



BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

COMMENTS AND RECOMMENDATIONS OF THE  
MINNESOTA OFFICE OF ENERGY SECURITY  
ENERGY FACILITY PERMITTING STAFF

DOCKET NO. ET-2, E015/TL-11-318

Meeting Date: March 22, 2012.....Agenda Item #

Company: Great River Energy, Minnesota Power

Docket No. PUC Docket Number: ET-2, E015/TL-11-318  
In the Matter of the Application for a HVTL Route Permit for the Little Falls 115 kV Transmission Project.

Issue(s): Should the Commission find that the environmental assessment and the record adequately address the issues identified in the scoping decision?  
Should the Commission issue a route permit identifying a specific route and permit conditions for the Little Falls 115 kV Transmission Project?

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**Relevant Documents**

Route Permit Application ..... June 16, 2011  
Commission Application Acceptance Order ..... August 8, 2011  
Environmental Assessment Scoping Decision.....October 7, 2011  
Environmental Assessment..... January 5, 2012  
Administrative Law Judge's Public Hearing Summary ..... February 24, 2012

The enclosed materials are work papers of the Department of Commerce (Department) Energy Facility Permitting (EFP) staff. They are intended for use by the Public Utilities Commission (Commission) and are based on information already in the record unless otherwise noted.

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## **Documents Attached.**

1. Site map illustrating the study area in which the route will be located.
2. Proposed Findings of Fact, Conclusions, Order.
3. Proposed HVTL Route Permit.

(Note: Relevant documents and additional information can be found on eDockets (ET-2, E015/TL-11-318) or the PUC Energy Facilities Permitting website

<http://energyfacilities.puc.state.mn.us/Docket.html?Id=32098>

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## **Statement of the Issue**

Should the Commission find that the Environmental Assessment (EA) and the record adequately address the issues identified in the Scoping Decision? Should the Commission issue a high voltage transmission line (HVTL) route permit identifying specific routes and other permit conditions for the proposed Little Falls 115 kV Transmission Project?

## **Introduction**

Great River Energy (GRE) is a not-for-profit generation and transmission cooperative based in Maple Grove, Minnesota. GRE provides wholesale electrical energy and related services to 28 member cooperatives, including Crow Wing Power (CWP). Minnesota Power an investor-owned public utility with its headquarters in Duluth, Minnesota. CWP distributes electricity and related services to customers in the Little Falls area.

On June 16, 2011, GRE and Minnesota Power (collectively, the Applicants) applied for a high-voltage transmission line route permit to construct a new 115 kV transmission line and modifications to the existing Minnesota Power Little Falls Substation and CWP Little Falls Substation in Little Falls Township in Morrison County, Minnesota.

### ***Project Description***

The Project, as proposed by the Applicants, would provide an additional power delivery source to rural areas east of Little Falls. As proposed by Applicants the Project totals approximately 3.8 miles of transmission line and includes the following components:

- Construction of approximately 3.8 miles of new 115 kV transmission between the Minnesota Power Little Falls Substation and the CWP Little Falls Substation;
- Relocation of existing overhead and underground distribution lines along 133<sup>rd</sup> Street/County Road 256 and north 195<sup>th</sup> Avenue to the new 115 kV transmission structures;
- Modifications to the Minnesota Power Substation to accommodate the new 115 kV transmission line. Transmission facilities at this substation will consist of a new 115 kV

breaker, disconnect switches, and station class surge arresters. All modifications to this substation will be performed within the existing fenced area; and

- Modifications to and expansion of the CWP Little Falls Substation to accommodate the new 115 kV transmission line. New transmission facilities at this substation will consist of one 115 to 12.5 kV transformer, a two-way 115 kV transmission line switch with an interrupting device, a 115 kV high side terminal structure, and a circuit switch protective device to accommodate the new 115 kV transmission line termination. The substation would be expanded by approximately 0.1 acres to accommodate the modifications.

The Project is located east of the city of Little Falls in Little Falls Township of Morrison County. The Applicants request a route width of 300 feet, within which a right-of-way of 100 to 120 feet would be located. GRE proposes using single pole structures with a height of approximately 60 to 85 feet and spans of approximately 300 to 400 feet between poles for the majority of the route length. For the first 0.8 miles of the Project, between the Minnesota Power Little Falls Substation and 180<sup>th</sup> Avenue, GRE proposes to use either H-frame structures with heights of 60 to 80 feet and spans of approximately 300 to 400 feet or Single Pole Braced Post structures with heights of approximately 60 to 85 feet and spans of approximately 400 to 600 feet.

The Applicants anticipate beginning construction in mid-2012, with an in-service date of November 2012. The Project is expected to cost approximately \$2.6 million dollars.

## **State Regulatory Process and Procedures**

Minnesota Statutes § 216E.03, subd. 2, provides that no person may construct a high voltage transmission line without a route permit from the Commission. An HVTL is defined as a transmission line of 100 kV or more and greater than 1,500 feet in length in Minnesota Statutes § 216E.01, subd. 4.

The proposed transmission line in the route permit application is an HVTL and therefore a route permit is required prior to construction.

The route application was reviewed under the Alternative Permitting Process (Minn. R.7850.2800 to 7850.3900) of the Power Plant Siting Act (Minnesota Statutes § 216E). The Alternative Permitting Process is shorter than the full permitting procedures and does not require the Applicant to propose alternative routes to the preferred route, but does require the Applicant to disclose rejected route alternatives and an explanation of why they were rejected.

### ***Route Permit Application and Acceptance***

On June 16, 2011, GRE and Minnesota Power (collectively, the Applicants) applied for a high-voltage transmission line route permit to construct a new 115 kV transmission line and modifications to the existing Minnesota Power Little Falls Substation and CWP Little Falls Substation in Little Falls Township in Morrison County, Minnesota.

The Commission released an order on August 8, 2011, finding the route permit application to be complete and initiating the alternative review process. There was no Advisory Task Force established for this routing docket.

### ***Public Information and Environmental Assessment Scoping Meeting***

The Department's EFP staff is responsible for conducting the environmental review for route permit applications to the Commission (Minn. Rules 7850.3700). Environmental review for a project of this size requires a public information/scoping meeting, development of a *Scoping Decision* and the preparation of an environmental assessment (EA). An EA examines the potential human and environmental impacts of a proposed project, alternative routes for the project, and potential mitigative measures.

On August 18, 2011, EFP staff sent notice of the place, date and times of the public information and scoping meeting to those persons on the General List maintained by the PUC, the agency technical representatives list and the project contact list. Notice of the public meeting was also published in the local newspaper.

On Wednesday, September 7, 2011, EFP staff held a public information and scoping meeting at the Little Falls Township Hall near the city of Little Falls, Minnesota. The meeting fulfilled the Routing procedural requirements. The purpose of the meeting was to provide information to the public about the proposed project, to answer questions, and to allow the public an opportunity to suggest alternatives and impacts that should be considered during preparation of the environmental assessment.

Approximately seven people attended the public information and scoping meeting; two individuals took the opportunity to speak on the record. A court reporter was present to document oral statements. Topics and issues raised by the public at the meeting included: the selection of the proposed route, number of poles and spans between poles, and the start and duration of Project construction. Written comments were due no later than Friday, September 23, 2011. Four written comments were received.

Issues raised during the scoping period included: selection of the proposed route, number of poles and spans between poles, start and duration of construction of the Project, impacts to Blanding's Turtles, avian impacts, wetland impacts and mitigation, impacts to water quality, impacts to transportation rights-of-way. GRE also clarified that they were pursuing modifications to the CWP Little Falls Substation as part of the HVTL permitting process, and not through local permitting.

These items and issues, along with the typical HVTL routing impacts, have been incorporated into the proposed Order on the Environmental Assessment Scoping Decision.

No alternative routes or route segments were proposed during the scoping period.

### ***Scoping Decision***

The items, issues and alternatives raised during the scoping meeting and comment period were reviewed in preparation of the proposed Order on the Environmental Assessment Scoping Decision.

No alternative routes or route segments were proposed during the scoping period and the EA Scoping Decision did not identify any Route Alternatives or Alternative Segments.

The Department released its EA Scoping Decision on October 5, 2011. EFP staff provided a Notice of Scoping Decision to all parties on the project contact list.

### ***Environmental Assessment***

An EA must be prepared for all high-voltage transmission projects being reviewed under the alternative permitting process. The procedures EFP staff must follow in preparing the EA are described in Minnesota Rule 7850.3700. The EA contained information on the human and environmental impacts of the proposed project as identified in the scoping decision document. It also addressed required methods to avoid, minimize, and mitigate such impacts for all routes considered. The EA is the only state environmental review document required to be prepared for this project. EFP staff released the EA on January 5, 2012. EFP staff noticed the availability of the EA in mailings to interested persons and local government officials on January 5, 2012. Notice of the availability of the EA was published in the EQB Monitor on January 9, 2012.

### ***Public Hearing***

EFP staff made request to the Minnesota Office of Administrative Hearings for an administrative law judge (ALJ) to preside over the public hearing and provide a summary of testimony. EFP staff issued a Notice of Public Hearing on December 22, 2012, and provided the Notice to all individuals on the project contact list and to local officials. The notice of the public hearing was published on December 25, 2011, in the *Morrison County Record*.

A public hearing was held on January 12, 2012, at the Little Falls Township Hall near the city of Little Falls, Minnesota. ALJ Bruce Johnson presided over the hearing; the comment period was open for written comments through January 27, 2012.

Approximately seven members of the public attended the public hearing; two persons took the opportunity to speak on the record. One comment letter was submitted to the ALJ during the comment period for the public hearing. The ALJ released a Summary of Testimony and Written Comments on February 24, 2012.

### ***Public Hearing Comments***

Comments and questions received during the public hearing related to the location of the line relative to existing transmission and distribution lines, the anticipated spans between structures, and mitigation measures to minimize impacts to birds and reptiles.

George Sandy, a Little Falls Township Supervisor, asked whether it would be possible for the proposed project to double circuit the existing Minnesota Power transmission line. GRE staff responded that the Applicants had some reliability concerns about double circuiting the two lines. Mr. Sandy stated that he did not see any issue arising from construction of the proposed 115 kV line along existing roadway rights-of-way.

Duane Yorek, a landowner along the western portion of the project expressed concern about how much additional right-of-way would be required for the new line in the portion paralleling the existing Minnesota Power 46 line and expressed a preference for spanning his agricultural field located west of 180<sup>th</sup> Avenue. GRE staff responded that it was the Applicants' belief that in order to establish a centerline for the new 115 kV transmission line approximately 60 feet north

of the existing line, the existing ROW would need to be widened by 10 to 20 feet. GRE staff also acknowledged that they were aware of Mr. Yorek's desire to span the field using single pole structures if possible but that, depending upon the survey, H-frame structures may be required to achieve the span.

During the course of the oral portion of the hearing GRE clarified the centerline of their requested route; for the portion of the route between the Minnesota Power Little Falls Substation and 180<sup>th</sup> Avenue the centerline of the route is the proposed alignment and for the remainder of the route along road rights-of-way the centerline of the route is the centerline of the roads. GRE also clarified that it was their intention to underbuild existing distribution lines along 133<sup>rd</sup> Street/CR 256 and 195<sup>th</sup> Avenue on the new 115 kV structures for the proposed project.

The Minnesota Department of Natural Resources (DNR) filed the only written comment received during the comment period. The DNR commented that the EA prepared for the project included necessary additional information in response to the comments that DNR has previously made. The DNR recommended measures it had described in an earlier comment letter to minimize potential adverse impacts to Blanding's turtle, a state-listed threatened species. The DNR agreed with the placement of bird diverters as shown in the EA and also recommended use of bird diverters along 180<sup>th</sup> Avenue, west of a public water wetland. The DNR also recommended the use of wildlife friendly erosion mesh if soil stabilization is necessary.

### ***Standards for Permit Issuance***

The Power Plant Siting Act sets standards and criteria and outlines the factors to be considered in determining whether to issue a permit for a high voltage transmission line (Minn. Stat. § 216E and Minn. R. 7850.4000). The law also allows the Commission to place conditions on high voltage transmission line permits (Minn. Stat. § 216E.03 and Minn. R. 7850.4600).

## **EFP Staff Analysis and Comments**

EFP staff has prepared the attached proposed Findings of Fact, Conclusions of Law, and Order and proposed Route Permit. The Findings show that the alternative permitting process has been conducted in accordance with Minn. R. 7850.2800 to 7850.3900, identify route impacts and mitigation measures, and make conclusions of law and order. The proposed route permit includes measures to ensure the line is constructed in a safe, reliable manner and that impacts are minimized or mitigated.

EFP staff reached its conclusions and recommendations based on the analysis in the EA and the comments received in this record.

The record supports several specific items that merit consideration relative to special conditions in the HVTL Route Permit for the Little Falls 115 kV Transmission Project. These items include:

***Yorek Property.*** As discussed under the Public Hearing Comments heading above, Mr. Yorek, expressed concern about how much additional right-of-way would be required for the new line in the portion paralleling the existing Minnesota Power 46 line and expressed a preference for spanning his agricultural field located west of 180<sup>th</sup> Avenue.

**EFP Staff Analysis:** In response to Mr. Yorek's questions at the hearing, GRE staff acknowledged Mr. Yorek's concerns about minimizing the amount of clearing in wooded areas of his parcel and his preference for spanning the agricultural field between the wooded area and 180<sup>th</sup> Avenue. EFP Staff proposes a special condition, Permit at 5.1, memorializing this understanding and Applicants' commitment to work with Mr. Yorek to reach an agreement on the route design in this area.

**Swan Flight Diverters.** In scoping comments both the DNR and United States Fish and Wildlife Service expressed a desire that the Applicants install bird flight diverters to minimize potential collisions with birds. The EA identified segments along 133<sup>rd</sup> Street and the southern portion of 195<sup>th</sup> Avenue where the Applicants proposed installation of bird flight diverters. The DNR comment letter of January 27, 2012, identified an additional area along 180<sup>th</sup> Avenue where diverters should be located.

**EFP Staff Analysis:** After consultation with the DNR, Applicants will install Swan Flight Diverters, pre-formed spiral shaped devices made of polyvinyl chloride that are wrapped around the shield wire, every 25 feet along 180<sup>th</sup> Avenue and portions of 133<sup>rd</sup> Street/County Road 256 and 195<sup>th</sup> Avenue. EFP Staff proposes a special condition, Permit at 5.2, requiring installation of Swan Flight Diverters at locations shown in maps attached to the route permit.

**Soil Erosion and Sediment Control Plan.** In scoping comments the Minnesota Pollution Control Agency (MPCA) identified concerns with the potential impacts to the already impaired Platte River, located southeast of the project.

**EFP Staff Analysis:** Use of Best Management Practices, as identified by the MPCA, during construction would essentially eliminate this potential and Applicants have indicated that they plan to follow MPCA Best Management Practices. The threshold for a National Pollutant Discharge Elimination System (NPDES) permit is a disturbance of one acre. As part of that permitting process, a Stormwater Pollution Prevention Plan (SWPPP) would be prepared for the project. As the anticipated disturbance area required for the CWP Little Falls Substation is less than one acre, it is unclear whether a SWPP would be required. EFP staff has proposed a special condition, Permit at 5.3, requiring Permittees to develop a Soil Erosion and Sediment Control Plan prior to construction. If Applicants do apply for a NPDES permit, the SWPPP prepared for the NPDES application could be used to fulfill this condition. This condition also incorporates DNR's recommendation to use wildlife friendly erosion mesh if soil stabilization is necessary.

**Blanding's Turtles.** The DNR comment letter of January 27, 2012, re-iterated the importance of following mitigation measures to minimize the potential impacts to Blanding's Turtles during construction of the project.

**EFP Staff Analysis:** EFP staff proposes a special condition, Permit at 5.4, requiring Permittees to follow measures and recommendation for avoiding and minimizing impacts to Blanding's Turtle populations as described in DNR guidance. This has been a special

condition in other transmission projects located in areas with known Blanding's Turtle populations.

In addition to the special conditions noted above, EFP staff has made some minor structural changes to the permit from recently issued permits.

***Archaeological and Historical Resources.*** Recent HVTL permits have included a special condition related to the need for a literature search and evaluation of potential for impacts to archaeological and historic resources and how unanticipated discoveries that may occur during the construction of a Project would be handled. In this case, Applicants have already completed their literature review and the Minnesota State Historic Preservation Office has concurred, at Finding 140, that no known or suspected archaeological properties in the area will be affected by the project. The prospect of discovery of previously unrecorded archaeological sites during construction remains for the project, as well any type of construction that involves excavation. Because this prospect is not unique to the Project, language related to unanticipated discovery has been moved to Section 4.9 of the permit.

***Avian Impacts.*** Recent HVTL permits have included a special condition requiring Permittees transmission design to incorporate conductor spacing in accordance with Avian Power Line Interaction Committee standards to prevent raptor electrocution. Because utilities incorporate these design standards as electric transmission industry practice, EFP staff proposes to move this condition to the body of the permit, at Section 4.9.

Based on the analysis above, EFP staff makes the following recommendation.

## **Commission Decision Options**

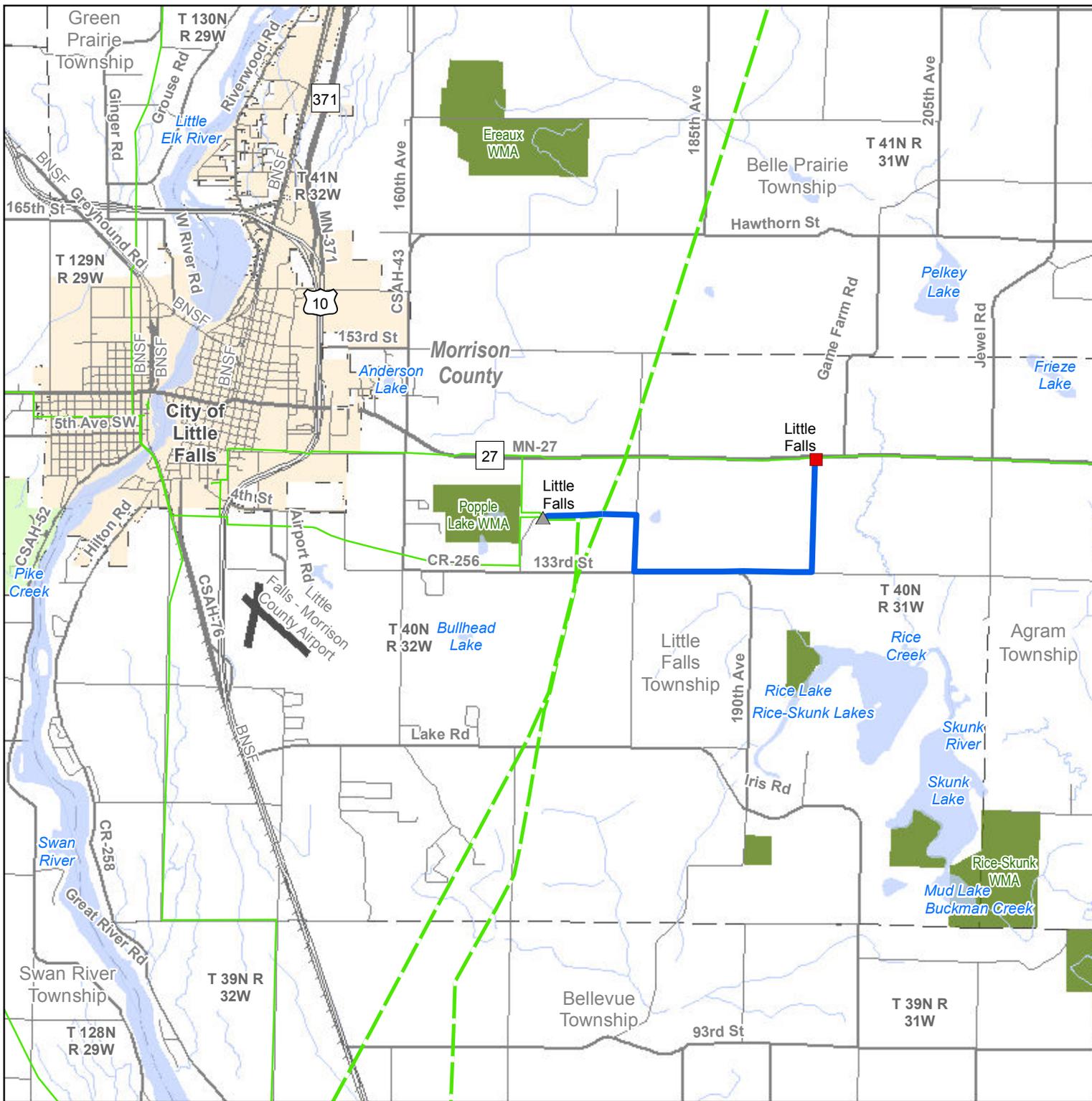
**A. Approve and adopt the Findings of Fact, Conclusions of Law and Order for the GRE and Minnesota Power Little Falls 115 kV Transmission Project (PUC Docket No. ET-2, E015/TL-11-318) which:**

1. Determines that the environmental assessment and record created at the public hearing address the issues identified in the EA Scoping Decision;
2. Designates the proposed HVTL route and modifications to the Minnesota Power Little Falls Substation and CWP Little Falls Substation as the routes/sites for the construction and implementation of the Little Falls 115 kV Transmission Project and associated facilities; and
3. Issues a HVTL Route Permit, with appropriate conditions, to GRE and Minnesota Power.

**B. Amend the Findings of Fact, Conclusions and Order and Route Permit as deemed appropriate.**

**C. Make some other decision deemed more appropriate.**

***EFP Staff Recommendation:*** Option A.



- Anticipated Alignment new
- 115 kV Transmission Line
- Existing Great River Energy
- 34.5 kV Transmission Line
- Existing Crow Wing Power
- Distribution Substation
- Existing Minnesota Power
- ▲ Transmission Substation
- 34.5 kV Transmission Line
- - - 115 kV Transmission Line



Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy.

Map Projection:  
 UTM, NAD83, Zone 15, Meters  
 Map Prepared by Great River Energy: 3/8/2012



**Little Falls  
 115 kV  
 Transmission Project  
 Study Area**

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**BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION**

Phyllis Reha  
David Boyd  
J. Dennis O'Brien  
Betsy Wergin

Vice-Chair  
Commissioner  
Commissioner  
Commissioner

<p>In the Matter of the Application for a HVTL Route Permit for the Little Falls 115 kV Transmission project.</p>	<p>ISSUE DATE:  DOCKET NO. ET-2, E015/TL-11-318  FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER ISSUING A ROUTE PERMIT TO GREAT RIVER ENERGY AND MINNESOTA POWER FOR A 115 KILOVOLT TRANSMISSION LINE AND ASSOCIATED FACILITIES</p>
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The above matter came before the Minnesota Public Utilities Commission on March 22, 2012, acting on an application by Great River Energy (GRE) and Minnesota Power for a route permit to construct a new 3.8-mile long 115 kV overhead transmission line in Morrison County, Minnesota.

A public hearing was held on January 12, 2012, at the Little Falls Township Hall near the city of Little Falls, Minnesota. The hearing was presided over by Judge Bruce Johnson, Administrative Law Judge (ALJ) for the Minnesota Office of Administrative Hearings (OAH). The hearing continued until all persons who desired to speak had done so. The comment period closed on January 27, 2012, at 4:30 p.m.

**STATEMENT OF ISSUE**

Should the Commission find that the environmental assessment and the record adequately address the issues identified in the scoping decision? Should the Commission issue a route permit identifying a specific route and permit conditions for the Little Falls 115 kV Transmission Line project?

Based upon all of the proceedings herein, the Commission makes the following:

## **FINDINGS OF FACT**

### **Applicants**

1. Great River Energy (GRE) is a not-for-profit generation and transmission cooperative based in Maple Grove, Minnesota. GRE provides wholesale electrical energy and related services to 28 member cooperatives, including Crow Wing Power (CWP). Minnesota Power an investor-owned public utility with its headquarters in Duluth, Minnesota.<sup>1</sup>
2. On June 16, 2011, GRE and Minnesota Power (collectively, the Applicants) applied for a high-voltage transmission line route permit to construct a new 115 kV transmission line and modifications to existing substations in Little Falls Township in Morrison County, Minnesota.<sup>2</sup>
3. CWP distributes electricity and related services to customers in the Little Falls area.<sup>3</sup>

### **Project Description**

4. The project is located in Little Falls Township, Section 18, T40N, R30W and Section 13 and 14, T40N, R31W, in Morrison County, Minnesota.<sup>4</sup>
5. The Proposed Route is 3.8 miles of new overhead 115 kV transmission line that would exit the east side of the existing Minnesota Power Little Falls Substation and continue east approximately 0.8 miles cross-country, turn south along 180<sup>th</sup> Avenue for approximately 0.5 miles, east approximately 1.5 miles along County Road 256/133<sup>rd</sup> Street, and north approximately 1.0 mile along 195<sup>th</sup> Avenue to the CWP Little Falls Substation.<sup>5</sup>
6. The project would consist of the following:
  - Construction of approximately 3.8 miles of new 115 kV transmission between the Minnesota Power Little Falls Substation and the CWP Little Falls Substation;
  - Relocation of existing overhead and underground distribution lines along County Road 256/133<sup>rd</sup> Street and along 195<sup>th</sup> Avenue to the new 115 kV transmission structures;<sup>6</sup>

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<sup>1</sup> Exhibit (Ex.), 2, Route Permit Application (Application) at p. 1-1

<sup>2</sup> Ex. 2 at p. 1-4 (Application).

<sup>3</sup> Ex. 2 (Application)

<sup>4</sup> Ibid. at p. 3-1 and Appendix B, Figure B-5

<sup>5</sup> Ex. 16 Environmental Assessment (EA), at p. 6 and Figures B1 to B-8.

<sup>6</sup> Ex. 23 at pp. 15, 22-23 (Hearing Transcript)

- Modifications to the Minnesota Power Substation to accommodate the new 115 kV transmission line. New transmission facilities at this substation will consist of a new 115 kV breaker, disconnect switches, and station class surge arresters. All modifications to this substation will be performed within the existing fenced area;<sup>7</sup> and
  - Modifications to and expansion of the CWP Little Falls Substation to accommodate the new 115 kV transmission line. New transmission facilities at this substation will consist of one 115 to 12.5 kV transformer, a two-way 115 kV transmission line switch with an interrupting device, a 115 kV high side terminal structure, and a circuit switch protective device to accommodate the new 115 kV transmission line termination. The substation would be expanded by approximately 0.1 acres to accommodate the modifications.<sup>8</sup>
7. As presented in the route permit application, GRE and Minnesota Power also identified and analyzed two alternative routes (Northern Alternative Route and Cross Country Alternative Route).<sup>9</sup> The alternatives were rejected by the Applicants as they did not fulfill its objectives or provide any greater advantage with respect to the Proposed Route, pursuant to Minnesota Rule 7850.3100.
  8. In the Route Permit Application, the Applicants proposed to rebuild approximately 0.5 miles of Minnesota Line 46 east of the Minnesota Power Little Falls Substation and transfer ownership of that portion of line 46 to GRE, while Minnesota Power would construct a 0.5 mile segment of new 115 kV transmission line approximately 62 to 66 feet north of the existing Minnesota Power 46 transmission line.<sup>10</sup> In their letter of December 15, 2011, the Applicants clarified that they would no longer seek permitting for the 0.5 mile rebuild of the Minnesota Power 46 line. The existing Minnesota Power 46 line will remain in place and GRE will construct and own the entire 3.8-mile project.<sup>11</sup>

### **Route Width**

9. GRE and Minnesota Power request a 300 foot route width for the entire length of the Proposed Route, as follows: 150 feet on each side of the alignment between the Minnesota Power Little Falls Substation and 180<sup>th</sup> Avenue; 150 feet on either side of 180<sup>th</sup> Avenue, 133<sup>rd</sup> Street/County Road 256, and 195<sup>th</sup> Avenue.<sup>12</sup>

### **Right-of-Way**

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<sup>7</sup> Ex. 16 at p. 15 (EA)

<sup>8</sup> Ibid. at pp. 15-16

<sup>9</sup> Ex. 2 at pp. 4-4 and 4-5, and Figure B-13 (Application)

<sup>10</sup> Ibid. at p. 1-5

<sup>11</sup> Ex. 12 (GRE Letter, December 15, 2011)

<sup>12</sup> Ex 23 at pp. 17-19 (Hearing Transcript)

10. Applicants will require a right-of-way of 100 to 120 feet for the new 115 kV transmission line. Applicants request a right-of-way of 120 feet (60 feet on either side of the centerline) for the first 0.8 miles of the new 115 kV transmission line between the Minnesota Power Little Falls Substation and 180<sup>th</sup> Avenue. Applicants request a right-of-way of 100 feet (50 feet on either side of the centerline) for the final 3.0 miles of the route from 180<sup>th</sup> Avenue to the CWP Little Falls Substation.<sup>13</sup>
11. Applicants propose to construct the transmission centerline approximately two to five feet outside road right-of-way where the transmission line would parallel a road. This would allow the transmission line to share a portion of the road right-of-way, resulting in an easement of lesser width to be required from the landowner.<sup>14</sup> Approximately 3.0 miles, or 79 percent of the Route would follow county road right-of-way.<sup>15</sup>

### **Structure Types**

12. The primary (tangent) structures GRE proposes to use for the project are single-circuit wood post structures with horizontal posts. The structures would be approximately 60 feet to 85 feet in height with an average span of 300 feet to 400 feet between structures.<sup>16</sup>
13. Structures along 133<sup>rd</sup> Street/County Road 256 and 195<sup>th</sup> Avenue would be designed to carry distribution lines under the transmission lines using structures identified in Finding 13 and underbuilt with the existing distribution lines using distribution crossarms. The structures would be approximately 70 feet to 85 feet in height with an average span of 250 feet to 300 feet between structures.<sup>17</sup>
14. Where angles in the new line are required, GRE anticipates that guyed angle structures using anchors and support cables will be the primary type of structure used. Where guying is not practicable, direct embedded laminated wood poles or steel poles on drilled pier concrete foundations will be utilized.<sup>18</sup>
15. For the cross-country portion of the project between the Minnesota Power Little Falls Substation and 180<sup>th</sup> Avenue, GRE anticipates using either H-frame structures, with heights of approximately 60 to 80 feet and spans of approximately 300 to 400 feet, or Single Pole Braced Post Delta Configuration structures with heights of approximately 60 to 85 feet and spans of 400 to 600 feet.<sup>19</sup>

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<sup>13</sup> Ex. 16 at p. 8 (EA)

<sup>14</sup> Ibid., Ex. 23, at p. 15 (Hearing Transcript)

<sup>15</sup> Ex. 16 at pp. 8-9 (EA)

<sup>16</sup> Ibid. at pp. 8-9

<sup>17</sup> Ibid. at p. 9

<sup>18</sup> Ibid. at p. 8

<sup>19</sup> Ibid. at p. 9

## **Conductors**

16. The project would consist of three phases, each at the end of a separate insulator, and physically supported by structures or poles. The phases for this project would be constructed with three single aluminum conductor steel reinforced (ACSR) which each consist of a single conductor comprised of seven steel core strands surrounded by 26 outer aluminum strands. GRE would use 795,000 circular mil conductor with a diameter of approximately 1.1 inches.<sup>20</sup>
17. To protect from lightning strikes one shield wire would be used on single pole structures and two wires would be used on H-frame structures.<sup>21</sup>

## **Substations**

18. Minnesota Power would install one bay, a new 115 kV breaker, disconnect switches, and station class surge arrestors to accommodate connection of the new 115 kV transmission line. All modifications to the Minnesota Power Little Falls Substation would occur within the existing fenced area.<sup>22</sup>
19. CWP would install one 115 to 12.5 kV transformer, a two-way 115 kV transmission line switch with an interrupting device, a 115 kV high side terminal structure, and a circuit switch protective device to accommodate the new 115 kV transmission line termination. CWP would expand the CWP Little Falls Substation by approximately 0.1 acres, moving the fenceline approximately 50 feet to the south.<sup>23</sup>

## **Project Schedule**

20. Based on information known at the time of the application filing, Applicants anticipate construction of the project to begin in mid-2012, with an in-service date of November, 2012.<sup>24</sup>

## **Project Cost**

21. Applicants estimate the total cost of the project, which includes permitting costs, natural resource and cultural resource surveys, easement and land acquisition, right-of-way clearing, construction costs, cost of structures, insulators, conductors, modifications to existing

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<sup>20</sup> Ex. 16 at p. 8 (EA)

<sup>21</sup> Ibid.

<sup>22</sup> Ibid. at p. 15

<sup>23</sup> Ibid. at p. 16

<sup>24</sup> Ibid. at p. 1

substations, labor, and cost of equipment used to construct the new line to be approximately \$2.6 million.<sup>25</sup>

22. GRE indicates its typical annual operating and maintenance cost for 115 kV transmission lines is approximately \$600 per mile of transmission line right-of-way. Costs include inspections typically performed by airplane or helicopter on a monthly basis. Inspections of substations and other equipment are generally performed on a monthly basis depending on the type of equipment. Maintenance and repairs to substations are performed on an as-needed basis with costs varying from substation to substation. Applicants anticipate that operating and maintenance costs associated with the substations would be minimal and consist mainly of weed control.<sup>26</sup>

### **Procedural Summary**

23. On April 11, 2011, in accordance with Minnesota Rule 7850.2800, subpart 2, Applicants filed a letter with the Commission noticing their intent to submit a route permit application under the alternative permitting process set forth in Minnesota Statutes 216E.04 and Minnesota Rules 7850.2800 to 7850.3900.<sup>27</sup>
24. On June 16, 2011, Applicants filed a route permit application with the Commission for a new 3.8-mile 115 kV overhead transmission line in Little Falls Township in Morrison County, Minnesota.<sup>28</sup>
25. Applicants transmitted a Notice of a Submittal of an Application for a Route Permit via e-mail on June 29, 2011, to those persons whose names are on the general list maintained by the Commission for this purpose, local and regional officials, and property owners in compliance with Minnesota Rule 7850.3300. Undeliverable e-mails were sent by US mail on June 29, 2011.<sup>29</sup>
26. The Applicants published Notice of a Submittal of an Application for a Route Permit in the *Morrison County Record* on July 3, 2011 in compliance with Minnesota Rule 7850.3300.<sup>30</sup>
27. In its July 27, 2011, comments and recommendations, EFP staff recommended that the Commission accept the Applicants' route permit application for the project as complete and authorize the EFP staff to process the application under the alternative permitting process pursuant to Minnesota Rules 7850.2800 to 7850.3900, authorize EFP staff to name a public

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<sup>25</sup> Ex. 16 at p. 11 (EA)

<sup>26</sup> Ibid.

<sup>27</sup> Ex. 1 (Notification of Intent)

<sup>28</sup> Ex. 2 (Route Permit Application).

<sup>29</sup> Ex. 3 (Applicant Mailed Notice of Route Permit Application Filing)

<sup>30</sup> Ex. 4 (Applicant Published Notice of Route Permit Application Filing)

advisor, and determine that based on the available information an advisory task force is not necessary at this time.<sup>31</sup>

28. In its August 8, 2011, Order, the Commission accepted the application as complete and determined that the project is eligible for the alternative permitting process of the Power Plant Siting Act, Minnesota Statute 216E.04 and Minnesota Rules 7850.2800 to 7850.3900, authorized the EFP staff to name a public advisor, and determined that an advisory task force was not necessary at that time.<sup>32</sup>
29. On August 18, 2011, EFP staff issued and mailed a Notice of Public Information and Scoping Meeting to those persons whose names are on the project list maintained by the Commission for this purpose in compliance with Minnesota Rule 7850.3500, subpart 1. EFP staff also sent the Notice to designated State and Federal Agency Representatives.<sup>33</sup>
30. Minnesota Rule 7850, subpart 1, requires notice of the public information and scoping meeting to appear 10 days before the meeting is held. GRE, on behalf of EFP staff, published the Notice of Public Information and Scoping Meeting in the in the *Morrison County Record* on August 28, 2011<sup>34</sup>

#### *Public Meeting*

31. In accordance with Minnesota Rule 7850.3500, subpart 1, EFP staff held a public information and scoping meeting on September 7, 2011, at Little Falls Township Hall near the city of Little Falls, Minnesota.
32. Approximately seven people attended the public information and scoping meeting. In total, two people provided oral comments and/or asked questions about the proposed project at the public scoping meeting. Topics and issues raised by the public at the meeting included: the selection of the proposed route, number of poles and spans between poles, and the start and duration of project construction.<sup>35</sup>
33. The public comment period on the scope of EA closed on September 23, 2011. EFP received four comment letters during the scoping comment period.<sup>36</sup>

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<sup>31</sup> Ex. 5 (Comments and Recommendations of EFP Staff on Application Acceptance)

<sup>32</sup> Ex. 6 (Commission Order on Route Permit Application Acceptance).

<sup>33</sup> Ex. 7 (Mailed Notice of Public Information and Scoping Meeting).

<sup>34</sup> Ex. 8 (Published Notice of Public Information and Scoping Meeting).

<sup>35</sup> Ex. 9 (Oral Comments from Public Information and Scoping Meeting)

<sup>36</sup> Ex. 10 (Scoping Comment Letters)

34. The Minnesota Department of Natural Resources (DNR) submitted a comment letter identifying concerns with Blanding's Turtles, the location of bird flight diverters, and impacts and mitigation to wetlands.<sup>37</sup>
35. The Minnesota Pollution Control Agency submitted comments concerning possible impacts from the project to water quality, specifically the Platte River.<sup>38</sup>
36. The Minnesota Department of Transportation (MnDOT) submitted comments requesting that they be informed and consulted regarding potential impacts to MnDOT rights-of-way, particularly with the improvements to Crow Wing Power's Little Falls Substation.<sup>39</sup>
37. GRE submitted a comment clarifying that the project includes improvements to Crow Wing Power's Little Falls Substation, as well as the Minnesota Power Little Falls Substation.<sup>40</sup>
38. The scoping decision document for the EA was signed by the deputy commissioner of the Department of Commerce on October 5, 2011, filed with the Commission and made available to the public as provided in Minnesota Rule 7850.3700, subpart 3, on October 7 and 10, 2011.<sup>41</sup>

#### *Environmental Assessment*

39. The EA was filed with the Commission and made available on January 5, 2012.<sup>42</sup> The EA was prepared in accordance with Minnesota Rule 7850.3700, and contained all the information required.
40. On January 5, 2012, EFP staff mailed a Notice of Availability of EA to those persons whose names are on the project contact list and to local and regional officials in compliance with Minnesota Rule 7850.3700, subpart 6.<sup>43</sup>
41. Pursuant to Minnesota Rule 7850.3700, subpart 6, EFP staff published a Notice of Availability of EA in the January 9, 2012 edition of the *EQB Monitor*.<sup>44</sup>

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<sup>37</sup> Ex. 10 (Scoping Comment Letters)

<sup>38</sup> Ibid.

<sup>39</sup> Ibid.

<sup>40</sup> Ibid.

<sup>41</sup> Ex. 11 (EA Scoping Decision).

<sup>42</sup> Ex. 16 (EA)

<sup>43</sup> Ex. 17 (Mailed Notice of Availability of EA with Certificate of Service).

<sup>44</sup> Ex. 18 (*EQB Monitor* Notice of Availability of EA)

## *Public Hearing*

42. On December 22, 2011, EFP staff mailed a Notice of Public Hearing to those persons whose names are on the project contact list and to local and regional officials in compliance with Minnesota Statute § 216E.03, subdivision 6.<sup>45</sup>
43. Pursuant to Minnesota Statute § 216E.03, subdivision 6, GRE, on behalf of EFP staff, published a Notice of Public Hearing and Availability of EA in the *Morrison County Record* on December 25, 2011.<sup>46</sup>
44. Minnesota Office of Administrative Hearings, Bruce Johnson, Administrative Law Judge (ALJ) presided over the public hearing conducted on January 12, 2012. The public hearing was held at the Little Falls Township Hall near the city of Little Falls, Minnesota. The ALJ provided an opportunity for members of the public to ask questions or comment on the proposed project verbally and/or to submit question/comments in writing.<sup>47</sup>
45. According to the ALJ Summary of Public Testimony, approximately seven members of the public attended the public hearing. All persons who desired to speak were afforded a full opportunity to make a statement on the record.<sup>48</sup>
46. Pursuant to Minnesota Rule 7850.3800, subpart 3A, EFP state permit manager Suzanne Steinhauer and public advisor Jamie MacAlister, were at the public hearing and described the alternative route permitting process, the proposed project, and introduced the EA and other relevant documents for the record.
47. Representatives from GRE present at the hearing included: Marcia Parlow, Transmission Permitting Analyst; Michelle Lommel, Senior Field Representative with GRE's Land Rights Department, and Chuck Lukkarila, Transmission Engineer.
48. Michael Kaluzniak, Planning Director, was at the public hearing on behalf of the Minnesota Public Utilities Commission.
49. Public comments on the proposed project were accepted by the ALJ until January 27, 2012.<sup>49</sup>

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<sup>45</sup> Ex. 13(Notice of Public Hearing with Certificate of Service) and 14(Notice of Public Hearing, certified letters to local officials).

<sup>46</sup> Ex. 15 (Published Notice of Public Hearing)

<sup>47</sup> Ex. 23 (Public Hearing Transcript).

<sup>48</sup> Ex. 24 (Administrative Law Judge Summary of Public Testimony [ALJ Report]).

<sup>49</sup> Ibid. at p. 3 (ALJ Report)

50. The public hearing transcript was filed by the Office of Administrative Hearings designated court reporter on January 23, 2012.<sup>50</sup>
51. The ALJ filed the Summary of Public Testimony on February 24, 2012. The ALJ report contains a summary of oral public comments provided during the hearing and written comments received by the close of the comment period.<sup>51</sup>
52. During the public hearing, two members of the public presented their views regarding the proposed routing for the project. The ALJ received one written comment by the January 27, 2012, submittal deadline.<sup>52</sup>

#### *Summary of Oral Comments*

53. George Sandy, a Little Falls Township Supervisor, asked whether it would be possible for the proposed project to parallel the existing Minnesota Power transmission line. Michelle Lommel from GRE explained that the Applicants had some reliability concerns about double circuiting the two lines. Mr. Sandy stated that he did not see any issue arising from construction of the proposed 115 kV line along existing roadway rights-of-way.<sup>53</sup>
54. Duane Yorek, a landowner along the western portion of the project expressed concern about how much additional right-of-way would be required for the new line. A representative from GRE stated that in order to establish a centerline for the new 115 kV transmission line approximately 60 feet north of the existing Minnesota Power Line 46 was the Applicants' belief that the existing ROW would need to be widened by 10 to 20 feet to allow for sufficient room to construct and operate the new 115 kV transmission line.<sup>54</sup>
55. Mr. Yorek also asked whether his field can be spanned, or whether poles would be in his field. Mr. Yorek stated that he believed the distance across the field from the edge of the wooded area to 180<sup>th</sup> Avenue is approximately 600 feet. A representative from GRE responded that GRE was aware that Mr. Yorek's desire was to span the field using single pole structures if possible but that, depending upon the survey, H-frame structures may be required to achieve the span.<sup>55</sup>
56. Suzanne Steinhauer with EFP staff asked GRE to clarify the centerline of the requested route shown in Exhibit 20. GRE responded that for the portion of the route between the Minnesota Power Little Falls Substation and 180<sup>th</sup> Avenue the centerline of the route is the

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<sup>50</sup> Ex. 23 (Public Hearing Transcript)

<sup>51</sup> Ex. 24 (ALJ Report)

<sup>52</sup> Ibid. at pp. 4-5

<sup>53</sup> Ibid. at p. 4

<sup>54</sup> Ibid., Ex. 23 at p. 25-28 (Public Hearing Transcript)

<sup>55</sup> Ex. 24, at p. 4 (ALJ Report), Ex. 23, at pp. 28-30 (Public Hearing Transcript)

proposed alignment; for the remainder of the route along road rights-of-way the centerline of the route is the centerline of the roads.<sup>56</sup>

57. Ms. Steinhauer asked if it was the Applicants' intention to underbuild distribution facilities along 133<sup>rd</sup> Street/CR 256 and 195<sup>th</sup> Avenue. GRE stated that it was their intention to underbuild these facilities along these roads.<sup>57</sup>

#### *Summary of Written Comments*

58. Jamie Schrenzel with the DNR submitted written comment concerning the proposed project. The DNR commented that the EA prepared for the project included necessary additional information in response to the comments that DNR has previously made. The DNR recommended measures it had described in earlier comment letter to minimize potential adverse impacts to Blanding's turtle, a state-listed threatened species. The DNR agreed with the placement of bird diverters as shown in Map B-10 of the EA and also recommended use of bird diverters along 180<sup>th</sup> Avenue, west of a public water wetland. The DNR also recommended the use of wildlife friendly erosion mesh if soil stabilization is necessary.<sup>58</sup>

#### **Environmental Assessment**

59. The EA evaluated the route proposed by the Applicants in their Route Permit Application, and modified in the GRE filing of December 15, 2011.<sup>59</sup> The 115 kV line exits the east side of the Minnesota Power Little Falls Substation and continues east approximately 0.8 miles cross-country, before turning south for approximately 0.5 miles along (the east side of) 180<sup>th</sup> Avenue. When the route reaches County Road 256/133<sup>rd</sup> Street, the route turns east, following County Road 256/133<sup>rd</sup> Street for approximately 1.5 miles before tuning north along 195<sup>th</sup> Avenue for approximately 1.0 mile to the Crow Wing Power Little Falls Substation.<sup>60</sup> No alternative routes were identified during the scoping process and none were evaluated in the EA.<sup>61</sup>

#### *Socioeconomic and Cultural Values*

60. Socioeconomic effects would generally be positive providing a more stable and reliable supply of electricity and increasing the local tax base resulting from the incremental increase in revenues from utility property taxes.<sup>62</sup>

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<sup>56</sup> Ex. 23 at 17-19 (Public Hearing Transcript).

<sup>57</sup> Ex. 24 at p. 4 (ALJ Report), Ex. 23 at pp. 20-21 (Public Hearing Transcript).

<sup>58</sup> Ex. 24 at pp. 4-5 (ALJ Report), Ex. 22 (DNR Letter, January 27, 2012)

<sup>59</sup> Ex. 2 (Application), Ex. 12 (GRE Letter of December 15, 2011)

<sup>60</sup> Ex. 16 at p. 7 (EA)

<sup>61</sup> Ex. 11 (Scoping Decision)

<sup>62</sup> Ex. 16 at p. 19 (EA).

61. Construction of the project should result in small short-term positive economic impacts in the form of increased spending for lodging, meals and other consumer goods and services, as well as purchase of some construction material. Short-term economic impacts during the construction phase are most likely to be felt in Morrison County and particularly in Little Falls.<sup>63</sup>
62. There is no indication that any minority of low-income population is concentrated in the project area. No disproportionate impacts on minority or low-income populations are anticipated.<sup>64</sup>
63. Potential impacts to property values would typically be mitigated through negotiation in an easement agreement between the applicants and the landowner.<sup>65</sup>

### *Displacement*

64. The National Electric Safety Code (NESC) requires certain clearances between transmission line facilities and buildings for safe operation of the transmission line. Depending upon the location along the route, Applicants would acquire a transmission right-of-way of 52 to 120 feet for the project.<sup>66</sup>
65. Displacement can occur when a structure is located within the proposed right-of-way for a transmission facility. The closest home to the route is approximately 110 feet from the center line of the project, allowing for an alignment that avoids displacement. No displacement of homes or businesses from the project is anticipated.<sup>67</sup>

### *Aesthetics*

66. The route crosses a mixture of cultivated fields, wooded areas, grassland and pastureland and scattered rural homesteads. There are two existing 115 kV transmission lines near the project with H-frame structures of 50 to 70 feet in heights. There are also overhead single pole distribution lines with structures of approximately 39 feet in height.
67. Applicants would install approximately 3.8 mile of single-circuit 115 kV structures. Applicants would install primarily single-pole wood structures with horizontal post insulators with heights of 60 to 85 feet and spans of 250 feet to 400 feet between structures.

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<sup>63</sup> Ex. 16 at p. 19 (EA)

<sup>64</sup> Ibid. at p. 18

<sup>65</sup> Ibid. at p. 21

<sup>66</sup> Ibid. at p. 19

<sup>67</sup> Ibid. at pp. 19-20

In some areas, such as where a longer span is desired, wood H-frame structures may be used. GRE anticipates that the majority of angle structures would be guyed.<sup>68</sup>

68. The last 2.5 miles of the route would underbuild existing distribution lines with the new structures.<sup>69</sup>
69. Neither substation would be lighted. During emergencies mobile lights would be brought in to allow repairs to be made in safe working conditions for repair personnel.<sup>70</sup>
70. The CWP Little Falls Substation would be expanded by approximately 5,000 square feet. Applicants would install a dead-end structure of approximately 60 feet and a static pole of up to 100 feet, other equipment installed at the substation would be 40 feet in height or less.<sup>71</sup>
71. The project will be visible to residents in the project area as well as those travelling along county and township roads.<sup>72</sup>
72. Although the transmission line would be visible throughout most of its length, it is not incompatible with its setting amongst existing transmission and distribution lines and substations, highways, farms, and rural residences.
73. HVTL permits require Permittees to minimize the number of trees to be removed to the extent that such actions do not violate sound engineering principles or system reliability criteria. Certain low and slow growing species that do not exceed a mature height of 15 feet can be planted in the right-of-way to blend the difference between the right-of-way and adjacent wooded areas.

#### *Noise*

74. The Minnesota Pollution Control Agency (MPCA) has established standards for the regulation of noise levels. The most stringent noise standards are 60 A-weighted decibel (dBA) L<sub>50</sub> during the daytime and 50 dBA L<sub>50</sub> during the nighttime.<sup>73</sup>
75. Construction activities would need to comply with MPCA noise standards. Construction work would generally be limited to daytime hours, between 7 a.m. and 10 p.m.; occasional construction may be scheduled outside these hours or on weekends if necessary to work

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<sup>68</sup> Ex. 16 at p. 21 (EA)

<sup>69</sup> Ex. 24 at p. 4 (ALJ Report)

<sup>70</sup> Ex. 16 at p. 21 (EA)

<sup>71</sup> Ibid. at p. 21

<sup>72</sup> Ibid.

<sup>73</sup> Ibid.

around customer schedules or line outages. Heavy equipment would be equipped with sound attenuation devices such as mufflers to minimize noise levels.<sup>74</sup>

76. Noise associated with substation operation includes the operation of transformers and switchgear. Transformers produce a constant low-frequency humming noise while switchgear produces an impulsive or short duration noise. Applicants would install one 115 to 12.5 kV transformer at the CWP Little Falls Substation, no transformers would be installed at the Minnesota Power Little Falls Substation.<sup>75</sup>
77. The nearest home to the CWP Little Falls Substation is located approximately 1,485 feet north of the substation. Estimated noise from the substation at the nearest home would be approximately 16 dBA.<sup>76</sup>
78. Applicants estimate that noise generated from the transmission line and associated facilities to be no more than 18.8 dBA L<sub>5</sub> directly under the line and 17.7 dBA L<sub>5</sub> at the edge of the right-of-way, which is below typical ambient levels and the most stringent Noise Area Classification level of 50 dB(A) L<sub>50</sub> established by the MPCA.<sup>77</sup>

#### *Public Health and Safety*

79. The Applicants will ensure that all safety requirements meet NESC standards during the construction and operation of the project.<sup>78</sup>
80. The project would be designed in compliance with local, state, NESC, and GRE/Minnesota Power standards for clearance to ground, crossing utilities and buildings, strength of materials, and right-of-way widths, and permit requirements.<sup>79</sup>
81. The transmission line would be equipped with protective devices to safeguard the public if an accident occurs. The protective equipment is designed to de-energize the transmission line should such an event occur.<sup>80</sup>
82. Substations will be fenced and accessible only by authorized personnel.
83. The issue of electric and magnetic fields was discussed in the environmental assessment.<sup>81</sup> A number of national and international health agencies (the Minnesota Department of

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<sup>74</sup> Ex. 16 at p. 24 (EA)

<sup>75</sup> Ibid.

<sup>76</sup> Ibid.

<sup>77</sup> Ibid. at pp. 23-24

<sup>78</sup> Ex. 2 at p. 8-2 (Application)

<sup>79</sup> Ibid.

<sup>80</sup> Ibid.

Health, the World Health Organization, the National Institute of Environmental Health Sciences) have concluded in their research that there is insufficient evidence to prove a connection between electric and magnetic field exposures and health effects. Research has not been able to establish a cause and effect relationship between exposure to magnetic fields and human disease, nor a plausible biological mechanism by which exposure to electric and magnetic fields could cause disease.<sup>82</sup>

84. Applicants have calculated magnetic fields for this project under average and emergency load conditions. Emergency load conditions would occur in rare instances where one transmission line fails and the load normally carried by the line experiencing failure is shifted to another line. The line carrying the additional electrical load is then said to be operating under emergency load conditions.<sup>83</sup> Under average load conditions, estimated magnetic fields at one meter above the ground and directly beneath the transmission line range from approximately 6 to 14 milligauss depending upon structure type. Under emergency load conditions, estimated magnetic fields range from approximately 73 to 297 miligauss depending upon structure type.<sup>84</sup> No Minnesota regulations have been established pertaining to magnetic fields from high-voltage transmission lines.<sup>85</sup>
85. The absence of any demonstrated impact by electric field and magnetic field exposure supports the conclusion that there is no demonstrated impact on human health and safety. No adverse effects from electric fields and magnetic fields on health are expected for persons living or working at locations along or near the proposed Project.<sup>86</sup>
86. The electric field from a transmission line in some instances can reach a nearby conductive object, such as a vehicle or a metal fence, which is in close proximity to the transmission line. This may induce a voltage on the object, which is dependent on many factors, including the weather conditions, object shape, size, orientation, capacitance and location along the right-of-way. If a voltage is induced on an object insulated from the ground and a person touches the object, a small current (induced voltage) would pass through their body to the ground. Most shocks from induced current are considered more of a nuisance than a danger. The Minnesota Public Utilities Commission electric field limit of 8 kV/m was designed to prevent serious hazard from shocks due to induced voltage under transmission lines. The NESC sets an induced current limit of five milliamps (mA) for objects under transmission lines. Proper grounding of metal objects under and/or adjacent to the transmission line is the best method of avoiding these shocks.<sup>87</sup>

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<sup>81</sup> Ex. 16 at pp. 25-35 (EA)

<sup>82</sup> Ibid.

<sup>83</sup> Ibid. at p. 31

<sup>84</sup> Ibid. at p. 32, Table 13

<sup>85</sup> Ibid. at p. 27, Table 9

<sup>86</sup> Ibid. at p. 33

<sup>87</sup> Ibid. at p. 34

87. Stray voltage is an extraneous voltage that appears on grounded surfaces in buildings, barns and other structures, including utility distribution systems. Sources of stray voltage include a variety of on-farm wiring and grounding problems and off-farm problems related to connections on the electric distribution system. Sometimes a small voltage can develop at these grounding points and flow through the earth. This voltage is called a neutral-to-earth voltage (NEV). More precisely, stray voltage is a small voltage that is measured between two points that animals such as livestock can simultaneously come into contact with. When an animal simultaneously contacts these points a small current will flow through the animal (Fick and Surbrook, n.d.). These NEV currents may contribute to an excess of acceptable current in a livestock contact area on an adjoining farm. As such, stray voltage has primarily been raised as a concern on dairy farms because it may impact operations and milk production. Stray voltages are low-level voltages and should be distinguished from shocks felt by humans. Stray voltages are not lethal.<sup>88</sup>
88. Stray voltage is by and large an issue associated with electrical distribution lines. Transmission lines do not create stray voltage as they do not directly connect to businesses, residences, or farms.<sup>89</sup>
89. Stray voltage (NEV) sources can be reduced in three fundamental ways: reduce the current flow on the neutral system; reduce the resistance of the neutral system; or improve the grounding of the neutral system. Making good electrical connections and making sure that these connections are maintained by the proper choice of wiring materials for wet and corrosive locations will reduce the resistance of the grounded neutral system and thereby reduce NEV levels.<sup>90</sup>
90. HVTL permits issued by the Commission require that all fixed metallic objects on or off the right-of-way, except electric fences that parallel or cross the right-of-way, will be grounded to the extent necessary to limit the induced short circuit current between ground and the object and to comply with the ground fault conditions specified in the NESC.
91. Implantable medical devices such as pacemakers, defibrillators, neurostimulators, and insulin pumps may be subject to interference from strong electric and magnetic fields. Most of the research on electromagnetic interference and medical devices is related to pacemakers. According to a 2004 Electric Power Research Institute (EPRI) report, implantable cardiac devices are much more sensitive to electric fields than to magnetic fields. In the report, the earliest interference from magnetic fields in pacemakers was observed at 1,000 mG, far greater than the magnetic fields associated with high-voltage transmission lines.<sup>91</sup>

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<sup>88</sup> Ex. 16 at p. 33 (EA)

<sup>89</sup> Ibid. at p. 34

<sup>90</sup> Ibid.

<sup>91</sup> Ibid. at pp. 34-35

92. Medtronic and Guidant, manufacturers of pacemakers and implantable cardioverter/defibrillators, have indicated that electric fields below 6 kV/m are unlikely to cause interactions affecting operation of modern bipolar devices. Older unipolar designs; however, are more susceptible to interference from electric fields with research suggesting that the earliest evidence of interference occurred in electric fields ranging from 1.2 to 1.7 kV/m. These initial interaction levels are higher than 1.013 kV/m maximum electric field predicted for this project. The risk of interference inhibition of unipolar cardiac pacemakers from high-voltage power lines in everyday life is small.<sup>92</sup>

### *Air Quality*

93. There is minimal air quality impacts associated with transmission line operation. The only potential air emissions for a transmission line result from corona. Studies designed to monitor the production of ozone under transmission lines have been unable to detect any increase attributable to the transmission line facility, in accordance with state and federal guidelines (0.075 parts per million [ppm] and 0.08 ppm, respectively).<sup>93</sup>
94. Calculations according to the Bonneville Power Administration Corona and Field Effects Program Version 3 for a standard single-circuit 115 kV project predicted a maximum concentration of 0.006 ppm near the conductor and 0.002 ppm at one meter above ground during foul weather or worst case conditions with rain at one inch per hour.<sup>94</sup>
95. Air quality impacts caused by construction vehicle emissions and fugitive dust from right-of-way clearing and construction are expected to occur, but will be temporary and limited.<sup>95</sup>
96. Temporary impacts due to construction vehicle emissions and fugitive dust would be minimized by using best management practices to reduce dust emissions. Tracking control practices and wetting of roads and temporary roads would be done to control fugitive dust. Proper maintenance of the contractor's equipment would be done to prevent excessive emissions.<sup>96</sup>
97. There would be no anticipated permanent impacts on air quality as a result of the proposed project.

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<sup>92</sup> Ex. 16 at p.36 (EA)

<sup>93</sup> Ibid.

<sup>94</sup> Ibid.

<sup>95</sup> Ibid.

<sup>96</sup> Ibid.

### *Transportation and Utilities*

98. The project area is served by township and county roads. The project would parallel township and county roads (180<sup>th</sup> Avenue, County Road 256, 133<sup>rd</sup> Street and 195<sup>th</sup> Avenue) for approximately 79 percent of the project length.<sup>97</sup>
99. Delivery of project components, such as poles and conductors, may have temporary impacts along county roads. Construction crews may use portions of the road shoulder while poles are installed and conductors are strung. During construction temporary guard or clearance poles would be installed at crossings to ensure adequate clearance over other utilities, streets, roads, highways, or other manmade infrastructure.<sup>98</sup>
100. The CWP Little Falls Substation is located on the southeast corner of the intersection of Minnesota Highway 27 and 195<sup>th</sup> Avenue. Applicants will expand the CWP Little Falls Substation to the south by approximately 5000 square feet.<sup>99</sup> The substation expansion will not encroach upon MnDOT right-of-way.
101. Depending upon final design Applicants may seek to either move or add an additional access point to the CWP Little Falls Substation further south along 195<sup>th</sup> Avenue. Access to the CWP Little Falls Substation from Minnesota Highway 27 is not required for the project.<sup>100</sup>
102. Any change in access to the CWP Little Falls Substation would require approval from Morrison County.<sup>101</sup>
103. Applicants will notify MnDOT, County, and township road authorities to inform them of construction plans and ensure that all necessary permits are obtained and traffic impacts are minimized. During construction Applicants will install temporary guard or clearance poles at road crossings to ensure adequate clearance is maintained over other utilities, roads, or highways. Applicants will use traffic safety signage and flaggers as necessary during construction activities to minimize traffic disruption and ensure public safety. Guard structures, such as temporary wood poles with a cross arm or line trucks with booms, can be used to protect traffic lanes.<sup>102</sup>
104. There are no railroads in the project area. The nearest airport is the Little Falls/Morrison County – Lindbergh Field Airport, a public airport serving mostly general aviation, located

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<sup>97</sup> Ex. 16 at p. 36 (EA)

<sup>98</sup> Ibid.

<sup>99</sup> Ibid. at pp. 15, 36

<sup>100</sup> Ibid. at p. 37

<sup>101</sup> Ibid.

<sup>102</sup> Ibid.

approximately two miles southwest of the project. It is not anticipated that the project would impact air traffic.<sup>103</sup>

105. CWP provides electrical service to the project area. The project will not change electric service, but will increase reliability of the electric transmission grid.<sup>104</sup> As part of the project, Applicants intend to relocate existing CWP overhead and underground electric distribution lines along 133<sup>rd</sup> Street/County Road 256 and 195<sup>th</sup> Avenue to new underbuild structures.<sup>105</sup>

106. The project will cross two parallel eight-inch Northern Natural Gas pipelines at two points along its route; approximately 1,000 feet north of County Road 256/133<sup>rd</sup> Street and again approximately 1,000 feet south of the CWP Little Falls Substation. When a high-voltage alternating current transmission line is located adjacent to a pipeline ROW, the pipeline may be subject to electric and magnetic induction if there are flaws in the pipeline coating. This induction has the potential to cause corrosion in the pipeline.<sup>106</sup>

107. GRE will perform tests to identify any potential corrosion issues to the pipeline that may occur as a result of the project. Based on the results of the tests, GRE will work with Northern Natural Gas to identify appropriate mitigation measures to ensure that the pipeline is properly grounded.<sup>107</sup>

108. The Applicants will not install water or wastewater facilities at either substation.<sup>108</sup>

109. Construction of the project is not anticipated to directly or indirectly impact the area transportation corridors, airports, emergency infrastructure, or utilities.

### *Zoning and Compatibility*

110. The project is located in an area designated as Agricultural (AG) by Morrison County Zoning Ordinance. The project would be exempt from a Conditional Use Permit under the county zoning ordinance. Other than a loss of some agricultural land, as discussed in Finding 117, no impacts to land use or zoning are anticipated.<sup>109</sup>

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<sup>103</sup> Ex. 16 at p. 37 (EA)

<sup>104</sup> Ibid.

<sup>105</sup> Ex. 24 at 4 (ALJ Report)

<sup>106</sup> Ex. 16 at 37 (EA)

<sup>107</sup> Ibid.

<sup>108</sup> Ibid.

<sup>109</sup> Ibid. at pp. 37-38

### *Recreation and Tourism*

111. The Popple Lake Wildlife Management Area (WMA) is located approximately 1,500 feet west of the Minnesota Power Little Falls Substation. The Popple Lake WMA comprises approximately 223 acres and is primarily a wetland area with cattails, low land grass and brush, with some oak woods along its edges. There is no public access to the WMA, access is available by contacting Minnesota Power to request access to the WMA through the substation property.<sup>110</sup>
112. The Platte River Trail System is approximately one mile south of the Route, and the Soo Line ATV trail is approximately three miles south of the route.<sup>111</sup>
113. Direct impacts on existing recreational opportunities within the proposed project location will be avoided because the Route will not cross these areas.<sup>112</sup>
114. At a distance of one to three miles, visual impacts to the recreational uses along the identified trails would be minimal.<sup>113</sup>
115. No impacts on recreation resources are anticipated from the proposed project.<sup>114</sup>

### *Land Based Economies*

116. Approximately 92 percent of the route crosses areas of cultivated agricultural land and approximately 5 percent of the route crosses pasture, hay and grassland. The area in which the CWP Little Falls Substation will be expanded has most recently been planted in alfalfa.<sup>115</sup>
117. The project would result in permanent and temporary impacts to agricultural land. Permanent impacts will occur where structures are placed, resulting in loss of approximately 30 square feet around each structure placement. Approximately 1900 square feet, or 0.04 acres, along the route would be permanently impacted by transmission structures and an additional impact of approximately 0.1 acres from the expansion of the CWP Little Falls Substation.<sup>116</sup>
118. Temporary impacts, such as soil compaction, disruption of agricultural practices, and crop damage within the right of way are likely to occur during construction. Construction of the

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<sup>110</sup> Ex. 16 at p. 38 (EA)

<sup>111</sup> Ibid.

<sup>112</sup> Ibid.

<sup>113</sup> Ibid.

<sup>114</sup> Ibid. at p. 39

<sup>115</sup> Ibid. at p. 38

<sup>116</sup> Ibid. at p. 39

new transmission structures and removal of existing distribution structures will require repeated access to install foundations, structures and conductors. Impacts would originate from the various construction vehicles required to install the transmission line and structures, and may result in rutting and compaction of soil and farm fields.<sup>117</sup>

119. Applicants anticipate that the majority of construction activity will occur within the easements acquired for the route. If needed, a temporary storage area outside of the easement area would be leased for the duration of construction to provide for storage of material and equipment.<sup>118</sup>

120. According to information on aggregate resources maintained by MnDOT, two active aggregate pits are located across Minnesota Highway 27, northwest of the CWP Little Falls Substation. The project would not impede access to or otherwise impact these resources.<sup>119</sup>

121. Although the route crosses some wooded areas where landowners may occasionally sell timber there are no federal, state, or locally designated forests or commercial logging operations located along the route.<sup>120</sup>

#### *Geology and Soils*

122. Excavations for the substation and transmission structures are anticipated to be approximately 10 to 30 feet in depth. No geologic impacts are anticipated from the project.<sup>121</sup>

123. Temporary short-term disturbance of soils would result from site clearing and excavation activities at the CWP substation, structure locations, pulling and tensioning sites, setup areas and during transport of crews, machinery, materials and equipment over access routes primarily along transmission right-of-way.<sup>122</sup>

124. If construction activities require disturbing more than one acre of soil Applicants will apply for a National Pollutant Discharge Elimination System (NPDES) construction stormwater permit from the MPCA and would prepare a Stormwater Pollution Prevention Plan (SWPPP).

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<sup>117</sup> Ex. 16 at p. 39 (EA)

<sup>118</sup> Ibid.

<sup>119</sup> Ibid.

<sup>120</sup> Ibid., Ex. 23 at p. 26 (Hearing Transcript)

<sup>121</sup> Ex. 16 at p. 40 (EA)

<sup>122</sup> Ibid. at p. 41

125. Erosion control methods and BMPs pursuant to MPCA requirements will be utilized to protect topsoil and minimize erosion during construction.<sup>123</sup>
126. Applicants will minimize soil erosion by using mulch in areas that need immediate cover and re-vegetating soils as soon as possible after disturbance. Mulch may be applied to form a temporary and protective cover on exposed soils. Mulch can help retain moisture in the soil to promote vegetative growth, reduce evaporation, insulate the soil, and reduce erosion. A common mulch material used is hay or straw. Re-vegetation is usually accomplished by seeding of species native to the area.<sup>124</sup> MnDOT and the DNR have researched various seed mixes and have identified mixes for specific site characteristics and uses.
127. Areas disturbed during construction will be repaired and restored to pre-construction contours so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that will facilitate re-vegetation, provide for proper drainage, and prevent erosion.<sup>125</sup>

#### *Water and Wetland Resources*

128. Applicants do not plan to install any wells as part of the project. Excavations required for transmission structures and substation modifications are expected to be 10 to 30 feet deep. Wells in the project area range in depth from 70 to 125 feet. No groundwater impacts are anticipated from the project.<sup>126</sup>
129. The route does not cross any Public Waters lakes, rivers, streams, ditches or riparian areas. The route does not cross any areas identified as shoreland overlay districts by Morrison County. No direct impacts to surface waters or shoreland areas are expected.<sup>127</sup>
130. Indirect impacts to surface water resources from construction of the project could include sedimentation reaching surface waters during construction due to ground disturbance by excavation, grading, and construction traffic.<sup>128</sup>
131. Applicants have committed to maintaining sound water and soil conservation practices during construction and operation of the project to protect surface water resources. Practices may include containment of stockpiled material away from stream banks and lake shorelines; stockpiling and re-spreading topsoil; and re-seeding disturbed areas.<sup>129</sup>

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<sup>123</sup> Ex. 2, at p. 8-19 (Application) , Ex. 16 at p. 41 (EA)

<sup>124</sup> Ex. 2, at p. 8-23 (Application)

<sup>125</sup> Ibid. at p. 8-13

<sup>126</sup> Ex. 16 at pp. 41-42 (EA)

<sup>127</sup> Ibid. at p. 42

<sup>128</sup> Ibid. at p. 42

<sup>129</sup> Ibid. at p. 43

132. Applicants will implement Erosion and sediment control methods and BMPs pursuant to MPCA requirements will be utilized to protect surface water resources from runoff and sedimentation during construction.<sup>130</sup>
133. In addition to erosion control measures, fueling and lubricating of construction equipment away from waterways would ensure that fuel and lubricants do not enter waterways.<sup>131</sup>
134. As discussed in Finding 124, if the project disturbs more than one acre, Applicants will apply for an NPDES construction stormwater permit from the MPCA and prepare a SWPPP. If the project disturbs less than one acre, Applicants can identify the BMPs employed to minimize impacts to soils and the potential for erosion minimized in a Soil Erosion and Sediment Control Plan.
135. National Wetland Inventory (NWI) developed by the United States Fish and Wildlife Service (USFWS) shows a large wetland complex south of 133<sup>rd</sup> street extending into the Rice-Skunk WMA and crossing the project at several points along 133<sup>rd</sup> street. The route does not cross any Public Water Inventory wetlands.<sup>132</sup>
136. Applicants intend to avoid pole placement in wetlands to the extent possible by spanning wetlands along the route. Applicants will design the route to locate poles outside of NWI wetlands. If soil survey information at pole locations indicates wetland soils, Applicants will attempt to adjust pole locations to span wetlands to the extent possible.<sup>133</sup>
137. If a Regional General Permit under Section 404 of the Clean Water Act is required from the United States Corps of Engineers, Applicants will restore wetlands as required by the Corps and comply with the requirements of the Wetland Conservation Act.<sup>134</sup>
138. Applicants have agreed to minimize potential impacts to wetlands by locating staging and stringing areas outside of and not adjacent to wetlands or water resources, spanning wetlands to the greatest extent possible, assembling structures on upland areas before bringing them to the site for installation; having construction crews access wetland areas with the least amount of physical impact to wetlands; and use of construction mats (wooden mats or a composite mat system) during construction in wetland areas.<sup>135</sup>

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<sup>130</sup> Ex. 2, at p. 8-19 (Application) and Ex. 16 at p. 43 (EA)

<sup>131</sup> Ex. 16 at p. 43 (EA)

<sup>132</sup> Ibid.

<sup>133</sup> Ibid. at p. 44 (EA)

<sup>134</sup> Ibid.

<sup>135</sup> Ibid.

139. The proposed project is not located within floodplains or floodways mapped by Federal Emergency Management Agency (FEMA) and would not impact the function of any floodplains.<sup>136</sup>

#### *Archaeological and Historic Resources*

140. A background research and literature review commissioned by the Applicants did not identify any archaeological site or documented standing structure within a one-mile buffer of the proposed route. The Minnesota State Historic Preservation Office (SHPO) reviewed the report and other available information and concluded that no known or suspected archaeological properties in the area will be affected by the project.<sup>137</sup> The project avoids historic architectural properties and known archaeological properties.<sup>138</sup>

141. In the event of an unanticipated discovery of cultural resources during project construction, HVTL permits require permittees to stop construction activities and consult with a professional archaeologist and the SHPO to determine the proper course of action. If a cultural resource or feature is determined to be potentially eligible for listing on the National Register of Historic Places, it will be avoided or mitigated before construction can resume.<sup>139</sup>

#### *Flora (Plant life)*

142. Vegetation along the route is currently dominated by agricultural uses including cultivated fields, pockets of upland deciduous forest, shrubby grasslands, grasslands and wetlands.<sup>140</sup>

143. Applicants anticipate that approximately 3.6 acres of trees would be permanently removed to construct and operate the project.<sup>141</sup>

144. Approximately 79 percent of the route is located immediately adjacent to existing road rights-of-way, minimizing the width of right-of-way required.<sup>142</sup>

#### *Fauna (Wildlife)*

145. Wildlife within the project area consists primarily of deer, small mammals, waterfowl, raptors, and perching birds. These species are typical of the land use in the project area.<sup>143</sup>

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<sup>136</sup> Ex. 16 at p. 44 (EA)

<sup>137</sup> Ex. 4 (SHPO response letter)

<sup>138</sup> Ex. 16, at p. 46 (EA)

<sup>139</sup> Ibid. at p. 47

<sup>140</sup> Ibid. at p. 44

<sup>141</sup> Ibid.

<sup>142</sup> Ibid. at p. 45

<sup>143</sup> Ibid.

146. During construction, wildlife could temporarily be displaced and small amounts of habitat could be lost from the project area. Similar forested and agricultural habitats are found adjacent to the route. These species would only be displaced a short distance and would not incur population level effects due to construction of the transmission line. No permanent impacts to wildlife populations are anticipated.<sup>144</sup>
147. The primary impact presented to fauna by transmission lines is the potential for injury and death of raptors, waterfowl, and other large bird species.<sup>145</sup>
148. Electrocutation can occur when birds with large wingspans come in contact with two conductors or with a conductor and a grounding device. The electrocution of large birds, such as raptors, is more commonly associated with small distribution lines than large transmission lines. The Applicants' transmission line design standards provide adequate spacing to eliminate the risk of raptor electrocution and will minimize potential avian impacts from the project.<sup>146</sup>
149. Avian collisions are also a recognized possibility with the construction and placement of a new transmission line. Collision frequency may increase when a new transmission line is located between feeding and resting areas such as, agricultural fields, wetlands, or open water.<sup>147</sup>
150. The USFWS and DNR both recommend installation of bird flight diverters along the transmission line to minimize the potential for avian collision. In most cases, the shield wire of an overhead transmission line is the most difficult part of the structure for birds to see.<sup>148</sup> After consultation with the DNR, Applicants will install Swan Flight Diverters, pre-formed spiral shaped devices made of polyvinyl chloride that are wrapped around the shield wire, every 25 feet along 180<sup>th</sup> Avenue and portions of 133<sup>rd</sup> Street/County Road 256 and 195<sup>th</sup> Avenue.

#### *Rare and Unique Natural Resources*

151. No rare or unique flora features along the route. No impacts to identified native plant communities or sensitive plant species are anticipated.<sup>149</sup>
152. Blanding's turtle, listed as threatened at the state level, have been reported in the project area.<sup>150</sup>

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<sup>144</sup> Ex. 16 at p. 45 (EA)

<sup>145</sup> Ibid.

<sup>146</sup> Ibid.

<sup>147</sup> Ibid.

<sup>148</sup> Ibid.

<sup>149</sup> Ibid. at p. 44

<sup>150</sup> Ibid. at p. 45

153. The USFWS indicated that there are no federally-listed or proposed species and/or designated or proposed critical habitat within the action area of the proposed project.<sup>151</sup>

154. Impacts to the Blanding's turtle can be avoided or minimized by adopting the mitigation measures recommended by the DNR, which include, but are not limited to, the following:

- A flyer with an illustration of a Blanding's turtle will be given to all contractors working in the area. Homeowners will also be informed of the presence of Blanding's turtles in the area;
- Turtles which are in imminent danger will be moved, by hand, out of harm's way. Turtles which are not in imminent danger will be left undisturbed;
- If a Blanding's turtle nest is in a yard, it will not be disturbed. Silt fencing will be set up to keep turtles out of construction areas. Silt fencing will be removed after the area has been re-vegetated;
- Small, vegetated temporary wetlands (Types 2 & 3) will not be dredged, deepened, filled, or converted to storm water retention basins (these wetlands provide important habitat during spring and summer);
- Wetlands will be protected from pollution; use of fertilizers and pesticides will be avoided, and run-off from lawns and streets will be controlled. Erosion will be prevented to keep sediment from reaching wetlands and lakes; and
- Vegetation management in infrequently mowed areas, such as in ditches, along utility access roads, and under power lines, will be done mechanically (chemicals will not be used). Work will occur fall through spring (after October 1st and before June 1st).<sup>152</sup>

### *Interference*

155. Corona from transmission line conductors can generate electromagnetic "noise" in the radio frequency range. This noise may cause broadband interference at the same frequencies that many communication and media signals are transmitted. This noise can cause interference with the reception of these signals depending on the frequency and strength of the signal. Loose hardware on the transmission line may also cause interference.<sup>153</sup>

156. Digital and satellite television are expected to have little interference from corona generated noise. Line of site for satellite television users could be obstructed by a transmission line structure. Line of site can usually be restored by moving the consumer satellite dish to a slightly different location.<sup>154</sup>

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<sup>151</sup> Ex. 16 at p. 45 (EA).

<sup>152</sup> Ibid. at p. 46

<sup>153</sup> Ibid. at p. 47

<sup>154</sup> Ibid. at pp. 47-48

157. Wireless internet and cellular phones are not expected to be impacted by the proposed project.<sup>155</sup>

158. AM radio frequency interference typically occurs immediately under a transmission line and dissipates rapidly to either side. If radio interference from transmission line corona does occur, satisfactory reception from AM radio stations can be restored by appropriate modification of (or addition to) the receiving antenna system.<sup>156</sup>

159. Corona-generated noise from transmission lines could be a source of interference for global positioning systems (GPS). Any transmission line structure that is placed in an agricultural field would have GPS coordinates that may be added to the farmer's GPS unit coordinates. However, if the GPS unit is not configured to accept new coordinates, the user would have to manually divert around any structures placed in fields. There are also specialty antennas that can be connected to existing GPS-based systems that will increase reception.<sup>157</sup>

### **Certificate of Need**

160. Pursuant to Minnesota Statute 216B.243, subdivision 2, "No large energy facility shall be sited or constructed in Minnesota without the issuance of a certificate of need by the Commission." In the case of a high-voltage transmission line, a large energy facility is defined as, (1) any high-voltage transmission line with a capacity of 200 kV or more and greater than 1,500 feet in length, and (2) any high-voltage transmission line with a capacity of 100 kV or more with more than ten miles of its length in Minnesota or that crosses a state line.

161. The project does not meet the criteria for a "large energy facility" because, although it has a capacity in excess of 100 kV, it is less than 10 miles long.

### **Summary of Human and Environmental Impacts and Commitment of Resources**

162. The route analyzed in the EA has human and environmental impacts, some of which are unavoidable if the project is permitted and built. Construction of the project will generate temporary noise impacts during the construction phase, new and incrementally taller transmission line structures and an expanded CWP Little Falls Substation would change the viewshed experienced by residents and travelers in the project area, a new or additional driveway to the CWP Little Falls Substation may be installed along 195<sup>th</sup> Avenue, approximately 0.1 acres of land would be removed from agricultural production, and approximately 3.6 acres of trees would be removed to construct and operate the project.<sup>158</sup>

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<sup>155</sup> Ex. 16 at p. 48 (EA)

<sup>156</sup> Ibid. at p. 47

<sup>157</sup> Ibid. at p. 48

<sup>158</sup> Ibid. at pp. 50-51

163. There are few commitments of resources associated with this project that are irreversible and irretrievable, but those that do exist are primarily related to construction. Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the use of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action. Construction resources that would be used include aggregate resources, concrete, steel, and hydrocarbon fuel.

### **Applicable Statutory Conditions**

164. Minnesota Statute §216B.243, subdivision 2, states that no large energy facility shall be sited or constructed in Minnesota without the issuance of a certificate of need by the Commission. Minnesota Statute §216B.2421, subdivision 2(3) defines a “large energy facility” as any high voltage transmission line with a capacity of 100 kV or more with more than ten miles of length or that crosses a state line.

165. Minnesota Statute §216E.03, subdivision 7, and Minnesota Rule 7850.4100 provides considerations in designating sites and routes and determining whether to issue a permit for a large electric power generating plant or a high-voltage transmission line.

Based on the Findings of Fact the Commission makes the following:

### **CONCLUSIONS OF LAW**

1. Any of the foregoing Findings more properly designated as Conclusions are hereby adopted as such.
2. The Public Utilities Commission has jurisdiction over the subject matter of this proceeding pursuant to Minnesota Statute §216E.03, subdivision 2.
3. The project qualifies for review under the alternative permitting process of Minnesota Statute §216E.04 and Minn. Rules 7850.2800.
4. The Applicants, the Department of Commerce, and the Public Utilities Commission have complied with all procedural requirements required by law.
5. The Department of Commerce has completed an EA of this project as required by Minnesota Statute §216E.04, subdivision 5, and Minnesota Rule 7850.3700.

6. The Public Utilities Commission has considered all the pertinent factors relative to its determination of whether a route permit should be approved as required by Minnesota Statute §216E.03, subdivision 7, and Minnesota Rule 7850.4100.
7. The conditions included in the route permit are reasonable and appropriate.

Based on the Findings of Fact, Conclusions of Law contained herein and the entire record of this proceeding, the Commission hereby makes the following:

### **ORDER**

1. A route permit for the Proposed Route, as requested in the route permit application, is hereby issued to Great River Energy and Minnesota Power to construct approximately 3.8 miles of new 115 kV overhead transmission line to be located Little Falls Township in Morrison County, Minnesota. This includes modifications and upgrades to existing substations and associated facilities that are part of the project.
  - a. The 115 kV transmission line exits the east side of the Minnesota Power Little Falls Substation and continues east approximately 0.8 miles cross-country, before turning south for approximately 0.5 miles along (the east side of) 180<sup>th</sup> Avenue. When the route reaches County Road 256/133<sup>rd</sup> Street, the route turns east, following County Road 256/133<sup>rd</sup> Street for approximately 1.5 miles before tuning north along 195<sup>th</sup> Avenue for approximately 1.0 mile to the Crow Wing Power Little Falls Substation.
  - b. The route width for the entire length of the transmission line is 300 feet, 150 feet on each side of the proposed alignment between the Minnesota Power Little Falls Substation and 180<sup>th</sup> Avenue; 150 feet on either side of 180<sup>th</sup> Avenue, 133<sup>rd</sup> Street/County Road 256, and 195<sup>th</sup> Avenue.
2. The route permit shall be issued in the form attached hereto, with a map showing the approved route.

BY ORDER OF THE COMMISSION

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Burl W. Haar,  
Executive Secretary

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In the Matter of the Route Permit  
Application for the Little Falls 115 kV  
Transmission Line Project

**Exhibit List**

PUC Docket: ET-2, E015/TL-11-318

<b>Exhibit No.</b>	<b>Author</b>	<b>Description</b>	<b>Received Date</b>	<b>eDocket Document Number</b>
1	Applicant	Notification of intent to file pursuant to alternative process	April 11, 2011	<a href="#">20114-61173-01</a>
2	Applicant	HVTL Route Permit Application	June 16, 2011	<a href="#">20116-63715-01</a> <a href="#">20116-63715-02</a> <a href="#">20116-63715-03</a> <a href="#">20116-63715-04</a> <a href="#">20116-63715-05</a>
3	Applicant	Notice of Application Filing, affidavits of service (June 29, 2011) and Affidavit of Publication in the <i>Morrison County Record</i> (July 26, 2011)S	June 29, 2011, July 22, 2011, and July 26, 2011	<a href="#">20116-64201-01</a> <a href="#">20116-64206-01</a> <a href="#">20117-64510-01</a> <a href="#">20117-64599-01</a>
4	Applicant	SHPO response to Westwood letter on Survey Recommendations	July 22, 2011	<a href="#">20117-64490-01</a>
5	EFP	EFP staff comments and recommendations to the Commission on application acceptance	July 27, 2011	<a href="#">20117-64661-01</a>
6	Commission	Order of Application Acceptance	August 8, 2011	<a href="#">20118-65140-01</a>
7	EFP	Notice of Public Scoping Meeting (with Affidavit of Service)	August 18, 2011	<a href="#">20118-65513-01</a>
8	Applicant	Notice of Public Scoping Meeting (with Affidavit of Publication) –August 28, 2011	January 9, 2012	<a href="#">20121-70076-01</a>
9	EFP	Public Comments (oral) made at the information/scoping meeting September 7, 2011	October 4, 2011	<a href="#">201110-66937-01</a>
10	EFP	Public Comments (written) received during scoping comment period	October 4, 2011	<a href="#">201110-66934-01</a>

<b>Exhibit No.</b>	<b>Author</b>	<b>Description</b>	<b>Received Date</b>	<b>eDocket Document Number</b>
11	DOC	DOC Deputy Director's Scoping Decision (with Certificate of Service)	October 7, 2011, and October 10, 2011 (corrected service list)	<a href="#">201110-67109-01</a> <a href="#">201110-67182-01</a>
12	Applicants	Letter advising Commission on status of Minnesota Power Line 46	December 15, 2011	<a href="#">201112-69270-01</a>
13	EFP	Notice of Public Hearing (with Certificate of Service)	December 22, 2011	<a href="#">201112-69530-01</a>
14	EFP	Notice of Public Hearing (with certified letters to Local Governments, sent December 22, 2011)	January 10, 2012	<a href="#">20121-70121-01</a>
15	Applicants	Notice of Public Hearing (with Affidavit of Publication, December 25, 2011)	January 9, 2012	<a href="#">20121-70078-01</a>
16	EFP	Environmental Assessment	January 5, 2012	<a href="#">20121-69953-01</a> <a href="#">20121-69953-02</a>
17	EFP	Notice of Availability of EA (with Certificate of Service)	January 5, 2012	<a href="#">20121-69952-01</a>
18	EFP	Notice of Availability of EA in the <i>EQB Monitor</i> (January 9, 2012)	January 10, 2012	<a href="#">20121-70120-01</a>
19	Applicants	Maps showing proposed alignment	January 11, 2012	<a href="#">20121-70160-01</a>
20	Applicants	Map showing route width	January 11, 2012	<a href="#">20121-70184-02</a>
21	Applicants	Proposed Project structures	January 11, 2012	<a href="#">20121-70184-01</a>
22	Public	DNR Comments to Judge Johnson	January 27, 2012	<a href="#">20122-71617-01</a>
23	OAH	Transcript of Public Hearing	January 23, 2012	<a href="#">20121-70562-01</a>
24	OAH	ALJ Summary	February 24, 2012	<a href="#">20122-71860-01</a>

**STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION**

**ROUTE PERMIT FOR CONSTRUCTION OF A HIGH-VOLTAGE TRANSMISSION  
LINE AND ASSOCIATED FACILITIES**

**MORRISON COUNTY**

**ISSUED TO  
GREAT RIVER ENERGY & MINNESOTA POWER  
PUC DOCKET NO. ET2, E015/TL-10-1307**

In accordance with the requirements of Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850, this route permit is hereby issued to:

**GREAT RIVER ENERGY & MINNESOTA POWER**

Great River Energy (GRE) and Minnesota Power (MP) are authorized by this route permit to construct approximately 3.8 miles of new 115 kV transmission line between Minnesota Power's Little Falls Substation and Crow Wing Power's Little Falls Distribution Substation, to modify the Minnesota Power Little Falls Substation to accommodate the new 115 kV transmission line and to expand and modify the Crow Wing Power Little Falls Substation in Morrison County, Minnesota to accommodate the new 115 kV transmission line.

The transmission line and associated facilities shall be built within the route identified in this permit, as portrayed on the official route maps, and in compliance with the all other conditions specified in this permit.

Approved and adopted this \_\_\_\_\_ day of March, 2012

BY ORDER OF THE COMMISSION

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Burl W. Haar,  
Executive Secretary

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**ATTACHMENTS**

- Complaint Handling Procedures for High-Voltage Transmission Lines
- Permit Compliance Filings
- Compliance Filing Procedures for Permitted Energy Facilities

**ROUTE MAPS**

- Overview Route
- HVTL Route Aerial Maps

## 1 ROUTE PERMIT

The Minnesota Public Utilities Commission (Commission) hereby issues this route permit to Great River Energy and Minnesota Power (Permittees) pursuant to Minnesota Statute 216E.03 and Minnesota Rules 7850. This permit authorizes the Permittees to construct approximately 3.8 miles of new 115 kV transmission line and associated facilities in Morrison County, Minnesota and as identified in the attached route permit maps, hereby incorporated into this document.

## 2 PROJECT DESCRIPTION

The Permittees are authorized to construct a project comprising construction of a new 115 kV transmission line and associated facilities described as:

- Construction of approximately 3.8 miles of new 115 kV transmission line between the Minnesota Power Little Falls Substation and the Crow Wing Power Little Falls Substation.
- Modifications to the Minnesota Power Little Falls Substation to accommodate the new 115 kV transmission line.
- Modifications to and expansion of the Crow Wing Power Little Falls Substation to accommodate the new 115 kV transmission line.

This project will result in a new 115 kV line between the Minnesota Power Little Falls Substation and the Crow Wing Power Little Falls Substation and modifications to the Minnesota Power Little Falls Substation and modifications and expansion of the Crow Wing Power Little Falls Substation to accommodate the new 115 kV transmission line.

### 2.1 Project Location

The Little Falls 115 kV Transmission Project will be located southeast of Little Falls in Little Falls Township in Morrison County, Minnesota.

Route	County	Township Name	Township	Range	Sections
Proposed Route	Morrison	Little Falls	40N	30W	18
Proposed Route	Morrison	Little Falls	40N	31W	13, 14

### 2.2 Associated Facilities and Substations

The project includes modifications to the Minnesota Power Little Falls Substation and modifications to and an expansion of the Crow Wing Power Little Falls Substation to accommodate the new 115 kV transmission line.

### Minnesota Power Little Falls Substation

Minnesota Power will modify the Minnesota Power Little Falls Substation to add:

- A new 115 kV breaker.
- Disconnect Switches.
- Station class surge arresters.

The modifications to the Minnesota Power Little Falls Substation will be installed within the existing fenced area of the substation, not expansion of the fenced area will be required.

### Crow Wing Power Little Falls Substation

Crow Wing Power currently owns and operates the 34.5 kV Little Falls Distribution Substation on the southeast corner of the intersection of Minnesota Highway 27 and 195<sup>th</sup> Avenue. The substation would be expanded approximately 50 feet to the south to add:

- A new 115 - 12.5 kV transformer.
- Two-way 115 kV transmission line switch with an interrupting device.
- 115 kV High side terminal structure.
- Circuit switcher protection device.

## **2.3 Structures and Conductors**

The primary structure or tangent structures the Permittees shall use for the project is a single-circuit wood post structures with horizontal posts. The tangent structures will be approximately 60 feet to 85 feet in height with an average span of 300 feet to 400 feet between structures.

Structures along 133<sup>rd</sup> Street/County Road 256 and 195<sup>th</sup> Avenue would be designed to carry distribution lines under the transmission line using wood post structures and underbuilt with the existing distribution lines using distribution crossarms. The structures would be approximately 70 feet to 85 feet in height with an average span of 250 feet to 300 feet between structures.

Where angles in the line are required it is anticipated that guyed angle structures using anchors and support cables will be the primary type of structure used. Where guying is not practicable, direct embedded laminated wood poles or steel poles on drilled pier concrete foundations will be utilized.

For the cross-country portion of the Project between the Minnesota Power Little Falls Substation and 180<sup>th</sup> Avenue, Permittees shall use either H-frame structures, with heights of approximately 60 feet to 80 feet and spans of approximately 300 to 400 feet, or Single Pole Braced Post Delta Configuration structures with heights of approximately 60 feet to 85 feet and spans of 400 to 600 feet.

Transmission structures will have three single conductor phase wires. To protect from lightning strikes one shield wire would be used on single pole structures and two shield wires would be used on H-frame structures; at least one of the shield wires will be 0.528 optical ground wire.

It is anticipated that the phase wires will be 795 thousand circular mil aluminum conductor steel reinforced (ACSR) comprised of seven steel core strands surrounded by 26 outer aluminum strands.

The transmission line shall be equipped with protective devices to safeguard the public if an accident occurs.

The transmission line shall be designed to meet or exceed local and state codes, the National Electric Safety Code (NESC), and North American Electric Reliability Corporation (NERC) requirements. This includes standards relating to clearances to ground, clearance to crossing utilities, clearance to buildings, strength of materials, clearances over roadways, right-of-way widths, and permit requirements.

### **3 DESIGNATED ROUTE**

The approved route is shown on the route maps attached to this permit and further designated as follows:

The 115 kV line exits the east side of the Minnesota Power Little Falls Substation and continues east approximately 0.8 miles cross-country, before turning south for approximately 0.5 miles along (the east side of) 180<sup>th</sup> Avenue. When the route reaches County Road 256/133<sup>rd</sup> Street, the route turns east, following County Road 256/133<sup>rd</sup> Street for approximately 1.5 miles before turning north along 195<sup>th</sup> Avenue for approximately 1.0 mile to the Crow Wing Power Little Falls Substation.

#### **3.1 Route Width and Alignment**

The designated route width will be 300 feet for the entire length of the Route. For the portion of the route between the Minnesota Power Little Falls Substation and 180<sup>th</sup> Avenue, the route is centered on the alignment of the east/west portion of Minnesota Power Line 46 continuing eastward to 180<sup>th</sup> Avenue. From 180<sup>th</sup> Avenue to the Crow Wing Power Little Falls Substation, the route is centered on the center line of 180<sup>th</sup> Avenue, 133<sup>rd</sup> Street/County Road 256, and 195<sup>th</sup> Avenue.

This width will provide the Permittees with flexibility for minor adjustments of the specific alignment or right-of-way to accommodate landowner requests and unforeseen conditions. The final alignment (i.e., permanent and maintained rights-of-way) will be located within this designated route unless otherwise authorized below.

The designated route identifies an alignment that minimizes the overall potential impacts to the factors identified in Minnesota Rule 7850.4100 and which was evaluated in the environmental

review and permitting process. Consequently, this permit anticipates that the actual right-of-way will generally conform to the alignment shown in the attached maps, unless changes are requested by individual landowners, unforeseen conditions are encountered, or are otherwise provided for by this permit.

Any alignment modifications within this designated route shall be located so as to have comparable overall impacts relative to the factors in Minnesota Rule 7850.4100 as does the alignment identified in this permit, and shall be specifically identified and documented in and approved as part of the Plan and Profile submitted pursuant to Section 4.1 of this permit.

Route width variations outside the designated route may be allowed for the Permittees to overcome potential site specific constraints. These constraints may arise from any of the following:

- 1) Unforeseen circumstances encountered during the detailed engineering and design process.
- 2) Federal or state agency requirements.
- 3) Existing infrastructure within the transmission line route, including but not limited to roadways, railroads, natural gas and liquid pipelines, high voltage electric transmission lines, or sewer and water lines.
- 4) Planned infrastructure improvements identified by state agencies and local government units (LGUs) and made part of the evidentiary record during the record for this permit.

Any alignment modifications arising from these site specific constraints that would result in right-of-way placement outside the designated route shall be located so as to have comparable overall impacts relative to the factors in Minnesota Rule 7850.4100 as does the alignment identified in this permit and shall also be specifically identified and documented in and approved as part of the plan and profile submitted pursuant to Section 4.1 of this permit.

### **3.2 Right-of-Way Placement**

Where the transmission line route parallels existing highway and other road rights-of-way, the transmission line right-of-way shall occupy and utilize the existing right-of-way to the maximum extent possible, consistent with the criteria in Minnesota Rule 7850.4100, the other requirements of this permit, and for highways under the jurisdiction of the Minnesota Department of Transportation (Mn/DOT), Mn/DOT rules, policies, and procedures for accommodating utilities in trunk highway rights-of-way.

### **3.3 Right-of-Way Width**

The 115 kV transmission line will be built primarily with single pole structures, which will require a 100-foot right-of-way, 50 feet on each side of the transmission line centerline. For cross-country portions of the route using H-frame structures or single pole braced post structures the right-of-way shall be up to 120 feet, or 60 feet each side of the transmission line centerline.

## **4 GENERAL CONDITIONS**

The Permittees shall comply with the following general conditions during construction of the transmission line and associated facilities and the life of this permit.

### **4.1 Plan and Profile**

At least thirty (30) days before right-of-way preparation for construction begins on any segment or portion of the project, the Permittees shall provide the Commission with a plan and profile of the right-of-way and the specifications and drawings for right-of-way preparation, construction, transmission structure specifications and locations, and restoration for the transmission line. The documentation shall include maps depicting the plan and profile including the right-of-way, alignment, and structures in relation to the route and alignment approved per the permit.

The Permittees may not commence construction until the thirty (30) days has expired or until the Commission has advised the Permittees in writing that it has completed its review of the documents and determined that the planned construction is consistent with this permit. If the Permittees intend to make any significant changes in the plan and profile or the specifications and drawings after submission to the Commission, the Permittees shall notify the Commission at least five (5) days before implementing the changes. No changes shall be made that would be in violation of any of the terms of this permit.

### **4.2 Construction Practices**

The Permittees shall follow those specific construction practices and material specifications described in the GRE/MP application to the Commission for a route permit, dated June 16, 2011, and as described in the environmental assessment and Findings of Fact, unless this permit establishes a different requirement, in which case this permit shall prevail.

#### **4.2.1 Field Representative**

At least fourteen (14) days prior to commencing construction, the Permittees shall advise the Commission in writing of the person or persons designated to be the field representative for the Permittees with the responsibility to oversee compliance with the conditions of this permit during construction.

The field representative's address, phone number, email, and emergency phone number shall be provided to the Commission and shall be made available to affected landowners, residents, public officials and other interested persons. The Permittees may change the field representative at any time upon written notice to the Commission.

#### **4.2.2 Local Governments**

During construction, the permittee shall minimize any disruption to public services or public utilities. To the extent disruptions to public services occur, these would be temporary and the permittee will work to restore service promptly.

Where any impacts to utilities have the potential to occur, permittee will work with both landowners and local agencies to determine the most appropriate transmission structure placement.

The Permittees shall cooperate with county and city road authorities to develop appropriate signage and traffic management during construction.

#### 4.2.3 Cleanup

All waste and scrap that is the product of construction shall be removed from the area and properly disposed of upon completion of each task. Personal litter, including bottles, cans, and paper from construction activities shall be removed on a daily basis.

#### 4.2.4 Noise

Construction and routine maintenance activities shall be limited to daytime working hours, as defined in Minnesota Rule 7030.0200, to ensure nighttime noise level standards will not be exceeded.

#### 4.2.5 Vegetation Removal in the Right-of-Way

The Permittees shall minimize the number of trees to be removed in selecting the right-of-way specifically preserving to the maximum extent practicable windbreaks, shelterbelts, living snow fences and vegetation in areas such as trail crossings, where vegetative screening may minimize aesthetic impacts, to the extent that such actions do not violate sound engineering principles or system reliability criteria.

Tall tree species located within the transmission line right-of-way that endanger the safe and reliable operation of the transmission facility will be removed.

In many cases certain low and slow growing species that do not exceed a mature height of 15 feet can be planted in the right-of-way to blend the difference between the right-of-way and adjacent wooded areas, to the extent that the low growing vegetation that will not pose a threat to the transmission facility or impede construction.

#### 4.2.6 Aesthetics

The Permittees shall consider input pertaining to visual impacts from landowners or land management agencies prior to final location of structures, rights-of-way, and other areas with the potential for visual disturbance. Care shall be used to preserve the natural landscape, minimize tree removal and prevent any unnecessary destruction of the natural surroundings in the vicinity of the project during construction and maintenance. Structures shall be placed at the reasonable distance, consistent with sound engineering principles and system reliability criteria, from intersecting roads, highway, or trail crossings and could cross roads to minimize or avoid impacts.

#### 4.2.7 Erosion Control

The Permittees shall follow standard erosion control measures outlined in Minnesota Pollution Control Agency (MPCA) guidance and best management practices regarding sediment control practice during construction include protecting storm drain inlets, use of silt fences, protecting exposed soil, immediately stabilizing restored soil, controlling temporary soil stockpiles, and controlling vehicle tracking.

The Permittees shall implement reasonable measures to minimize runoff during construction and shall promptly plant or seed, erect sediment control fences (e.g. biorolls, sandbags, and silt fences), apply mulch (e.g. hay or straw) on exposed soils, and/or use erosion control blankets and turf reinforcement mats to provide structural stability to bare surfaces and slopes.

When utilizing seed to establish temporary and permanent vegetative cover on exposed soil, the Permittees shall select specific site characteristic seed, certified to be free of noxious weeds.

Contours shall be graded as required so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that will facilitate re-vegetation, provide for proper drainage, and prevent erosion. All areas disturbed during construction of the facilities shall be returned to their pre-construction condition.

Where larger areas of one acre or more are disturbed or other areas designated by the MPCA, the Permittees shall prepare the required Stormwater Pollution Prevention Plan (SWPPP) and obtain a National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) construction stormwater permit from the MPCA.

#### 4.2.8 Wetlands and Water Resources

Structures shall be located to span watercourses, wetlands, and floodplains to the extent practicable and consistent with sound engineering principles. Minimal grading of areas around pole locations may be required to accommodate construction vehicles and equipment.

The Permittees shall endeavor to access wetlands and riparian areas using the shortest route possible in order to minimize travel through wetland areas and prevent unnecessary impacts wherever possible.

Construction in wetlands and riparian areas shall be scheduled during frozen ground conditions, when practicable. When construction during winter is not possible, construction mats (wooden mats or a composite mat system) shall be used to protect wetland vegetation. All-terrain construction vehicles designed to minimize soil impact in damp areas may also be used.

No staging or stringing set up areas shall be placed within or adjacent to wetlands or water resources, as practicable. The structures shall be assembled on upland areas before they are brought to the site for installation.

Soil excavated from the wetlands and riparian areas shall be contained and not placed back into the wetland or riparian area. The Permittees shall also utilize erosion control methods identified in Section 4.2.7 (Erosion Control), as warranted. Areas disturbed by construction activities shall be restored to pre-construction conditions (soil horizons, contours, vegetation, etc.).

#### 4.2.9 Temporary Work Space

The Permittees shall limit temporary easements to special construction access needs and additional staging or lay-down areas required outside of the authorized right-of-way. Space shall be selected to limit the removal and impacts to vegetation.

Temporary lay down areas outside of the authorized transmission line right-of-way will be obtained from affected landowners through rental agreements and are not provided for in this permit.

Temporary driveways may be constructed between the roadway and the structures to minimize impact by using the shortest route possible. Construction mats may also be used to minimize impacts on access paths and construction areas.

#### 4.2.10 Restoration

The Permittees shall restore the right-of-way, temporary work spaces, access roads, abandoned right-of-way, and other public or private lands affected by construction of the transmission line. Practices to restore areas impacted by construction and maintenance activities are also described in Section 4.2.7 of this permit.

Restoration within the right-of-way must be compatible with the safe operation, maintenance, and inspection of the transmission line.

Within 60 days after completion of all restoration activities, the Permittees shall advise the Commission in writing of the completion of such activities. The Permittees shall compensate landowners for any yard/landscape, crop, soil compaction, drain tile, or other damages that may occur during construction.

#### 4.2.11 Notice of Permit

The Permittees shall inform all employees, contractors, and other persons involved in the transmission line construction of the terms and conditions of this permit.

### **4.3 Periodic Status Reports**

The Permittees shall report to the Commission on progress regarding finalization of the route, design of structures, and construction of the transmission line. The Permittees need not report more frequently than monthly.

#### **4.4 Complaint Procedures**

Prior to the start of construction, the Permittees shall submit to the Commission the procedures that will be used to receive and respond to complaints. The procedures shall be in accordance with the requirements set forth in the complaint procedures attached to this permit.

#### **4.5 Notification to Landowners**

The Permittees shall provide all affected landowners with a copy of this permit and the complaints procedures at the time of the first contact with the landowners after issuance of this permit. At the time of first contact, the Permittees shall also provide all affected landowners with a copy of the *Landowner Guide to Easements* publication provided by the Department of Commerce.

The Permittees shall contact landowners prior to entering the property or conducting maintenance along the route. The Permittees shall avoid construction and maintenance practices, particularly the use of fertilizer, herbicides or other pesticides, that are inconsistent with the landowner's or tenant's use of the land (See also, Section 4.2.5).

The Permittees shall work with landowners to locate the high-voltage transmission line to minimize the loss of agricultural land, forest, and wetlands, and to avoid homes and farmsteads.

#### **4.6 Completion of Construction**

##### 4.6.1 Notification to Commission

At least three days before the line is to be placed into service, the Permittees shall notify the Commission of the date on which the line will be placed into service and the date on which construction was complete.

##### 4.6.2 As-Builts

Within 60 days after completion of construction, the Permittees shall submit copies of all the final as-built plans and specifications developed during the project.

##### 4.6.3 GPS Data

Within 60 days after completion of construction, the Permittees shall submit to the Commission, in the format requested by the Commission, geo-spatial information (ArcGIS compatible map files, GPS coordinates, associated database of characteristics, etc.) for all structures associated with the transmission line, each switch, and each substation connected.

#### **4.7 Electrical Performance Standards.**

##### 4.7.1 Grounding

The Permittees shall design, construct, and operate the transmission line in a manner that the maximum induced steady-state short-circuit current shall be limited to five

milliamperes (mA), root mean square (rms) alternating current between the ground and any non-stationary object within the right-of-way, including but not limited to large motor vehicles and agricultural equipment. All fixed metallic objects on or off the right-of-way, except electric fences that parallel or cross the right-of-way, shall be grounded to the extent necessary to limit the induced short-circuit current between ground and the object so as not to exceed one mA rms under steady state conditions of the transmission line and to comply with the ground fault conditions specified in the NESC. The Permittees shall address and rectify any induced current problems that arise during transmission line operation.

#### 4.7.2 Electric Field

The transmission line shall be designed, constructed, and operated in such a manner that the electric field measured one meter above ground level immediately below the transmission line shall not exceed 8.0 kV/m rms.

#### 4.7.3 Interference with Communication Devices

If interference with radio or television, satellite, wireless internet, GPS-based agriculture navigation systems or other communication devices is caused by the presence or operation of the transmission line, the Permittees shall take whatever action is prudently feasible to restore or provide reception equivalent to reception levels in the immediate area just prior to the construction of the line.

### 4.8 Other Requirements.

#### 4.8.1 Applicable Codes

The Permittees shall comply with applicable requirements of the NESC including clearances to ground, clearance to crossing utilities, clearance to buildings, right-of-way widths, erecting power poles, and stringing of transmission line conductors. The transmission line facility shall also meet the NERC reliability standards.

#### 4.8.2 Other Permits

The Permittees shall comply with all applicable state rules and statutes. The Permittees shall obtain all required local, state and federal permits for the project and comply with the conditions of these permits. A list of the required permits is included in the route permit application and the environmental assessment. The Permittees shall submit a copy of such permits to the Commission upon request.

#### 4.8.3 Pre-emption

Pursuant to Minnesota Statutes 216E.10, subdivisions 1 and 2, this route permit shall be the sole route approval required to be obtained by the Permittees and this permit shall supersede and preempt all zoning, building, or land use rules, regulations, or ordinances promulgated by regional, county, local and special purpose government.

#### 4.8.4 Delay in Construction

If the Permittees have not commenced construction or improvement of the route within four years after the date of issuance of this permit, the Commission shall consider suspension of the permit in accordance with Minnesota Rule 7850.4700.

#### **4.9 Archeological and Historic Resources**

If any previously unrecorded archaeological sites are discovered during construction of the project, the Permittees shall immediately stop work at the site and shall mark and preserve the site(s) and notify the Commission and the SHPO of the discovery. The Commission and the SHPO shall have three (3) working days from the time the agency is notified to conduct an inspection of the site if either agency chooses to do so. On the fourth day after notification, the Permittees may begin work on the site unless the SHPO has directed that work shall cease. In such event, work shall not continue until the SHPO determines that construction can proceed.

If human remains are encountered during construction, the Permittees shall immediately halt construction at that location and promptly notify local law enforcement authorities and the State Archaeologist. Construction at the human remains location shall not proceed until authorized by local law enforcement authorities or the State Archaeologist.

If any federal funding, permit, or license is involved or required, the Permittees shall notify the SHPO as soon as possible in the planning process to coordinate section 106 (36 C.F.R. part 800) review.

Prior to construction, construction workers shall be trained about the need to avoid cultural properties, how to identify cultural properties, and procedures to follow if undocumented cultural properties, including gravesites, are found during construction.

#### **4.10 Avian Mitigation**

The Permittees' standard transmission design shall incorporate adequate spacing of conductor(s) and grounding devices in accordance with Avian Power Line Interaction Committee standards to eliminate the risk of electrocution to raptors with larger wingspans that may simultaneously come in contact with a conductor and grounding devices.

### **5 SPECIAL CONDITIONS**

The Permittees shall provide a report to the Commission as part of the plan and profile submission that describes the actions taken and mitigative measures developed regarding the project and the following Special Conditions.

#### **5.1 Yorek Property**

For portions of the route between the Minnesota Power Little Falls Substation and 185<sup>th</sup> Avenue the Permittees shall work with the landowner to minimize tree-clearing and to minimize the number of structures to be located on the portion of the property under cultivation.

## **5.2 Swan Flight Diverters**

The Permittees shall install Swan Flight Diverters (SFDs) at intervals of 25 feet along the approved route, as shown in the maps attached to this permit.

## **5.3 Soil Erosion and Sediment Control Plan**

The Permittees shall develop a Soil Erosion and Sediment Control Plan prior to construction using stormwater management and best management practices guidance available from MPCA and shall submit the Plan to the Commission at least fourteen (14) days prior to the commencement of construction. This Plan shall specify the use of wildlife friendly erosion mesh if soil stabilization is necessary. This Plan may be the same as the Storm Water Pollution Prevention Plan (SWPPP) submitted to the PCA as part of the National Pollutant Discharge Elimination System (NPDES) permit application.

## **5.4 Blanding's Turtles**

The Permittees shall follow measures and recommendations for avoiding and minimizing impacts to Blanding's turtle populations as outlined in the *Minnesota Department of Natural Resources Division of Ecological Resources Environmental Review Fact Sheet Series for Blanding's Turtle* ([http://files.dnr.state.mn.us/natural\\_resources/animals/reptiles\\_amphibians/turtles/blanding\\_s\\_turtle/factsheet.pdf](http://files.dnr.state.mn.us/natural_resources/animals/reptiles_amphibians/turtles/blanding_s_turtle/factsheet.pdf)). Construction and maintenance personnel shall be made aware of the Blanding's turtle and their habitat during pre-construction meetings.

## **6 PERMIT AMENDMENT**

The permit may be amended at any time by the Commission. Any person may request an amendment of the conditions of this permit by submitting a request to the Commission in writing describing the amendment sought and the reasons for the amendment. The Commission will mail notice of receipt of the request to the Permittees. The Commission may amend the conditions after affording the Permittees and interested persons such process as is required.

## **7 TRANSFER OF PERMIT**

The Permittees may request at any time that the Commission transfer this permit to another person or entity. The Permittees shall provide the name and description of the person or entity to whom the permit is requested to be transferred, the reasons for the transfer, a description of the facilities affected, and the proposed effective date of the transfer.

The person to whom the permit is to be transferred shall provide the Commission with such information as the Commission shall require to determine whether the new permittee can comply with the conditions of the permit. The Commission may authorize transfer of the permit after affording the Permittees, the new permittee, and interested persons such process as is required.

## **8 REVOCATION OR SUSPENSION OF THE PERMIT**

The Commission may initiate action to revoke or suspend this permit at any time. The Commission shall act in accordance with the requirements of Minnesota Rule 7850.5100 to revoke or suspend the permit.

**MINNESOTA PUBLIC UTILITIES COMMISSION  
COMPLIANCE FILING PROCEDURE  
FOR PERMITTED ENERGY FACILITIES**

**1. Purpose**

To establish a uniform and timely method of submitting information required by the Commission energy facility permits.

**2. Scope and Applicability**

This procedure encompasses all compliance filings required by permit.

**3. Definitions**

Compliance Filing – A sending (filing) of information to the Commission, where the information is required by a Commission site or route permit.

**4. Responsibilities**

- A) The Permittees shall eFile all compliance filings with Dr. Burl Haar, Executive Secretary, Public Utilities Commission, through the Department of Commerce (DOC) eDocket system. The system is located on the DOC website: <https://www.edockets.state.mn.us/EFiling/home.jsp>

General instructions are provided on the website. Permittees must register on the website to eFile documents.

- B) All filings must have a cover sheet that includes:
- 1) Date
  - 2) Name of submitter / Permittees
  - 3) Type of Permit (Site or Route)
  - 4) Project Location
  - 5) Project Docket Number
  - 6) Permit Section Under Which the Filing is Made
  - 7) Short Description of the Filing

Filings that are graphic intensive (e.g., maps, plan and profile) must, in addition to being eFiled, be submitted as paper copies and on CD. Copies and CDs should be sent to: 1) Dr. Burl W. Haar, Executive Secretary, Minnesota Public Utilities Commission, 121 7<sup>th</sup> Place East, Suite 350, St. Paul, MN, 55101-2147, and 2) Department of Commerce, Energy Facility Permitting, 85 7<sup>th</sup> Place East, Suite 500, St. Paul, MN, 55101-2198.

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## PERMIT COMPLIANCE FILINGS<sup>1</sup>

**PERMITTEES:** Great River Energy/Minnesota Power  
**PERMIT TYPE:** HVTL Route Permit  
**PROJECT LOCATION:** Morrison County  
**PUC DOCKET NUMBER:** ET2, E015/TL-11-318

<b>Filing Number</b>	<b>Permit Section</b>	<b>Description</b>	<b>Due Date</b>
<b>1</b>	4.1	Plan and profile of right-of-way	30 days before ROW preparation or construction
<b>2</b>	4.2.1	Contact information for field representative	14 days prior to construction
<b>3</b>	4.2.10	Restoration Complete	60 days after completion of all restoration activities
<b>4</b>	4.3	Periodic Status Reports	monthly
<b>5</b>	4.4	Complaint Procedures	Prior to start of construction
<b>6</b>	Paragraph F of Complaint Handling Procedures	Complaint Reports	By the 15 <sup>th</sup> of each month
<b>7</b>	4.5	Notification to landowners	
<b>8</b>	4.6.1	Notice of completion and date of placement in service	Three days prior to energizing
<b>9</b>	4.6.2	Provide As-built plans and specifications	Within 60 days after completion of construction
<b>10</b>	4.6.3	GPS information	Within 60 days after completion of construction
<b>11</b>	4.9	Notification of previously unrecorded archaeological sites	As needed

<sup>1</sup> This compilation of permit compliance filings is provided for the convenience of the permittees and the PUC. However, it is not a substitute for the permit; the language of the permit controls.

<b>12</b>	5.1	Documentation of landowner agreement	30 days before ROW preparation or construction
<b>13</b>	5.2	Swan Flight Diverters	30 days before ROW preparation or construction
<b>14</b>	5.3	Soil Erosion and Sediment Control Plan	30 days before ROW preparation or construction

**MINNESOTA PUBLIC UTILITIES COMMISSION  
COMPLAINT HANDLING PROCEDURES FOR  
HIGH VOLTAGE TRANSMISSION LINES**

**A. Purpose:**

To establish a uniform and timely method of reporting complaints received by the Permittees concerning Permit conditions for site preparation, construction, cleanup and restoration, operation and resolution of such complaints.

**B. Scope:**

This document describes Complaint reporting procedures and frequency.

**C. Applicability:**

The procedures shall be used for all complaints received by the Permittees and all complaints received by the Commission under Minn. Rule 7829.1500 or 7829.1700 relevant to this Permit.

**D. Definitions:**

Complaint: A verbal or written statement presented to the Permittees by a person expressing dissatisfaction or concern regarding site preparation, cleanup or restoration or other HVTL and associated facilities route permit conditions. Complaints do not include requests, inquiries, questions or general comments.

Substantial Complaint: A written Complaint alleging a violation of a specific Route Permit condition that, if substantiated, could result in Permit modification or suspension pursuant to the applicable regulations.

Unresolved Complaint: A Complaint which, despite the good faith efforts of the Permittees and a person(s), remains to both or one of the parties unresolved or unsatisfactorily resolved.

Person: An individual, partnership, joint venture, private or public corporation, association, firm, public service company, cooperative, political subdivision, municipal corporation, government agency, public utility district, or any other entity, public or private, however organized.

**E. Complaint Documentation and Processing:**

1. The Permittees shall document all Complaints by maintaining a record of all applicable information concerning the Complaint, including the following:

- a. Name of complainant, address, phone number, and e-mail address.
  - b. Precise property description or parcel number.
  - c. Name of Permittees representative receiving Complaint and date of receipt.
  - d. Nature of Complaint and the applicable Route Permit conditions(s).
  - e. Activities undertaken to resolve the Complaint.
  - f. Final disposition of the Complaint.
2. The Permittees shall designate an individual to summarize Complaints for substantial to the Commission. This person's name, phone number and e-mail address shall accompany all complaint submittals.
3. A Person presenting the Complaint should to the extent possible, include the following information in their communications:
  - a. Name, address, phone number, and e-mail address.
  - b. Date
  - c. Tract or parcel
  - d. Whether the complaint relates to (1) a Route Permit matter, (2) a HVTL and associated facility issue, or (3) a compliance issue.

**F. Reporting Requirements:**

The Permittees shall report all complaints to the Commission according to the following schedule:

**Immediate Reports:** All substantial complaints shall be reported to the Commission the same day received, or on the following working day for complaints received after working hours. Such reports are to be directed to HVTL Permit Compliance, 1-800-657-3794, or by e-mail to: [DOC.energypermitcompliance@state.mn.us](mailto:DOC.energypermitcompliance@state.mn.us), or. Voice messages are acceptable.

**Monthly Reports:** By the 15th of each month, a summary of all complaints, including substantial complaints received or resolved during the preceding month, shall be Filed to Dr. Burl W. Haar, Executive Secretary, Public Utilities Commission, using the Minnesota Department of Commerce eDocket system (see eFiling instructions attached to this permit).

If no Complaints were received during the preceding month, the Permittees shall submit (eFile) a summary indicating that no complaints were received.

**G. Complaints Received by the Commission or DOC:**

Complaints received directly by the Commission from aggrieved persons regarding site preparation, construction, cleanup, restoration, operation and maintenance shall be promptly sent to the Permittees.

**H. Commission Process for Unresolved Complaints:**

**Initial Screening:** Commission staff shall perform an initial evaluation of unresolved Complaints submitted to the Commission. Complaints raising substantial HVTL Route Permit issues shall be processed and resolved by the Commission. Staff shall notify Permittees and appropriate person(s) if it determines that the Complaint is a Substantial Complaint. With respect to such Complaints, each party shall submit a written summary of its position to the Commission no later than ten days after receipt of the Staff notification. Staff shall present Briefing Papers to the Commission, which shall resolve the Complaint within twenty days of submission of the Briefing Papers.

**I. Permittees Contacts for Complaints:**

**Mailing Address:** Complaints filed by mail shall be sent to:

**ATTN:** Ms. Michelle Lommel  
Sr. Field Representative, Land Rights  
Great River Energy  
12300 Elm Creek Blvd.,  
Maple Grove, MN 55369

**Tel:** (763) 445-5977

**Email:** [mlommel@GREnergy.com](mailto:mlommel@GREnergy.com)

**Mailing Address:** Complaints filed by mail shall be sent to:

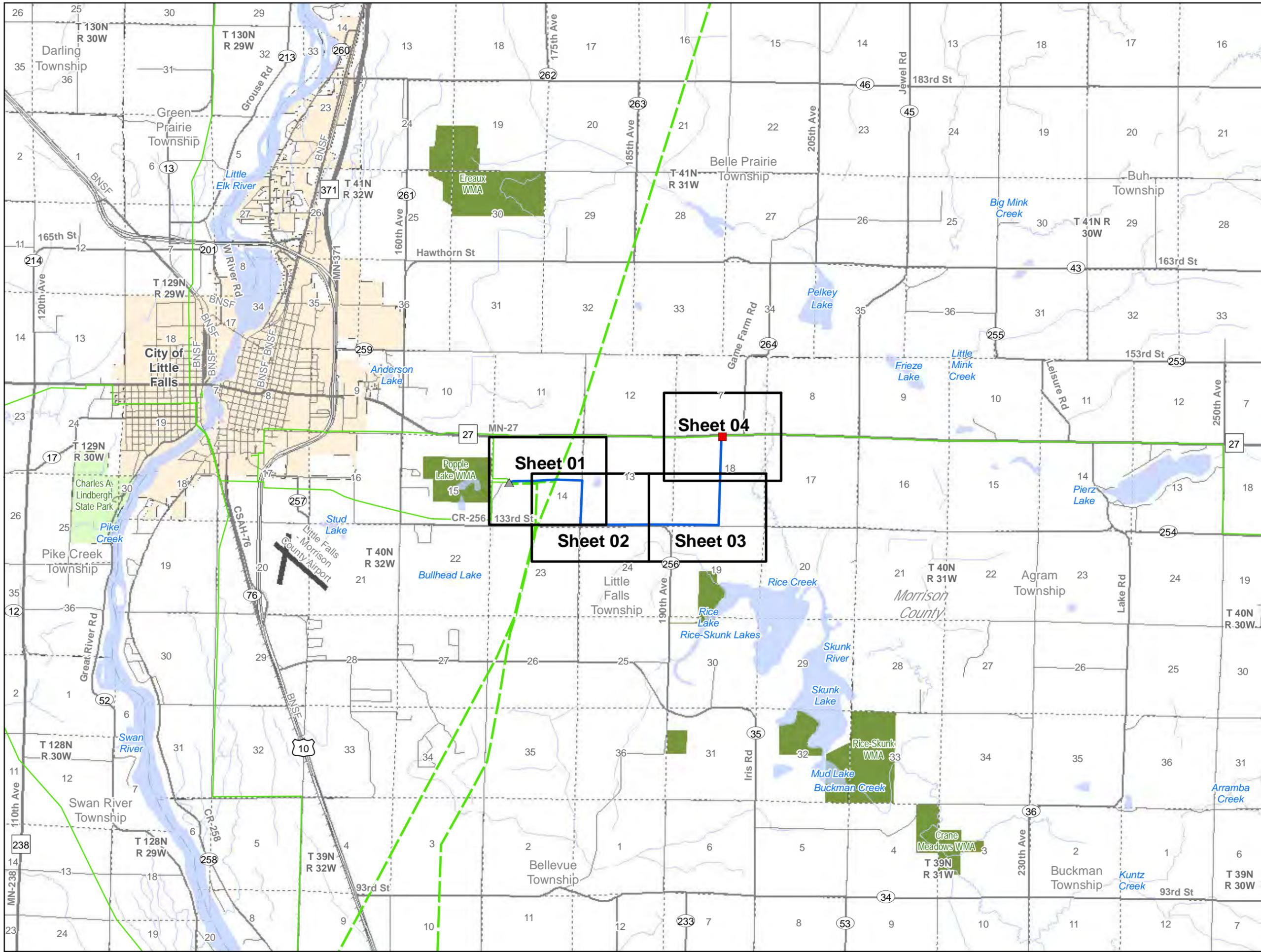
**ATTN:** Mr. Dan McCourtney  
Environmental Compliance Specialist II  
Minnesota Power  
30 West Superior Street  
Duluth, MN 55802

**Tel:** (218) 355-3515

**Email:** [dmccourtney@allete.com](mailto:dmccourtney@allete.com)

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## **HVTL ROUTE MAPS**



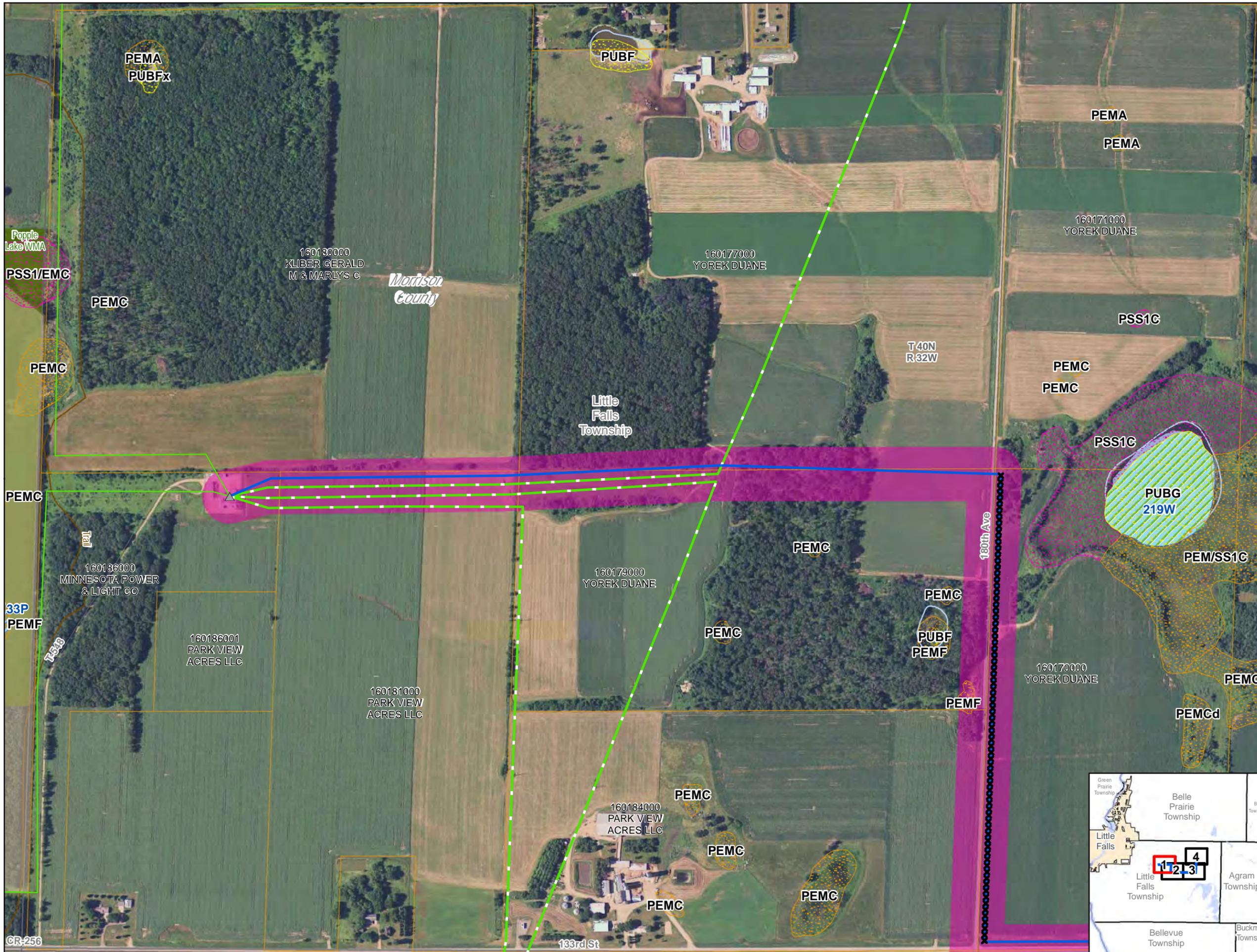
- Anticipated Alignment new
- 115 kV Transmission Line
- Existing Great River Energy
- 34.5 kV Transmission Line
- Existing Crow Wing Power
- Distribution Substation
- Existing Minnesota Power
- Transmission Substation
- 34.5 kV Transmission Line
- 115 kV Transmission Line
- Scientific Natural Areas
- Waterfowl Production Areas
- Wildlife Management Areas
- Sheet Grid

0 1 Miles  
 Scale: 1:6000 (if map image is 14.5" by 10")  
 Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy.

Map Projection:  
 UTM, NAD83, Zone15, Meters  
 Map Prepared by Great River Energy: 3/8/2012

**Little Falls 115 kV Project  
 Overview Map**





- Anticipated Alignment new
- 115 kV Transmission Line
- xxxxxx Bird Diverters (25 feet apart)
- Route Permit Area
- Existing Great River Energy
- 34.5 kV Transmission Line
- Existing Crow Wing Power
- Distribution Substation
- Existing Minnesota Power
- Transmission Substation
- 34.5 kV Transmission Line
- 115 kV Transmission Line
- Residential Structure
- Accessory Structure
- Parcel Line
- Scientific Natural Areas
- Waterfowl Production Areas
- Wildlife Management Areas
- MN Native Plant Community
- Public Water Wetland
- Public Water Basin
- Public Watercourse Delineations
- MN MPCA Impaired Lakes
- NWI Wetlands
- Freshwater Emergent Wetland
- Freshwater Forested/ Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- Rare Natural Feature (NHIS)
- Endangered
- Special Concern
- Threatened
- Not listed
- Biodiversity Significance
- Outstanding
- High
- Moderate
- Below

0 250 500 Feet

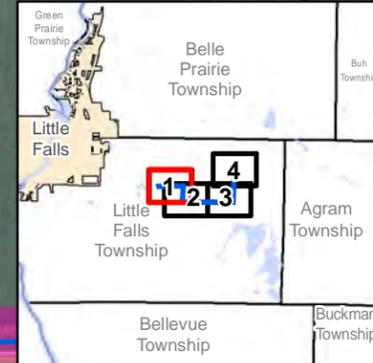
Scale: 1:6000 (if map image is 14.5" by 10")

Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy. 2010 Color Orthophotos from Farm Services Administration. Parcel Data from Morrison County GIS.

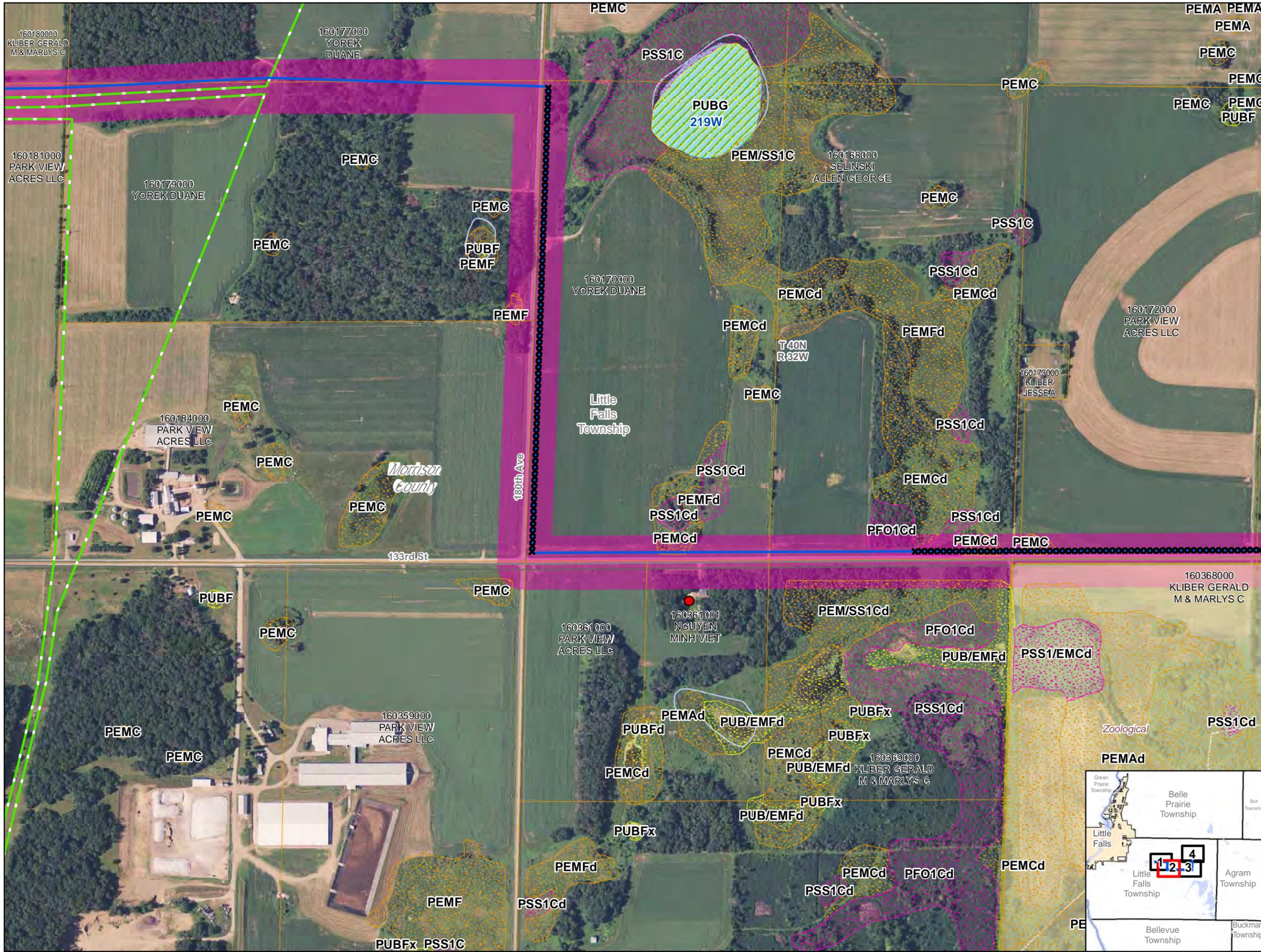
Map Projection: UTM, NAD83, Zone15, Meters

Map Prepared by Great River Energy: 3/12/2012

"Copyright (2011), State of Minnesota, Department of Natural Resources. Rare features data included here were provided by the Division of Ecological Resources, Minnesota Department of Natural Resources (DNR), and were current as of (04-19-2011). These data are not based on an exhaustive inventory of the state. The lack of data for any geographic area shall not be construed to mean that no significant features are present."



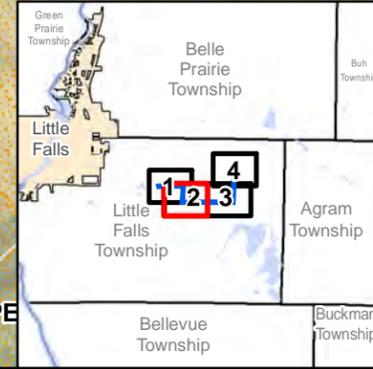
**Little Falls 115 kV Project Sheet 01**

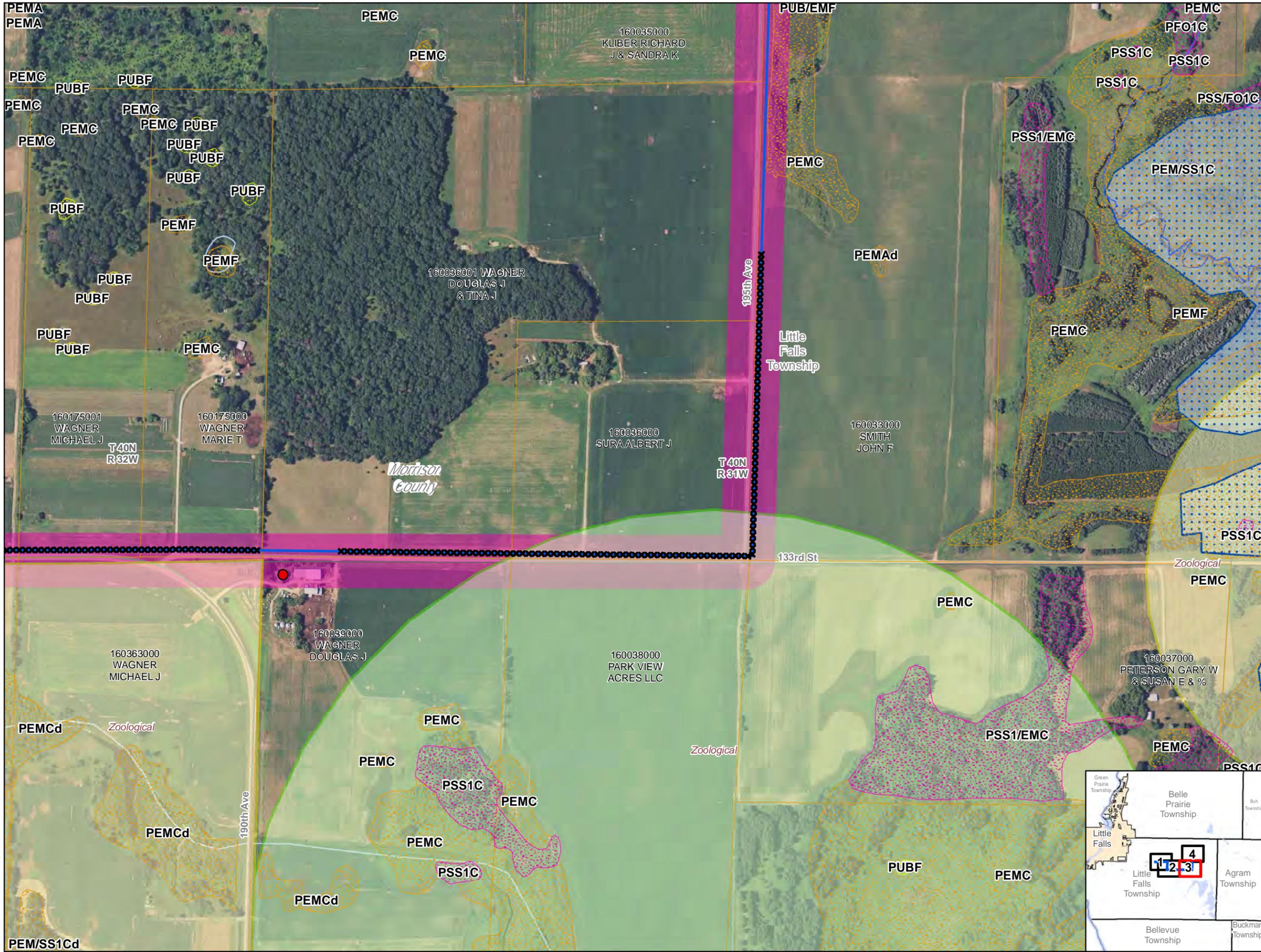


Anticipated Alignment new  
 115 kV Transmission Line  
 Bird Diverters (25 feet apart)  
 Route Permit Area  
 Existing Great River Energy  
 34.5 kV Transmission Line  
 Existing Crow Wing Power  
 Distribution Substation  
 Existing Minnesota Power  
 Transmission Substation  
 34.5 kV Transmission Line  
 115 kV Transmission Line  
 Residential Structure  
 Accessory Structure  
 Parcel Line  
 Scientific Natural Areas  
 Waterfowl Production Areas  
 Wildlife Management Areas  
 MN Native Plant Community  
 Public Water Wetland  
 Public Water Basin  
 Public Watercourse Delineations  
 MN MPCA Impaired Lakes  
 NWI Wetlands  
 Freshwater Emergent Wetland  
 Freshwater Forested/ Shrub Wetland  
 Freshwater Pond  
 Lake  
 Riverine  
 Rare Natural Feature (NHIS)  
 Endangered  
 Special Concern  
 Threatened  
 Not listed  
 Biodiversity Significance  
 Outstanding  
 High  
 Moderate  
 Below

0 250 500 Feet  
 Scale: 1:6000 (if map image is 14.5" by 10")  
 Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy.  
 2010 Color Orthophotos from Farm Services Administration. Parcel Data from Morrison County GIS.  
 Map Projection: UTM, NAD83, Zone15, Meters  
 Map Prepared by Great River Energy: 3/12/2012  
 "Copyright (2011), State of Minnesota, Department of Natural Resources. Rare features data included here were provided by the Division of Ecological Resources, Minnesota Department of Natural Resources (DNR), and were current as of (04-19-2011). These data are not based on an exhaustive inventory of the state. The lack of data for any geographic area shall not be construed to mean that no significant features are present."

**Little Falls 115 kV Project Sheet 02**





Anticipated Alignment new

- 115 kV Transmission Line
- Bird Diverters (25 feet apart)
- Route Permit Area
- Existing Great River Energy
  - 34.5 kV Transmission Line
  - Existing Crow Wing Power
- Existing Minnesota Power
  - Transmission Substation
  - 34.5 kV Transmission Line
  - 115 kV Transmission Line
- Residential Structure
- Accessory Structure
- Parcel Line
- Scientific Natural Areas
- Waterfowl Production Areas
- Wildlife Management Areas
- MN Native Plant Community
- Public Water Wetland
- Public Water Basin
- Public Watercourse Delineations
- MN MPCA Impaired Lakes
- NWI Wetlands
  - Freshwater Emergent Wetland
  - Freshwater Forested/Shrub Wetland
  - Freshwater Pond
  - Lake
  - Riverine
- Rare Natural Feature (NHIS)
  - Endangered
  - Special Concern
  - Threatened
  - Not listed
- Biodiversity Significance
  - Outstanding
  - High
  - Moderate
  - Below

0 250 500 Feet

Scale: 1:6000 (if map image is 14.5" by 10")

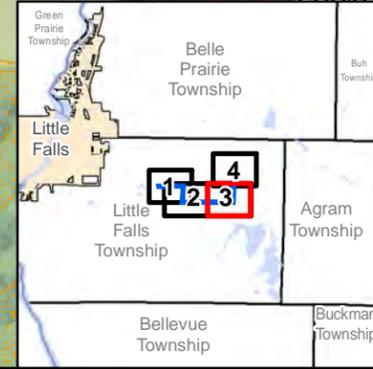
Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy. 2010 Color Orthophotos from Farm Services Administration. Parcel Data from Morrison County GIS.

Map Projection: UTM, NAD83, Zone15, Meters

Map Prepared by Great River Energy: 3/12/2012

"Copyright (2011), State of Minnesota, Department of Natural Resources. Rare features data included here were provided by the Division of Ecological Resources, Minnesota Department of Natural Resources (DNR), and were current as of (04-19-2011). These data are not based on an exhaustive inventory of the state. The lack of data for any geographic area shall not be construed to mean that no significant features are present."

**Little Falls 115 kV Project Sheet 03**





- Anticipated Alignment new
- 115 kV Transmission Line
- Bird Diverters (25 feet apart)
- Route Permit Area
- Existing Great River Energy
- 34.5 kV Transmission Line
- Existing Crow Wing Power
- Distribution Substation
- Existing Minnesota Power
- Transmission Substation
- 34.5 kV Transmission Line
- 115 kV Transmission Line
- Residential Structure
- Accessory Structure
- Parcel Line
- Scientific Natural Areas
- Waterfowl Production Areas
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- Freshwater Pond
- Lake
- Riverine
- Rare Natural Feature (NHIS)
- Endangered
- Special Concern
- Threatened
- Not listed
- Biodiversity Significance
- Outstanding
- High
- Moderate
- Below



Scale: 1:6000 (if map image is 14.5" by 10")  
 Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy.  
 2010 Color Orthophotos from Farm Services Administration. Parcel Data from Morrison County GIS.

Map Projection: UTM, NAD83, Zone15, Meters  
 Map Prepared by Great River Energy: 3/12/2012

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