoric Peoples of Minnesota, Minnesota Historical Society, 1978).

Many significant sites representing the history of Euro-American settlement are also present along the corridor. Of particular note are mill sites, located on the floodplain, sawmills, sites of original Euro-American settlement, and a number of locations which have no physical occupation evidence but are of interpretive interest, such as "paper" towns and claims.

The railroad line itself is of considerable historic interest. The story of the changes brought about by the replacement of waterways and trails with stagecoach lines and then with rail lines involves the decline of some cultures and settlements and the rise of others. A trail which follows two main routes of prehistoric and historic travel---the Root River itself and the Chicago, Milwaukee, St. Paul and Pacific Railroad bed---follows two major arteries of communication which encompass much of the past of this area. The proposed trail is also apparently intersected at various points by former stagecoach line routes and other prehistoric and historic trails. Archival research and field reconnaissance emphasizing the communication link aspect of the proposed trail might provide useful information for interpretation which would enhance the trail user's experience.

Because this records check covers only sites reported and recorded in the major files in the state, there are undoubtedly more sites within the corridor which have not yet been located. Where trail development may disturb areas off the existing roadbed, field reconnaissance to locate presently unknown sites is desirable.

Further field reconnaissance and archival search of the roadbed area itself would provide information for interpretation of a trail which would add to user enjoyment. Information on many of the sites listed is very cursory and the present condition of most of the sites has not been recently assessed. Many of these sites, such as prehistoric effigy mounds, have undoubtedly been destroyed. Even if the trail itself is confined to the present roadbed, use of the trail may cause secondary impacts on adjacent sites.

As this records check indicates, a trail on the abandoned railroad ROW would have excellent prehistoric and historic interpretive potential.

## REPORT APPENDICES

- A. Milwaukee Road Corridor Study: A Survey of Adjacent Landowners.
  - B. Select Transcripts of Telephone Interviews with Fire Officials along Recreational Trails Developed on Former Railroad Grades.
  - C. Transcripts of Telephone Interviews with Law Enforcement Officials along Recreational Trails Developed on Former Railroad Grades.
  - D. Recreation Trail Needs in Southeastern Minnesota.
  - E. Rare Elements of Natural Diversity along the Abandoned Railroad Right-of-Way between La Crescent and Spring Valley, Minnesota.
  - F. Natural Resource Assessment of the Chicago, Milwaukee, St. Paul, and Pacific Railroad Right-of-Way.
  - G. Scenic Inventory of the Milwaukee Road Corridor from Spring Valley to La Crescent, Minnesota.
  - H. Agricultural Productivity as it Relates to the Abandoned Milwaukee Road Right-of-Way as a Recreational Trail.
  - I. An Archaeological Records Check of the Chicago, Milwaukee, St. Paul, and Pacific Railroad Abandonment Trail Corridor, Houston, Fillmore, and Mower Counties.
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