

ENVIRONMENTAL ASSESSMENT
For
XCEL ENERGY
LAKEFIELD JUNCTION-FOX LAKE
161 KV TRANSMISSION LINE
EQB DOCKET No. 03-64-TR-XCEL

Prepared by the Staff of the
Minnesota Environmental Quality Board
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Overview

Xcel Energy is proposing to construct a 161 kilovolt transmission line from the Lakefield Junction Substation in Jackson County to the Fox Lake Substation in Martin County. The proposed line will be about 25.5 miles long.

In March 2003, Xcel received a Certificate of Need from the Minnesota Public Utilities Commission for this proposed line. PUC Docket No. E-002/CN-01-1958. Xcel must now obtain a Route Permit from the Minnesota Environmental Quality Board designating the route for the new line. Minn. Stat. § 116C.57, subd. 2.

Xcel has proposed a route for the line that runs essentially along the Interstate (I-90). A second route under consideration in this proceeding is a route that follows the existing 161 kV transmission line owned by Alliant Energy that runs between the Lakefield Junction and Fox Lake substations about a mile north of the freeway. This line was built in the 1950's. It is not possible to remove the existing Alliant line and replace it with this new line because not having the Alliant line available for the 12 or more months it will take to construct the new line would jeopardize electric service in the area served by the Alliant line.

The first decision to be made ultimately by the Environmental Quality Board is whether to approve the route preferred by Xcel Energy or the alternative route along the existing Alliant corridor. This Environmental Assessment contains information that will assist the EQB in making that decision.

Regardless of which route is approved by the EQB, the EQB must also take into account how the transmission line will impact the Jackson Airport. The City of Jackson has under consideration plans to expand the Airport by construction of a new runway. The federal government, through the Federal Aviation Administration, imposes height restrictions on structures within certain distances of any airport. Any new transmission line in the vicinity of the Jackson Airport will have to comply with these federal height restrictions.

If the EQB approves of the route preferred by Xcel, generally along the Interstate, the EQB must take into account how the line will pass through the City of Jackson. Several route alternatives through the City are under consideration and addressed in this document. The City of Jackson, and a number of citizens in the area, have expressed concerns about potential impacts of the transmission line on development plans, historical resources, and residents in the area, and have expressed preferences for various routes through the City.

In addition to describing the precise route that is approved, the EQB must also take into account the type of structures to be installed and whether the structures should be capable of having a second transmission line (called a double-circuit) installed on the same structures as the new 161 kV line. Xcel is proposing to install structures capable of supporting a double circuit transmission line from Lakefield Junction through the City of Jackson (a 69 kV line along with the 161 kV line) and a double circuit line near the Fox

Lake Substation on the eastern end (two 161 kV lines). The EQB does not have jurisdiction over lines under 100 kV in voltage, but does have the authority to order a utility to install structures that are capable of handling a double circuit configuration.

Xcel Energy is also proposing to reconfigure the existing transmission line arrangement at the two substations. The EQB may determine in this proceeding the manner in which various transmission lines will enter and leave these substations.

On July 17, 2003, the EQB chair appointed a Citizen Advisory Task Force (CAFT) and directed the Task Force to identify particular impacts and additional routes to be evaluated in the environmental review process assessment. The Task Force was also directed to consider how the line could be routed along any route corridors identified by Xcel Energy, including an examination of routing issues near the City of Jackson Airport.

The Task Force completed its charge on February 4, 2004, and submitted its written recommendations and report to the EQB chair on February 26, 2004. See Appendix B.

A public hearing before an administrative law judge is scheduled for May 25 in the City of Jackson. The public will have an opportunity at the public hearing to ask questions about the proposed routes and to make comments regarding each of these routes. The Judge will keep the record open for at least ten days after the close of the public hearing to allow interested persons an opportunity to submit written comments. The Judge will then write a report containing proposed findings of facts and make a recommendation to the EQB on which route to approve and any conditions that should be included in the permit. The Judge's report should be available around July 1, 2004. The entire matter will then be brought to the full EQB Board for a final decision. It is anticipated that the EQB will make its decision at its July 15, 2004 meeting.

Persons interested in being advised of matters in this proceeding can register with the EQB by contacting Larry Hartman at Environmental Quality Board, Room 300, 658 Cedar Street, St. Paul, Minnesota 55155, phone (651) 296-5089, or e-mail at Larry.Hartman@state.mn.us

Persons can also register online at:

<http://www.mnplan.state.mn.us/maillinglist.html?Id=3843&redirect=http://www.mnplan.state.mn.us/eqb/Docket.html?ID=3843>.

Finally, many of the documents of interest regarding this matter, including this Environmental Assessment, are available online at the above address. The Administrative Law Judge's Report will be available at this address when it is available. The final Route Permit issued to Xcel Energy will also appear on this webpage.

1.0 Introduction

Xcel Energy submitted an application on November 25, 2003, to the Minnesota Environmental Quality Board, for a Route Permit for a High Voltage Transmission Line (HVTL) and associated facilities (EQB Docket No. 03-64-TR-XCEL) pursuant to the provisions of the Power Plant Siting Act (Minnesota Statutes sections 116C.51 to 116C.69). Xcel Energy's application to the EQB for a HVTL Route Permit was accepted by the EQB chair on December 11, 2003.

1.1 Description

This proposed HVTL is a 161,000-volt (161 kV) alternating current transmission line. The proposed line is approximately 25.5 miles in length and will connect the Lakefield Junction Substation in Jackson County, Minnesota, and the Fox Lake Substation in Martin County, Minnesota.

1.2 Purpose

The proposed 161 kV HVTL and three other HVTLs authorized by the Minnesota Public Utilities Commission (PUC) are intended to provide transmission outlets for existing and proposed wind generation from the Buffalo Ridge area in southwestern Minnesota. This proposed transmission line is the first of four Xcel Energy transmission line proposals authorized by the PUC.

1.3 Sources of Information

Much of the information used in this Environmental Assessment (EA) is derived from documents prepared by Xcel Energy and its consultants. These include, the "Application for Certificate of Need (CON) and Draft Environmental Report", December 26, 2001,¹ hereinafter referred to as the "CON Application", and the "Route Permit Application, Lakefield Junction-Fox Lake 161kV Transmission Line", November 25, 2003,² hereinafter referred to as the "Permit Application." The entire Xcel Energy route permit application, maps, appendices and other documents may be viewed at the EQB website at link: <http://www.eqb.state.mn.us/Docket.html?Id=3843>

Discussion of Electromagnetic Field (EMF) issues came primarily from the white paper developed by the Interagency Task Force led by the Minnesota Health Department.³

¹ "CON Application"

² "Permit Application" <http://www.eqb.state.mn.us/Docket.html?Id=3843>

³ EMF White Paper, at website

<http://www.health.state.mn.us/divs/eh/radiation/emf/emfrept.pdf>

2.0 Regulatory Framework

In Minnesota, most of the larger HVTL projects go through a two stage regulatory process. First, application is made to the PUC for a Certificate of Need. If the CON is granted, the utility must then obtain a Route Permit from the Environmental Quality Board (EQB). The Route Permit determines where the HVTL will be located.

2.1 Certificate of Need Requirement

The PUC must have granted a utility a CON before any EQB route permit is issued. See Minnesota Statutes section 216B.243 and Minnesota Rules Chapter 7849.0120. In preparing its CON application for this project, Xcel evaluated several transmission system alternatives, each capable of improving transmission outlet capacity for wind powered electrical generation.

Public hearings on the CON application were held in May, June and July of 2002 in southwestern Minnesota and in St. Paul. On March 11, 2003, the PUC determined that Xcel Energy demonstrated the need for four transmission facilities to move 825 MW of wind generation from Buffalo Ridge and granted certificates of need to Xcel Energy to build four HVTLs. PUC Docket No. E-002/CN-01-1958.

The proposed Lakefield Junction-Fox Lake 161kV line is the first of the four transmission lines that will be built pursuant to the PUC's March 11, 2003 Order. The other three proposed transmission lines include:

- A new 345 kV transmission line connecting the Lakefield Junction Substation to the Split Rock Substation in South Dakota;
- A new 115 kV transmission line connecting a new Nobles County Substation, located on the Lakefield Junction-Split Rock 345 kV line, with a new Fenton Substation and the existing Chanarambie Substation on Buffalo Ridge; and
- A new 115 kV transmission line connecting the Buffalo Ridge Substation in Lincoln County with the White Substation in South Dakota.

Issuance or denial of certificates of need shall be the sole and exclusive prerogative of the Public Utilities Commission and those determinations and certificates shall be binding upon other state departments and agencies, regional, county, and local governments and special purpose government districts. See Minn. Stat. sections 216B.243. subd 7.

The Power Plant Siting Statute (Minn. Stat. section 116C.53 subd. 2) states: "When the Public Utilities Commission has determined the need for the project under section 216.B243 or 216B.2425, questions of need, including size, type, and timing; alternative system configurations; and voltage are not within the board's siting and routing authority and must not be included in the scope of environmental review conducted under sections

116C.51 to 116C.69.”

2.2 Route Permit Requirement

Minnesota Statutes sections 116C .57 subd. 2 states that “No person may construct a high voltage transmission line without a route permit from the Environmental Quality Board.” Minn. Stat. § 116 C.57 subd. 2a. states, “Any person seeking to construct a large electric power generating plant or a high voltage transmission line must apply to the board for a site permit or a route permit.” A “High Voltage Transmission Line” means “a conductor of electric energy and associated facilities designed for and capable of operation at a nominal voltage of 100 kilovolts or more” according to Minn. Stat. § 116C.52 subd 4. The proposed Xcel Energy 161 kV HVTL between the Lakefield Junction Substation in Jackson County, Minnesota, and the Fox Lake Substation in Martin County meets this definition.

On November 25, 2003, Xcel Energy applied to the EQB for a route permit for the proposed 161 kV power line. Xcel Energy identified in its application a “proposed route” for the new line, as shown in Appendix D.1.

In this instance, Xcel has requested that the EQB review this project under the “Alternative Permitting Process” which is a 6 month review process for transmission lines between 100 kV and 200 kV (Minnesota Statutes section 116C.576). See Minnesota Rules parts 4400.2000 through 4400.2950 for applicable requirements of this process to the proposed transmission line project.

2.2.1 Citizen Advisory Task Force

Minnesota Statutes section 116C.59 and Minnesota Rules part 4400.1600 allow the EQB to appoint an advisory task force to assist it in carrying out its duties. For this project the EQB Chair determined that there are significant issues surrounding the possible routing of this new HVTL to warrant the input and advice of a Citizen Advisory Task Force (CATF). On July 17, 2003, the EQB chair appointed a CATF and directed the Task Force to identify particular impacts and additional routes to be evaluated in the environmental review process. The CATF was also directed to consider how the line could be routed along any route corridors identified by Xcel Energy, including an examination of routing issues near the City of Jackson Airport.

The CATF completed its charge and submitted its written recommendations and report to the EQB Chair on February 26, 2004. See Appendix B.

2.2.2 Environmental Assessment

For this project, and all other transmission projects using the alternative route permitting process in Minnesota Rules, parts 4400.2000 to 4400.2950, the EQB prepares an Environmental Assessment (EA). The EA contains information on the human and environmental impacts of the proposed project. It addresses methods to mitigate such

impacts for all of the routes considered. The EA is the only state environmental review document required to be prepared on the project by the EQB. The EA will assist the board in making its decision on exactly what route to approve and what conditions to attach to the final permit. The route permit issued by the EQB at the conclusion of this review process will specify conditions to minimize impacts of the proposed HVTL and associated facilities.

The Environmental Quality Board held a public meeting on this project, as required by Minnesota Rules part 4400.2500, in Jackson, Minnesota, on December 15, 2003. This meeting provided the public with an opportunity to learn about the proposed project, to suggest other route alternatives, and to identify concerns that should be addressed by the EQB in the EA. Public comments on the scope of the EA were accepted until February 10, 2004, to coincide with the date by which the CAATF had to make its recommendations. Copies of the comment letters received by the EQB and the CATF are included in Appendix C.

After consideration of the public comments and the report of the CATF, the Chair of the EQB issued a Scoping Order on March 8, 2004. A copy of this order is in Appendix A.

These proposed routing options are described in section 4 of this Environmental Assessment and are shown on maps and aerial photos in Appendix D.

2.2.3 Public Hearing and Administrative Law Judge

Minnesota Statutes section 116C.57 subd. 2d. requires the EQB to hold a public hearing once the EA has been completed. This hearing will be held in the City of Jackson and conducted by Allan W. Klein, an Administrative Law Judge from the Office of Administrative Hearings. Interested persons may comment upon the environmental assessment at the public hearing. Persons interested in being notified of the date of the hearing can register online at:

<http://www.mnplan.state.mn.us/maillinglist.html?Id=3843&redirect=http://www.mnplan.state.mn.us/eqb/Docket.html?ID=3843>.

Persons may testify at the hearing without being first sworn under oath. The ALJ shall ensure that the record created at the hearing is preserved and transmitted to the EQB. The ALJ will prepare a report that will include proposed findings of fact and conclusions and a recommendation on a route.

Comments received on the Environmental Assessment shall become part of the record in the proceeding but the Board is not required to revise or supplement the EA document. A final decision on a route permit will be made by the EQB at an open meeting.

2.3 Other Permits

The EQB route permit is the only State permit required for routing of the high voltage transmission line. However, other permits are required for certain activities like river and road crossings.

The applicant must apply for and obtain all permits required for project completion. The following state, county and local permits are needed for this project:

State of Minnesota Approvals or Permits:

- A. Certificate of Need (Public Utilities Commission)-- Already Granted
- B. Route Permit (Environmental Quality Board)-- Currently Under Review
- C. Utility Permit for Highway Crossings—MN Department of Transportation
- D. License to Cross Public Waters—MN Department of Natural Resources
- E. NPDES Permit—MN Pollution Control Agency

Local Permits:

- F. Utility Permit-Road Crossing—Jackson County
- G. Utility Permit-Road Crossing—Martin County
- H. Utility Permit-Road Crossing—City of Jackson

Federal Permits:

Notice of Proposed Construction or Alteration—Federal Aviation Administration. This requirement depends on the final route designated.

This listing of supplementary permits required is also found in Xcel Energy’s “Permit Application”.⁴

2.4 Issues outside EQB Authority

The EQB will not, as part of this environmental review, consider whether a different size of transmission line should be built instead of a 161 kV line or consider other system alternatives rather than the Lakefield Junction to Fox Lake connection. Nor will the EQB consider any route alternative that would require the existing 161 kV Alliant line to be

⁴ “Permit Application”, pg. 67-68

removed from service, other than what is necessary as part of Xcel's proposal. Nor will the EQB consider the no-build option.

3.0 Engineering and Operational Design

Xcel Energy is proposing a new, approximately 25.5 mile long, 161 kV transmission line. The proposed line and associated facilities will connect the Lakefield Junction Substation in Jackson County, Minnesota, on the west and the Fox Lake Substation in Martin County, Minnesota, on the east.

Between Lakefield Junction and the City of Jackson, Xcel Energy, along its proposed route, is proposing use of a double circuit 69/161 kV transmission line structure to support a future 69 kV transmission line being considered by other energy suppliers to deliver electrical energy to the City of Jackson. However, no utility is proposing to actually construct a 69 kV transmission line at this time.

3.1 Transmission Structure Design

Xcel is proposing to use single pole, galvanized steel, and davit arm structures for the Project. The single pole structures are designed to be used for both single and double circuit transmission line configurations. See Figures 1 and 2. Xcel Energy will not use wooden H or K frame transmission line structures for the proposed transmission line project. See Figure 5.

The double circuit structures proposed between Lakefield Junction and the City of Jackson will be designed to accommodate a double circuit (69/161 kV) line. The double circuit structures near Fox Lake will be designed to accommodate 161 kV circuits on both sides of the pole, but only the Xcel Energy line would be placed on the structures at this time. See Figure 1 for a depiction of the proposed structures.

The double circuit structures (69/161 kV), will range from 75 to 115 feet in height, with an average of 95 feet, and will have a span length between structures of 400 to 600 feet. Double circuit (161/161 kV) structures would be similar in height and span length to single circuit structures.

Figure 2 depicts the 161 kV single circuit structures proposed to be used between the new Jackson Substation in the City of Jackson and Highway 4 (70th Avenue), near the Fox Lake Substation where no double-circuiting is anticipated. See Appendix D.5, D.7 and D.7a. The single circuit structures will range from 70 to 110 feet in height, with an average height of 80 feet and an average span length between each structure of 600 feet.

If the route designated by the Board were to follow the existing Alliant Energy 161 kV right-of-way (Route D-4, Appendix D.1-D.4), Xcel would use the single circuit structure design, unless directed by the EQB to use the double circuit 161/161 kV line design option. Only the Xcel Energy line would be placed on the structures at this time.

Structure heights and spans will vary depending on topography and environmental constraints, such as highway crossings, stream crossings and required angle structures.

In other situations, transmission line height in a given area may be restricted. For example, an overhead transmission line, within the restricted space of the Jackson Airport will require a more compact line design, such as steel H frame structures and have shorter spans between structures.

3.2 Conductor and Shield Wire

The proposed conductor for the transmission line is 795-kcmil 26/7 aluminum core steel supported (ACSS) with seven steel core strands and 26 outer steel strands. The industry code word for this conductor is “Drake.” The conductor has an overall diameter of 1.108 inches and weighs 1.094 pounds per lineal foot. For lightning protection, Xcel Energy will use 3/8-inch shield wire. See permit application p. 13.

The capacity of this conductor is 1,620 amps. Average loading on the line in 2006 is expected to be around 440 amps. See permit application p.13

3.3 Foundations

Each steel pole structure will require a hole dug 15 to 20 feet deep and four to six feet in diameter. The steel structures will be supported by a drilled concrete pier foundation. Structures located in poor or wet soil conditions may require a specially engineered foundation such as a steel caisson that would be vibrated into the ground. See permit application p.19.

3.4 Right-of-Way Requirements

Xcel’s proposed transmission line project will require a right-of-way (ROW) that will vary in width from 45 to 80 feet. Where a new ROW is required, the ROW width will be 80 feet. Figure 4 depicts an 80 foot wide right-of-way profile for a single circuit line. Where the proposed transmission line will use existing rights-of-way (highway, electric transmission, and railroad) by the longitudinal placement of or by being located immediately adjacent to or within existing ROW, the required new ROW width may be reduced. See Figures 3 and 5. This is commonly referred to as “right-of-way sharing” or “corridor sharing.” Even though one linear facility may share right-of-way with another linear facility, new right-of-way is usually required, but the width of the new ROW is reduced.

Xcel has examined the use of existing rights-of-way to accommodate this proposed 161 kV transmission line. The majority of Xcel’s proposed route would follow existing transmission line and Interstate 90 road right-of-way (ROW). New ROW would be required along the two-mile corridor running south from the Lakefield Junction Substation to I-90 and along spans going through the Jackson area and going north to the Fox Lake Substation from I-90. Where the ROW parallels Interstate 90, the required

ROW width would be 45 feet. See Figure 3. When the line does not parallel or utilize existing ROW, the ROW width will be 80 feet. See Figure 4.

The existing Alliant 161 kV transmission line right-of-way is 150 feet wide. If Xcel's proposed transmission line route were located along or adjacent to this existing ROW, Xcel will need new ROW with a minimum width of 45 feet. See Figure 5.

3.5 Substation Modifications

Substations serve two essential functions in a power system. Substations interconnect transmission lines, transformers, and change voltages from one transmission level to another, or to a sub-transmission level. Transmissions lines are typically connected to the substation bus which in turn connects the line to the various other components in the substation.

No new substations are required for this project. However, modifications to the Lakefield Junction and Fox Lake substations are necessary to support the new 161 kV transmission line and are discussed in the following sections. Xcel Energy will pay for all substation modifications as approved in the CON proceedings.

Xcel Energy has requested that the necessary substation work be approved as part of the EQB route permit for this project. This work will also involve relocation of the western part of the existing Alliant 161 kV line as it enters the Lakefield Junction substation. See Appendix D.6b.

3.5.1 Lakefield Junction Substation Modifications

Necessary work includes relocating the termination of the existing 161 kV Alliant Energy Lakefield Junction-Fox Lake transmission line. The Alliant line exits the Lakefield Junction Substation on the south side and will be relocated to exit from the north side. The new Lakefield Junction-Fox Lake 161 kV line will then exit the substation from the south. See Appendix D.6b. See permit application p.16-17.

Other changes or additions will include: 1) use of an existing dead-end structure to terminate the new line; 2) connecting the new 161 kV line to an existing breaker which will protect the new line; and 3) connecting the existing 161 kV line to a 161kV, SF6 gas circuit breaker and its accompanying relaying and associated equipment to provide protection for line and substation equipment. See permit application pg. 16-17.

Minimal below-grade work inside the substation will be required to provide conduit-housed control and power cables to the breaker. The new breaker and bus-side switch will rest on existing foundations. See permit application p. 16-17.

A drawing of the proposed changes for the Lakefield Junction Substation is included in Xcel's Permit Application, Appendix F.1 and F.2.

3.5.2 Fox Lake Substation Modifications

The work included at the Fox Lake Substation includes: 1) use of an existing dead-end structure to terminate the new line on the bay south of the termination of the existing transmission line; 2) connecting the new Lakefield Junction-Fox Lake 161 kV transmission line to an existing breaker; and 3) connecting the existing Lakefield Junction-Fox Lake kV transmission line to a 161 kV, SF6 gas circuit breaker that will be installed at the substation. See permit application p. 16-17.

The Fox Lake Substation, which is owned by Alliant Energy, will need to be expanded 40 feet to the west in order to accommodate a new control house. The site expansion will be contained within Alliant Energy's existing property. See permit application p. 16-17.

A drawing of the proposed changes for the Fox Lake Substation is included in Xcel's Permit Application as Appendix F.3.

3.6 Design Options for Future Transmission Expansion

Xcel Energy is proposing to design a portion of the proposed line to accommodate a 69 kV transmission line that has been proposed as part of the Southwest Minnesota Local Load Serving study. See 2003 Minnesota Biennial Transmission Projects Report, p. 116-122. A copy of this of this plan and the Midwest Independent System Operator Transmission Expansion Plan-MTEP-03 can be found on the MISO web site, at:

http://www.midwestiso.org/plan_inter/expansion.shtml

According to this 2003 Report, there is inadequate electrical supply in the Jackson area and additional sources of energy are necessary to meet load growth in the Jackson area. The 2003 Report indicates that four alternatives were developed for the Jackson area. "All of the alternatives bring new transmission sources into the area to provide additional voltage support during system intact and contingency conditions. Because of the severity of the voltage problems in this area, particularly the fact that the system intact voltages are already below contingency criteria, two new sources are required for the Jackson area." See 2003 Minnesota Biennial transmission Projects Report, p. 118-119.

In its examination of these four different plans or alternatives, the recommended option (Alternative 1), in the 2003 Report includes the following transmission components: a) a new 161 kV line from Lakefield Junction to Jackson to Fox Lake; b) a new 69 kV line from Lakefield Junction to Jackson; and c) a new 161/69 kV substation at Jackson. The circuit breaker configuration at the Jackson 161/69 kV substation would need to be arranged so that both the new sources are not lost at the same time.

The report noted that the second new source to Jackson would be established by constructing a new 69 kV line from the Lakefield Junction Substation to Jackson and that this could be constructed as a second circuit on a double circuit 161/69 line from Lakefield. This preliminary study option would also minimize the amount of new right-

of-way and is the most cost effective because it would save approximately \$1,000,000 over Alternative 2. Alternatives 3 and 4 were more expensive.

Great River Energy (GRE) is leading the study and plans to have the study completed by June 2004. The plan being evaluated proposes to have the 69 kV line and associated facilities in-service by December 2006 to meet local load serving requirements and reliability needs.

Xcel Energy in its application stated that “it makes sense to build the new 161 kV transmission line capable of supporting the 69 kV circuit.” See permit application p.16.

If the proposed double circuit 69/161 kV section structures were approved by the EQB in this proceeding, either GRE or Missouri River Energy Sources (MRES) would own the 69 kV line portion of the facility once constructed.” See permit Application p. 16. See Table 6 for Summary of Costs.

The 69 kV is not subject to EQB jurisdiction because it is less than 100 kV.

3.7 Existing and Proposed Transmission Line Considerations

Transmission line routing in and out of both substations will require some flexibility in location and structure type to accommodate future expansion and to minimize land use impacts. The more difficult planning process is associated with the Lakefield Junction Substation for a couple of reasons.

3.7.1 Lakefield Junction Substation Area

First, the existing Alliant line will need to be moved to make room for the new 161 kV line. The Alliant Energy Line now leaves the substation from the south. It will be rerouted to north side of the substation. See Appendix D.6a, D.6b, D6c and D6d. The new 161 kV line will then exit the substation at the old Alliant Energy line location and head directly south along the existing HVTL corridor.

Second, the impacts of the new 345 kV Split Rock to Lakefield Junction transmission line and the future 69 kV line on this substation must be taken into account. Xcel will work with Alliant Energy to develop a plan for the lines entering the Lakefield Junction Substation that minimizes design and safety conflicts at the substation and also minimizes land use impacts for the property around the substation. This will depend, in part, on the final route for the Split Rock to Lakefield Junction 345 kV transmission line. Xcel filed its route permit application for this project with the EQB on April 30, 2004. See EQB Docket No. 03-73-TR-XCEL at:

<http://www.eqb.state.mn.us/Docket.html?Id=6466>

If the proposed 345 kV line enters the substation from the south, there may be an opportunity to use double circuit structures around the substation that would carry the

proposed 345 kV line and the new 161 kV line. Depending on how the Southwest Minnesota Local Load Serving plans progress, there may also be an opportunity to utilize double circuit structures that could carry a proposed 69 kV line and the new 161 kV transmission lines out of the Lakefield Substation. Xcel Energy has developed two preliminary route scenarios for this area and they are included as Appendix D.6b and D.6c. These appendices only identify some of the options available for the Lakefield Junction Substation area. See permit application p.16-17.

Because of unknown factors, such as the entry point of Xcel's proposed 345 kV into the Lakefield Junction Substation, Xcel in its application for its 161 kV line stated:

“the Company requests that the EQB authorize the re-routing of the Alliant Energy line to the north of the substation. Additionally, so that the most efficient plan can be implemented, the Company requests that the EQB authorize the new 161 kV to exit south of the substation on structure types to be approved later by the EQB. Xcel Energy would propose submitting final plans of the precise route and structure types to the EQB prior to beginning construction of the new 161 kV line near the substation.” See permit application p 17.

3.7.2 Fox Lake Substation Area

At the Fox Lake Substation, the new 161 kV line will exit the substation from the south. Currently, the Alliant Energy Line exits from the south as well. Xcel Energy is considering the possibility of double circuiting the new 161 kV line with the Alliant Energy line from State Highway 4 to the Fox Lake Substation for a short distance, 1.5 miles, to minimize land use impacts around the substation. Xcel has determined that double circuiting for this limited span will not impact system reliability since the existing Alliant Energy line will stay energized during most of the construction in this area. To accommodate this request: “Xcel is requesting that the EQB authorize a route from the south of the substation when a permit for this project is issued and rule on the structure type upon the Company's submission of final plans.” See permit application p.17.

4.0 Route Alternatives and Route Segments

In addition to the route proposed by Xcel Energy, this EA will review one other route alternative and several route segments identified in the Scoping Order (Appendix A) as described below.

- A. Route option D-4, a route parallel to the existing Alliant 161 kV transmission line connecting the Lakefield Junction Substation and the Fox Lake Substation and using single pole structures capable of double circuiting and without taking the existing Alliant line out of service.
- B. Route option D-5 (Elevator Route), with the flexibility to use the adjacent road(s), to provide Xcel some routing flexibility.
- C. Route option D-1-C through the City of Jackson.
- D. Route option D-1-B through the City of Jackson.
- E. Routing options to accommodate the Split Rock to Lakefield Junction 345 kV transmission line and the proposed 161 kV line and re-routing the Alliant 161 kV line in the Lakefield Junction Substation.
- F. Consolidation of transmission lines, by double circuiting in the Fox Lake Substation area.
- G. Other I-90 routing considerations to avoid residences along the freeway.
- H. Underground alternatives in the vicinity of the Jackson Airport.

These proposed routing options are described in the remainder of this section. All of the routes and route segments are shown on maps and aerial photos in Appendix D.

This Environmental Assessment examines two distinct transmission line routing alternatives (“Route Option D-4” and “Proposed Route.”) These two route options are shown on a map identified as Appendix D.1 and are described below.

Route Option D-4 is a transmission line alignment that could share or use up to 35 feet of the existing 150 foot wide Alliant 161 kV transmission line right-of-way that extends from the Lakefield Junction Substation in Jackson County to the Fox Lake Substation in Martin County, located about one to one and one-half miles north of I-90. The only transmission line structure examined is the use of a single pole structure capable of double circuiting. This option does not provide for taking the existing Alliant 161 kV line out of service for an extended period of time.

The Xcel Proposed Route is a transmission line alignment that follows existing transmission line rights-of-way near the Lakefield Junction and Fox Lake Substations and

generally follows or parallels I-90 right-of-way, except through the City of Jackson. In the City of Jackson, several alignment alternatives were identified (D-1-C, D-1-B, and D-5) to avoid conflict with existing and proposed land uses, including the Jackson Airport located just north of I-90. These alignment options through the City of Jackson are identified and shown in Appendix D.3 and D.3a. Each of the route alternatives examined is more specifically described below.

Route Option D-4 (See Route Map-Appendix D.1 and Air Photos-Appendix D.2, D.3, D.4 and D.5)

This route option is 22.3 miles in length. The specifics of this route alternative are described below using mileposts to identify the route segment. The proposed transmission line would follow the alignment of the existing Alliant 161 kV transmission line right-of-way.

Mile Post 0-2.5 Lakefield Junction Substation-M.P. 2.5

Beginning at the Lakefield Junction Substation, located in section 3 of Hunter Township (MP 0), the proposed transmission line would exit the substation on the south side and proceed east following or paralleling Alliant Energy's existing 161 kV transmission line, which follows the half section line through sections 3, 2 and 1 of Hunter Township (MP 0-2.5) This alignment passes over agricultural fields. One farmstead is adjacent to the Alliant Line in Section 1 of Hunter Township.

Mile Post 2.5-6.3

At approximately MP 2.5, the proposed transmission line crosses over County Highway 17 (CH), and enters Des Moines Township in section 6, on the half section line, and continues eastward on the half section line to the east side of section 5 (MP 2.5 to 4.5). At section 4 of Des Moines Township, the proposed transmission line angles southeast for approximately three-fourths of a mile, then picks up the quarter section line in the SE one-quarter of section 4, then continues east along the one-quarter section line. The proposed transmission line then crosses CH 14, enters section 3 on the quarter section line, continuing east to MP 6, then angles to the north-east, west of the tree line to cross the Des Moines River adjacent to Alliant's existing diagonal crossing of the river.

Between MP 2.5 and 6.3, this proposed transmission line would cross over agricultural land, a drainage ditch or unnamed stream, CH 14 and the Des Moines River. Two farmsteads are located approximately 500 feet south of the Alliant line, one in section 4 and the other in section 3.

Mile Post 6.3-8.8

After crossing the Des Moines River, the proposed line would continue eastward immediately adjacent to the existing Alliant 161 kV line along the half section line through sections 3, 2 and 1 of Des Moines Township (MP 6.3 to 8.8). All of the land

crossed is agricultural land. One farmstead borders the south side of the Alliant right-of-way on the west side of section 2. A tributary of the Des Moines River is crossed in the west half of section 2. Between sections 2 and 1, Highway 71 is crossed. The existing Alliant transmission line is approximately 5,500 feet north of the end of the existing runway at the Jackson airport. Appendix D.10 shows alternative approach zones being considered by the City of Jackson as a part of the airport expansion study. The two proposed run ways north and east of the existing runway, if built, would require relocation of Alliant's existing 161 kV line and Xcel's line if this route were designated.

Mile Post 8.8-14.6

At MP 8.8, the proposed transmission line crosses CH 83, and enters Wisconsin Township on the half section line and continues east through sections 6, 5, 4, 3, 2 and 1 (MP 14.6). Nearly all of the land crossed is agricultural land. This alignment would cross one drainage ditch in section 6 and another one in section 2. Two farmsteads, one in section 5 and the other in section 3, are within 500 feet of the Alliant line. County roads 85 and 29 are crossed.

Mile Post 14.6-20.5

At MP 14.6, the proposed transmission line leaves Jackson County and enters Jay Township in Martin County on the half section line and crosses sections 6, 5, 4, 3, 2, and 1 (MP 20.5) to State Highway 4. Nearly all of the land crossed is agricultural land. In section 6, the East Fork of the Des Moines River and associated wetlands are crossed. One drainage ditch is crossed in section 4. CH 7 is also crossed. Three farmsteads (sections 6, 4 and 1) are within 400 feet of the Alliant line.

Mile Post 20.5 to Fox Lake Substation

At MP 20.5 (Highway 4), the proposed line enters Manyaska Township, crosses sections 6 and most of 5 along the south side of 125th street prior to turning north, and terminates at the Fox Lake Substation (MP 22.3). This area is part of the Statutory Game Refuge around the Fox Lake area.

Proposed Route (I-90) (See Route Map Appendix D.1 and Air Photos Appendix- D.2, D.3, D.3a, D.4, and D.5

This proposed route alignment is shown in Appendix D.1. Xcel's route as proposed is about 25.5 miles long. Between the Lakefield Junction Substation and at location near the Jackson Industrial Park, Xcel is proposing to design this portion of the line as a double circuit 69/161 kV transmission line. This 69 kV transmission line would serve the growing electrical load in the Jackson area.

Mile Post 0-2.2 Lakefield Junction Substation to I-90

Beginning at the Lakefield Substation, the proposed 161 kV line would exit the Substation from the south side and proceed south, near the half section line through sections 3, 10 and 15 of Hunter Township, to I-90 for a distance of approximately 2 miles (MP 0-2). This north-south route segment is located within two hundred feet of two existing transmission lines (See Appendix D.6a through D.6.d). The first one is the existing Alliant Energy 161 kV line that extends south from the Lakefield Junction Substation along the half section line for approximately 1.25 miles before heading west to the Split Rock Substation in South Dakota. The second line is a 345 kV Xcel line that goes south to the Sioux City, Iowa, area. This line does not follow any property lines or field boundaries and is east of the north-south 161 kV Alliant line. This line also passes on the west side of the Milton Fricke farmstead located in the SE ¼ of section 3 in Hunter Township. Both of these existing transmission lines use wooden H or K frame structures.

If this route segment is designated, several double circuiting options with the proposed 69, 161, and 345 kV lines are available. All of the land crossed by the proposed 161 kV line and the two existing transmission lines (161 kV and 345 kV) is agricultural land and actively farmed.

Mile Post 2.2 -4.7

At I-90 the proposed transmission line would turn east, on the north side of the freeway, through sections 15, 14 and 13 of Hunter Township in Jackson County (MP 2.2-4.7). The proposed transmission line structures would be located about 5 feet from the I-90 freeway fence, which also defines the northern edge of the I-90 right-of-way. One house is located within 300 feet of the proposed route along the north side of the freeway in section 15. All of the land outside of the freeway is farmed. One drainage ditch in section 14 will be crossed.

Mile Post 4.7-7.7

When the proposed line crosses Jackson County Highway (CH) 17 (MP 4.7), it leaves Hunter Township and enters Des Moines Township in section 18, and continues through sections 17 and 16 adjacent to the north side of I-90 (MP 7.7). In section 18, two farmsteads are within 300 feet of the north side of I-90. There is also a service road on the north side of the freeway in section 18 that provides access to the three farmsteads. The transmission line would be located between the freeway and the service road if there were enough room. On the south side of the freeway, there is a MnDOT rest stop and to the south of that is the north side of Clear Lake. The dominant land use for these three sections is agricultural land.

Mile Post 7.7-9

As the line leaves section 16, it crosses County Highway (CH) 14 as it enters section 15 and then crosses over to the south side of the freeway. The line would then continue east

on the south side of I-90, cross the Des Moines River, and continue east to MP 9. Most of the land crossed in section 15 is agricultural land. On both sides of the Des Moines River, the land is wooded and interspersed with grasslands.

Mile Post 9-12

At MP 9, Xcel's proposed route turns southeast and follows an abandoned railroad right-of-way through section 14, north of the golf course in the City of Jackson. On the east side of section 14, within the Jackson City limits, the line crosses Highway 71, then continues eastward following the abandoned railroad right-of-way to the south side of the Jackson Industrial Park near the AG Chem Equipment Company manufacturing facilities until it crosses CH 23 (MP 11).

At MP 11, the proposed line enters Wisconsin Township in section 18 and proceeds east along the quarter section line through agricultural land to the half section line of section 18. At this point, the proposed alignment proceeds north to I-90 (MP 12).

Mile Post 12-17.8

At MP 12, the line turns east and follows the south side of I-90 through sections 7, 8, 9, 10, 11 and 12 in Wisconsin Township. All of the land crossed by this alignment, either on the south or north side of I-90, is agricultural land. Where the line crosses CH 29, the line would pass through the I-90 and CH 29 interchange north of Alpha, located between sections 11 and 12 (MP 16.8). One drainage ditch is crossed in section 12.

Mile Post 17.8-24

As the proposed transmission line continues eastward from section 12 (MP 17.8), it leaves Wisconsin Township and Jackson County and enters into Martin County in Jay Township continuing eastward through sections 7, 8, 9, 10, 11, 2 and 1. All of the land crossed in this area is agricultural land, and the alignment could be on either side of the I-90 right-of-way.

There are seven farmsteads near the I-90 right-of-way in this stretch. Two of these farmsteads are in section 7, on the north side of the freeway; one in section 8 north of I-90; two in section 10, one north of I-90 and one on the south side; one farmstead in section 11 on the north side of I-90; one in section two, also on the north side of I-90 and one south of I-90 in sections 11 and 12.

Near the east side of section 10 in Jay Township, the proposed line crosses from the south side of I-90 to the north side and proceeds east. Near the boundary of sections 2 and 1 in Jay Township, along the north side of the freeway the transmission line will be located between the north side of the freeway and the frontage road, through all of section 1, until it crossed 70th Avenue (State Highway 4 & CH 13).

Mile Post 24-25.5

At MP 24, the transmission line enters Manyaska Township in section 6. At this point the proposed line would turn north for approximately 500 feet until it intersects the existing Alliant 161 kV line. At this point the proposed transmission line and the existing Alliant Energy 161 kV line would be double circuited for approximately one mile, between 125th Street and I-90. South of the Fox Lake Substation, the double-circuit line would turn north for about .3 miles and terminate at the west side of the Fox Lake Substation.

Route Options through the City of Jackson

Route Option D-1-C (See Route Map D.1 and Air Photos Appendix- D.3, D.3a) Mile Post 9-12

Beginning at MP 9 this option would approach Jackson from the west on the north side of the freeway, cross over some above ground gasoline storage tanks on the west side of Highway 71, pass through the I-90 interchange at the intersection of these two highways, then continue east for about 2,500 feet before crossing over to the south side of I-90. [This description is common to the first part of Route Options D-1-B and D-5.]

Once it crosses over to the south side of I-90, it continues east for approximately one mile until it intersects with Xcel's original alignment at MP 12. The route option would also cross C.H 23, which runs north-south along the east side of the Jackson Industrial Park. Because of the proximity of this route option to the Jackson Airport, transmission tower height would be restricted in this area. The cost of undergrounding approximately 3,500 feet of the proposed transmission line in the vicinity of the Jackson Airport is reviewed in section 5.15.2.

Route Option D-1-B (See Appendix D.3) Mile Post 9-12

This route option starts at the same place as does Route Option D-1-C and is common to D-1-C until it crosses from the north to the south side of the freeway approximately one mile east of Highway 71. After crossing I-90, the alignment follows the west side of the Jackson Industrial Park to the south side of the Jackson Industrial Park along the property line between the AG Chem Equipment Company and the Wayne Torgerson farm. At this point the alignment would turn east and follow the southern boundary of the Industrial Park, cross CH 23, then enter section 18 of Wisconsin Township through agricultural land to the half section line, turn north and follow the half section line until it intersects MP 12 of Xcel's proposed route.

Route Option D-5 (See Appendix D.3) Mile Post 9-12

This route option is identical to Route Option D-1-B for all of its length until it reaches the south west side of the Jackson Industrial Park. Where it turns east on the south side of the Jackson Industrial Park, it follows the southern boundary for approximately 1700 feet, then angles south and east along the railroad spur line that passes through the Farmers Co-op, cross CH 23, enters Wisconsin Township in section 18, follows the general alignment along a road and railroad spur line to the half section line, then turns north and follows the half section line to the point where it intersects with MP 12 of Xcel's proposed route.

5.0 Potential Impacts of the Project

5.1 Introduction

The construction of a transmission line involves both long-term and temporary impacts. Long-term impacts can exist as long as the line is in place and include land use restrictions. Temporary impacts occur during construction or at infrequent intervals such as line repair or ROW maintenance. Temporary impacts during construction can include crop damage, soil compaction and noise.

It may be possible to lessen or “mitigate” potential impacts by adjusting the proposed route, selecting a different type of structure or pole, using different construction methods, or implementing any number of post-construction practices. The EQB can require the route permit applicant to use specific techniques to mitigate impacts or require certain mitigation thresholds or standards to be met through permit conditions.

Regardless of the route that is ultimately selected, there are a number of potential impacts associated with HVTLs that must be taken into account on any transmission line project. Minnesota Rules part 4400.3150 A through N, identifies fourteen factors that the EQB must consider when designating a route for a high voltage transmission line. At the EQB public information and scoping meeting, the Citizen Advisory Task Force meetings and during the comment period, interested persons expressed concerns about several issues related to this project. These factors and issues are discussed in the following sections.

5.2 Existing Rights-of-Way

Minnesota Rules, part 4400.3150 requires the EQB to consider fourteen factors when designating a route for a HVTL. One of these fourteen factors (J) directs the Board to consider use of existing transportation, pipeline, and electrical transmission system or rights-of-way; while another factor (H) directs the Board to consider the use or paralleling of existing rights-of-way, survey lines, natural division line, and agricultural field boundaries.

A common method for mitigating impacts is corridor or right-of-way sharing. The advantages of ROW sharing include: a) reducing the amount of new right-of-way required; b) concentrating linear land uses and reducing the number of new corridors; and c) creating an incremental, rather than a new impact.

In some situations, corridor or ROW sharing may have disadvantages. Sharing may require new access roads. If the corridor or ROW crosses environmentally sensitive areas, an expanded ROW would have additional impacts to the natural resources of the areas. Landowners who have agreed to an easement for one facility may feel unfairly burdened by the addition of another facility that further limits their rights and use of their property.

The opportunities for right-of-way sharing of transmission lines with highways, railroads, pipeline, and other transmission lines must consider, in addition to the physical and

electrical characteristics, those other characteristics that may impose upon, or interfere with, the primary purpose of the existing right-of-way.

For this proposed transmission line project, the project area includes two existing rights-of-way (ROW); the I-90 Highway ROW and the Alliant 161 kV transmission line ROW. Both rights-of-way pass through the area on a west-east axis and connect to or pass near the existing end points (Lakefield Junction Substation and the Fox Lake Substation) proposed for this project.

Xcel Energy, in preparation of its route permit application, evaluated both the Alliant 161 kV transmission line and I-90 highway rights-of-way. Ultimately, Xcel rejected the Alliant right-of-way and submitted its route application with a “proposed route” that uses the I-90 ROW where possible. See Appendix D.1. Through the EQB’s scoping process and based upon the recommendations of the Citizen Advisory Task Force, the scoping order of the EQB chair included the Alliant right-of-way as an option to be evaluated in this Environmental Assessment along with other route segments proposed by the Task Force.

The following discussion illustrates, in part, the manner in which highway and other transmission lines define limitations in paralleling or sharing rights-of-way with proposed HVTLs.

Implicit in the concepts of joint use of rights-of-way is a reduction in the land area compared with that required if each were independently located. This objective is achievable in some instances, but there are constraints when sharing existing rights-of-way with new linear features. The following discussion highlights some of the issues associated with ROW sharing or paralleling the existing I-90 and 161 kV transmission line rights-of-way being examined in this EA.

5.2.1 Transmission Lines Sharing Right-of-Way with Highways

Transmission lines can, and do, successfully share rights-of-way with highways. However, a transmission line must not interfere with the primary objective of a highway—to accommodate vehicular traffic and safety. The compatibility is a function of the type of highway, such as a limited access interstate. The transmission line should also not introduce a safety problem, either by increasing the probability of vehicular accidents (e.g., an automobile hitting a transmission structure) or by causing electric shock to people entering or leaving a parked automobile on the highway shoulder.

Interstate highways have the highest and most inflexible design standards. They must have a minimum of four lanes, each 12 feet wide, with shoulders not less than 10 feet in width. Median widths range from a minimum of 4 feet to a desirable width of at least 60 feet. Rural freeways in Minnesota are designed for 90 feet between roadway centerlines. If conditions allow, the optimum right-of-way for interstate highways is 300 feet. If the right-of-way width is limited, the border area is reduced first, then the median, rather than the traffic lanes or shoulders.

5.2.2 Technical Compatibility

The major technical problems associated with the sharing of rights-of-way between highways and transmission lines are reliability and safety related. Two basic shared rights-of-way are: a) a transmission line parallel to and outside of the highway right-of-way; and b) a transmission line parallel to and within the highway right-of-way.

The Minnesota Department of Transportation has adopted a basic policy regarding the proper use of state highway rights-of-way for locating transmission lines. MnDOT Policy Guideline Highway No. 90-1 states, "Private lines are allowed only to cross trunk highway right of way. Longitudinal installations are not permitted. Overhang is allowed."

MnDOT Policy has additional limitations on HVTL structures and lines when Federal Interstate highways are involved. These limitations are contained in the standards of the American Association of State Highway and Transportation Officials "A Policy on the Accommodation of Utilities within Freeway Right-Of-Way," which says in part:

"New utilities will not be permitted to be installed longitudinally within the control of access lines of any freeway, except that in special cases such installations may be permitted under strictly controlled conditions. Utilities will not be allowed to be installed longitudinally within the median area. All longitudinal utility accommodations as may be warranted herein shall only be in accordance with an approved permit issued by the State highway agency."

Xcel's proposed route alignment would locate the transmission line structures approximately 5 feet outside the fenced area of I-90 as shown on Figure 6. In this instance Xcel will require a 45-foot wide right-of-way rather than an 80-foot wide right-of-way. This will reduce the overall right-of-way width from 80 feet to approximately 45 feet where the transmission line is five feet from the I-90 right-of-way. This will reduce the right-of-way requirement by approximately 4.15 acres per mile. Structures would be about 600 feet apart. Xcel has estimated that each tubular steel structure will displace approximately 50 square feet in agricultural lands along the freeway.

In an April 28, 2003, letter from MNDOT to HDR (Xcel's environmental consultant), a number of concerns were raised with regard to Xcel's proposed use of I-90 for the proposed project. See permit application, Appendix G.5. An October 16, 2003, meeting between MNDOT and Xcel addressed these concerns and "By the close of the meeting, MNDOT stated that Xcel Energy has sufficiently addressed MNDOT's concerns regarding the proposed Project along I-90." See permit application, p.62-63.

A permit from the MNDOT is required for construction, placement, and maintenance of utility lines to be placed adjacent to or across the highway right-of-way. Xcel will apply for the necessary permits once the line design is completed.

Utility permits will also be required for crossing Jackson and Martin County highways. Martin County requires transmission line structures to be set back 130 feet from the county road centerline.

5.2.3 Transmission Lines Sharing Rights-of-Way with Other Transmission Lines

Two primary areas, which form the basis for right-of-way requirements and quantify the effects and compatibility of sharing right-of-way by more than one transmission line, are the National Electric Safety Code (NESC) and the effects of electric fields, audible noise and radio noise. Inherent in both the application of the NESC and the impact of the electrical environment effects are the characteristics of the transmission line being considered.

Application of the NESC criteria, which specifies minimum separation distances between transmission lines and other transmission lines, as well as other facilities, requires quite detailed transmission line characteristics. The voltage of the line, the span lengths, the conductor sizes, tensions and heights above ground (i.e., the mechanical and electrical characteristics of the transmission line) are necessary to determine the separation distances required.

Xcel Energy has determined that the minimum horizontal distance between Alliant's 161 kV line and its proposed 161 kV line is 21.5 feet. See Figure 5. Separation distances may also be greater based on design parameters and other land use or environmental considerations, such as the separation distance necessary to move farm equipment between adjacent, but parallel sets of transmission line structures. See Figure 5.

Parallel transmission lines on the same right-of-way have an electrical impact on each other as well as on the electrical environment. One transmission line near another may affect the power capacity, and this effect is considered in both transmission line and system planning. Voltages can be induced on a line taken out of service for maintenance if an energized parallel line is close by. This can present a hazard to personnel performing maintenance, particularly if a fault occurs on the operating line. Utilities have formulated work rules and safety procedures for this type of situation.

Parallel transmission lines also modify each other's radio noise, audible noise and electric fields. The adjacent lines generally cause the electrical environmental effects to have increased magnitudes over a single line and thus increase right-of-way requirements. However, because one of the two circuits may have a shielding effect on the other when sharing right-of-way, the electric field may actually be less with two circuits than with one. See Table 4, for electric field calculations prepared by Xcel for the various route options under consideration.

5.3 Existing and Proposed Land Uses and Zoning

Existing land use along both of the proposed routes, except through the City of Jackson, is primarily farmland. In Jackson and Martin Counties nearly all of the lands crossed are zoned agricultural. Table 2, a route “Land Use Comparison” illustrates that agricultural land is the predominant land use crossed by the primary routes being considered.

There are exceptions though. For example, Fox Lake itself is zoned “Residential Recreation District” in Martin County. The County zoning ordinance describes this district as an area “...for shoreland areas that are appropriate in serving to meet the demand for a reasonable amount of freestanding rural residential development.” From State Highway 4, (70th Avenue) or MP 24 to the Fox Lake Substation, this part of the transmission line is common to both of the proposed routes. See Appendix D.7a and D7.b. and permit application p. 34.

In the City of Sherburn, the transmission line routes will cross an area zoned “Business.” See permit application, Appendix H.3.

In the County of Jackson, near the City of Jackson, the line borders on property zoned “Urban/Rural” and will cross the Des Moines River, which is zoned “Shoreland and Natural Environment.” Jackson County Development Code describes the “Urban/Rural” districts as areas that “provide areas within the County where urban development can take place and where urban services can be readily extended and provided.” The purpose of the “Shoreland Natural Environment” district is to “control the use of any shoreland of public waters...” within Jackson County. See permit application p. 34-35.

In the City of Jackson, the transmission line routes will cross areas zoned “Service Business District” and “General Industrial District.” Transmission lines are often compatible with these classifications.

Appendix D.10 shows alternative runway locations and associated approach zones being considered by the City of Jackson as a part of the airport expansion study. The two proposed runways north and east of the existing runway, if built, would require relocation of Alliant’s existing 161 kV line and Xcel’s line if Route Option D-4 were designated.

High voltage transmission lines may influence land use patterns, particularly in areas that are not fully developed. The tangible impacts upon adjacent lands are difficult to measure, due to the large number of variables, which can cause land use changes. Nonetheless, it is clear that HVTLs cause physical disruptions, linear constraints along the right-of-way for future land uses, and negative public attitudes. In addition, there is a possibility that land values may diminish as a result of the real and perceived effects of HVTLs.

In general, the impact of a HVTL on land use depends upon the perceived compatibility of the transmission line with the setting. The greatest adverse impacts tend to be associated with the placement of HVTLs in low density residential area; the least impacts

occur when lines cross industrial or certain types of institutional lands, e.g., sewage treatment facilities, industrial parks or transportation corridors. Xcel's proposed route in this case does use the I-90 corridor and the routes through Jackson about the Jackson Industrial Park.

5.3.1 City of Jackson

Through the City of Jackson, the routes being evaluated are primarily located in or will pass through mixed land uses that include open land, agriculture land, platted and planned commercial and residential development lands, industrial (Jackson Industrial Park), and commercial uses including retail and service businesses. Along I-90, through the City of Jackson, there exists or is planned commercial development on both sides of the freeway. Another planned land use change includes an expansion of the Jackson Municipal Airport. Some of these changes conflict with one or more of the proposed routes through the City of Jackson.

5.3.1.1 Xcel Proposed Route (MP 9-12) See Appendix D.3a

Xcel's proposed route segment is 3.03 miles long and would require approximately 27 structures or poles and approximately 29 acres of land for the right-of-way. This route segment follows property lines and an abandoned railroad right-of-way, but does not share existing right-of-way. Xcel's proposed alignment near Fort Belmont would pass along the west and south side of the property line.

This proposed route segment was opposed by numerous parties for variety of reasons. See Appendix C, opposing letters C-1.1 to C-1.9.

Fort Belmont

The Fort Belmont Foundation and Jackson County Tourism, Inc., opposed the placement of the transmission line in this area because the site is a depiction of the life and times of settlers and Indians of the early 1900's, and the Foundation believes the proposed transmission line would be detrimental to the tourism activities that occur at this historic site (See Appendix C-1.2).

Another letter from representatives of the Jackson County Tourism/Fort Belmont Corporation (Appendix C-10 through C-10.3, dated January 20, 2004) indicated that they are in the process of improving the Fort Belmont Site. Presently, there is a 1902 church, an 1873 Farm House, an original summer kitchen, and an old barbershop at the site. There is also a reproduction of a Sod House, a Blacksmith Shop and a Log House. There are also plans to add a Grist Mill and a Bailey Tower.

Fort Belmont was moved to this site in the 1990's. Prior to its move, Fort Belmont had 60 to 70 thousand visitors per year. In conclusion the letter stated: "The electrical lines by and over this property would ruin the appearance of this Historical Site and the original native prairie grasses and wild flowers growing here." They suggested placing

the proposed line along I-90 where there is open space.

Representatives of Fort Belmont believe that the presence of the transmission line adjacent to the Fort would affect their ability to build up their tourism base.

Kema –Asa Auto Plaza

Todd Asa, of Kema-Asa Auto Plaza, in a letter dated October 16, 2003, (Appendix C-1.3) objected to Xcel’s proposed route through the City of Jackson between MP 9 and Highway 71. Mr. Asa wrote that they have “just acquired 35 acres behind the dealership for future development. The proposed line would run through the back yards over private home lots adjacent to the golf course. This line would prevent the future development of this property for homes. I have the proposed lots drafted and this line would stop all development of this with the proposed line.” This proposed plat has been approved by the City of Jackson.

Mr. Asa’s approved plat also includes some commercial development adjacent to the south side of I-90.

Jackson Industrial Park

The comment letters in Appendices (C-1.4, C-1.5, C-1.6, C-1.7, C-1-8) all expressed concerns with Xcel’s proposed route through Jackson because: a) Xcel’s proposed route is too close to the Jackson Municipal Airport; b) runs through prime residential, commercial, and industrial development sites in and near the City of Jackson; c) would be detrimental to the future development of those sites; d) could reduce the value of tracts already developed; and e) would negatively impact the economic health of the City and County.

On December 2, 2003, the Jackson City Council unanimously passed resolution No. 69-1203, (See Appendix C-2) that [1] strongly opposes construction of the New Line along the course or route proposed by Xcel, and [2] urges Xcel to consider, propose, and adopt an alternate course or route for the New Line that does not pass easterly and westerly through Section Thirteen (13) of Des Moines Township and Section Eighteen (18) of Wisconsin Township, Jackson County, Minnesota. Both of these sections are on the east side of Highway 71 and encompass parts of the Jackson Industrial Park. The resolution noted that the area through which Xcel proposes to construct the New Line has been designated as a “job opportunity building zone” under Minn. Statutes, section 469.314.

Xcel’s proposed route through the City of Jackson could potentially create a number of land use conflicts with proposed development and land use plans supported by the City of Jackson.

Jackson Municipal Airport

Jackson has a prosperous agricultural industry with Ag-Chem, which plans to expand its

agricultural equipment operations in Jackson. This has prompted the City to look into airport expansion and this study is still underway. Currently the south end of the existing airport is adjacent to the north side of I-90. As shown in Appendix D.10, Xcel's proposed route would not be in conflict with the existing or extended runway length because the approach zone area is above the height of the planned structures.

5.3.1.2 Route Option D-1-C (MP 9-12) See Appendix D.3a

This route segment is 2.28 miles in length, would require approximately 20 structures, and parallels both the north and south side of I-90, through the City of Jackson.

Ag-Chem identified the potential for impacts to industrial land use on the south side of I-90 for this route segment due to its announced plans to expand its agricultural equipment-related operation in Jackson. The company believes that a transmission line on the south side of I-90 may hinder these expansion plans. See permit application, Appendix G.11.

This proposed route segment is approximately 2000 feet from the end of the runway at the Jackson Airport. The City of Jackson is also examining several airport expansion options that include: extending the existing runway and building a new runway or runways as shown in Appendix D.10.

The Minnesota Department of Aeronautics has minimum restrictions (See Minnesota Rules, parts 8800.1200 and 8800.2400), on the distance and orientation of any structure located within an airport approach zones. The City of Jackson has also adopted airspace obstruction zoning ordinances. See permit application, Appendix H.4-H.7.

In this instance, subsequent analysis by Xcel has determined that adequate overhead transmission line clearance within the calculated airport approach zones is not possible with the existing runway and this proposed transmission line alignment. See Appendix D.10. This Appendix illustrates the height restriction limitations for this route segment and for the other route segments south of I-90 in the City of Jackson. It also depicts the transmission line height restrictions for the Alliant 161 kV line route north of I-90 for the existing and proposed runways that are being studied.

The net cost of undergrounding two-thirds of a mile (3,500 feet of the 161 kV) to avoid the height restriction areas is \$2,960,000 for the D-1-C route option. See section 5.15.2 for discussion of underground costs.

5.3.1.3 Route Option D-1-B (MP 9-12) See Appendix D.3a

This route segment circumvents nearly all of the industrial park by passing along the park's western and southern boundaries. In a resolution adopted by the City of Jackson on February 2, 2004, Resolution No. 17-204, the City noted that this alignment would transect prime development land in the SE1/4SE1/4 of Section 18 in Wisconsin Township. See Appendix C-14.2 and C-14.3.

This route segment option is far enough south of the Jackson Airport runway (5,500 feet approximately) that it will not interfere with any of the proposed expansion plans of the Jackson Airport. See Appendix D.10 Airport Map.

This route segment would provide an opportunity to include the 69 kV transmission and substation necessary to serve load growth in Jackson area, without requiring a new or separate right-of-way for a 69 kV transmission line. This route segment would also allow for a tap on the proposed 161 kV line to tie into a new substation that will also tie into the City's existing substation. See Appendix C.14-3.

5.3.1.4 Route Option D-5 (MP 9-12) See Appendix D.3a

This route segment also provides an opportunity to bring the needed 69 kV line into the City as described in section 5.3.1.3.

The City of Jackson, on February 2, 2004, passed a resolution unanimously supporting Route Option D-5 through the City of Jackson. See Appendix C-14.2 and C-14.3. Its reasons for supporting this route in the resolution stated the following:

[a] Is preferred by AGCO,

[b] removes the New Line from the vicinity of the airport and thereby avoids potential air space and communication problems related to air traffic,

[c] follows the established corridor of the existing railroad right-of-way rather than transecting prime development land in the SE1/4SE1/4 of said Section 18 and, therefore, is least likely to impede, restrict, or preclude economic development along the course of the New Line, development that is vital to the City, and

[d] brings the New Line within close proximity to-and thereby facilitates economical interconnections with-the City's substation.

This route option was also the preferred route segment of the Citizen Advisory Task Force through the City of Jackson, if Xcel's proposed route is selected.

A February 13, 2004, letter from the Farmers Cooperative Association (See Appendix C-15 and C-15a), recommended that the proposed line be double circuited with the Alliant 161 kV line and that if that were not possible, it should follow I-90. In concluding, the Association noted that: "All the other proposed routes just shift the restrictions and inconveniences from one set of landowners and business to others."

5.4 Impacts on Farmland

5.4.1 Route Selection

Regardless of the route selected in this proceeding, the transmission line will cross mostly agricultural land. Some land will be taken out of production because of the existence of the transmission line structures on the land.

Xcel's proposed route, along the I-90 corridor, would require less new right-of-way than the Alliant route a mile north of the freeway. A new transmission line along the Alliant route could also share a portion of the existing right-of-way, up to 35 feet. Use of the Alliant right-of-way will require at least 45 feet of new ROW. Separating the two lines by more than 45 feet may be desirable to provide the necessary clearance between parallel transmission line structures to allow for movement and passage of large agricultural equipment. If the parallel structures were too close to one another, it would compound the difficulties of working around the structures with agricultural equipment and increase the amount of land taken out of production.

Placing the new line along I-90 will displace less agricultural land. By placing the structures or poles as close as possible to I-90 means that the structures are not out in the fields, but located in the headlands which are often less productive.

It is estimated that a new transmission line along the I-90 or the Alliant route would take .21 acres out of permanent production. The total temporary route impacts are similar. Xcel's proposed route would disrupt about 67 acres of agricultural land and the Alliant route 65 acres.

The type of structure used affects the amount of cropland lost by the presence of the structures in the field. The amount of cropland lost is smallest with tubular steel towers and higher with H or K frame wooden structures and lattice steel structures. In this case the single pole structures will be used regardless of the route selected.

The Alliant route is slightly shorter than the Xcel route and would require approximately 28 fewer structures, but the number of structures on farmland is essentially the same since the Xcel route must pass through the City of Jackson and most of that land is not farmed.

Farmers have had to contend with the Alliant transmission line since it was constructed in the 1950's. The existing H frame structures displace more agricultural land than tubular towers. Landowners registered numerous comments during Xcel's Open House meetings (see permit application, Appendix G.7-G.10) and the scoping process stating that they would like to see the H frame structures removed. While construction of a new line parallel to the Alliant line with structures capable of carrying two separate circuits (double-circuiting) might provide an opportunity in the future to replace the existing H frame structures, the existing Alliant line cannot be taken out of service during construction of the new line for reliability reasons, and for some presently unknown

period of time, landowners would have to contend with two sets of structures along this route. It would reduce the impact on these farmers if any new structures that were installed were aligned with the existing H frame structures.

It helps to minimize the impact on farmers from the presence of a transmission line if the line can be routed along section lines or half-section lines. These locations tend to be property boundaries between landowners. See Minnesota Rules part 4400.3150 (H). The Alliant line is located on the half section line for nearly all of its 22.5-mile length. Therefore, the proposed line could not be located along the half section line, but would be off set from the existing Allinat ROW requiring the new structures to be out in the fields at least 80 feet or more. Placing the structures that far out in the field is likely to increase the impacts on agricultural land rather than reducing impacts.

Numerous comments from landowners along the Alliant are contained in Xcel's permit application in Appendix G.7-G.10). Many of the comments offered are similar to the one offered by Craig Fransen on May 21, 2003:

I am a landowner in Section One of Des Moines Township. My concern is if you add a second set poles they will be located in our field and not along the fence line. I would like the existing line removed and a new single pole line installed. If the second line were added it would be in our field. With today's large machinery, it would be difficult to farm between a second set of poles. If it is not possible to have a single set of poles I feel it should be located along Interstate 90.

5.4.2 Impacts on Farming Operations

Farmers will have to take the structures into account when conducting normal farming operations. It will take additional time to work around the structures. Increased passes with farm equipment around the structures can lead to increased compaction in nearby tilled areas. The structures can cause damage to farm equipment if there is a collision.

Weed problems normally occur around transmission line poles where weed control thorough cultivation is not practical. These areas must be hand sprayed to prevent propagation and spread of weeds throughout the field. The extra time and labor involved in the hand operations will raise production costs slightly.

The aerial application of pesticides is made more difficult by the presence of a transmission line.

It is impossible to quantify these additional costs that will result from the presence of a new transmission line on farmland. These are the kinds of factors farmers along the Alliant route have dealt with for the past 50 years.

5.4.3 Construction Practices

The construction and maintenance of a transmission line on agricultural land generate their own impacts on farming practices. The major concerns have to do with soil compaction, erosion control, and damage to drain tile. The concerns are the same regardless of the route selected for this transmission line.

The use of heavy equipment to construct the transmission line will result in compaction of the soil. The more equipment passes that are made along the right-of-way, the more compaction that results. Xcel will be required to alleviate the compaction after the construction is complete.

One way to minimize the impact of construction on the soils is to schedule construction for those times when the soils are least susceptible to compaction. Freshly tilled and very wet soils are particularly susceptible to severe compaction. Construction is not likely to start before late summer of 2005, since design work and right-of-way acquisition will take a year to complete, so only one planting season will be affected by construction. Xcel has indicated that it will take landowner concerns into account when scheduling construction of the transmission line, regardless of route.

Right-of-way clearing, grading, and other disturbance of the soil during construction can increase the possibility of soil erosion. Xcel will be required to take soil types and specific contours into account and develop and implement mitigation measures to control runoff and erosion during construction.

The movement of heavy vehicles across a field and the digging of holes for the transmission structures can damage or destroy drainage tile unless the location of the tile system is known and avoided by all equipment operations during the construction of the transmission line. Xcel will be required to ensure that the contractor is aware of the existence of drain tile and that measures are taken to avoid the tile where possible. If any drain tile is damaged or destroyed by construction, Xcel will be required to repair or replace the tile at its expense.

Xcel's proposed route, except through the City of Jackson, would parallel I-90 and require a 45 foot right-of-way rather than a new 80 foot wide right-of-way if it were to require an all new right-of-way or to parallel the Alliant 161 kV line. Following I-90 may provide an opportunity for better structure placement with respect to farm fields or property boundaries. In agricultural lands, transmission line structures will be placed on section lines and field breaks where possible, to minimize interference with agricultural operations.

If the line were to parallel the Alliant right-of-way, farmers would prefer to have the parallel structures aligned with one another to minimize the inconvenience of working around two sets of structures, or even worse two staggered sets of structures.

5.5 Human Settlement

High voltage transmission lines may cause a variety of potential impacts on the human rural and or urban environment. Generally, the impacts are confined to the right-of-way and land immediately adjacent to the right-of-way.

The main types of potential impacts on human settlement that have been attributed to HVTLs are people's concerns about the proximity of these facilities to homes, farmsteads, businesses or other commercial activities. None of the routes or route segments being considered will require removal of any buildings or the taking of homes. Xcel's permit application, Appendix E.1, indicates that there are ten residences within 300 feet of the I -90 route, four are within 100 to 200 feet and six within 200 to 300 feet. On the Alliant route, four homes are with 40 to 100 feet and seven are within 200 to 300 feet.

Many of the residences along both routes are farmsteads, with outbuildings and shelterbelts around the farmsteads. In order to avoid residences along the Alliant route, Xcel would have to cross from one side of the Alliant transmission line to the other to avoid interfering with the farmsteads or shelterbelts. A similar situation exists along the eastern portion of the I-90 route. In this case it may be easier to cross over the freeway to avoid residences rather than cross over the existing Alliant transmission line with the proposed line. Some of the comment letters (See Appendix C.5, C.7, C.8, and C.13) expressed concerns about the transmission lines being so close to their residences. Xcel will work with all homeowners close to the designated route to minimize impacts.

This proposed transmission line project will not have a significant impact on human settlement patterns.

Activities during construction of the transmission line also constitute a temporary negative impact in areas of human settlement and activities. These include the traffic, noise, dust and physical disruption which can occur with any construction project.

As the population of this area has increased, the electric demand has increased dramatically. The construction of this new transmission line will not lead to development that would not otherwise occur.

5.6 Socioeconomics

The socioeconomic impacts of a transmission line during the construction phases are generally considered to be minimal. The impact of the construction on the local labor force is negligible since non-local personnel do almost all the work. Because work on a high voltage transmission line is constantly shifting in location along the right-of-way and is relatively short in duration, the impact on an area's housing and public services is usually not noticeable. Expenditures in any one location during the construction period are comparatively small and limited to spending on food and lodging, gasoline and entertainment.

Once the HVTL is operational, its socioeconomic effects are generally negligible except for increases in the local tax base. A relatively small number of utility personnel are required to maintain and inspect the line. Much of the inspection is done by air. Right-of-way management occurs periodically, but requires only a minimal input of labor.

The effect on the local tax base is proportional to the size of an area's tax base valuation after the construction of the HVTL. In rural areas with relatively small tax bases, the added valuation resulting from transmission lines can be significant. The exact amount of taxes contributed to the local economy by a HVTL depends on several factors, including the original cost of the line, the proportion of original cost within a specific taxing unit, and the apportionment by the Minnesota Department of Revenue on Xcel's apportionable value based on the HVTL's original cost. The Minnesota Department of Revenue's utility company valuation rules specify the formula for apportioning the Minnesota apportionable value. See Minnesota Rules, Chapter 8100.

5.7. Noise

During Construction

Normal construction noise can be expected during the installation of transmission line structures. This noise would result from the use of cranes, augers, compressors, air tampers, generators, cement and other types of trucks and other equipment. These operations will be of short duration in any given location and conducted during daylight hours to minimize any unavoidable residential impact. The noise impacts are the same regardless of which route is selected.

During Operation

Transmission conductors and transformers at substations produce noise under certain conditions. The level of noise or its loudness depends on conductor conditions, voltage levels and weather conditions. Noise emissions from a transmission line occur during heavy rain and wet conductor conditions. During dry weather, audible noise from transmission lines is an imperceptible, sporadic crackling sound.

Audible noise is generally measured by the decibel (dB (A)) scale (the "A" suffix refers to the weighting network used for measurement), which is used for general noise ordinances. Under the worst-case conditions the noise level will not exceed 43 dB (A) at the edge of the right of way during foul weather conditions. For comparison, the maximum noise level permitted under standards established by the Minnesota Pollution Control Agency is 50 dBA during the nighttime. Minn. Rules part 7030.0040. Minnesota Pollution Control Agency, Noise Pollution Control Standards at website:

<http://www.revisor.leg.state.mn.us/arule/7030/0040.html>

Residences are the nearest receptors to the substations and would fall under the Noise

Area Classification 1. The nearest receptor to the Fox Lake Substation is approximately 500 feet, whereas the nearest receptor to the Lakefield Junction Substation is 1,300 feet. No new transformers or other equipment will be installed at the substations that would increase the noise level. In addition, the Fox Lake power plant is located adjacent to the Fox Lake Substation and produces greater noise levels than the substation.

Xcel's proposed route is close to I-90, for a significant portion of its length, so existing noise levels are mainly characterized by traffic noise. Background noise along the Alliant line would consist of noise generated by farming activities.

5.8 Historical and Archaeological Sites

The Minnesota Historical Society noted in a May 15, 2003, letter regarding this project that "there are no properties listed on the National or State Register of Historic Places, and no known or suspected archaeological properties in the area that will be affected by this project." See Xcel application Appendix G.3.

5.9 Impacts on Recreational Resources

Recreation activities in the immediate vicinity of the designated transmission line route would be temporarily disrupted during line construction. This would likely only last a few weeks on any particular line segment, and is not expected to cause significant or long-term impacts for whatever route is designated.

The Des Moines River is a State Canoe Route. Both routes would cross the Des Moines River. Xcel's proposed route would cross the river by the I-90 Bridge, while Route D-4 would cross the river at the existing Alliant 161 kV line river crossing. There are two public carry-in river access points in Jackson. The Des Moines Valley Sportsman Club is just south of I-90 and west of the Des Moines River. This facility includes both a rifle and archery range. The Jackson Golf Club is also south of Xcel's proposed route and just west of Highway 71 in the City of Jackson. See permit application p. 43

Both routes also cross the East Fork Des Moines River which meanders along the boundary between Jackson and Martin County. The Fox Lake State Game Refuge encompasses Fox and Temperance Lakes near the eastern termination point at the Fox Lake Substation. The Fox Lake Wildlife Management Area (WMA) is also located at this site, and will be crossed by either route selected.

5.10 Visual Impacts

The new transmission line structures will be the most visible part of the project. Figures 1 and 2, illustrate what the tubular steel structures will look like. These structures will vary in height from 70 to 110 feet and be considerably taller than other features on the landscape.

Given the open nature of the agricultural landscape and the height of the tubular steel transmission line structures, the transmission line structures along I-90 will be visible to people using Clear Lake or Fox Lake and the Jackson Golf Club or Fort Belmont in the summer months. Because the transmission line will cross the Des Moines River adjacent to the I-90 bridge or the existing 161 kV Alliant crossing, the visual impact is not expected to be significant. Persons living along the I-90 right-of-way and travelers will see new transmission line structures where they did not exist before. Electric transmission lines along road and freeway rights-of-way are common in the Minneapolis and St. Paul area and in many other states.

Those persons who live along the existing Alliant transmission line, or observe the structures along the Alliant right-of-way, which are 70 feet tall, will also see the new poles.

Robert Nelson, from Sherburn, MN, in a letter dated December 28, 2003 (Appendix C-3) wrote that “I feel that from highway 4 to the Fox Lake plant the lines from Xcel and Alliance should be combined into one set and run on the existing path that it is on now. With all the lines on one set of poles the visual impact would probably be better because you would only see one pole instead of two like it is now. Land values would not drop and not affect any future income of anyone’s children.”

Double circuiting the existing Alliant 161 kV line with the proposed 161 kV line would consolidate transmission line facilities in this area and possibly alleviate some of the visual impacts people have commented on.

5.11 Property Values

John H. Nauerth, in a letter dated March 30, 2004, (Appendix C-17) wrote:

Why then is the landowner, who will be hosting a transmission line, only, being offered 50% of the present real estate value and only a one time payment? It appears to us, that there must be some way of receiving a revenue payment each and every year that the landowner is host to a transmission line. Hosting a transmission line can be detrimental to the future valuation of the property. A yearly payment will offset this circumstance to some degree.

Some of the other comment letters received also expressed concerns about the value of the property if there is a transmission line on it. See Appendix C-3, C-5, C-7 and C-13.

This issue of the impact of a new transmission line on property values arises in nearly every public discussion of transmission line permits. It is impossible to know what the impact of a particular transmission line on a particular piece of property will be, and there are no studies of such impacts anywhere in Minnesota, except for a new study by Great River Energy that looks at property values in the northwest suburban area of the Twin Cities. “*Results of Power Line Study in Maple Grove, Minnesota*”, prepared by Shenhon Company for GRE. January 30, 2004.

The following discussion in this section is taken from an EQB staff prepared "Environmental Assessment for Great River Energy 115 Proposal Plymouth-Maple Grove," (EQB Docket No. 03-65-TR-GRE PMG, dated February 29, 2004.

Recent Studies

There are studies available from other parts of the country. These studies are instructive.

Craig L. Solum and Associates, a firm of Wisconsin Certified Real Estate Appraisers, was hired by Northern States Power (now d.b.a. Xcel Energy) to collect market substantiated information on the impact attributable to the imposition of transmission line easements on residential property values in suburban and undeveloped areas near Eau Claire and La Crosse, Wisconsin. The Solum group examined 200 residential property transactions adjacent to or in close proximity to high voltage electric transmission lines in urban, suburban and rural areas of western Wisconsin during the mid 1990's⁵. The selection process used in his study concentrated primarily on upper price level residences and vacant lots ready for construction on the assumption that these properties would be most sensitive to potential negative influences. In the report, Mr. Solum asserted that the very minor positive and negative impact results he observed indicate that there is virtually no impact present that is attributable to the presence of a transmission line encumbrance on residential properties. He stated,

"It is typical for sale prices to vary from market values in ordinary transactions by several percentage points. Each purchaser of a residence has different motives and expectations that result in varying reasons for the reconciliation of the final price paid. The transmission line presence has no real impact on the price paid for residential property."⁶

Cowger and his associates looked at a number of property transactions in the vicinity of Portland, Oregon, Seattle, Washington, and Vancouver, British Columbia impacted by transmission lines of the Bonneville Power Administration (BPA)⁷. As an introduction to the article, Cowger reviewed generalized findings from several studies done between 1975 and 1995. He extracted the following six key points from these studies:⁸

⁵ Transmission Line Impact Study Based on Paired Sale Comparisons of Residential Properties Located within Northwest and West Central Wisconsin, Craig Solum & Associates, 329 South River Street, Suite 100, P.O. Box 280, Spooner, Wisconsin 54801

⁶ Ibid, pg 13

⁷ Transmission Line Impact on Residential Property Values, Jr. Cowger et al, "Right of Way"

September 1996 pg 13

⁸ Ibid, pg .14

1. “Overhead transmission lines can reduce the value of residential and agricultural property. The impact is usually small (0 – 10 per cent) for single family residential properties.”
2. “Other factors such as location, improvements and lot size are more likely to be major determinants of sale price.”
3. “Impacts on sales are most likely to occur on property crossed or immediately adjacent to the lines.”
4. “In areas where the right-of-way has been landscaped or developed for recreational use, positive impacts have been measured.”
5. “Impacts may be greater on small properties than for larger properties.”
6. “Impacts are more pronounced immediately after construction of a new line and diminish over time.”

Cowger et al⁹ examined 296 subject sales in four counties, each one paired with a comparable property transaction that occurred in the same year, where the comparable property was not influenced by an adjacent HVTL.

“Analysis of this data shows overhead HVTLs had minimal impacts on residential property values in these metropolitan areas. Seattle and Vancouver subjects averaged small decreases in property values (-1.00 per cent and -1.05 per cent respectively). Portland subjects were on average, worth slightly more (+1.46 per cent) than the matched comparable properties. None of the difference was statistically different from zero at the 95 per cent probability level.”¹⁰

In the Final Environmental Impact Statement on the Arrowhead-Weston Electric Transmission Line Project, the Wisconsin Public Service Commission addressed the issue of property value changes associated with HVTL¹¹. This document looked at approximately 30 papers, articles and court cases covering the period from 1987 through 1999.

“In general there are two types of property value impacts that can be experienced by property owners affected by a new transmission line. The first is a potential economic impact associated with the amount paid by a utility for a right-of-way

⁹ Ibid, pgs 13-17

¹⁰ Ibid, pg 16

¹¹ Final Environmental Impact Statement , Arrowhead –Weston Electric Transmission Line Project, Volume I, Public Service Commission of Wisconsin Docket 05-CE-113, October 2000, pg 212-215

(ROW) easement. The second is the potential economic impact involving the future marketability of the property.”¹²

However, substantial differences may exist between people’s perceptions about how they would behave and their actual behavior when confronted with the purchase of property supporting a power line.”¹³

“The presence of a power line may not affect some individual’s perceptions of a property’s value at all. These people tend to view power lines as necessary infrastructure on the landscape, similar to roads, water towers and antenna. They generally do not notice the lines nor do they have strong feelings about them.”¹⁴

The Final EIS provides six general observations among all the studies it evaluated. These are:¹⁵

1. “The potential reduction in sale price for single family homes may range from 0 to 14 per cent.
2. “Adverse effects on the sale price of smaller properties could be greater than effects on the sale price of larger properties”.
3. “Other amenities, such as proximity to schools or jobs, lot size, square footage of a house and neighborhood characteristics, tend to have a much greater effect on sale price than the presence of a power line.”
4. “The adverse effects appear to diminish over time.”
5. “Effects on sale price are most often observed for properties crossed by or immediately adjacent to a power line, but effects have also been observed for properties farther away from the line.”
6. “The value of agricultural property is likely to decrease if the power line poles are placed in an area that inhibits farm operations.”

Later on the same page, the Final EIS stated,

“In coastal states, such as California and Florida, the decrease in property values can be quite dramatic; in states within the Midwest (Minnesota, Wisconsin and the Upper Peninsula of Michigan), the average decrease appears to be between 4 and 7 per cent .”¹⁶

¹² Final Environmental Impact Statement , Arrowhead –Weston, pg 215

¹³ Ibid, pg 213

¹⁴ Ibid, pg 215

¹⁵ Ibid, pg 215

¹⁶ Ibid, pg 215

The Final EIS succinctly summarizes the dilemma in its closing paragraph which stated,

“It is very difficult to make predictions about how a specific transmission line will affect the value of specific properties.”¹⁷

In 1995, two university professors named Stanley Hamilton and Gregory Schwann published a highly empirical study of residential home prices in Vancouver, British Columbia¹⁸. The study contrasted sales in four separate Vancouver neighborhoods of residences adjacent to power lines of 60 kV or greater from 1985 to 1991. The sample size was 12,097 transactions in the four study areas. The authors stated,

“We find that properties adjacent to a line lose 6.3 per cent of their value due to proximity and the visual impact.” “The statistical findings presented in this article lead one to conclude that the depressing effect power lines have on property value is not merely an American phenomenon.”¹⁹

Haider and Haroun did a quantification of property value impacts of high voltage transmission lines examining 27,400 freehold residential properties sold in the Toronto area during 1995²⁰. This research presents summary statistics, uses several econometric models and spatial autoregressive techniques to analyze the data. This research offers strong evidence to the claim that proximity to HVTL lowers property values. Results suggest that properties within one kilometer lose between 4 to 6.2 per cent of their total value strictly due to power line effects. The loss in value decreases with distance from the power lines. The authors chose to use actual transaction prices and not assessed property values. They assert that only market prices can reflect the true perceptions of consumers of the impact of HVTLs on residential real estate values. They also discovered that the relationship between proximity to power lines and price reduction is not uniform throughout the Greater Toronto area. The study concludes with an analysis of its own limitations.

5.12 Impacts on the Natural Environment

HVTL facilities, wherever they are located, cause some changes in the existing natural environment. As noted earlier, these changes can be brought about by the construction process, the physical presence of the line, operation, maintenance and repair of the facilities, or by management of the transmission line right-of-way. The level of impact

¹⁷ Ibid pg 215

¹⁸ Stanley Hamilton and Gregory Schwan, “Electric Transmission Lines and Property Value, “Land Economics, Vol 71, No. 4, p 436 (1995).

¹⁹ Ibid pg 436

²⁰ Murtaza Haider & Antoine Haroun, “Impact of Power Lines on Freehold Residential Property Values in the Greater Toronto Area,” Master’s Thesis, Department of Civil Engineering, University of Toronto, 2000.

varies both with the type of activity, and with the nature of the existing environmental features.

5.12.1 Impacts on Wildlife

The most significant impacts on wildlife are related to the destruction of habitat itself during construction or the maintenance of a cleared right-of-way. However, these impacts tend to be temporary, with the original population gradually reestablishing or even expanding along rights-of-way, due to their edge effect, have been shown to provide abundant food and valuable cover for many species of wildlife. This benefit can be enhanced in wooded areas by the use of selective cutting, rather, than clear cutting techniques. Impacts to the wooded areas near the Des Moines River and the small woodlots associated with farmstead along the routes will be avoided when possible.

5.12.2 Impacts on Bird Populations and Mitigative Measures

Raptors, waterfowl and other bird species may also be affected by the construction and placement of the transmission lines. Avian collisions are a possibility after completion of a transmission line. Waterfowl are typically more susceptible to transmission line collision, especially if the line is placed between agricultural fields that serve as feeding area, or between wetlands and open water, which serve as resting areas. See permit application, p. 57.

Large birds, such as raptors, could potentially be impacted by new transmission lines through electrocution. Electrocution occurs when birds with large wing spans come in contact with either two conductors or a conductor and a grounding device. Xcel Energy transmission line design standards provide adequate spacing to eliminate the risk of raptor electrocution. See permit application, p.57.

The Minnesota Department of Natural Resources, in its consultation with Xcel Energy, noted the possible impact to Canadian Geese using the Game Refuge on and around the Fox Lake area. Xcel Energy in its application stated that: “Xcel Energy will install swan flight diverters (SFD) on the shield wire of the line from Highway 4 to the Fox Lake Substation.” See permit application, p. 57.

SFDs are preformed spiral shaped devices made of polyvinyl chloride that are wrapped around the shield wire.

5.12.3 Rare and Unique Natural Resources

The only rare and unique resources identified within the Project area are associated with remnants of prairie land near the old railroad grade in Jackson which is in a degraded state.

The Minnesota DNR and the U.S. Fish and Wildlife Service did not identify any impacts to rare, threatened, or endangered species within the proposed Project corridor or along

the Alliant 161 kV transmission line. In its letter dated May 13, 2003, the DNR stated that “no impacts to known occurrences of rare features are anticipated”.

The DNR has requested that Xcel Energy revegetate disturbed soil adjacent to and within the prairie fragment, if necessary, with native prairie species, to improve the quality of the remnant while decreasing the opportunity for exotic species to invade the area.

5.12.4 Impacts on Water Quality

Aquatic ecosystems which are located near or crossed by transmission lines can sustain damage during the construction process or be adversely affected by changes in water quality as a result of activities during construction and operation of the line. Potential impacts include the introduction of sediment and other pollutants during construction, increased runoff pollutants, and the possibility of temporary shore or channel modification where construction equipment has to enter the body of water. Most of these impacts are relatively temporary, being restricted to the construction phase, and can be mitigated with adequate care during right-of-way design and construction.

The watersheds crossed by the project include the Des Moines River, Rock River and Blue Earth. The majority of each route corridor is in the Des Moines River watershed.

Crossing of streams with equipment is avoided to the greatest extent practicable.

There will be no change in grading required for construction of the transmission line. During construction, there is the possibility of sediment reaching surface waters as the ground is disturbed by excavation, grading and construction traffic. Once the project is complete, there will be no impact on surface water quality.

There are several small wetlands along or near the current Alliant 161 kV transmission line. The National Wetlands Inventory identified nine wetlands in the vicinity of Xcel’s proposed corridor. See Permit Application, Appendix D.11. Many of the wetlands are hydrologically connected to area lakes, river and streams. All of these wetlands are small and can be readily avoided. If any of the wetlands are crossed, Xcel Energy will need a permit from the Department of Natural Resources.

Xcel Energy’s construction practices and EQB route permit conditions are designed to prevent sediment from entering surface waters. Transmission line structures will not be placed in wetlands and construction crews will avoid crossing wetlands where possible. If wetlands must be crossed, wooden mats will be used to further minimize soil compaction.

The Minnesota DNR Division of Lands and Minerals regulates utility crossings over, under, or across any state land or public waters identified on the Public Waters and Wetlands Maps. A license to Cross Public Waters is required under Minnesota Statutes, section 84.415 and Minnesota Rules, Chapter 6135. Xcel works closely with the DNR on these permits and will file for them once the line design is complete. Minimal impacts to wetlands and waters are anticipated, irrespective of which route is designated.

5.12.5 Impacts on Air Quality

The project would generate localized pollutant emissions from the construction equipment over the entire construction duration, approximately 12 months. Vehicular emissions associated with maintenance and repair of the transmission line would be the only long-term source of emissions during the operational phase of the project.

Dust emissions (fugitive dust) would be caused by construction activities especially during site preparation and installing structure foundations, when travel would occur on unpaved roads and surfaces that would create fugitive dust. The magnitude of these emissions is influenced heavily by weather conditions and the specific construction activity taking place. Fugitive dust may be controlled by spraying the working area when conditions are warranted.

Use of construction equipment and emissions from motor vehicles would also adversely affect air quality because mobilization of the workforce and materials for construction would emit pollutants that would contribute to existing levels.

Exhaust emissions from primarily diesel equipment will vary according to the phase of construction but will be minimal and temporary.

There will be no impact on air quality during operation of the lines.

There will be no significant adverse impacts to the surrounding environment because of the short and intermittent nature of the motor vehicle emissions and dust-producing construction phases.

5.13 Electrical Effects

The voltage of the transmission line, current flow in the conductors, weather conditions and the design of the transmission line cause electrical environmental effects.

An analysis and discussion of these electrical effects can be split into three general categories; those caused by the electrical conductor surface which result in air ionization (“corona”); those caused by the electrical field between the conductors and ground (or objects) due to the voltage of the line (“electric fields”); and those caused by the current in the line (“magnetic fields”).

5.13.1 Corona

Corona is an electrical phenomenon occurring around the conductor and related hardware when the electrical field strength at the conductor surface exceeds a certain critical value; namely, the electrical breakdown strength of the surrounding air. This breakdown

strength is highly variable, dependent on a number of atmospheric and climatic conditions, including air pressure, relative humidity, and wind. Corona does not normally occur at voltages below 345 kV and is not expected to be a problem for this proposed project.

5.13.2 Field Effects

An operating high voltage alternating current overhead transmission line has associated electric and magnetic fields. Both are capable, through different “coupling” mechanisms, of inducing static charges and/or currents in nearby conductive objects. With respect to public health and safety, the electrical field is a predominant concern during normal operation; only during a line to ground fault (a short circuit between a conductor and the ground) is the magnetic field of major concern. The normal magnetic field can, however, interfere with telephone and railroad communications equipment near the line.

5.13.2.1 Electric Fields

The electric field induces a voltage and current on conductive objects located within the field. It is present whenever the transmission line is electrically energized; its strength is a function of the line geometry and operational voltages. The voltage that the electric field will induce on an object depends on the size of the object, the strength of the field, and how well the object is grounded.

Xcel calculated the electric fields for all of the various transmission line design options for this project, and they are shown in Table 4. The calculated maximum electric field at mid-span, one meter above the ground level, is 1.03 kV per meter for the proposed 69/161 kV configurations, without the 69 kV circuit installed). This number is significantly less than the maximum limit of 8 kV per meter that has been a permit condition imposed by the MEQB in other HVTL route permits. This standard was implemented to prevent serious hazard from shocks when touching large objects, such as tractors, parked under larger transmission lines (500 kV). See “Public Health and Safety Effects of High Voltage Overhead Transmission Lines” prepared by Robert S. Banks, Minnesota Department of Health, 1977.

These values assume a specific design and may change slightly for other line designs. These ground level field strengths decrease with increased line height; therefore, these maximums would occur generally only near the center of each span, where the conductor is closest to the ground. The minimum ground clearance is 26 feet (or more) at maximum operating temperature. Also, the ground level electric field decreases with an increased distance from the line.

An electric field can induce voltage on conductive objects. The principal known problem with this induced voltage is with large metallic objects such as farm equipment, vehicles, structures with large metal components, wire fences, etc. If such an object is not adequately grounded when a person touches it, a current can flow through the person’s body to the ground. This can, depending on the circumstances, be potentially hazardous

or simply result in an annoying shock similar to “carpet shock.” For lines operating at 230 kV or below, this is not generally regarded to be a problem.

Other concerns relating to the electric fields are the possibility of accidental fuel ignition from a spark and possible long-term health effects from long-term exposure to these low strength fields.

5.13.2.2 Magnetic Fields

The magnetic field associated with transmission line operation can induce currents and voltage in long, parallel conductors such as fences or telephone cables. The induced voltage is dependent on line geometry, the current carried on the line, the distance to the conducting object, the length of parallel, the grounding of the conducting object, and the shielding of the conducting object.

Xcel has also calculated the magnetic fields for all of the various transmission line design options for this project and they are shown in Table 5. According to Xcel Energy, the maximum calculated ground level magnetic field produced by the normal operating current is 39 milligauss for the single pole davit arm, 161 kV line. Under peak operating conditions this increases from 39 to 58 milligauss. There are no recognized Minnesota standards for magnetic fields. The State of Florida requires the magnetic field at the edge of the right-of-way to be less than 150 mG for a 69 to 230 kV transmission line; and the state of New York limits the magnetic field at the edge of the right-of-way to less than 200 mG. See discussion in 5.13.4 for more information.

The one situation representing a potential public safety hazard is associated with a line-to-ground fault (a short circuit between a conductor and the ground, which causes extremely high and unequal currents to flow in the conductors. This high current induces hazardous voltages on parallel conductors for as long as the fault continues. Normally such a fault will cause the line to be disconnected from its power supply within about one-fourth of a second.

The operation of telephone cables and other cable communication systems can be affected by both the magnetic fields occurring during normal operations and the much larger magnetic fields occurring during a fault.

5.13.3 Electric and Magnetic Fields and Public Health

Unless otherwise noted, the discussion in this section is taken from an EQB staff prepared “*Environmental Assessment for Great River Energy 115 Proposal Plymouth-Maple Grove*,” (EQB Docket No. 03-65-TR-GRE PMG, dated February 29, 2004).

The Minnesota Department of Health maintains a web page with information about electric and magnetic fields. The following five statements are found at <http://www.health.state.mn.us/divs/eh/radiation/emf/index.html>²¹

“Even though electric and magnetic fields are present around appliances and power lines, more recent interest has focused on the potential health effects of magnetic fields. This is because some epidemiological studies have suggested that there may be an association between increased cancer risks and magnetic fields.”

Interagency White Paper on EMF

In 2002, Minnesota formed an Interagency Working Group to evaluate the body of research and develop policy recommendations to protect the public health from any potential problems resulting from HVTL EMF effects. The Working Group consisted of staff from the Department of Health, the Department of Commerce, the Public Utilities Commission, the Pollution Control Agency, and the Environmental Quality Board. The Department of Health coordinated the activities of the Working Group.

In September 2002, the Working Group published its findings in a White Paper on Electric and Magnetic Field (EMF) Policy and Mitigation Options (hereinafter “White Paper”).²² The following quote from the White Paper summarizes the findings of the Working Group:

“Research on the health effects of EMF has been carried out since the 1970’s. Epidemiological studies have mixed results – some have shown no statistically significant association between exposure to EMF and health effects, some have shown a weak association. More recently, laboratory studies have failed to show such an association, or to establish a biological mechanism for how magnetic fields may cause cancer. A number of scientific panels convened by national and international health agencies and the United States Congress have reviewed the research carried out to date. Most concluded that there is insufficient evidence to prove an association between EMF and health effects; however many of them also concluded that there is insufficient evidence to prove that EMF exposure is safe.”²³

Given the questions and controversy surrounding this issue, several Minnesota agencies that regularly deal with electric generation and transmission formed an

²¹ Minnesota Department of Health Website

<http://www.health.state.mn.us/divs/eh/radiation/emf/index.html>

²² A White Paper on Electric and Magnetic Field (EMF) Policy and Mitigation Options, Minnesota State Interagency Working Group on EMF Issues, September 2002,

<http://www.health.state.mn.us/divs/eh/radiation/emf/emfrepo.pdf>

²³ “White Paper” pg. 1

Interagency workgroup to provide information and options to policy-makers. Based on its review the Work Group believes the most appropriate public health policy is to take a prudent avoidance approach to regulating EMF.²⁴ Policy recommendations of the Work-Group include:

- apply low-cost EMF mitigation options in electric infrastructure construction projects,
- encourage energy conservation,
- encourage distributed generation,
- continue to monitor EMF research,
- encourage utilities to work with customers on household EMF issues and
- provide public education on EMF issues.²⁵

The Minnesota Department of Health made the following statement in the “White Paper”:

“The Minnesota Department of Health concludes that the current body of evidence is insufficient to establish a cause and effect relationship between EMF and adverse health effects. However, as with many other environmental health issues, the possibility of a health risk from EMF cannot be completely dismissed. The uncertainty surrounding EMF health effects presents a difficult context in which to make regulatory decisions. This approach suggests that one should avoid any activity or exposure about which there are questions of safety or health, at least to the extent that an activity can be avoided easily or cheaply.”²⁶

Other EMF Studies

Recent studies of potential human health effects from transmission line EMF done in California²⁷ and for the Arrowhead line EIS in Wisconsin²⁸ have shown the same conclusions of no discernible health impacts from power lines. Both of these studies recommend the general precaution of minimizing unnecessary contact and advise prudent avoidance to EMF exposure.

The 1999 National Academy of Science report from its National Research Council found,

²⁴ “White Paper”, pg. 2

²⁵ Ibid, pg. 2

²⁶ Ibid, pg. 36

²⁷ California Department of Health , California EMF Program (2002), An Evaluation of Possible Risks from Electric and Magnetic Fields (EMFs) from Power Lines, Internal Wiring , Electrical Occupations and Appliances AND Policy Options in the Face of Possible Risks from Power Frequency Electric and Magnetic Fields (EMF) pg. 383

²⁸ Arrowhead-Weston Transmission Project, Final Environmental Impact Statement (EIS) Wisconsin Public Service Commission, Oct 10, 2000 pg 5-21

“No clear, convincing evidence exists to show that residential exposures to electric and magnetic fields (EMFs) are a threat to human health. After examining more than 500 studies spanning 17 years of research, the committee said there is no conclusive evidence that electromagnetic fields play a role in the development of cancer, reproductive and developmental abnormalities, or learning and behavioral problems. Specifically, no conclusive and consistent evidence shows that exposures to residential electric and magnetic fields produce cancer, adverse neurobehavioral effects, or reproductive and developmental effects. Committee chair Charles F. Stevens, investigator, Howard Hughes Medical Institute, and professor, Salk Institute, La Jolla, Calif. said Research has not shown in any convincing way that electromagnetic fields common in homes can cause health problems, and extensive laboratory tests have not shown that EMFs can damage the cell in a way that is harmful to human health.”²⁹

EMF Standards

“Electric utilities have a variety of methods for reducing EMF exposures when they upgrade or install transmission and distribution lines. The main methods for mitigating EMF include increasing distance from the line, using phase cancellation, shielding, and limiting voltage and current flow levels.”³⁰

As indicated in its application, Xcel Energy provides information to the public, interested customers and employees for them to make an informed decision about EMF. Xcel Energy will provide measurements for landowners, customers and employees who request them. In addition, Xcel Energy has followed the “prudent avoidance” guidance suggested by most public agencies. This includes using structure designs that minimize magnetic field levels and siting facilities in locations with the fewest number of people living nearby. See permit application p. 31.

These standards are designed to minimize human exposure from electric and magnetic fields.

EMF field strength decreases with increasing distance from the line. This design standard provides significant protection from electric fields for every homeowner adjacent to the proposed transmission line, even those within 30 to 40 feet of the line or right-of-way. This electric field density charge limit standard is more than sufficiently protective of human health impacts from EMF for the lower voltage 161 kV line proposed for this project.

“Currently there are no federal or state *health-based* exposure standards for magnetic fields. This is due to the fact that there is inadequate scientific evidence to develop a health-based standard. References to safe/unsafe magnetic field levels in studies are not health-based standards; they are arbitrary exposure cut off

²⁹ National Academy of Science, National Research Council, Stevens, et al, 1999, Possible Exposure to Residential Electric and Magnetic Fields pg. 132

³⁰ “White Paper” pg. 2

points used by researchers, and they provide no scientific basis to evaluate or estimate potential health risks.”³¹

On the basis of the most current information available and the expert advice of the Interagency workgroup on EMF lead by the Minnesota Department of Health, the EQB has not established any standard or regulatory limit on magnetic fields from HVTLs.

5.14 Stray Voltage

A January 9, 2004, comment letter from Marguerite and Joel Burmeister (Appendix C-7) wrote “With the 161 kV line running this close to the hog facility, I feel it would create problems with breeding, farrowing, nursery growth and finishing growth of the hog. The new 161 kV line will also devalue the property a considerable amount with the appearance, the noise from the lines, and the chance of stray voltage.”

This was the only comment letter received regarding stray voltage.

Stray voltage has been a concern on some dairy farms because it can impact operations and milk production. Stray voltage problems are usually limited to the distribution and service lines directly serving the farm or the wiring on a farm affecting farm animals that are confined in areas of electrical use. Typically, in those instances when transmission lines have been shown to contribute to stray voltage, the electric distribution system directly serving the farm or the wiring on a farm was directly under and parallel to the transmission line. These circumstances are considered in installing transmission lines and can be readily mitigated. The new 161 kV transmission line is not proposed to run parallel to any existing distribution line for long distances. Consequently, no stray voltage issues are anticipated with this project. See permit application p.32.

5.15 Economics

5.15.1 Cost Estimates

Cost estimates for all route options, route segments, substations, load serving options and the methods of implementing those options are included in Table 6, “Summary of Costs for Lakefield Junction to Fox Lake Route Options Including the Jackson Load Serving Project Options”. These are the only cost estimates available. The economic details of the various alternatives and route options were developed by Grant Stevenson of Xcel Energy and were sent to the EQB on April 9, 2004.

These estimates also include separate costs associated with the 69 kV transmission line and other associated facilities necessary to serve load growth in the Jackson area. The 69 kV line will be provided by Great River Energy or Missouri River Energy Services. Load growth in Jackson will also require a new substation in the vicinity of the Jackson

³¹ Minnesota Department of Health Website
<http://www.health.state.mn.us/divs/eh/radiation/emf/index.html>

Industrial Park that would tie into the substation owned by the City of Jackson, located south and east of the Jackson Industrial Park.

Xcel's proposed I-90 route, and route options D-5 or D-1-B, which incorporates a local load serving plan for Great River Energy, the City of Jackson and Missouri River Energy Services, is the most cost effective option. The load serving plan includes a new 69 kV transmission line and a 161/69 kV substation. Incorporation of Xcel's 69/161 kV design in the EQB's route permit decision will eliminate the need for a new right-of-way for the 69 kV line.

5.15.2 Cost of Undergrounding in the Vicinity of the Jackson Airport

The Citizens Advisory Task Force requested that Xcel Energy provide cost estimates for burying a portion of the 161 kV transmission line. The Task Force was primarily concerned about the route locations adjacent to Interstate 90 (Route Option D-1-C) and others that would be within the height restriction zone in the vicinity of the Jackson Municipal Airport.

For purposes of this analysis, Xcel Energy used the information provided in the aerial photo in Appendix D.10 of the Xcel's Route Permit Application to determine the area of possible height restrictions for both the existing runway and possible alignments for a future runway.

This data was based on information from the City of Jackson's consultant who is studying the potential expansion of the Jackson Airport.

Xcel Energy project manager Grant Stevenson, on March 24, 2004, provided the following analysis of the costs associated with undergrounding a portion of the proposed 161 kV line near the Jackson airport and also offered comments on the disadvantages of building underground transmission lines.

Xcel Energy determined approximately two-thirds of a mile (3,500 feet) of the 161 kV transmission line along Route Option D-1-C would need to be buried to avoid the height restriction area. The gross cost of undergrounding this segment is approximately \$3,200,000. However, this would offset approximately \$240,000 of overhead construction, resulting in a net cost increase to the project of \$2,960,000. Please note that these cost estimates are preliminary and would likely change with additional detailed engineering and survey information.

This underground installation would require three power cables and a continuous ground wire, all placed in a concrete-encased duct bank. The underground cables connect to the overhead line on two termination poles (one on each end). Each termination pole is approximately 110 feet tall and eight feet in diameter at the base.

The concrete duct bank measures approximately two feet wide by three feet high. Burial depth to the top of the concrete duct would typically be three feet, but could vary from one to six feet deep. A splicing manhole would be located near the midpoint of the duct.

The duct bank requires a 30-foot wide easement. Construction requires a trench to be opened approximately six to 10 feet deep and 15 to 20 feet wide. Plastic (PVC) conduit is installed in racks surrounded by wooden forms. Concrete is poured to fill the voids between the conduits and to provide a protective cover. When the concrete has cured, the forms are removed and the trench is backfilled. Duct construction would take about 12 to 16 weeks.

The disturbed area would be restored with native grasses. Small shrubs would be allowed within the easement. No trees would be allowed within the easement area to protect the duct from damage due to root growth.

When the duct is complete, cables would be pulled through the conduits and installed on the termination poles. Pulling, splicing and termination work would take approximately eight weeks.

Mr. Stevenson also commented that: The major disadvantages to building underground transmission lines are:

- High installation and capital costs. The cost of a single circuit 161 kV line for the same distance (3500 feet) would be about \$240,000 based on a \$361,630 cost per mile estimate for a single circuit 161 kV line for this project.
- Difficulty determining the location of a failure on an underground line. For overhead lines, failures can be found through visual inspection.
- Difficulties in accessing the failure in an underground line. Such failures are typically repaired in hours or days. Underground cable failures, though rare, must first be located, then excavated and repaired. Underground cable repairs can take weeks or months depending upon the extent of damage and the availability of replacement materials. Overhead line failures can be repaired within hours or days.

5.16 Electrical System Reliability

Among the major requirements placed upon power systems are high service quality and preservation of the integrity of interconnected system operation. Service quality means continuity of supply and constancy of voltage and frequency. While these broad requirements have been in effect for some time, the absolute quantitative expression of them has evolved as public needs and expectations have changed. Today's requirements for electric service place a very high priority on continuity of service and on fast restoration in the event of a loss of service.

In this instance, the PUC has determined that electrical system reliability would be compromised if the Alliant line were taken out of service for an extended period of time.

5.17 Summary of Mitigative Measures

5.17.1 National Electric Safety Code

Utilities must comply with the most recent recently published edition of the National Electric Safety Code, as published by the Institute of Electrical and Electronics Engineers, Inc., and approved by the American National Standards Institute when constructing new facilities or reinvesting capital in existing facilities. See Minnesota Statute section 326.243 and Minnesota Rules part 7826.0300 Subpart 1.

The National Electric Safety Code is a voluntary utility developed set of standards intended to ensure that the public is protected. The NESC covers electric supply stations and overhead and underground electric supply and communication lines, and is applicable only to systems and equipment operated by utilities or similar systems on industrial premises. For more information go to:

<http://standards.ieee.org/faqs/NESCFAQ.html#q1>

Xcel will design the proposed transmission line, substation modifications and all other associated facilities to meet or exceed all relevant state codes and those of the NESC. Xcel Energy adheres to or exceeds NESC standards regarding clearances to ground, clearances to crossing utilities, clearance to buildings, right-of-way widths, erecting power poles, and stringing transmission lines.

Appropriate standards will be met for construction and installation, and all applicable safety procedures will be followed after installation. The proposed transmission line will be equipped with protective devices to safeguard the public from the transmission line if an accident occurs and a structure or conductor falls to the ground. The protective equipment would de-energize the line when an event occurred. In addition, the substation facilities will be fenced and access restricted.

5.17.2 Other

The only identified environmental effects that cannot be avoided are primarily short-term during the construction of the line.

Native vegetation will be maintained within the designated route that is compatible with the operation and maintenance of the transmission line.

Soils will be revegetated as soon as possible to minimize erosion or some other method will be used during construction to prevent soil erosion.

During construction temporary guard or clearance poles are installed at crossings to provide adequate clearance over other utilities, streets, roads, highways, railroads, or other obstructions after any necessary notifications are made or permit requirements met to mitigate any concerns with traffic flow or operations of other utilities.

Xcel will work with Martin and Jackson counties to ensure that all the requirements for construction within zoning districts are met.

Minor changes in the designated route can avoid a particular building or structure.

If radio or television interference occurs because of the presence of the transmission line, Xcel will mitigate the problems so that reception is restored.

Poles will be placed close to the field lines to ensure minimal loss of farmland, where possible.

Xcel will attempt to construct the transmission line before crops are planted.

Xcel will compensate farmers to repair soil compacted lands or employ contractors to chisel plow the right-of-way.

Xcel will implement practices during construction to prevent sediment from entering surface waters.

Transmission line structures will not be placed in wetlands.

Where possible, construction crews will avoid crossing wetlands. Where such crossings are necessary, wooden mats will be used to decrease compaction.

Crossing of streams with equipment will be avoided to the greatest extent practicable.

Construction equipment will not be allowed to pass through the Des Moines River and the East Fork of the Des Moines River.

Xcel Energy will maintain sound water and soil conservation practices during construction and operation of the transmission line to protect topsoil on adjacent water resources and minimize soil erosion.

Xcel will minimize tree felling and shrub removal near the Des Moines River by removing only trees that would impact the safe operation of the facility.

Impacts to the wooded areas near the Des Moines River and small woodlots near the route will be avoided when possible.

Swan Flight Diverters will be installed on the shield wire of the transmission line between Highway 4 and the Fox Lake Substation.

Figure 1: Xcel Energy Double Circuit 161/69 kV or 161/161 kV Transmission Line Structure

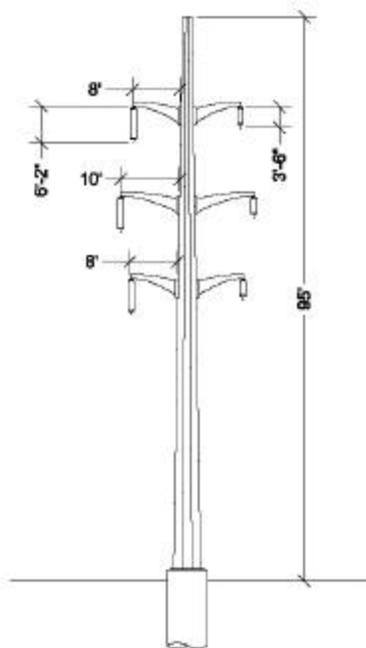
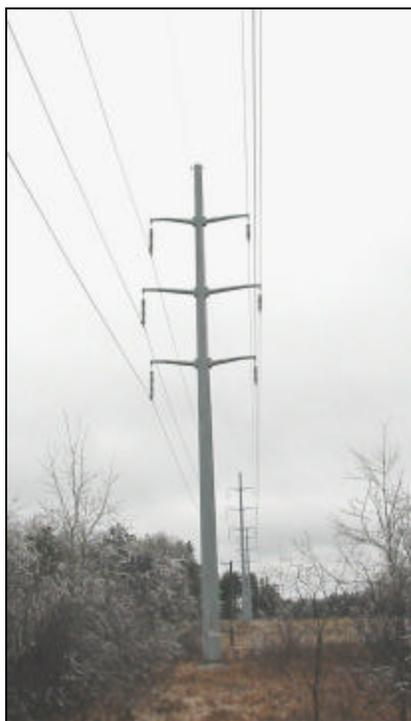


Figure 2: Xcel Energy Single Circuit 161 kV Transmission Line Structure

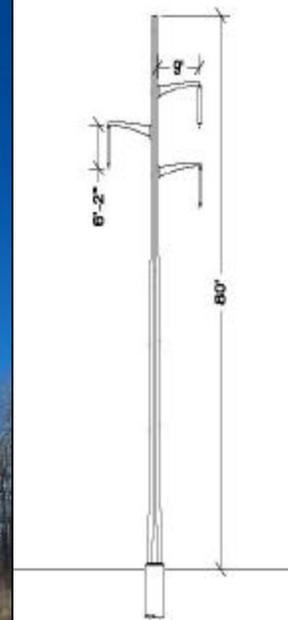


Figure 3: Xcel Energy 161 kV Davit Arm Structure Right-of-Way Requirements Adjacent to a Road

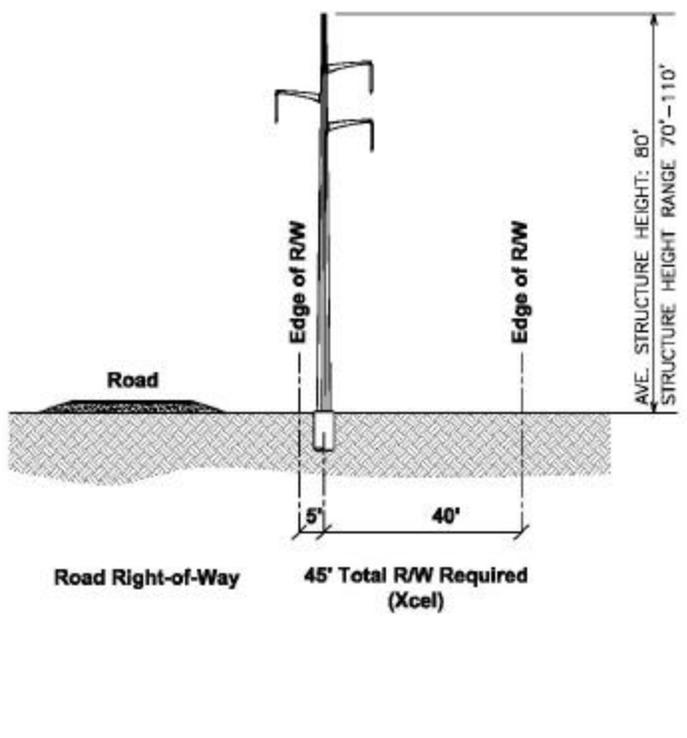


Figure 4: Xcel Energy 161 kV Davit Arm Structure Right-of-Way Requirements

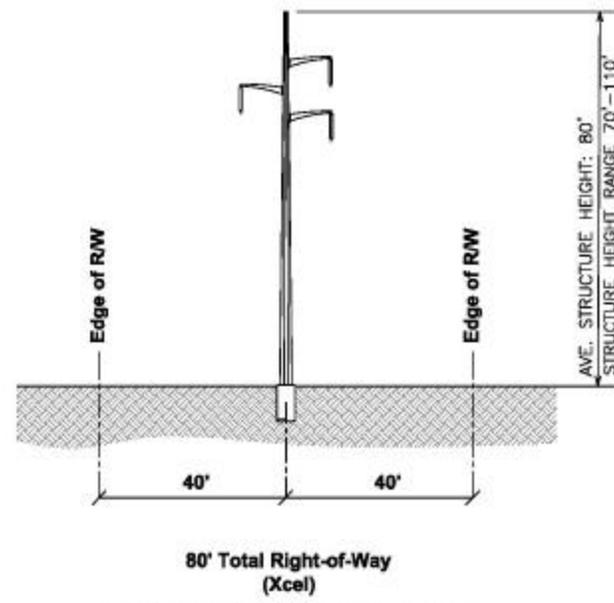


Figure 5: Alliant Energy 161 kV Line and Xcel Energy 161 kV Davit-Arm Structure Right of Way Requirements

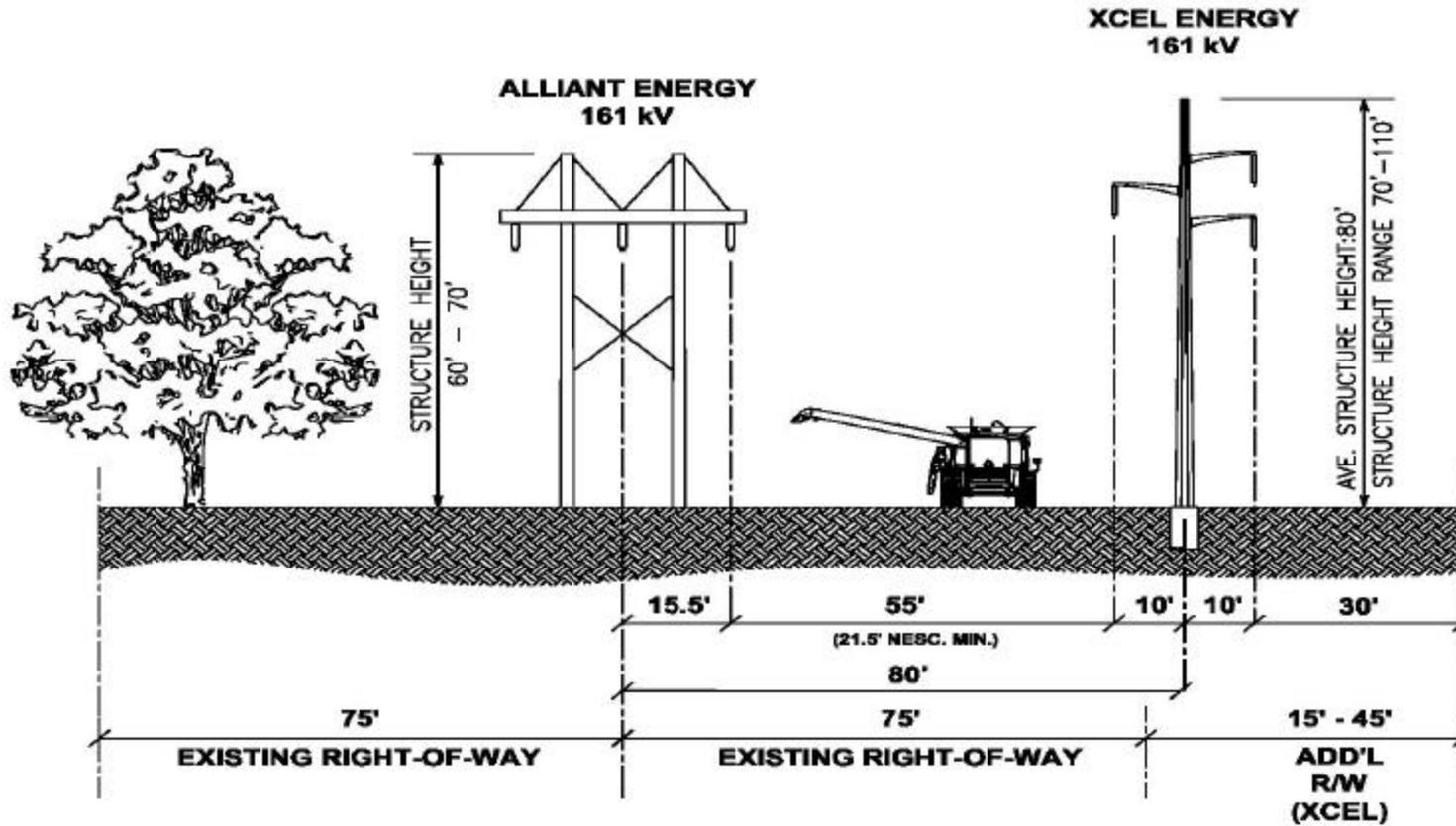


Figure 6 Schematic of Poles and I-90 Route

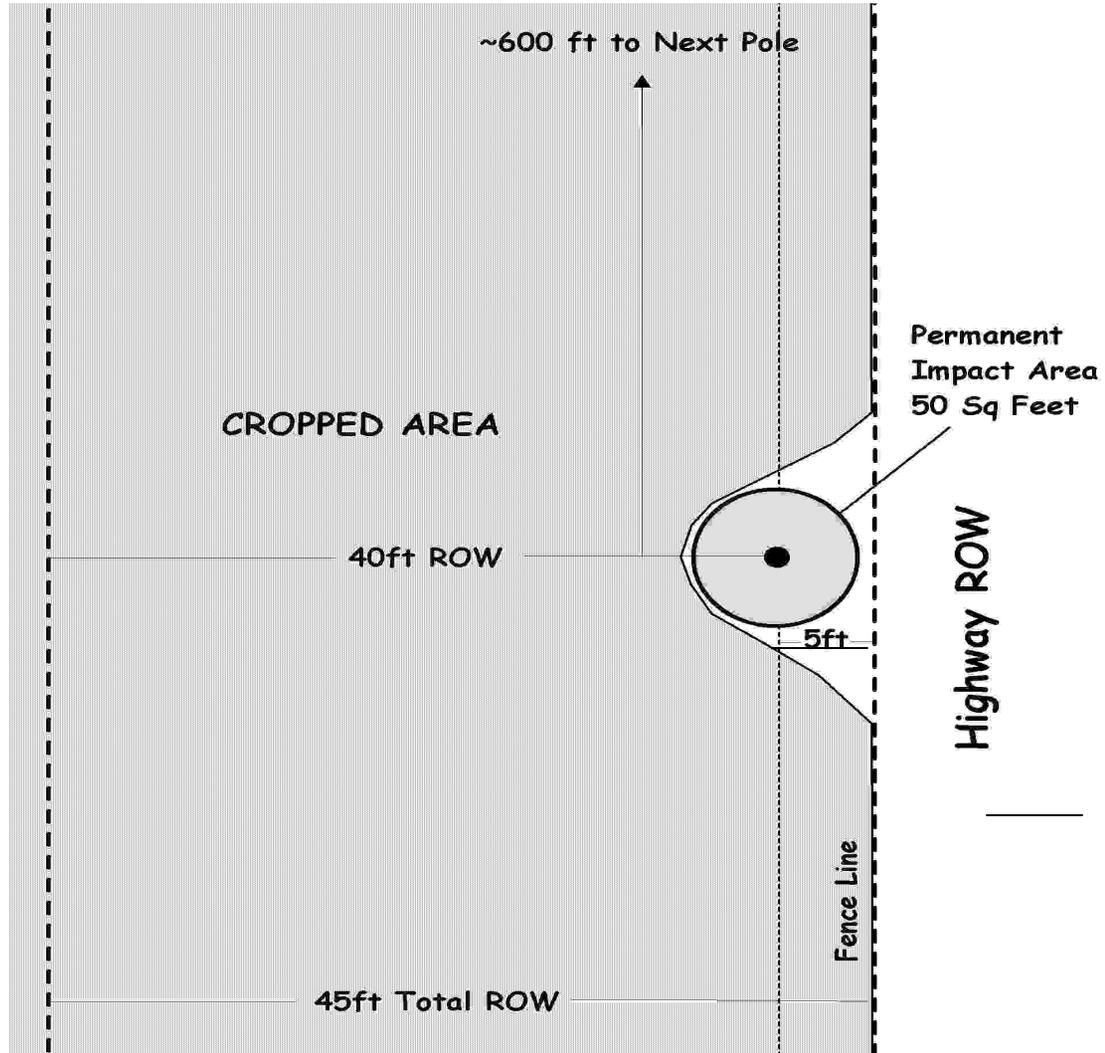


Table 1: Route Comparisons

Route	Length (miles)	# of Poles	Corridor Sharing			# Residences within 300'	Total ROW (acres)	Cost**	Comments
			Type	Length	%				
Xcel Proposed Route	25.5	225	Interstate, transmission line	23.5	92	10	166.42	\$10,279,063	Project incorporates local load serving plan for GRE, Jackson and MRES (see Section 3.2.2 of Xcel Energy application).
D-4 - Parallel Alliant Energy line- DC 161/69 to LK Jct-Jackson & SC161 kV line Jackson-Fox Lake	22.3	197	Transmission Line	22.3	100	11	215.60	\$8,886,000	Xcel Energy is currently working with GRE and MRES to determine what option would be pursued for local load serving (see section 3.2.2 of Xcel Energy application). Final information will be provided by 4/9/04.

Route Segment Comparison Through Jackson from MP 9 to MP 12

Route	Length (miles)	# of Poles	Corridor Sharing			# Residences within 300'	Total ROW (acres)	Cost Difference	Comments
			Type	Miles	%				
Xcel Proposed Route Segment	3.03	27	n/a	-	-	0	29.38		Follows property lines and abandoned railroad corridor.
D-5	3.16	28	Railroad, Interstate	1.99	63	0	22.20	\$ (579,063)	
D-1-C	2.28	20	Interstate	2.28	100	0	12.44	\$ (177,063)	Height restrictions due to airport.
D-1-B	3.06	27	Interstate	1.25	41	0	24.37	\$ (149,063)	Follow I-90 and property lines.

Assumptions:

1. Number of poles was calculated using the anticipated 600-foot span between poles, which was divided into the length of each route and/or route section. This number is approximate since the final number of poles is dependent on the final design.
2. Total ROW was calculated using a 45 to 80 width (ROW) depending on the location of the transmission line along the length of each route and/or route section.

**Note: See Cost summary to EQB April 2004.pdf for more detail on costs.

Table 2: Land Use Comparison

Xcel Proposed Route						
Land Use	LU%	Road ROW	Temporary Impacts (Poles)	Total Temporary Impacts	Total Permanent Impacts	
Agricultural	84.0	52.65	8.65	67.13	0.21	
Grassland	12.8	7.28	1.32	9.29	0.03	
Commercial	2.2	1.35	0.23	1.73	0.01	
Industrial	0.7	0.43	0.07	0.54	0.00	
Residential	0.3	0.20	0.03	0.25	0.00	
Other	0.0	0.00	0.00	0.00	0.00	
Total	100	62	10	79	.24	

D-4

Land Use	LU%	Road ROW	Temporary Impacts (Poles)	Total Temporary Impacts	Total Permanent Impacts
Agricultural	95.10	51.42	8.59	65.62	0.21
Grassland	4.50	2.43	0.41	3.11	0.01
Commercial	0.00	0.00	0.00	0.00	0.00
Industrial	0.40	0.22	0.04	0.28	0.00
Residential	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00
Total	100	54	9	69	.22

Assumptions:

1. Numbers are represented in acres, unless otherwise indicated.
2. Road ROW represents the area used for the temporary construction road along the route. It was calculated using a 20-foot width, which accounts for the temporary construction access road ROW along the each route and/or route section.
3. Temp Impacts (Poles) was calculated assuming a 2000 square foot area around each pole. This number takes into account the Road ROW calculated in Assumption #3, so the impacted area around the pole is not counted twice.
4. Total Temp (Temporary) Impacts is the sum of the Road ROW and Temp Impacts (Poles).
5. Total Perm (Permanent) Impacts is assumed to be 50 square feet per pole.

Table 3: Segment Alternatives Through Jackson

Xcel Proposed Route Segment					
Land Use	LU%	Road ROW	Temporary Impacts (Poles)	Total Temporary Impacts	Total Permanent Impacts
Agricultural	62.97	4.63	0.77	5.40	0.02
Grassland	21.58	1.59	0.26	1.85	0.01
Commercial	14.91	1.10	0.18	1.28	0.00
Industrial	0.00	0.00	0.00	0.00	0.00
Residential	0.00	0.00	0.00	0.00	0.00
Other	0.54	0.04	0.01	0.05	0.00
Total	100	7.35	1.22	8.57	0.03
D5					
Land Use	LU%	Road ROW	Temporary Impacts (Poles)	Total Temporary Impacts	Total Permanent Impacts
Agricultural	30.22	2.32	0.39	2.70	0.01
Grassland	59.18	4.53	0.76	5.29	0.02
Commercial	0.45	0.03	0.01	0.04	0.00
Industrial	7.21	0.55	0.09	0.64	0.00
Residential	0.00	0.00	0.00	0.00	0.00
Other	2.94	0.23	0.04	0.26	0.00
Total	100	7.66	1.28	8.94	0.03
D-1-C					
Land Use	LU%	Road ROW	Temporary Impacts (Poles)	Total Temporary Impacts	Total Permanent Impacts
Agricultural	21.86	1.21	0.20	1.41	0.01
Grassland	77.04	4.26	0.71	4.97	0.02
Commercial	0.46	0.03	0.00	0.03	0.00
Industrial	0.00	0.00	0.00	0.00	0.00
Residential	0.00	0.00	0.00	0.00	0.00
Other	0.64	0.04	0.01	0.04	0.00
Total	100	5.53	0.92	6.45	0.02
D-1-B					
Land Use	LU%	Road ROW	Temporary Impacts (Poles)	Total Temporary Impacts	Total Permanent Impacts
Agricultural	42.21	3.13	0.52	3.65	0.01
Grassland	51.46	3.82	0.64	4.45	0.02
Commercial	0.41	0.03	0.01	0.04	0.00
Industrial	2.51	0.19	0.03	0.22	0.00
Residential	0.00	0.00	0.00	0.00	0.00
Other	3.41	0.25	0.04	0.30	0.00
Total	100	7.42	1.24	8.65	0.03
Assumptions: 1. Numbers are represented in acres, unless otherwise indicated. 2. Road ROW represents the area used for the temporary construction road along the route. It was calculated using a 20-foot width, which accounts for the temporary construction access road ROW along the each route and/or route section. 3. Temp Impacts (Poles) was calculated assuming a 2000 square foot area around each pole. This number takes into account the Road ROW calculated in Assumption #3, so the impacted area around the pole is not counted twice. 4. Total Temp (Temporary) Impacts is the sum of the Road ROW and Temp Impacts (Poles). 5. Total Perm (Permanent) Impacts is assumed to be 50 square feet per pole.					

Table 4
Calculated Electric Fields (kV/m) for Proposed Lakefield Junction to Fox Lake 161 kV Transmission Line Designs
(3 Feet Above Ground)

		Distance to Proposed Centerline								
Type	Voltage	-300'	-200'	-100'	-50'	0'	50'	100'	200'	300'
Single circuit davit arm	169 kV	0.01	0.02	0.11	0.42	0.83	0.49	0.14	0.03	0.01
Double circuit davit arm with 161/161 kV line	169/169 kV	0.01	0.02	0.02	0.19	1.0	0.15	0.04	0.02	0.01
Double circuit davit arm with 161/69 kV line	169/72 kV	0.01	0.02	0.03	0.18	0.90	0.04	0.03	0.01	0.01
Double circuit davit arm with 69 kV not installed	169/0 kV	0.01	0.02	0.04	0.18	1.03	0.04	0.03	0.02	0.01

**Table 5:
Calculated Magnetic Flux Density (milligauss) for Proposed Lakefield Junction to Fox Lake
161 kV Transmission Line Designs (3 feet Above Ground)**

			Distance to Proposed Centerline								
	Condition	Amps	-300'	-200'	-100'	-50'	0'	50'	100'	200'	300'
Single pole davit arm, 161 kV line	Average	440	0.6	1.4	4.8	14	39	14	4.6	1.2	0.5
	Peak	660	0.8	1.8	6.6	21	58	22	7.4	2.1	1.0
Double circuit 161/161 kV davit arm	Average	252/25	.03	0.7	2.6	7.5	15	7.6	2.6	0.7	0.3
	Peak	420/461	0.5	1.2	4.4	12	25	13	4.3	1.2	0.5
Double circuit 161/69 kV davit arm with 161 and 69 kV lines installed	Average	440/68	0.6	1.2	4.8	14	28	9	3.3	1.0	0.5
	Peak	660/125	0.8	1.9	7.2	21	42	13	4.9	1.5	0.7
Double circuit 161/69 kV davit arm without 69 kV line installed	Average	440/0	0.6	1.3	5.1	15	29	10	3.7	1.1	0.5
	Peak	660/0	0.9	2.0	7.6	23	44	14	5.5	1.6	0.8

Table 6: Summary of Costs for Route Options Including the Jackson Load Service Project Options

Xcel Energy Project Cost Summary												
Route	Xcel's Proposal and CATF Routes							With Jackson Load Serving				
	Total Length (Miles)	Double Circuit Length (Miles)	Single Circuit Length (Miles)	Line Costs ^A	Cost Relative to Xcel's Proposal	Substation Costs ^B	Total Costs	69/161 ¹	Cost Relative to Xcel's Proposal	161/161 ²	Cost Relative to Xcel's Proposal	
Xcel's Proposal	25.5	11.7	13.8	\$ 10,279,063	\$ -	\$ 995,858	\$ 11,274,921	\$ 13,874,921	\$ -	\$ 15,374,921	\$ -	
D-1-C	24.8	10.0	14.8	\$ 9,700,000	\$ (579,063)	\$ 995,858	\$ 10,695,858	\$ 14,240,858	\$ 365,937	\$ 15,515,858	\$ 140,937	
D-1-B	25.5	11.6	13.9	\$ 10,102,000	\$ (177,063)	\$ 995,858	\$ 11,097,858	\$ 13,697,858	\$ (177,063)	\$ 15,197,858	\$ (177,063)	
D-5	25.6	11.5	14.1	\$ 10,130,000	\$ (149,063)	\$ 995,858	\$ 11,125,858	\$ 13,725,858	\$ (149,063)	\$ 15,225,858	\$ (149,063)	
D-4 ^C	22.5	10	12.5	\$ 8,886,000	\$ (1,393,063)	\$ 995,858	\$ 9,881,858	\$ 14,469,358	\$ 594,437	\$ 15,781,858	\$ 406,937	
D-4 Double Circuit 161/161 Provision ^{C, D, 3}	22.5	22.5	-	\$ 10,836,000	\$ 556,937	\$ 995,858	\$ 11,831,858	\$ 17,986,858	\$ 4,111,937	\$ 17,731,858	\$ 3,856,937	

Section labeled "Xcel's Proposal and CATF Routes" includes costs to build Xcel's 161 line and necessary substation upgrades at Lakefield Jct and Fox Lake, plus provisions for double circuit 161/69 poles from Lakefield Jct to Jackson to accommodate the future Jackson load serving substation.

Section labeled "With Jackson Load Serving" shows the total cost of Xcel's project plus the future project to build a 161/69 substation near Jackson to serve customer load in the Jackson area. The load serving project will be built by another utility, not Xcel. The load serving facilities, other than the 161/69 double circuit provisions from Lakefield Junction to Jackson, are not part of Xcel's application.

A - Line Costs: Double circuit 161/69 from Lakefield Junction to east side of Jackson; single circuit 161 Jackson to Fox Lake. Double circuit proposed to support Jackson load-serving plans

B - Lakefield Junction and Fox Lake

C - Route costs do NOT include a reroute to avoid the height restriction zones on the north end of the proposed airport runways.

D - Includes cost to remove Alliant line at \$20,000 per mile.

1 - This option includes a 69 kV line from Lakefield Jct to Jackson, built as double circuit with Xcel's new 161 line, and a 161/69 sub with a single transformer sub off the Xcel 161 line. See Option 1 details below.

2 - This option includes a 161/69 sub with two transformers. No 69 kV line is required. See Option 2 details below.

3 - Xcel's new line built as double circuit 161/161 parallel to Alliant's existing 161 line, allowing eventual removal of Alliant line. See Option 3 below.

Jackson Load Serving Cost Details												
Option 1: 69 kV line from Lakefield and single 161/69 transformer sub						Option 2: 2 - 161/69 transformers sub (No 69 line from Lakefield Jct required under this scenario)						
Route	69 line from Lakefield	Additional 161 line to sub	Substation ^E	Total		Route	69 line from Lakefield	Additional 161 line to sub	Substation ^E	Total		
Xcel's Proposal	11.7 miles @ \$75 k \$ 877,500	n/a	\$ 2,600,000	\$ 3,477,500		Xcel's Proposal	n/a	n/a	\$ 4,100,000	\$ 4,100,000		
D-1-C	10 miles @ \$75 k; 1.5 miles @ \$150k \$ 975,000	2 miles @ \$360k \$ 720,000	\$ 2,600,000	\$ 4,295,000		D-1-C	n/a	2 miles @ \$360k \$ 720,000	\$ 4,100,000	\$ 4,820,000		
D-1-B	11.6 miles @ \$75 k \$ 870,000	n/a	\$ 2,600,000	\$ 3,470,000		D-1-B	n/a	n/a	\$ 4,100,000	\$ 4,100,000		
D-5	11.5 miles @ \$75 k \$ 862,500	n/a	\$ 2,600,000	\$ 3,462,500		D-5	n/a	n/a	\$ 4,100,000	\$ 4,100,000		
D-4	12.5 miles @ \$75 k \$ 937,500	5 miles @ \$360k \$ 1,800,000	\$ 2,600,000	\$ 5,337,500		D-4	n/a	5 miles @ \$360k \$ 1,800,000	\$ 4,100,000	\$ 5,900,000		

E - New substation near Jackson to serve local load
69 kV line to be built entirely (or in the case of D-1-C almost entirely) as double circuit with Xcel's 161 line

E - New substation near Jackson to serve local load

Option 3: Assumes New 161 line is built to allow Alliant 161 to move to same structures (Therefore the Jackson load-serving 69 line cannot be built as double circuit)					
Option/Route	69 line from Lakefield (as single circuit)	Additional 161 line to sub	Substation ^E	Total	
69/161 Option Route D-4	11.7 miles @ \$150k \$ 1,755,000	5 miles @ \$360k \$ 1,800,000	\$ 2,600,000	\$ 6,155,000	
161/161 Option Route D-4	n/a	5 miles @ \$360k \$ 1,800,000	\$ 4,100,000	\$ 5,900,000	

E - New substation near Jackson to serve local load
69 kV line built as single circuit on separate right of way

STATE OF MINNESOTA

ENVIRONMENTAL QUALITY BOARD

**In the Matter of Xcel Energy's
Application for a Route Permit for a 161
kV High Voltage Transmission Line in
Jackson and Martin Counties, Minnesota**

**ENVIRONMENTAL ASSESSMENT
SCOPING DECISION
Docket #03-64-TR-XCEL
March 8, 2004**

The above-entitled matter came before the Chair of the Minnesota Environmental Quality Board (EBB) for a decision on the scope of the Environmental Assessment (EA) to be prepared on the proposed Xcel Energy Lakefield Junction-Fox Lake 161 kV Transmission Line project. The EQB held a public meeting on December 15, 2003, to discuss the project with the public and to solicit input into the scope of the EA to be prepared. The public was given until February 10, 2004 to submit written comments regarding the scope of the EA. Having reviewed the Citizen's Advisory Task Force report, the record in this matter and consulting with EQB staff, I hereby make the following Scoping Order. The EA shall address the following issues.

ALTERNATIVE ROUTES

In addition to the route proposed by Xcel Energy, the EA shall address alternative routes and route segments (shown in the attached maps and identified in the Citizen Advisory Task Force Report) and described below.

- A. Route option D-4, a route parallel to the existing Alliant 161 kV transmission line connecting the Lakefield Junction Substation and the Fox Lake Substation and using single pole structures capable of double circuiting and without taking the existing Alliant line out of service.
- B. Route option D-5 (Elevator Route), with the flexibility to use the adjacent road(s), to provide Xcel some routing flexibility.
- C. Route option D-1-C through the City of Jackson.
- D. Route option D-1-B through the City of Jackson.
- E. Routing options to accommodate the Split Rock to Lakefield Junction 345 kV transmission line and the proposed 161 kV line and re-routing the Alliant 161 kV line in the Lakefield Junction Substation.
- F. Consolidation of transmission lines, by double circuiting in the Sherburn Substation area.

- G. Other I-90 routing considerations to avoid residences along the freeway.
- H. Underground alternatives in the vicinity of the Jackson Airport.

IMPACTS TO BE EVALUATED

The Environmental Assessment on the Lakefield Junction-Fox Lake 161 kV Transmission Line project will address and provide information on the following matters:

A. GENERAL TRANSMISSION LINE IMPACTS TO BE ANALYZED

- 1. Purpose of the Transmission Line.
- 2. Summary of major impacts of the selected route segments on human settlement patterns.
- 3. Summary of major impacts of the selected segments on local social and economic factors.
- 4. Summary of major route impacts on local archaeological and historic resources, including Fort Belmont's development and expansion plans.
- 5. Summary of major route impacts on the environment, rare and unique natural resources.

B. ROUTE SELECTION

- 1. The processes used to identify and evaluate the route segments.
- 2. An analysis of the technical and economic feasibility of each alternative route segment considered.
- 3. List of any alternative route segments considered by the Applicant and discussion of why the final route segments were chosen. The EA will also identify more specifically the impacts associated with routing options in the areas of the Lakefield Junction Substation, the City of Jackson, the Sherburn and Fox Lake Substation area and along I-90 where homes and farms are present.
- 4. Discussion of any mitigative measures that could be reasonably implemented to eliminate or minimize any adverse impacts for each route segment of the proposed project.
- 5. Property acquisition procedures for the land where the transmission line may be routed.

C. BIOLOGICAL RESOURCES

- 1. Threatened and endangered species and species of concern along the route segments

2. The potential for disruption of critical habitat along the route segments.
3. The location of utility line structures and potential impacts on wetlands.

D. CULTURAL RESOURCES

1. The impacts of proposed route segments on any pre-existing cultural resources and the development and expansion plans of Fort Belmont.

E. GEOLOGY AND SOILS

1. The potential for soil erosion at the transmission line structure sites.
2. The potential for loss of prime farmland due to transmission line structures.

F. HEALTH AND SAFETY

1. The use, location, size, and potential configuration EMF field effects of high voltage transmission lines for the proposed project
2. Current regulatory status of public health risks related to electric and magnetic fields.
3. Emergency preparedness plans for disruption of the transmission line.
4. Potential for radio, television and cell phone interference from transmission lines.

G. LAND

1. Potential property value changes on residential and commercial parcels
2. Cost-benefit of under grounding of transmission lines in residential and commercial areas.
3. Zoning requirements and project compatibility with local land use planning.
4. Transmission line setbacks required from highways, residential areas and the expansion plans of the Jackson Airport.
5. The effects of the new transmission line on existing land uses.

H. NOISE

1. Noise associated with construction of the transmission line.
2. Noise associated with operation of the transmission line.

I. VISUAL IMPACTS AND AESTHETICS

1. Line-of-sight issues and visual impact of the transmission line and related structures

J. SOCIOECONOMICS

1. Construction, operation, and closure effects upon the local economy (jobs, property taxes, change in property values, residential turnover rates) and right-of-way payments.

ISSUES OUTSIDE THE SCOPE OF THE ENVIRONMENTAL ASSESSMENT

The EQB will not, as part of this environmental review, consider whether a different size or different type of transmission line should be built instead or consider other system alternatives or other voltages. Nor will the EQB consider any route alternative that would require the existing 161 kV Alliant line to be removed from service. Nor will the EQB consider the no-build option.

IDENTIFICATION OF PERMITS

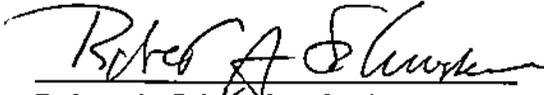
The EA will include a list of permits that will be required for the applicant to construct this project.

SCHEDULE

The EA will be completed by April 23, 2004

Signed this 8th day of March, 2004

STATE OF MINNESOTA
ENVIRONMENTAL QUALITY BOARD


Robert A. Schroeder, Chair

ROUTES PROPOSED

For

EVALUATION IN THE ENVIRONMENTAL ASSESSMENT

For the

Xcel Energy Proposed 161 kV Transmission Line Between

The

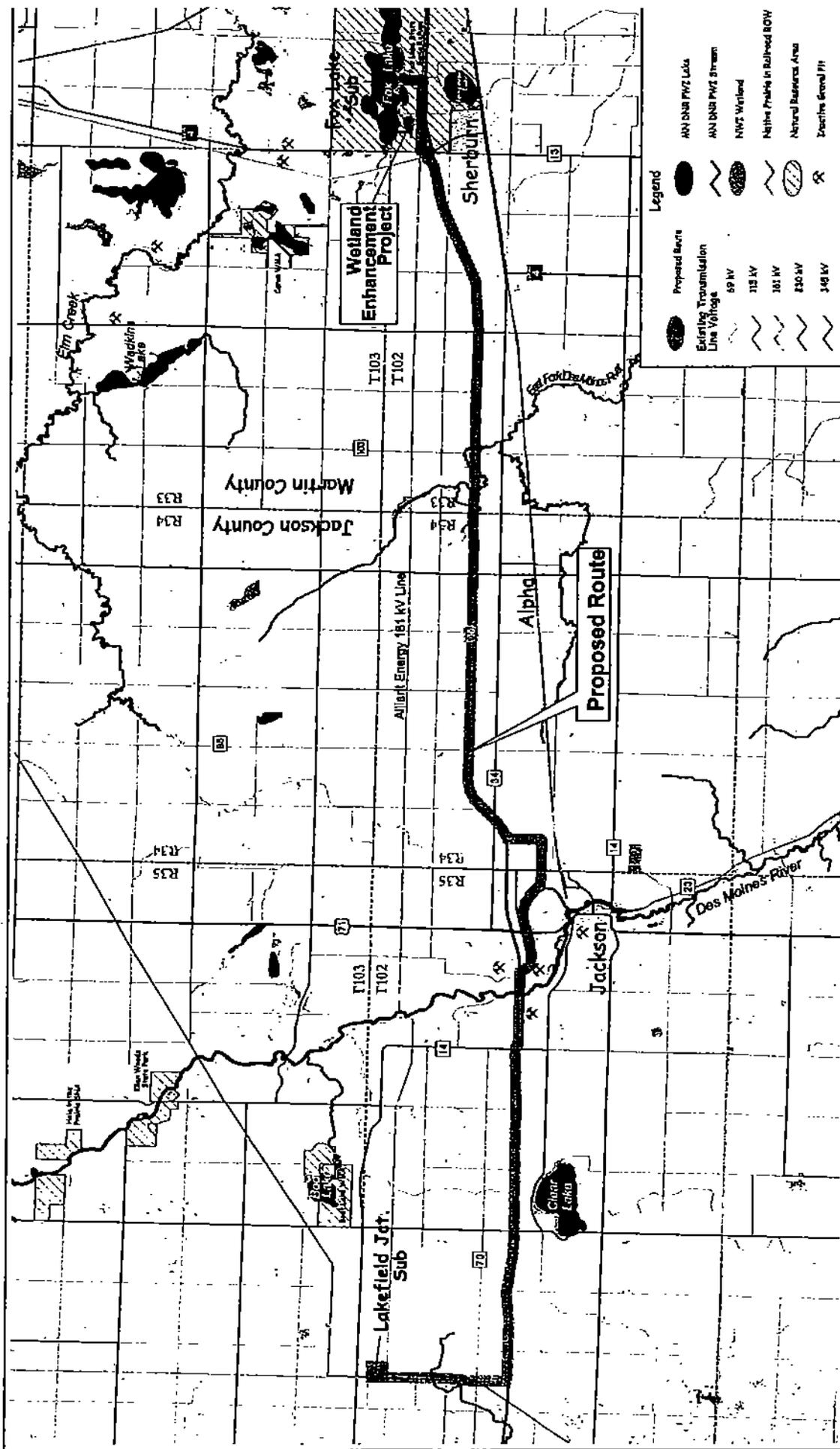
Lakefield Junction Substation and the Fox Lake Substation

Xcel Energy Proposed Route..... Appendix D

Routing Alternatives through the Jackson Area..... Appendix D-1

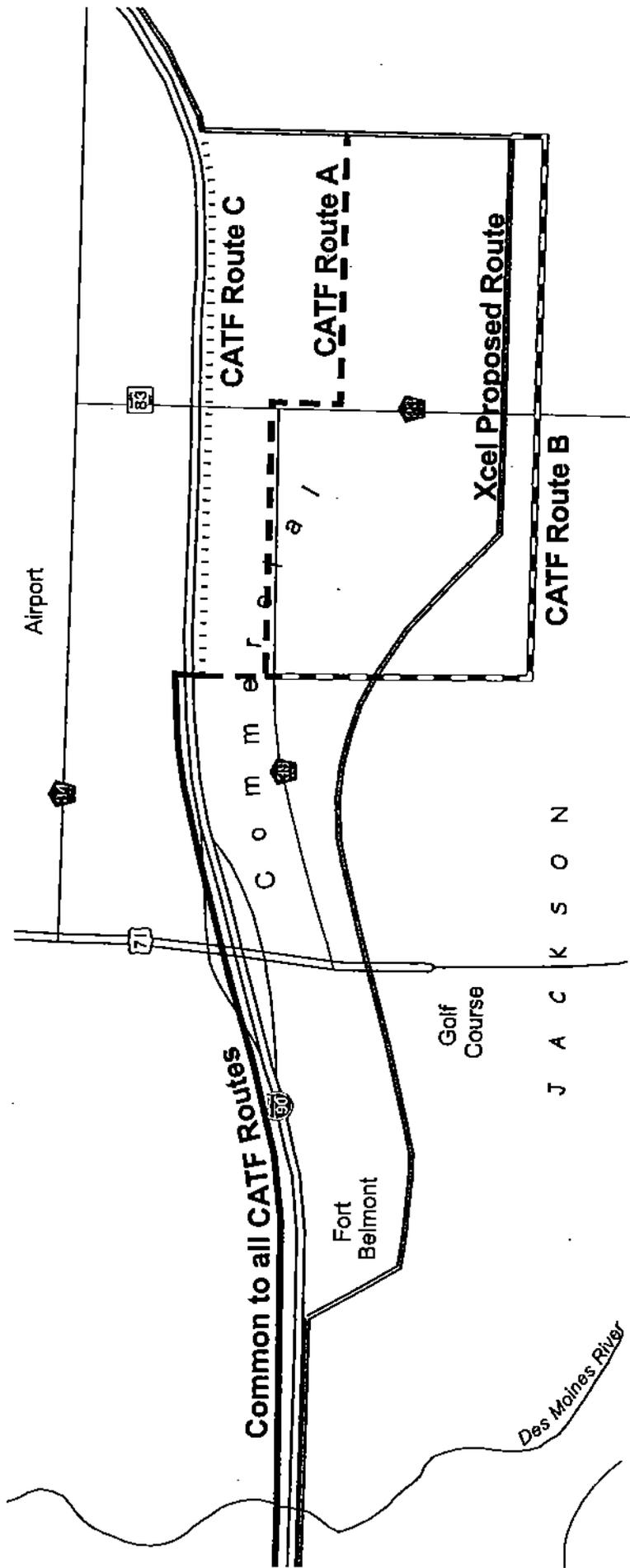
Alliant Route..... Appendix D-4

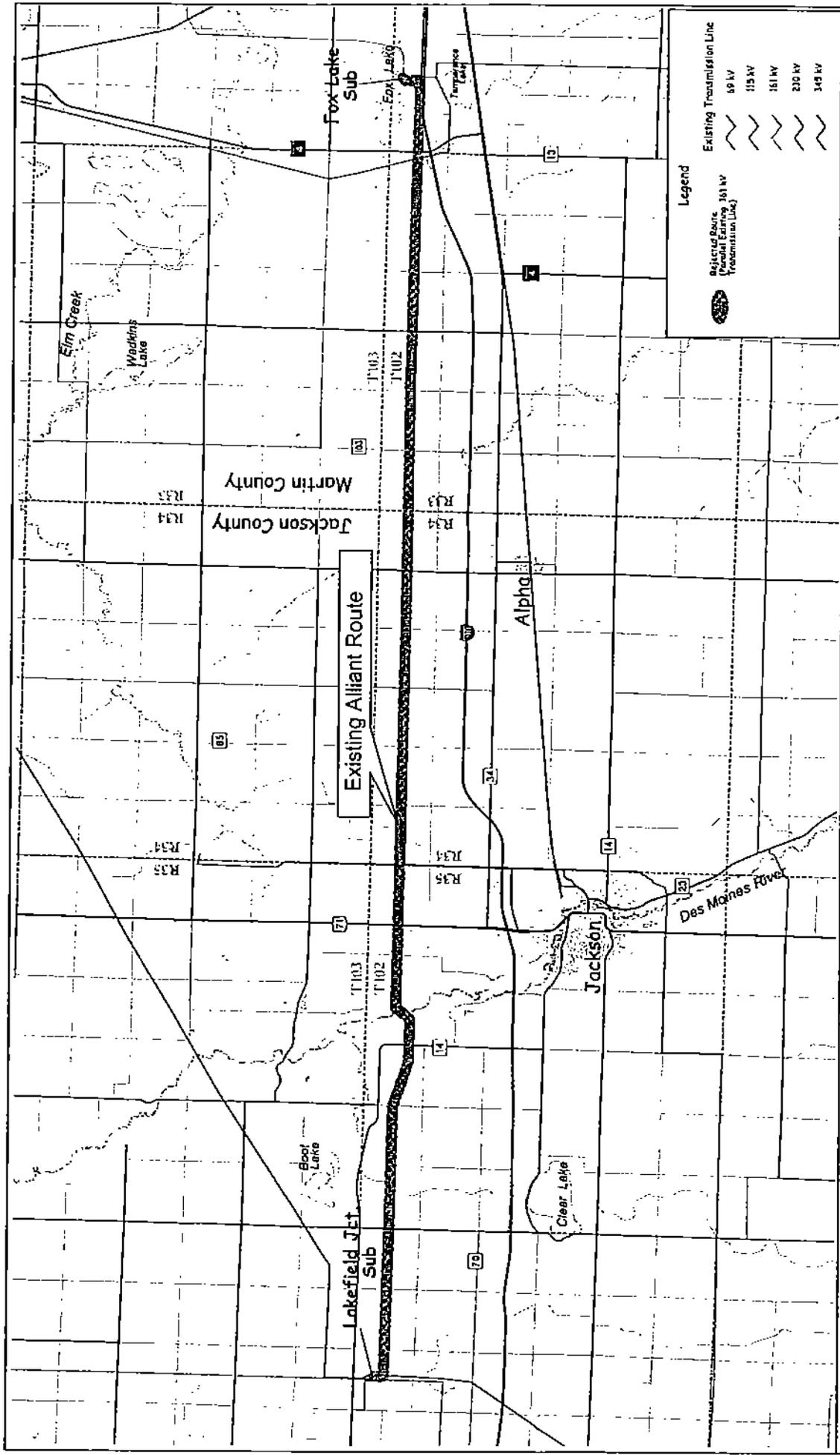
Farmers Cooperative Route Appendix D-5



Lakefield Junction to Fox Lake 161kV Line
 Xcel Energy
 Windfarm Transmission Improvement Projects



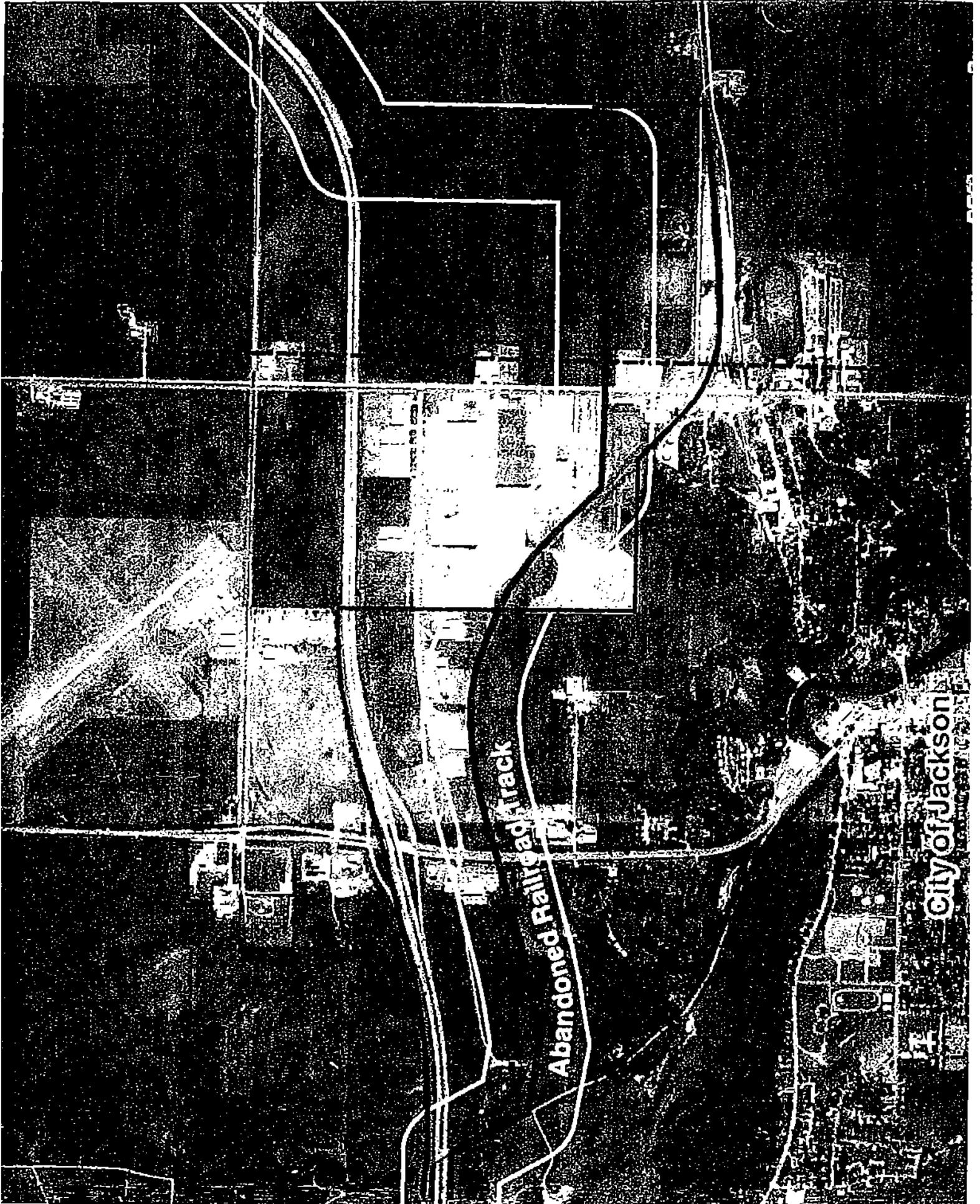




APPENDIX D.8
REJECTED ROUTE MAP

Lakefield Junction to Fox Lake 161kV Line
Xcel Energy
Windfarm Transmission Improvement Projects





REPORT

of the

CITIZEN ADVISORY TASK FORCE

for the

XCEL ENERGY

PROPOSED

161 KV HIGH VOLTAGE TRANSMISSION LINE

between the

LAKEFIELD JUNCTION AND FOX LAKE SUBSTATIONS

in the

COUNTIES OF JACKSON AND MARTIN

ALTERNATIVE PERMITTING PROCESS

EQB DOCKET NO. 03-64-TR-XCEL

SUBMITTED:

February 26, 2004

Introduction

Prior to the filing of Xcel Energy's application for a route permit for the proposed 161 kV transmission line, the chair of the Minnesota Environmental Quality Board appointed a Citizen Advisory Task Force (CATF) and charged the Task Force to assist the Board in reviewing the application and to make recommendations regarding identification of additional routes and particular impacts to be evaluated in the environmental review process. The Task Force was also directed to express a preference for a specific route if it has one and to complete its review and report to the Board no later than 60 days after the date of acceptance of a completed application.

The EQB accepted Xcel Energy's application on December 12, 2003. The Task Force has complied with the charge given and completed its work on February 4, 2004. This report and recommendations are submitted to the EQB for its consideration.

Project Description

Northern States Power Company, d/b/a Xcel Energy, is proposing a new, approximately 25.5 mile 161 kV transmission line. The proposed line and the associated structures, electrical equipment, and appurtenances will connect to the Lakefield Junction Substation in Jackson County, Minnesota, and the Fox lake Substation in Martin County, Minnesota. Between Lakefield Junction and the City of Jackson, Xcel is considering use of a double circuit 161/ 69 kV transmission line structure to support a future 69 kV transmission line being considered by other energy suppliers to deliver electrical energy to the City of Jackson. Other options exist to meet this need, but no decision has been made at this time. A 69 kV line is not subject to EQB jurisdiction.

Structures: Xcel is proposing to use single pole, galvanized steel, and davit arm structures for the Project. The single circuit structures will range from 70 to 110 feet in height, with an average height of 80 feet and an average span length between each structure of 600 feet. The double circuit structures, if necessary, will range from 75 to 115 feet in height, with an average of 95 feet and have an average span between structures of 400 to 600 feet.

Right-of-Way: The majority of Xcel's proposed route would follow existing transmission line and Interstate 90 road right-of-way (ROW). New ROW would be required along the two-mile corridor running south of the Lakefield Junction Substation to I-90 and along spans going through the Jackson area and going north to the Fox Lake Substation from I-90. Where the ROW parallels Interstate 90, the required ROW width would be 45 feet. When the line does not parallel or utilize existing ROW, the ROW width will be 80 feet.

The need for this line was established by the Public Utilities Commission in its March 11, 2003, *Order Granting Certificates of Need Subject to Conditions (PUC Docket No. E-002/CN-01-1958)*.

Citizen Advisory Task Force and Charge

The voluntary Task Force of 13 members and 3 alternates was appointed by EQB Chair Robert A. Schroeder on July 17, 2003. Chair Schroeder further issued a charge to the Task Force, directing it in a manner which would assist the Board. See Appendix A. (CATF Decision and Scope of Participation). A Task Force member list is provided as Appendix B.

Members on the Task Force represented the Southwest Regional Development Commission (Region 8), Region Nine Development Commission, Martin County, Jackson County, City of Jackson, City of Sherburn, Jay Township, Des Moines Township, and landowners in the area of the Xcel proposed route.

The Task Force meetings were held at the Jackson City Hall. The meetings were open to the public, with public notice provided in local newspapers and by mailing. Notice of the Task Force meeting schedule was also announced to persons attending the EQB public information and scoping meeting on December 15, 2003, at the Country Manor Inn. The Task Force meetings always provided an opportunity for participation by interested persons.

The Task Force met three times (August 27, September 10 and 24) prior to submittal and acceptance of Xcel's application by the EQB. These meetings covered a variety of background tasks and established ground rules for Task Force activities. After Xcel's application for the route permit was accepted by the EQB chair (December 12, 2003), the Task Force met on January 7, 14, 21 and February 4 to complete its charge.

At its last four meetings the Task Force spent its time reviewing routing options and the draft scoping document prepared by the EQB staff. See Appendix C. Extensive discussions were held on routing options through the City of Jackson, in the Sherburn area, and the Lakefield Junction Substation area, and on other routing options (crossover points) along Interstate 90. On January 21st a number of the Task Force members, representatives from Xcel, EQB staff and other interested persons met in the field to inspect and evaluate proposed alternative routes through the City of Jackson, prior to the Task Force meeting that evening. Task Force members also did field work on their own.

As a part its charge, the Task Force was to identify particular impacts and additional routes to be evaluated in the environmental review process. The following two sections identify the Task Force recommendations on impacts and routing alternatives.

I. Environmental Issues Identified for Scoping

The Task Force has had the opportunity to review Xcel's route permit application and a preliminary draft scoping decision document prepared by EQB staff for discussion purposes (see Appendix C) and to listen to comments offered by the public at the Task Force meetings.

Based on this review the Task Force identifies the following environmental issues for scoping:

A. General Transmission Line Impacts to be Evaluated

No additional suggestions for this category.

B. Route Selection

B.2 The Task Force recommends that the EA identify more specifically the impacts associated with routing options: a) near the Lakefield Junction Substation area; b) through the City of Jackson; c) near Sherburn; d) and along I-90 where homes and farms are present.

C. Biological Resources

No additional suggestions in this category

D. Cultural Resources

The Task Force recommends that the EA include a discussion on the development and expansion plans of Fort Belmont.

E. Geology and Soils

No additional suggestions in this category

F. Health and Safety

No additional suggestions in this category

G. Land

The Task Force recommends that the EA discuss transmission line setbacks and clearances for residential areas and, highways and with regard to expansion plans for the Jackson airport.

H. Noise

No additional suggestions in this category

I. Visual Impacts and Aesthetics

No additional suggestions in this category

J. Socioeconomics

The Task Force recommends the EA examine socioeconomics in more detail than what was provided in the application for all routing options authorized by the EQB chair.

II. Routing Alternatives

The Task Force spent a considerable amount of time reviewing and discussing route alternatives based on the members' knowledge of the area, while considering the factors identified in Minnesota Rules, part 4400.3150. The Task Force has examined and evaluated the following route and route alternative:

Xcel's route as proposed in its route permit application (See Appendix D)

The Task Force has reviewed Xcel's proposed route and generally is supportive of using existing rights-of-way, such as I-90, rather than creating a new separate right-of-way for the proposed line. However, a number of planned land use changes in the City of Jackson were not known to Xcel when its application was prepared. These changes include but are not limited to height restrictions for the proposed expansion of the Jackson airport, additional industrial park plans, expansion of Fort Belmont west of Highway 71, and the proposed development plans between Highway 71 and Fort Belmont that include a proposed motel, residential homes and additional commercial development.

Based upon the routing constraints identified above, the Task Force does not support Xcel's choice of its proposed route through the City of Jackson (See Appendix D). Outside the City of Jackson, the Task Force supports Xcel's proposed route.

Additional Routes and Route Segments Considered

The Task Force and other interested persons identified several different routing alternatives in the City of Jackson that avoided some of the impacts associated with Xcel's proposed route. Another group of interested persons suggested a route alternative that passed through the south side of Jackson. All of these route alternatives are identified, discussed and evaluated in the next part of this Task Force report.

Identified Route Segments and Routing Alternatives. See Appendices D-1 that includes CATF Routes A, B, and C, D-2, D-3, D-4 and D-5.

During the January and February 2004, Task Force meetings, other route segments and routing options were identified for evaluation. Three of these options are small variations on Xcel's proposed line route and are identified in Appendix D-1 as CATF Route A, B and C.

Appendix D-2 identifies a route proposed by a member of the public at one of the Task Force meetings. This route was identified as the Dump Road Route.

The route identified in Appendix D-3 was identified by an interested group of citizens, and passes around and south of the City of Jackson.

Appendix D-4 identifies the existing 161 kV Alliant transmission line as a routing option.

Appendix D-5 the last routing option identified was recommended by the City of Jackson and is another variation on Xcel's proposed line through the City of Jackson. This option is known as the Farmers Cooperative Route.

D-1 Routing Alternatives

The D-1 routing alternative consists of three route segments. These route segments are variations of Xcel's proposed route through the City of Jackson and are identified as CATF Routes A, B and C and all pass through or adjacent to the Jackson Industrial Park.

CATF Route A passes through the Jackson Industrial Park along County Highway 38. Upon further review and evaluation of this route segment, the Task Force rejected it for further consideration because: a) turning lanes may be added to CH 38 in the future to accommodate increased traffic along this road; b) the addition of turning lanes may result in the need to relocate the line; and c) the transmission line would be very close to existing buildings in the industrial park

CATF Route B passes along the west and south side of the Jackson Industrial Park. This route segment alternative avoids most of the issues associated with going through the industrial park, but could impact good development land on the east side of CH 23. The CATF agreed that this routing option should be evaluated in the environmental assessment.

CATF Route C passes through the north side of the industrial park and along the south side of I-90. Transmission line design options would need to be evaluated because of this route's proximity to the existing airport facilities. Possible airport expansion plans may

further limit design options. The Task Force recommends that this route segment option be considered in the environmental assessment.

D-2 Routing Alternative

This alternative known as the "Dump Road" route was identified by a member of the public at the January 14, 2004, Task Force meeting. After further discussion and analysis, the Task Force recommended that this routing alternative be dismissed from further consideration because of: a) its proximity to some apartment buildings on the east side of Highway 71; b) its impact some good agricultural land that is highly suitable for development; and c) its proximity to Fort Belmont.

D-3 Routing Alternative

This routing option passes around and south of the City of Jackson. Several interested parties proposed this alternative to avoid the conflicts associated with Xcel's proposed route through the City of Jackson. There was also a lot of opposition to this route from the persons who lived and farmed along this route.

The Task Force voted to not consider this route for further evaluation because it: a) was five to six miles longer than any other route proposal; b) offered no advantages over the other routes; c) created a new right-of-way; and d) would significantly impact land owner and farmers. The City of Jackson also requested in a February 5, 2004, letter that this route option be withdrawn.

D-4 Routing Alternative

This routing alternative involves following the route of the existing Alliant 161 kV line extending from the Lakefield Junction Substation to the Fox Lake Substation. This existing corridor is about one and one-half miles north of I-90. The Alliant line is an older line built on wooden H frame structures that have created a number of problems for farmers who have to work around these structures.

The landowners would like to see the H-frame structures serving the Alliant line removed and replaced with single pole structures. The Task Force is aware that the Alliant line cannot be taken out of service for reliability reasons, and that Xcel has rejected this alternative for those reasons. The Task Force does not recommend taking the Alliant line out of service.

The Task Force does recommend that the EQB evaluate in the environmental assessment the alternative of installing single pole structures along a route parallel to the existing Alliant right-of-way. These structures should be capable of a double circuit configuration so they would be capable of supporting both the Alliant line and the new Xcel line. The

Task Force is also aware that for a period of time farmers may have to deal with two sets of structures on their property.

Also, the Task Force is aware that a new line parallel to the existing Alliant line must take into account the possible expansion of the Jackson Airport. This factor must be considered in the environmental assessment.

D-5 Routing Alternative

The Task Force at its February 4, 2004, meeting agreed to examine a new routing option based on the recommendation of the City of Jackson. This route is shown in Appendix D-5 and would pass through the property of the Farmers Cooperative Association. The City Council passed a resolution (No. 17-204) on February 2, 2004, supporting this routing option through the City of Jackson because:

“the preferred route [a] is preferred by AGCO, [b] removes the new line from the vicinity of the airport and thereby avoids potential air space and communications problems related to air traffic, [c] follows the established corridor of the existing railroad right-of-way rather than transecting prime development land in the SE1/4SE1/4 of said Section 18 and, therefore, is least likely to impede, restrict, or preclude economic development along the course of the New Line, development that is vital to the City, and [d] brings the New Line within close proximity to-and thereby facilitates economical interconnections with-the City’s substation.”

The Task Force recommends that this routing alternative be evaluated in the environmental assessment.

OTHER CITIZEN ADVISORY TASK FORCE RECOMMENDATIONS

Lakefield Junction Substation Area. Xcel’s application requested some flexibility in the area of the Lakefield Junction Substation to accommodate future expansion plans to accommodate the Split Rock to Lakefield Junction proposed 345 kV transmission line, while minimizing land use impacts.

The Task Force recommends that Xcel be provided with routing flexibility in this area to consolidate existing and proposed transmission, and be permitted to re-route the Alliant line into the Lakefield Junction Substation and that this issue be considered in the environmental assessment.

Sherburn Substation Area. Landowners in the Sherburn Substation area have asked Xcel to consolidate transmission lines in this area. The Task Force supports this request

to double circuit the proposed 161 kV with existing transmission lines to clean up the area. Xcel has also proposed to do this in its application.

The Task Force recommends that this proposal be considered in the environmental assessment.

Other I-90 Routing Considerations. Several landowners along I-90 have requested that Xcel cross back over to the other side of the freeway to avoid being too close to their residences and farms. The Task Force recommends that these options be evaluated in the environmental assessment.

Buried Transmission Line Alternatives in the Vicinity of the Jackson Airport.

Undergrounding options near the Jackson Airport were also considered and evaluated to avoid conflict with the Jackson airport and industrial park. The Task Force is aware of the significant cost associated with buried transmission lines, approximately \$900 to \$1,100 per foot. The Task Force recommends that undergrounding costs and technology be evaluated in the environmental assessment for overhead route segments that may conflict with airport expansion plans.

III. Task Force Route Recommendations

The CATF has reviewed and examined the routing alternatives detailed in section II and recommends that the EQB chair include the following route alternatives in the Environmental Assessment:

1. Route option D-1 CATF Route B
2. Route option D-1 CATF Route C
3. Route option D-4, parallel to the Alliant Route without taking the existing line out of service-
4. Route option D-5 with flexibility to use the adjacent road(s) to give Xcel some flexibility.

The Task Force recommends that the following routes not be included in the scope of the Environmental Assessment:

1. Route option D-1 CATF Route A
2. Route option D-2 Dump Road Route
3. Route option D-3 Route around and south of the City of Jackson

The Task Force, based on information available to it, makes the following recommendations for EQB route approval:

- First Choice:** Route Option D-4, parallel to the existing Alliant line with single pole structures capable of double circuiting so that if possible the Alliant line could be moved to the new structures at the appropriate time.
- Second Choice:** Xcel's proposed route, using route option D-5 through the City of Jackson, with the flexibility to use adjacent roads along the east end of D-5 if warranted.
- Third Choice:** Xcel's proposed route, using route option D-1-C through the City of Jackson.
- Fourth Choice:** Xcel's proposed route, using route option D-1-B through the City of Jackson.

The Task Force understands that the EQB will compile a complete administrative record, which will include Xcel's application and the Environmental Assessment, and will consider the information in the record in making a final decision.

LIST OF APPENDICES

Citizen Advisory Task Force Decision and Scope of Participation...	Appendix A
Citizen Advisory Task Force Members	Appendix B
Preliminary Draft Environmental Assessment Scoping Decision	Appendix C
Xcel Energy Proposed Route.....	Appendix D
Routing Alternatives through the Jackson Area.....	Appendix D-1
Old Dump Route Alternative	Appendix D-2
Route Alternative South of Jackson	Appendix D-3
Alliant Route	Appendix D-4
Farmers Cooperative Route	Appendix D-5

STATE OF MINNESOTA
ENVIRONMENTAL QUALITY BOARD

**In the Matter of A Pending Application
By Xcel Energy For A Route Permit For
A New 161 kV High Voltage
Transmission Line Between Lakefield
Junction And Fox Lake Substation In
Southwest Minnesota.**

**CITIZEN ADVISORY TASK FORCE
DECISION AND SCOPE OF
PARTICIPATION**

The above-entitled matter, a pending application for a route permit for a new 161 kV transmission line, approximately 24 miles long, between Lakefield Junction and Fox Lake substations in Southwestern Minnesota, came before the Chair of the Minnesota Environmental Quality Board (MEQB) for a decision on the need for a Citizen Advisory Task Force regarding the expected High Voltage Transmission Line (HVTL) application.

WHEREAS, the Minnesota Public Utilities Commission recently issued a Certificate of Need to Xcel Energy for a new 161 kV High Voltage Transmission Line between the existing Lakefield Junction Substation and the existing Fox Lake substation in southwest Minnesota (PUC Docket E-002/CN-01-1958); and

WHEREAS, an application for a routing permit for this new line is expected to be filed with the MEQB sometime in June 2003; and

WHEREAS, Minnesota Statutes § 116C.59, and Minnesota Rules Chapter 4400.1600, allow the Chair to appoint a Citizens Advisory Task Force as early in the process as possible; and

WHEREAS, The MEQB staff attended a public meeting in the local area, received comments, and assembled their findings and recommendations into a May 9, 2003, memorandum to the Chair; and

WHEREAS, a number of issues regarding location of the proposed line have been identified.

THEREFORE, having reviewed this information, the Chair makes the following determination with regard to the need for, and charge to a Citizen Advisory Task Force relating to this matter.

CITIZEN ADVISORY TASK FORCE AUTHORIZATION

The Chair finds that there are sufficient issues surrounding the possible routing of this new HVTL to warrant the input and advice of a Citizens Advisory Task Force. The membership of this group will be determined according to the requirements set out in Minn. Stat § 116C.59 and as follows.

Members will be solicited from the following groups:

- The Southwest Regional Development Commission
- The Region Nine Development Commission
- The City of Jackson
- The City of Sherburn
- Jackson County
- Martin County
- A Town Board member from either Manyaska or Jay Township in Martin County
- A Town Board member from Hunter, Des Moines, or Wisconsin Township in Jackson County
- The City of Lakefield
- Two landowners from along the proposed routes

The Chair further finds that it is prudent to set the charge to the Task Force as follows:

The charge to the Task Force shall be to identify additional routes, and particular impacts to be evaluated in the environmental review process. In particular the Task Force should consider whether routes along Town Roads such as 810th street and 830th street should be included in the review, and whether consideration of routes crossing the Des Moines River at Highway 16 should be considered. The Task Force should also consider how the line could be routed along any route corridors identified by Xcel Energy, including an examination of routing issues near the City of Jackson Airport. The Task Force should express a preference for a specific route if it has one. The Task Force should complete its review and report to the Board no later than 60 days after the date of acceptance of a completed application.

The MEQB staff is directed to compile a list of names for possible appointment to the Citizen Advisory Task Force for the Chair's consideration.

Signed this ____ day of _____, 2003

STATE OF MINNESOTA
ENVIRONMENTAL QUALITY BOARD

Robert A. Schroeder
Chair

Citizen Advisory Task Force Members Lakefield/Fox Lake

Craig Rubis, Chairperson
Southwest Regional Development
Commission
Lakefield, Minnesota 56150

Richard Peterson, Alternate
Southwest Regional Development
Commission
Mountain Lake, Minnesota 56159

Peggy Wiese
Region Nine Development Commission
Mankato, Minnesota 56002

Dean Albrecht
City of Jackson
Jackson, Minnesota 56143

Steve Walker, Alternate
City of Jackson
Jackson, Minnesota 56143

Kathy Bailey
City of Sherburn
Sherburn, Minnesota 56171

Gordon Olson
Jackson County
Jackson, Minnesota 56143

John Nauerth, Alternate
Jackson County
Lakefield, Minnesota 56150

Harry Jenness
Martin County
North Mankato, MN 56003

Steve Roben
Jay Township
Sherburn, Minnesota 56171

Mark Eggimann
Des Moines Township
Jackson, Minnesota 56143

Steve Fransen
Jackson, Minnesota 56143

Lisa Lusk
Jackson, Minnesota 56143

Richard Fransen
Jackson MN

Lisa Hughes
Region Nine Development Commission
Mankato, Minnesota 56002

Tom Davis
1161 50th Ave.
Sherburn, MN 56171

Preliminary Draft

STATE OF MINNESOTA

ENVIRONMENTAL QUALITY BOARD

**In the Matter of Xcel Energy's
Application for a Route Permit for a 161
kV High Voltage Transmission Line in
Jackson and Martin Counties, Minnesota**

**ENVIRONMENTAL ASSESSMENT
SCOPING DECISION
Docket #03-64-TR-XCEL
February -----, 2004**

The above-entitled matter came before the Chair of the Minnesota Environmental Quality Board (EBB) for a decision on the scope of the Environmental Assessment (EA) to be prepared on the proposed Xcel Energy Lakefield Junction-Fox Lake 161 kV Transmission Line project. The EQB held a public meeting on December 15, 2003, to discuss the project with the public and to solicit input into the scope of the EA to be prepared. The public was given until February 10, 2004 to submit written comments regarding the scope of the EA. Having reviewed the comments submitted and consulted with EQB staff, I hereby make the following Scoping Order. The EA shall address the following issues.

ALTERNATIVE ROUTES

In addition to the route proposed by Xcel Energy, the EA shall address the following alternative route segments suggested by citizen groups:

- A.
- B.
- C.
- D.
- E.

IMPACTS TO BE EVALUATED

The Environmental Assessment on the Lakefield Junction-Fox Lake 161 kV Transmission Line project will address and provide information on the following matters:

A. GENERAL TRANSMISSION LINE IMPACTS TO BE ANALYZED

1. Purpose of the Transmission Line.
2. Summary of major impacts of the selected route segments on human settlement patterns
3. Summary of major impacts of the selected segments on local social and economic factors
4. Summary of major route impacts on local archaeological and historic resources
5. Summary of major route impacts on the environment, rare and unique natural resources

PRELIMINARY DRAFT

B. ROUTE SELECTION

1. The processes used to identify and evaluate the route segments
2. An analysis of the technical and economic feasibility of each alternative route segment considered.
3. List of any alternative route segments considered by the Applicant and discussion of why the final route segments were chosen.
4. Discussion of any mitigative measures that could be reasonably implemented to eliminate or minimize any adverse impacts for each route segment of the proposed project.
5. Property acquisition procedures for the land where the transmission line may be routed

C. BIOLOGICAL RESOURCES

1. Threatened and endangered species and species of concern along the route segments
2. The potential for disruption of critical habitat along the route segments
3. The location of utility line structures and potential impacts on wetlands

D. CULTURAL RESOURCES

1. The impacts of proposed route segments on any pre-existing cultural resources

E. GEOLOGY AND SOILS

1. The potential for soil erosion at the transmission line structure sites
2. The potential for loss of prime farmland due to transmission line structures.

PRELIMINARY DRAFT

F. HEALTH AND SAFETY

1. The use, location, size, and potential configuration EMF field effects of high voltage transmission lines for the proposed project
2. Current regulatory status of public health risks related to electric and magnetic fields.
3. Emergency preparedness plans for disruption of the transmission line
4. Potential for radio, television and cell phone interference from transmission lines.

G. LAND

1. Potential property value changes on residential and commercial parcels
2. Cost-benefit of under grounding of transmission lines in residential and commercial areas.
3. Zoning requirements and project compatibility with local land use planning
4. Transmission line setbacks required from highways and residential areas
5. The effects of the new transmission line on existing land uses

H. NOISE

1. Noise associated with construction of the transmission line
2. Noise associated with operation of the transmission line

I. VISUAL IMPACTS AND AESTHETICS

1. Line-of-sight issues and visual impact of the transmission line and related structures

J. SOCIOECONOMICS

1. Construction, operation, and closure effects upon the local economy (jobs, property taxes, change in property values, residential turnover rates)

PRELIMINARY DRAFT

ISSUES OUTSIDE THE SCOPE OF THE EIS

The EQB will not, as part of this environmental review, consider whether a different size or different type of transmission line should be built instead. The Public Utilities Commission (PUC) order establishes the transmission line options that Xcel Energy must build to facilitate wind energy development in southwestern . Nor will the EQB consider the no-build option.

IDENTIFICATION OF PERMITS

The EA will include a list of permits that will be required for the applicant to construct this project.

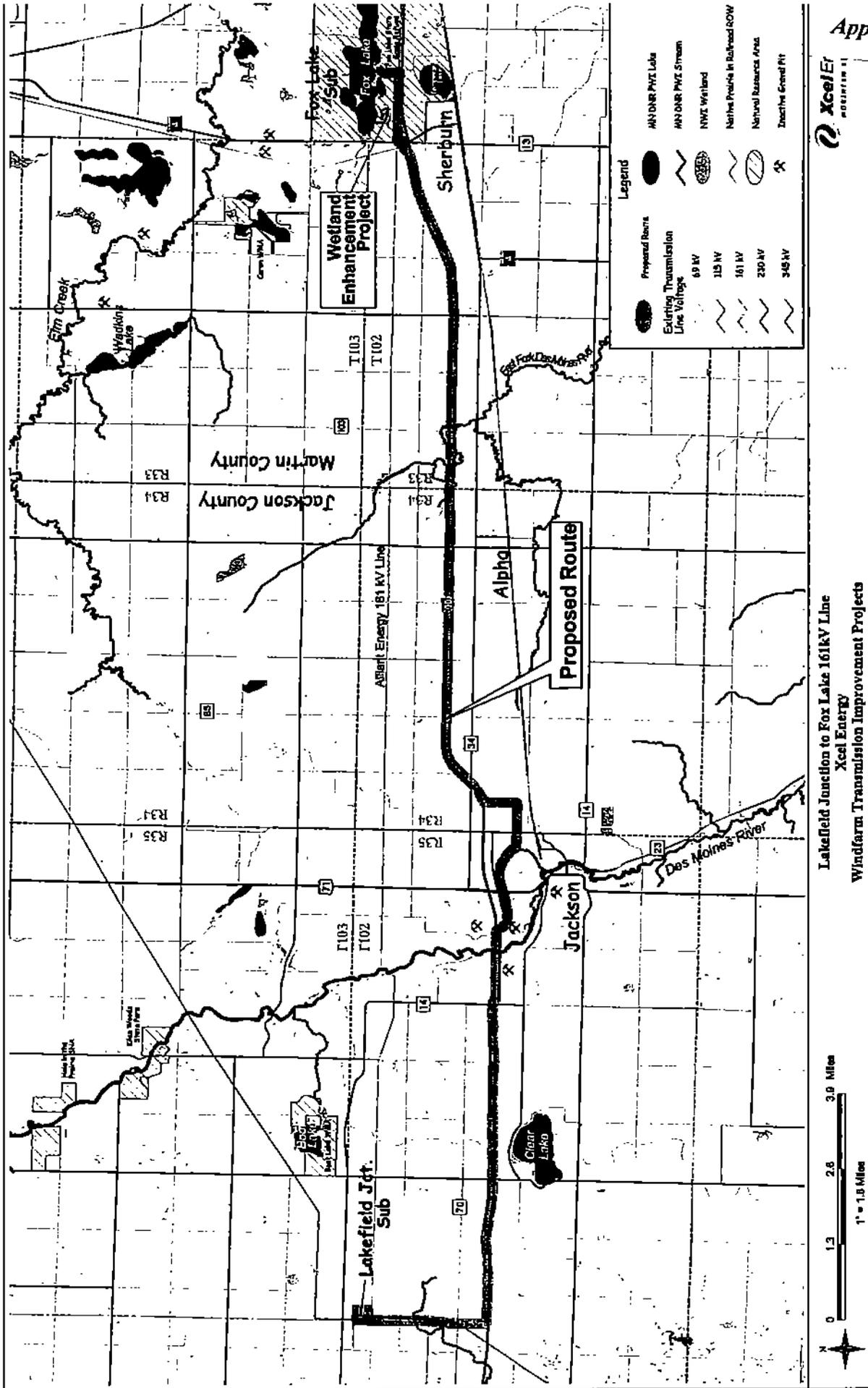
SCHEDULE

The EA will be completed by _____

Signed this ____ day of _____, 2004

STATE OF MINNESOTA
ENVIRONMENTAL QUALITY BOARD

Robert A. Schroeder, Chair



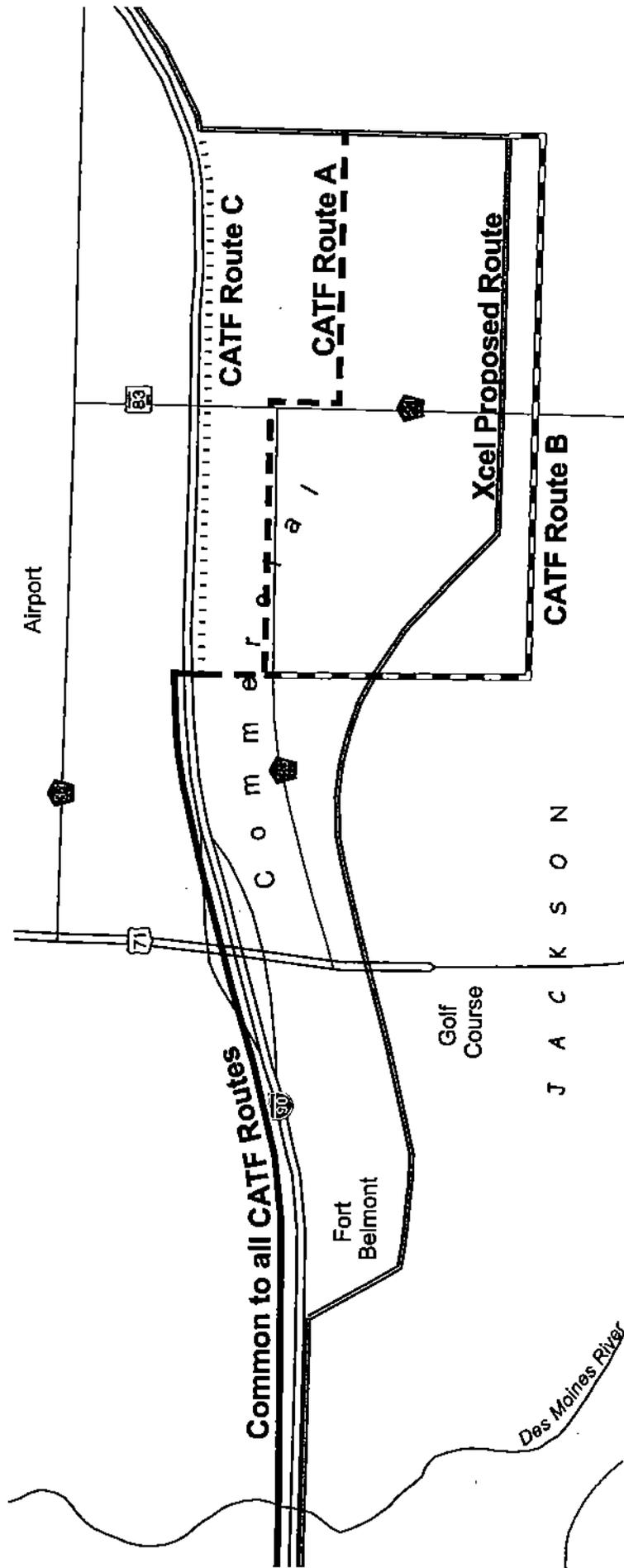
Legend

	Prepared Route		69 kV
	Existing Transmission Line		115 kV
	161 kV		230 kV
	345 kV		Wetland
	Native Prairie in Railroad ROW		Natural Resource Area
	Inactive Ground Pit		Wetland
	MNDNR Private Lake		Wetland
	MNDNR Private Stream		Wetland
	MNDNR Wetland		Wetland



Lakefield Junction to Fox Lake 161kV Line
 Xcel Energy
 Windfarm Transmission Improvement Projects





Xcel Energy Proposal

- Dump Road
- I-90 South Side
- I-90 North Side, then through Industrial Park
- Not Viable Due to Existing Runway Restrictions
- Possible County Road 38 Route Segment

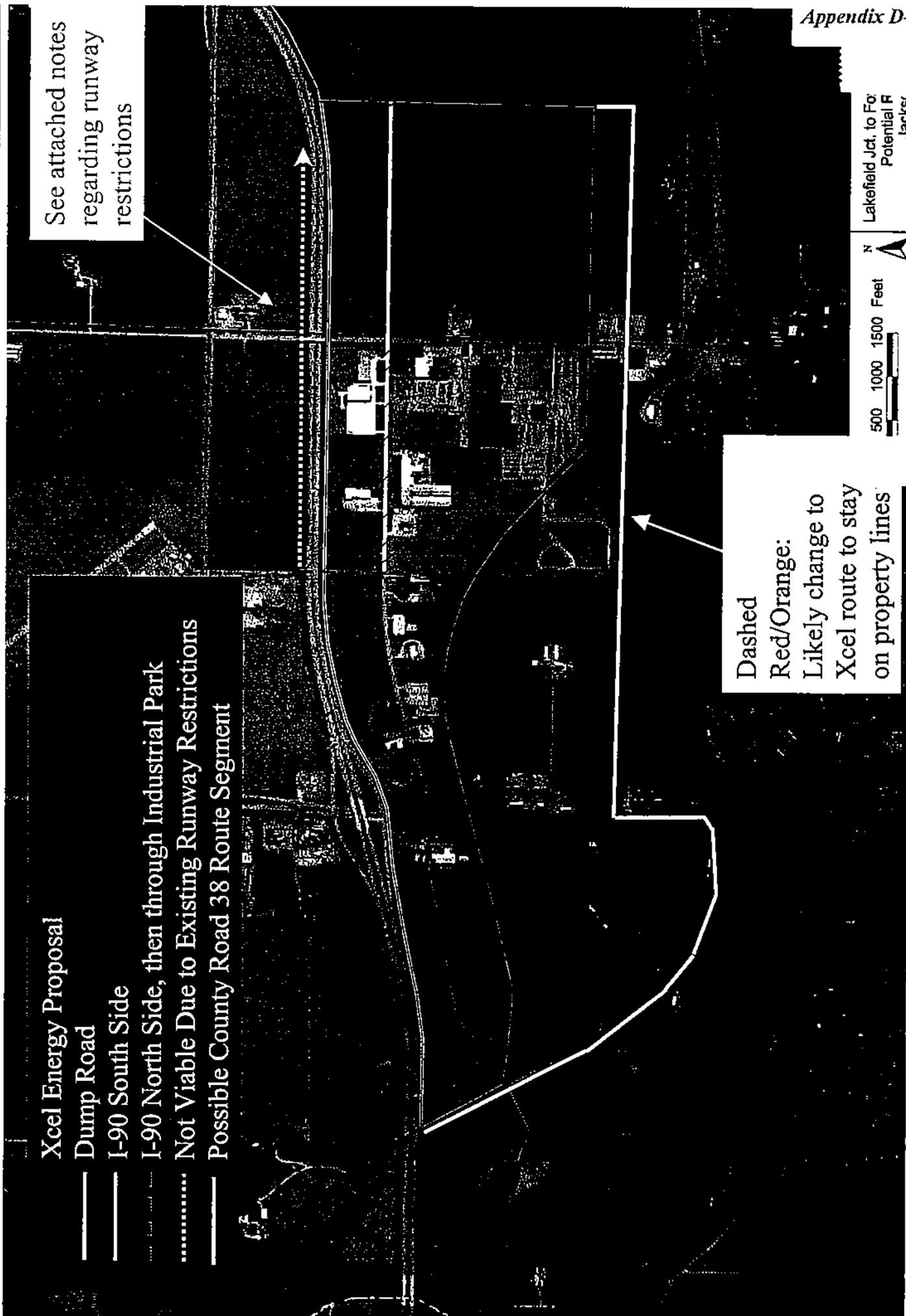
See attached notes regarding runway restrictions

Dashed Red/Orange: Likely change to Xcel route to stay on property lines

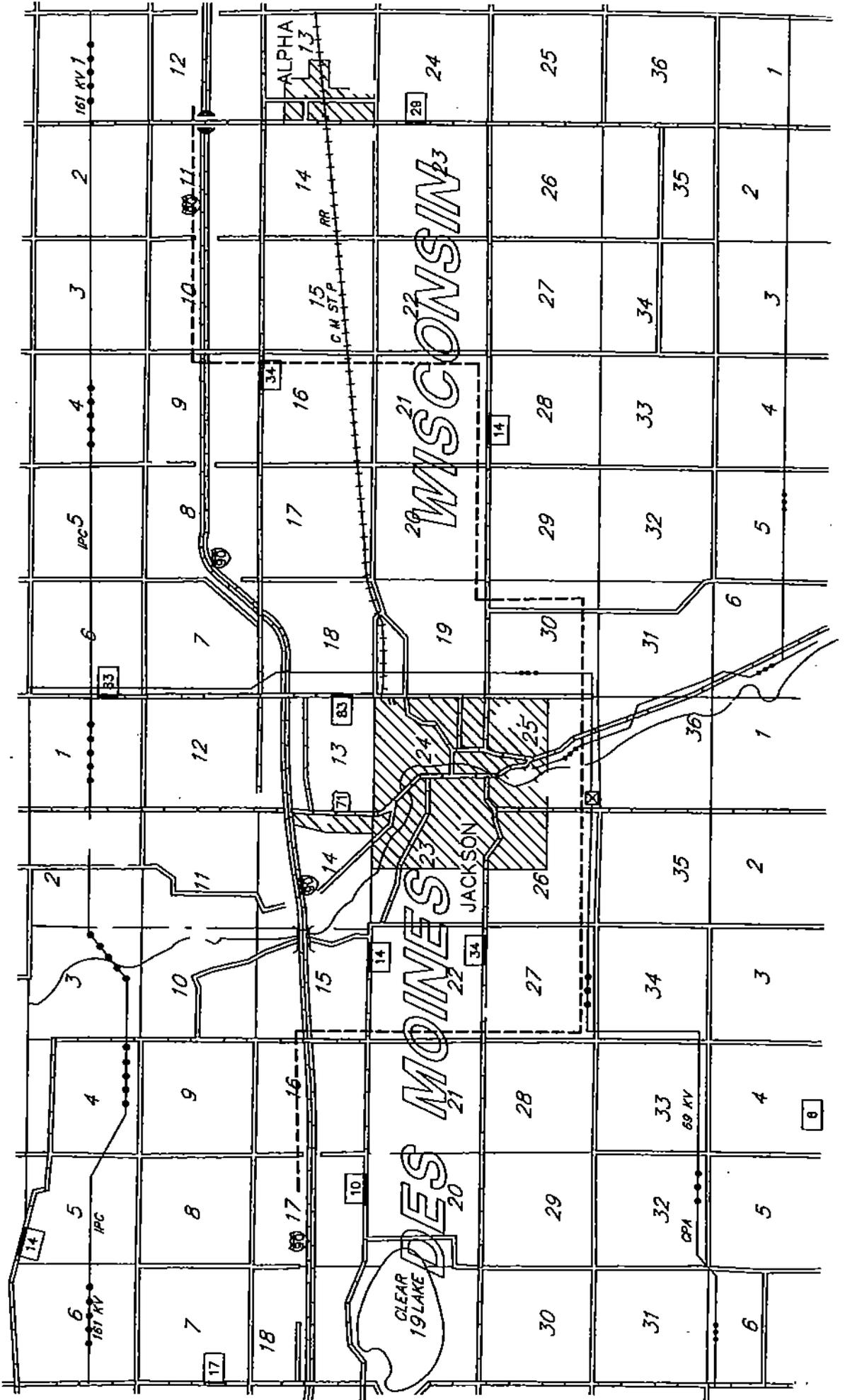
500 1000 1500 Feet

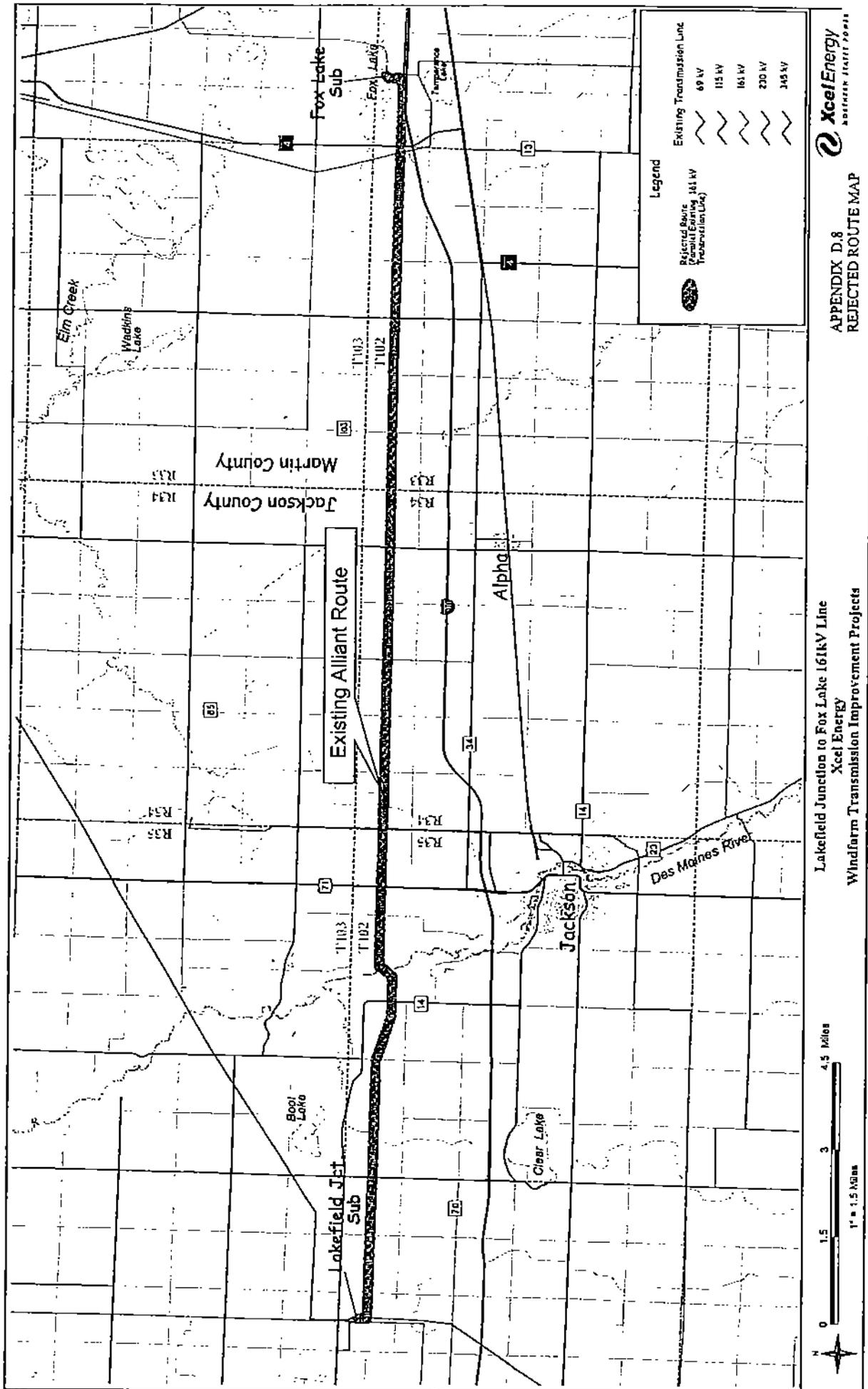


Lakefield Jct. to For Potential R Jacks



---161 kv/69 kv proposed alternate route---



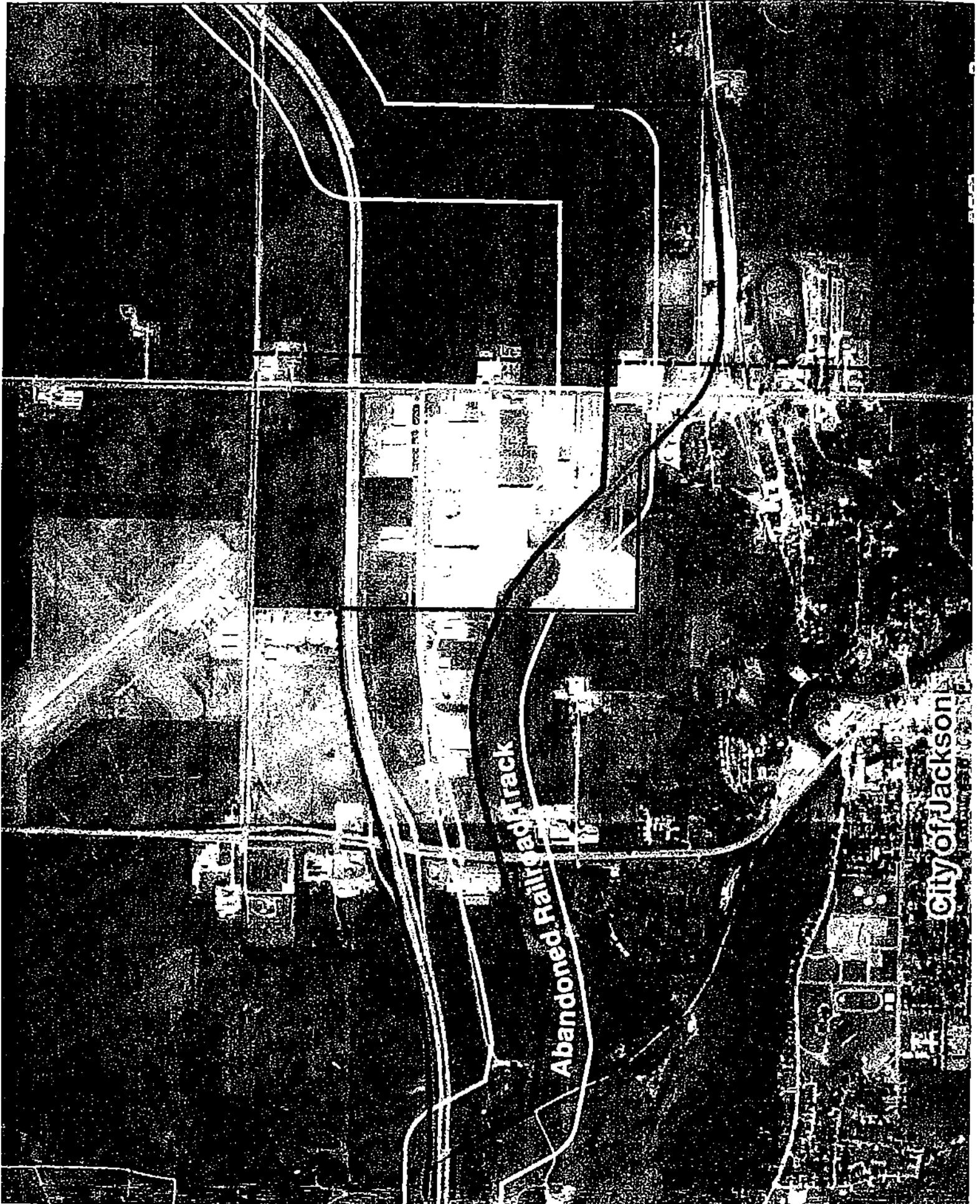


Lakefield Junction to Fox Lake 161kV Line
 Xcel Energy
 Windfarm Transmission Improvement Projects



APPENDIX D.8
 REJECTED ROUTE MAP





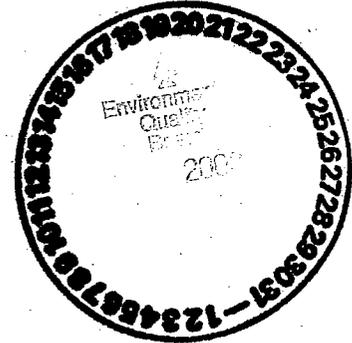
Appendic C
Comment Letters
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Xcel Lakefield Fox Lake 161 kV Transmission Line

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CITY HALL

(507) 847-4410 • Fax (507) 847-5586



November 18, 2003

To: Grant Stevenson: George Johnson

From: Dean Albrecht

Re: Proposed Xcel Lakefield/Fox Lake 161 kV Transmission Line

Enclosed please find seven letters opposed to the proposed 161 kV transmission line by Xcel Energy. These seven entities represent businesses and industries that abut the proposed transmission line.

Grant: Would you please pass these concerns onto Pam Rasmussen also.

Thank you

C-1.1
November 18, 2003



Fort Belmont



FOUNDATION

Jackson County Tourism, Inc. • Jackson County Courthouse • 405 4th Street • Jackson, MN 56143
(507) 847-2240

October 15, 2003

Citizens Advisory Task Force
Environmental Quality Board
Attn: Dean Albrecht
80 West Ashley Street
Jackson, MN 56143

To whom it may concern:

We are opposed to the current route proposed for the 161k transmission line from Lakefield to Fox Lake, which will run on the abandoned railroad bed through Jackson. This line will run adjacent to the Fort Belmont site. This site is a depiction of the life and times of settlers and Indians of the early 1900's and we feel the power lines would be detrimental to the activities that occur at this historic site.

We are in favor of an alternate route proposed by concerned property owners who reside or own property along the current rail bed route proposal. A copy of the alternate route is enclosed.

Please consider routing the line outside of the City of Jackson.

Thank you

Daryl E. Olson
Fort Belmont /JCTI
President

C-1.2
November 18, 2003



KEMNA-ASA AUTO PLAZA

1001 HWY 71 N • P.O. BOX 28 • JACKSON, MN 56143 • (507) 847-3153 • FAX (507) 847-5759

October 16, 2003

Citizens Advisory Task Force
Environmental Quality Board
Attn: Dean Albrecht
80 West Ashley Street
Jackson, MN 56143

Dear Mr. Albrecht:

I am writing you to let you know of my objection to the proposed route of the transmission line across my property line. I would like my opinion shared with both the Citizens Advisory Task Force and the Environmental Quality Board to my full objection to this proposal.

Kemna Asa Auto Plaza runs a very active customer based company and the proposed power line would run right next to my lot where my customers stand and look at new and used automobiles. I am very concerned as to the noise and the potential interruptions this would create.

Also Kemna Asa LLC has just acquired the 35 acres behind the dealership for future development. The proposed line would run through the back yards over private home lots adjacent to the golf course. This line would prevent the future development of this property for homes. I have the proposed lots drafted and this line would stop all development of this with the proposed line.

I would propose that the alternative route be considered as it would redirect the line out of the city limits and not be detrimental to the use of several businesses properties on this proposed route.

Thank you in advance for this consideration.


Todd Asa

Dealer Kemna Asa Auto Plaza

C-1.3

November 18, 2003



CHRYSLER





DuPont Agriculture & Nutrition
Pioneer Supply Management
NAS Production
182 Industrial Parkway
Jackson, MN 56143
(507) 847 5522 Tel
(507) 847 5940 Fax
(800) 582 0107 Wats

October 29, 2003

Citizens Advisory Task Force
Environmental Quality Board
Attn: Dean Albrecht
80 West Ashley Street
Jackson, MN 56143

Re: Proposed Xcel Lakefield / fox Lake 161 kV transmission line

Dear Mr. Albrecht:

Pioneer Hi-bred owns property along or in the vicinity of the route proposed by Xcel for its 161kV transmission line to be constructed between Fox Lake and Lakefield. We oppose that route.

Xcel's proposed route is too close to the Jackson Municipal Airport; runs through prime residential, commercial, and industrial development sites in and near the City of Jackson; would be detrimental to the future development of those sites; could reduce the value of tracts already developed; and would negatively impact the economic health of the City and County.

We support the alternate route proposed by concerned property owners and others, as depicted on the enclosed map. The alternate route is further removed from the airport and does not dissect prime development sites.

Please note to the appropriate officials our strong opposition to Xcel's proposed route and our support for the alternate route.

Sincerely

Earl Aylward
Plant Manager

C-1.4
November 18, 2003



AGCO Corporation
202 Industrial Park Jackson, MN 56143-9448 USA

Telephone 507/847-2690

October 31, 2003

Mr. Dean Albrecht
Citizens Advisory Task Force
Environmental Quality Board
80 West Ashley Street
Jackson, MN 56143

RE: Proposed Excel Lakefield / Fox Lake 161 kV Transmission Line

Dear Mr. Albrecht:

We own property along the route proposed by Xcel for its 161 kV transmission line to be constructed between Fox Lake and Lakefield. We oppose that route.

Xcel's proposed route is too close to the Jackson Municipal Airport; runs through prime residential, commercial, and industrial development sites in and near the City of Jackson; would be detrimental to the future development of those sites; could reduce the value of tracts already developed; and would negatively impact the economic health of the City and County. We believe the Xcel proposed route would have a negative impact on future expansion plans of our company in Jackson. As the largest employer in Jackson County we believe this would have a very negative impact on the community as a whole.

We support the alternate route proposed by concerned property owners and others, as depicted on the enclosed map. The alternate route is further removed from the airport and does not dissect prime development sites.

Please note to the appropriate officials our strong objection to Xcel's proposed route and our support for the alternate route. Thank you.

Sincerely,

AGCO CORPORATION
Jackson Operations

Bill Kaltenberg
Director of Manufacturing Technology and Quality

BK/kdb
Enclosure

C-1.5
November 18, 2003

November 4, 2003

Citizens Advisory Task Force
Environmental Quality Board
Attn: Dean Albrecht
80 West Ashley Street
Jackson, MN 56143

Re: Proposed Xcel Lakefield / Fox Lake 161 kV transmission line

Dear Mr. Albrecht:

We own and occupy property along the route proposed by Xcel for its 161 kV transmission line to be constructed between Lakefield and Fox Lake. We oppose that route.

Xcel's proposed route is too close to the Jackson Municipal Airport, runs along the north side of our property which is adjacent to the commercial and industrial development areas. We feel that this would be detrimental to future development of our property and would negatively impact the economic health of the City and County.

We support the alternate route proposed by concerned property owners and others, as depicted on the enclosed map. The alternate route is further removed from the airport and does not dissect prime development sites.

Please note to the appropriate officials our strong objection to Xcel's proposed route and our support for the alternate route. Thank You.

Sincerely,

Wayne Torgerson
Linda Torgerson

C-1.6
November 18, 2003

FARMERS COOPERATIVE ASSOCIATION
OF
JACKSON, SHERBURN, SPIRIT LAKE AND TRIMONT
105 Jackson Street, PO Box 228
Jackson, Minnesota 56143

October 28, 2003

Citizens Advisory Task Force
Environmental Quality Board
Attn: Dean Albrecht
80 West Ashley Street
Jackson, MN 56143

Re: Proposed Xcel Lakefield / Fox Lake 161 kV transmission line
Alternate Route

Dear Mr. Albrecht:

On behalf of Farmers Cooperative Association of Jackson, Sherburn, Spirit Lake and Trimont ("Coop"), its board of directors' wishes to make known to the Citizens Advisory Task Force and the Environmental Quality Board ("Board") of its objection to the proposed route of the transmission line across the Coop property. As you know, the Coop owns property on both sides of CSAH 23 adjacent to the AGCO plant in Jackson Minnesota. The Coop understands that the proposed transmission line will cross the Coop property on the east side of CSAH 23 and continue west across the road to the Coop property just south of the AGCO property. We were also informed of the possibility that a power substation may be located on or in very close proximity to the Coop property.

The Coop firmly believes that this property will be essential to the growth and development of not only the Coop, but also the City of Jackson and County of Jackson. This property lies along the prime industrial, commercial and residential development area of our community. This property is presently served with infrastructure like sewer, water, and a 10-ton road, which enables development to occur in this area. This area is essential to the business affairs of the Coop. The proposed route is in the area where the Coop has contemplated and is contemplating possible expansion of our cooperative. The location of a power substation and a high performance electrical transmission line would certainly be detrimental to the use of our property and the potential development of this area.

The Coop is opposed to the proposed route. We certainly support the City and the other neighboring landowners in their recommendation that the proposed transmission line not be located along this path. *We support the proposed alternate route identified on the attached map.* We request that we be kept fully informed of any meetings concerning this proposal.

Very truly yours,



Steve Glidden
President of Board of Directors

C-1.7
November 18, 2003

CORESOURCE

A Trustmark Company

*Jackson Claims Center
146 Industrial Park
Jackson, MN 56143-9511
507 847 5740
800 274 6965*

November 11, 2003

Citizens Advisory Task Force
Environmental Quality Board
Attn: Dean Albrecht
80 West Ashley Street
Jackson, MN 56143

Re: Proposed Xcel Lakefield / Fox Lake 161 kV transmission line

Dear Mr. Albrecht:

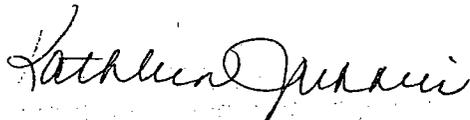
We own property along or in the vicinity of the route proposed by Xcel for its 161 kV transmission line to be constructed between Fox Lake and Lakefield. We oppose that route.

Xcel's proposed route is too close to the Jackson Municipal Airport; runs through prime residential, commercial, and industrial development sites in and near the City of Jackson; would be detrimental to the future development of those sites; could reduce the value of tracts already developed; and would negatively impact the economic health of the City and County.

We support the alternate route proposed by concerned property owners and others, as depicted on the enclosed map. The alternate route is further removed from the airport and does not dissect prime developments sites.

Please note to the appropriate officials our strong objection to Xcel's proposed route and our support for the alternate route. Thank you.

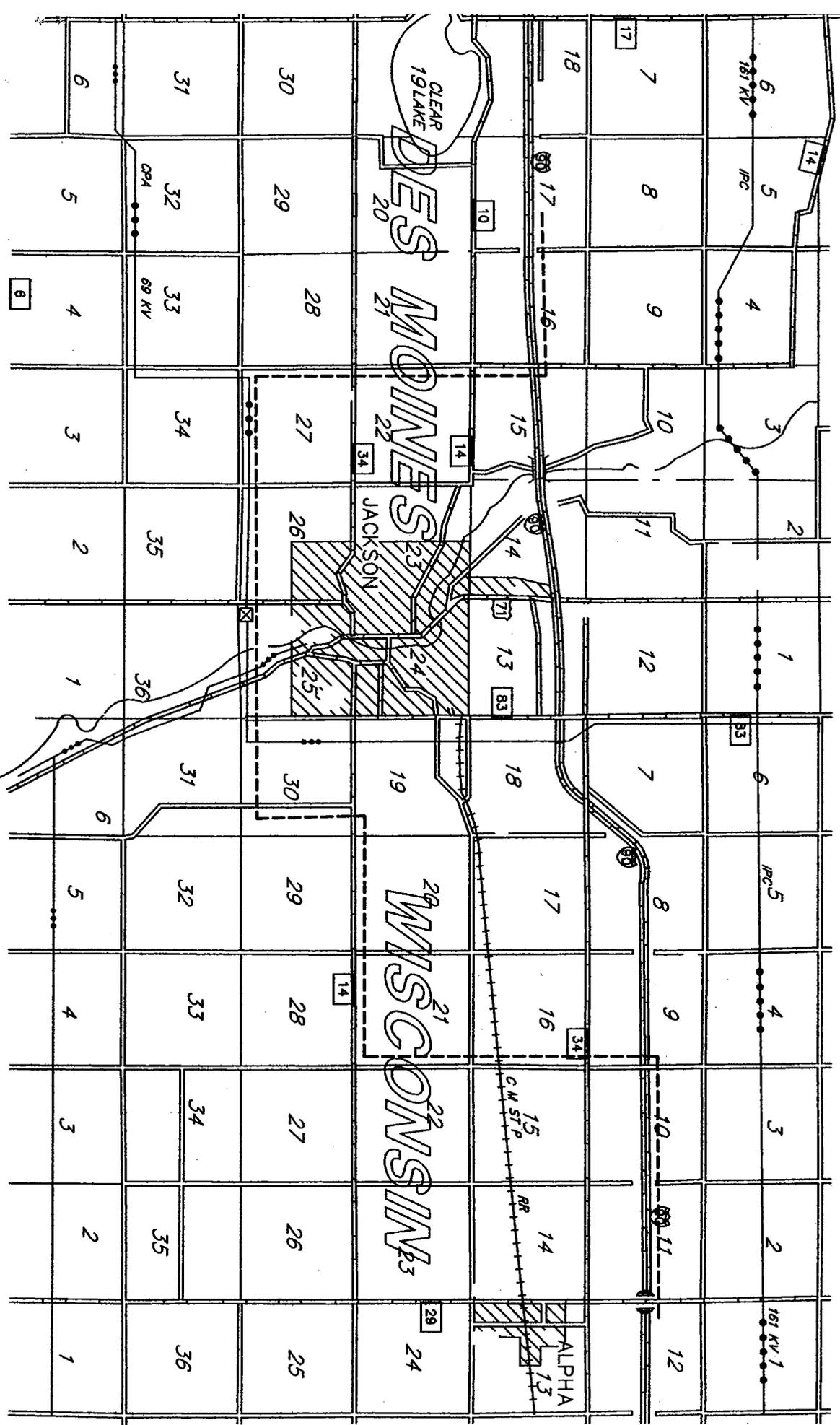
Sincerely,



Kathleen Jurries
Director
CoreSource; Jackson Claim Center

C-1.8
November 18, 2003

161 kv/69 kv proposed alternate route



City of Jackson
Resolution No. 69-1203

**A RESOLUTION OPPOSING THE ROUTE PROPOSED BY XCEL ENERGY FOR
CONSTRUCTION OF A 161 KV TRANSMISSION LINE THROUGH THE CITY**

WHEREAS, the City of Jackson, Minnesota (“City”) promotes and facilitates residential, retail, commercial, and industrial development and revitalization in and about the City; and

WHEREAS, such development is vital to the economic health and vitality of the City;
and

WHEREAS, the Xcel Energy (“Xcel”) proposes to construct a 161 kV transmission line (“New Line”) along a course that transects areas Section Thirteen (13) of Des Moines Township and Section Eighteen (18) of Wisconsin Township, Jackson County, Minnesota, that are “prime” for residential, commercial, and industrial development in and immediately adjacent to the City;
and

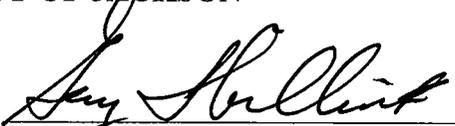
WHEREAS, part of the area through which Xcel proposes to construct the New Line has been designated as a “job opportunity building zone” under Minn. Stat. §469.314; and

WHEREAS, the City Council finds that construction of the New Line along the course proposed by Xcel is likely to impede, restrict, or preclude vital economic development along that course within and immediately adjacent to the City and degrade the economic environment of the City,

Now, therefore, **BE IT RESOLVED** that the City [1] strongly opposes construction of the New Line along the course or route proposed by Xcel, and [2] urges Xcel to consider, propose, and adopt an alternate course or route for the New Line that does not pass easterly and westerly through Section Thirteen (13) of Des Moines Township and Section Eighteen (18) of Wisconsin Township, Jackson County, Minnesota.

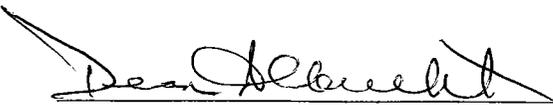
Introduced and unanimously adopted by the City Council of the City of Jackson, Minnesota, meeting in regular session in the Council Chambers of City Hall, 80 West Ashley Street, Jackson, Minnesota, on December 2, 2003.

CITY OF JACKSON

By: 

Gary Willink, Mayor

Attest:


Dean Albrecht, City Administrator

Robert K. Nelson

1446 State Hwy. 4 Sherburn, Mn.
56171
507-764-3288



December 28, 2003

Dear Environmental Quality Board

I am writing to you about the Xcel Energy Lakefield to Fox Lake 161 kv Transmission Line Project. My main concern is from Highway 4 at Sherburn to the Fox Lake plant.

The visual impact would be devastating with the Alliance line already there and another line running along side. Right now the country side by the lake with the plush green golf course is very appealing. A second set of poles would take all of this away.

The land now is set up so my sons can develop the land in a matter they see fit to provide for their families in the years to come. If the line is put on the proposed plan it will greatly devalue the land for any development and a loss of income for my sons and their sons and daughters. Very few people are willing to build anything where there are high voltage power lines. The new line would also create a hazard in another field by having two sets of high voltage poles running in one field. One from Alliance and one from Xcel. Farming around one is bad enough; two sets would be terrible not to mention what it would do to land values. They would drop dramatically.

I feel that from highway 4 to the Fox Lake plant the lines from Xcel and Alliance should be combined into one set and run on the existing path that it is on now. With all the lines on one set of poles the visual impact would probably be better because you would only see one pole instead of two like it is now. Land values would not drop and not affect any future income of anyone's children.

Sincerely,

C-3

December 28, 2003

Jackson, Minnesota
January 6, 2004

The Jackson City Council met in regular session in Council chambers of City Hall at 6:30 P.M. on Tuesday, January 6, 2004, with the meeting called to order by Mayor Gary Willink. On roll call, the following persons were present: Mayor Willink, Alderwoman Phillips, Aldermen Ambrose, Temple, Malenke, Palmer and Willett, City Administrator Albrecht, City Attorney Handevidt, Economic Development Coordinator Willett, Police Chief Schofield and Council Secretary Walker. (A quorum of the Council was present.)

REQUEST BY DOUG DEEL TO TEMPORARILY WAIVE \$10,000 PENALTY FOR NOT DEVELOPING BANK BUILDING PROPERTY

City Attorney Handevidt informed of a meeting he and the City Administrator had late this afternoon with Doug Deel regarding Deel's request for a two-year extension for completing his redevelopment project at the former United Prairie Bank building. Per terms of the Development Agreement, Deel indicated he will pay the \$10,000 penalty for not completing the redevelopment work at this former bank property before the end of 2003. However, he has agreed to pay a penalty of 10% per year (compounded annually) on the \$10,000 amount if the City grants an extension until December 31, 2005 in which to complete this project. According to the City Attorney, Mr. Deel shook the City Administrator's hand and gave his word that he will complete this planned improvement work prior to the end of 2005.

Mayor Willink pointed out that if Mr. Deel is required to pay the \$10,000 penalty at this time, the City has no leverage in the matter and the building could sit empty for a long period of time. Alderwoman Phillips reminded that the City and Mr. Deel previously agreed that this bank property would be developed before the end of 2003, with the \$10,000 penalty provision added for non-compliance. However, she added, Mr. Deel now wants to amend the terms of the Development Agreement. The City Attorney explained that the Last Deck business venture which came along this past year has, according to Deel, required most of his time and finances and diverted him from the bank building project. He added that Deel has acknowledged the 10% as a penalty rate of interest in this market and intends to perform as soon as possible so as not to have to pay this additional amount.

Council member Phillips suggested that some type of incentive arrangement be established to entice Mr. Deel to complete the work before the end of this year instead of 2005. The City Attorney reported that Doug Deel has already done considerable work on the inside of this building. He pointed out that the marble and chandelier are still in the building, and that Deel intends to use these items as part of the planned improvements.

Following a few additional comments and consideration of the matter, **TEMPLE/PALMER** moved to amend the terms of the Development Agreement by temporarily waiving this \$10,000 penalty and giving Doug Deel until December 31, 2005 in which to redevelop the former bank building property. As part of this motion, it was directed that a 10% annual interest rate, compounded annually, be added to the \$10,000 penalty if this work is not completed prior to the end of 2005.

Alderwoman Phillips questioned the extent of taxes to be collected on the bank building property once the work is completed and the agreed-to improvements made. City Attorney Handevidt replied that he is not sure what the taxes will be, but assured this information can be

obtained. Mrs. Phillips noted that at present the City cannot collect the additional tax which this property could have generated for the next two years had the agreed-upon improvements been made. Mayor Willink noted that even if the improvements were made, the market value on this property would not increase until it is re-assessed which is done once provisions of the building permit are met and the building occupied.

Some discussion was next had as to collecting the \$10,000 penalty amount now, placing it in escrow, and then forwarding this amount to Deel--with interest--once the redevelopment work is completed. Attorney Handevitd informed that Mr. Deel intends to use the \$10,000 he could pay in penalty for making improvements during the construction period. He added that the little interest Deel will receive if the penalty is held in escrow is an insignificant factor.

Following further consideration, the motion as offered was put to a vote. All voted in favor, with Alderwoman Phillips voting "nay." Motion **carried**.

CONSENT AGENDA

WILLETT/MALENKE moved and it was unanimously **carried** to approve all consent agenda items, except [5]E.

TRAIL SYSTEM UPDATE

Alderman Willett informed that he recently talked with Erin Reed from Jackson County regarding her work on the phase 1 master plan for the walking/bike trail system scheduled for construction some time this spring. According to Reed, this plan should be finished by the end of the week, after which the City Attorney will then need to obtain necessary easements for the project. Mr. Willett noted that easements must be obtained and required paper work submitted on or before April 15 in order for the City to receive federal funding for this project.

ELECTION OF MAYOR PRO TEM

PALMER/PHILLIPS moved and it was unanimously carried to appoint Ken Temple as Mayor Pro Tem for the 2004 year.

INDUSTRY & COMMUNITY/A WINNING TEAM/JOIN US IN JACKSON - JOBZ PRESENTATION

Due to computer-related problems, Economic Development Coordinator Willett informed that he will not be able to make the JOBZ presentation this evening. Mr. Willett noted that the problem will be corrected and the presentation made at a future meeting.

AIRPORT COMMISSION (CONSENT AGENDA ITEM E)

Council member Phillips inquired into the Airport Commission's primary goal for recommending that the City update the Airport Layout and Master Plans. Administrator Albrecht replied that the City is in need of updating these two Plans, regardless of the fact that engineers have been hired to study the feasibility of extending our airport runway. He added that it makes sense to perform these updates at this time since federal funding will pay 90% of the costs. Mr. Albrecht advised that through these updates, the City will make future plans for a 5,000 foot runway.

PHILLIPS/AMBROSE then moved and it was unanimously carried to approve Consent Agenda item E.

OTHER

Horizons Leadership Kickoff

Economic Development Coordinator Willett invited those interested to attend the Horizon's Leadership informational gathering which will be held between 5:00 and 7:00 P.M. at Minnesota West Community & Technical College on Tuesday, January 13. Refreshments will be served.

Charitable Trust - Harley and Blanche Bargfrede

City Administrator Albrecht circulated a Receipt of Distribution from the local Pheasants Forever Chapter. This Distribution acknowledges receipt of a \$34,000 donation from the Harley and Blanche Bargfrede Charitable Trust to be used for the construction of a new senior citizens center. Per terms of the Distribution, Pheasants Forever shall use the donation for [1] construction, trail amenities or design costs for the Jackson Trails and Parks Project; or [2] promotion of habitat or conservation projects supported by the local Pheasants Forever Chapter if a new senior citizens center project is not committed to by December 1, 2004. It has been determined that these donated funds can be used for benches along the planned bike/walking trail, a gazebo in Festival Park or new bathrooms at Ashley Park.

The City Administrator advised that staff will continue to keep the Council apprised of this matter and any suggested uses for these funds.

Sunset View Development

Council member Phillips reported that people are standing in line waiting to purchase lots in the new Sunset View housing subdivision. She stressed the need for staff to be prepared to move quickly in making these lots available by spring. Phillips added that determination should soon be made as to how infrastructure costs will be funded, and a plan established to make certain all legal time-frame requirements are met. It was noted that the Jackson EDA will be meeting next week with the architect for this development project.

Mrs. Phillips expressed the importance of having everything in place so those who want to purchase these lots and live in town will be able to do so without feeling the need to look elsewhere in order to find suitable, buildable lots.

Economic Development Coordinator Willett informed that I & S Engineers are in the process of performing additional topographic work, and are doing initial design for sewer, water, street, storm drainage and curb and gutter. By the end of the month, I & S will submit final cost figures for the project.

Mayor Willink informed of recent discussions had by the EDA regarding bonding for this project and the possible need to ask Council for a short-term loan--until funds are available from the bonding--once the City is ready to go to bid.

The City Attorney suggested that the City overlay and correlate the engineer's timeline to that of the bonding requirements for the project. This timeline information will be provided to the Council on or before the next meeting.

Council was informed that the City-owned Shearer acreage recently sold for an amount slightly higher than the previous offer.

Water & Sewer Matters

In response to questions from Alderman Ambrose, the City Administrator informed that a water main break was discovered Sunday night on the west side of town. City crews began

repairing this main yesterday. It was reminded that suspension agents were added to the water last summer as part of the water filter rehab. project. These agents have loosened rust formations in the pipes resulting in some discoloration of our water. This problem is being treated and corrected by adding more chlorination to the water. Mr. Albrecht assured that city water is safe to drink since purity testing is being done on a weekly basis. He added that there may still be some water discoloration since hydrants in the area of the main break will be flushed after repairs are made.

Alderman Ambrose noted the change in the pumping levels of our wells per information contained in the monthly Statistical Reports. He questioned whether these higher pumping levels are an indication of future problems. City Administrator Albrecht advised that he will talk to the Water Department Manager about this matter at tomorrow's staff meeting.

North Highway Project

Alderman Palmer noted that milling and overlay road work is being planned along North Highway for this year. In order to save time and costs, he suggested this road work be bid in conjunction with the infrastructure work to be done at the Sunset View Subdivision.

2004 Committee Appointments

Mayor Willink referred to the distributed committee, board and commission appointments for the 2004 year. He suggested council members review these appointments and contact him regarding questions or concerns prior to the next meeting.

ADJOURNMENT

There being no further business, **AMBROSE/TEMPLE** moved and it was unanimously carried that this meeting be adjourned.

Steven L. Walker, Council Secretary



January 8, 2004

Minnesota Environmental Quality Board

We would like to express our concerns about the 161 K line that is proposed to pass near our building site.

Our primary concern is the proposed 1000 ft. or more distance between poles across an Interstate Highway system as a safety issue. Also as we near retirement and the possibility of selling the building site comes up we are wondering if the power line won't effect the loss of value to the building site.

Another possible concern is a mile east of our place where another 1000 ft. span crosses a township road which is a farm to market road and also a school bus route. In that same area you are going to be 40 to 50 feet from a Harvester silo, corn crib and 60 to 70 ft. away from a farrowing and breeding facility for hogs.

We feel that the power line should stay south of the Interstate till just west of the Sherburn interchange, where it could more safely cross I 90 with a 600 ft. pole spacing.

We hope you consider our concerns when making your decision for a permanent route for the power line. Thank you.

Thomas M. Davis
Anita L. Davis
Thomas M. Davis
Anita L. Davis
1161 50th Ave
Sherburn, Mn 56171

SCOTT AND MARY BECKEL

52015 790th St.
Jackson, Mn. 56143
507-847-2873
507-847-2873
beckelmary@hotmail.com

January 8, 2004

Pam Rasmussen
Xcel Energy
1414 W. Hamilton ave
P.O.Box 8
Eau Claire, WI 54702-0008

Dear Pam Rasmussen,

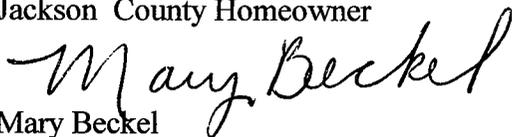
We have attended the last two meetings about the new 161kv transmission line project. As a home owner on the proposed alternative route south of town ,we became very interested in this project.

No one wants to see a major change happen to our daily lives. We surely do not want a large power line over our heads and across our property. The reason we live and work where we do, is for the peaceful, quiet, country setting and lovely view.

We feel that the Excel 161 kv transmission line belongs in the heart of the big power area. Running along I-90 as proposed would be the best answer. This would make the power source closer to Industrial Parkway for future projects and updates.

Sincerely,

Jackson County Homeowner


Mary Beckel

C-6
January 8, 2004

09 January 2004

Dear Environment Quality Board,

This letter is in regards to the Xcel Energy Lakefield to Fox Lake 161 kv transmission line project. My concern is that if the power line runs on the north side of I-90 it will be too close to my house and out buildings.

Approximate measurements are as follows:

House	100 feet
Corn crib/grainary	40 feet
Farrowing, nursery, and breeding barn	50 feet
Harvestor silo	40 feet
Finishing barn	60 feet

With the 161 kv line running this close to the hog facility, I feel it would create problems with breeding, farrowing, nursery growth and finishing growth of the hogs. The 161 kv line will also devalue the property a considerable amount with the appearance, the noise from the lines, and the chance of stray voltage.

If the 161 kv line was run along the south side of I-90, it would be at least 400 feet away from the house and out buildings. The only thing affected would be the farm land where the poles are farmed around.

Sincerely,

Marguerite Burmeister

POA - Joel Burmeister

Marguerite Burmeister

518 Webster

Fairmont, MN 56031

Phone: 507-235-3412

Farm location:

Section 1 @ 2

Jay Township

C-7

January 9, 2004

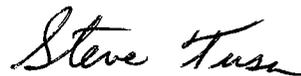
January 14, 2004

Citizen Advisory Task Force Members:

We are here today to propose an alternative route for the Lakefield Junction to Fox Lake 161kV line. The alternative route consists of two changes to the proposed route.

The first change is to run the powerline entirely on the north side of Interstate from Lakefield Junction to Jackson. This change could include 2000 feet of underground cable, which may be necessary to avoid the flight path of the Jackson Municipal Airport. After County 23, normal powerlines could be resumed.

The second change would allow the powerline to continue on the north side of Interstate, until Section 11 of Jay Township, Martin County. Upon reaching the Tom Davis building site, the powerline would cross to the south side of Interstate avoiding both the Davis and Updike building sites. The line would continue on the south side for approximately one mile where it encounters the Richard Zehms building site. Here the line would cross back to the north side thus avoiding the Zehms and Burmeister building sites. The line would continue on the north side to the Fox Lake Junction.



Steve Tusa
59117 760th Street
Alpha, MN 56111
(507) 847-7095

e-mail: sjtusa@netins.net

January 14, 2004

Citizens Advisory Task Force
Environmental Quality Board
80 West Ashley Street
Jackson MN 56143

Dear Board Member:

On behalf of the Ascheman Family, we would like our opposition to the alternate southern route to be noted to both the Citizens Advisory Task Force and the Environmental Quality Board. Please note the attached map that shows this route and residences.

Our family has attended the two most recent meetings at the Best Western and the City Hall in attempt to understand the impact of the 161kV line. We also have been fortunate to obtain a copy of the Excel Energy Application to the Minnesota Environmental Quality Board for a Route Permit-Lakefield Junction-Fox Lake 161 KV Transmission Line.

After attending the meeting and reading the application, we believe that the southern route is not an option due to the additional \$3 million dollars worth of financial cost to Xcel, the amount of trees that would have to be removed, the additional miles involved, and the seventeen residencies housing about 39 individuals that would be affected by that route. Residents, in the majority, that have small businesses and/or independent farm sites on the same location. (Please refer to our opposition letter and petition, including these individuals signatures.)

As noted in the Excel Energy Application to the Minnesota Environmental Quality Board for a Route Permit-Lakefield Junction-Fox Lake 161 KV Transmission Line, pg 31, paragraph 3; "In addition, Xcel Energy had followed the "Prudent avoidance" guidance suggested by most public agencies. This includes using structure designs that minimize magnetic field levels and siting facility in locations with the fewest number of people living nearby." Pam Rasmussen, of Xcel Energy, stated that the two routes that are being reviewed through the abandoned railroad line and the I-90 northern route would only have one residence that would be affected by those routes through Jackson. In addition, there is a proposed 69 kV line that may be entering the Jackson area from another energy company that could work with minimizing the amount of land used and share the placed poles, if the line goes where proposed. In this fashion, there would not be further discussions of additional permits for the needed source of energy.

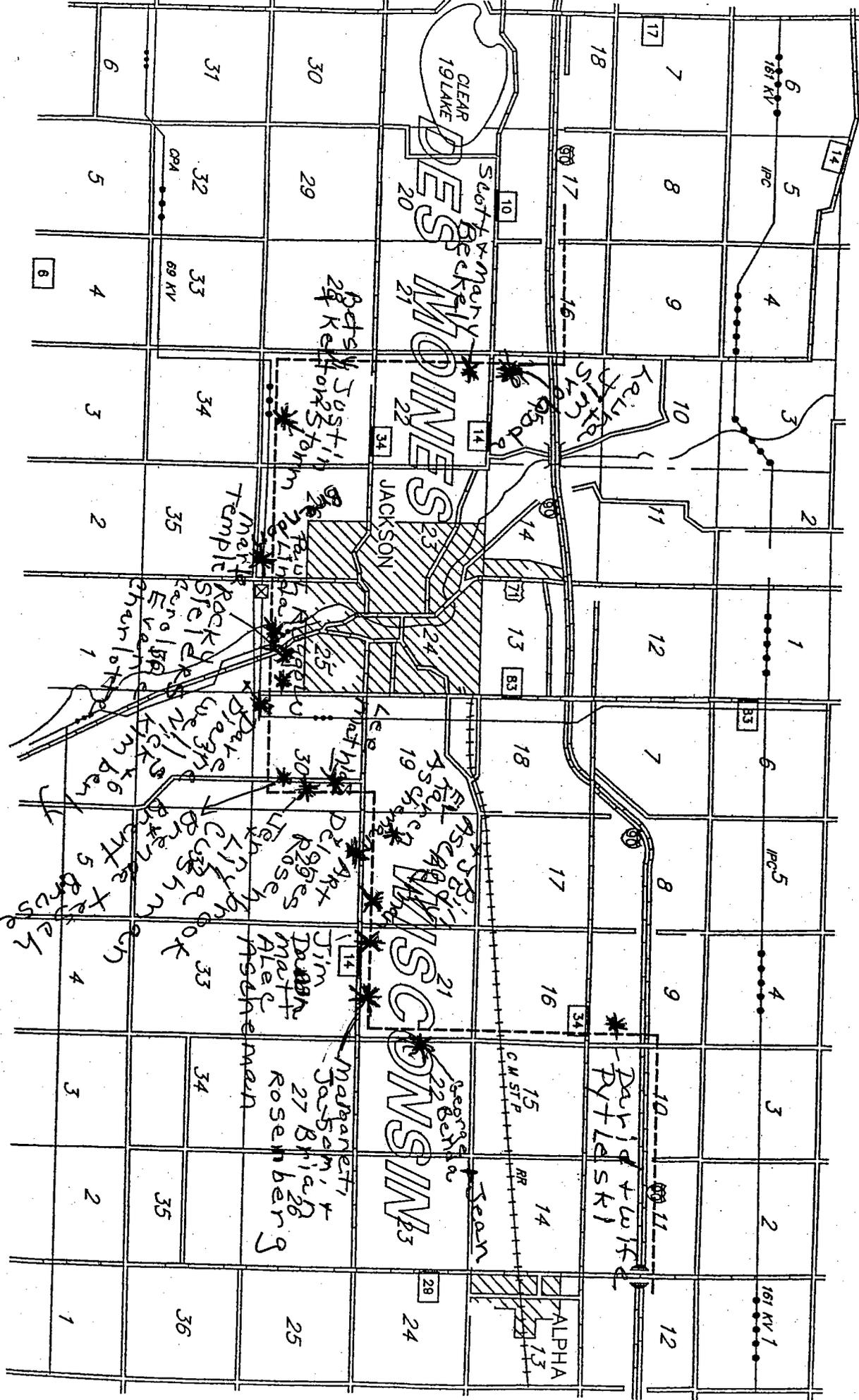
Sincerely,

Jim, Dawn, Matthew and Alec Ascheman
Bill and Judy Ascheman
Everett and Karen Ascheman
Dale, Brenda and Anna Ascheman

C-9
January 14, 2004

Residentially affected but alternate route - power lines

161 kv/69 kv proposed alternate route



January 20, 2004

George E. Johnson
Minnesota Environmental Quality Board
Room 300
658 Cedar Street
ST. PAUL, MN 55155

Attention: George E. Johnson

In regard to concerns pertaining to the proposed Lakefield Junction to Fox Lake Xcel Energy Project, we of the Jackson County Tourism/Fort Belmont Corporation do not want these lines going by or through our Historical Property.

We are in the process of improving this site. At present we have a 1902 Church, a 1873 Farm House, an original Summer Kitchen, and an old Barber Shop being used as a Gift Shop. We also have reproductions of a Sod House, a Black Smith Shop, and a Log House with a stockade around it. This is all part of the History of Jackson County. Plans are made for adding a Grist Mill and a Bailey Tower in the near future.

The electrical lines by and over this property would ruin the appearance of this Historical Site and the original native prairie grasses and wild flowers growing here.

We would like to suggest erecting these lines along Interstate 90 where you already have the open spaces. We know the lines can be raised or lowered by places like Airports. It would not have to go over any private businesses or on any private land owners. It would seem less complicated and more simple. We know you can do some wonderful things.

Please consider our concerns before the proper committees. Thanking you in advance.

Sincerely.



Roland L. Roesner, Representing Fort Belmont
49901 880TH Street
WINDOM, MN 56101
Phone NO. 507-831-1036

Enclosures: 2

C-10
January 20, 2004

Ver

BRIDGE OVER INSTATE

WEST INTERSTATE

EAST INTERSTATE

N

RIVER

Fort Bailey
Lookout
Tower

CHRIST
MILL

DRY
CREEK

SOD
HOUSE

BARBERS
SHOP

STOCKRADE

HOG
HOUSE

PROPERTY
LINE

Peterfield
Church
1902

SUMMER
BUSHES

HOT
HOUSE
1873

SUMMER
KITCHEN

PARK-
VIEW
LOT

CHRIST
SHOP

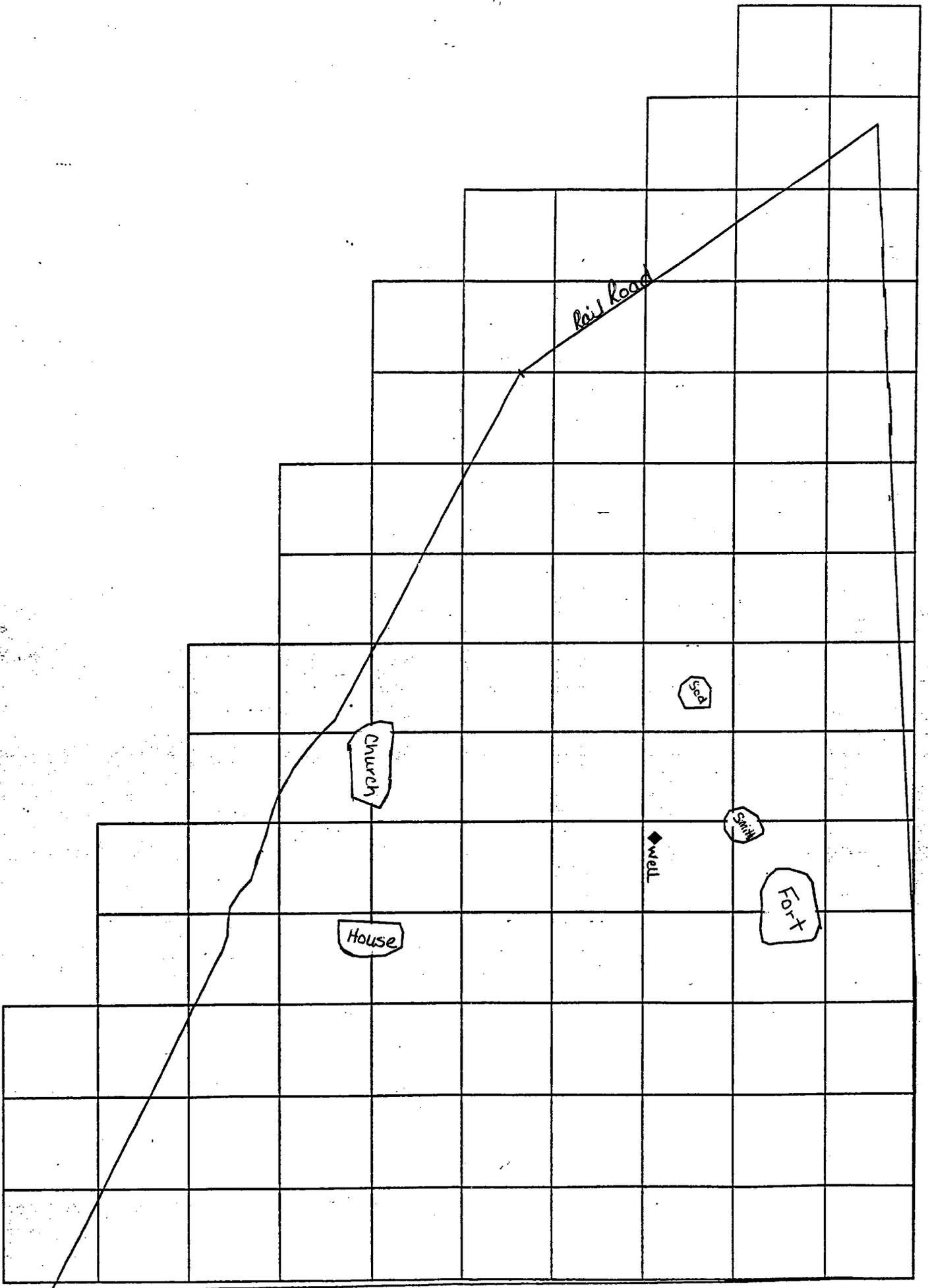
SHOP

PLAN'S
FOR #3004

Fort Bailey
LOOK OUT

TOWER & CHRIST
MILL

PROPERTY
LINE



Rail Road

Church

House

Well

Sed

Sink

Fort

JOIN US FOR A RENDEZVOUS AT FORT BELMONT

IN JACKSON, MN

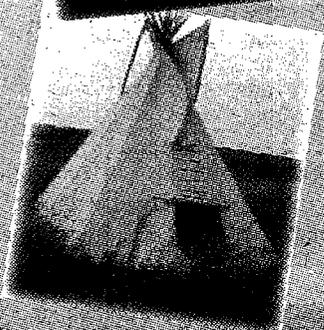
ON

SEPT. 5TH-7TH, 2003

5:00-7:00 PM

Visit an 1873 Farmhouse
100 Year Old Church
Log Cabin & Stockade
Blacksmith Shop & Sod House

**Step into the history of the
Southwest MN Pioneers!**



ROLAND L. ROESNER
49901 880 TH STREET
WINDOM, MN 56101

567-831-1036

George E. Johnson
Minnesota Environmental Quality Board
Room 300
658 Cedar Street
ST. PAUL, MN 55155

CITY OF JACKSON

CITY COUNCIL AGENDA

January 20, 2004

6:30 P.M.

1. Call to Order
2. Roll Call/Determination of Quorum
3. Public Hearing

3a. Bid Letting

4. Open Forum

*The Open Forum is a portion of the Council meeting where a maximum of three persons will be allowed to address the Council on a subject which is not a part of the meeting agenda. Persons wishing to speak must register in person with Steve Walker, Council Secretary, prior to the meeting. Unscheduled guests are limited to two minutes each. The Council may not take action or reply at the time of the statement but will give direction to staff at the end of the meeting regarding investigation of the concerns expressed.

A. SCHEDULED GUESTS

B. UNSCHEDULED GUESTS

5. Consent Agenda

*All items listed under the Consent Agenda are considered to be routine by the City Council and will be enacted by one motion and an affirmative vote of a majority of the members present. There will be no separate discussion of these items unless a Council member so requests, in which event the item(s) will be removed from the Consent Agenda and considered separately by the Council under No. 6 below. These Consent Agenda items will also include motions approved by committees, commissions and boards of the City Council.

6. Council Discussion Items

- A. Update on Xcel's planned 161 kV Transmission Line

7. Other

7a. Closed Session - LELS Union Negotiations

8. ADJOURNMENT

C-11
January 20, 2004

January 20, 2004

Reports/Informational

1. Investment Portfolio – December, 2003
2. Statement of Cash Receipts and Disbursements – December, 2003
3. Statistical Report/Monthly Power Bill
4. Boards, Commissions, Committees List for 2004
5. Memo from K. Rasche & D. Stoner – promotional items
6. Letter from Shannon Sweeney – David Drown Associates – timetable – sale of Bonds for Sunset View Subd.
7. Rates and Charges for 2004
8. Hospital Board minutes from December 2, 2003
9. Letter from Briggs and Morgan - \$7,000,000 Housing Facility Revenue Note, Series 2003
10. Electrical Outage Report for 2003
11. Revolving Loan Fund Quarterly Report – 4th Qtr. 2003
12. Housing Purchase Program Quarterly Report – 4th Qtr. 2003
13. Departments Top Ten Schedule for 2004
14. Petition to rezone Sunset View Subd. & memo from Council Secretary

5. Consent Agenda Items

- A. Approval of Minutes – January 6, 2004
- B. Bills List – January 20, 2004
- C. Application for Temporary On-Sale Liquor License – American Legion
STAFF RECOMMENDATION: Approve the American Legion's application for a one-day Temporary On-Sale Liquor License which will be used at the National Guard Armory on February 28, 2004 for the Deer Hunters Banquet.
- D. Tax for Promotional Items (See Rasche/Stoner memo)
STAFF RECOMMENDATION: Approve request for City to pay \$106.87 which represents 50% of the tax for the promotional items recently ordered by the Chamber and Economic Development Offices. (The remaining \$106.87 tax amount will be paid by the Lodging Association.)
- E. Rates and Charges for 2004
STAFF RECOMMENDATION: Adopt resolution approving the attached schedule of rates and charges for the City of Jackson as of January 20, 2004. (Figures to right in bold are proposed changes.)
- F. Petition to Rezone (See memo from Council Secretary and Petition)
RECOMMENDATION: Accept Petition and set public hearing for the February 3 council meeting to rezone the proposed Sunset View Subd. from Agriculture Residence (AR) to One & Two Family Residence (R-2) District.

CODE OF ETHICS REPORT IS DUE BY JANUARY 30, 2004 – PLEASE TURN IN TO DEAN

JAY TOWNSHIP

449 110TH STREET
SHERBURN, MN 56171



January 27, 2004

Citizens Advisory Task Force
Environmental Quality Board
80 West Ashley Street
Jackson, MN 56143

RE: Lakefield to Fox Lake 161kv Transmission Line Project

Dear EQB and CATF:

Jay Township would like to express concern about a certain road right of way.

Jay Township's 120th Street near the Joel Burmeister farm is the concern. This road is a farm to market and a school bus route that runs parallel with the Interstate 90 fence. This street has a 50-foot right of way (measured from the center line), which will place transmission line poles in or very close to the right of way.

Please take this into consideration when deciding line route.

Sincerely,

Curt Mayo, Chairman
Jay Township Board

SR/ims

Jerry Huse, Supervisor

Steve Roben, Supervisor

C-12

January 27, 2004



1-800-825-7997

P.O. Box 351, Jackson, Minnesota 56143
Phone (507) 847-3664 • Fax (507) 847-5445

4707 East South Frontage Road • Sturtevant, Wisconsin 53177
Phone (262) 886-8888 • Fax (262) 886-8510

e-mail: mail@ericksontrucks.com • www.ericksontrucks.com

01-30-04

RE: Proposed Location of Excel Energy power transmission line / North side of I-90

Dear Citizen Advisory Task Force Members,

This letter is to inform you of our opposition to the routing of an Excel Energy transmission line through our property. We are currently visiting family and friends out of state and will be unable to attend the upcoming meeting to defend our position. We ask that you read this letter during your next meeting so that our concerns may be realized.

We have definite future plans of developing the portion of our property that fronts the north side of Interstate 90. Most recently, discussions with representatives from Fort Belmont have entertained the possibility of expanding their current facility to include our property to the north. The installation of the proposed power transmission line will vastly devalue this property and leave it far less desirable for any type of development.

If you are unaware, our home is also located on this property and in close proximity to this proposed route. We adamantly oppose this location as a possible route and feel that a more suitable location can be found.

Leland & Marjorie Erickson
79655 530th Avenue
Jackson, Minnesota

Cc: Randy Ranquest Attorney At Law

C-13
January 30, 2004



CITY HALL

(507) 847-4410 • FAX (507) 847-5586

February 5, 2004

Mr. Larry B. Hartman
Minnesota Environmental Quality Board
658 Cedar St.
Room 300
St. Paul, MN. 55155

Dear Larry:

The City of Jackson would like to formally withdraw the alternate route that was proposed to Grant Stevenson and George Johnson on November 18, 2003. This alternate route was also indorsed by seven businesses and industries located within the City of Jackson. This route was west, south and east of the corporate limits of Jackson.

If you have any questions or need further information, please do not hesitate to contact me.

Sincerely,

Dean Albrecht
City Administrator
City of Jackson, MN.

C-14.1
February 5, 2004



CITY HALL

(507) 847-4410 • Fax (507) 847-5586

February 5, 2004



Mr. Larry B. Hartman
Minnesota Environmental Quality Board
658 Cedar St.
Room 300
St. Paul, MN. 55155

Dear Larry:

On behalf of the City Council of the City of Jackson, I hereby submit to you, Resolution No. 17-204 adopted by the Council on Tuesday, February 2, 2004 to be included with the application and draft report of the proposed Xcel Energy transmission line between Lakefield Junction and Fox Lake Substation. EQB Docket No. 03-64-XCEL.

Also included with the resolution is a map of the proposed route adopted by the Council shown in red through the City of Jackson.

If you have any questions or need further information, please do not hesitate to contact me.

Sincerely,

Dean Albrecht
City Administrator
City of Jackson, MN.

C-14.2

February 5, 2004

City of Jackson
Resolution No. 17-204

**A RESOLUTION OF SUPPORT FOR XCEL ENERGY'S CONSTRUCTION OF A 161
KV TRANSMISSION LINE THROUGH THE CITY ALONG A FAVORED ROUTE**

WHEREAS, the City of Jackson, Minnesota ("City") promotes and facilitates residential, retail, commercial, and industrial development and revitalization in and about the City; and

WHEREAS, such development is vital to the economic health and vitality of the City; and

WHEREAS, the Xcel Energy ("Xcel") proposes to construct a 161 kV transmission line through the City ("New Line"); and

WHEREAS, the City Council finds that construction of the New Line along the line originally proposed by Xcel or along certain alternative, proposed routes is likely to impede, restrict, or preclude development that is vital to the City or to interfere with airport operations,

Now, therefore, **BE IT RESOLVED** as follows:

1. The City strongly opposes construction of the New Line along the course or route originally proposed by Xcel.
2. Of the alternative routes being considered by the Citizens Advisory Board, the City favors the route through the City described as follows ("Preferred Route"):

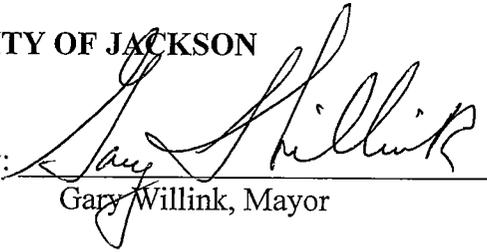
From the West, running along Interstate Highway I-90 to its point of intersection with the north-south quarter line in Section 13, Des Moines Township, thence South along the quarter line to the south line of the AGCO tract upon which its test tract is located ("AGCO Tract"); thence running Easterly along the south line of the AGCO Tract, extended, to the (former) railroad right-of-way; thence Southeasterly and Easterly along the railroad right-of-way to the north-south quarter line in Section 18, Wisconsin Township; and thence North along said quarter line to Interstate Highway I-90;

because the Preferred Route [a] is preferred by AGCO, [b] removes the New Line from the vicinity of the airport and thereby avoids potential air space and communications problems related to air traffic, [c] follows the established corridor of the existing railroad right-of-way rather than transecting prime development land in the SE $\frac{1}{4}$ SE $\frac{1}{4}$ of said Section 18 and, therefore, is least likely to impede, restrict, or preclude economic development along the course of the New Line, development that is vital to the City, and [d] brings the New Line within close proximity to – and thereby facilitates economical interconnections with – the City's substation.

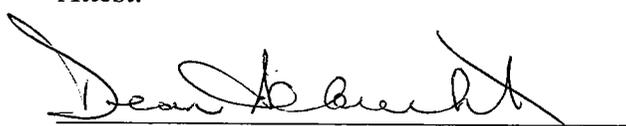
Introduced and unanimously adopted by the City Council of the City of Jackson, Minnesota, meeting in regular session in the Council Chambers of City Hall, 80 West Ashley Street, Jackson, Minnesota, on February 2, 2004.

CITY OF JACKSON

By:


Gary Willink, Mayor

Attest:


Dean Albrecht, City Administrator

C-14.3
February 5, 2004



February 5, 2004

Mr. Larry B. Hartman
Minnesota Environmental Quality Board
658 Cedar St.
Room 300
St. Paul, MN. 55155

Dear Larry:

Steve Walker and I went and viewed the proposed alternate route as outlined in Resolution form by the City Council noted the following products near the railroad ROW.

West of County Road 23

- 1) Storage bins north of the ROW and bulk propane tank – at least 150' from tracks.

East of County Road 23

- 2) North side of ROW is bulk propane storage and Farmers Co-op maintenance Building
- 3) South of ROW is anhydrous ammonia storage and farm tanks for anhydrous ammonia.

I have marked each location of the map enclosed.

If you have any questions or need further information, please do not hesitate to contact me.

Sincerely,

Dean Albrecht
City Administrator
City of Jackson, MN.

C-14.4
February 5, 2004





FARMERS COOPERATIVE ASSOCIATION

105 Jackson Street
P.O. Box 228
Jackson, MN 56143

Phone (800) 864-3847 or (507) 847-4160 • Fax (507) 847-2521 • E-mail: fca@rconnect.com

February 13, 2004

Mr. Robert A Schroeder, Chair
Minnesota Environmental Quality Board
658 Cedar Street, Room 300
St. Paul, MN 55155



Re: EQB DOCKET NO. 03-64-TR-XCEL

Dear Mr. Schroeder:

I am writing on behalf of the Board of Directors of Farmers Cooperative Association regarding the above referenced application filed by XCEL Energy for the construction of a 161kv transmission line from Lakefield Station to Fox Lake.

We agree with the Citizen Advisory Task Force's finding that first consideration should be given to re-evaluating the routing along the existing Alliant 161kv line right-of-way and constructing a double circuit 161kv line on a single steel pole structure. Virtually all of the landowners along this route would agree that the single steel pole structures would be a great improvement over the existing double wood pole structures.

XCEL and Alliant have indicated the following:

1. This existing line cannot be shut down for the time needed to construct the new line.
2. The cost of a temporary line would be too high when added to the construction costs of the new line.
3. The double circuit configuration could present a reliability factor if both lines go down at the same time due to storms, etc.

Regarding the cost of a temporary line, it would seem reasonable that Alliant needs to plan for a rebuild of the existing 161kv line. This line is about 50 years old and of wood pole construction. If this cost is applied to the cost of constructing the temporary line and removal of the old double wood pole structures and line, XCEL could then build the proposed new line in its place with the double circuit capability.

C-15
February 13, 2004

As to the reliability of the double circuit type of construction, the single steel towers are much stronger than the current double wood pole structures. Someone from XCEL even stated they have never had a structural failure of a steel pole of this type. Portions of the proposed new 161kv line will be of double circuit design already so the reliability argument seems to be contradictory.

If Alliant and XCEL would work together on this more than they seem to be willing to do, the objective of having two circuits connecting the Lakefield Junction and Fox Lake could be achieved and be in the best interests of all parties.

If Alliant and XCEL will not agree on the double circuit single pole construction, Farmers Cooperative Association's preference on routing a completely separate 161kv line would be to follow the I-90 right of way straight through Jackson. If crossing County Road 23 can be accommodated at the 50' height restriction of the present airport runway, this route is easily the least problematic of any through Jackson. All the other proposed routes just shift the restriction and inconveniences from one set of landowners and businesses to others.

Thank you for your consideration.

Sincerely,
FARMERS COOPERATIVE ASSOCIATION

A handwritten signature in cursive script that reads "Dennis Hunwardsen".

Dennis Hunwardsen
General Manager

Mar. 30, 2004

Robert A. Schroeder, Chr.
Environmental Quality Board
Governor's Office
130 State Capitol
75 Rev. Dr. Martin Luther King Jr., Blvd
St. Paul, MN 55155



Dear Sir;

An issue has surfaced at the Citizen's Advisory Task Force for the 161 k.v.a. transmission line project in southwest Mn. consisting of transmission from Lakefield substation to Fox Lake substation at Shurbern Mn. The concern created is the practice of right of way procurement. Excel Energy has stated that they will be negotiating easements at 50% of real estate value. The federal and state governments have provided grants, tax benefits, etc., to energy companies to advance the renewable energy infrastructure including transmission. A 50% offer to property owners is simply unacceptable when the energy companies are the recipients of said grants, etc.. A land owner can lease their property to a wind developer and receive a substantial payment for 20 years. The transmission line will be there for 40 years minimum (in the Cert. of Need) operating with a profit schedule based on rate x consumption = revenue. Their profits will increase in the future because of demand and inflation.

Why then, is the landowners, who will be hosting a transmission line only being offered 50% of the present real estate value and only a one time payment? It appears to us, that there must be some way of receiving a revenue payment each and every year that the landowner is host to a transmission line. Hosting a transmission line can be detrimental to the future valuation of the property. A yearly payment will offset this circumstance to some degree.

Therefore, we feel that this circumstance and our thoughts should be presented to this committee. We thank you for your consideration to our concerns.

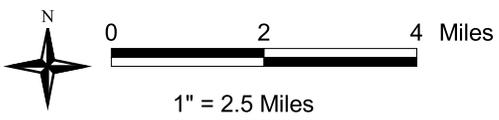
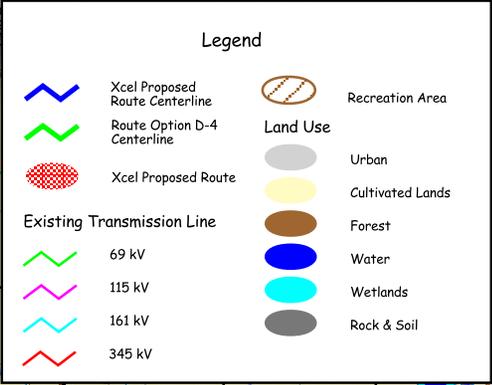
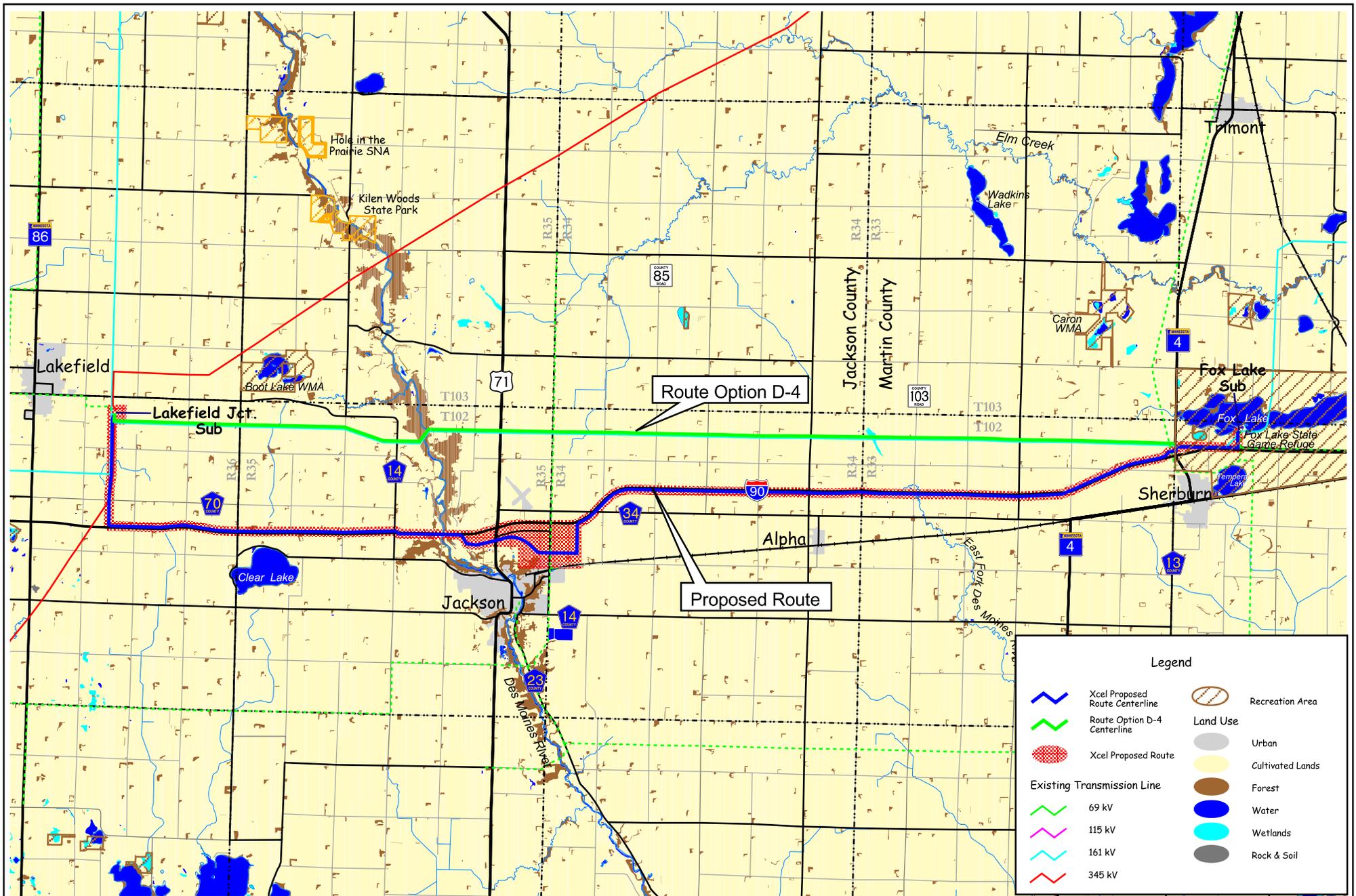
Sincerely,

John H. Nauerth III

John Nauerth III

42549 800 ST.

LAKEFIELD, MN. 56150

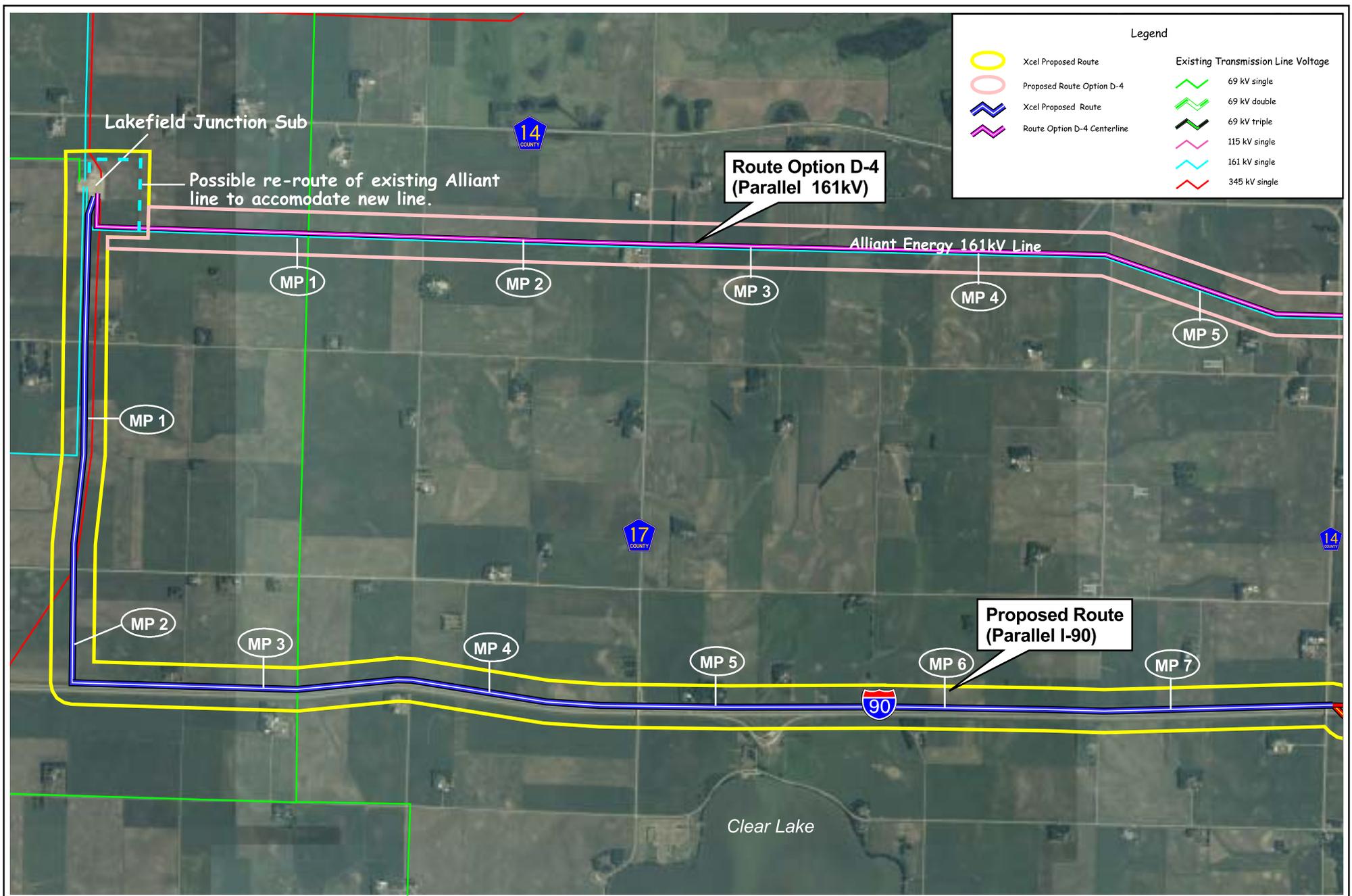


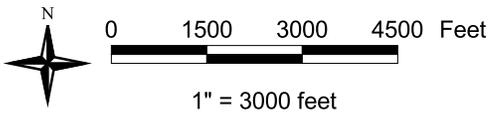
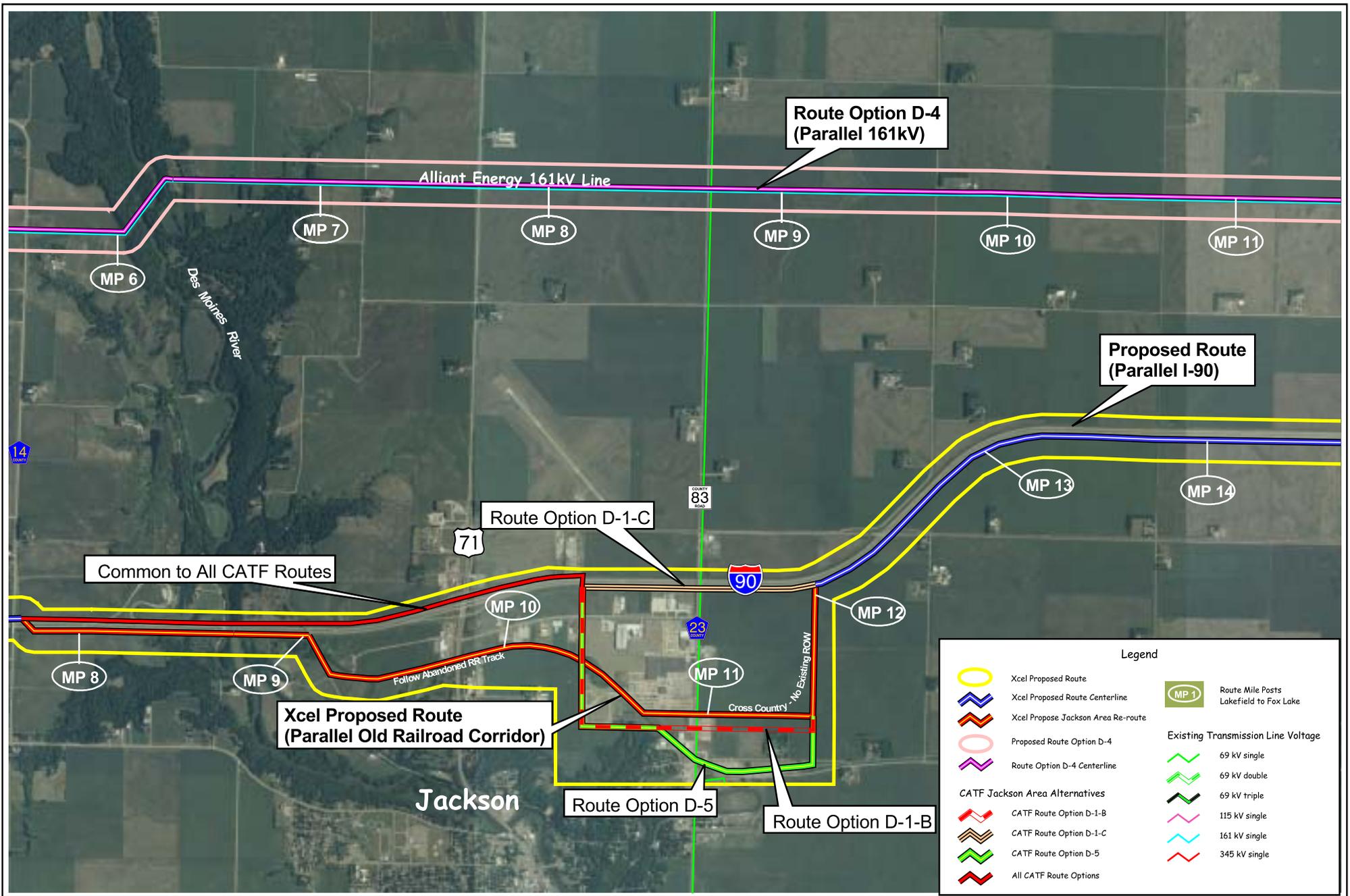
Lakefield Junction to Fox Lake 161kV Line
Xcel Energy
Windfarm Transmission Improvement Projects

APPENDIX D.1
ROUTE MAP



March 2004

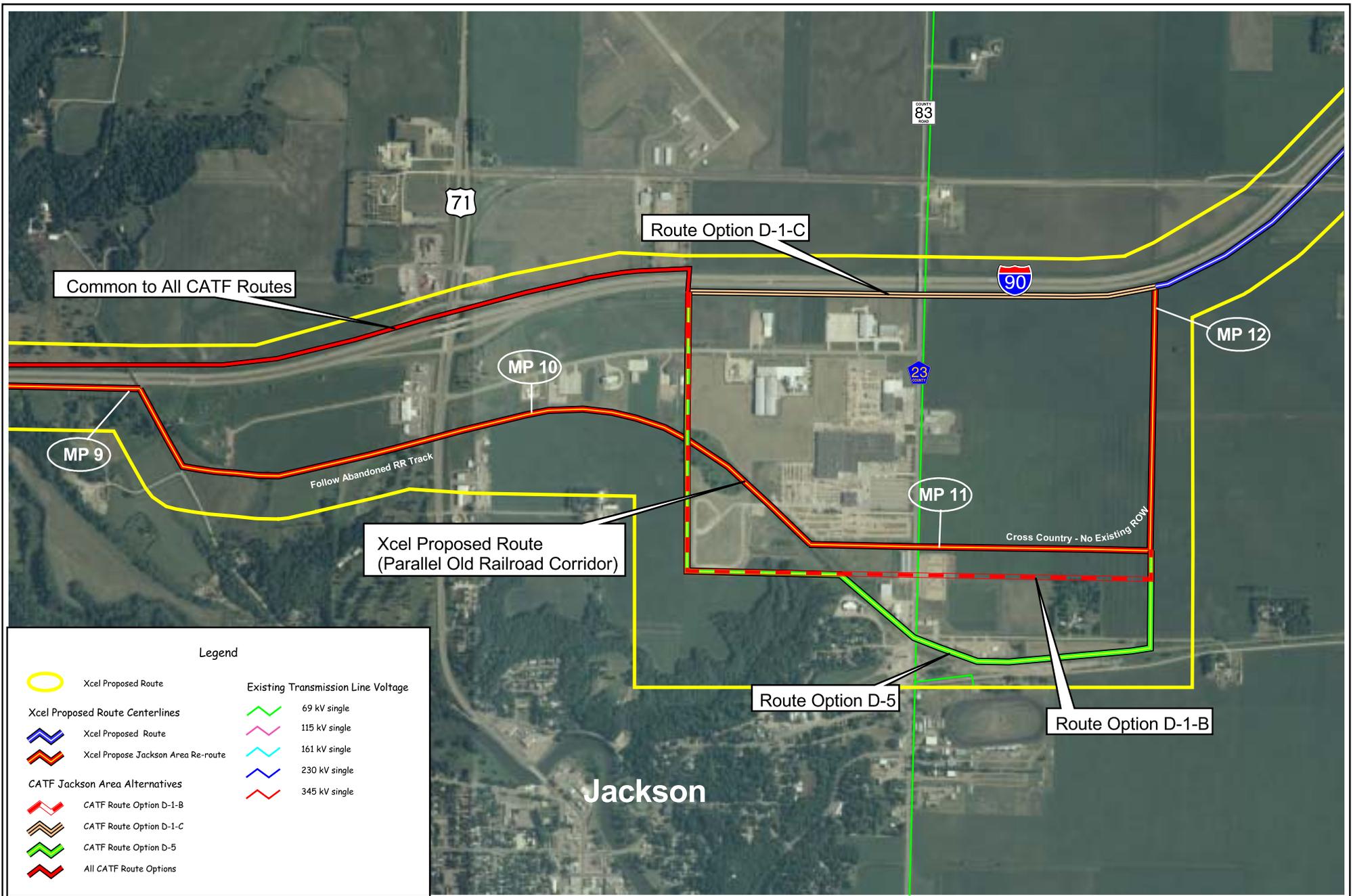




Lakefield Junction to Fox Lake 161kV Line
Xcel Energy
Windfarm Transmission Improvement Projects

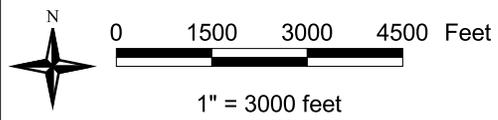
APPENDIX D.3
 DETAILED ROUTE MAP





Legend

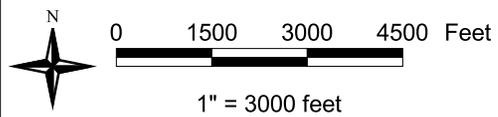
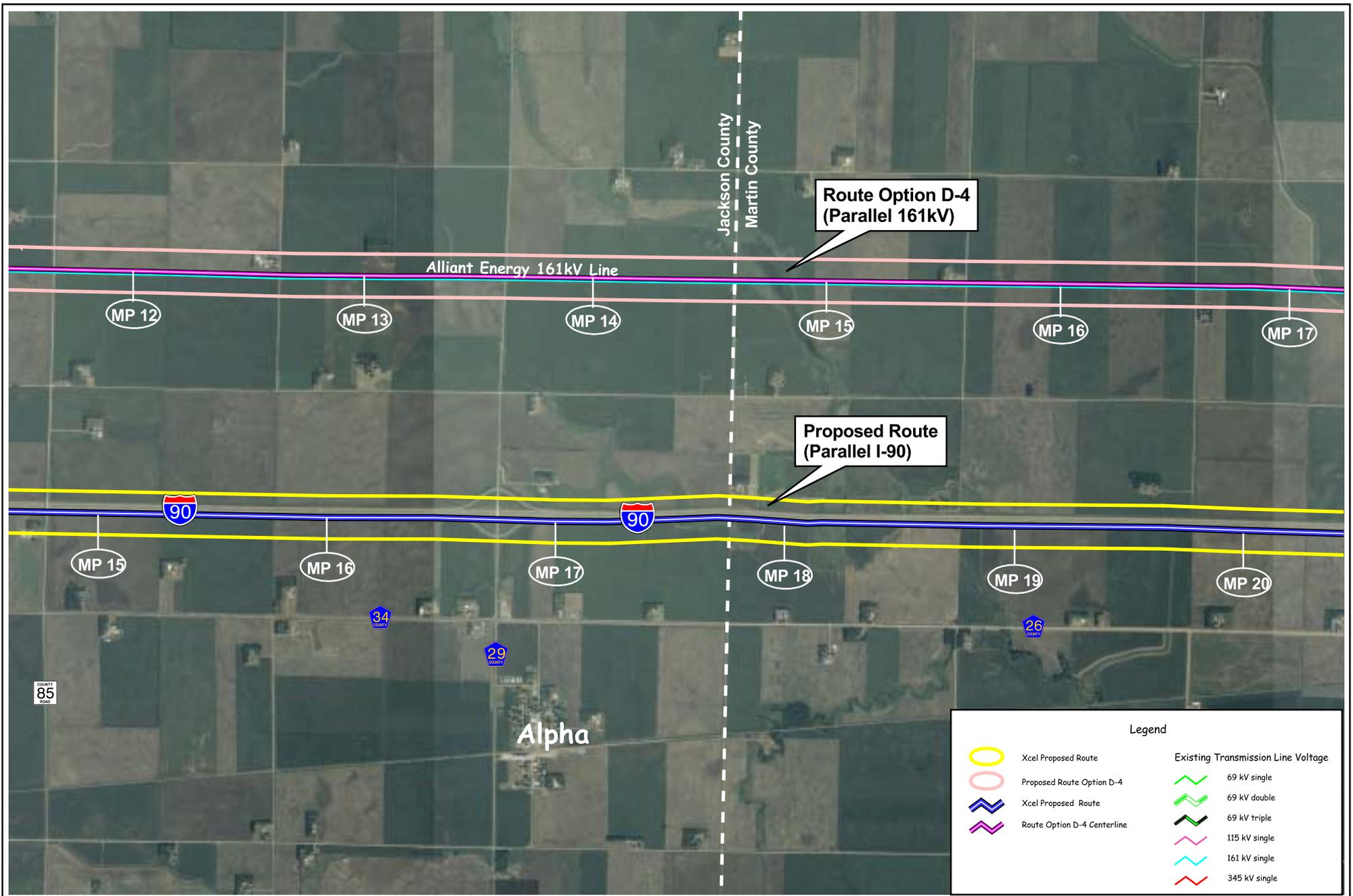
	Xcel Proposed Route		Existing Transmission Line Voltage
	Xcel Proposed Route Centerlines		69 kV single
	Xcel Propose Jackson Area Re-route		115 kV single
	CATF Jackson Area Alternatives		161 kV single
	CATF Route Option D-1-B		230 kV single
	CATF Route Option D-1-C		345 kV single
	CATF Route Option D-5		
	All CATF Route Options		



**Lakefield Junction to Fox Lake 161kV Line
Xcel Energy
Windfarm Transmission Improvement Projects**

APPENDIX D.3a
DETAILED ROUTE MAP
JACKSON AREA



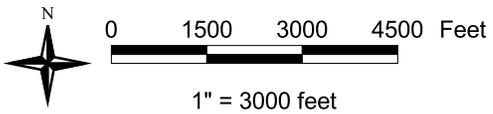
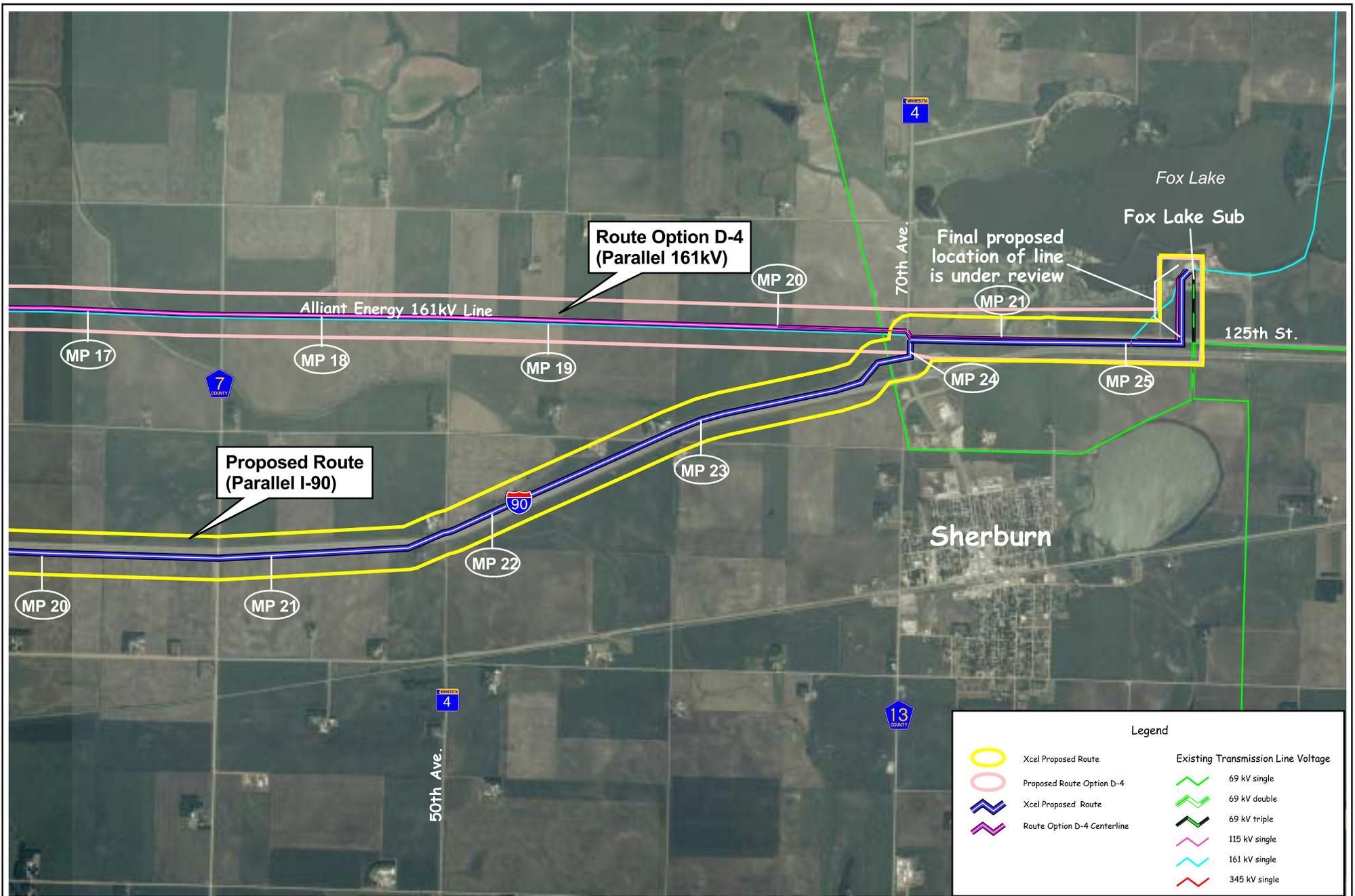


**Lakefield Junction to Fox Lake 161kV Line
Xcel Energy
Windfarm Transmission Improvement Projects**

APPENDIX D.4
DETAILED ROUTE MAP



March 2004

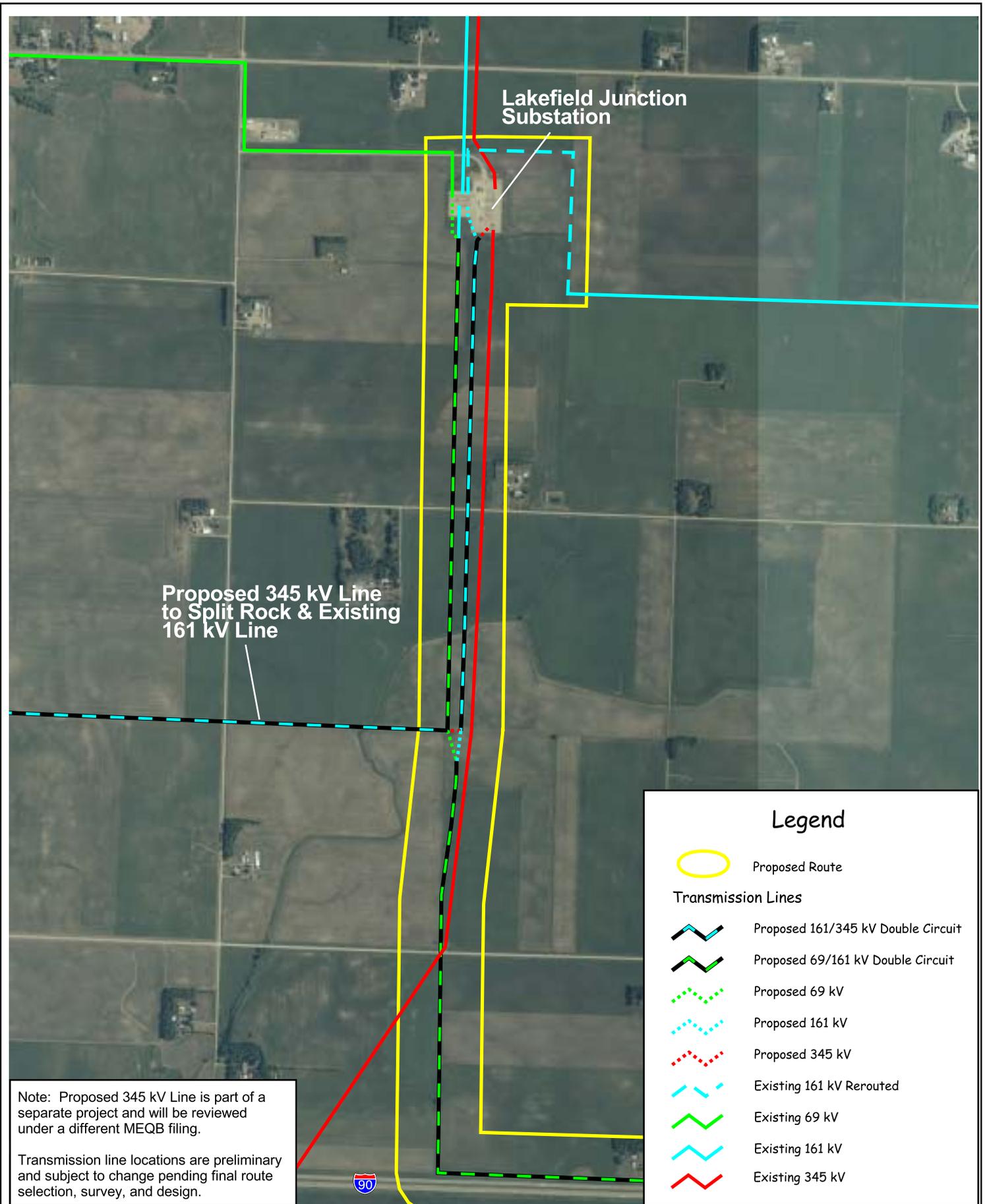


**Lakefield Junction to Fox Lake 161kV Line
Xcel Energy
Windfarm Transmission Improvement Projects**

APPENDIX D.5
DETAILED ROUTE MAP



March 2004



Lakefield Junction Substation

Proposed 345 kV Line to Split Rock & Existing 161 kV Line

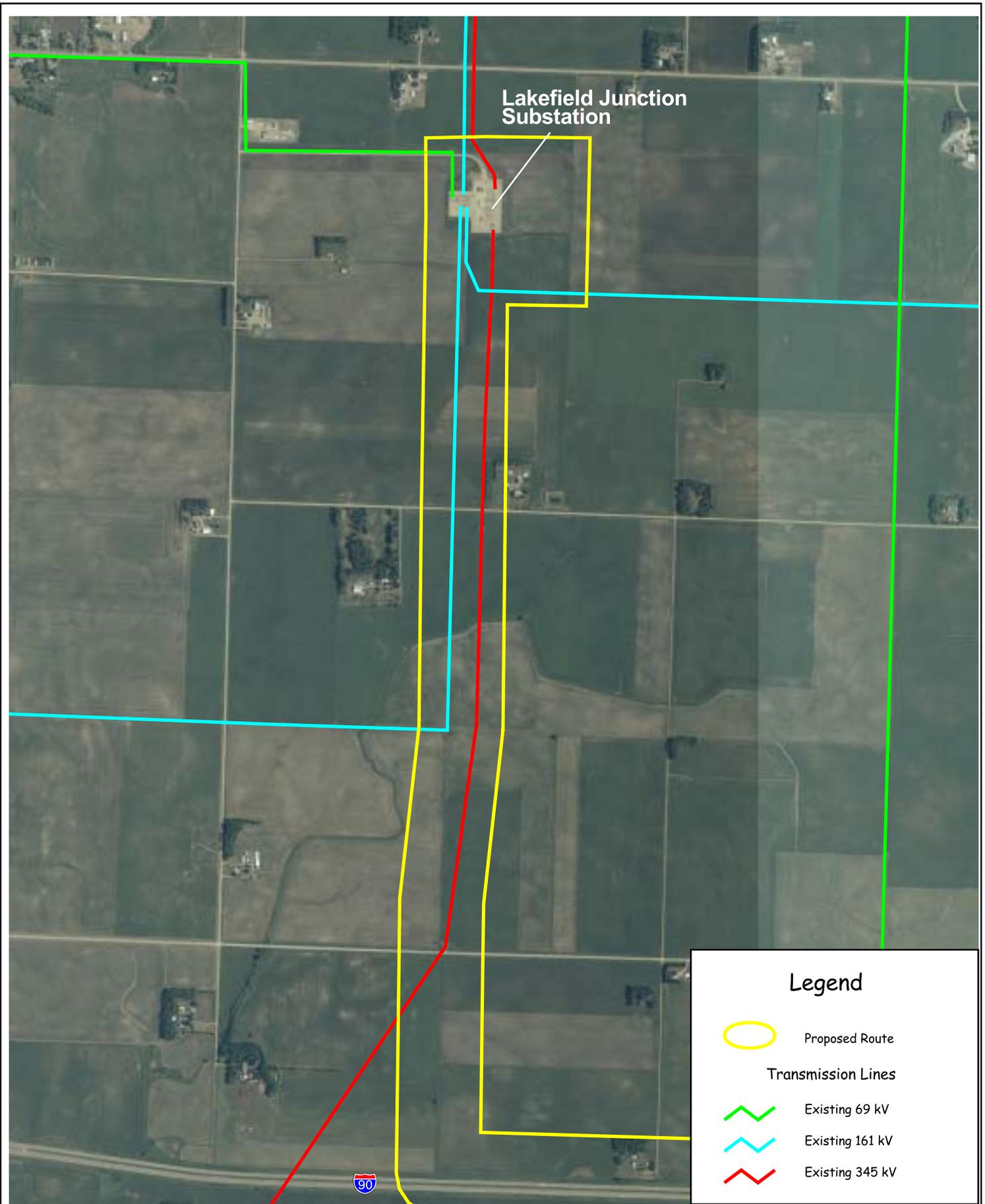
Legend

-  Proposed Route
- Transmission Lines**
-  Proposed 161/345 kV Double Circuit
-  Proposed 69/161 kV Double Circuit
-  Proposed 69 kV
-  Proposed 161 kV
-  Proposed 345 kV
-  Existing 161 kV Rerouted
-  Existing 69 kV
-  Existing 161 kV
-  Existing 345 kV

Note: Proposed 345 kV Line is part of a separate project and will be reviewed under a different MEQB filing.

Transmission line locations are preliminary and subject to change pending final route selection, survey, and design.

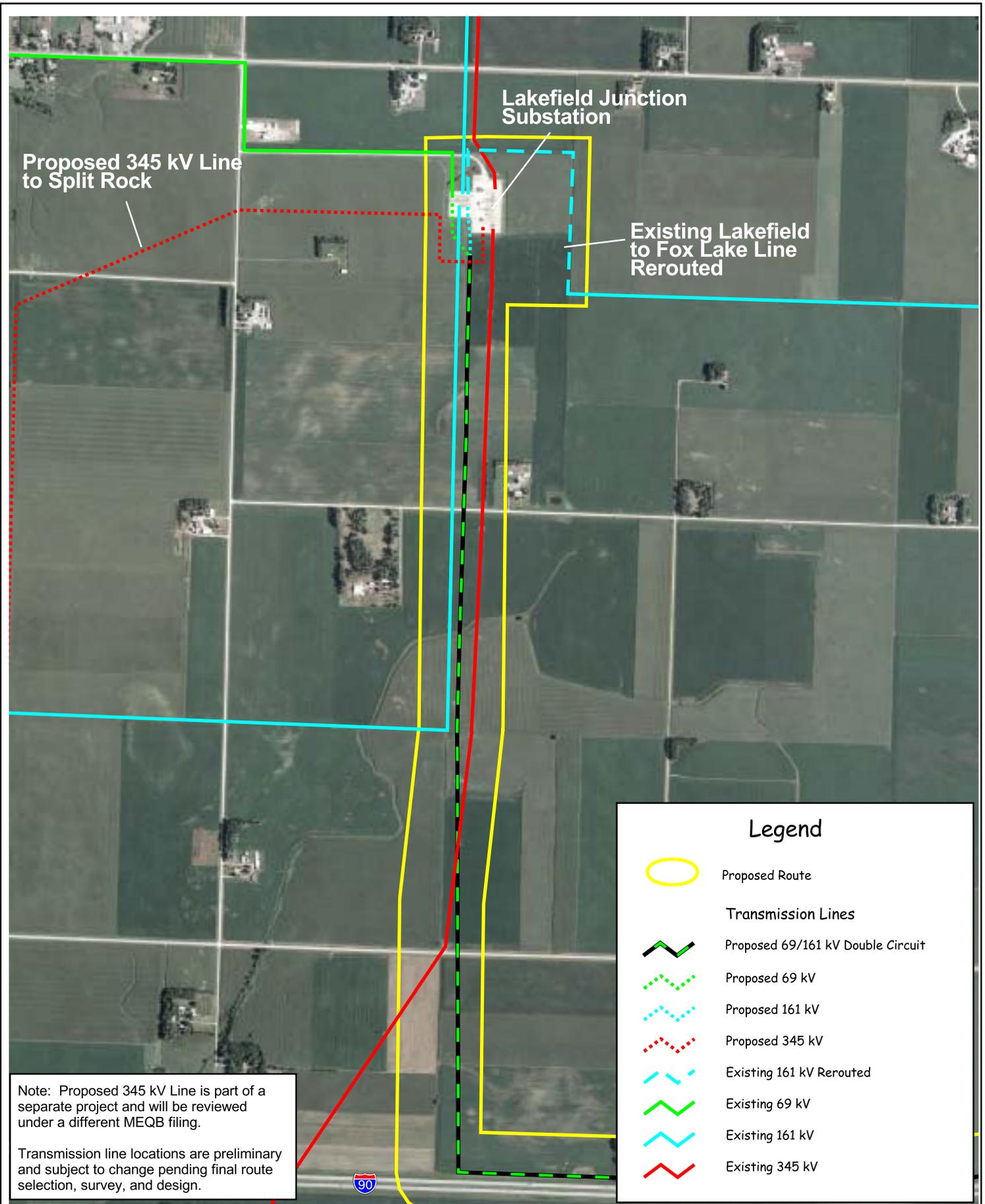




Lakefield Junction Substation

Legend

-  Proposed Route
- Transmission Lines**
-  Existing 69 kV
-  Existing 161 kV
-  Existing 345 kV



Proposed 345 kV Line to Split Rock

Lakefield Junction Substation

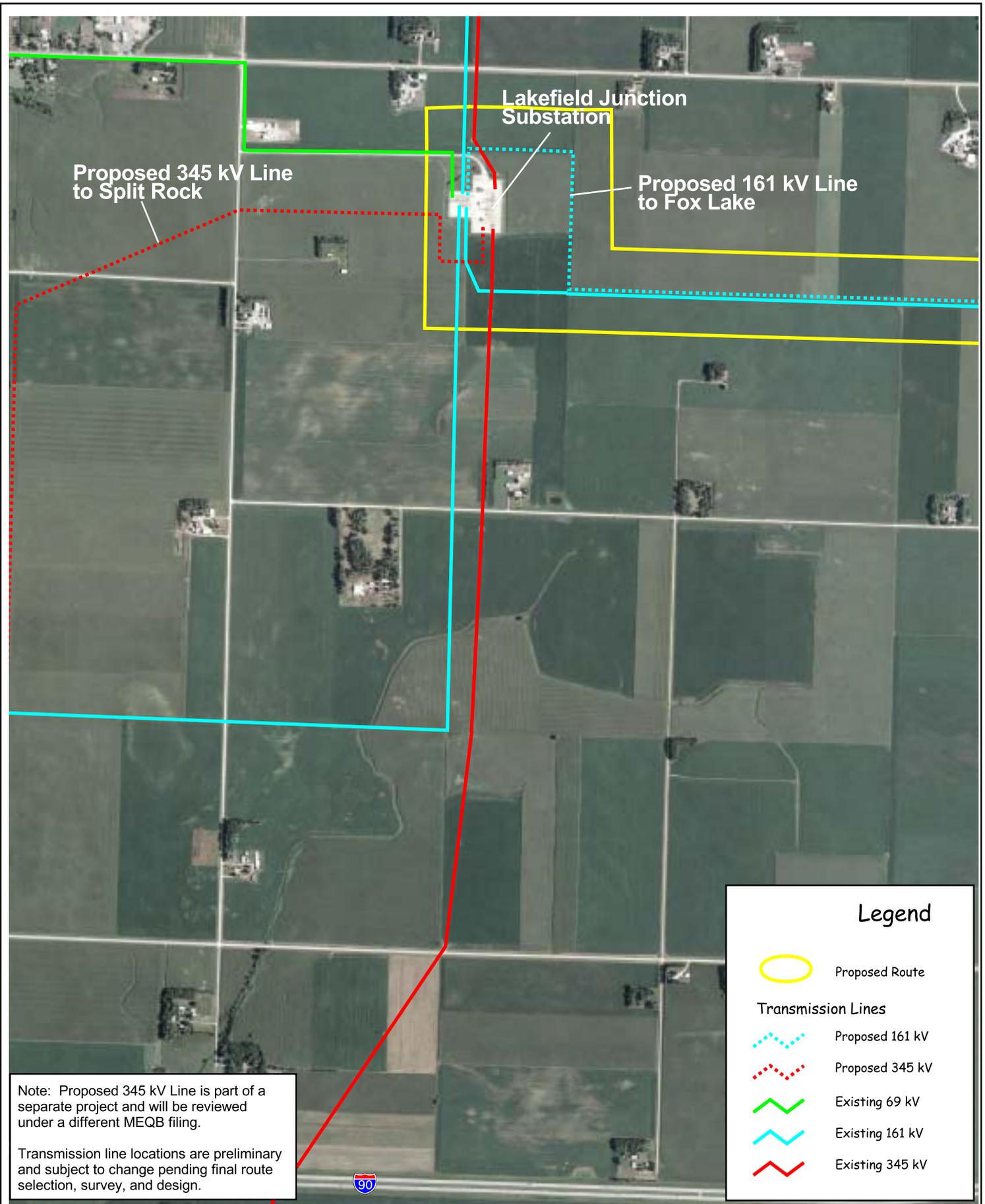
Existing Lakefield to Fox Lake Line Rerouted

Note: Proposed 345 kV Line is part of a separate project and will be reviewed under a different MEQB filing.

Transmission line locations are preliminary and subject to change pending final route selection, survey, and design.

Legend

-  Proposed Route
- Transmission Lines**
-  Proposed 69/161 kV Double Circuit
-  Proposed 69 kV
-  Proposed 161 kV
-  Proposed 345 kV
-  Existing 161 kV Rerouted
-  Existing 69 kV
-  Existing 161 kV
-  Existing 345 kV

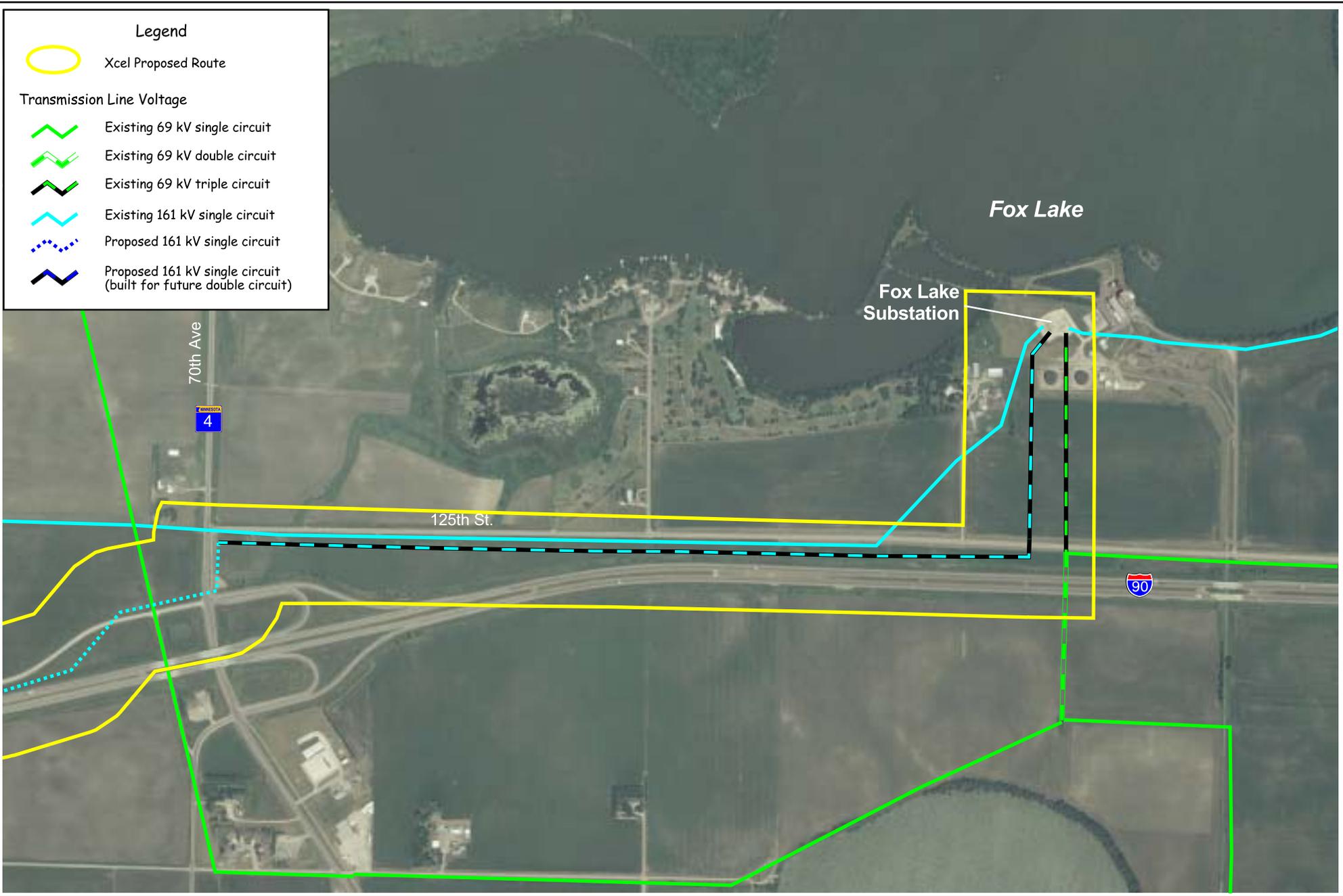


Note: Proposed 345 kV Line is part of a separate project and will be reviewed under a different MEQB filing.

Transmission line locations are preliminary and subject to change pending final route selection, survey, and design.

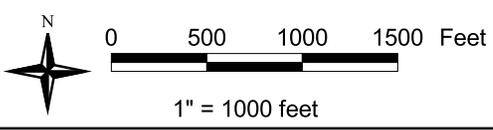
Legend

- Proposed Route
- Transmission Lines**
- Proposed 161 kV
- Proposed 345 kV
- Existing 69 kV
- Existing 161 kV
- Existing 345 kV



Legend

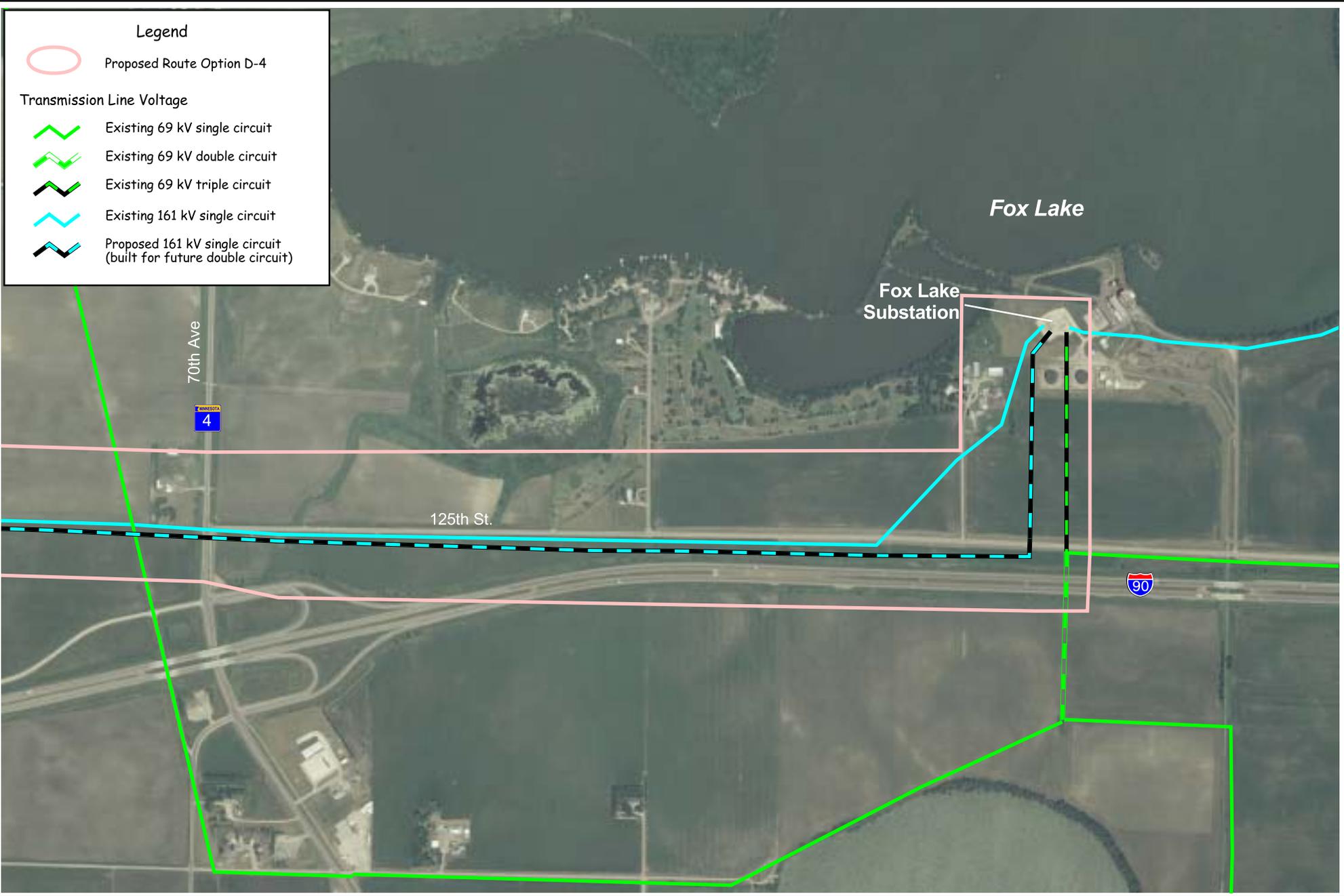
-  Xcel Proposed Route
- Transmission Line Voltage**
-  Existing 69 kV single circuit
-  Existing 69 kV double circuit
-  Existing 69 kV triple circuit
-  Existing 161 kV single circuit
-  Proposed 161 kV single circuit
-  Proposed 161 kV single circuit (built for future double circuit)



**Lakefield Junction to Fox Lake 161kV Line
Xcel Energy
Windfarm Transmission Improvement Projects**

APPENDIX D.7a
**FOX LAKE SUBSTATION
TRANSMISSION LINE CONFIGURATION**





Legend

 Proposed Route Option D-4

Transmission Line Voltage

 Existing 69 kV single circuit

 Existing 69 kV double circuit

 Existing 69 kV triple circuit

 Existing 161 kV single circuit

 Proposed 161 kV single circuit
(built for future double circuit)

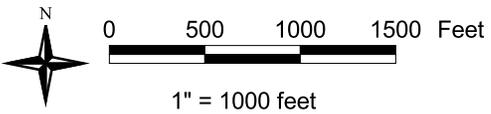
70th Ave



125th St.

Fox Lake
Substation

Fox Lake

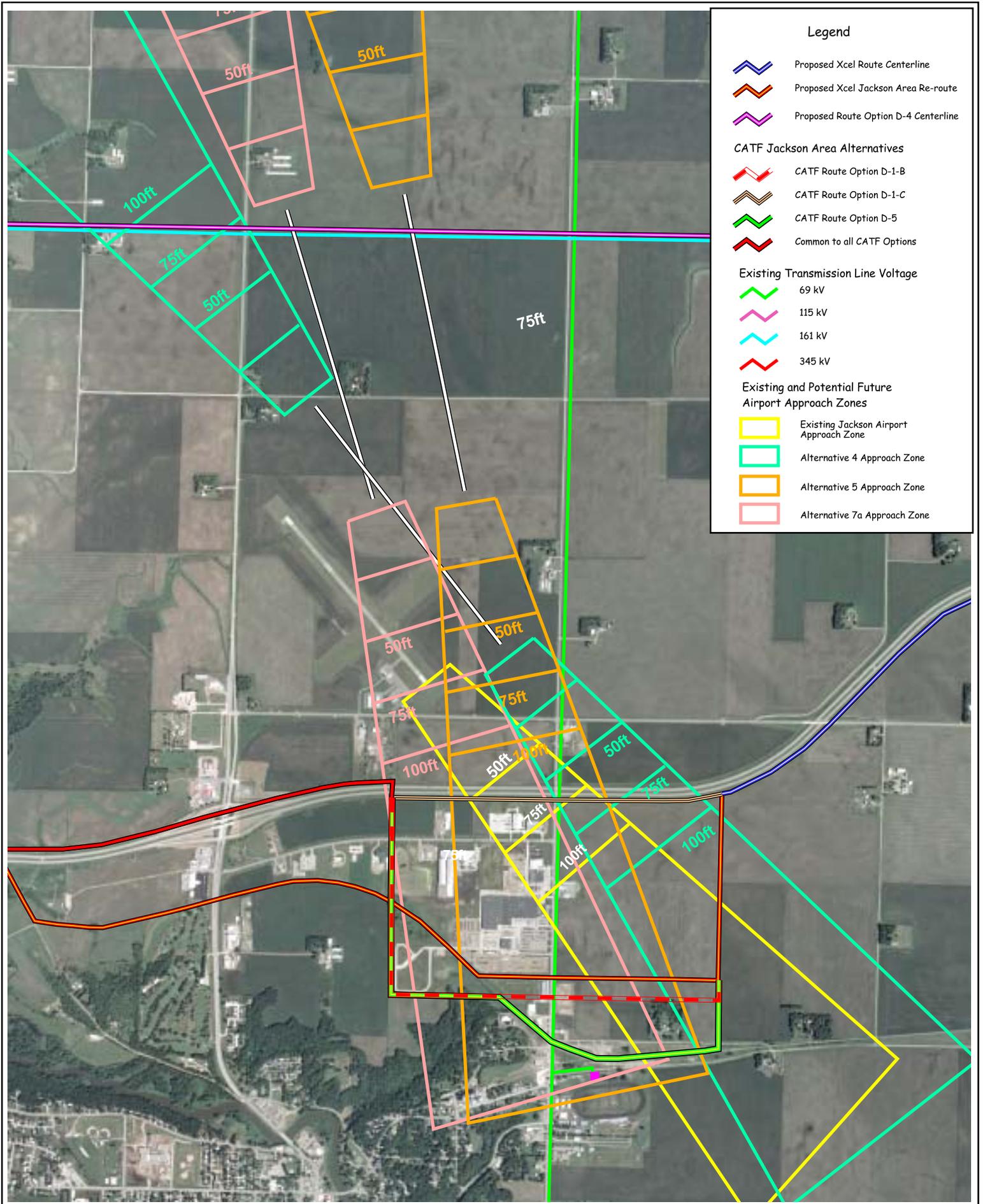


Lakefield Junction to Fox Lake 161kV Line
Xcel Energy
Windfarm Transmission Improvement Projects

APPENDIX D.7b
 FOX LAKE SUBSTATION
 TRANSMISSION LINE CONFIGURATION



March 2004



Legend

- Proposed Xcel Route Centerline
- Proposed Xcel Jackson Area Re-route
- Proposed Route Option D-4 Centerline

CATF Jackson Area Alternatives

- CATF Route Option D-1-B
- CATF Route Option D-1-C
- CATF Route Option D-5
- Common to all CATF Options

Existing Transmission Line Voltage

- 69 kV
- 115 kV
- 161 kV
- 345 kV

Existing and Potential Future Airport Approach Zones

- Existing Jackson Airport Approach Zone
- Alternative 4 Approach Zone
- Alternative 5 Approach Zone
- Alternative 7a Approach Zone