Initial Filing December 30, 2010

Amended April 8, 2011

Case No. PU-07-759

CapX2020
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Application to the North Dakota Public Service Commission for a Certificate of Corridor Compatibility for the Fargo to St. Cloud 345 kV Transmission Line Project

VOLUME 1 OF 1

21 PU-07-759 Filed 04/13/2011 Pages: 299
Amended Application for a Certificate of Corridor Compatibility
Northern States Power Company
Darrin F. Lahr

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April 11, 2011

VIA FEDEX

Darrell Nitschke
Executive Secretary
North Dakota Public Service Commission
Department 408
600 East Boulevard Avenue
Bismarck, ND 58505-0480

Re: Northern States Power Company
Fargo-Monticello MN 345 kV Cap-X Transmission Line
Siting Application
Case No. PU-07-759

Dear Mr. Nitschke:

Northern States Power Company, a Minnesota corporation ("Xcel Energy" or the "Company") encloses for filing with the North Dakota Public Service Commission (the "Commission") an original and seven copies of its amended application for a Certificate of Corridor Compatibility ("Amended Application") in the above referenced Case. Also enclosed with each copy is a CD containing the Amended Application.

On December 30, 2010, Applicant submitted an application for a Certificate of Corridor Compatibility in this matter ("Original Application"). In the Original Application, the Company provided four potential corridors (corridors A-D) that could accommodate the North Dakota portion of the CapX2020 Fargo Project. The optionality provided in the Original Application was offered to potentially coordinate routing the transmission line in conjunction with the U.S. Army Corps of Engineers' Red River Diversion Project. The Amended Application now includes a single

corridor from Harmony Township on the north to a point south of Wahpeton on the North Dakota/Minnesota border.

The corridor request is being narrowed based on further review of the Red River Diversion Project. Based on continued analysis, discussion with the U.S. Army Corps, and consideration of in-service requirements of both projects, we have determined that a corridor along the Diversion Project is not suitable for the Fargo Project.

Xcel Energy intends for the Original Application to remain in the record for this Case and the date of filing of the Original Application to be maintained as the filing date. To make the Amended Application as useful as possible, the Company has carried forward all relevant information from the Original Application to the Amended Application. Consequently, the Amended Application can serve as a stand-alone document. A courtesy electronic copy of a document showing the changes in the Original Application as reflected in the Amended Application will be informally provided to Staff. The Company is happy to formally file such a document upon request.

In anticipation of amending the Original Application, the Company has performed extensive public outreach with all stakeholders in the Fargo Project, including landowners. The outreach includes educating our stakeholders on our intent to submit the Amended Application as well as education on the regulatory and land acquisition processes. We expect to continue with our public outreach efforts as the Commission reviews our application.

The Company appreciates the Commission's rescheduling of the hearing on this matter until June 23, 2011. We believe this hearing date will provide sufficient opportunity for the Commission and the public to fully review the Amended Application. Please feel free to contact me with any questions or concerns.

Sincerely,

Darrin F. Lahr

Supervisor, Siting and Land Rights,
Xcel Energy Services Inc., as agent for
Northern States Power Company,
a Minnesota corporation

cc: City of Fargo, N.D.

3759829v3

Fargo to St. Cloud 345 kV Transmission Line Project

Application to the North Dakota Public Service Commission for a Certificate of Corridor Compatibility

on behalf of Northern States Power Company, a Minnesota corporation

Case No. PU-07-759

Initial Filing: December 30, 2010

Amended April 8, 2011

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EXECUTIVE SUMMARY

ES.1 Applicant and Project Description

Northern States Power Company, a Minnesota corporation (Xcel Energy or the Company), submits this amended application for a Certificate of Corridor Compatibility (Application) for the North Dakota portion of the Fargo to St. Cloud 345 kV Transmission Line Project to the North Dakota Public Service Commission (ND PSC, North Dakota PSC or Commission) pursuant to North Dakota Century Code (N.D.C.C.) § 49-22-08 and § 49-22-08.1, the Energy Conversion and Transmission Facility Siting Act, and promulgated rules. This application amends the previously submitted December 31, 2010 Application for a Certificate of Corridor Compatibility (CCC) and seeks approval of a single corridor. For the purpose of this Application, the portion of the Fargo to St. Cloud 345 kV Project within North Dakota is being referred to as the Project. The Company is making this application on behalf of itself and on behalf of the anticipated co-owners of the Project (currently contemplated to include), Otter Tail Power, Great River Energy, Minnesota Power and Missouri River Energy Services (collectively, Owners). The Project includes a new double-circuit capable 345 kV electric transmission line extending between the North Dakota/Minnesota border, a new 345/230 kV substation, the Bison Substation, to be located northwest of Mapleton and short connections to existing 345 kV and 230 kV lines near the Bison Substation. The length of the proposed transmission line in North Dakota, depending on a route authorized within an approved corridor, will be approximately 31 to 82 miles. The Minnesota portion of the Fargo to St. Cloud 345 kV Project will be approximately 169 to 189 miles long as it extends east from the North Dakota/Minnesota border to the new Quarry Substation located west of St. Cloud, Minnesota.

The proposed transmission structures will primarily include self-supporting, single-pole, double circuit capable, self-weathering or galvanized steel structures that will range in height between 130 and 175 feet. Depending on soil conditions, other structure types may also be necessary. The span length between structures will typically range between 600 and 1,000 feet depending on site-specific considerations. Although the line is proposed to be built using double-circuit capable poles with six arms, only one circuit will be installed for this Project. The second position will be available for a future additional circuit. The right-of-way for the proposed 345 kV line will generally be 150-feet wide. The new Bison Substation will be tied to the existing Pillsbury—Maple 230 kV transmission line and the Jamestown-Maple River 345 kV line through short in and out connections.

ES.2 Project Need

The facilities in North Dakota and Minnesota are proposed to address local community reliability needs in the southern zone of the Red River Valley. The new 345 kV facilities will also help improve the bulk electric system serving both North Dakota and the region and further facilitate additional generation development in eastern North Dakota. *See In the Matter of the Application for an Advance*

Determination of Prudence for the CapX2020 Group 1 Transmission Projects Otter Tail Power Company, ND PSC Case No. PU-09-676 (October 5, 2009) and *In the Matter of the Application for an Advance Determination of Prudence for the CapX2020 Group 1 Transmission Projects Northern States Power Company*, ND PSC Case No. PU-09-678 (October 5, 2009).

ES.3 Other State Commission Approvals Required

In North Dakota, no public electric utility shall begin construction or operation of a public utility plant or system or extension thereof without first obtaining a certificate that public convenience and necessity require or will require such construction and operation. N.D.C.C. § 49-03-01.1. The ND PSC granted Certificate of Convenience and Public Necessity (CPCN) for the Project on January 12, 2011, in Case No. PU-10-607.[1]

In addition to a CPCN, the Company must obtain a CCC and a Route Permit prior to constructing the Project. The Company will submit an application for a Route Permit in a subsequent filing.

In Minnesota, the Project requires two approvals from the Minnesota Public Utilities Commission (MN PUC): a Certificate of Need and a Route Permit (Minnesota Statutes § 216B.243 and § 216E.03). The MN PUC issued a Certificate of Need for 345 kV transmission line facilities between Fargo, North Dakota and Monticello, Minnesota on May 22, 2009 (referred to as the Fargo Project). *See In the Matter for the Application of Northern States Power Company and Great River Energy for the Certificates of Need for Three 345 kV Transmission Line Projects and Associated System Connections*, MN PUC Docket No. ET002/CN-06-1115, Order Granting Certificates of Need with Conditions, as amended August 10, 2009.

The Company applied for a Route Permit for the Fargo to St. Cloud 345 kV Project in Minnesota in October 2009. *See Application to the Minnesota Public Utilities Commission for a Route Permit for the Fargo to St. Cloud 345 kV Transmission Line Project*, MN PUC Docket No. ET2, E002/TL-09-1056, Application (October 4, 2009). In the Route Permit proceeding, the Company initially proposed two crossing areas of the Red River between Minnesota and North Dakota. One crossing location was identified near 110th Avenue South (Clay County) in Minnesota, approximately eight miles south of Interstate 94. A second crossing location was identified near CR 6 (Wilkin County) in Minnesota, approximately eight miles south of Wahpeton.

In 2010, the Company proposed a third crossing area in the general vicinity of 140th Avenue South in Minnesota (Clay County) based on input received from city, county and township officials from

[1] Otter Tail Power Company, the other Project owner subject to the terms of MOCC § 49-03-01, also filed an application for a CPCN on October 11, 2010 in Case No. PU-10-606.

the Fargo area (local government units (LGUs)). Public meetings were conducted with local officials representing these LGUs. Local officials emphasized that the area south of Fargo is subject to planned development. Additionally, the Fargo-Moorhead Metropolitan Feasibility Study (Diversion Project) has identified the proposed location of a diversion channel in North Dakota that will divert the Red River to the North (Red River) to the south and west of the Fargo area. In North Dakota, the diversion channel generally extends west from the Red River, south of the city of Horace, and then diverges generally north at a location southwest of Horace. The diversion channel to be constructed by the United States Army Corps of Engineers (USACE) is contemplated to be located west of West Fargo and east of the city of Mapleton. This diversion will result in a "dry side" and a "wet side" with the dry side being the area on the north and east side of the diversion channel where flood waters will not occur. The planned growth area to the south of Fargo is on the dry side of the diversion channel. Local representatives encouraged the Company to consider an alternative northern Red River crossing and to co-locate the transmission lines with the Diversion Project to the extent possible. This third proposed crossing is intended to accommodate the desires of the local representatives.

Stakeholders also requested that the Company consider a route that followed the proposed diversion channel. In response, the Company developed a corridor west of West Fargo and east of Mapleton, which was included in the initial CCC application. The Company further consulted with the USACE regarding potential co-location opportunities. USACE advised that the construction period for the diversion project would likely take a minimum of 10 years to design and construct, assuming all necessary approvals are obtained and land/easements are acquired when presently anticipated. There may also be legal challenges associated with the alignment which could further delay construction. Based on the uncertainties surrounding the diversion project and timing considerations, the Company concluded that this corridor would not be suitable for the Project and therefore did not include it in this amended application.

ES.4 Project Cost and Timing

The estimated cost of the facilities from the Bison Substation in Fargo to the Monticello Substation, in Minnesota, including associated facilities, is between $500 and $750 million. All facilities are expected to be completed and in-service by late 2015.

ES.5 Energy Conversion and Transmission Facility Siting Act Compliance

N.D.C.C. Ch. 49-22: the North Dakota Energy Conversion and Transmission Facility Siting Act (Act) states, "It is necessary to ensure that the location, construction, and operation of energy conversion facilities and transmission facilities will produce minimal adverse effects on the environment and upon the welfare of the citizens of this state by providing that no energy

conversion facility or transmission facility shall be located, constructed, and operated within this state without a certificate of site compatibility or a route permit."

For the purposes of developing and evaluating corridors, the Company considered the siting criteria identified in the Act, which include exclusion areas, avoidance areas, selection criteria and policy criteria. Exclusion and avoidance areas may be located within a corridor, but at no given point shall such an area or areas encompass more than 50 percent of the corridor width unless there is no reasonable alternative. North Dakota Administrative Code (N.D.A.C.) § 69-06-08-02. While exclusion and avoidance areas occur within the corridors, these areas do not encompass more than 50 percent of the corridor width.

A corridor shall be designated only when it is demonstrated that any significant adverse effects which may result from the location, construction and operation of the Project will be at an acceptable minimum, or that those effects will be managed and maintained at an acceptable minimum. As it relates to a route within an approved corridor, exclusion areas are areas excluded from consideration. Avoidance areas are areas that should not be considered unless the Company can demonstrate there is no reasonable alternative. The Company will continue to apply these criteria as routes are developed for the Project. Further, a corridor shall be designated only when it is demonstrated that any significant adverse effects which will result from the location, construction and maintenance of the Project will be avoided or minimized as a result of mitigative measures.

To the extent available, the Company has presented herein information required by the Act and the Commission's rules. N.D.C.C. Ch. 49-22; N.D.A.C. § 69-06-08-02. A summary of the application and consideration of exclusion, avoidance, selection and policy criteria is provided in section 6.0. Detailed information pertaining to exclusion, avoidance and selection criteria is provided in section 7.0.

ES.6 Proposed Corridor

The Company has identified an 82-mile long Proposed Corridor for the Project, beginning at the North Dakota/Minnesota border in Summit Township, generally heading north along Interstate 29, heading west near Oxbow to Addison Township and then north to Harmony Township, the site of a new Bison Substation. The Proposed Corridor can accommodate a northern Red River crossing near Oxbow, or a southern Red River crossing near Wahpeton. Figure ES-1 depicts the Proposed Corridor for the Project. For comparison purposes, the corridor has been divided into a northern portion north of Oxbow (Proposed Corridor North) and a southern portion south of Oxbow (Proposed Corridor South). Data in this application will at times be presented separately for the Proposed Corridor North and the Proposed Corridor South.

Figure ES-1. Proposed Corridor

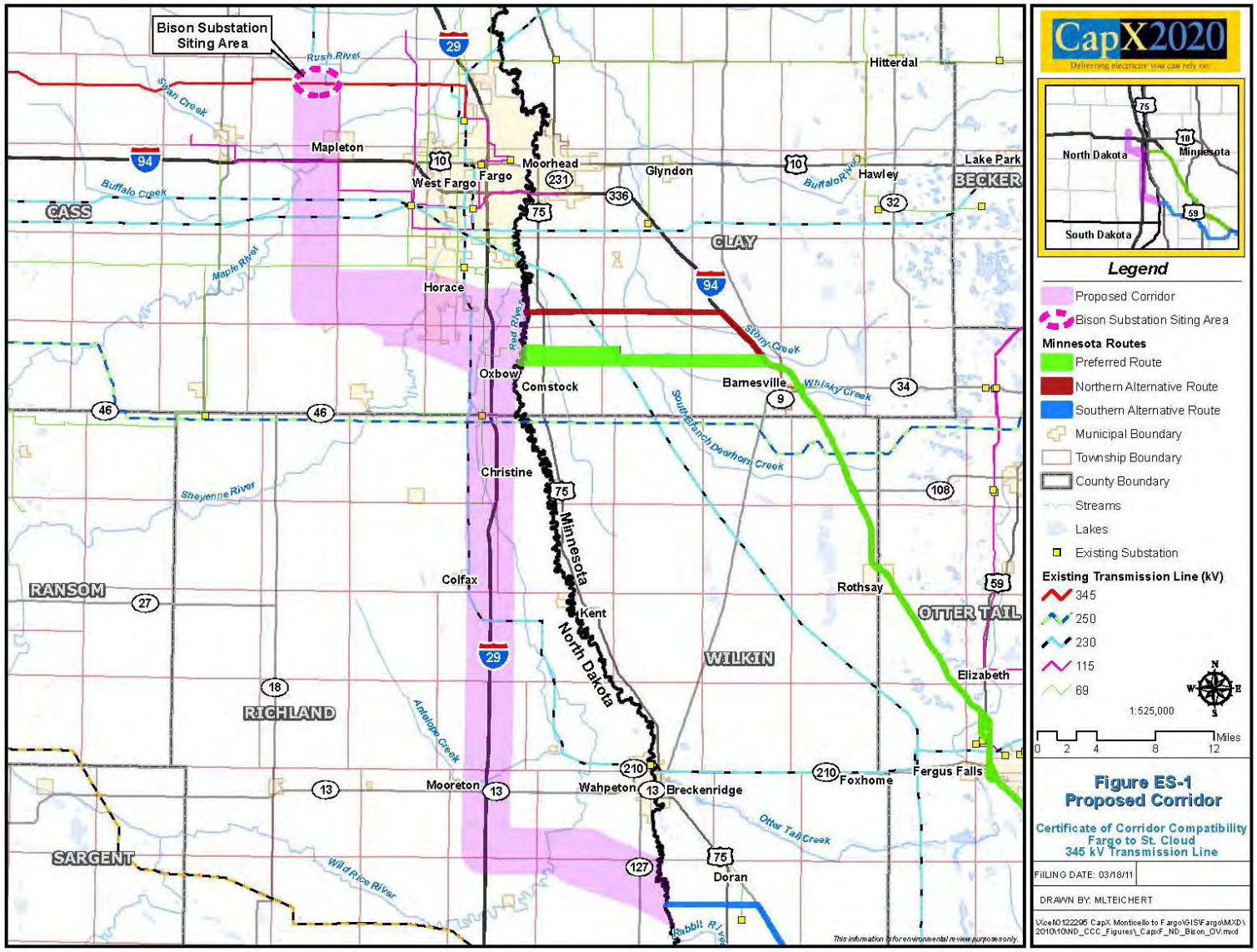


Figure ES-2 below lists those LGUs encompassed by the Proposed Corridor.

Figure ES-2. Local Government Units and Sections Affected[1] by the Proposed Corridor and Bison Substation Siting Area

Counties		
Cass		Richland
Cities		
Christine		Horace
Colfax		Fargo
Mapleton		Oxbow
Township	**Township and Range**	**Sections**
Abercrombie Township	134N, 49W	2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 32, 33, 34, 35, 36
Addison Township	138N, 51W	1, 2, 3, 10, 11, 12, 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, 36
Brandenburg Township	131N, 49W	1, 2, 3, 4, 5
Center Township	132N, 47W	31, 32, 33
	132N, 48W	19, 20, 21, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
Colfax Township	135N, 49W	3, 4, 5, 8, 9, 10, 15, 16, 17, 20, 21, 22, 27, 28, 29, 32, 33, 34
Durbin Township	139N, 51W	1, 2, 3, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, 34, 35, 36
Eagle Township	135N, 49W	2, 11, 14, 23, 26, 35
	136N, 49W	1, 2, 11, 12, 13, 14, 23, 24, 25, 26, 35
Harmony Township	140N, 51W	1, 2, 3, 9, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 34, 35, 36
Ibsen Township	133N, 49W	1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 26, 27, 28, 29, 32, 33, 34, 35
Mooreton Township	132N, 49W	2, 3, 4, 5, 8, 9, 10, 11, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 32, 33, 34, 35, 36
Normanna Township	137N, 50W	1, 2, 3, 4, 5, 10, 11, 12
Pleasant Township	137N, 48W	6, 7, 18, 31
	137N, 49W	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, 36
Stanley Township	138N, 48W	19, 30, 31
	138N, 49W	17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
Summit Township	131N, 47W	4, 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21, 22, 27, 28
	131N, 48W	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15
Walcott Township	136N, 49W	3, 4, 9, 10, 15, 16, 21, 22, 27, 28, 29, 32, 33, 34
Warren Township	138N, 50W	13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36

ES.7 Ownership

It is anticipated that the 345 kV transmission line will be owned jointly by the Owners, who are part of the CapX2020 initiative. The CapX2020 initiative is comprised of a group of 11 load-serving utilities serving Minnesota and surrounding states, including North Dakota.[2] The CapX2020 utilities have joined together to expand the electrical transmission grid in the region to ensure customers receive continued reliable, low cost electricity and to increase capacity for new generation sources.

The Owners have executed a Project Development Agreement (PDA) for the 345 kV facilities comprising the Fargo to St. Cloud 345 kV and Monticello to St. Cloud 345 kV projects. The PDA, included in Appendix D, provides a contractual framework for the development phase of the Project. During this development phase, the participating utilities agreed to determine the interconnection/termination points of each project, the recommended alignment of the proposed configuration and the scope of the project; estimate the cost and schedule; and engage in other necessary project related studies or analyses. Xcel Energy is the project manager and lead utility for obtaining the required state and federal regulatory approvals.

Once all critical permits (including a Certificate of Public Convenience and Necessity, Certificate of Corridor Compatibility and Route Permit) have been obtained, the participating utilities will have the opportunity to decide whether to take ownership in the line. At that time, each utility has the option to: (i) take ownership up to a designated level; (ii) take some lesser percentage to minimize capital expenditures; or (iii) "opt out" of ownership entirely. Ownership decisions will occur toward the end of the development phase as state, federal and other approvals and consents are realized. The current Project development percentages (and potential/non-binding ownership percentages) for the Fargo to St. Cloud and Monticello to St. Cloud 345 kV Projects are provided in Figure ES-3 below:

Figure ES-3. Ownership Percentage of Participating Utilities

Utility	Ownership Percentage
Great River Energy	25.0
Minnesota Power	14.7
Missouri River Energy Services	11.0

[2] CapX2020 utilities are: Xcel Energy, Otter Tail Power Company, Great River Energy, Minnesota Power, Missouri River Energy Services, Minnkota Power Cooperative, WPPI Energy, Dairyland Power Cooperative, Central Minnesota Municipal Power Agency, Otter Tail Power Company, Rochester Pubic Utilities and Southern Minnesota Municipal Power Agency.

Utility	Ownership Percentage
Xcel Energy	36.1
Otter Tail Power Company	13.2
TOTAL	100.0

The proposed 345/230 kV Bison Substation is also expected to be jointly owned. Xcel Energy is expected to construct and own the 345 kV portion of the substation and Otter Tail Power Company is expected to construct and own the 230 kV portion of the substation.

Should a certificate be granted, a subsequent filing will be made with the Commission to request that the certificate be transferred to the final determined owners.

ES.8 Requested Action

The Company filed a Letter of Intent and request for waiver from the one-year time requirement for filing the Letter of Intent on November 13, 2007, which the Commission granted. The Company believes the Proposed Corridor meets the applicable standards set forth in N.D.C.C. Ch. 49-22 and requests that the Commission grant a Certificate of Corridor Compatibility.

ES.9 Completeness Checklist

Figure ES-4 outlines the information that must be contained within an application for a certificate. N.D.C.C. § 49-22-08; N. D. A. C. § 69-06-08-02.

Figure ES-4. Certificate of Corridor Compatibility Completeness Checklist

State Authority	Description	Section
Chapter 49-22-08	Application for a certificate	
a.	A description of the size and type of facility.	2.1, 2.2, 2.3, 3.1
b.	A summary of any studies which have been made of the environmental impact of the facility.	6.0, 7.0
c.	A statement explaining the need for the facility.	1.2
e.	An identification of the location of the preferred corridor for any transmission facility.	5.0
f.	A description of the merits and detriments of any location identified and a comprehensive analysis with supporting data showing the reasons why the preferred location is best suited for the facility.	4.0, 7.0
g.	A description of mitigative measures that will be taken to minimize all foreseen adverse impacts resulting from the location, construction, and operation of the proposed facility.	7.0
h.	An evaluation of the proposed site or corridor with	7.1, 7.2, 7.3

State Authority	Description	Section
	regard to the applicable considerations set out in section 49-22-09 and the criteria established pursuant to section 49-22.05.1.	
Chapter 49-22-09	Factors to be considered in evaluating applications and designation of sites, corridors, and routes.	
1.	Available research and investigations relating to the effects of the location, construction, and operation of the proposed facility on public health and welfare, natural resources, and the environment.	7.1, 7.2, 7.4
2.	The effects of new energy conversion and transmission technologies and systems designed to minimize adverse environmental effects.	3.1
6.	Irreversible or irretrievable commitments of natural resources should the proposed site, corridor, or route be designated.	7.4.7
7.	The direct and indirect economic impacts of the proposed facility.	7.2.5
8.	Existing plans of the state, local government, and private entities for other developments at or in the vicinity of the proposed site, corridor, or route.	7.5
9.	The effect of the proposed site or route on existing scenic areas, historic sites and structures, and paleontological or archaeological sites.	7.2.4, 7.3
10.	The effect of the proposed site or route on areas which are unique because of biological wealth or because they are habitats for rare and endangered species.	7.4.7
11.	Problems raised by federal agencies, other state agencies, and local entities.	8.0
49-22-05.1	Exclusion and avoidance areas	6.0, 7.0
69-06-08-02	**Transmission facility corridor and route criteria.** The following criteria shall guide and govern the preparation of the inventory of exclusion and avoidance areas, and the corridor and route suitability evaluation process. Exclusion and avoidance areas may be located within a corridor, but at no given point shall such an area or areas encompass more than fifty percent of the corridor width unless there is no reasonable alternative.	
1.	**Exclusion areas.** The following geographical areas shall be excluded in the consideration of a route for a transmission facility. A buffer zone of a reasonable width to protect the integrity of the area shall be included. Natural screening may be considered in determining the width of the buffer zone.	6.0, 7.0
a.	Designated or registered national: parks; memorial parks; historic sites and landmarks; natural landmarks; monuments; and wilderness areas.	6.0, 7.2.6, 7.3
b.	Designated or registered state: parks; historic sites; monuments; historical markers; archaeological sites; and nature preserves.	6.0, 7.2.6, 7.3
c.	County parks and recreational areas; municipal parks; and parks owned or administered by other	6.0, 7.2.6

State Authority	Description	Section
	governmental subdivisions.	
d.	Areas critical to the life stages of threatened or endangered animal or plant species.	6.0, 7.4.6
e.	Areas where animal or plant species that are unique or rare to this state would be irreversibly damaged.	6.0, 7.4.7
2.	**Avoidance areas.** The following geographical areas shall not be considered in the routing of a transmission facility unless the applicant shows that under the circumstances there is no reasonable alternative. In determining whether an avoidance area should be designated for a facility, the commission may consider, among other things, the proposed management of adverse impacts; the orderly siting of facilities; system reliability and integrity; the efficient use of resources; and alternative routes. Economic considerations alone shall not justify approval of these areas. A buffer zone of a reasonable width to protect the integrity of the area shall be included unless a distance is specified in the criteria. Natural screening may be considered in determining the width of the buffer zone.	6.0, 7.0
a.	Designated or registered national: historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; and grasslands.	6.0, 7.2.6
b.	Designated or registered state: wild, scenic, or recreational rivers; game refuges; game management areas; management areas; forests; forest management lands; and grasslands.	6.0, 7.2.6
c.	Historical resources which are not specifically designated as exclusion or avoidance areas.	6.0, 7.3
d.	Areas which are geologically unstable.	6.0, 7.4.1
e.	Within five hundred feet [152.4 meters] of a residence, school, or place of business. This criterion shall not apply to a water pipeline transmission facility.	6.0, 7.2.1
f.	Reservoirs and municipal water supplies.	6.0, 7.1.3
g.	Water sources for organized rural water districts.	6.0, 7.1.3
h.	Irrigated land. This criterion shall not apply to an underground transmission facility.	6.0, 7.2.7
i.	Areas of recreational significance which are not designated as exclusion areas.	6.0, 7.2.6
3.	**Selection criteria.** A corridor or route shall be designated only when it is demonstrated to the commission by the applicant that any significant adverse effects which will result from the location, construction, and maintenance of the facility as they relate to the following, will be at an acceptable minimum, or that those effects will be managed and maintained at an acceptable minimum.	6.0, 7.0
a.	The impact upon agriculture:	6.0, 7.2.7

State Authority	Description	Section
(1)	Agricultural production.	6.0, 7.2.7
(2)	Family farms and ranches.	6.0, 7.2.7
(3)	Land which the owner can demonstrate has soil, topography, drainage, and an available water supply that cause the land to be economically suitable for irrigation.	6.0, 7.2.7
(4)	Surface drainage patterns and ground water flow patterns.	6.0, 7.2.7
b.	The impact upon:	
(1)	Noise-sensitive land uses.	6.0, 7.2.2
(2)	The visual effect on the adjacent area.	6.0, 7.2.4
(3)	Extractive and storage resources.	6.0, 7.4.1
(4)	Wetlands, woodlands, and wooded areas.	6.0, 7.2.8, 7.4.2
(5)	Radio and television reception, and other communication or electronic control facilities.	6.0, 7.2.3
(6)	Human health and safety.	6.0, 7.1.1
(7)	Animal health and safety.	6.0, 7.4.4
(8)	Plant life.	6.0, 7.4.3
4.	**Policy criteria.** The commission may give preference to an applicant that will maximize benefits that result from the adoption of the following policies and practices, and in a proper case may require the adoption of such policies and practices. The commission may also give preference to an applicant that will maximize interstate benefits.	
a.	Location and design.	3.0, 4.0, 6.0
b.	Training and utilization of available labor in this state for the general and specialized skills required.	3.2.2
c.	Economies of construction and operation.	1.1, 6.0
d.	Use of citizen coordinating committees.	4.2, 6.0
e.	A commitment of a portion of the transmitted product for use in this state.	Not applicable
f.	Labor relations.	3.2.2
g.	The coordination of facilities.	1.1, 6.0
h.	Monitoring of impacts.	3.2, 6.0, 7.0
i.	Utilization of existing and proposed rights of way and corridors.	4.0, 5.0, 6.0, 7.0
j.	Other existing or proposed transmission facilities.	6.0, 7.1.2

1.0 INTRODUCTION

1.1 Applicant and Statement of Ownership

Northern States Power Company, a Minnesota corporation headquartered in Minneapolis (Xcel Energy), is a wholly-owned subsidiary of Xcel Energy Inc., a utility holding company with its headquarters in Minneapolis. Xcel Energy presently serves approximately 86,000 retail electric customers in and around Fargo, Grand Forks and Minot, North Dakota. Xcel Energy owns approximately 250 miles of transmission lines and 12 substations in North Dakota.

The Company seeks a Certificate of Corridor Compatibility for the portion of the Fargo to St. Cloud 345 kV Transmission Line Project (Fargo to St. Cloud Project or Project) to be located in North Dakota. The Fargo to St. Cloud Project consists of a proposed 345 kV transmission line between a new Quarry Substation, located west of the City of St. Cloud, Minnesota, and a proposed 345/230 kV Bison Substation to be located in Harmony Township, North Dakota. The Company makes this application on behalf of itself and on behalf of the anticipated co-owners of the Project (currently contemplated to include: Otter Tail Power Company, Great River Energy, Minnesota Power, and Missouri River Energy Services).

The proposed facilities between Fargo and Monticello are part of a set of regional system upgrades (Group 1 Projects) proposed by a consortium of 11 utilities in North Dakota, Minnesota, South Dakota and Wisconsin comprising CapX2020. CapX2020 is a joint initiative whose goal is to study, develop, permit and construct transmission infrastructure needed to implement long-term and cost-effective solutions for customers to meet the growth in energy demand expected between 2009 and 2020. The 11 utilities currently participating in the CapX2020 initiative include Great River Energy, Xcel Energy, Central Minnesota Municipal Power Agency, Dairyland Power Cooperative, Minnesota Power, Minnkota Power Cooperative, Inc., Missouri River Energy Services, Otter Tail Power Company, Rochester Public Utilities, Southern Minnesota Municipal Power Agency and WPPI Energy (collectively the CapX2020 utilities).

The other CapX2020 Group 1 Projects are: 1) a 345 kV transmission line from Brookings County, South Dakota to Hampton, Minnesota; 2) a 345 kV transmission line between Hampton and Rochester, Minnesota and La Crosse, Wisconsin; 3) a 230 kV transmission line from Bemidji to Grand Rapids, Minnesota; and 4) a 345 kV transmission line between Monticello and St. Cloud, Minnesota.

The CapX2020 initiative was formed to meet the growing transmission needs of all utilities in the region. By coordinating regional planning, the region's utilities are able to develop solutions to regional transmission needs instead of piecemeal solutions that could lead to duplicative transmission facilities being built. Further, by acting as a group, the CapX2020 Utilities obtain

improved efficiency in permitting, routing, scheduling, material purchasing, and overall project development. Overall, by participating in CapX2020, the utilities can lessen costs and achieve greater benefits from the Group 1 Projects due to the strength and size of the organization.

By working together, the CapX2020 utilities have been able to develop a comprehensive set of alternatives for improvement of the transmission system, as opposed to crafting piecemeal solutions that would result from individual utility solutions. This coordinated approach provides real value to North Dakota. By combining their resources and working together, the CapX2020 Utilities will reduce the overall amount of transmission that would otherwise need to be constructed to serve North Dakota. Thus, overall, North Dakota's customers will be responsible for lower costs than would otherwise have happened. A coordinated transmission plan that accommodates that predicted new generation will provide North Dakota with significant new transmission capacity at a time when new generation in the area is likely.

Furthermore, the joint approach of the other CapX2020 utilities allows the costs to be spread among a broad array of utilities. An investment of approximately $1.8 billion for all of the Group 1 Projects would be difficult for any one utility to undertake. By collaborating with a number of other regional utilities, the CapX2020 utilities are able to successfully spread risks and balance costs.

There will also be benefits arising from a coordinated effort in securing materials and services required to build the Group 1 Projects. As such, a joint sourcing approach is being utilized in order to minimize or eliminate inter-project competition for labor and material resources, maximize leverage in the market by standardizing specifications and sourcing for the total volume of major materials and resource needs across all projects, establish a common request for proposal (RFP) process to present "one CapX2020 face" to the market, eliminate inefficiencies, and enhance inter-project flexibility where possible for services.

For example, utilizing a joint sourcing process across the projects creates a spend volume asset. This volume consolidation and early RFP activity allows manufacturers and suppliers the ability to plan fabrication in advance of the delivery needs. This approach works to avoid the premium costs associated with orders outside of the lead time and typically garners more attractive pricing when the suppliers, manufactures and contractors are able to advance plan their production schedules or field resources.

Xcel Energy will construct the 345 kV line and substation facilities in accordance with a Project Development Agreement (PDA) executed in February 2007 by the Company, Missouri River Energy Services, Great River Energy, Minnesota Power and Otter Tail Power Company (see Appendix D). The PDA identifies a "lead" utility or a "Development Manager" that is responsible for obtaining major permits and developing and implementing the Project if construction is

authorized. Xcel Energy is identified as the development manager for the facilities proposed in this application.

Once all critical permits (including a Certificate of Public Convenience and Necessity, Certificate of Corridor Compatibility and Route Permit from the North Dakota Public Service Commission) have been obtained, the participating utilities will have the opportunity to decide whether to take ownership in the line. At that time, each utility has the option to: (i) take ownership up to a designated level; (ii) take some lesser percentage to minimize capital expenditures; or (iii) "opt out" of ownership entirely. Ownership decisions will occur toward the end of the development phase as state, federal and other approvals and consents are realized. The current development percentages (and potential/non-binding ownership percentages) for the Fargo to St. Cloud and the Monticello to St. Cloud 345 kV transmission line projects are provided in Figure 1-1 below:

Figure 1-1. Ownership Percentage of Participating Utilities

Utility	Ownership Percentage
Great River Energy	25.0
Minnesota Power	14.7
Missouri River Energy Services	11.0
Northern States Power Company	36.1
Otter Tail Power Company	13.2
TOTAL	100.0

If a participant does not elect to invest in the Project, the PDA has established procedures by which other participants, including third parties, may take on that investment percentage share.

At this time, it is anticipated that Xcel Energy will construct and own the 345 kV side of the Bison Substation. Otter Tail Power Company will construct and own the 230 kV side of the Bison Substation.

Agreements pertaining to the construction, operation, ownership and maintenance of the CapX2020 proposed facilities are in the process of being negotiated. Participants will continue to refine the commercial arrangements as the regulatory processes proceeds and make appropriate filings with the Commission to reflect the ultimate ownership percentages.

1.2 Project Need

The proposed 345 kV facilities between Fargo and Monticello will enhance the electrical system that serves not only the immediate Red River Valley area, but encompasses parts of North Dakota

extending west to Jamestown and Devil's Lake, and parts of Minnesota as far east as Bemidji, Park Rapids, and Alexandria. The facilities will also increase transmission capacity by approximately 350 MW to facilitate generation additions in North Dakota and provide necessary transmission facilities for the projected increase in electricity demand in the region.

1.3 Permittee

The permittee for the Project is Northern States Power Company, on behalf of itself and the Owners. Xcel Energy is a Minnesota corporation duly authorized to conduct business in the State of North Dakota as a public utility subject to the jurisdiction and regulation of the Commission pursuant to Title 49 of the North Dakota Century Code. The full name and address of Xcel Energy is:

Northern States Power Company, a Minnesota corporation
414 Nicollet Mall, MP-8A
Minneapolis, Minnesota 55401

Xcel Energy also operates in North Dakota from the following address:

Northern States Power Company
2302 Great Northern Drive
Fargo, North Dakota 58102

Xcel Energy's corporate papers are on file with the Commission in Case No. PU-09-664.

1.4 Certificate of Public Convenience and Necessity

Pursuant to North Dakota Century Code (N.D.C.C.) § 49-03-01.1, no electric public utility shall begin in the construction or operation of a public utility plant or system or extension thereof without first obtaining from the ND PSC a certificate that public convenience and necessity require or will require such construction and operation.

The ND PSC granted a Certificate of Public Convenience and Necessity (CPCN) for the project on January 12, 2011.

1.5 Certificate of Corridor Compatibility

The North Dakota Energy Conversion and Transmission Facility Siting Act, N.D.C.C. Ch. 49-22, provides that no utility may begin construction of a transmission facility in the state, or exercise the right of eminent domain in connection with that construction, without having first obtained a Certificate of Corridor Compatibility or a Route Permit from the ND PSC. The definition of a

transmission facility includes "An electric transmission line and associated facilities with a design in excess of one hundred fifteen kilovolts…" N.D.C.C. § 49-22-03-12.

Pursuant to N.D.C.C. § 49-22-08, an application for a certificate shall be in such form as the Commission may prescribe, containing the following information:

a. A description of the size and type of facility.

b. A summary of any studies which have been made of the environmental impact of the facility.

c. A statement explaining the need for the facility.

d. An identification of the location of the preferred site for any energy conversion facility.

e. A description of the location of the preferred corridor for any transmission facility.

f. A description of the merits and detriments of any location identified and a comprehensive analysis with supporting data showing the reasons why the preferred location is best suited for the facility.

g. A description of mitigative measures that will be taken to minimize all foreseen adverse impacts resulting from the location, construction, and operation of the proposed facility.

h. An evaluation of the proposed site or corridor with regard to the applicable considerations set out in N.D.C.C. § 49-22-09 and the criteria established pursuant to N.D.C.C. § 49-22-05.1.

After determining that the application is complete, the ND PSC shall serve a notice of filing of the application on such persons and agencies that the commission may deem appropriate and shall publish a notice of filing of the application in the official newspaper of each county in which any portion of the corridor is proposed to be located. A copy of the application shall be furnished to any person or agency, upon request to the ND PSC within 30 days of either service or publication of the notice of filing. Pursuant to N.D.C.C. § 49-22-08(1), the ND PSC may designate a corridor for a proposed facility following the study and hearings provided for in the Energy Conversion and Transmission Facility Siting Act. Any designation shall be made in accordance with the evidence presented at the hearings, an evaluation of the information provided in the application, the criteria established pursuant to N.D.C.C. § 49-22-08(1), and the considerations set out in N.D.C.C. § 49-22-09 in a finding with reasons for the designation. Pursuant to N.D.C.C. § 49-22-08(5), the ND PSC shall issue a certificate of corridor compatibility with such terms, conditions, or modifications deemed necessary in a timely manner no later than three months after the filing of a completed application for a certificate of corridor compatibility. This time may be extended by the ND PSC for just cause.

A Route Permit is also required for the Project. N.D.C.C. § 49-22-07. The Route Permit process will identify the final location of the Project. Many of the same elements used to identify the corridors proposed within this Application will be used to identify the best route in the corridor selected by the Commission. The Company will seek a Route Permit in a subsequent filing.

2.0 PROJECT DESCRIPTION

2.1 Project Proposal

The Company proposes to construct a 345 kV single circuit transmission line on double circuit capable single steel poles from the North Dakota/Minnesota border to a new 345/230 kV Bison Substation to be located northwest of Mapleton in Harmony Township. The specific components of the Fargo Project, for the purposes of this application for a Certificate of Corridor Compatibility, are described below:

- 345 kV transmission line – The proposed line will be constructed primarily on single-pole, double-circuit capable, self-weathering or galvanized steel structures, or other structures depending on soil conditions. The line will connect the new Quarry Substation to the existing Alexandria Switching Station south of Alexandria, Minnesota, and ultimately the proposed Bison Substation. However, only the portion of the line within North Dakota is included as part of this Application.

- Bison Substation – The associated facilities for the Project include the construction of the proposed Bison Substation. The Company may acquire up to 80 acres for the new Bison Substation. The substation will include 345 kV equipment (circuit breakers, switches, and control panels), foundations and structures necessary to support the line.

- Necessary interconnections – The new substation will include in and out interconnections with the Jamestown-Maple River 345 kV line and the Pillsbury to Maple River 230 kV transmission line. Equipment required to support these interconnections will also be included.

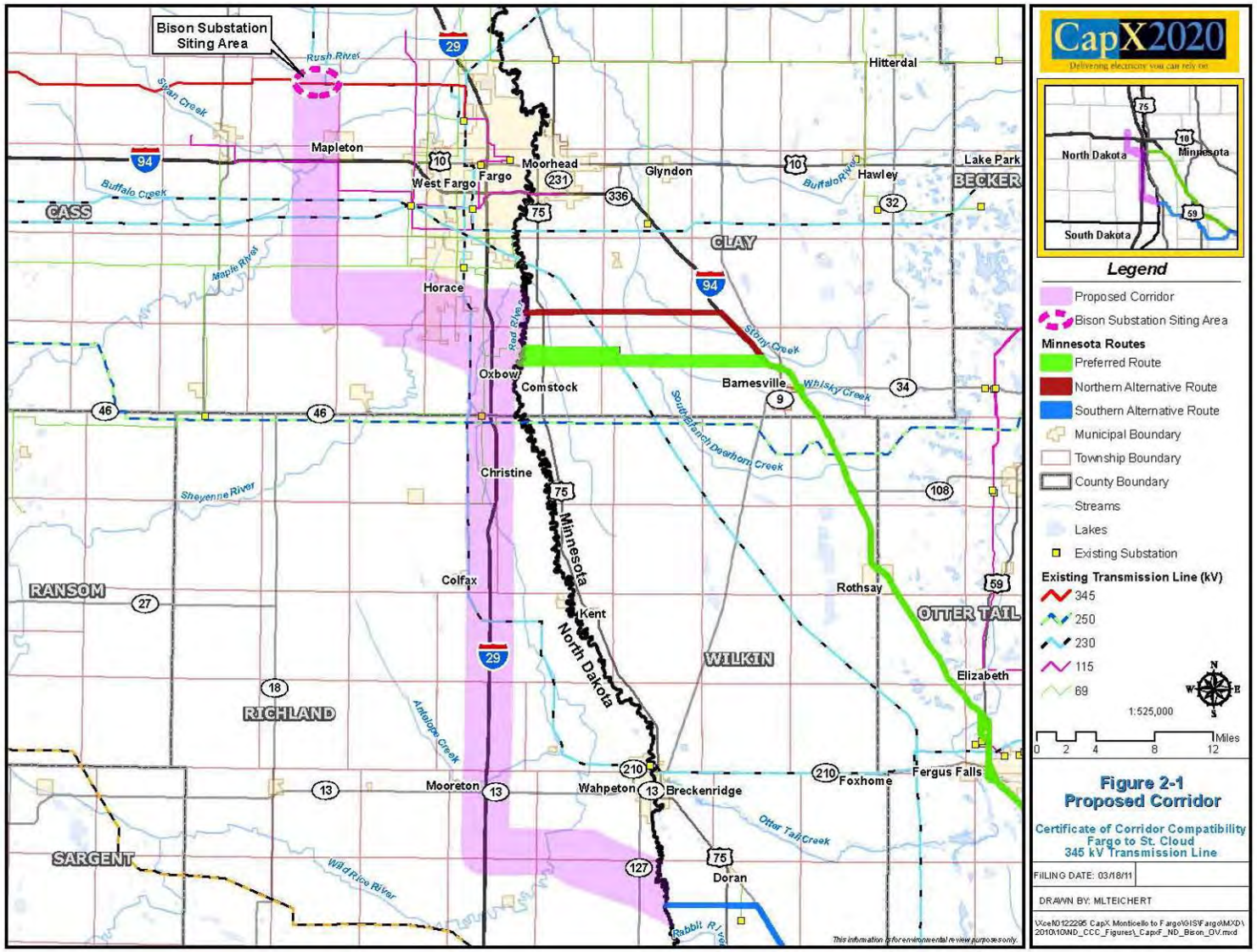
2.2 Corridor

A single corridor between the North Dakota/Minnesota border south of Wahpeton and the proposed Bison Substation Siting Area are proposed. Figure 2-1 below depicts the Proposed Corridor and the substation siting area. The Proposed Corridor was developed to accommodate multiple Red River crossing locations, including a northern crossing near Oxbow and a southern crossing near Wahpeton. On the south end, the Proposed Corridor coincides with the endpoint of the southern-most crossing and the alternative route in Minnesota.

North Dakota Administrative Code (N.D.A.C.) § 69-06-04-02 states that the width of a corridor must be 10 percent of the length of the line, not less than one mile and not more than six miles in width. The Proposed Corridor is between three and approximately 5.5 miles wide and was developed in consultation with Commission Staff. The Company respectfully requests that the Commission grant any variance request that may be required to approve these corridor widths.

Figure 5-1 in section 5.0 lists the local government units and sections affected by the Proposed Corridor.

Figure 2-1. Proposed Corridor and Bison Substation Siting Area



2.3 Project Schedule

Project construction is expected to begin in the third quarter of 2012, with an anticipated in-service date of fourth quarter 2015. A permitting and construction schedule summary, with anticipated end dates identified, is provided below.

North Dakota Certificate of Public Convenience and Necessity	First Quarter 2011
North Dakota Certificate of Corridor Compatibility and Route Permit	Second Quarter 2012
Environmental Permits	Second Quarter 2015
Engineering and Right-of-Way Acquisition	Third Quarter 2015
Construction	Fourth Quarter 2015
In-Service	Fourth Quarter 2015
Post In-Service and Project Completion	First Quarter 2016

This schedule is based on information known as of the date of this filing and upon planning assumptions that balance the timing of implementation with the availability of crews, materials and other practical and seasonal considerations. This schedule may be adjusted and revised as further information is developed.

2.4 Project Costs

The estimated cost of the facilities from the Bison Substation in Fargo to the Monticello Substation in Minnesota, including associated facilities, is between $500 and $750 million.

3.0 ENGINEERING AND OPERATIONAL DESIGN

3.1 Description of Proposed Facilities

A high voltage transmission line (HVTL) consists of three phases, each at the end of a separate insulator string, all physically supported by structures. Each phase consists of one or more conductors. When more than one conductor is used to make up a phase, the term "bundled" conductors is used. Conductors are metal cables consisting of multiple strands of steel and aluminum wire wound together. There are also two shield wires, typically less than one inch in diameter, strung above the electrical phases to prevent damage from lightning strikes. The shield wires can also include fiber optic cable which provides a communication path between substations for transmission line protection equipment. A double circuit transmission line carries two circuits or six phases with six or more conductors and normally two shield wires. There are several different types of structures used for double circuit transmission lines, including single pole steel structures and multiple pole steel structures. Transmission lines are constructed and operated in a right-of-way, the width of which is primarily dependent on structure design, span length and the electrical safety requirements associated with the transmission line's voltage. The Company makes every effort to use the best available transmission technology and engineering practices to mitigate any impacts caused by the transmission facilities.

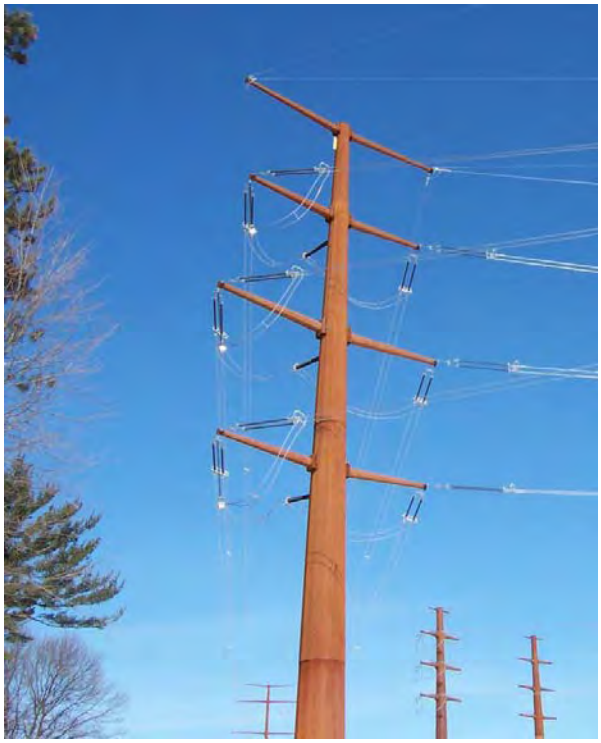
3.1.1 TRANSMISSION STRUCTURES AND RIGHT-OF-WAY DESIGN

Transmission Structures

The primary proposed structure is a single-pole, double circuit capable, self-weathering or galvanized steel pole (Figure 3-1). Each pole will range in height between 130 and 175 feet. The span length between structures will typically range between 600 and 1,000 feet depending on site-specific considerations. Self-weathering steel oxidizes or rusts to form a dark reddish brown surface coating to protect the structure from further weathering. Single pole steel structures are typically placed on a concrete foundation. There may be site-specific conditions where other structures, such as structures having a reduced height or multiple pole structures, will be required. Although the proposed line will be built using double circuit capable poles, with six arms, only one circuit will be installed for this Project. The second position will be available for a future, additional circuit.

The Company's double circuit compatible configuration with all six arms installed allows for expansion within the existing right-of-way. By constructing the structures to hold a future second circuit, the proposed 345 kV transmission line could be upgraded. A second circuit could be added to the proposed 345 kV transmission line, if future conditions warrant. The Company anticipates that a double circuit line could be operated within the right-of-way proposed for the Project.

Figure 3-1. Representative 345 kV Double-Circuit Single Pole Structure (Self-Weathering)



Each phase will normally consist of bundled conductors composed of two 954 Aluminum Conductor Steel Supported (ACSS) cables or conductors of comparable capacity. Each conductor is 954,000 circular mils or approximately 1.2 inches in diameter. ACSS cable consists of steel wires at the center surrounded by aluminum strands. The Company proposes to use the same conductor and bundled configuration for most of the Project.

Figure 3-2 summarizes the structure designs and foundations for the proposed single pole structures that may be installed for the Project.

Figure 3-2. Structure Design Summary

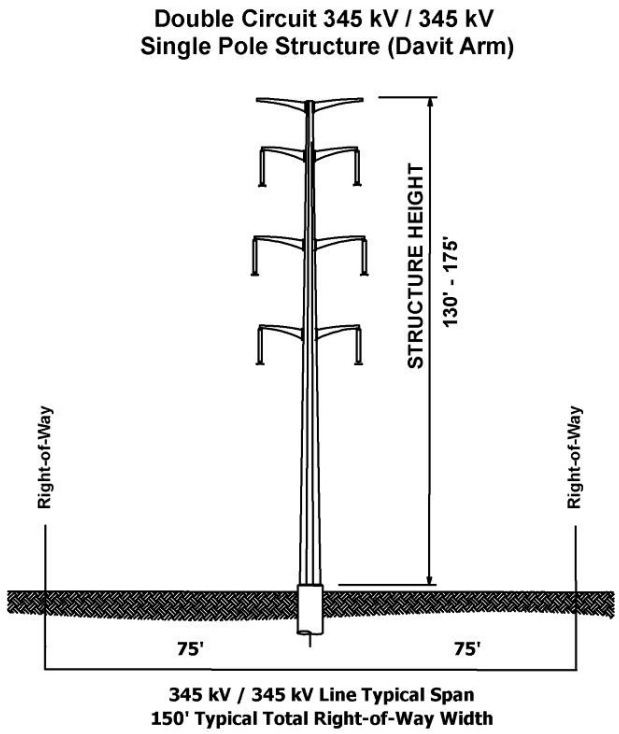
Line Type	Structure Type	Structure Material	Right-of-Way Width (feet)	Typical Structure Height (feet)	Typical Structure Base Diameter (inches)	Typical Foundation Diameter (feet)	Typical Span Length Between Structures (feet)
345 kV/ 345 kV Double Circuit	Single Pole Davit Arm	Steel	150-180 total	130-175	36-48 (tangent structures) 48-72 (angle structures)	6-12	600-1,000

The proposed transmission line will be designed to meet or surpass all relevant local and state codes, NESC and North American Electric Reliability Corporation (NERC) requirements and the Company's standards. Appropriate standards will be adhered to for construction and installation, and all applicable safety procedures will be followed during and after installation.

Right-of-Way

The proposed 345 kV transmission line will be built primarily with single pole structures, which typically require a right-of-way 150 feet in width for the length of the transmission line. In some limited instances, where specialty structures are required for long spans, poor soil conditions, or in environmentally sensitive areas, up to 180 feet of right-of-way may be needed. A diagram of a structure with right-of-way is shown in Figure 3-3.

Figure 3-3. Double Circuit 345 kV Structure with Right-of-Way



If the transmission line parallels other existing infrastructure right-of-way (e.g., roads, railroads, other utilities), an easement of lesser width may be required as parts of the right-of-way of the existing infrastructure can sometimes be combined with the right-of-way needed for the proposed transmission line. When paralleling existing right-of-way, such as a road, the Company's typical practice is to place the poles on adjacent private property, a few feet off the existing right-of-way. With this pole placement, the transmission line shares the existing right-of-way, thereby reducing the size of the easement required from the private landowner. For example, if required right-of-way is 150 feet, and the pole is placed five feet off of an existing road right-of-way, an 80-foot-wide easement will be required from the landowner and the additional 70 feet of the needed right-of-way will be shared with the road right-of-way. The lowest davit arms on the pole will be approximately 85 feet above the ground, depending on span length, and extend approximately 18 feet from the center of the pole. In each instance of sharing right-of-way, the Company will acquire necessary approvals from the right-of-way owner (e.g., railroad) or the agency overseeing use of a particular right-of-way (e.g., North Dakota Department of Transportation) for state trunk highways, including U.S. highways and interstates.

3.1.2 SUBSTATION DESIGN

The Project will terminate at the proposed Bison Substation to be located northwest of Mapleton. The Bison Substation will be a 345 kV/230 kV substation designed to provide in and out interconnections to the Jamestown to Maple River 345 kV transmission line and the Pillsbury to Maple River 230 kV line. The Company anticipates acquiring up to 80 acres for the substation to provide for the fenced area, equipment and a buffer area.

3.2 Right-of-Way and Land Acquisition, Construction, Restoration and Maintenance Procedures

3.2.1 RIGHT-OF-WAY AND LAND ACQUISITION

Transmission Line Right-of-Way

The right-of-way acquisition process begins early in the detailed design process. For transmission lines, utilities typically acquire easement rights to accommodate the facilities. The evaluation and acquisition process includes title examination, initial owner contacts, survey work, document preparation and purchase. Each of these activities, particularly as it applies to easements for transmission line facilities, is described in more detail below.

The first step in the right-of-way process is to identify all persons and entities of whom may have a legal interest in the real estate upon which the facilities will be built. To compile this list, a right-of-way agent or other persons engaged by the Company will complete a public records search of all land involved in the Project. A title report is then developed for each parcel to determine the legal description of the property and the owner(s) of record of the property and to gather information regarding easements, liens, restrictions, encumbrances and other conditions of record.

The next step is evaluation of the specific parcel. After owners are identified, a right-of-way representative contacts each property owner or the property owner's representative. The right-of-way agent describes the need for the transmission facilities, how the specific Project may affect each parcel, and seeks information from the landowner about any specific construction concerns. The right-of-way agent may also request the owner's permission for survey crews to enter the property to conduct preliminary survey work. Permission may also be requested to take soil borings to assess soil conditions and to determine appropriate foundation design. Surveys are conducted to locate right-of-way corridors, natural features, man-made features and associated elevations used during the detailed engineering of the transmission line. The soil analysis is performed by an experienced geotechnical testing laboratory.

During the evaluation process, the Company will establish an amount it believes to be just compensation for the property rights to be acquired. This amount may not be less than the

Company's approved appraisal or written statement and summary of just compensation for the property rights.

Also, the proposed transmission line's location will be staked. This means that the survey crew identifies the proposed location of each structure or pole on the ground and marks it with a surveyor's stake. The right-of-way agent shows the landowner where the structure(s) will be located on the property, as well as delineates the boundaries of easement area required for safe operation of the line.

Before initiating negotiations, the ROW agent will provide the owner with a written appraisal if one has been prepared, or if one has not been prepared, with a written statement and summary showing the basis for the amount the Company established as just compensation for the rights to build, operate and maintain the transmission facilities within the easement area and reasonable access to the easement area. The agent also provides maps of the transmission line route or site and the landowner's parcel and offers compensation for the transmission line easement. The landowner is allowed a reasonable amount of time to consider the offer and present any material that the owner believes is relevant to determining the property's value. If an agreement is reached for an easement, the landowner may request that the payment be made in annual installments of equal amounts, including interest on the outstanding balance. N.D.C.C. § 49-22-16.2.

In the majority of cases, utilities are able to work with the landowners to address their concerns, and an agreement is reached for the utility's purchase of land rights. The ROW agent prepares all of the documents required to complete each transaction. Required documents may include: easement, purchase agreement or contract and deed.

In rare instances, if a negotiated settlement cannot be reached, valuation would be made through the utility's exercise of the right of eminent domain pursuant to N.D.C.C. Ch. 32-15.

Once right-of-way is acquired and prior to construction, the right-of-way agent will again contact the owner of each parcel to discuss the construction schedule and requirements. To ensure safe construction of the transmission line, special consideration may be needed for fences, crops or livestock. For instance, fences may need to be moved or temporary or permanent gates may need to be installed, crops may need to be harvested early, and livestock may need to be moved. In each case, the right-of-way agent coordinates these processes with the landowner, who is compensated for damages.

Substation Land Acquisition

The Company will acquire up to 80 acres for the proposed Bison Substation. As the regulatory review process proceeds, the Company's representatives will consult with owners of parcels suitable

for the substation to discuss the Project in detail prior to conducting any necessary surveys and soils investigation. The Company will also develop more site-specific designs. Contacts with the owners of affected properties will continue and the negotiation and acquisition phase will begin for the Company to obtain the necessary land or easement rights for the substation. Wherever possible, the Company will seek to obtain necessary property rights through voluntary purchase.

During the acquisition phase, individual property owners will be advised as to the construction schedules, needed access to the site and any vegetation clearing required for the Project. The site will be cleared of the amount of vegetation necessary to construct, operate, and maintain the proposed Bison Substation. Also, any vegetation that is in the way of construction equipment may have to be removed.

Soil analysis at the substation site will be required to assist with the final design of the substation. The Company will inform landowners at the initial survey consultation that these borings will occur. An independent geotechnical testing company will take and analyze these borings.

3.2.2 CONSTRUCTION PROCEDURES

Construction will begin after federal, state, and local approvals are obtained; property and rights-of-way are acquired; soil conditions are established; and final design is completed. The precise timing of construction will take into account various requirements that may be in place due to permit conditions, system loading issues, and available workforce.

The actual construction will follow standard construction and mitigation practices that were developed from experience with past projects. These best practices address right-of-way clearance, staging, erecting transmission line structures, and stringing transmission lines. Construction and mitigation practices to minimize impacts will be developed based on the proposed schedule for activities, permit requirements, prohibitions, maintenance guidelines, inspection procedures, terrain, and other practices. In some cases, these activities, such as schedules, are modified to minimize impacts to sensitive environments.

Transmission Line Structures

Transmission line structures are generally designed for installation at existing grades. Typically, structure sites with 10 percent or less slope will not be graded or leveled. Sites with more than 10 percent slope will have working areas graded level or fill brought in for working pads. If the landowner permits, it is preferred to leave the leveled areas and working pads in place for use in future maintenance activities, if any. If permission is not obtained, the site is graded back to its original condition, as much as possible, and all imported fill is removed from the site.

Typical construction equipment used on a Project consists of tree removal equipment, mowers, cranes, backhoes, digger-derrick line trucks, track-mounted drill rigs, dump trucks, front end loaders, bucket trucks, bulldozers, flatbed tractor-trailers, flatbed trucks, pickup trucks, concrete trucks, and various trailers. Many types of excavation equipment are set on wheel or track-driven vehicles. Poles are transported on tractor-trailers.

Staging areas are usually established for the Project. Staging involves delivering the equipment and materials necessary to construct the new transmission line facilities. The materials are stored at staging areas until they are needed for the Project. Temporary lay down areas may be required for additional space for storage during construction. These areas will be selected for their location, access, security and ability to efficiently and safely warehouse supplies. The areas are chosen to minimize excavation and grading. The temporary lay down areas and any staging areas outside of the transmission line right-of-way will be obtained from affected landowners through rental agreements.

Access to the transmission line right-of-way corridor is typically made directly from existing roads or trails that run parallel or perpendicular to the transmission line right-of-way. In some situations, private field roads or trails are used. Permission from the property owner is obtained prior to accessing the transmission line corridor. Where necessary to accommodate the heavy equipment used in construction, including cranes, cement trucks and hole-drilling equipment, existing access roads may be upgraded or new roads may be constructed. New access roads may also be constructed when no current access is available or the existing access is inadequate to cross roadway ditches.

When it is time to install the poles, they are generally moved from the staging areas and delivered to the staked location. The structures are typically placed within the right-of-way until set. Insulators and other hardware are attached while the pole is on the ground. The pole is then lifted, placed and secured using a crane. The conductors are then clipped to the insulators, as shown in Figure 3-4.

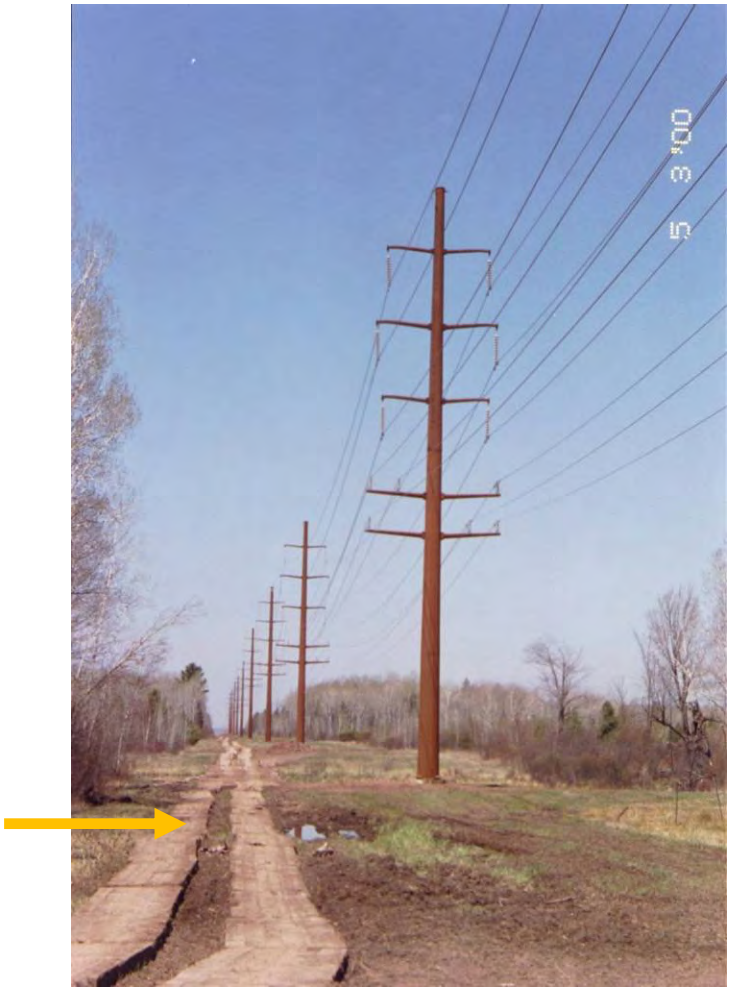
Figure 3-4. Clipping of Conductor to the Insulator

In general, structures will have drilled pier concrete foundations (see Figure 3-5). Drilled pier foundations may vary from six to nine feet in diameter and 25 feet or more deep, depending on soil conditions. After the concrete foundation is set, the pole is bolted to the foundation. Concrete trucks are required to bring the concrete in from a local concrete batch plant.

Figure 3-5. Pier Foundation

Construction mats are also placed in wet or soft soil locations and narrow ditches to minimize disturbances. These mats can also provide access to sensitive areas during times when the ground is not frozen to minimize impacts at the site. Figure 3-6 shows an example of construction mats.

Figure 3-6. Construction Mats



If landowner permission is obtained, it is preferred to spread excess soil from foundation holes on the structure site. If not allowed, it will be offered to the landowner or will be completely removed from the site.

The conductors are then installed by establishing stringing setup areas within the right-of-way or on temporary construction easements outside the right-of-way. These stringing setup areas are usually located every two miles along a final route. Conductor stringing operations also require brief access to each structure to secure the conductor wire to the insulator hardware and the shield wire to clamps, once final sag is established. When the transmission line crosses streets, roads, highways, or other energized conductors or obstructions, a temporary guard or clearance poles may be installed. This ensures that conductors will not obstruct traffic or contact existing energized conductors or other cables during stringing operations; it also protects the conductors from damage. Figure 3-7 shows a single circuit steel 115 kV structure midway through the stringing process.

Figure 3-7. Stringing Process

Environmentally sensitive areas and wetlands may also require special construction techniques in some circumstances. During construction, the most effective way to minimize impacts to wet areas will be to span all streams and rivers. In addition, the Company will not allow construction equipment to be driven across waterways except under special circumstances and only after discussion with the appropriate resource agency. Where waterways must be crossed to pull in the new conductors and shield wires, workers may walk across, use boats, or drive equipment across ice in the winter. These construction practices help prevent soil erosion and ensure that equipment fueling and lubricating will occur at a distance from waterways. Additional mitigative measures relating to wetlands are contained in section 7.0.

Substation

Construction is planned to begin once required approvals are obtained and property acquisition is complete. A detailed construction schedule will be developed based upon the availability of crews, weather conditions, spring load restrictions on roads and any specific area restrictions in place to minimize construction impacts.

Up to 15 acres of land will be graded to construct the substation. Once the site is graded, a perimeter fence will be erected to secure the site. Concrete foundations will be poured to support the substation equipment and the control house. After grading, fencing and foundation work will be completed, and the substation and control house erection will commence. The Company will also construct permanent access roads to provide for ingress and egress for its substation operating personnel and equipment maintenance.

Erosion control methods will be implemented to minimize runoff during construction. The Company will comply with all local, state, NESC, and internal standards regarding clearance to ground, clearance to other utilities in the area, clearance to buildings, and other applicable standards.

Economic Impacts

The construction and operation of the transmission lines is expected to have some positive economic influence on the local (county and municipal) economies. In terms of payroll earnings and construction expenditures, the economic benefit from the Project will be focused around the area where the line and substation are constructed, which may be minimal relative to the regional economy of the Fargo area, which is the major center of economic activity for the area. However, whenever possible, local contractors will be enlisted to provide materials for the Project, particularly for materials that cannot be transported long distances, such as fuel and cement.

Standard size construction crews will be used for transmission line and substation construction. The Company uses nearly all unionized construction labor trained for this highly specialized work. The construction crews are expected to spend several months constructing the transmission line and proposed Bison Substation. Multiple construction crews are anticipated. During construction, there will be a positive impact on the local community due to the expenditures of the construction crews. Long-term beneficial impacts from the Project will include incremental increases in revenues from utility property taxes.

3.2.3 RESTORATION PROCEDURES

During construction of the transmission line and in areas outside of the fenced area of the existing and proposed substations, crews will attempt to limit ground disturbance wherever possible. However, areas are disturbed during the normal course of work, which can take several weeks in any one location. As construction on each parcel is completed, disturbed areas will be restored to their original condition to the extent practicable. The right-of-way agent will contact each property owner after construction is completed to see if any damage has occurred as a result of the Project. If damage has occurred to crops, fences or the property, the Company will fairly reimburse the landowner for damages sustained.

In some cases, the Company may engage an outside contractor to restore the damaged property to as near as possible to its original condition. Portions of vegetation that are disturbed or removed during construction of the transmission line will naturally reestablish to pre-disturbance conditions. Resilient species of common grasses and shrubs typically reestablish with few problems after disturbance. Areas with significant soil compaction and disturbance from construction activities along the proposed transmission line corridor will require assistance in reestablishing the vegetation stratum and controlling soil erosion. Commonly used methods to control soil erosion and assist in reestablishing vegetation include, but are not limited to:

- Erosion control blankets with embedded seeds;
- Silt fences; and
- Straw bales.

These erosion control and vegetation establishment practices are regularly used in construction projects and are referenced in the construction permit plans. Long-term impacts are minimized by utilizing these construction techniques.

3.2.4 MAINTENANCE PROCEDURES

Transmission Lines

Transmission lines are designed to operate for decades and require only moderate maintenance, particularly in the first few years of operation. The estimated service life of a transmission line for accounting purposes is approximately 40 years. However, from a practical perspective, HVTLs are seldom completely retired. Transmission infrastructure has very few mechanical elements and is built to withstand weather extremes that are normally encountered. With the exception of severe weather conditions, such as tornadoes and ice, transmission lines rarely fail. Transmission lines are automatically taken out of service by the operation of protective relaying equipment, when a fault is sensed on the system. Such interruptions are usually only momentary. Scheduled maintenance outages are also infrequent. As a result, the average annual availability of transmission infrastructure is very high, in excess of 99 percent.

The principal operating and maintenance cost for transmission facilities is the cost of inspections, usually done monthly by air. Annual operating and maintenance cost for transmission lines in Minnesota and the surrounding states vary. For voltages from 115 kV through 345 kV, the Company's experience shows that costs are approximately $300 to $500 per mile. Actual line-specific maintenance costs depend on the setting, the amount of vegetation management necessary, storm damage occurrences, structure types, materials used and the age of the line.

Substations

Similar to transmission lines, substations are also designed to operate for decades and require only moderate maintenance, particularly in the first few years of operation. The principal operating and maintenance cost for substation facilities is the cost of routine inspections.

Substations require a certain amount of maintenance to keep them functioning in accordance with accepted operating parameters and NESC and NERC requirements. Transformers, circuit breakers, batteries, protective relays and other equipment need to be serviced periodically in accordance with the manufacturer's recommendation. The site itself must be kept free of vegetation and drainage must be maintained. The substation equipment that will be installed as part of the Project includes state of the art circuit breakers designed to minimize the risk of sulfur hexafluoride (SF6) release. SF6, used as an insulator in breakers, is considered a greenhouse gas by the Environmental Protection Agency (EPA). Current technologies require less SF6 at lower pressures than older technologies, resulting in a more secure system. Absent an equipment failure, newer breakers contain and maintain SF6 levels and do not sustain the releases associated with older circuit breakers.

4.0 CORRIDOR SELECTION PROCESS

4.1 Introduction and Overview

The corridor selection process for the Project was driven by an extensive public participation and agency coordination effort. Thousands of potentially affected landowners received regular mailings throughout the public participation process, which informed them of the Project, described opportunities to be involved in the corridor development and selection process, identified where additional information could be obtained, and explained how to submit comments to the Company that could be utilized in the corridor development and selection process.

The Company gathered environmental data, collected stakeholder and public comments, and applied the criteria listed in N.D.A.C. § 69-06-08-02 to identify the Proposed Corridor. N.D.A.C. § 69-06-08-02 lists the criteria that guided the inventory of exclusion and avoidance areas, and the corridor suitability evaluation process. These criteria include exclusion and avoidance areas, selection criteria that relate to minimizing potential land use and environmental impacts, and policy criteria that relate to maximizing public benefits.

Recognizing that crossing the Red River would influence corridor/route development in North Dakota and Minnesota, the Company identified more than a dozen potential river crossing locations. These crossing locations included both existing (locations where existing roads or utilities cross the river) and new river crossings. The various potential river crossing locations were comparatively evaluated in accordance with the criteria identified above. Upon the narrowing of the number of potential river crossings to a limited number that the Company believed would reduce or minimize the potential for impacts, while also being permittable crossings, potential corridors/routes were then developed on either side of these crossing locations. Routes were identified in Minnesota while the corridor was being developed in North Dakota.

4.2 Background

The Fargo-Moorhead Metropolitan Feasibility Study (Diversion Project) is a flood risk management study for the Fargo-Moorhead area. In developing potential corridors for the Project, an important consideration was how the Project might be coordinated with the USACE Diversion Project. The Fargo-Moorhead feasibility study was initiated in September 2008. The Draft Feasibility Report and Environmental Impact Statement for the Diversion Project were released in May 2010 by the St. Paul District, USACE and the sponsor cities of Fargo, North Dakota and Moorhead, Minnesota. The purpose of the feasibility study was to better understand flood issues, establish flood risk management measures that could be implemented, document findings and, if appropriate, recommend implementation of a federal project in the Fargo-Moorhead area. The Red River of the North has exceeded the National Weather Service flood stage of 18 feet in 47 of the past 108 years,

and every year from 1993 through 2010. The planning objectives for the study are to: reduce flood risk and flood damages in the Fargo-Moorhead area; restore or improve degraded riverine and riparian habitat in and along the Red River of the North, Wild Rice River (North Dakota), Sheyenne River (North Dakota) and Buffalo River (Minnesota) in conjunction with other flood risk management features; provide additional wetland habitat in conjunction with other flood risk management features; and provide recreational opportunities in conjunction with other flood risk management features.

The study analyzed a number of possible types of measures and alternative plans that could reduce the flood risk in the Fargo-Moorhead metropolitan area, which included a no-action (continue emergency measures) alternative, non-structural measures, flood barriers including levees, increased conveyance including diversion channels, and flood storage. The alternatives analysis resulted in the no-action alternative and two diversion concepts being carried forward, a diversion in Minnesota and a diversion in North Dakota.

Federal policy requires that the feasibility study identify the plan that reasonably maximizes net national economic development (NED) benefits consistent with protecting the environment. That plan, the "NED plan," must be recommended for implementation unless there are overriding reasons for recommending another plan, based on other federal, state, local and international concerns. A different plan may be recommended as a "locally preferred plan," if it has positive net economic benefits and is approved by the assistant secretary of the Army for Civil Works.

The study identified three plans of significance to decision makers: the NED Plan, the Locally Preferred Plan (LPP) and the Federally Comparable Plan (FCP). The NED plan that was selected from the study was the MN40k diversion which provided the greatest economic benefit consistent with protecting the nation's environment; the LPP that was selected was the ND35k diversion which is the tentative plan and is in the opinion of the non-federal sponsors the one that best meets the needs of the local community; and the FCP that was selected was the MN35k diversion which provides a comparable total annual economic benefits to the LPP and is smaller and less expensive than the NED plan. Normally the NED plan would establish the basis for federal cost sharing of a LPP, but in this study the LPP provides fewer total annual economic benefits than the NED plan does; therefore, the FCP is being used as the basis for federal cost sharing instead of the NED plan.

The LPP is a diversion within North Dakota with 35,000 cubic feet per second (cfs) capacity, and the FCP is a diversion within Minnesota with 35,000 cfs capacity. Although the diversion channel of the LPP would be within North Dakota, a tie-back levee would be required in Minnesota. In another manner, the diversion channel for the FCP would be within Minnesota, while a tie-back levee would be required in North Dakota. The required tie-back levee for the FCP would be significantly longer than the tie-back levee for the LPP. The NED is a diversion within Minnesota with 40,000 cfs

capacity. See section 8.1.1 for a summary of contacts the Applicant has had with the USACE regarding the study and how it and the Project may relate.

Pre-December 2010 Diversion Project Considerations

The majority of participants in public and local government meetings held by the Company to discuss the Project identified a preference to locate the proposed 345 kV transmission line along the Diversion Project, particularly the "wet side" of this alignment. Comments were received from the USACE to the same effect. The wet side of the Diversion Project would be the side where flood waters will still occur. Within the Fargo regional area, the wet side would be along the south and west side of the diversion alignment. In response to requests from stakeholders to consider options that would follow the Diversion Project corridor, the Company initially selected a corridor that paralleled the Diversion Project as a preferred corridor. This initially preferred corridor and other corridors are depicted in Figure 4-7 and were proposed in the December 2010 application. Meanwhile, the Company continued to evaluate the compatibility of the Project with the Diversion Project and gathered additional information from USACE.

Post-December 2010 Diversion Project Considerations

In January 2011, sponsors of the Diversion Project participated in two public meetings. At these meetings, USACE advised that the Diversion Project alignment had been modified to incorporate considerations associated with an existing substation owned and operated by the Western Area Power Administration. An updated Diversion Project timeline was also provided. This timeline identified that the required USACE's Chief's approval and conclusion of the federal environmental review process are not anticipated until December 2011.

Project representatives met with representatives of the USACE via teleconference in February 2011. During this discussion, the USACE identified that portions of the Diversion Project alignment were still subject to change and various studies to assess the extent of upstream and downstream impacts were still ongoing. Additionally, the USACE identified that subsequent to the anticipated approvals in December 2011, the Diversion Project would further require separate Congressional approvals for federal funding and authorization to commence construction. As it relates to the acquisition of land or easements for the Diversion Project, the Company understood there was uncertainty as to when and how these activities would occur. The Fargo to St. Cloud Project is anticipated to be in-service at the end of 2015, while the Diversion Project is not expected to be developed until several years later.

The Diversion Project is a significant and complex infrastructure project that will require a myriad of local and federal regulatory issues to be resolved before the project can proceed. Once the Diversion Project obtains the necessary approvals, local and federal funding sources must be secured. The

Company understands that if the entire project were funded, it would take approximately 10 years to complete. However, there is a potential that the Diversion Project will not be fully funded, but subject to further congressional review. And, only after funding is determined, will land acquisition commence, which may give rise to additional legal challenges.

Given the uncertainty associated with the location and, most notably, the timing of the Diversion Project, the Company decided not to propose the eastern-most of the two northern December 2010 corridors (see Figure 4-7 below).

4.3 Summary of Rationale for Selecting Proposed Corridor

N.D.C.C. § 49-22-08 requires that the location of a preferred corridor for any transmission facility be identified, as well as information supporting why such location is best suited for the facility. The Proposed Corridor best meets the Project's objectives while also conforming to the various routing criteria. The Proposed Corridor allows for the shortest and most direct path to the Bison Substation siting area, thereby reducing cost and the extent of ground disturbance, while also ensuring that impacts to exclusion and avoidance areas can be avoided or minimized and the selection and policy criteria can be satisfactorily adhered to. The Company believes that a route can be developed within the Proposed Corridor that minimizes the potential for impact to existing residences, sensitive land uses, and sensitive natural and cultural resources.

4.4 Progression of Corridor Development

As identified above, upon the identification of potential Red River crossing locations, the Company gathered and comparatively evaluated environmental data associated with routing criteria typically used for electrical transmission facilities, collected stakeholder and public comments associated with these criteria, and applied the regulatory criteria listed in N.D.A.C. § 69-06-08-02 to develop various possible corridors and ultimately select the Proposed Corridor included within this amended application for a Certificate of Corridor Compatibility. A geographic area of study progressed from broader, regional project corridors to multiple iterations of narrowed study corridors. Figures 4-1 through 4-8 graphically illustrate this progression. Public meetings, in the form of stakeholder meetings (routing work groups and local officials meetings) and public open houses, were conducted with each major milestone or iteration of corridor development.

Figure 4-1. Fargo to St. Cloud Initial Project Corridors

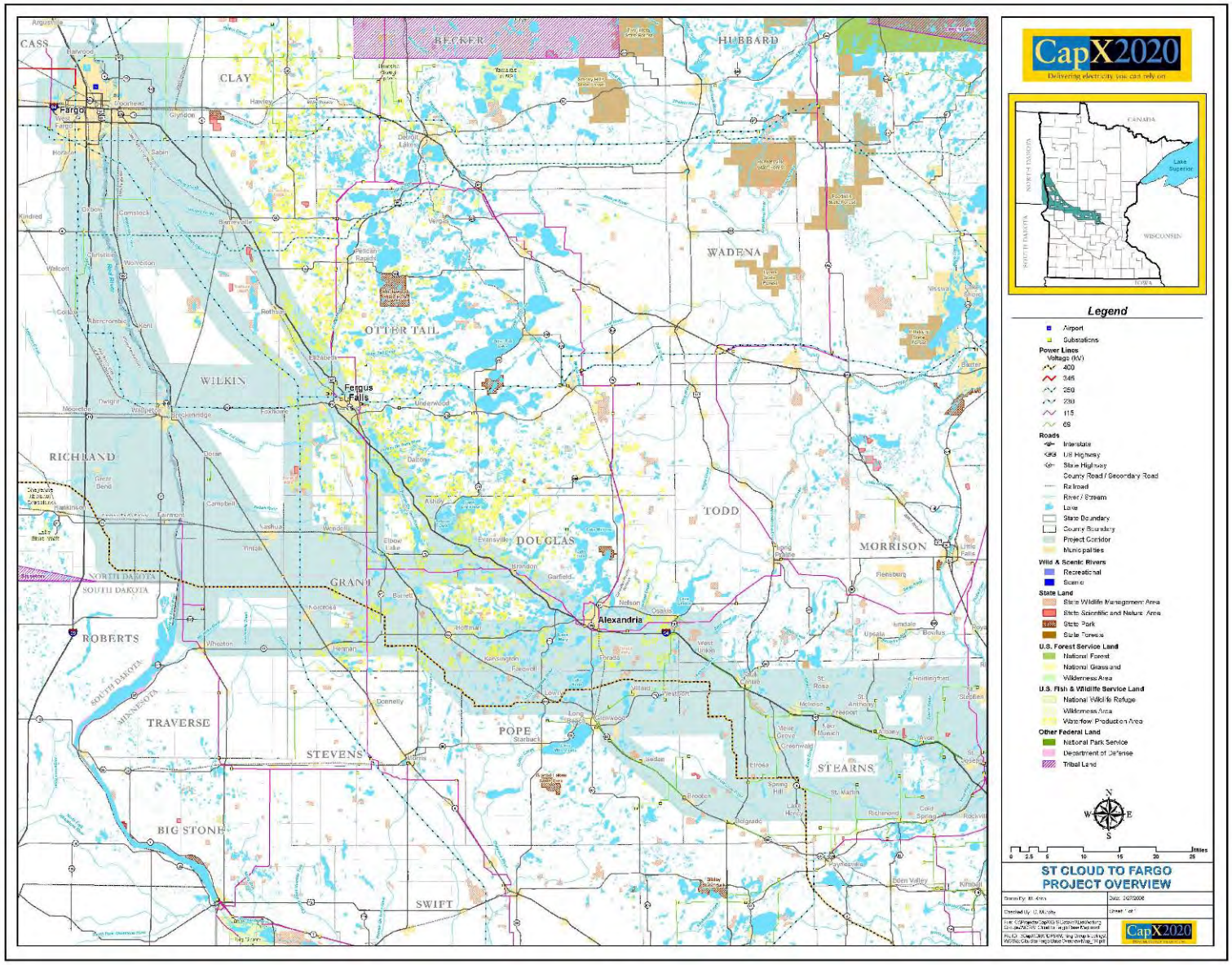


Figure 4-2. Fargo to St. Cloud Refined Corridors

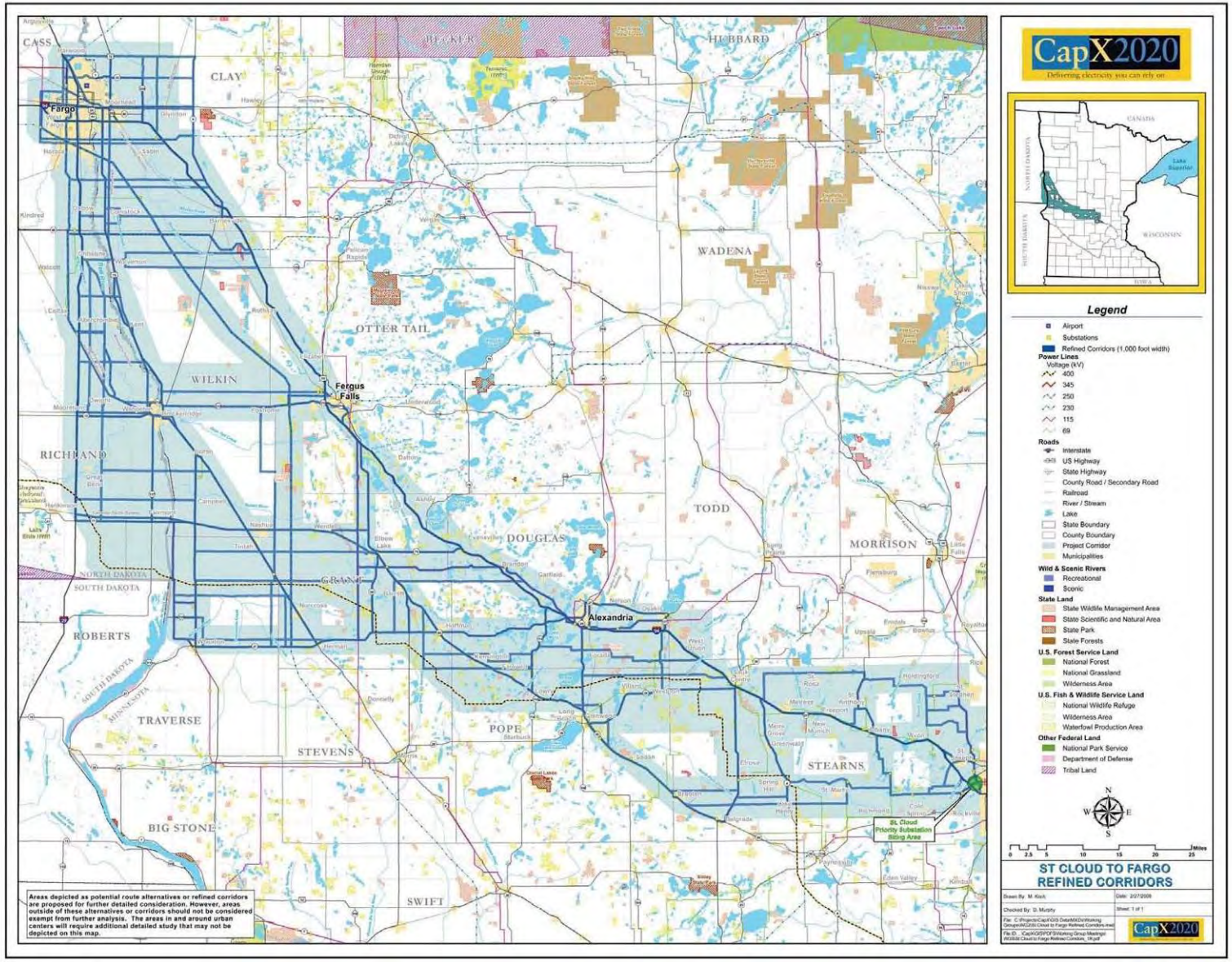


Figure 4-3. Fargo to St. Cloud Potential Route Alternatives

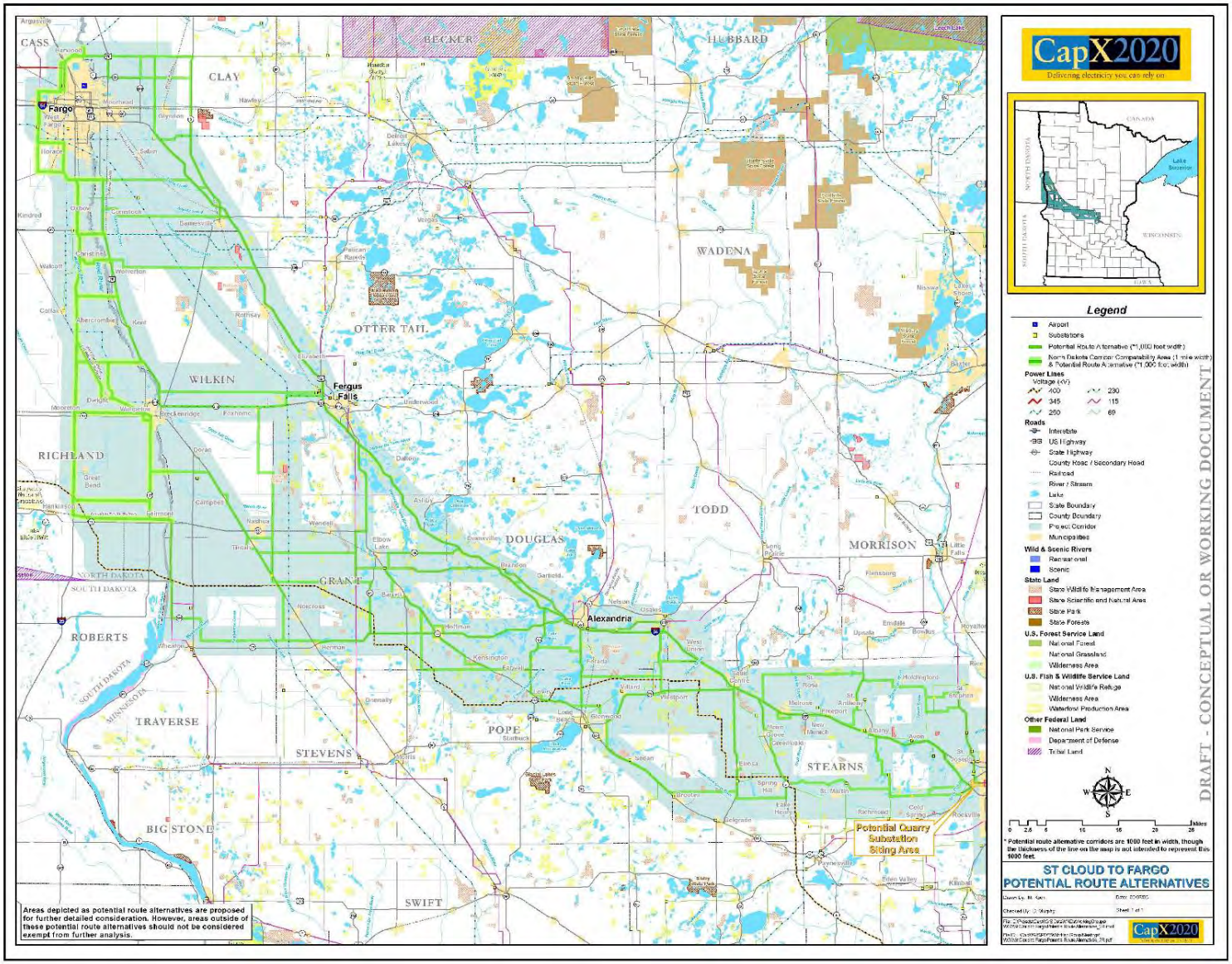


Figure 4-4. North Dakota Preliminary Corridors (Three-Miles Wide)

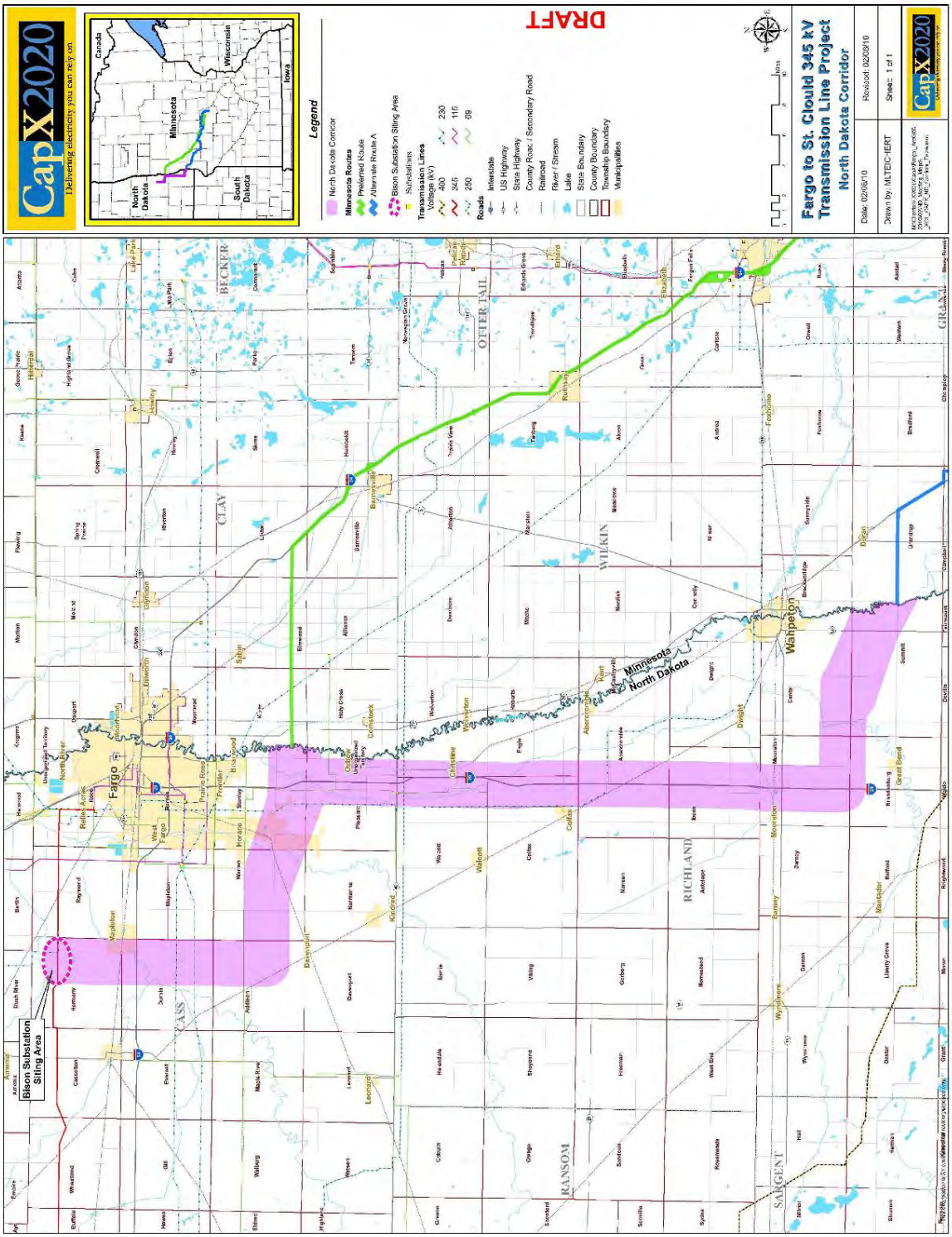


Figure 4-5. North Dakota Preliminary Corridors (Six-Miles Wide)

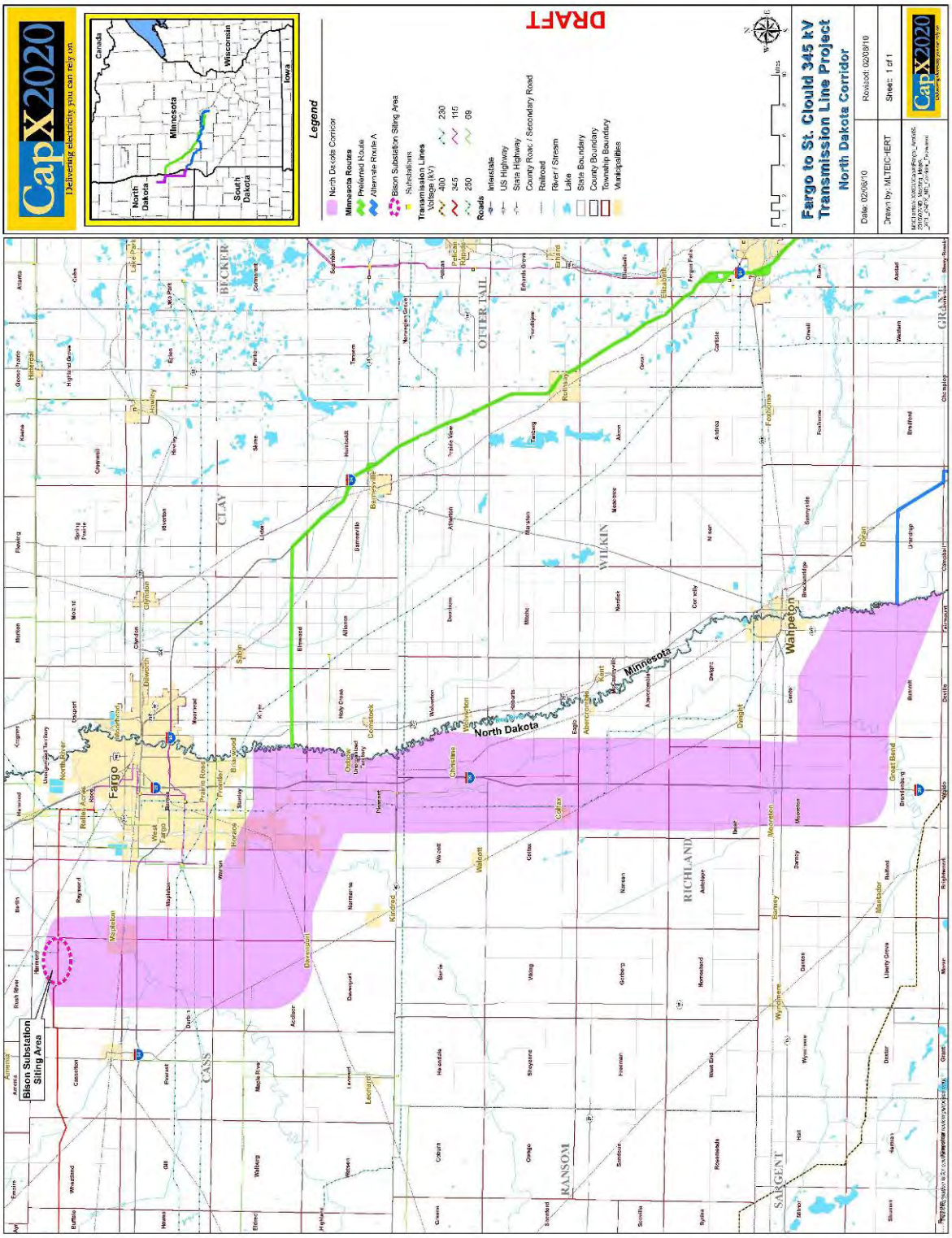


Figure 4-6. North Dakota Refined Corridors

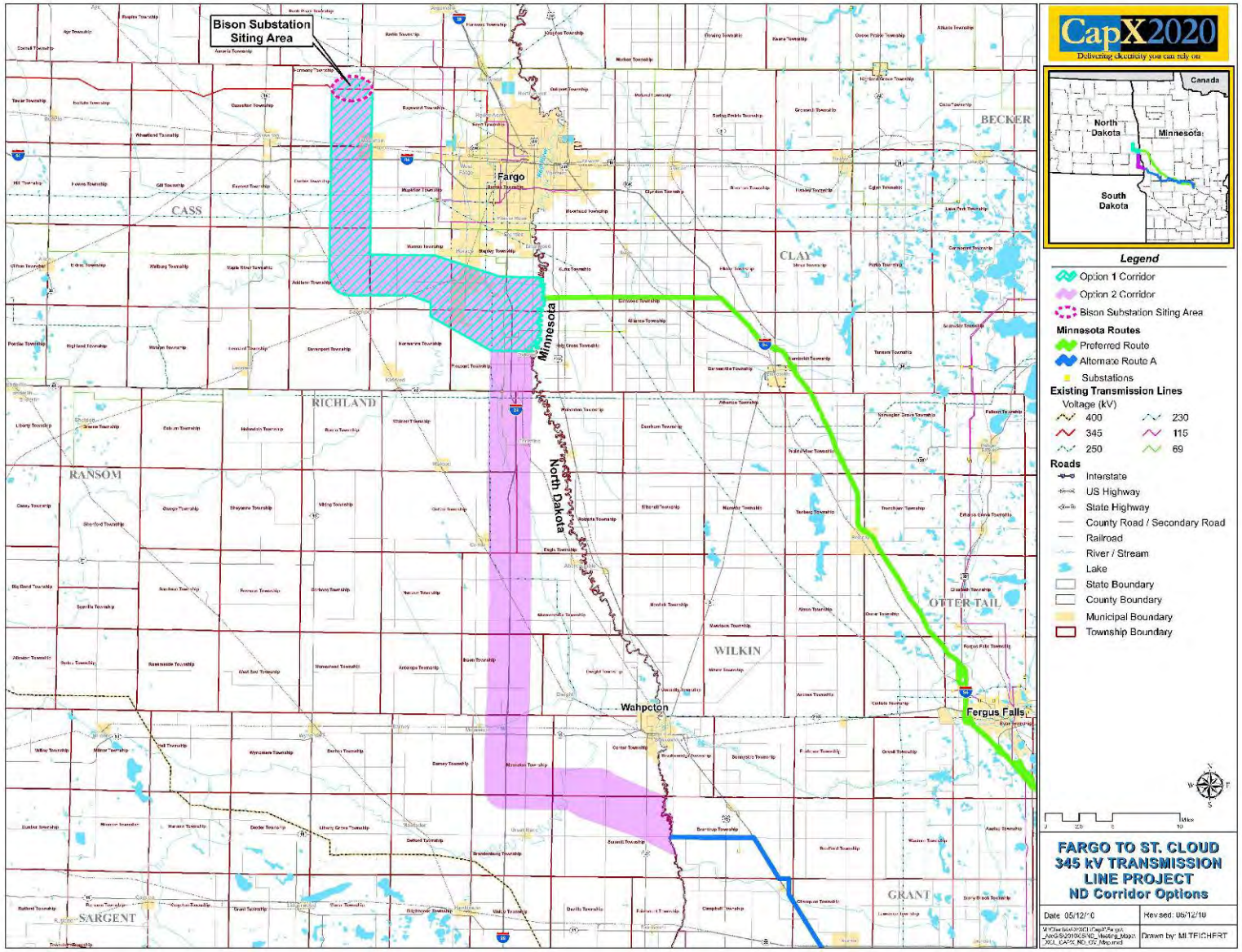


Figure 4-7. North Dakota December 2011 Corridors

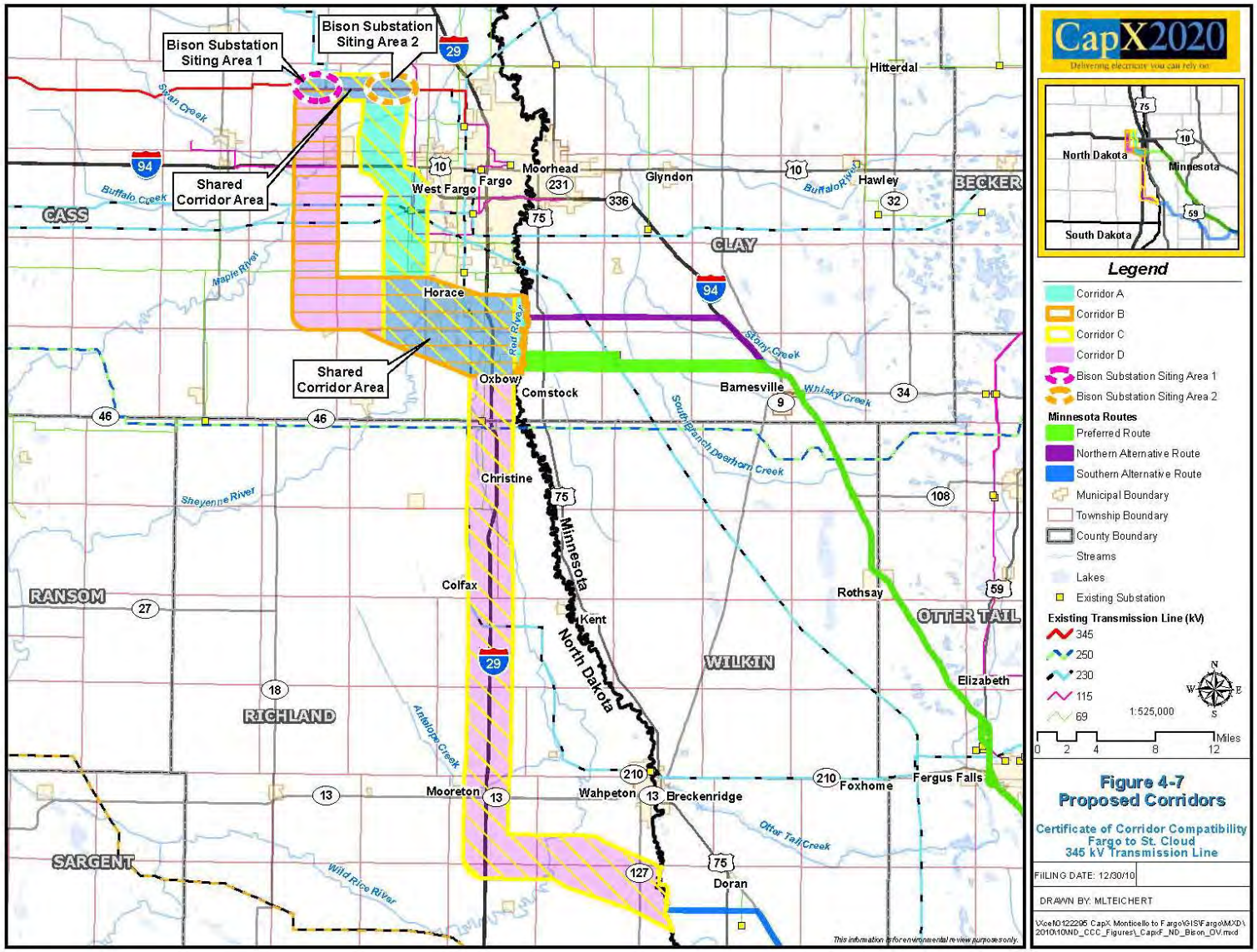


Figure 4-8. Proposed Corridor

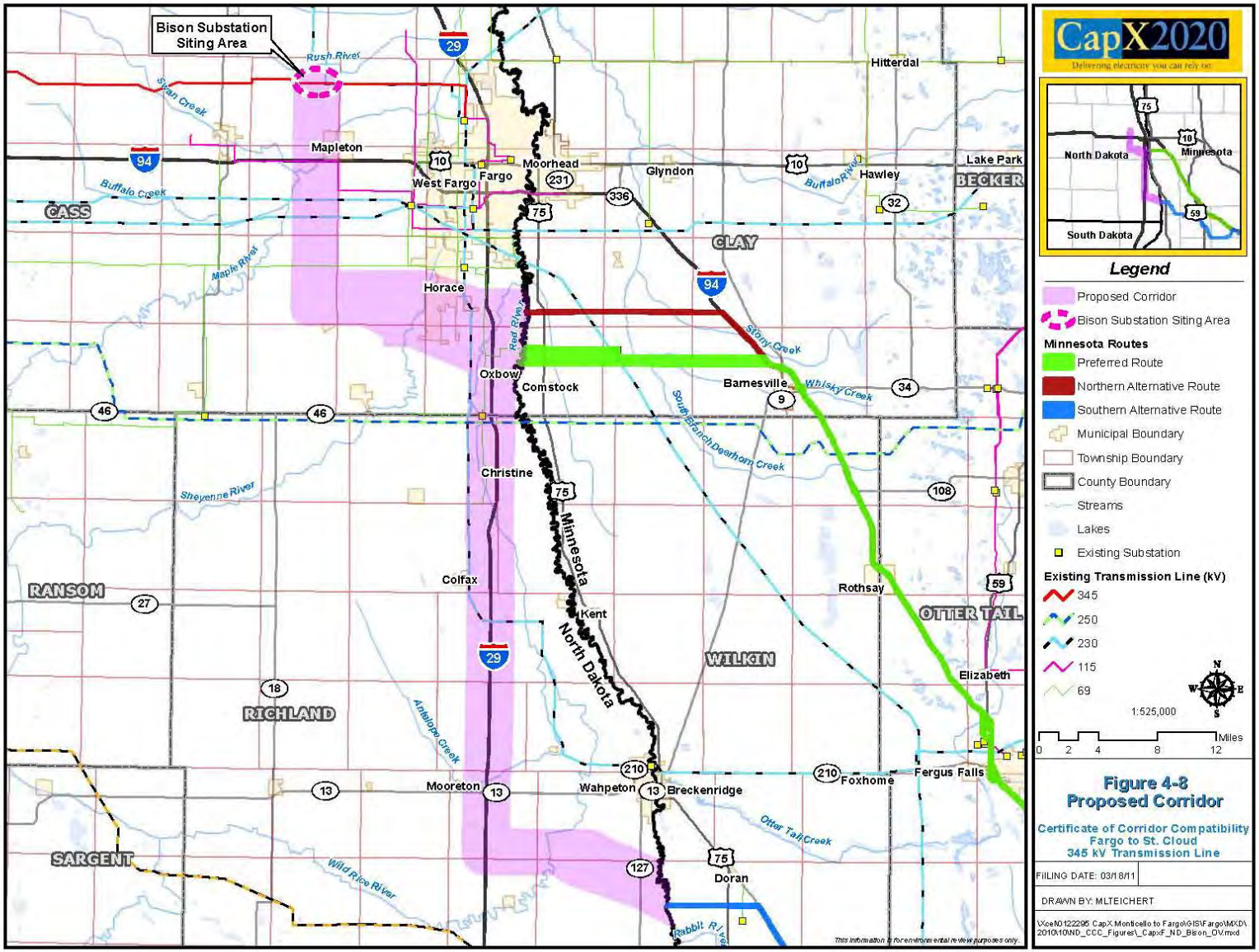


Figure 4-9 below identifies the dates and locations of the various public meetings that have been conducted as part of the corridor development and selection process specific to North Dakota.

Figure 4-9. Public Meetings Conducted

Type of Meeting	Date Conducted	Location
Routing work group meeting	January 28, 2008	Fargo, North Dakota
	January 29, 2008	Wahpeton, North Dakota
	March 4, 2008	Fargo, North Dakota
	March 4, 2008	Wahpeton, North Dakota
Local officials meeting	February 10, 2010	Mapleton, North Dakota
	February 11, 2010	Colfax, North Dakota
	February 11, 2010	Wahpeton, North Dakota
	May 19, 2010	Horace, North Dakota
	May 20, 2010	Mapleton, North Dakota
	May 24, 2010	Colfax, North Dakota
	May 25, 2010	Wahpeton, North Dakota
Open house	March 26, 2008	Fargo, North Dakota
	June 5, 2008	Fargo, North Dakota
	May 19, 2010	Horace, North Dakota
	May 20, 2010	Mapleton, North Dakota
	May 24, 2010	Colfax, North Dakota
	May 25, 2010	Wahpeton, North Dakota

The public participation element of the corridor development and selection process was planned as a vehicle for integrating land owners, local residents, and other stakeholders within the Project study area into corridor development and selection. Their participation was used to validate data and decisions made throughout the process.

4.4.1 VENUES

Routing work group (RWG) meetings were made up of landowners, community representatives, public officials, potentially affected agencies and other interested parties within the Project study area. Representative stakeholders typically have an understanding of local perceptions or values. Also included as invitees to the RWG meetings were any open house attendees who requested to be invited. The RWG forum included a formal presentation of Project information and interactive exercises typical of workshops. The overall objectives of the RWG meetings were to facilitate the involvement of stakeholders in the route development and selection process and provide them with a strong knowledge base so that they were able to respond to their constituents. North Dakota community representatives, public officials and potentially affected agencies were invited to participate in these meetings.

Local officials meetings were made up of representatives from local jurisdictions, including the counties, cities and townships, potentially affected by the Project. Similar to the RWG meetings, the overall objectives of the local officials meetings were to facilitate the involvement of stakeholders in the route development and selection process and provide them with a strong knowledge base so that they were able to respond to their constituents. The local officials meetings were conducted specifically in North Dakota for local community representatives and public officials.

Open houses were different from the RWG and local officials meetings only with regard to the parties invited to attend and the method of presentation of information. Open houses were facilitated to engage a larger audience, in this case local residents and landowners, within the Project study area. Open houses were also typically less formal, emphasizing on one-on-one exchanges of information. Attendees could attend anytime during the hosted timeframe and obtain information, and most importantly share information, at key topic stations. Information presented at the open houses was the same information presented at the RWG and local officials meetings.

4.4.2 TOOLS AND TECHNIQUES

The development and selection of corridors involved the utilization of a number of tools and techniques. These tools and techniques were mostly associated with communicating or presenting results of the decision making process. Methods included interactive exercises, interactive geographic information systems (GIS), a Project hotline and an external Project website. Various methods were utilized to provide for a diverse but readily available means of information exchange.

GIS is a system for capturing, storing, analyzing and managing data and associated attributes which are spatially referenced to the earth. The interactive GIS stations hosted a GIS specialist and a visual display of the data contained within the spatial database. RWG meeting, local officials meeting and open house attendees were able to view various spatial datasets layered over current aerial photography and obtain site-specific maps. Comments from meeting attendees were captured. These comments pertained specifically to routing considerations. Using GIS as a spatial analysis tool and as an interactive component of the public participation process provided a reliable, open and transparent means of sharing information and validating decisions made throughout the route development and selection process.

An external Project website, www.capx2020.com, was also established for the Fargo-St. Cloud Project and the other CapX2020 Group I projects. This website, intended for viewing by stakeholders and the general public, provided a portal to archived and updated Project information. Summaries of the various RWG meetings and open houses are included on the Project website. In addition a toll-free hotline, 1-866-876-2869 and general email address, fargoinfo@capx2020.com, were established.

The toll-free hotline allowed stakeholders and members of the public to reach a CapX2020 representative during normal business hours for general inquiries related to the Project. For specific inquiries or information requests, contact information was provided to the Project team for follow-up or response.

As identified above, these tools and techniques were mostly used to communicate or disseminate results of the decision making process at milestone stages within the overall corridor development and selection process. These methods ensured accurate and timely information readily available to any parties interested in the Project. Additionally, these tools were used to gather input and data from stakeholders, which were used to identify, refine and narrow the corridors presented in this application for a Certificate of Corridor Compatibility.

5.0 DESCRIPTION OF PROPOSED CORRIDOR

The Company has identified one Proposed Corridor between the North Dakota/Minnesota border and one Bison Substation Siting Area. The Proposed Corridor is approximately 82 miles long and up to 5.5 miles wide. The Proposed Corridor extends from the North Dakota/Minnesota border from the following two locations: in a westerly direction across Cass County south of Fargo and in a westerly direction south of Wahpeton across Richland County to Interstate 29. Figure 5-1 identifies the LGUs and sections affected by the Proposed Corridor. Figure 5-2 depicts the Proposed Corridor.

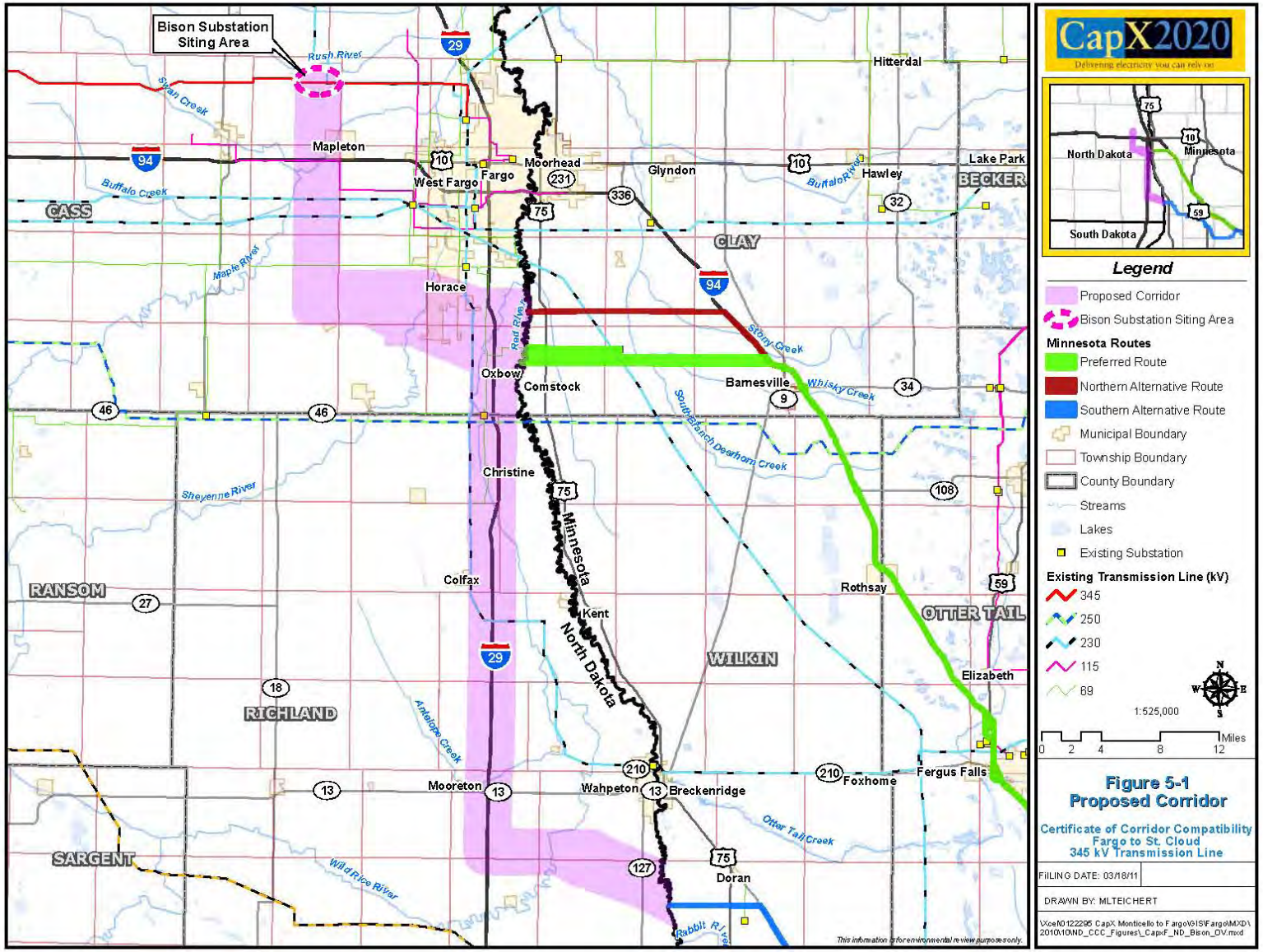
Figure 5-1. Local Government Units and Sections Affected[1] by the Proposed Corridor

Counties		
Cass		Richland
Cities		
Christine		Horace
Colfax		Fargo
Mapleton		Oxbow
Township	**Township and Range**	**Sections**
Abercrombie Township	134N, 49W	2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 32, 33, 34, 35, 36
Addison Township	138N, 51W	1, 2, 3, 10, 11, 12, 13, 14, 15, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, 36
Brandenburg Township	131N, 49W	1, 2, 3, 4, 5
Center Township	132N, 47W	31, 32, 33
	132N, 48W	19, 20, 21, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
Colfax Township	135N, 49W	3, 4, 5, 8, 9, 10, 15, 16, 17, 20, 21, 22, 27, 28, 29, 32, 33, 34
Durbin Township	139N, 51W	1, 2, 3, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, 34, 35, 36
Eagle Township	135N, 49W	2, 11, 14, 23, 26, 35
	136N, 49W	1, 2, 11, 12, 13, 14, 23, 24, 25, 26, 35
Harmony Township	140N, 51W	1, 2, 3, 9, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 34, 35, 36
Ibsen Township	133N, 49W	1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 26, 27, 28, 29, 32, 33, 34, 35
Mooreton Township	132N, 49W	2, 3, 4, 5, 8, 9, 10, 11, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 32, 33, 34, 35, 36
Normanna Township	137N, 50W	1, 2, 3, 4, 5, 10, 11, 12
Pleasant Township	137N, 48W	6, 7, 18, 31
	137N, 49W	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, 36

Township	Township and Range	Sections
Stanley Township	138N, 48W	19, 30, 31
	138N, 49W	17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36
Summit Township	131N, 47W	4, 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21, 22, 27, 28
	131N, 48W	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15
Walcott Township	136N, 49W	3, 4, 9, 10, 15, 16, 21, 22, 27, 28, 29, 32, 33, 34
Warren Township	138N, 50W	13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36

[1]"Affected" indicates that at least a portion of the proposed corridor crosses the annexed boundaries of the municipality or township. Only incorporated municipalities are identified.

Figure 5-2. Proposed Corridor



6.0 SUMMARY OF FACTORS CONSIDERED

The North Dakota Energy Conversion and Transmission Facility Siting Act and the Commission's rules pursuant to the Act provide a robust framework for transmission siting decisions undertaken by both the Company and the Commission. The core of this framework is the routing criteria, including exclusion areas, avoidance areas, selection criteria, and policy criteria, provided in N.D.A.C. § 69-06-08-02. The routing criteria identify those environmentally and socially important areas that may be impacted by a proposed transmission facility and provide clear guidance as to areas where no transmission facilities can be sited, which areas to avoid, and the necessity to mitigate, to the fullest extent possible, impacts to certain environmental, social, and human resources when developing and approving transmission corridors and routes. Additionally, the Act provides guidance to the Commission as to certain factors to be considered in evaluating applications and designations of corridors. N.D.C.C. § 49-22-09.

The Company used the Act's framework when it undertook to identify the possible corridors presented in this Application. As identified in Figure 6-1 below and described in more depth in Chapter 7 of this Application, most of the exclusion areas identified in the Commission's rules are not present in the corridor presented in this Application. To the extent an exclusion area is present in the corridor, it comprises a very small portion of that corridor. *See* NDAC § 69-06-08-02. Applicant has also identified the avoidance areas within the Proposed Corridor and will mitigate impacts to these areas in accordance with the factors provided in NDAC § 69-06-08-02(2). Where exclusion or avoidance areas exist within the corridor, the Company believes that a route can be developed to avoid these areas. The Company also evaluated the selection criteria and believes that a properly developed route will allow any impacts upon those selection criteria to be kept to an acceptable minimum.

The Company also considered the guidance provided in NDCC § 49-22-09. The information provided in this Application demonstrates that the Proposed Corridor can be designated based on those factors. Specifically, the adverse environmental effects, which cannot be avoided, can be mitigated with careful routing, proper engineering and construction practices with little irreversible commitment of natural resources. It is standard Company practice to use the best available transmission technologies and engineering practices to mitigate potential environmental impacts. Proper routing will mitigate impacts to scenic areas, historic sites, and other cultural resources, as well on unique biological areas and rare species habitats. Moreover, the Company has worked and will continue to work with other state and federal agencies and local entities to identify concerns and to minimize conflicts with planned development within the Proposed Corridor, particularly in the areas around Fargo.

Figure 6-1, below, provides a summary of the transmission corridor criteria impacted by the Project and a citation to the portion of this Application containing an in-depth discussion of each criteria.

Figure 6-1. Exclusion, Avoidance, Selection and Policy Criteria

Criteria		Proposed Corridor	Section in Application where Criteria Addressed in More Detail
Exclusion Areas	Designated or registered national: parks; memorial parks; historic sites and landmarks; natural landmarks; monuments; and wilderness areas	Three NRHP sites (historic architectural) occur within the Proposed Corridor.	Sections 7.2.6 and 7.3
	Designated or registered state: parks; historic sites; monuments; historical markers; archaeological sites; and nature preserves	One state monument, Champion Tree, is located within the Proposed Corridor (<1% of the Proposed Corridor).	Sections 7.2.6 and 7.3
	County parks and recreational areas; municipal parks; and parks owned or administered by other governmental subdivisions	Four parks are located within the Proposed Corridor, in addition to six recreational use areas that receive funding from the Land and Water Conservation Fund. Collectively, these areas comprise less than 1% of the Proposed Corridor.	Sections 7.2.6
	Areas critical to the life stages of threatened or endangered animal or plant species	No identified occurrences (0%) of threatened or endangered species within the Proposed Corridor.	Section 7.4.6
	Areas where animal or plant species that are unique or rare to this state would be irreversibly damaged	No identified occurrences (0%) within the Proposed Corridor.	Section 7.4.7
Avoidance Areas	Designated or registered national: historic districts; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; and grasslands	No identified occurrences (0%) within the Proposed Corridor.	Sections 7.2.6, 7.3, 7.4.2, 7.4.3, and 7.4.6
	Designated or registered state: wild, scenic, or recreational rivers; game refuges; game management areas; management areas; forests; forest management lands; and grasslands	No identified occurrences (0%) within the Proposed Corridor.	Sections 7.2.6, 7.2.8, 7.4.2, 7.4.3, and 7.4.6
	Historical resources which are not specifically designated as exclusion or avoidance areas	Seven previously recorded archaeological sites occur within the Proposed Corridor and 48 previously identified historic architectural resources (not eligible for the NRHP) occur within the Proposed Corridor. Collectively, these sites comprise less than 1% of the Proposed Corridor.	Section 7.3
	Areas which are geologically unstable	The Fargo regional area and the Red River valley are both considered unstable areas,	Section 7.4.1

Criteria		Proposed Corridor	Section in Application where Criteria Addressed in More Detail
		related in part to existing soils and local engineered geology. While no known faults or areas of subsidence occur within the Proposed Corridor and the Proposed Corridor is located within a low earthquake probability area, there are other geologic considerations associated with the weak soils that occur in the Project area. However, proper engineering practices and careful routing should allow the proper siting of the Project in these areas pursuant to the conditions provided in N.D.A.C. § 69-06-08-02(2).	
	Within five hundred feet of a residence, school, or place of business[1]	1,183 known residences occur within the Proposed Corridor. One school occurs within the Proposed Corridor.	Section 7.2.1
	Reservoirs and municipal water supplies.	No identified occurrences (0%) within the Proposed Corridor.	Section 7.1.3
	Water sources for organized rural water districts	No identified occurrences (0%) within the Proposed Corridor.	Section 7.1.3
	Irrigated land.	Agricultural land use is the predominant land use within the Proposed Corridor and much of this land is irrigated. However, proper engineering practices and careful routing should allow the proper siting of the Project in these areas pursuant to the conditions provided in N.D.A.C. § 69-06-08-02(2).	Section 7.2.7
	Areas of recreational significance which are not designated as exclusion areas.	General recreational use areas, such as snowmobile trails and golf courses, occur within the Proposed Corridor. Collectively, these areas comprise less than 1% of the Proposed Corridor.	Section 7.2.6
Selection	a. The impact upon agriculture:		
	(1) Agricultural production	The predominant land use within the Proposed Corridor is agricultural land use.	Section 7.2.7
	(2) Family farms and ranches	The predominant land use within the Proposed Corridor is agricultural land use. Numerous family farms and ranches are anticipated to occur within the Proposed Corridor. The average farm size in Cass county is over 1,100 acres while the average farm size in Richland County is just under 1,000 acres.	Section 7.2.7
	(3) Land which the owner can demonstrate has soil, topography, drainage, and an available water supply that cause the land to be economically suitable for irrigation	See information provided above.	Section 7.2.7
	(4) Surface drainage patterns and ground water flow patterns	There are nine known drainage permits in Cass County. There are 30 known drainage permits	Section 7.2.7

Criteria		Proposed Corridor	Section in Application where Criteria Addressed in More Detail
		in Richland County.	
	b. The impact upon:		
	(1) Noise-sensitive land uses	Residential land uses, some agricultural use areas, and dispersed rural residential land uses may be considered noise sensitive land uses. These land uses occur within all the Proposed Corridor.	Section 7.2.2
	(2) The visual effect on the adjacent area	Potential visual receptors, such as existing residences, recreational use areas, and transportation corridors, occur within the Proposed Corridor.	Section 7.2.4
	(3) Extractive and storage resources	Various mineral and sand and gravel resources occur within both Cass and Richland counties.	Section 7.4.1
	(4) Wetlands, woodlands, and wooded areas	1,481 acres of wetlands (< 1%) occur within the Proposed Corridor. 1,504 acres of woodlands or wooded areas (<1%) occur within the Proposed Corridor.	Sections 7.2.8 and 7.4.2
	(5) Radio and television reception, and other communication or electronic control facilities	Nine communication facilities occur within the Proposed Corridor.	Section 7.2.3
	(6) Human health and safety	No significant impacts associated with human health and safety considerations are anticipated within the Proposed Corridor.	Section 7.1.1
	(7) Animal health and safety	No significant impacts associated with animal health and safety considerations are anticipated to occur within the Proposed Corridor.	Section 7.4.4
	(8) Plant life	No significant impacts to plant life are anticipated within the Proposed Corridor.	Section 7.4.3
Policy	Location and design		Sections 2.0 and 3.0
	Training and utilization of available labor in this state for the general and specialized skills required	Local labor will be utilized to the extent practicable.	Not applicable
	Economies of construction and operation		Section 3.0
	Use of citizen coordinating committees	Additional public meetings will be conducted with local officials, potentially affected landowners, potentially affected agencies, and other interested parties as routes are developed for the Project. Public meetings that have already been conducted for the Project are discussed in section 4.1.	Section 4.2
	A commitment of a portion of the transmitted product for use in this state	The Project will enhance the electrical system that serves the immediate Red River Valley area and parts of North Dakota extending west to Jamestown and Devil's Lake. The Project	Section 1.2

Criteria		Proposed Corridor	Section in Application where Criteria Addressed in More Detail
		will also increase transmission transfer capacity by approximately 350 MW to facilitate generation additions in North Dakota and provide necessary transmission facilities for the projected increase in the demand for electricity in the region.	
	Labor relations	The Company anticipates no negative impact to local labor relations as a result of the location, construction and operation of the Project.	Not applicable
	The coordination of facilities	In the event the need arises for the Project to coordinate with other proposed facilities or developments, the Company will do so. The Company will continue coordination and consultation with the USACE with regard to the Diversion Project.	Section 7.5
	Monitoring of impacts	The Company has identified various types of mitigative measures that will be implemented to avoid, reduce, or minimize the potential for environmental impacts. Specific impacts and mitigative measures, such as monitoring of impacts, are subject to further consideration as routes are developed.	Section 7.0
	Utilization of existing and proposed rights of way and corridors	The Proposed Corridor encompasses numerous existing and proposed rights-of-way and corridors that will be considered for route development.	Not applicable
	Other existing or proposed transmission facilities	Other planned developments are known to occur within the Project area.	Sections 7.1.2 and 7.5

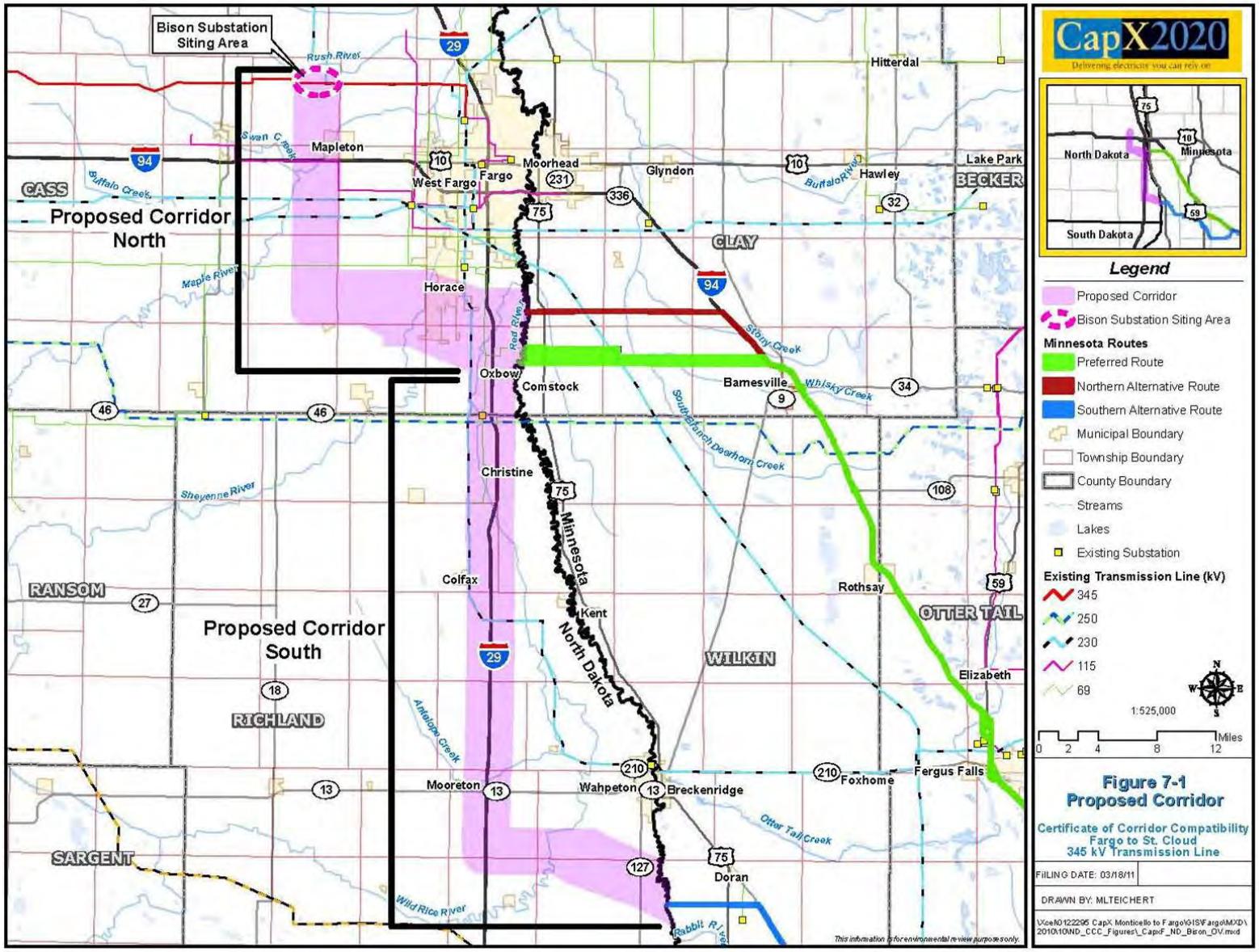
[1]Known residences have been identified based on aerial interpretation. Existing places of business have not been identified as these locations would be dependent on means of identification/verification other than aerial interpretation.

7.0 ENVIRONMENTAL INFORMATION

This section provides a description of the environmental resources, potential impacts to those resources, and the Company's proposed mitigative measures, where appropriate, to minimize adverse impacts that may result from the location, construction, and operation of the Project. The Proposed Corridor provides for a northern and a southern crossing of the Red River. A northern crossing coincides with the preferred route identified for the Project in Minnesota. The southern crossing coincides with the Minnesota southern alternative route.

The Project will ultimately require only one of these crossings. As such, the environmental information provided in this section is presented relative to the Proposed Corridor in its entirety, but also for the northern and southern portions of the Proposed Corridor. The northern portion of the Proposed Corridor, also referred to as Proposed Corridor North, corresponds to the northern Red River crossing while the southern portion of the Proposed Corridor, also referred to as Proposed Corridor South, corresponds to the southern Red River crossing. Figure 7-1 depicts the Proposed Corridor, distinguishing the areas that represent Proposed Corridor North and Proposed Corridor South. The resources evaluated encompass the transmission facility corridor criteria identified in N.D.A.C. § 69-06-08-02 and information required in N.D.C.C. § 49-22-08. The impacts described below include types of impacts that have the potential to occur within the Proposed Corridor. Specific impacts that may occur as a result of the location, construction and operation of the Project are dependent on transmission structure locations associated with an approved route within a certificated corridor. Identified mitigative measures are the Company's standard construction practices and represent types of measures that may be implemented to avoid, reduce, or minimize the potential for adverse environmental impacts.

Figure 7-1. Proposed Corridor



7.1 Public Health and Welfare

7.1.1 PUBLIC HEALTH AND SAFETY

Public health and safety concerns regarding the location, construction and operation of the proposed transmission line and substation will be considered by the Company in developing suitable routes within the Proposed Corridor. Proper safeguards will otherwise be implemented during construction and operation of the Project. The Project will be designed according to local, state, and National Electric Safety Code (NESC) standards regarding ground clearance, crossing utilities clearance, building clearance, strength of materials, and right-of-way widths. In addition, construction crews will comply with local, state, and NESC standards regarding facility installation and standard construction practices. Established Company and industry safety procedures would be followed during and after installation of the proposed transmission line and substation, including clear signage during all construction activities.

Furthermore, the proposed facilities will be equipped with protective devices (circuit breakers and relays located in substations where transmission lines terminate) to safeguard the public in the event of an accident, or if structural hardware or conductor falls to the ground. The protective equipment would de-energize the transmission line should such an event occur. In addition, the substation facilities would be properly fenced and accessible only by authorized personnel.

Airports, Landing Strips, and Airplane Safety

In addition to the aforementioned safety concerns, HVTLs can present a safety concern to airports and aircraft, especially during takeoff and landing. An airport is defined by the Federal Aviation Administration (FAA) as the following: "an area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any" (14 CFR Part 1, § 1.1). North Dakota classifies airports, landing areas and landing strips, based on length of runway, as personal, secondary, feeder, trunk line, express, continental, intercontinental, or intercontinental express facilities (N.D.A.C. § 6-02-03-03 (4)). The placement of transmission line structures or the stringing of conductors between structures could impact airport operations; potentially hinder the maneuverability of aircraft; potentially interfere with the operation of air navigation or weather systems; and pose a potential risk to pilots (IFC, 2007).

The physical dimensions of airport runways, and in some cases the type of navigational instrumentation utilized, influence the class size of aircraft capable of landing at an airport. The dimensions or extent of runway approach zones or other airspace zones also can be derived from the dimensions of airport runways. Aircraft design and propulsion systems are determinants in an aircraft's ability to land at a given facility. For example, jet aircraft are heavier, typically require a greater runway length for take-off and landing, and require more glide slope clearance distance

compared to propeller-driven aircraft. Both of these factors are important in relation to structures such as transmission lines because they determine the take-off and landing glide slopes necessary for safe flight operation, which in turn determine the setback distance or allowable height of structures, such as transmission line structures.

The physical design of an airport is influenced by the need for safe and efficient aircraft operations. For instance, existing and planned airport elements often include object free areas (OFA); runway protection zones (RPZ); airport imaginary surfaces governed by 14 CFR, Part 77; and areas that may be controlled by zoning, easements, or other means to mitigate potential incompatible land uses (FAA, 1989). As indicated by these elements, the presence of obstructions in the vicinity of the airport may impact the individual operation of certain aircraft. The runway and presence of other objects are important considerations for the siting of transmission line structures because these elements are key factors in the determination of the take-off and landing glide slopes necessary for safe flight operation. As such, the need to locate transmission lines at applicable or appropriate setback distances or design transmission facilities to not exceed allowable heights is critical to safe aircraft operation.

The FAA has established development guidelines on the proximity of structures, including HVTLs, to public use airports and heliports. Federal Aviation Regulation (FAR) Part 77 (14 CFR Part 77) establishes standards and notice requirements for reporting airspace obstructions for objects currently impacting or that could impact navigable airspace around aviation facilities. FAR Part 77 defines a series of "imaginary" surface zones surrounding airports that specify height restrictions for structures based on slope ratios. These imaginary surfaces include the primary surface, horizontal surface, conical surface, approach surface, precision instrument approach surface, and the transitional surface. According to FAR Part 77, "an object will be considered an obstruction to a public airport (excluding seaplane bases and heliports) if it is of greater height" than any of the aforementioned imaginary surfaces. Each of these imaginary surfaces have corresponding slopes, based in part on the airports' use designation, flight volumes, and plane size capabilities. All surfaces are measured at the mean sea-level elevation of the airport. If necessary or appropriate, the Company will submit a required notice to the FAA pursuant to the requirements set forth in FAR Part 77, Subsection 13. North Dakota also defines imaginary surfaces associated with airports, landing areas and landing strips including approach surfaces, horizontal surfaces, conical surfaces, and transitional surfaces (N.D.C.C. § 6-02-03-03). Procedures for determining limiting heights above ground for each of these surfaces are defined in N.D.C.C. § 6-02-03-04 and § 6-02-03-05).

As previously indicated, certain objects, such as steel transmission line structures, have the potential to conflict with the operation of airport navigational aids and weather observation station facilities. Specifically, these facilities include Very High Frequency Omni-directional Range (VOR) air navigation systems and Automated Weather Observation Stations (AWOS). FAA Order 6820.10,

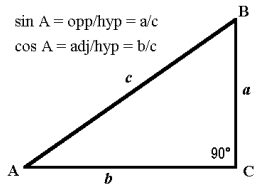
VOR, VOR/Distance Measuring Equipment (DME), and Very High Frequency Omni-Directional Radio Range Tactical Air Navigation Aid (VORTAC) Siting Criteria, specifies the distance setback requirements for built and natural features, such as trees, buildings, and metallic structures (FAA, 1986). Within this FAA Order, obstruction criteria for a VOR facility are identified, in addition to setback distances for transmission line structures. These regulations specify that overhead transmission line structures with conductors should be located beyond 1,200 feet of the VOR antenna to avoid communication interference (FAA, 1986). In addition, metallic or partially metallic structures should subtend vertical angles of 1.2 degrees or less, measured from the ground elevation of the VOR facility (i.e., antenna site) (FAA, 1986). Based upon these standards, metallic or partially metallic structures of 130 feet in height must be 6,206 feet away from a VOR air navigational station to avoid interference with the operation of the facility. Transmission structures of 140 feet in height must be 6,683 feet away and transmission structures of 175 feet in height must be 8,354 feet away from a VOR.[3]

In North Dakota, airports can be established by a number of public authorities. As stated within N.D.C.C., Chapter 2-02,

> The North Dakota aeronautics commission and all counties, cities, park districts, and townships of this state, separately or jointly, may acquire, establish, construct, expand, own, lease, control, equip, improve, maintain, operate, regulate, and police airports and landing fields for the use of aircraft either within or without the geographic limits of such political subdivisions, and may use for such purpose or purposes any available property owned or controlled by the state aeronautics commission or such political subdivisions.

Each of these authorities has the ability to regulate airport hazards, which are defined as "any structure or tree or use of land which obstructs the airspace required for the flight of aircraft in landing or taking off at any airport or is otherwise hazardous to such landing or taking off of aircraft" (N.D.C.C., Chapter 2-04-01). As part of this zoning authority, these jurisdictions may permit, regulate, and restrict the height to which structures and trees may be erected or allowed to grow (N.D.C.C., Chapter 2-04-03).

[3] Calculations are provided as the following with a = height of the structure (130 feet, 140 feet, and 175 feet), b = distance from VOR navigation systems (i.e., the distance to be calculated), and Angle A as 1.2 degrees:



Airports within the Proposed Corridor were located using the North Dakota State GIS database. The file was derived from the National Transportation Atlas Database, dated 2007 (North Dakota GIS Hub Data Portal, n.d.).

Existing Conditions

Four airports are located within the Proposed Corridor, none of which are located within the Bison Substation Siting Area. Among these are the Ellig Field Airport, Kraft Airport, a heliport, and an unidentified airport. The Ellig Field Airport is located within the Proposed Corridor North. This is a private-use airport located in Hickson, North Dakota. It has one runway that is oriented north-south and is approximately 3,900 feet in length and 75 feet in width. The FAA identifier is ND99 (AirNav.com, n.d.).

Kraft Airport is located in Mapleton, North Dakota. The airport is located within the Proposed Corridor North. It has two runways, one of which is approximately 3,175 feet in length and 120 feet in width. It is a turf runway. The second is approximately 2,700 feet in length and 75 feet in width. It is a combination of turf and gravel. The FAA identifier is 2ND0 (AirNav.com, n.d.).

The Gorder Farm Heliport is located in the City of Galchutt, which is in the Proposed Corridor South. The Gorder Farm Heliport is a private-use facility with the FAA identifier of 40 ND. The landing pad is approximately 500 feet by 200 feet (AirNav.com, n.d.).

The unidentified airport was identified through field observations. Specific information was not included in the state GIS database. This airport is located in Summit Township, which is located within the Proposed Corridor South.

In addition to these facilities, one VOR (Fargo VORTAC) is located within the Proposed Corridor, 1.5 miles west of Interstate 29 in Section 22 in Stanley Township. It is located within the Proposed Corridor North.

Potential Impacts

The location, construction and operation of the proposed transmission line has the potential to impact the operation of local airports, landing areas, or landing strips and VOR systems, if transmission structures are not located or designed to avoid potential conflicts.

Mitigative Measures

With the implementation of proper safeguards and protective measures, impacts related to public health and safety are not anticipated. Additionally, the Company will coordinate with airport, landing area or landing strip owners and operators as routes are developed within the Proposed Corridor.

7.1.2 PUBLIC SERVICES

For the purposes of this discussion, public services include sanitary sewer, water, cable television, digital subscriber line (DSL), and telephone systems. The types of utilities are present within the Proposed Corridor and were evaluated along with other existing public use facilities, such as schools, emergency services, and transportation networks.

Existing Conditions

Public services in the Project vicinity are provided primarily through the county, township, and municipal governments. Communities within the Proposed Corridor include portions of the City of Christine, the City of Colfax, the City of Fargo, the City of Horace, the City of Mapleton, and the City of Oxbow. Other nearby communities include the cities of Casselton, Davenport, Frontier, Prosper, West Fargo, and Moorhead (Minnesota).

Existing Utilities

Existing sanitary sewer, water, cable television, DSL, and telephone lines are located within the Proposed Corridor. These services are provided both by government and private utilities. For instance, the Cass County Electric Cooperative (CCEC) provides services to residents in Cass County, as well as other parts of southeastern North Dakota (CCEC, 2010). The City of Mapleton provides water services and city burn piles for its residents (City of Mapleton, n.d.). Other providers of these services are available in the vicinity of the Proposed Corridor.

In addition to these facilities, there are 13 existing electrical transmission and distribution facilities within the Proposed Corridor which include the following companies and voltages:

- Minnesota Power Company 250 kV DC transmission line.
- Minnkota Power Cooperative, Inc. 345 kV transmission line
- Minnkota Power Cooperative, Inc. 230 kV transmission line
- Minnkota Power Cooperative, Inc. 69 kV transmission line
- Western Area Power Administration (Western) 230 kV transmission line
- Otter Tail Power Company 230 kV transmission line
- Otter Tail Power Company 115 kV transmission line.

Of these lines, nine are located within the Proposed Corridor North, and four are located within the Proposed Corridor South. In particular, two of the nine existing electrical transmission lines cross through the Bison Substation Siting Area. The two existing lines include the 345 kV line owned and

operated by Minnkota Power Cooperative, Inc and the existing 230 kV transmission line owned and operated by Otter Tail Power Company.

Schools

The Horace Elementary School is located within the Proposed Corridor. It is situated within the northern portion of the Proposed Corridor on Ironwood Drive within the City of Horace. No schools are located within the Bison Substation Siting Area.

Emergency Services

Emergency services, including police, ambulance services, volunteer fire departments, and hospitals are located within the Proposed Corridor, as well as in communities surrounding it. For instance, the Casselton, West Fargo, and Dilworth Police Departments are located within five miles of the Proposed Corridor. Likewise, the Kindred and Casselton Ambulance services are located within five miles of the Proposed Corridor. The Horace Fire Station is located within the Proposed Corridor, and other nearby fire services are present in Casselton, West Fargo, Fargo, and Moorhead (Minnesota).

A majority of the hospitals within proximity of the Proposed Corridor, including the Bison Substation Siting Area, are located within the City of Fargo. As indicated within the North Dakota Hub Explorer (n.d.), Fargo is located within the southeast emergency management service (EMS) and trauma region. Fargo is home to one of several state trauma centers.

Transportation

The transportation network primarily consists of roadways. The operation and maintenance of the roadway network varies by roadway jurisdiction. The North Dakota Department of Transportation (NDDOT) has responsibility for planning and funding roadway improvements, including interstate highways, U.S. Highways, and state highways. Cass County and Richland County are included within District 8 – Fargo (NDDOT, 2009). Counties have responsibility for the operation and maintenance of a system of county roads. The Cass County Highway Department, for instance, is responsible for the "…efficient planning, design, construction, and maintenance of highways and bridges on the County highway system. (It) is responsible for over 650 miles of County Highways, and about 300 bridges greater than 20 feet in length along with many smaller drainage structures" (Cass County Highway Department, n.d.). Similar to Cass County, Richland County's highway department maintains and constructs roadways and bridges for the traveling public. The townships also have responsibility for the operation and maintenance of local roads not under the jurisdiction of the counties.

The largest volume of traffic in the area is found on Interstates 29 and 94. The range for annual average daily traffic (AADT) south of Fargo on Interstate 29 ranged from 5,150 to 8,740; the AADT on Interstate 94 west of Fargo/West Fargo is over 10,000 (NDDOT, 2009b). No major planned transportation projects have been identified within the Proposed Corridor. The State Transportation Improvement Plan (STIP) has identified some rehabilitation, preventative maintenance, and miscellaneous work within the Proposed Corridor (NDDOT, 2009a). Within Cass County, 2010 planned projects for the county highway department include two chip seal projects, one near Mapleton and the other south of Fargo (Cass County Highway Department, 2010).

In addition to the automobile network, four airports are located within the Proposed Corridor. Additional information on these facilities is provided in Section 7.1.1.

Potential Impacts

No negative impacts to existing utilities and transmission lines are anticipated to result from the location, operation and construction of the Project. Furthermore, no impacts to schools are anticipated. The Project may temporarily impact the operation of some emergency services and transportation routes and providers during construction. Overall, the Project would have a positive impact on electric utilities in the vicinity of the Project by improving system reliability and the capacity of the electric power system.

Mitigative Measures

If negative impacts were to result from the location, construction and operation of the Project, the Company would work with any potentially affected parties to mitigate these impacts, to the extent feasible or appropriate. Therefore, no specific mitigative measures have been identified.

7.1.3 RESERVOIRS, MUNICIPAL WATER SUPPLIES, AND RURAL WATER DISTRICTS

Existing Conditions

The Proposed Corridor is located within both Cass County and Richland County. For the Cass County portion, it would be served by the Cass Rural Water Users District. The Cass Rural Water Users District serves rural areas in Cass County, including the communities of Mapleton and Davenport (Cass Rural Water Users District, 2010). The District utilizes the West Fargo aquifer to serve the communities of Mapleton and Davenport. The District also purchases 10 percent of its water supply from the City of Fargo to serve communities immediately north, south, and west of the city. This District would provide services to the Bison Substation Siting Area.

In addition to the Cass Rural Water Users District, the Southeast Water Users District serves the Richland County area from various reservoirs. The Southeast Water Users District serves three

separate areas in southeastern Richland County (Southeast Water Users District, 2008). Area 1, also known as the East District, extends from the Cass County border down to the southeast corner of Richland County, which comprises a portion of the Proposed Corridor. A portion of the Proposed Corridor would cross through the Southeast Water Users District – East, but no reservoir wellheads would be affected.

The City of Fargo utilizes the Red River of the North as its primary drinking water supply, with backup from the Sheyenne River (City of Fargo Drinking Water, 2010). The Proposed Corridor requires a crossing of the Bois de Sioux River, the Red River, and the Sheyenne River.

Potential Impacts

Indirect impacts to surficial public water supply sources, such as the Red River or the Bois de Sioux River, could include sedimentation reaching these sources during construction. Sedimentation could temporarily degrade water quality due to turbidity. No other impacts to public water supply sources or systems, such as dewatering of these sources, are anticipated to occur.

Mitigative Measures

Mitigative measures would be common to the Proposed Corridor, as well as the Bison Substation Siting Area. Potential impacts to surficial public water supply sources would be minimized to the extent feasible through the use of appropriate sediment and erosion control practices and other construction-related best management practices. These practices will be detailed in a National Pollutant Discharge Elimination System (NPDES) permit and associated Storm Water Pollution and Prevention Plan (SWPPP).

No impacts to groundwater reservoirs and aquifers are anticipated as dewatering would be limited to construction activities, if required. Further, no near-surface groundwater levels are known to occur within the Proposed Corridor, including the Bison Substation Siting Area.

7.2 Environment

7.2.1 LAND USE

Zoning information was acquired from counties, townships, and cities as part of the overall corridor development and selection process. Due to the variations in existing zoning districts across the potentially affected jurisdictions, a general zoning classification was developed for the purposes of understanding the regulated uses and requirements within a jurisdiction. For example, all districts classified as "A-1 Agricultural Zones" are classified as "Agricultural;" while districts which included zoning for single family, multiple family, and mobile homes all are classified as "Residential." In order to provide a comprehensive understanding of existing zoning classifications and land uses

associated with the Proposed Corridor, this section includes a discussion of zoning districts, existing and future land use (i.e., based on county and city information), known residences and non-residential structures, and known public use facilities. Known residences and non-residential structures (garages, out buildings, etc.) were identified based on aerial interpretation. Public use facilities evaluated include day care facilities, cemeteries, churches, hospitals, schools, and airports. Places of business were not evaluated as the identification of these locations would require means of verification other than aerial interpretation. Places of business will be identified and evaluated as routes are developed.

Existing Conditions

The Proposed Corridor is located within Cass and Richland Counties. Portions of Abercrombie, Addison, Brandenburg, Center, Colfax, Durbin, Eagle, Harmony, Ibsen, Mooreton, Normanna, Pleasant, Stanley, Summit, Walcott, and Warren townships are encompassed by the Proposed Corridor. The Bison Substation Siting Area is located entirely within Harmony Township. In addition, portions of the cities of Christine, Colfax, Fargo, Horace, Mapleton, and Oxbow are located within the Proposed Corridor.

Zoning Districts

General zoning classifications occurring within the Proposed Corridor are summarized in Figure 7-2 below.

Figure 7-2. Proposed Corridor Zoning Summary

Zoning/Land Use Classification[1]	Percent (%) of Occurrence within the Proposed Corridor – North	Percent (%) of Occurrence within the Proposed Corridor – South	Percent (%) of Occurrence within the Proposed Corridor (Total)
Agricultural	63.7%	96.2%	81.6%
Residential	1.6%	0.0%	0.7%
Commercial	0.1%	0.0%	0.1%
Industrial	0.0%	0.0%	0.0%
Floodplain	0.0%	0.5%	0.3%
Mixed Use	0.0%	0.0%	0.0%
Planned Unit/Planned Development	0.0%	0.0%	0.0%
Public/Institutional	0.0%	0.0%	0.0%
Extraterritorial	0.0%	0.0%	0.0%
Transitional	1.1%	0.0%	0.5%
Unidentified	33.4%	3.1%	16.7%

[1]Individual jurisdictioncal classifications were regrouped into one representative classification system as described above. Zoning classifications in Cass County were obtained from online sources, written requests as part of the corridor development and selection process, and zoning administrators for Addison, Harmony, Mapleton, Normanna, Pleasant, Raymond, and Warren townships. Information was not available for Barnes,

Durbin, and Stanely townships; however, the zoning administrators for these townships and Cass County indicated that much of the land within their jurisdictions is primarily used for agricultural purposes (personal communication, John Kunert, Perry Ronning, and Ken Klingstein, October 2010).

Zoning classifications in Richland County were obtained from online sources, written requests as part of the overall corridor development and selection process, and zoning administrators for Abercrombie, Center, Colfax, Eagle, Ibsen, Mooreton, Summit, and Walcott townships. Information was not available for Brandenburg Township.

[2] Percentages were rounded to the nearest tenth, resulting in a percentage less than 100.

Areas zoned for agriculture comprise the largest percentage of the overall Proposed Corridor (81.6 percent). Areas with an unidentified zoning classification comprise the next largest portion of the Proposed Corridor (16.7 percent). However, this occurrence is in part due to the lack of data available for the counties. Much of the land characterized under this designation likely is agricultural in nature. Furthermore, as shown in Figure 7-2, residential zoning districts comprise only 0.7 percent of the Proposed Corridor. More densely populated or developed areas are located outside of the Proposed Corridor in locations such as the cities of West Fargo and Fargo.

The zoning classification occurring within the Bison Substation Siting Area is 100 percent agricultural. It is located within Cass County's Harmony Township, which has only one zoning district (A-1, Agricultural).

Existing and Future Land Use

Existing land use within the Proposed Corridor varies by jurisdiction; however, for the most part, land use within Cass County and Richland County is characterized as agriculture. Within Cass County's 2005 Comprehensive Plan, land use is categorized as metro, small city, non-farm residential, non-farm mix, non-farm commercial, and agricultural. Agricultural land use is defined as lands with no residential or commercial structure value and is located outside all of the incorporated city limits. While Cass County is primarily agricultural, it also is one of the most urbanized counties within the State of North Dakota (Cass County, 2005).

Future land use within Cass County was not expressly identified within the 2005 Comprehensive Plan. However, Cass County recognizes that agricultural use will likely continue to be the predominant land use within the county, despite overall losses in farmland. Likewise, Cass County indicated a need to address premature residential development in areas currently identified as agricultural and rural non-farm (Cass County, 2005).

For those portions of the Proposed Corridor located within Richland County, the general land use pattern appears to be agricultural. However, Richland County does not have a comprehensive plan that explicitly details its current and future land uses. A 2008 community survey in Wahpeton, the

Richland County Seat, indicated a need for comprehensive plans, including a downtown revitalization plan and five year capital improvement plan, among others (Wahpeton, 2008). However, none of these plans were identified through online research conducted in October and November of 2010.

Specified future land use associated with the Proposed Corridor within incorporated areas varies by jurisdiction. For example, portions of the Proposed Corridor are located within the City of Fargo. In these areas, the City of Fargo's 2007 Growth Plan addresses future land use. In this plan, the City of Fargo adopted a two tier approach to address growth (City of Fargo, 2007). Tier one is identified as the "Intended Growth Sector," while tier two is identified as the "Restricted Growth Sector" (City of Fargo, 2007). Tier one is intended to address areas of the city under development pressures within the next 20 years, whereas the tier two areas are intended to address more long term growth. Consequently, development in the tier two areas is discouraged for the next 20 years. While development would not be prevented, costs of extending infrastructure into these areas must be considered and should be evaluated against the city's needs (City of Fargo, 2007).

A portion of the Proposed Corridor is located within an area designated as tier two, which is located near the City of Horace. Proposed land use within this area includes rural residential, lower to medium density residential, medium to high density residential, commercial, and industrial areas. The city's growth plan identifies commercial and industrial development occurring along the Interstate 29 corridor and future arterial roads (City of Fargo, 2007).

In addition, the City of Horace is located approximately nine miles southwest of Fargo. The City of Horace is included within the Fargo-Moorhead Metropolitan Area. The City of Horace has one of the largest ratios of undeveloped land to total area compared to other cities in the area. The developed land largely consists of single-family homes, west of Cass County Highway 17, which accounts for a total of 560 acres. This acreage is only a small portion of the total land area of 5,540 acres, largely in agricultural use (City of Horace, n.d.).

As part of its goals to create a more balanced city, the City of Horace government has policies in place to annex areas west of the Sheyenne River for residential uses, as well as annexation plans for areas south and west of the city. The annexation process is intended to help facilitate growth within and for the city (City of Horace, n.d.). A portion of the area designated for future annexation within the City of Horace would be crossed by the Proposed Corridor.

The City of Mapleton has adopted a land development ordinance intended to implement the 2025 Comprehensive Plan. In accordance with this ordinance, the City of Mapleton intends to preserve and enhance the taxable value of land and buildings; to encourage the most appropriate uses of land; to regulate and restrict the location and intensity of use of buildings and lands; to separate and control unavoidable nuisances; and to facilitate traffic movement while promoting development of

compatible uses (City of Mapleton, 2005). A map indicating the location of specific land use was not included within the Land Development Code.

While the primary land use within the Proposed Corridor is agricultural, other land uses include other land-based economic uses and recreational uses. Land-based economic uses, such as woodlands/wooded areas and extractive/storage resources, are discussed in more detail in sections 7.2.8 and 7.4.1 respectively. In addition, section 7.2.7 discusses agricultural uses. Recreational uses that may be affected by the Proposed Corridor are discussed in more detail in section 7.2.6.

Residences, Non-Residential Structures and Public Use Facilities

The following public use facilities and known residential or non-residential structures are present within the Proposed Corridor:

- 15 day care facilities (11 within the north portion; 4 within the south portion)
- Seven cemeteries (3 within the north portion; 4 within the south portion)
- One school, which is located within the north portion
- Four airports (2 within the north portion; 2 within the south portion)
- Three churches, all of which are located in the south portion
- 1,183 residences (812 within the north portion; 371 within the south portion)
- 2,296 non-residential structures (1,044 within the north portion; 1,252 within the south portion)

No hospitals are located within the Proposed Corridor. In addition, no public use facilities or known residences or non-residential structures are located within Bison Substation Siting Area.

Potential Impacts

Potential impacts to land uses include the potential for loss of land available to support a particular use, such as some agricultural uses. Loss of agricultural use would be due to structure placement within the right-of-way. Other potential impacts include conversions of land use and considerations of compatibility or conflict with existing and future land uses. Additionally, many local jurisdictions within North Dakota have established setback requirements associated with existing or future roadways. N.D.A.C. § 69-06-08-02) identifies areas within 500 feet of a residence, school, or place of business as avoidance areas. The 500 foot avoidance area criteria for an inhabited rural residence may be waived by the owner of the inhabited rural residence in writing (N.D.C.C. § 49-22-05.1).

Mitigative Measures

Existing land uses that would be affected by any of the Proposed Corridor or the Bison Substation Siting Area are not expected to change as a result of the location, construction, and operation of the Project. Temporary impacts to agricultural lands during construction of a HVTL are discussed in section 7.2.7. Permanent impacts to agricultural lands include the loss of use of an area of up to 1,000 square feet around each pole. Restoration procedures are discussed in section 3.2.3. Consideration of compatibilities and potential conflicts with existing and future land uses, in addition to consideration of proximity to existing residences and places of business and local roadway setback requirements will be further considered as routes are developed for the Project. No additional mitigative measures relative to land use have been identified.

7.2.2 NOISE SENSITIVE LAND USES

Existing Conditions

Noise is defined as unwanted sound. Noise may include a variety of sounds of different intensities across the entire frequency spectrum. Noise is measured in units of decibels (dB) on a logarithmic scale. Because human hearing is not equally sensitive to all frequencies of sound, certain frequencies are given more "weight." The A-weighted decibel (dBA) scale corresponds to the sensitivity range for human hearing. Noise levels capable of being heard by humans are measured in dBA. A noise level change of three dBA is barely perceptible to average human hearing. A five dBA change in noise level, however, is clearly noticeable. A ten dBA change in noise levels is perceived as a doubling or halving of noise loudness, while a 20 dBA change is considered a dramatic change in loudness.

Cumulative noise increases occur on a logarithmic scale. If a noise source is doubled, there is a three dBA increase in noise, which is barely discernible to the human ear. For cumulative increases resulting from sources of different magnitudes, the rule of thumb is that if there is a difference of greater than ten dBA between noise sources, there will be no additive effect (i.e., only the louder source will be heard and the quieter source will not contribute to noise levels). Figure 7-3 below provides noise levels associated with common, everyday sources and places the magnitude of noise levels discussed here in context.

Figure 7-3. Noise Levels Associated with Common Sources

Sound Pressure Level (dBA)	Noise Source
140	Jet engine (at 25 meters)
130	Jet aircraft (at 100 meters)
120	Concert
110	Pneumatic chipper (powered by compressed air or hydraulics)
100	Jointer/planer

Sound Pressure Level (dBA)	Noise Source
90	Chainsaw
80	Heavy truck traffic
70	Business office
60	Conversational speech
50	Library
40	Bedroom
30	Secluded woods
20	Whisper

Source: A Guide to Noise Control in Minnesota, MPCA (revised, 1999), http://www.pca.state.mn.us/programs/pubs/noise.pdf.

Noise sensitive land uses typically include areas host to low levels of ambient noise during daytime or nighttime hours. Residential land uses, for example, typically have higher ambient noise levels during daytime hours and lower ambient noise levels during nighttime hours, thus being more sensitive to noise during nighttime hours. Ambient noise levels in agricultural land use areas may vary by time of year, time of day, proximity to transportation corridors, or other considerations. Given these variables, some agricultural land uses may be more sensitive to noise. Dispersed rural residential uses would be sensitive receptors within these areas.

North Dakota does not currently have state–specific noise regulations or critical thresholds defined for daytime or nighttime conditions. The U.S. Environmental Protection Agency (EPA), through the Noise Control Act of 1971 and a subsequent report in 1974, does provide specific dBA noise levels that are recommended to be adhered to in order to be protective of public health (EPA, 1974). The EPA has identified that a day-night average sound level (L_{dn}) greater than 55 dBA would cause "outdoor activity interference and annoyance" in residential areas, farms, and other outdoor areas where people spend varying amounts of time (Wyle Laboratories, 1971). The L_{dn} is the cumulative noise exposure over a full 24-hour period with noise occurring between 10 p.m. and 7 a.m. increased by 10 dB to account for greater nighttime sensitivity to noise. In addition, especially in urban developed areas such as the City of Fargo, the U. S. Department of Housing & Urban Development (HUD), under 24 CFR Part 51, considers L_{dn} less than 65 dbA acceptable, while values in the 65-75 dbA may require special approvals. Noise levels above 75 dbA are considered "unacceptable" by HUD and may require any combination of special approval, attenuation, or environmental review.

As previously indicated, the Proposed Corridor incorporates portions of the cities of Christine, Colfax, Fargo, Horace, Mapleton, and Oxbow. Noise ordinances were not found for the cities of Christine and Colfax. However, the City of Fargo has well-defined decibel-levels that are required to be maintained depending on the zoning of an area (residential, commercial, industrial) and time of day. Likewise, the City of Horace is located primarily in Stanley Township, with the southern section

crossing into Pleasant Township. No noise ordinances were identified for Stanley Township; however, due diligence may be required on a case-by-case basis to determine if the noise ordinances in adjacent communities. The City of Mapleton also has a defined noise ordinance related to motorized vehicles, but no specific ordinances otherwise. The City of Oxbow is located in Pleasant Township, which has an ordinance that prohibits sustained noise above 75 dBA during the day and 65 dBA at night.

The remainder of the area within the Proposed Corridor is predominantly rural and consists of agricultural land use with dispersed residential uses. Likewise, the Bison Substation Siting Area is rural and consists of agricultural land uses, although no dispersed residential uses occur within this area.

Potential Impacts

The Project will use the suggested EPA guideline as a benchmark with which to measure accord with the North Dakota nuisance law as routes are developed for the Project. Noise levels associated with potentially affected residences would be at or below the suggested EPA guidelines.

Generally, average daytime outdoor noise levels in rural areas vary from 35 to 45 dBA, while suburban area noise levels range from 45 to 55 dBA. In urban areas average daytime outdoor noise levels vary between 50 and 85 dBA, depending on location (USEPA, 1974). The Proposed Corridor encompasses areas predominantly rural in character with outdoor noise levels consistent with other rural areas. The windy conditions in this region tend to increase ambient noise levels compared to other rural areas. Additionally, it is typical to find higher ambient levels near roads and other areas of human activity. The Proposed Corridor encompasses various roadways and developed areas.

Potential direct noise impacts for the Project will be derived primarily from noise generated during the construction phase. However, this generated noise would be short-term and intermittent. Noise generated by construction equipment, particularly earth moving machinery, such as bulldozers, or supporting equipment, such as air compressors, pile drivers or concrete mixers, may generate noise above ambient or background noise levels when in operation in some areas of noise sensitive land uses.

Operational noise impacts may potentially occur. Transmission line conductors could produce audible noise levels under certain conditions, depending on the conductor condition, voltage level, and weather conditions. Generally, activity-related noise levels during the operation and maintenance of transmission lines are minimal and do not exceed established noise levels. Additionally, when weather is damp, rainy, or snowy, transmission lines may also emit a discernible crackling sound due to the small amount of electricity ionizing the moist air near the conductors. During heavy rain, the background noise level of the rain is usually greater than the noise from the

transmission line. As a result, people do not normally hear noise from a transmission line during heavy rain. During light rain, dense fog, snow and other times when there is moisture in the air, transmission lines may produce audible noise approximately equal to household background levels.

The proposed transmission line can be evaluated in accordance with the Bonneville Power Administration CFI8X model which evaluates audible noise from HVTLs. The model can be executed as a worst-case scenario benchmark, to ensure that noise that may result from the location, construction and operation of the proposed transmission line is not under-predicted. Figure 7-4 presents the L_{50} and L_{dn} predicted for proposed transmission lines for the Project. The L_{50} is a noise level that will not be exceeded more than fifty percent of the time. For a constant noise source such as a transmission line, the L_{50} can be utilized to calculate the corresponding L_{dn}. Both the L_{50} and L_{dn} are below 55 dBA; therefore, noise levels from the Project will not exceed the suggested EPA benchmark of 55 dBA L_{dn}.

Figure 7-4. Calculated Audible Noise for the Operation of Proposed Single/Double Circuit Transmission Line Designs (3.28 Feet above Ground)

Structure Type	Noise L_{50} (Edge of Right-of-Way, dBA)	Noise L_{dn} (Edge of Right-of-Way, dBA)
Single Pole, Davit Arm, 345 kV/345 kV Double Circuit with one Circuit in Service	45.8	52.2

Noise associated with the substation includes the operation of transformers and switchgear. Transformers produce a constant low-frequency humming noise while switchgear produces an impulsive or short duration noise during infrequent activation of the circuit breakers. Due to the infrequent operation of the switchgear, the noise generated will be considered temporary in nature and is not anticipated to exceed the suggested USEPA benchmark of 55 dBA L_{dn}.

Mitigative Measures

Construction activities will be limited to daytime hours to the extent feasible. Noise levels would be minimized by ensuring that construction equipment is outfitted with mufflers, where practicable. Further, proximity to noise sensitive land uses will be further considered as routes are developed for the Project. No additional mitigative measures relative to noise sensitive land uses have been identified.

7.2.3 RADIO, TELEVISION, CELLULAR PHONE, AND GPS RECEPTION AND INTERFERENCE

Corona from transmission line conductors can generate electromagnetic "noise" at the same frequencies that radio and television (TV) signals are transmitted (corona consists of the breakdown or ionization of air within a few centimeters of conductors and hardware). This electrical "noise" could potentially impact radio, television, global positioning system (GPS), or cell phone reception or quality. This interference has a variable likelihood of interference potential, ranging from most probable (AM radio) to least probable (cell/GPS).

Existing Conditions

There are nine communications facilities within the Proposed Corridor; five are located within the northern portion, and four are located within the southern portion. These facilities include radio and broadcast microwave stations and multiple antenna structure registrations (ASRs) (http://www.fccinfo.com). In addition, there are 10 microwave pathways crossing the Proposed Corridor (http://www.fccinfo.com). There are no communications facilities within the Bison Substation Siting Area.

Potential Impacts

Potential interference to radio and television can result from transmission lines in three primary ways. First, as previously identified, transmission line conductors can develop corona. Corona is defined as the breakdown or ionization of air within a few centimeters or less of the conductors. Corona develops when the electric field intensity on the conductor exceeds the breakdown strength of air. The electrical energy resulting from corona may create electromagnetic "noise" at the same frequencies as radio and television transmission signals. Secondly, gap discharges may occur. These discharges could occur "at locations where tiny electrical separations (gaps) develop between mechanically connected metal parts. A small, electric spark discharge across the gap can create unwanted electrical noise (PG&E, 2005). A third common way that interference can occur is interference to omni-directional communication towers. This may take the form of partial blocking of the beam path.

Depending on the vertical profile of the substation, its ultimate location and configuration, and substation equipment or components, impacts associated with the siting area could be similar to those described above for the Proposed Corridor.

Mitigative Measures

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. Moreover, AM radio frequency (RF) interference typically occurs immediately under a transmission line and dissipates rapidly within the right-of-way to either side.

FM radio receivers usually do not pick up interference from transmission lines because:

- Corona-generated radio frequency noise currents decrease in magnitude with increasing frequency and are quite small in the FM broadcast band (88-108 Megahertz), and
- The excellent interference rejection properties inherent in FM radio systems make them virtually immune to amplitude type disturbances.

A two-way mobile radio located immediately adjacent to and behind a large metallic structure (such as a steel tower) may experience interference because of signal-blocking effects. Movement of either mobile unit so that the metallic structure is not immediately between the two units should restore communications. This will generally require a movement of less than 50 feet by the mobile unit adjacent to a metallic tower.

Television interference is rare but may occur when a large transmission structure is aligned between the receiver and a weak distant signal, creating a shadow effect. Loose and/or damaged hardware may also cause television interference.

If television or radio interference is caused by or from the operation of the proposed facilities in those areas where good reception is presently obtained, the Company would inspect and repair any loose or damaged hardware associated with the transmission line, or take other necessary action to restore reception to the present level, including the appropriate modification of receiving antenna systems if deemed necessary. However, since the transition to digital TV broadcasts has been completed, potential impacts are anticipated to be minimal if they occur at all. Digital reception is, in most cases, more tolerant of noise and somewhat less resistant to multipath reflections (i.e., reflections from structures) than analog broadcasts. Although digital reception is more tolerant of RF noise, if the noise levels or reflections are great enough, they will impact digital television reception.

Cellular service will not be impacted by the Project because cellular signals are transmitted in all directions and would not be blocked by the Project.

According to a study performed by the Institute of Electronics and Electrical Engineers (IEEE), power line conductors are unlikely to cause signal degradation to GPS signals. A GPS receiver relies on a dispersed constellation of satellites, at least four and often more. This study noted that there was no loss of satellite signals as a GPS receiver was moved across a power line easement (IEEE, 2002).

Mitigative measures would otherwise be common to the Proposed Corridor and the Bison Substation Siting Area. Project facilities would be designed and maintained to minimize gap and corona discharges. If interference from transmission line corona does occur for an AM radio station that is within the station's primary coverage area and which had good reception before the Project was built, satisfactory reception can be obtained by appropriate modification of the receiving antenna system. In the rare occasion where the construction of the Project may cause interference within a television station's primary coverage area, the Company will work with the affected viewers to the extent feasible or appropriate to correct the problem, which can usually be corrected with the addition of an outside antenna.

7.2.4 SCENIC AREAS AND VISUAL EFFECTS

In general, the topography of the area encompassed by the Proposed Corridor is almost entirely flat with some slight topographic relief along the rivers and other linear waterways that occur within the area, which include the Antelope Creek, Bios de Sioux River, Lower Branch Rush River, Maple River, Red River, Sheyenne River, and Wild Rice River. The Proposed Corridor is located within the Valley of the Red River of the North. The Valley of the Red River (or the Red River Valley) is not a valley, but rather a level bed of an ancient glacial lake. The conditions that created this valley have also given the land its rich, fertile, deep lake, and silt soil (Schwert, 2009). This landscape has spawned the agricultural communities that are present today.

Existing Conditions

The Proposed Corridor is located within Cass County and Richland County and is dominated by agricultural land use with dispersed rural residential uses. Residential use areas occur within the cities of Christine, Colfax, Fargo, Horace, Mapleton, and Oxbow. Existing residences often act as sensitive visual receptors, though their viewshed is entirely dependent on existing topography, vegetation, land development, and other considerations. There are 1,183 residences within the Proposed Corridor. The Proposed Corridor North includes 812 of these residences, while the Proposed Corridor South includes 371; no residences are located within the Bison Substation Siting Area.

In addition to residential development, the Proposed Corridor also contains a network of existing transportation corridors. While county and local roads are present, no designated scenic byways are located within the Proposed Corridor. The closest scenic byway is the King of Trails, which is located near the North Dakota/Minnesota border. It is approximately one mile east of the Proposed Corridor. Motorists along existing transportation corridors may be sensitive to changes to visual resources. For example, a portion of the Proposed Corridor South parallels Interstate 29, which is a major transportation corridor that runs north-south through eastern North Dakota. Transportation corridors encompassed by the Bison Substation Siting Area consist of county roads, one state route,

and the Burlington, Northern and Santa Fe Railroad. It also encompasses the Lower Branch of the Rush River.

Recreational use areas also can act as sensitive visual receptors. Recreational use areas associated with the Proposed Corridor are discussed in detail in section 7.2.6.

Potential Impacts

Visual resources would be impacted by the introduction of the proposed 345 kV transmission line into the regional landscape. Potential direct and indirect effects would primarily result from the introduction of the poles and lines, where the proposed line would not parallel an existing transmission line. The new line will introduce vertical elements (poles) within relatively flat and agricultural surroundings. Since the area is largely rural, the proposed 345 kV line may also introduce color contrasts during some lighting conditions or seasons. In addition to the proposed single pole steel structures, establishment of the required right-of-way may alter color and textural contrasts as a result of vegetation removal. Most tree species and some shrub species will be permanently removed within the right-of-way.

Temporary indirect impacts primarily are associated with construction. For example, construction of the transmission line could create visual impacts due to the presence of equipment, the creation of staging areas, and the installation of the structures and lines.

Mitigative Measures

The Company intends to maximize the use of existing, pre-disturbed rights-of-way or linear features to the extent feasible in developing routes for the Project. The Company will also minimize impacts to existing residences by routing away from these residences, to the extent practicable. Non-specular steel structures will be utilized to avoid reflective concerns. The Company also will work to minimize the placement of substation equipment in immediate proximity to existing residences to the extent practicable.

Other mitigation measures may be implemented, such as selective replacement of trees or shrubs that were removed during transmission line construction. Coordination with existing landowners and management agencies regarding transmission structure locations, the right-of-way, and other disturbed areas could be used to further identify and develop potential mitigative measures specific to and appropriate for locations of potential visual impacts.

7.2.5 SOCIOECONOMIC CONSIDERATIONS

Existing Conditions

Population, Income, Poverty Level and Trade Industry

The Proposed Corridor is located within the Red River Valley in eastern North Dakota. The area of study for the socioeconomic analysis of the Proposed Corridor includes Cass County, Richland County, and 16 townships within the two counties. The area of study for the socioeconomic analysis for the Bison Substation Siting Area includes Harmony Township in Cass County.

Socioeconomic factors analyzed include population, income, poverty level, and trade industry. U.S. Census Bureau (USCB) data from the U.S. Decennial Census 2000 was obtained at the township level to characterize the area along the Proposed Corridor. This data then was compared to county and state data obtained from the U.S. Decennial Census 2000. Demographic data for the 16 townships located wholly or partially within the Proposed Corridor are presented below in Figure 7-5.

Figure 7-5. Population Characteristics Associated with the Proposed Corridor

Location	Population	One Race	White	Black or African American	American Indian and Alaskan Native	Asian	Native Hawaiian and Other Pacific Islander	Some Other Race	Two or More Races	Hispanic or Latino[1]
Cass County Townships										
Addison Township	104	104 (100%)	103 (99%)	0 (0%)	1 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Durbin Township	92	92 (100%)	92 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Harmony Township	93	93 (100%)	92 (98.9%)	0 (0%)	0 (0%)	1 (1.1%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Normanna Township	339	339 (100%)	338 (99.7%)	0 (0%)	1 (0.3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Pleasant Township	426	425 (99.8%)	425 (99.8%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0.2%)	5 (1.2%)
Stanley Township	2,296	2,287 (99.6%)	2,279 (99.3%)	0 (0%)	5 (0.2%)	3 (0.1%)	0 (0%)	0 (0%)	9 (0.4%)	11 (0.5%)
Warren Township	133	133 (100%)	133 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Richland County Townships										
Abercrombie Township	285	285 (100%)	283 (99.3%)	1 (0.4%)	1 (0.4%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Brandenburg Township	142	140 (98.6%)	140 (98.6%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (1.4%)	0 (0%)
Center Township	512	511 (99.8%)	500 (97.7%)	1 (0.2%)	8 (1.6%)	1 (0.2%)	0 (0%)	1 (0.2%)	1 (0.2%)	4 (0.8%)
Colfax Township	220	219 (99.5%)	219 (99.5%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (0.5%)	0 (0%)
Eagle Township	247	246 (99.6%)	245 (99.2%)	0 (0%)	0 (0%)	0 (0%)	1 (0.4%)	0 (0%)	1 (0.4%)	0 (0%)
Ibsen Township	115	113 (98.3%)	111 (96.5%)	2 (1.7%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (1.7%)	0 (0%)

Location	Population	One Race	White	Black or African American	American Indian and Alaskan Native	Asian	Native Hawaiian and Other Pacific Islander	Some Other Race	Two or More Races	Hispanic or Latino[1]
Mooreton Township	124	124 (100%)	124 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Summit Township	247	244 (98.8%)	243 (98.4%)	0 (0%)	1 (0.4%)	0 (0%)	0 (0%)	0 (0%)	3 (1.2%)	0 (0%)
Walcott Township	338	338 (100%)	336 (99.4%)	1 (0.3%)	1 (0.3%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Cass County	**123,138**	**121,551 (98.7%)**	**117,106 (95.1%)**	**996 (0.8%)**	**1,325 (1.1%)**	**1,551 (1.3%)**	**43 (0%)**	**530 (0.4%)**	**1,587 (1.3%)**	**1,518 (1.2%)**
Richland County	**17,998**	**17,864 (99.3%)**	**17,428 (96.8%)**	**62 (0.3%)**	**299 (1.7%)**	**44 (0.2%)**	**6 (0%)**	**25 (0.1%)**	**134 (0.7%)**	**123 (0.7%)**
State of North Dakota	**642,200**	**634,802 (98.8%)**	**593,181 (92.4%)**	**3,916 (0.6%)**	**31,329 (4.9%)**	**3,606 (0.6%)**	**230 (0%)**	**2,540 (0.4%)**	**7,398 (1.2%)**	**7,786 (1.2%)**

[1]Persons of Hispanic origin are those who indicated that their origin was Mexican, Puerto Rican, Cuban, Central, or South American, or some other Hispanic origin. Persons of Hispanic origin may be of any race (USCB, 2000).
Source: USCB, 2000.

Based on data obtained from the 2000 Census, nearly all of the population in the Proposed Corridor and the Bison Substation Siting Area are white. Each of the townships within Proposed Corridor, including siting area, has a lower percentage of minority populations (i.e., non-white) when compared to the percentages of Cass County, Richland County, and the state of North Dakota, except for Ibsen Township, which has a higher percentage of minority populations than Richland County.

Figure 7-6 shows the per capita income and the percentage of the population below the poverty level for the state, county, and the townships located partially or wholly within the Proposed Corridor and the Bison Substation Siting Area. As previously indicated, the Bison Substation Siting Area is located entirely within Harmony Township. The per capita income for each of the townships located within the Proposed Corridor is generally higher than both the county and state. However, Harmony, Normanna, and Warren Townships have a lower per capita income than Cass County; and Harmony has a lower per capita income than the state of North Dakota. Brandenburg and Mooreton Townships have a lower per capita income than Richland County. These same townships, along with Colfax Township, also have a lower per capita income than the state of North Dakota. In addition, all of the townships within the Proposed Corridor as well as the Bison Substation Siting Area, have lower percentages of individuals below the poverty level than both the counties and the state.

Figure 7-6. Economic Characteristics Associated with the Proposed Corridor

Location	Per Capita Income (dollars)	Percentage of Individuals Below the Poverty Level
Cass County		
Addison Township	22,825	0.0
Durbin Township	26,463	3.0
Harmony Township	13,781	0.0
Normanna Township	19,052	0.0
Pleasant Township	26,001	3.3
Stanley Township	27,306	2.1
Warren Township	20,877	0.0
Richland County		
Abercrombie Township	18,667	1.3
Brandenburg Township	13,511	7.4
Center Township	20,787	9.8
Colfax Township	16,420	6.2
Eagle Township	23,357	1.7
Ibsen Township	23,762	0.0
Mooreton Township	15,938	9.0
Summit Township	23,213	0.0
Walcott Township	19,122	6.0
Cass County	**20,889**	**10.1**
Richland County	**16,339**	**10.4**
State of North Dakota	**17,769**	**11.9**

Source: USCB, 2000.

Figure 7-7 provides demographic and economic characteristics using 2009 census data (USCB, 2009). As shown in Figures 7-5 and 7-7, the populations of North Dakota and Cass County both grew between 2000 and 2009. Data is unavailable for Richland County in 2009.

Figure 7-7. Population and Economic Characteristics Associated with the Proposed Corridor Based on 2009 Census Data

Location	Total Population	White Population	Minority Population[1]	Hispanic or Latino (of any race) Population[2]	Per Capita Income[3]	Percentage of Population Below Poverty Level
State of North Dakota	646,844	583,263 (90.2%)	63,581 (9.8%)	12,636 (2.0%)	$26,728	d/u
Cass County	143,339	131,269 (91.6%)	12,070 (8.4%)	3,728 (2.6%)	$26,714	d/u
Richland County	d/u	d/u	d/u	d/u	d/u	d/u

Location	Total Population	White Population	Minority Population[1]	Hispanic or Latino (of any race) Population[2]	Per Capita Income[3]	Percentage of Population Below Poverty Level

d/u = data unavailable
[1] Minority population consists of all categories other than White.
[2] Persons of Hispanic origin are those who indicated that their origin was Mexican, Puerto Rican, Cuban, Central, or South American, or some other Hispanic origin. Persons of Hispanic origin may be of any race (USCB, 2000).
[3] Per capita income in the past 12 months (in 2009 inflation-adjusted dollars).
Source: USCB, 2009.

Educational, health, and social services; retail trade; and manufacturing industries provide for the commercial strength of the region, which includes the Fargo area (USCB, 2000). Nearly all of the land within the Proposed Corridor, however, is agricultural. The top agricultural commodities in Cass County include grains and oilseeds, soybeans, corn, wheat, and cattle and calves. The same products are the top agricultural commodities within Richland County. Therefore, both Cass and Richland counties hold high percentages of total receipts of agricultural sales in the state of North Dakota (USDA, 2007).

Potential Impacts

During construction, the proposed 345 kV transmission line may temporarily impact local economies, primarily through an increase in local retail, restaurant, and lodging revenues. Additionally, construction of the Project may result in temporary workforce demand in the local area.

Mitigative Measures

No adverse socioeconomic impacts are anticipated. As such, no mitigative measures have been identified.

7.2.6 RECREATIONAL USES

Pursuant to § 69-06-08-02 Transmission Facility Corridor and Route Criteria of the North Dakota Administrative Code (N.D.A.C.), some geographic areas must be excluded from consideration in siting a transmission facility corridor.

Among these geographic areas are designated or registered national parks; memorial parks; historic sites and landmarks; natural landmarks; historic districts; monuments; wilderness areas; wildlife areas; wild, scenic, or recreational rivers; wildlife refuges; and grasslands (§ 69-06-08-02, N.D.A.C.). This same exclusion applies to state designated or registered facilities, as well as county parks and recreational areas; municipal parks; and parks owned or administered by other governmental agencies (§ 69-06-08-02, N.D.A.C.).

The following discussion provides a general evaluation of recreational resources, some of which may qualify as exclusion areas, located within and near the Proposed Corridor and the Bison Substation Siting Area.

Existing Conditions

Recreational uses within the Proposed Corridor include trails, local parks and open spaces, golf courses, and established facilities such as community recreation centers. Review of readily available and public information sources indicates that no federal monuments, state or federal parks, state or national memorial parks, state or national wilderness areas, scenic byways, wildlife refuges (including Waterfowl Production Areas (WPAs), which are part of the national refuge program), nature preserves, or other sensitive management areas are present within the Proposed Corridor or within the Bison Substation Siting Area.

Various snowmobile trails occur within the Proposed Corridor. The state snowmobile trail system consists of several different trails that primarily follow section lines and converge at several points throughout the Fargo area (Snowmobile North Dakota, 2009). Seventeen snowmobile trails are located within the Proposed Corridor. Twelve of these are located within the Proposed Corridor North, and six are in the Proposed Corridor South.4 None of these trails are located within the Bison Substation Siting Area.

No multi-use paths appear to be located within the Proposed Corridor, including the Bison Substation Siting Area. However, plans for the North Country National Scenic Trail (NCT) indicate that a portion of the trail is anticipated to cross south of Fargo from Minnesota and through the Sheyenne State Forest. This trail is one of eight trails authorized by Congress and is intended to stretch from New York to western North Dakota. The NCT is administered by the National Park Service (NPS); it is managed by federal, state, and local agencies; and current portions were built and are maintained by the volunteers of the North Country Trail Association (NCTA). Once complete, over 400 miles of this trail would be located in North Dakota. A portion of the Proposed Corridor would cross the proposed trail alignment (NDPRD – North Country Trail, n.d. and NPS, 2009).

Local parks and open space are present within Cass County and Richland County and incorporated communities within the Proposed Corridor. For instance, five parks are located in the City of Horace; four are located within the Proposed Corridor. They include the following: Freed Park, Willow Court Park, Independence Park, and Arrowwood Park. Freed Park includes a softball diamond, horseshoe and volleyball pits, a skate/bike park, a skating rink, and a jungle gym. Freed Park is located on 88th Avenue. Willow Court Park includes only a small jungle gym. Independence

[4] One of these trails is located in both halves of the Proposed Corridor. It is not "double-counted," resulting in 17 trails rather than 18.

Park is one of the larger facilities and contains a jungle gym and a disc golf course. In addition to these parks, the City of Horace is planning the development of Arrowwood Park, which is under construction and is anticipated for completion in the fall of 2011 (Horace Park District, n.d.).

Parks within North Dakota also may receive funding from the Land and Water Conservation Fund (LWCF) program. This program is a 50/50 matching grant in-aid program to states and their political subdivisions. The purpose of the program is to assist in the provision of outdoor recreation and open space. The program is administered by the North Dakota Parks and Recreation Department (NDPRD). For areas that receive this funding, they

> …must remain dedicated to public outdoor recreation use in perpetuity. Property within the project boundary may not be converted to any use other than outdoor recreation without prior approval from the NDPRD and National Park Service. Any converted property must be replaced by the local sponsor with property of equal or greater recreational value and usefulness. NDPRD should be notified of any change in usage to assure that a conversion is not taking place (NDPRD - LWCF, n.d.).

In addition, LWCF sponsors are encouraged to take all reasonable steps to bury, screen, or relocate existing overhead lines and to place all new electric wires under 15 kV and telephone wire underground (NDPRD - LWCF, n.d.). Within the Proposed Corridor, six projects that receive this funding are present. They include the following:

- Christine Softball
- Horace Park Acquisition
- Horace Playground
- Mooreton Picnic Development
- Oxbow Park Improvements
- Richland County Mooreton Lake

Two of these projects are located in the Proposed Corridor North (i.e., Horace Park Acquisition and Horace Playground), and the remaining four are located in the Proposed Corridor South. None of these parks are located within the Bison Substation Siting Area.

In addition, there are two golf course facilities location within the Proposed Corridor. The Maple River Golf Club is located within the Proposed Corridor North at 3666 163rd Ave Southeast in the City of Mapleton. The facility includes an 18-hole course with a driving range and clubhouse that occupies approximately 100 acres just north of I-94 (Maple River Golf Club, 2007). In addition, the Oxbow Golf and Country Club is located within the Proposed Corridor South. Among the club's

facilities are a golf course, pool, pro shop, and clubhouse. This facility is located at 130 Oxbow Drive (Oxbow Country Club, 2010).

One state monument is located within the Proposed Corridor. The Champion Tree Monument is located within the Proposed Corridor North and is located in the City of Horace. It consists of a giant cottonwood tree that stands over 100 feet tall, according to popular websites (Roadsideamerica.com, 2003).

Other recreational activities located within the Proposed Corridor include established facilities, such as the Fargo Adventure Shooting Sports. This facility is open to the public and is used for trap, skeet, sporting clays, rifle, pistol, and archery. The facility is located on 167th Avenue in Horace, North Dakota (Adventure Shooting Sports, n.d.).

Potential Impacts

Potential direct and indirect impacts to recreational resources may include aesthetic impacts within these areas as observed by recreational users (scenic areas and visual effects are further discussed in section 7.2.4), impacts to water resources also used for recreation, and impacts to resources used for dispersed activities, such as snowmobiling, hiking, and bicycling. Direct impacts typically would involve altering or physically changing recreational resources, conflicting with recreation area goals, or affecting accessibility to recreational use areas.

Mitigative Measures

Those areas that are identified in § 69-06-08-02-1 of the N.D.A.C. as exclusion areas will be excluded from consideration as routes are developed for the Project. The Company will otherwise further consider known locations of recreational use as routes are developed for the Project. Coordination with existing landowners and management agencies regarding transmission structure locations, the right-of-way, locations of access ingress and egress, and other disturbed areas could be used to minimize impacts to individual recreational resources. If necessary or appropriate, location-specific mitigation and minimization plans could be developed. These measures could include, for example, visual screening, established construction work schedules, temporary or permanent trail detours, and replacement of vegetation.

7.2.7 AGRICULTURE

Existing Conditions

Agricultural Production

Thirty-nine million acres of land in North Dakota is devoted to agriculture, which accounts for almost 90 percent of the state's total land area. About 24 percent of North Dakotans are employed either directly or indirectly by agriculture and related industries (NDDA, 2010). The dominant land use within the Proposed Corridor is agriculture. The Proposed Corridor contains a few localized areas of pasture and hay; however, the primary crops produced in the Proposed Corridor are cultivated crops. These crops include barley, corn, oats, soybeans, wheat, sugar beets, dry edible beans, and sunflower seeds. Cass County is ranked the number one soybean producer and the second highest corn producer in North Dakota. The primary livestock for Cass County include cattle, sheep and lambs, colonies of bees, and swine (USDA, 2007).

Specific to the portion of the Proposed Corridor within Richland County, the primary crops produced include barley, corn, oats, soybeans, wheat, sugar beets, dry edible beans, forage (hay) and sunflower seeds (USDA, 2007). Richland County is ranked first in the state for corn production (for grain), and second for soybean production (Swenson, 2005; USDA, 2007). The primary livestock in Richland County include cattle, sheep, lamb, and swine (USDA, 2007). Richland County is ranked number one in inventory of turkey and number two in inventory of sheep within the state (USDA, 2007).

Figure 7-8 identifies the number of farms, average farm size, acres of farmland, market value of agricultural products, and market value of agricultural products per acre of farmland in Cass County and Richland County.

Figure 7-8. Agricultural Production within Cass County and Richland County

County	Number of Farms	Average Farm Size (acres)	Acres of Farmland	Annual Market Value of Agricultural Products (millions of dollars)	Annual Market Value of Agricultural Products per Acre of Farmland (dollars)
Cass	913	1,138	1,038,930	$268	$258
Richland	943	961	905,922	$261	$288

Source: U.S. Department of Agriculture National Agricultural Statistics Service. 2007 Census of Agriculture Report.

Within the Proposed Corridor, 81.6 percent of the land is zoned for agriculture. Based on aerial interpretation, it is likely that a majority of the lands otherwise zoned as "undefined" are also agricultural use lands. In addition, 100 percent of the land within the Bison Substation Siting Area is zoned for agricultural uses, and the primary crop produced is cultivated crops.

Family Farms and Ranches

As shown in Figure 7-8, Cass County has approximately 913 farms. The average farm size in Cass County is 1,138 acres, with approximately 120 farms less than 50 acres in size, 450 farms between 50 and 999 acres, and the remaining farms over 1,000 acres in size (USDA, 2007).

Richland County has approximately 943 farms. The average farm size in Richland County is 961 acres, with approximately 100 farms less than 50 acres in size, 600 farms between 50 and 999 acres, and the remaining farms over 1,000 acres in size (USDA, 2007).

Irrigated Land

Twenty-three farms encompassing 11,718 acres of Cass County are irrigated; Richland County irrigates a total land area of 4,636 acres from 26 farms (USDA, 2007). Based on water permit data from the North Dakota State Water Commission (NDSWC), the Maple River Golf Club, located on the west side of the City of Mapleton, has a permit for irrigation use. The Maple River Golf Club is located in Durbin Township. No irrigation permits occur within the Bison Substation Siting Area.

Prime and Unique Farmland

Prime farmland is an important factor in the crop production for Cass County and Richland County. Prime farmland is the land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops (NRCS, 2010). The USDA NRCS has ten classifications for prime farmland (NRCS, 2010). The two classifications addressed within this section are Classes 1 and 2, defined as "all areas are prime farmland" and "prime farmland if drained", respectively. The NRCS also identifies soils series that are of statewide and local importance. Figure 7-9 identifies the acres of prime farmland, acres of prime farmland when drained, and acres of soils that are of statewide importance within the Proposed Corridor (NRCS, 2008a). No soils of local importance are known to occur within Proposed Corridor or the Bison Substation Siting Area.

Figure 7-9. Acres of Prime Farmland[1], Prime Farmland when Drained, and Soils of Statewide Importance

Location	All Areas are Prime Farmland (acres)	Prime Farmland if Drained (acres)	Soil of Statewide Importance (acres)	Not Prime Farmland (acres)	Percent Prime Farmland within the Corridor
Proposed Corridor	34,867	105,749	3,922	18,732	86%
Proposed Corridor North	8,782	61,381	209	2,944	96%
Proposed Corridor South	26,086	44,368	3,713	15,789	78%
Bison Substation Siting Area	728	2003	0	0	100%

[1]Soils of unique, statewide, or local importance are not prime farmland according to National Soil Survey Handbook Part 622.03.

Figure 7-10 below lists the soil series considered prime farmland, prime farmland only when drained, and soils of statewide importance within the Proposed Corridor. Soils for which one of these characteristics is not applicable are listed, as well.

Figure 7-10. Farmland Soil Characteristics within the Proposed Corridor

Corridor Soil Units	All Areas Are Prime Farmland	Prime Farmland Only When Drained	Soil of Statewide Importance
Aberdeen silt loam, 0 to 1 percent slopes			X
Aberdeen-Galchutt-Fargo complex, 0 to 2 percent slopes			X
Antler silty clay loam, 0 to 1 percent slopes	X		
Antler-Mustinka silty clay loams, 0 to 2 percent slopes		X	
Arveson loam, slightly saline, 0 to 1 percent slopes		X	
Augsburg silt loam, slightly saline, 0 to 1 percent slopes		X	
Bearden silt loam, slightly saline, clayey substratum, 0 to 1 percent slopes	X		
Bearden silty clay loam, 0 to 1 percent slopes	X		
Bearden-Kindred silty clay loams, 0 to 2 percent slopes	X		
Bearden-Kindred silty clay loams, clayey substratum, 0 to 2 percent slopes	X		
Borup silt loam, slightly saline, 0 to 1 percent slopes		X	
Cashel silty clay, 0 to 3 percent slopes, occasionally flooded	X		
Clearwater-Reis silty clays, 0 to 1 percent slopes		X	
Colvin silty clay loam, 0 to 1 percent slopes		X	
Delamere fine sandy loam, clayey substratum, 0 to 1 percent slopes	X		
Doran clay loam, 0 to 1 percent slopes	X		
Doran-Mustinka silty clay loams, 0 to 2 percent slopes		X	
Dovray silty clay, 0 to 1 percent slopes		X	

Corridor Soil Units	All Areas Are Prime Farmland	Prime Farmland Only When Drained	Soil of Statewide Importance
Eckman-Zell silt loams, 6 to 9 percent slopes			X
Elmville fine sandy loam, slightly saline, 0 to 1 percent slopes	X		
Elmville loam, slightly saline, 0 to 1 percent slopes	X		
Embden fine sandy loam, gravelly substratum, 1 to 6 percent slopes	X		
Fairdale loam, 0 to 6 percent slopes, occasionally flooded	X		
Fairdale silt loam, 0 to 6 percent slopes, occasionally flooded	X		
Fairdale silt loam, clayey substratum, 0 to 3 percent slopes, rarely flooded	X		
Fargo silty clay loam, 0 to 1 percent slopes		X	
Fargo silty clay, 0 to 1 percent slopes		X	
Fargo silty clay, 0 to 1 percent slopes, occasionally flooded		X	
Fargo silty clay, depressional, 0 to 1 percent slopes		X	
Fargo-Enloe silty clay loams, 0 to 1 percent slopes		X	
Fargo-Hegne silty clays, 0 to 1 percent slopes		X	
Fargo-Nutley silty clays, 0 to 3 percent slopes		X	
Galchutt silt loam, 0 to 1 percent slopes	X		
Galchutt-Enloe-Fargo silty clay loams, 0 to 2 percent slopes		X	
Galchutt-Wheatville silt loams, 0 to 2 percent slopes	X		
Galchutt-Wheatville, slightly saline silt loams, 0 to 2 percent slopes	X		
Gardena silt loam, 0 to 2 percent slopes	X		
Gardena silt loam, clayey substratum, 0 to 2 percent slopes	X		
Gardena-Eckman silt loams, 2 to 6 percent slopes	X		
Glyndon loam, slightly saline, 0 to 1 percent slopes	X		
Grano silty clay, 0 to 1 percent slopes		X	
Hegne-Fargo silty clay loams, 0 to 1 percent slopes		X	
Kindred-Bearden silty clay loams, 0 to 2 percent slopes	X		
La Prairie silt loam, 0 to 2 percent slopes, rarely flooded	X		
LaDelle silty clay loam, 0 to 2 percent slopes, rarely flooded	X		
Mantador-Delamere-Elmville fine sandy loams, slightly saline, clayey substratum, 0 to 2 percent slopes	X		
Mantador-Delamere-Elmville loams, slightly saline, clayey substratum, 0 to 2 percent slopes	X		
Mantador-Delamere-Wyndmere fine sandy loams, slightly saline, 0 to 2 percent slopes	X		
Mantador-Delamere-Wyndmere loams, slightly saline, 0 to 2 percent slopes	X		
Mustinka silty clay loam, 0 to 1 percent slopes		X	
Nutley silty clay, 6 to 9 percent slopes			X

Corridor Soil Units	All Areas Are Prime Farmland	Prime Farmland Only When Drained	Soil of Statewide Importance
Nutley-Fargo silty clays, 0 to 9 percent slopes			X
Nutley-Fargo silty clays, 3 to 6 percent slopes	X		
Overly silty clay loam, 0 to 2 percent slopes	X		
Overly silty clay loams, 2 to 6 percent slopes	X		
Overly-Bearden silt loam, 0 to 2 percent slopes	X		
Overly-Nutley silty clay loams, 2 to 6 percent slopes	X		
Perella loam, clayey substratum, 0 to 1 percent slopes		X	
Perella silty clay loam, clayey substratum, 0 to 1 percent slopes		X	
Reis-Clearwater silty clays, 0 to 1 percent slopes		X	
Tiffany fine sandy loam, clayey substratum, 0 to 1 percent slopes		X	
Tiffany loam, clayey substratum, 0 to 1 percent slopes		X	
Tiffany loam, stratified substratum, 0 to 1 percent slopes		X	
Wapheton silty clay, 0 to 3 percent slopes, occasionally flooded	X		
Wheatville silt loam, 0 to 1 percent slopes	X		
Wheatville silt loam, slightly saline, 0 to 1 percent slopes	X		
Wheatville-Mantador-Delamere silt loams, slightly saline, clayey substratum, 0 to 2 percent slopes	X		
Wyndmere fine sandy loam, slightly saline, 0 to 1 percent slopes	X		
Wyndmere loam, slightly saline, 0 to 1 percent slopes	X		

As shown in Figure 7- 10, five soils are listed as being of state importance. Four of these are located within Richland County which include Aberdeen silt loam, 0 to 1 percent slopes, Aberdeen-Galchutt-Fargo complex, 0 to 2 percent slopes, Eckman-Zell silt loams, 6 to 9 percent slopes, and Nutley silty clay, 6 to 9 percent slopes.

Figure 7-11 includes a list of the soil series considered prime farmland, prime farmland only when drained, and soils of statewide within the Bison Substation Siting Area.

Figure 7-11. Farmland Soil Characteristics within the Bison Substation Siting Area

Corridor Soil Units	All Areas Are Prime Farmland	Prime Farmland Only When Drained	Soil of Statewide Importance
Bearden silty clay loam, 0 to 1 percent slopes	X		
Bearden-Kindred silty clay loams, 0 to 2 percent slopes	X		
Fargo silty clay loam, 0 to 1 percent slopes		X	
Fargo silty clay, 0 to 1 percent slopes		X	
Fargo silty clay, depressional, 0 to 1 percent slopes		X	

Corridor Soil Units	All Areas Are Prime Farmland	Prime Farmland Only When Drained	Soil of Statewide Importance
Fargo-Hegne silty clays, 0 to 1 percent slopes		X	
Hegne-Fargo silty clay loams, 0 to 1 percent slopes		X	
Kindred-Bearden silty clay loams, 0 to 2 percent slopes	X		
Overly silty clay loam, 0 to 2 percent slopes	X		
Overly-Bearden silt loam, 0 to 2 percent slopes	X		

Surface Drainage and Groundwater Flow Patterns

Natural surface drainage occurs towards water bodies located in the Proposed Corridor. There are 70 perennial and intermittent stream crossings within the Proposed Corridor. Two stream crossings are located within the Bison Substation Siting Area. Drain tiles are utilized in Cass County to achieve subsurface drainage of agricultural fields. The State Water Commission issues permits for installation of drain tiles, and in 2008, there were nine drainage permits issued for Cass County, with an estimated 1,928 acres of land drained (Shuh, 2008). In 2008, there were 30 drainage permits issued for Richland County, with an estimated 4,890 acres of land drained (Shuh, 2008). The acreage of drained fields specifically within the Proposed Corridor is not known.

One major aquifer, the West Fargo aquifer, provides groundwater resources in Cass County. Groundwater flow in the West Fargo aquifer is towards areas of heavy pumping. In Richland County, the Proposed Corridor traverses the surficial Colfax aquifer. Information for groundwater flow within Richland County was not readily available.

Potential Impacts

Permanent impacts on agricultural land will occur at the locations of transmission structures. Some farming equipment may not be able to operate immediately near these structures. There may be permanent crop loss within an area of approximately 1,000 square feet around each pole. In addition, the Bison Substation Siting Area will encompass a graded area up to 15 acres in size. Temporary impacts during the construction phase may include soil compaction, alteration in surface water drainage and infiltration due to soil compaction, disruption of agricultural practices (e.g., center pivot irrigation, drain tiles) and crop damages during the growing season. Additionally, invasive or noxious species can be transported into agricultural fields by machinery, vehicles, or workers during construction.

Mitigative Measures

The locations of irrigation systems, drain tiles, existing rights-of-way, property lines, and field lines will all be further considered as routes are developed for the Project. Right-of-way and land acquisition considerations are discussed in section 3.2.1. Restoration procedures are discussed in section 3.2.3. No other mitigative measures have been identified.

7.2.8 WOODLANDS AND WOODED AREAS

Existing Conditions

The Proposed Corridor encompasses primarily agricultural use lands. Cass County is one of four counties that account for 88 percent of the saw log production in the entire state; however, no commercial forestry operations are present within the Proposed Corridor (Haugen and Harsel, 2001). The Proposed Corridor does encompass intermittent areas of wooded land cover. These areas consist of small tree stands and windbreaks or tree belts. Windbreaks reduce soil erosion, reduce water evaporation from adjacent cropland and increase crop yields. Similarly, tree plantings are designed to stabilize streambanks, filter water runoff from adjacent agricultural lands, provide wildlife habitat, protect stretches of highway prone to severe snow accumulation, provide wind protection for livestock, or protect farmsteads and rural homes from snow and wind (Kotchman, 2010).

Forested land cover comprises less than one percent (1,504 acres) of the total area within the Proposed Corridor. Of the 1,504 acres, 381 acres are located in Proposed Corridor North and 1,123 acres are located in the Proposed Corridor South.

Likewise, the Bison Substation Siting Area encompasses primarily agricultural use lands. No commercial forestry operations occur within the siting area. The siting area does encompass intermittent areas of wooded land cover. These areas consist of small tree stands and windbreaks or tree belts. Forested land cover comprises approximately 0.1 percent (2.3 acres) of the total area within the siting area.

Potential Impacts

Potential impacts associated with wooded areas within the Proposed Corridor include the removal of trees within the ultimate right-of-way. Removal of trees within the Bison Substation Siting Area is not anticipated since the majority of the siting area is devoid of trees.

Mitigative Measures

Locations of planted tree belts and other tree stands will be taken into considerations as routes are developed for the Project. No other mitigative measures have been identified.

7.2.9 AIR QUALITY

Existing Conditions

Air quality within North Dakota and within the Proposed Corridor is determined by the measurements recorded by ambient air quality monitors operated by the North Dakota Department of Environmental Health (DEH). The nearest monitor is located in Fargo, ND. The status of air quality is determined by comparison of monitored values to established federal National Ambient Air Quality Standards (NAAQS). The pollutants subject to the NAAQS, termed "criteria" pollutants, are sulfur dioxide (SO_2), nitrogen dioxide (NO_2), particulate matter (PM_{10}/$PM_{2.5}$), ozone (O_3), carbon monoxide (CO), and lead (Pb). In addition to the NAAQS, the State of North Dakota has their own Ambient Air Quality standards (established under the Air Pollution Control Rules (Article 33-15). According to the DEH, the entire State of North Dakota is currently in attainment for all state and federal regulated criteria pollutants.

Potential Impacts

Potential direct and indirect impacts to air quality may occur during construction of the Project. Emissions from construction equipment and dust particulate matter may temporarily impact air quality. Vehicular emissions are influenced heavily by weather conditions and the specific construction activity occurring. Exhaust emissions, primarily from diesel equipment, will vary according to the phase of construction, but will be minimal and temporary. Emissions from machinery and vehicles during construction can potentially include particulates, hydrocarbons, sulfur oxides, nitrogen oxides, and carbon monoxide. In addition, as ground surface is disturbed or moved during construction travel on roads, dust (i.e., particulates) can become re-suspended into the ambient air and transport or deposit downwind. Adverse impacts to the surrounding environment will be minimal because of the short and intermittent nature of the exhaust and dust emissions from construction activities.

Mitigative Measures

The impacts to air quality from construction activities could be minimized by reducing idle times on machinery and vehicles and utilizing best management practices to reduce ground disturbance and minimize particulate re-suspension. Watering of roadways, especially on unpaved roads, may also be effective in keeping particulates from entering the ambient air.

7.3 Archaeological and Historic Resources

Archaeological and historic resources include material remains of past human activities. These resources may be protected by federal and/or state legislation if they meet specified criteria. For the purposes of this evaluation, resources meeting federal legislative criteria as a historic property were considered. When applicable, state legislative requirements were considered for archaeological and historic resources.

As per the National Historic Preservation Act (NHPA) of 1966, a specific type of archaeological and historic resource is afforded protection. This is a historic property, which is defined as follows:

> …any Pre-European contact or historic district, site, building, structure, or object included in, or eligible for listing on the National Register, including artifacts, records, and material remains related to such a property or resource (46 CFR 800, as amended 2006, Title III, Section 301, #5).

The term "historic property" is used in the sense defined above throughout this section and evaluation. Historic properties should be protected from both direct and indirect effects. Direct effects physically alter the historic property in some way. Indirect effects diminish some significant aspect of the historic property, but do not physically alter it.

Existing Conditions

Online[5] and North Dakota State Historic Preservation Office (SHPO) Legal Search files were reviewed to determine if any recorded historic architectural resources are located within the Proposed Corridor.[6] Based on a preliminary review, three known properties listed on the National Register of Historic Places (NRHP) are present within the Proposed Corridor, and are located in the Proposed Corridor South.

Seven archaeological sites have been recorded within the Proposed Corridor, of which six are located within the Proposed Corridor North and one is located within the Proposed Corridor South.

[5] The primary site used to determine the presence of NRHP sites within the Corridors was the National Park Service's National Register of Historic Places search engine (http://nrhp.focus.nps.gov/natreghome.do). This website was utilized for the review of the Proposed Corridor.

[6] Cultural resource data was collected on various dates from 2008 – 2010 as part of the identification of the Proposed Corridor. Site forms for all of the archaeological sites and historic architectural resources identified within the Proposed Corridor were not available for review. Verification of this data will be conducted as routes are developed. The information presented above is to be used as an approximation of the number of archaeological sites and historic architectural resources located within the Proposed Corridor.

These sites consist of historic and prehistoric components and range in size. None of these archaeological sites are listed on the NRHP. In addition, 51 previously identified historic architectural resources are located within the Proposed Corridor, of which 16 are located within the Proposed Corridor North and 37 are located within the Proposed Corridor South. These consist of structures and buildings. Three of these 51 resources are listed on the NRHP. They include the following:

- The City of Christine Post Office, located at Maine and 3rd Streets in Christine
- Nelson's Grocery, located at Main and 3rd Streets in Christine
- Fairview Bonanza Farm, located near 17170 82 R Street Southeast

In addition, the Frederick A. and Sophia Bagg Bonanza Farm, located on ND State Highway 13 on Section Road 32 RI 5 is immediately west of the Proposed Corridor.[7]

No known properties listed on the NRHP, archaeological sites, or previously identified historic architectural resources are located within the Bison Substation Siting Area.

Potential Impacts

Potential direct impacts to archaeological sites may result from ground disturbance during construction of Project facilities. These activities may displace or destroy information important to the prehistory or history of the local communities, North Dakota, or the U.S. Potential impacts to historic architectural resources, such as buildings or structures, could include physical and structural damage resulting from construction of the Project. Indirect impacts may include visual intrusion of Project elements on the historic setting of the building or structure. This intrusion may diminish the historic character of the building or structure.

Mitigation Measures

Impacts to recorded archaeological sites could be avoided or minimized by designation of buffer zones around these sites, adjustments to Project design and implementation of construction procedures that avoid these sites or limit ground disturbance, and designation of no-traffic areas during construction. Vegetative screening may also be utilized to shield historic structures from the Project. In addition, further study and field investigations to identify unrecorded resources may be

[7] This property is open to the public and is listed on both the NRHP and State Registry of North Dakota. It is representative of the Bonanza farms, which were commonplace in the late 1800's. These types of farms began with the establishment of the railroad and were owned and operated by a number of entrepreneurs (Wahpeton Breckenridge Area Chamber of Commerce, n.d.).

conducted. Consideration should also be given to those resources already listed on the State Historic Sites Registry.[8] Additional measures to identify and protect both archaeological and historic architectural resources may be developed in consultation with the SHPO and other interested parties.

7.4 Natural Environment

7.4.1 GEOLOGY AND GROUNDWATER

Existing Conditions

Geology

The Proposed Corridor is located in Cass County and Richland County, North Dakota. Cass County is part of the Central Lowland Province, with the eastern three-fourths of the county located in the Red River Valley (Lake Agassiz basin) physiographic province and the western one fourth located in the Drift Prairie physiographic province. The Red River Valley province is further subdivided into two units: the Sheyenne and Maple River Delta in the south Red River Valley and glacial Lake Agassiz in the north. In Cass County, the Proposed Corridor is located within the Red River Valley physiographic province and it crosses both the Sheyenne and Maple River Delta and Lake Agassiz subdivisions (Klausing, 1968a).

Within the Sheyenne and Maple River Delta geologic subdivisions, the land surface exhibits varying relief around each of the two rivers. In the Sheyenne River delta, the land is relatively flat, with the local relief usually not exceeding 5 feet per mile. Relief in the Maple River delta the relief ranges from 5 feet per mile to 20 feet per mile. The Lake Agassiz plain is flat and nearly featureless. The most prominent relief features of the lake plain are the north-south trending beaches along the western edge of the plain, and a few isolated ridges in the eastern part of the plain that generally range from 5 to 10 feet in height. Except in the vicinities of the beaches, isolated ridges, and stream valleys, local relief on the plain is generally less than 5 feet (Klausing, 1968a).

Cass County is covered with Pleistocene glacial drift which ranges in thickness from 132 feet to 447 feet. The three Cretaceous bedrock units known to underlie Cass County include the Greenhorn Formation, Graneros Shale, and Dakota Sandstone; however, these rocks have been extensively eroded in the eastern parts of the county.

[8] The ND SHPO no longer adds properties to the State Historic Sites Registry; however, consideration should still be made to those properties already included on the Registry. State legislation providing protection to these resources is included within Chapter 55-10 of the North Dakota Century Code.

Richland County is also located in the Central Lowland Province, with most of the county located in the Red River Valley (Lake Agassiz basin) physiographic division. Only a small southwestern part of the county is located in the Drift Prairie physiographic division. The Drift Prairie and select features of the Lake Agassiz basin provide local areas of relief, while the remaining portion of the county is nearly flat. Local relief is commonly less than 5 feet per mile, but may exceed 150 feet per mile in portions of the Drift Prairie.

Richland County is covered with glacial drift with thickness ranging from 154 feet to 490 feet. Some areas of drift are overlain by a thin layer (0 to 40 feet) of alluvium on flood plains of modern streams. The three Cretaceous bedrock units known to underlie Cass County (i.e. Greenhorn Formation, Graneros Shale, and Dakota Sandstone) also underlie Richland County (Baker, 1967a).

Geologically Unstable Areas

While no geologically unstable areas have been identified within the Project area (Klausing, 1968a) in the formal sense, the Fargo regional area and the Red River Valley are both considered unstable. Some of this instability is the result of human activity and settlement, also referred to as engineered geology, and some of this instability – though interrelated – is directly influenced by the soils present in these areas. No known faults or areas of subsidence occur within the Project area and the Project is located within a low earthquake probability area (North Dakota Geological Survey, 2010); however, weak soils, in the structural and geotechnical sense, are prevalent in the Project area (North Dakota State University, 2010).

The clay soils in the Fargo regional area and the Red River Valley in general consist of unconsolidated, fine-grained sediments. These soils allow poor drainage and have high shrink-swell properties. These soils are also characterized as having high plasticity (natural tendency of a material to undergo permanent deformation under load conditions). As a result, these soils are susceptible to slope instability, slope retreat/erosion, land sliding and flooding, particularly nearer to the Red River itself (North Dakota State University, 2010).

Extractive and Storage Resources

Extractive resources are present in both Cass and Richland counties in the form of sand and gravel deposits. Small deposits of glacial boulders and brick clay are intermittently present. Existing sand, gravel, and boulder deposits are located along the beach ridges in the west central portion of Cass County, while brick clay deposits occur in the eastern portion of the county. There are no known commercial quantities of gas or oil in either county and no other known deposits of minerals (Cass, 2005). There are two gravel pits within the Proposed Corridor, and both are located in the Proposed Corridor South. No active sand or gravel pits occur within the Bison Substation Siting Area.

Groundwater, including Aquifers

Groundwater in Cass County is found in glacial drift deposits and in sand and sandstone beds of the Dakota Sandstone. There are six major glacial drift aquifers present in Cass County. The Proposed Corridor traverses the surficial West Fargo aquifer and the Dakota Sandstone bedrock aquifer in Cass County. The West Fargo aquifer ranges in depth from 0 feet to as much as 140 feet and averages approximately 60 feet in depth. The Dakota Sandstone aquifer underlies all of Cass County except the easternmost quarter of Cass County. The depth to the top of the Dakota Sandstone ranges from about 300 feet in the eastern portion of the county to more than 700 feet in the western portion of the county (Klausing, 1968b).

The most important groundwater sources in Richland County are the shoreline deposits of glacial Lake Agassiz, which consist of two main aquifers: the Sheyenne delta aquifer and the Hankinson aquifer. These deposits range in depth from 50 feet thick in most places to as much as 100 feet thick near the western boundary of the county. Groundwater is also available in till deposits throughout the county, as well as the Dakota Sandstone bedrock formation, although these are of lesser importance as groundwater sources due to the lower productivity of glacial till deposits and the poor chemical quality of the bedrock groundwater. Four major aquifers and numerous minor ones are associated with the glacial till in Richland County. In Richland County, the Proposed Corridor traverses the surficial Colfax aquifer and the Dakota Sandstone bedrock aquifer; however the Dakota Sandstone bedrock aquifer is absent in the northeastern portions of Richland County. The hydrologic properties of the Colfax aquifer are not known, but a larger number of wells in the vicinity of Colfax and southward end in sand at depths between 100 to 150 feet below the surface. Wells penetrating the Dakota Sandstone bedrock aquifer range in depth from 200 to 900 feet (Baker, 1967b).

Potential Impacts

No impacts to geology are anticipated as a result of the location, construction and operation of the Project. Construction dewatering, if required at all, will be limited to construction activities. Transmission structure foundations may approach groundwater levels in some areas, although no impacts to groundwater quantity or quality are anticipated as a result.

Mitigative Measures

Construction dewatering, if required at all, will be limited to construction activities. No other mitigative measures have been identified.

7.4.2 WETLANDS, SURFACE WATERS AND FLOODPLAINS

Wetlands

Wetlands can support unique wildlife, aquatic invertebrates, and plants, and are otherwise considered important areas for wildlife. Wetlands also store surface water for flood control, improve water quality, and provide open spaces that support recreational opportunities such as hunting, fishing, trapping, bird watching, and photography.

In North Dakota, a wetland permit from the USACE, under Section 404 of the Clean Water Act (CWA), is required when working in jurisdictional wetlands or waters. The USACE defines wetlands as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (Environmental Laboratory, 1987). Under Section 404 of the CWA, a permit from the USACE would be required for any activities that would result in the discharge of dredged or fill material into waters of the U.S., including wetlands.

In accordance with the 1987 United States Army Corps of Engineers Wetlands Delineation Manual, and the more recent Regional Supplement of Engineers Wetland Delineation Manual: Great Plains Region (Great Plains Regional Supplement), the USACE uses three diagnostic criteria to identify wetlands: hydrophytic vegetation, hydric soil, and wetland hydrology (Environmental Laboratory, 1987; USACE 2010). Hydrophytic vegetation includes plants that are adapted to life in soil that is at least periodically saturated. Hydric soils possess characteristics that indicate the soil developed in conditions where oxygen was limited or absent due to the presence of saturated conditions for extended periods during the growing season. Wetland hydrology refers to the presence of water at or near the soil surface for a sufficient period of the year to significantly influence the plant community and soil development in the area. Generally all three indicators, wetland vegetation, hydric soil, and wetland hydrology, must be present for an area to meet the definition of a jurisdictional wetland.

The Cowardin classification system, commonly used by the USACE, is a hierarchical system that breaks wetlands into ecological systems (lacustrine, palustrine, riverine, etc.), classes that are substrate or habitat dependent (emergent, scrub-shrub, forested, rock bottom, unconsolidated bottom, etc.), and by water regime (saturated, temporarily flooded, seasonally flooded, permanently flooded, etc.) (Cowardin et al., 1979). Palustrine wetlands are generally depressional areas that consist of forested, scrub-shrub, and emergent (herbaceous vegetation) varying from saturated to permanently flooded basins. Lacustrine wetlands are generally associated with open water habitat, such as lakes and ponds, but in order to be considered wetland they must be less than two meters deep. Riverine wetlands are associated with riparian systems, along rivers, streams, and natural drainages along the route.

National Wetland Inventory (NWI) maps, produced by the U.S. Fish and Wildlife Service (USFWS), are based on aerial photographs and NRCS soil surveys, and are the best available source of wetland data prior to completing any field review. NWI data were used to determine the number and types of wetlands, and estimate the percentage of wetlands occurring within the Proposed Corridor and the Bison Substation Siting Area. Data from NWI maps are assumed to be accurate, however wetland types and boundaries illustrated on NWI maps may be inconsistent with existing wetland conditions.

Surface Waters

The USACE also holds jurisdiction over certain navigable waterways. A permit may be required under Section 10 of the Rivers and Harbors Act if any work would occur in, over, or under a Navigable Water of the U.S. Waterways have been designated as Navigable Waters of the U.S. based on their past, present, or potential use for transportation for interstate commerce.

Surface waters are protected under the federal Clean Water Act (CWA) which grants states the authority to regulate discharges to surface waters. In North Dakota, the Department of Health (NDDH) is the regulatory agency with jurisdiction over discharges to surface waters. The Project may require a Section 401 Water Quality Certification. Refer to section 8.0 for more information associated with the regulatory permits that may be required for the Project.

The Project will also require a National Pollutant Discharge Elimination System (NPDES) permit from the NDDH for the discharge of stormwater generated from construction activities. As a requirement of the NPDES permit, a Stormwater Pollution Prevention Plan (SWPPP) would need to be developed to manage stormwater discharges generated during construction activities. Sediment and erosion control measures outlined in the SWPPP should be consistent with those also described within any wetland permit.

Floodplains

The Federal Emergency Management Agency (FEMA) designates areas that are likely to experience flooding at the 100-year and 500-year recurrence intervals. Based on digital flood risk data developed by FEMA, much of the eastern third of Cass County is located within a 100-year floodplain. West of the Red River, the risk of flooding transitions to areas of minimal flooding possible. Much of the western two-third of Cass County has not been studied for flood risk potential (Cass County, 2005).

Existing Conditions

Wetlands

The freshwater emergent wetland is the most common wetland type within the Proposed Corridor. Wetlands within the Proposed Corridor consist of palustrine, lacustrine, and riverine wetlands. A summary of NWI wetlands located within the Proposed Corridor is included in Figure 7-12.

Figure 7-12. NWI Wetlands within the Proposed Corridor

Wetland Type	Total Wetlands		
	Count	Acres	% of Corridor
Freshwater Emergent (PEM)	518	700	0.4
Forested/Shrub (PFO and PSS)	20	28	<0.1
Freshwater Ponds (PAB and PUB)	45	68	<0.1
Lake	1	40	<0.1
Riverine	15	646	0.4
Total	599	1,481	0.9

PEM – Palustrine Emergent, PFO – Palustrine Forested, PSS – Palustrine Scrub/Shrub, PAB – Palustrine Aquatic Bed, PUB - Palustrine Unconsolidated Bottoms

Overall, wetlands comprise less than one percent of the Proposed Corridor. Freshwater emergent wetlands comprise approximately 700 acres, or 0.4 percent, of the Proposed Corridor. Forested/shrub wetlands comprise approximately 28 acres, or less than 0.1 percent of the Proposed Corridor. Freshwater ponds and lakes both constitute less than 0.1 percent of the Proposed Corridor at approximately 68 acres and 40 acres, respectively. Riverine wetlands comprise approximately 646 acres, or 0.4 percent, of the Proposed Corridor.

There are approximately 626 acres of wetlands in the Proposed Corridor North, of which approximately 188 acres are freshwater emergent, 21 acres are forested/shrub, 16 acres are freshwater ponds, and 401 acres are riverine wetlands. The Proposed Corridor South contains approximately 856 acres of wetlands, of which approximately 513 acres are freshwater emergent, seven acres are forested/shrub, 52 acres are freshwater ponds, 40 acres are lake wetlands, and 244 acres are riverine wetlands. The freshwater emergent wetland is the only wetland type within the

Bison Substation Siting Area. The 13 freshwater emergent wetlands comprise approximately seven acres, or 0.3 percent, of the siting area.

Land ownership and management data were reviewed for lands managed as natural wetland areas under the control of the USFWS. There are no WPAs or wetland easements that occur adjacent to or within the Proposed Corridor or within the Bison Substation Siting Area.

Surface Waters

The Proposed Corridor occurs within one major water resource region (watershed), as defined by the U.S. Geological Survey (USGS). The Proposed Corridor is located within the Souris-Red-Rainy Region (09), which ultimately drains into Lake Winnipeg and Hudson Bay.

Within the Souris-Red-Rainy Region, five smaller watersheds, or cataloging units, are traversed by the Proposed Corridor. These smaller watersheds are denoted by 8-digit Hydrologic Unit Codes (HUC). Figure 7-13 contains a list of all 8-digit Hydrologic Unit Code watersheds within the Proposed Corridor.

Figure 7-13. Watersheds (8-digit HUC) within the Proposed Corridor

Watershed Name	Hydrologic Unit Code (8-digit)
Bois De Sioux	09020101
Lower Sheyenne	09020204
Maple	09020205
Upper Red	09020104
Western Wild Rice	09020105

The Proposed Corridor North crosses all of the above mentioned watersheds except for the Bois De Sioux watershed. The southern portion of the Proposed Corridor crosses the Bois De Sioux watershed as well as the Upper Red and the Western Wild Rice watersheds. The Bison Substation Siting Area crosses the Lower Sheyenne watershed.

Figure 7-14 identifies the streams and rivers, along with the flow type, that are located within and/or traversed by the Proposed Corridor. There are 70 stream and river crossings within the Proposed Corridor. The Proposed Corridor encompasses two Section 10 waterways, the Red River of the North and the Bois de Sioux River.

Figure 7-14. Perennial and Intermittent Stream and River Crossings within the Proposed Corridor

Stream/River Name	Flow Type	Number of Crossings	Location
Antelope Creek	Intermittent	1	Proposed Corridor South
Bios de Sioux River	Perennial	1	Proposed Corridor South
County Drain No. 55	Intermittent	1	Proposed Corridor South
Lower Branch Rush River	Intermittent	1	Proposed Corridor North
Maple River	Perennial	1	Proposed Corridor North
Pitcairn Creek	Intermittent	1	Proposed Corridor South
Red River	Perennial	1	Proposed Corridor North
Sheyenne River	Perennial	1	Proposed Corridor North
South Branch Antelope Creek	Intermittent	1	Proposed Corridor South
Wild Rice River	Perennial	2	Both
Unnamed Stream	Intermittent	4	Both
Unnamed Tributarty to the Antelope Creek	Intermittent	2	Proposed Corridor South
Unnamed Tributarty to the Lower Branch Rush River	Intermittent	4	Proposed Corridor North
Unnamed Tributary to Bios de Sioux River	Intermittent	3	Proposed Corridor South
Unnamed Tributary to County Drain No. 55	Intermittent	2	Proposed Corridor South
Unnamed Tributary to the Maple River	Intermittent	11	Proposed Corridor North
Unnamed Tributary to the Pitcairn Creek	Intermittent	2	Proposed Corridor South
Unnamed Tributary to the Red River	Intermittent	6	Both
Unnamed Tributary to the Sheyenne River	Intermittent	4	Proposed Corridor North
Unnamed Tributary to the South Branch Antelope Creek	Intermittent	4	Proposed Corridor South
Unnamed Tributary to the Wild Rice River	Intermittent	17	Both

The Proposed Corridor North crosses 36 waterways while the Proposed Corridor South crosses 37 waterways. Three of the waterways extend from the northern portions of the Proposed Corridor into the southern portion and are thus counted in both halves of the Proposed Corridor. The Lower Branch Rush River and an unnamed tributary to the Lower Branch Rush River are present in the Bison Substation Siting Area. The unnamed tributary to the Lower Branch Rush River is an intermittent stream while the Lower Brunch Rush River contains portions classified as intermittent as well as portions classified as perennial.

Section 303(d) of the CWA requires states to publish, every two years, a list of impaired streams and lakes that are not meeting their designated uses because of excess pollutants. The list, known as the 303(d) list, is based on violations of water quality standards. The majority of impairments to surface waters are caused by agricultural sources (fecal coliform, dissolved oxygen, turbidity, excess nutrients/eutrophication) or industrial sources (mercury, polychlorinated biphenyls). The NDDH holds jurisdiction over determining 303(d) waters in the State of North Dakota. Figure 7-15 contains

a list of impaired waters within the Proposed Corridor, based on the NDDH 303(d) list, along with the causes of impairment. There are no impaired waters located within the Bison Substation Siting Area.

Figure 7-15. Impaired Waters within the Proposed Corridor

Waterbody Name	Cause(s) of Impairment
Maple River	Combination Benthic/Fishes Bioassessments, Sedimentation/Siltation, Fecal Coliform
Red River	Fecal coliform, methyl mercury
Sheyenne River	Fecal coliform, sedimentation/siltation
Wild Rice River	Dissolved oxygen, fecal coliform, combination benthic/fishes bioassessment, sedimentation/siltation

Floodplains

Approximately 41,684 acres (26 percent) of the Proposed Corridor are located in a FEMA designated 100-year floodplain. Approximately 34,280 acres (47 percent) are located in the Proposed Corridor North while approximately 7,404 acres (8 percent) are located in the Proposed Corridor South. There are no FEMA designated floodplains present in the Bison Substation Siting Area.

Potential Impacts

Wetlands

Permanent impacts to wetlands would be limited to transmission structure foundations, where wetland fill would occur, and conversion of forested wetlands to non-forested wetlands due to the removal of trees and tall-growing shrubs within the right-of-way. The area of permanent impact at each foundation is estimated to be 55 square feet. Temporary impacts may occur during construction within a one-acre area associated with each transmission structure, and as associated with a 20-foot wide temporary access road between structures.

Surface Waters

Indirect impacts to wetland and water resources could include sedimentation reaching surface waters during construction due to ground disturbing activities. This could temporarily degrade water quality due to turbidity.

Floodplains

No impacts to floodplains are anticipated.

Mitigative Measures

The Company will continue to minimize the potential for impacts to wetlands and surface waters to the maximum extent feasible as routes are developed for the Project, and ultimately with final engineering and design. Permanent impacts to wetlands and waters will be minimized by spanning to the extent feasible. Various mitigation techniques will also be utilized to minimize temporary impacts. These techniques may include, for example, accessing wetland areas during frozen conditions or utilizing wetland matting.

The Company will follow standard sediment and erosion control measures to maintain sound water and soil conservation practices during construction of the Project to minimize soil erosion and protect topsoil and adjacent water resources.

7.4.3 FLORA/PLANT LIFE

Existing Conditions

The Proposed Corridor, including the Bison Substation Siting Area, occurs entirely within the Red River Valley section of the Prairie Parkland (Temperate) Province, as described by the United States Forest Service (USFS) (2005). The Red River Valley section historically consisted of tallgrass prairie, dominated by big bluestem (*Andropogon gerardii*), Indian grass (*Sorghastrum nutans*), and prairie dropseed (*Sporobolus heterolepis*). Many of the soils in areas experiencing periodic flooding or associated with high water tables would be dominated by bluejoint grass (*Calamagrostis canadensis*), prairie cordgrass (*Spartina pectinata*), various sedge species (*Carex* spp.) and rushes (*Juncus* spp.). These plant communities would have been strongly influenced by wildfire and by grazing animals including bison (*Bison bison*) and prairie dogs (*Cynomys* spp.). The Red River Valley was generally developed in fine textured lacustrine sediments of former glacial Lake Agassiz plain. Slight topographic variation would have provided microhabitats that differentiated between mesic and wet prairies, with dry prairies less common but occurring along sandy beach ridges. Flora currently present throughout the Project area is typical of that normally found in an agricultural setting.

Potential Impacts

Permanent vegetative changes will take place in wooded areas within the right-of-way. Trees and shrubs that may interfere with maintenance and the safe operation of the transmission line will not be allowed to establish within the right-of-way. In addition, permanent impacts to existing vegetative cover will occur at each transmission structure location. The size of permanent impacts is estimated to be 1,000 square feet per pole in agricultural areas, and 55 square feet per pole in all non-

agricultural areas. Temporary impacts to flora will also be most prominent at transmission structure locations. Temporary impacts are estimated to encompass one acre per pole.

Mitigative Measures

Native and woody vegetative cover will be further considered as routes are developed for the Project. Invasive and noxious weed control is discussed in section 7.4.5. Restoration procedures are discussed in section 3.2.3.

7.4.4 FAUNA/ANIMAL HEALTH AND SAFETY

Existing Conditions

Common wildlife species found within the Project area include both large and small mammals, songbirds, waterfowl, raptors, fish, reptiles, amphibians, mussels, and insects. Wildlife throughout the Project area consists of both resident and migratory species which use the area habitat for forage, shelter, breeding, or as a stopover during migration. Species include those found in agricultural landscapes, prairie remnants, pasture, grasslands, wetland, and riverine habitats.

Common mammals in these habitats include raccoon *(Procyon lotor)*, striped skunk *(Mephitis mephitis)*, white-tailed deer *(Odocoileus virginianus)*, coyote *(Canis latrans)*, gray fox *(Urocyon cinereoargenteus)*, badger *(Taxidea taxus)*, thirteen-lined ground squirrel (*Spermophilus tridecemlineatus*), and Eastern cottontail (*Sylvilagus floridanus*). Common birds include songbirds, raptors such as the red-tailed hawk (*Buteo jamaicensis*) and Swainson's hawk (*Buteo swainsoni*), waterfowl, and game birds such as pheasant *(Phasianus colchicus)* and turkey *(Meleagris gallopavo)* (Mammal Society, 2010; NDGFD, 2010). Appendix C provides lists of common mammals, birds, reptiles, and amphibians that may occur in the area.

Designated habitat or conservation areas include managed areas such as USFWS WPAs and conservation easements and North Dakota Significant Ecological Communities (SECs). There are no wildlife refuges, WPAs, conservation easements, or other federal sensitive management lands within the Proposed Corridor, including the Bison Substation Siting Area. There are two occurrences of SECs within the Proposed Corridor, the Northern Ash-Elm Floodplain Forest, located in the Proposed Corridor North, and the Northern Wet-Mesic Tallgrass Prairie, located in the Proposed Corridor South. None of the SECs occur within the Bison Substation Siting Area. The majority of the Proposed Corridor occurs in an agricultural setting; and while agricultural land uses are an important component of wildlife resources in the Project area, land managed to promote wildlife habitat can provide for higher species diversity and larger populations than surrounding landscapes that are intensively used for agriculture.

The Migratory Bird Treaty Act (MBTA) of 1918 (16 United States Code (USC) 703-712) governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and

nests. Many passerine (songbird), waterfowl, and shorebird species use a few heavily traveled corridors, referred to as flyways, to travel between breeding areas in the North and wintering areas in the South. Migration routes vary from species to species. Flyway routes are followed closely by some species while for other species, flyways are an oversimplification of an extremely complex situation involving crisscrossing of migration routes (Lincoln, 1998). Typically, shorebirds and waterfowl follow waterways found in the flyway and also depend on the presence of wetland stopover habitats along the migratory route. In general, waterfowl and shorebirds migrate at an altitude of approximately 500 to 1,000 feet, except when descending to stopover areas. Passerines, as well as some waterfowl, tend to migrate in broad fronts rather than down specific flyways, thus making the flyway concept less applicable (USFWS, 2009).

The Project area is located within the Central Flyway which encompasses the vast plain region between the Rocky Mountains and the Mississippi River. The flyway is generally free of obstacles and provides good sources of food and water along the way. The flyway is used by numerous waterfowl species. Duck species commonly found in North Dakota include mallards (*Anas platyrhynchos*), gadwall (*A. strepera*), wigeon (*A. americana*), pintail (*A. acuta)*, redhead (*Aythya americana*), and ringnecked (*Aythya collaris*) ducks, among others. Goose species include Canada (*Branta canadensis*), and snow (*Chen caerulescens*) geese.

The Fish and Wildlife Conservation Act of 1980 (16 USC 2901-2911) affords protection to Birds of Conservation Concern. Migratory birds and Birds of Conservation Concern are an important component of biodiversity in North America. The Project is located in the Prairie Potholes Bird Conservation Region which provides habitat to 27 birds of conservation concern. The list includes raptors, passerines, and waterfowl species. Five of the 27 species are transient inhabitants of the prairie pothole region while the remaining birds are documented to breed in the region (BCC, 2008).

Additionally, the Bald and Golden Eagle Protection Act (Eagle Act) (16 USC 668-668d), which was enacted in 1940, prohibits the take of bald eagles (*Haliaeetus leucocephalus)* and golden eagles (*Aquila chrysaetos*) unless pursuant to regulations, and in the case of bald eagles, take could only be authorized under a permit. On November 10, 2009, the USFWS implemented a new rule governing the take of bald and golden eagles. The Eagle Act defines the "take" of an eagle to include a broad range of actions: "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." The new regulations at 50 CFR § 22.26 will cover mostly disturbance. "Disturb" is defined in the regulations as: "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause: (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

Raptors rely on soaring flight and often utilize thermal and mechanical updrafts while migrating and foraging. Distinct features in the landscape, such as rivers, shorelines, and mountain ridges, may influence migratory travel by providing favorable soaring conditions and a landscape reference for orientation (Lincoln, 1998). The occurrence of raptors such as the bald or golden eagle is expected to be rare in the Project area since the Project area generally lacks defined topographic features. There are no Hawk Watch sites in the vicinity of the Project area, and the closest Breeding Bird Survey (Walcott Survey, Number 64002) documented only occasional occurrences of Northern harrier (*Circus cyaneus*), Swainson's hawk (*Buteo swainsoni*), red-tailed hawk (*Buteo jamaicensis)*, and American kestrel (*Falco sparverius)*.

Potential Impacts

Raptors, waterfowl, and other bird species may be affected by the construction and placement of the transmission line. Avian collisions with transmission lines could occur after completion, but the larger diameter of conductors associated with transmission lines compared to distribution lines results in higher visibility and therefore, a lower incidence of collisions. The potential risk of avian collisions with transmission lines will be higher near waterfowl stopover sites and during the fall and spring migratory period. Waterfowl are typically more susceptible to transmission line collision if the transmission line is placed between agricultural fields, which serve as feeding areas, and wetlands or open water, which serve as resting areas. In these areas, it is likely that waterfowl and other birds will be traveling between different habitats, potentially increasing the likelihood of avian collisions with the transmission line. Because of the high density of birds in such nesting sites, disturbance to the site has the potential to impact individuals; however, reproductive success of the overall species' population is not likely to be impacted.

Electrocution of large birds, such as raptors, is a concern typically related to distribution lines. Electrocution occurs when birds with large wingspans come in contact with either two conductors or a conductor and a grounding device. The Company's transmission line design standards provide adequate spacing to eliminate the risk of raptor electrocution. As such, electrocution is not a concern related to this Project.

There is potential for the displacement of wildlife, fragmentation of habitat, and loss of habitat from construction of the Project. Wildlife could be temporarily impacted within the immediate area of construction. The distance that animals could be displaced depends on the species. Additionally, wildlife occurring in the Project area will be typical of agricultural and urban settings and should not experience population level adverse effects due to construction.

Habitat fragmentation could result from the bisecting of habitats. Impacts from habitat fragmentation can extend beyond the area of immediate disturbance. Fragmentation affects some wildlife species by creating barriers to daily movement patterns. Predation can increase among

animals that are forced out of cover as they search for food, and decrease the distance that predators may have to travel to penetrate large habitat areas. Some species depend on large areas of undisturbed habitat and their survivability decreases as fragmentation increases.

Mitigative Measures

The proposed transmission line will follow existing linear features such as roads, transmission lines, or field lines to the extent feasible; thus minimal habitat fragmentation is anticipated to occur as a result of the location, construction and operation of the Project. Areas of sensitive habitat will be spanned when feasible. In areas where spanning is not feasible, the Company will minimize the number of structures placed in high quality wildlife habitat and coordinate with the NDGFD and USFWS to determine appropriate minimization and/or mitigation measures, to the extent feasible or appropriate. Vegetation removal would occur outside of the migratory bird nesting season to the extent feasible, to minimize impacts on nesting birds. Areas disturbed due to construction activities will be restored to pre-construction conditions. Restoration procedures are discussed in section 3.2.3. Invasive and noxious weed control is discussed in section 7.4.5.

The Company will address potential avian concerns at waterbody crossings and other areas of concern by working with the USFWS and NDGFD to identify any areas that may require marking the proposed transmission line in an effort to reduce the likelihood of collisions. In 2002, Xcel Energy entered into a voluntary Memorandum of Understanding (MOU) with the USFWS to address avian concerns throughout its service territories. An Avian Protection Plan, developed in conjunction with the USFWS, has been finalized for Xcel Energy's service area.

7.4.5 NOXIOUS WEEDS AND INVASIVE PLANT SPECIES

Existing Conditions

Noxious weeds are regulated under North Dakota Law (N.D.C.C. § 4.1-47-02). Noxious weeds are defined as plants that are "propagated by either seed or vegetative parts and determined to be injurious to public health, crops, livestock, land, or other property." Invasive plant species are further defined as species that have been introduced to locations and ecosystems outside of their natural range of dispersal, and are thriving in those locations. Not all non-native species are harmful; in fact many of the crops grown in the U.S. today are not native. However, the focus of this section is on invasive species that may cause damage to local ecosystems. Most noxious weeds are invasive, although a few are native but undesirable due to impacts arising from these species.

There are 194 invasive plant species that have been documented in Cass County and 145 in Richland County, accounting for the first and third highest number of invasive species recorded by county in North Dakota, respectively (EDDMapS, 2010). The top ten most widespread invasive plant species

in North Dakota, all of which are known to occur in Cass and Richland counties, are listed in Figure 7-16 below. One of the most invasive, the leafy spurge (*Euphorbia esula*), is also a prohibited noxious weed.

Figure 7-16. Common Invasive Plants in North Dakota

Common Name	Scientific Name
Leafy spurge	*Euphorbia esula*
Perrenial sowthistle	*Sonchus arvensis*
Quackgrass	*Elymus repens*
Flixweed	*Descurainia sophia*
Green foxtail	*Setaria viridis*
Green bristlegrass	*Setaria viridis* var. *viridis*
Yellow sweetclover	*Melilotus officinalis*
Western salsify	*Tragopogon dubius*
Alfalfa	*Medicago sativa*
Wild Buckwheet	*Fallopia convolvulus*

Source: Early Detection and Distribution Mapping System (EDDMapS) (http://www.eddmaps.org/tools/countyplants.cfm?id=us_nd_38017)

Eleven species of prohibited noxious weeds are recognized and regulated by North Dakota law. Figure 7-17 below provides a complete list of noxious plants in North Dakota.

Figure 7-17. North Dakota Prohibited Noxious Weeds

Common Name	Scientific Name
Absinth wormwood	*Artemsia absinthium*
Canada thistle	*Cirsium arvense*
Dalmatian toadflax	*Linaria genistifolia*
Diffuse knapweed	*Centaurea diffusa*
Leafy spurge	*Euphorbia esula*
Musk thistle	*Carduus nutans*
Purple loosestrife	*Lythrum salicaria*
Russian knapweed	*Acroptilon repens*
Saltcedar	*Tamarix chinensis, T. parviflora, T. ramosissima*
Spotted knapweed	*Centaurea maculosa*
Yellow toadflax	*Linaria vulgaris*

Source: North Dakota Department of Agriculture, Noxious Weeds Team (http://www.agdepartment.com/Programs/Plant/NoxiousWeeds.html)

County or city specific ordinances or associated regulations may also include additional noxious weeds that may be regulated within those boundaries. The Proposed Corridor South contains one

additional prohibited noxious weed species, houndstongue (*Cynoglossum officinale*), which is denoted in the Richland County invasive species list. Houndstongue seeds are barbed, an adaptation which means they attach easily to machinery, clothing, or animal fur, and can be transported across large distances (Cass County, 2010b). Cass County does not have any county specific prohibited species.

Potential Impacts

Noxious weeds and invasive plants can overtake native vegetation, reduce biodiversity, and degrade habitat quality. Some species, such as the leafy spurge, can be harmful if consumed by wildlife due to a toxin that can act as an irritant, emetic, and purgative. It may cause illness and weakness in cattle, or may even result in death (Cass County, 2010a). Sensitive habitat types, such as wetlands, are the most likely to be negatively affected by invasion. However, wetlands comprise less than one percent of the total area of the Proposed Corridor, and the Company plans to avoid or span wetlands and other sensitive habitats to the maximum extent feasible.

Cropland is also affected to varying degrees by loss in productivity following infestations, and damage to agricultural fields has become a more pressing and costly concern in recent years (Carter et al., 2004). Noxious weeds and invasive plants can be introduced to new areas through transportation of propagating material like roots or seeds on contaminated construction equipment, vehicles, or workers' clothing and shoes. Disturbed soil surfaces, such as those created by construction activities, are ideal locations for these plants to become established. The Company will identify and implement measures aimed at controlling and minimizing impacts associated with these species.

Mitigative Measures

The Company will comply with North Dakota noxious weed laws as described in North Dakota Law (N.D.C.C. § 4.1-47-02). Around substations and switches, the Company will provide for weed control in a manner that does not allow for the spread of weeds onto adjacent agricultural land during operation of Project facilities. Additionally, the Company will implement other mitigative measures such as cleaning construction equipment prior to exiting one work area to access another.

7.4.6 CRITICAL, RARE, UNIQUE OR OTHER SENSITIVE RESOURCES

This section discusses species protected under Section 7 of the Endangered Species Act (ESA). North Dakota does not have a state endangered species law, but defers to the federal threatened and endangered species list. However, North Dakota does maintain a list of animal and plant Species of Concern. In addition, the state uses the Natural Heritage Program to provide an inventory of ecological resources, natural communities, rare, endangered and threatened plant and animal species

and unique geological features. Wildlife species occurring in the Project area that are not protected by state or federal regulations are discussed in section 7.4.4.

Existing Conditions

Species identified by the USFWS as being known to occur within Cass and Richland counties include the gray wolf (*Canis lupus,* endangered), whooping crane (*Grus americana,* endangered), Dakota skipper (*Hesperia dacotae*, candidate), and the western prairie fringed orchid (*Platanthera praeclara,* threatened). No federally listed species occurrences have been identified within one mile of the Proposed Corridor. One North Dakota plant Species of Concern, the blue cohosh (*Caulophyllum thalictroides*), was identified within the Proposed Corridor North during the North Dakota Natural Heritage Review (NHR). In addition, there are two occurrences of SECs within the Proposed Corridor, the Northern Ash-Elm Floodplain Forest and the Northern Wet-Mesic Tallgrass Prairie. The Northern Ash-Elm Forest is located within the Proposed Corridor North while the Northern Wet-Mesic Tallgrass Prairie is located within the Proposed Corridor South. The Northern Ash-Elm Forest is located outside of the Bison Substation Siting Area.

No federally listed species occurrences have been identified within one mile of the siting area. No NHR species were identified within the Bison Substation Siting Area.

Potential Impacts

Impacts to protected species would be similar to those described above for general flora and fauna species in sections 7.4.3 and 7.4.4., respectively.

Mitigative Measures

Mitigative measures identified above in sections 7.4.4 and 7.4.5 would also apply to protected species. Known locations of protected species will be further considered as routes are developed for the Project.

7.4.7 IRREVERSIBLE AND IRRETRIEVABLE RESOURCES

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 result primarily from 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 Project.

Land that would be physically altered by construction and not restored would be committed to a new use. Land and vegetative cover in the Proposed Corridor will be converted to a new use within

the right-of-way and within the area ultimately graded and fenced for the proposed substation. In agricultural use areas, a conversion of land use would occur within an area of approximately 1,000 square feet around each pole location.

There may be minimal irreversible loss of soils as a result of the location, construction and operation of the Project. Vegetation will be cleared at each transmission pole location and existing tall-growing vegetation will be selectively removed within the 150-foot right-of-way. Tree and shrub clearing will be restricted to those areas necessary for the safe and reliable operation of the line and substation. Due to loss or fragmentation of habitat that may occur in select areas, some wildlife may be displaced. Relocation of species from these areas may constitute a localized irreversible commitment of wildlife resources.

Other irreversible commitments of resources that could be considered include the fuels and energy that will be utilized by construction equipment, necessary for the production of materials to be utilized by the Project, and otherwise consumed by equipment or personnel as a result of the location, construction and operation of the Project.

7.5 Other Known Developments

Current land use within Cass and Richland counties is predominantly agricultural and, based on the Cass County 2005 development plan and a 2008 community survey in Wahpeton, will likely continue to be the predominant land use within the counties despite overall losses in farmland (Cass County, 2005; Wahpeton, 2008).

There are two known transmission line projects that are proposed in the Project area. They include the Pillsbury-Fargo Minnkota Power Coop line in Cass County and an Otter Tail Power Company transmission line reroute in Richland County. Further detail was not readily available for the Richland County project. The Pillsbury-Fargo line is a proposed line that extends nearly 60 miles from Pillsbury in Barnes County to Reiles Acres in Cass County. Reiles Acres is located north of West Fargo and east of the Proposed Corridor. The project interconnects with the Maple River Substation and a portion of the line falls within the northern portion of the Proposed Corridor.

Based on a review of other available sources, no proposed wind energy conversion facilities or pipelines within either Cass or Richland counties were identified.

A review of development plans for the cities of Fargo and Horace showed that both are focused on growth, although in different ways. The City of Horace has plans to annex areas west of the Sheyenne River for residential uses, as well as annexation plans for areas south and west of the city (City of Horace, n.d.). The City of Fargo, on the other, hand is focused on downtown revitalization and increasing residential density to encourage growth of the city, but to avoid urban sprawl in the

process. Fargo hopes to attract growing office business as well as new retailers to the city, particularly to the downtown area, to create jobs and direct growth toward the city center (City of Fargo, 2007).

Additionally, the Diversion Project has been previously discussed in previous sections, in most detail in section 4.1. No conflicts with known development plans of federal, state, local, or private entities are anticipated. For descriptions of additional future land use and development plans associated with potentially affected local jurisdictions, refer to section 7.2.1.

8.0 POTENTIALLY REQUIRED PERMITS/APPROVALS AND AGENCY CONTACTS

The Company will be required to obtain additional permits or approvals from federal, state, and local agencies prior to construction of the Project. A list of potentially required permits, compliance requirements, and other approvals that may be required for the Project are provided in Figure 8-1 below.

Figure 8-1. Potentially Required Permits and Approvals

Agency/Department	Permit/Approval
Federal	
U.S. Army Corps of Engineers	Nationwide Permit (33 C.F.R Part 330; 33 U.S.C. 404)
U.S. Environmental Protection Agency	Spill Prevention Control and Countermeasure (SPCC) (40 C.F.R Part 112) compliance
U.S. Federal Aviation Administration	17 C.F.R. Part 77 review
U.S. Fish and Wildlife Service	Endangered Species Act (16 U.S.C. § 1531 et. seq.) coordination/consultation
	Migratory Bird Treaty Act (16 U.S.C. 703-712) and Bald and Golden Eagle Protection Act (16 U.S.C. 668) coordination/consultation
	Fish and Wildlife Conservation Act (16 U.S.C. 2901-2911) coordination/consultation
State	
North Dakota Aeronautics Commission	Coordination/consultation
North Dakota Department of Agriculture	Coordination/consultation
North Dakota Game and Fish Department	Coordination/consultation
North Dakota Department of Health	National Pollutant Discharge Elimination System program compliance/Stormwater permit
	Section 401 CWA, Water Quality Certification (33 U.S.C. § 1251 et. seq.)
North Dakota Parks and Recreation Department	Coordination/consultation
North Dakota Department of Transportation	Driveway Access Permit
	Utility Occupancy Permit
North Dakota State Historic Preservation Office	National Historical Preservation Act (16 U.S.C. 470 et. seq.)
	Section 106 consultation (16 U.S.C. 470f)
Local	
Affected Counties, Townships, and Municipal Jurisdictions	Land use permits such as Conditional Use Permits or Variances, and other local permits

8.1 Federal Permits and Agency Contacts

8.1.1 U.S. ARMY CORPS OF ENGINEERS

Potentially Required Permit(s)

A Section 404 permit (33 U.S.C. 404) would be required from the USACE under the Clean Water Act (CWA) (33 U.S.C. § 1251 et. seq.) for discharges of dredged or fill material into waters of the United States. A permit would be required for the Project if the placement of poles or other disturbances within wetlands cannot be avoided. Additionally, the USACE holds jurisdiction over certain navigable waterways. A permit would be required from the USACE under Section 10 of the Rivers and Harbors Act (33 U.S.C. 403) for any work that would occur in, over, or under federally designated navigable waters of the U.S. The Project area contains two Section 10 waterways, the Red River of the North (from Wahpeton north) and the Bois de Sioux River (from Wahpeton south). Both rivers coincide with the North Dakota/Minnesota border. Only one of the two navigable waterways will be crossed by the Project, depending on the final route approved within a certificated corridor. The Company anticipates that the Project will adhere to the provisions of a Nationwide Permit (NWP) for impacts to wetlands and waterways.

Summary of Contacts

The Company met with the USACE in May 2008 and June 2009 to discuss preliminary permitting considerations associated with impacts to federally jurisdictional wetlands and waterways. Additionally, the Company met with the USACE in June 2010 to discuss the Fargo-Moorhead Metro Feasibility Study and how it relates to the Project.

The Company exchanged correspondence and participated in conference calls with USACE representatives on various occasions during the fall of 2010 to further discuss considerations associated with Section 404 and Section 10 permitting, in addition to the Diversion Project. Additionally, the Company met with representatives of the USACE via teleconference in February 2011 to further discuss ongoing or completed studies associated with the Diversion Project, its alignment, and the Diversion Project schedule.

8.1.2 U.S. ENVIRONMENTAL PROTECTION AGENCY

Potentially Required Permit(s)

The Company will submit an SPCC Plan to the EPA if greater than 1,320 gallons of oil will be stored above-ground in 55 gallon containers or larger at the Bison Substation during construction or operation of the proposed facility.

Summary of Contacts

No contacts have been made to the EPA at this time. The Company will comply with SPCC regulations (40 C.F.R Part 112), as necessary or appropriate.

8.1.3 U.S. FEDERAL AVIATION ADMINISTRATION

Potentially Required Permit(s)

Notice to and review by the FAA is required for structures 200 feet and greater in height, if the Project will be constructed within five miles of an FAA registered public airport, or when transmission structure heights would exceed a slope requirement in relation to public airport runways or heliports, as defined in 14 C.F.R. Part 77.

Summary of Contacts

No contacts have been made to the FAA at this time. The Company will initiate coordination and consultation with the FAA, to the extent necessary or appropriate, as routes are developed for the Project.

8.1.4 U.S. FISH AND WILDLIFE SERVICE

Potentially Required Permit(s)

Consultation with the USFWS in accordance with the Endangered Species Act (16 U.S.C. § 1531 et. seq.), Fish and Wildlife Conservation Act (16 U.S.C. 2901-2911), Migratory Bird Treaty Act (16 U.S.C. 703-712), and Bald and Golden Eagle Protection Act (16 U.S.C. 668) will be required for the Project.

Summary of Contacts

The USFWS was contacted in June 2009. The Company provided the USFWS with the locations of potential corridors and asked USFWS to review the Project for any known occurrences of federally listed species or designated critical habitat within and near the corridors. The Company will continue coordination and consultation with the USFWS as routes are developed for the Project.

8.2 State of North Dakota Permits and Agency Contacts

8.2.1 NORTH DAKOTA AERONAUTICS COMMISSION

Potentially Required Permit(s)

Among other functions, it is the responsibility of the North Dakota Aeronautics Commission to administer rules, criteria, regulations, and minimum standards governing the construction or

maintenance of hazards or obstructions near runway approaches to any airport, landing area, or landing strip in North Dakota that is open for public use, whether publicly or privately owned, in addition to other navigational obstructions.

Summary of Contacts

No contacts have been made to the Aeronautics Commission at this time. The Company will initiate coordination and consultation with the Aeronautics Commission, to the extent feasible or appropriate, as routes are developed for the Project.

8.2.2 NORTH DAKOTA DEPARTMENT OF AGRICULTURE

Potentially Required Permit(s)

No permit is anticipated to be required from the Department of Agriculture.

Summary of Contacts

No contacts have been made to the Department of Agriculture at this time. The Company will initiate coordination and consultation with the NDDOA, to the extent feasible or appropriate, as routes are developed for the Project.

8.2.3 NORTH DAKOTA DEPARTMENT OF HEALTH

Potentially Required Permit(s)

A Section 401 Water Quality Certification may be required for activities that would result in a discharge to waters of the state. This certification ensures that projects will comply with state water quality standards according to the CWA. The North Dakota Department of Health (NDDOH) has certified that there would be no violations of applicable Standards of Quality for Waters of the State if their Construction and Environmental Disturbance Requirements are a condition to the issuance of a Nationwide Permit from the USACE. Therefore, if a Nationwide Permit No. 12, as administered by the USACE, is required for impacts to wetlands and waters subject to Section 404 of the CWA, an individual 401 Water Quality Certification from the NDDOH would not be required. The Company would adhere to the provisions and conditions of the Nationwide Permit. In the event that the Project does not qualify for a Nationwide Permit from the USACE, the Company will apply for certification from the NDDOH.

Additionally, the NDDOH is responsible for administering National Pollutant Discharge Elimination System (NPDES) requirements and associated stormwater permits in North Dakota.

Summary of Contacts

No contacts have been made to the Department of Health at this time. The Company will initiate coordination and consultation with the NDDOH, to the extent feasible or appropriate, as routes are developed for the Project.

8.2.4 NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

Potentially Required Permit(s)

A Driveway Permit would be required for construction of access roads from state highway rights-of-way. A Utility Occupancy Permit would be required for the installation and maintenance of utilities in state highway rights-of-way and would be subject to review in accordance with the North Dakota Department of Transportation's (NDDOT's) *"A Policy for Accommodation of Utilities on State Highway Right of Way"*.

Summary of Contacts

No contacts have been made to the NDDOT at this time. The Company will initiate coordination and consultation with the NDDOT, to the extent feasible or appropriate, as routes are developed for the Project.

8.2.5 NORTH DAKOTA GAME AND FISH DEPARTMENT

Potentially Required Permit(s)

The mission of the NDGFD is to protect, conserve and enhance fish and wildlife populations and their habitat for sustained public consumptive and appreciative use. While no specific permit is anticipated to be required from the NDGFD for the location, construction and operation of the Project, the Company has initiated coordination and will continue coordination and consultation with the NDGFD as routes are developed for the Project.

Summary of Contacts

The Company requested, via letter, comments from the NDGFD in April 2010. The NDGFD reviewed the Project for wildlife concerns and on May 18, 2010 provided comments via letter correspondence. The NDGFD identified that the Project could cross the Sheyenne River, Wild Rice River, Maple River and Antelope Creek which are all classified fisheries. The NDGFD recommended that those streams and associated riparian corridors be avoided to the extent possible.

The NDGFD also stated that based on review of available NWI data, various wetlands occur within the Proposed Corridor. The NDGFD recommended that steps be taken to protect any wetlands that cannot be avoided, above-ground facilities should not be placed in wetland areas, and existing

drainage patterns should not be disturbed. The NDGFD also recommended that overhead lines be marked when placed over perennial streams or located in close proximity to large wetland complexes to minimize possible avian impacts. If these recommendations are implemented where appropriate, they stated they do not believe the Project will have any significant adverse effects on wildlife or wildlife habitat, including threatened/endangered species and species of concern. For further information, see section 7.4.2 for a description of the type of impacts that may occur to streams and wetlands and section 7.4.4 for a description of potential avian impacts.

8.2.6 NORTH DAKOTA PARKS AND RECREATION DEPARTMENT

Potentially Required Permit(s)

No permit is required from the North Dakota Parks and Recreation Department (NDPRD); however, the NDPRD must be consulted prior to any property being taken or impacted that has received assistance from the Federal Land and Water Conservation Funds (LWCF), which are under protection of Section 6(f) of the LWCF Act. Any property taken from within the 6f boundaries of these sites must be replaced with property of equal market value. See section 7.2.6 for a discussion of the LWCF sites present within the Proposed Corridor. The NDPRD is also responsible for maintaining the state's Natural Heritage Inventory database.

Summary of Contacts

The Company submitted a request for Natural Heritage Inventory data to the NDPRD in April 2010. The NDPRD reviewed the Project in April 2010 and provided comments via letter correspondence and Natural Heritage Inventory data via email. The NDPRD identified the occurrence of LWCF sites within the Proposed Corridor and advised that potential impacts to these sites may require further consultation. The NDPRD also identified known plant or animal species of concern or other significant ecological communities within or adjacent to the Project area. The NDPRD deferred further comment regarding these species and communities to the NDGFD and the USFWS. See sections 7.2.6 for a discussion of the LWCF sites present within the Proposed Corridor. See sections 7.4.6 for a discussion of the species of concern and ecological communities identified by the NDPRD that are known to occur within the Proposed Corridor. The Company will continue coordination and consultation with the NDPRD as routes are developed for the Project.

8.2.7 NORTH DAKOTA STATE HISTORIC PRESERVATION OFFICE

Potentially Required Permit(s)

The North Dakota SHPO is part of the State Historical Society (SHS) of North Dakota. The SHS is responsible for reviewing all federal undertakings permitted, funded, licensed or otherwise assisted within North Dakota. Compliance with the NHPA will otherwise be required for the Project.

Summary of Contacts

The Company has consulted with the SHPO to determine if cultural resources eligible for listing in the NRHP are present within the area encompassed by the Proposed Corridor. The Company will continue coordination and consultation with the SHPO as routes are developed for the Project.

8.2.8 NORTH DAKOTA STATE WATER COMMISSION

Potentially Required Permit(s)

Pursuant to § 61-33 of the N.D.C.C., the state engineer of the North Dakota State Water Commission (NDSWC) and the sovereign lands advisory board administer sovereign lands in the state. Sovereign lands are those areas, including beds and islands, lying within the ordinary high watermark (OHWM) of navigable lakes and streams. Per N.D.A.C. § 89-10-01-03 and as identified in accordance with Section 10 of the Rivers and Harbors Act, navigable waters within the Project area include the Red River of the North (from Wahpeton north) and the Bois de Sioux River (from Wahpeton south). Pursuant to N.D.A.C. § 89-10-01-34, unless permitted by the state engineer, dredging or filling on sovereign lands is prohibited. It is not anticipated that poles will be placed, nor will construction activity take place, within the OHWM of either of the navigable waters, and therefore, a permit is not anticipated to be required.

Summary of Contacts

No contacts to the NDSWC have been made at this time. The Company will initiate coordination and consultation with the NDSWC, to the extent feasible or appropriate, as routes are developed for the Project.

8.3 Local Permits and Contacts

Potentially Required Permit(s)

The Company understands that issuance of a Certificate of Corridor Compatibility and Route Permit for a proposed electrical transmission facility does not preempt local permitting requirements in North Dakota. The Company, therefore, anticipates that local land use permits, such as Conditional Use Permits or variances from applicable setback requirements, may be required in select municipal jurisdictions within the two affected counties. Other local permits may also be required.

Summary of Contacts

As described in section 4.2, the Company has conducted multiple meetings with local officials representing potentially affected local jurisdictions. The Company will continue coordination and

initiate permitting with these local jurisdictions, to the extent feasible or appropriate, as routes are developed for the Project.

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14 Code of Federal Regulations Part 77, Objects Affecting Navigable Airspace (http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=82af480bbb24e5f7e8be4db466e61a48&tpl=/ecfrbrowse/Title14/14cfr77_main_02.tpl)

16 United States Code Chapter 5A, Protection of Bald and Golden Eagles (http://uscode.house.gov/download/pls/16C5A.txt)

16 United States Code Chapter 7, Protection of Migratory Game and Insectivorous Birds (http://uscode.house.gov/download/pls/16C7.txt)

16 United States Code Chapter 49, Fish and Wildlife Conservation (http://uscode.house.gov/download/pls/16C49.txt)

Minnesota Statute, § 216B.243 Certificate of Need for Large Energy Facility (https://www.revisor.mn.gov/statutes/?id=216B.243)

Minnesota Statute, § 216E.03 Designating Sites and Routes (https://www.revisor.mn.gov/statutes/?id=216E.03)

North Dakota Administrative Code. § 33-15-02, Ambient Air Quality Standards (http://www.legis.nd.gov/information/acdata/pdf/33-15-02.pdf)

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North Dakota Century Code. Chapter 49-22, Energy Conversion and Transmission Facility Siting Act (http://www.legis.nd.gov/cencode/t49c22.pdf)

North Dakota Century Code. Chapter 55-10, Preservation of Historic Sites and Antiquities (http://www.legis.nd.gov/cencode/t55c10.pdf)

10.0 DEFINITIONS

Avian	Of or relating to birds.
A-weighted Scale	The sensitivity range for human hearing.
Caisson	A watertight structure within which construction work is carried on under water.
Circuit	An electrical path.
Conductor	1. A material or object that permits an electric current to flow easily. 2. A wire or combination of wries suitable for carrying an electrical current. Conductors may be insulated or bare. 3. Any material that allows electrons to flow through it.
Corona	The breakdown or ionization of air in a few centimeters or less immediately surrounding conductors.
Electromagnetic Fields (EMF)	The term EMF refers to electric and magnetic fields that are coupled together, such as in high frequency radiating fields. For the lower frequencies associated with power lines, EMF should be separated into electric and magnetic fields. Electric and magnetic fields arise from the flow of electricity and the voltage of a line. The intensity of the electric field is related to the voltage of the line. The intensity of the magnetic field is related to the current flow through the conductors.
Fauna	The collective animals of any place or time that live in mutual association.
Flora	The collective plants of any place or time that live in mutual association.
Hydrocarbons	Compounds that contain carbon and hydrogen and that are found in fossil fuels.
Insulator	A device that is used to electrically isolate a conductor or electrical device from ground or a different electrical potential.

Ionization	Removal of an electron from an atom or molecule.
Kilovolt	1,000 volts; 345 kV = 345,000 volts.
Oxide	A compound of oxygen with one other more positive element or radical.
Ozone	A form of oxygen in which the molecule is made of three atoms instead of the usual two.
Raptor	A member of the order Falconiformes, which contains the diurnal birds of prey, such as the hawks, harriers, eagles and falcons.
Right-of-Way	The land rights that must be acquired to safely construct, operate, and maintain an electrical line.
Span	The distance between two supporting structures.
Stray Voltage	"Stray voltage" is a condition that can occur on the electric service entrances to structures from distribution lines, not transmission lines. More precisely, stray voltage is a voltage that exists between the neutral wire of the service entrance and grounded objects in buildings, such as barns and milking parlors. Transmission lines do not, by themselves, create stray voltage because they do not connect to businesses or residences. Transmission lines, however, can induce stray voltage on a distribution circuit that is parallel to and immediately under the transmission line.
Ultraviolet Radiation	A portion of the electromagnetic spectrum with wavelengths shorter than visible light.
Voltage	Electric potential or potential difference expressed in volts.
Wetland	Wetlands are areas that are periodically or permanently inundated by surface or ground water and support vegetation adapted for life in saturated soil. Wetlands include swamps, marshes, bogs and similar areas.

11.0 ACRONYMS

AADT	Average Annual Daily Traffic
ACSS	Aluminum Conductor Steel Supported
ADP	Advance Determination of Prudence
ASR	Antenna Structure Registrations
AWEA	American Wind Energy Association
AWOS	Automated Weather Observation Stations
BMP	Best Management Practice
CCC	Certificate of Corridor Compatibility
CCEC	Cass County Electric Cooperative
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO2	Carbon Dioxide
CPCN	Certificate of Public Convenience and Necessity
CWA	Clean Water Act
dB	Decibel
dBA	A-weighted Decibel
DSL	Digital Subscriber Line
DME	Distance Measuring Equipment
Eagle Act	Bald and Golden Eagle Protection Act
EIA	Energy Information Administration
EIS	Environmental Impact Statement
EMF	Electromagnetic Field/Electric and Magnetic Field
EMS	Emergency Management System
EPA	Environmental Protection Agency
EPRI	Electric Power Research Institute, Inc.
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FCP	Federally Comparable Plan
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
GPS	Global Positioning System
HUC	Hydrologic Unit Code
HUD	Housing and Urban Development
HVTL	High voltage transmission line
IEEE	Institute of Electronics and Electrical Engineers
IFC	International Finance Corporation

kV	Kilovolt
kV/M	Kilovolts per meter
LGU	Local Government Unit
LPP	Local Preferred Plan
LWCF	Land and Water Conservation Fund
ma	milliamperes
MBTA	Migratory Bird Treaty Act of 1918
MN	Minnesota
MOU	Memorandum of Understanding
MN PUC	Minnesota Public Utilities Commission
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NCT	North Country National Scenic Trail
NCTA	North Country Trail Association
NDDH	North Dakota Department of Health
ND DEH	North Dakota Department of Environmental Health
ND SEC	North Dakota Significant Ecological Communities
N.D.A.C.	North Dakota Administrative Code
N.D.C.C.	North Dakota Century Code
NDDA	North Dakota Department of Agriculture
NDDOH	North Dakota Department of Health
NDDOT	North Dakota Department of Transportation
NDGFD	North Dakota Game and Fish Department
NDPRD	North Dakota Parks and Recreation Department
ND PSC	North Dakota Public Service Commission
NDSU	North Dakota State University
NDSWC	North Dakota State Water Commission
NECS	National Electric Safety Code
NED	National Economic Development
NERC	North American Electric Reliability Corporation
NHPA	National Historic Preservation Act
NHR	National Heritage Review
NIEHS	National Institute of Environmental Health Sciences
NO2	Nitrogen Dioxide
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places

NSPM	Northern States Power Company, a Minnesota corporation
NWI	National Wetland Inventory
NWP	Nationwide Permit
O3	Ozone
OFA	Object Free Areas
OHWM	Ordinary High Watermark
PDA	Project Development Agreement
PM	Particulate Matter
PSC	Public Service Commission
RF	Radio Frequency
RGP	Regional General Permit
RWG	Routine Work Group
RPZ	Runway Protection Zone
SHPO	State Historic Preservation Office
SPCC	Spill Prevention, Control, and Countermeasure
SO2	Sulfur Dioxide
SSURGO	Soil Survey Geographic database
STIP	State Transportation Improvement Plan
SWPPP	Storm Water Pollution Prevention Plan
TV	Television
U.S.	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USCB	United States Census Bureau
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VOR	Very high frequency Omni-directional Range
VOR/DME	Very high frequency Omni-directional Range/Distance Measuring Equipment
VORTAC	Very high frequency Omni-directional Range Tactical Aircraft Control
WMA	Wildlife Management Area
WPA	Waterfowl Production Area

Appendix A. Application Verification

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STATE OF NORTH DAKOTA
BEFORE THE
NORTH DAKOTA PUBLIC SERVICE COMMISSION

NORTHERN STATES POWER COMPANY
FARGO-MONTICELLO MN 345 KV
CAP-X TRANSMISSION LINE
SITING APPLICATION

CASE NO. PU-07-759

VERIFICATION

STATE OF MINNESOTA)
) ss.
COUNTY OF Wright **)**

I, Darrin Lahr, being first duly sworn on oath, deposes and says that he is the Supervisor, Siting and Land Rights, for Xcel Energy Services Inc. as agent for Applicant Northern States Power Company, a Minnesota corporation, in the above captioned matter; that he has read the amended application submitted April 8, 2011, knows the contents thereof, and that the same is true and correct to the best of his knowledge and belief.

Darrin Lahr

Subscribed and sworn to before me this 08th day of April, 2011.

Notary Public
My Commission Expires: 01/31/2015

DEVESHWAR CHANDRA PERSAUD
NOTARY PUBLIC - MINNESOTA
MY COMMISSION EXPIRES 01/31/15

Appendix B. Proposed Corridor Map

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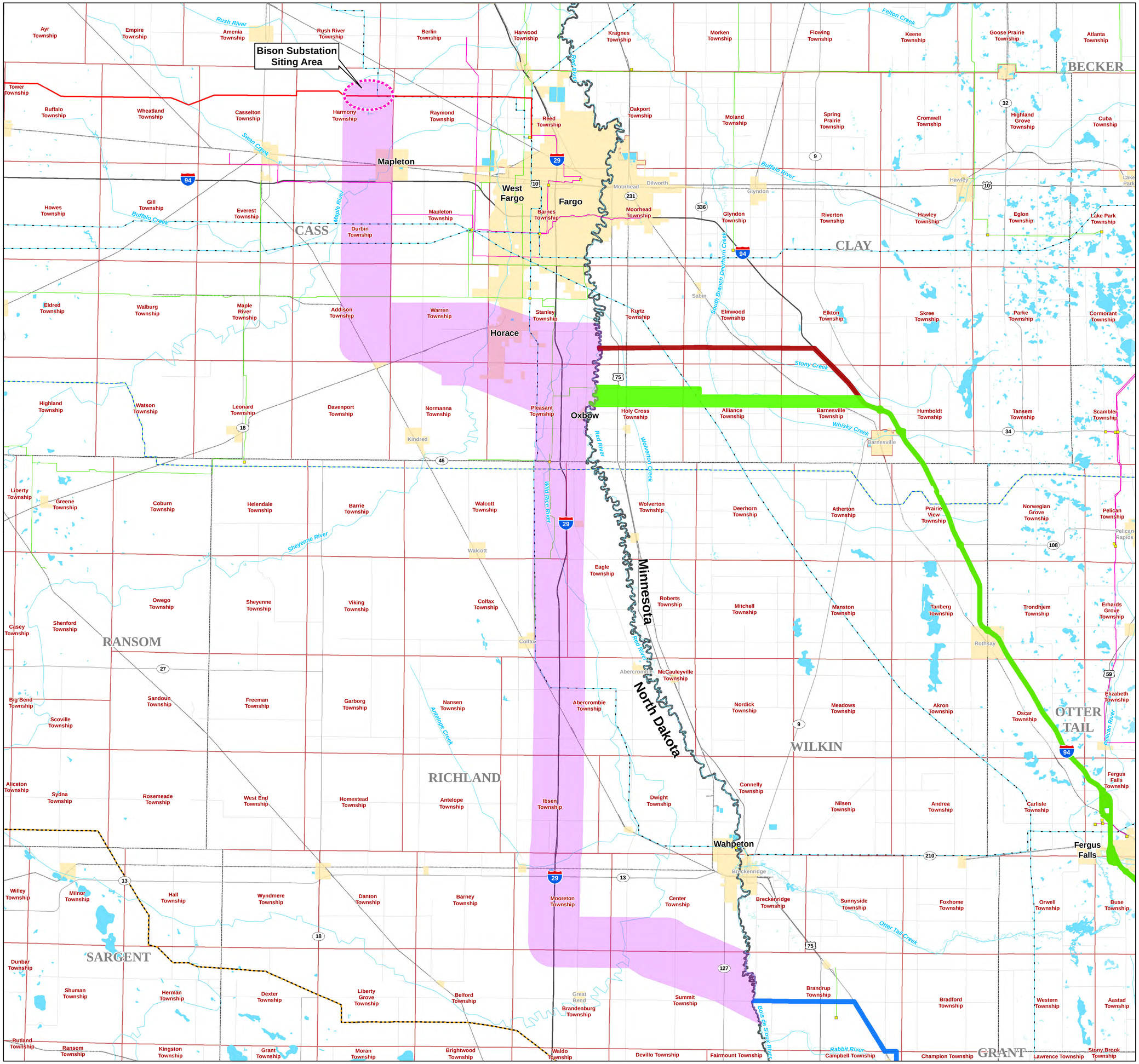
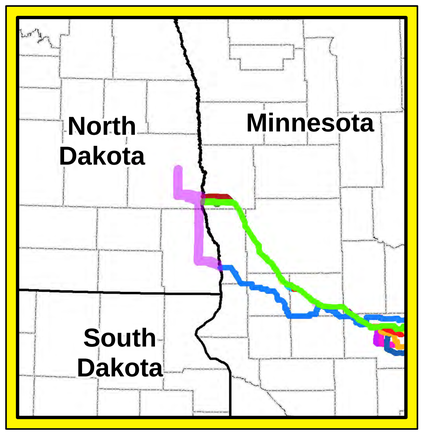


CapX2020

Delivering electricity you can rely on



Legend

- Proposed Corridor
- Bison Substation Siting Area

Minnesota Routes

- Preferred Route
- Northern Alternative Route
- Southern Alternative Route

Existing Transmission Lines

Voltage (kV)

- 400
- 345
- 250
- 230
- 115
- 69
- Existing Substations

Roads

- Interstate
- US Highway
- State Highway
- County Road / Secondary Road
- Railroad
- River / Stream
- Lake
- State Boundary
- County Boundary
- Municipalities
- Township Boundary

N W E S

0 2.5 5 10 Miles

Appendix B
Proposed Corridor

Certificate of Corridor Compatibility
Fargo to St. Cloud
345 kV Transmission Line

File Date: 03/18/2011	
Drawn by: MLTEICHERT	Xcel\0122295 CapX Monticello to Fargo\GIS\Fargo\MXD\2011\03\Amended_CCC_Figures_CapxF_ND_Corridors_Esize.mxd

Appendix C. Supplemental Environmental Information

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Common Mammal Species That May Occur in North Dakota				
Common Name	**Scientific Name**		**Common Name**	**Scientific Name**
Badger	*Taxidea taxus*		Northern grasshopper mouse	*Onychomys leucogaster*
Beaver	*Castor canadensis*		Northern pocket gopher	*Thomomys talpoides*
Big brown bat	*Eptesicus fuscus*		Northern short-tailed shrew	*Blarina brevicauda*
Bobcat	*Lynx rufus*		Norway rat	*Rattus norvegicus*
Coyote	*Canis latrans*		Plains pocket gopher	*Geomys bursarius*
Deer mouse	*Peromyscus maniculatus*		Plains pocket mouse	*Perognathus flavescens*
Eastern chipmunk	*Tamias striatus*		Porcupine	*Erethizon dorsatum*
Eastern cottontail	*Sylvilagus floridanus*		Prairie vole	*Microtus ochrogaster*
Fox squirrel	*Sciurus niger*		Pygmy shrew	*Sorex hoyi*
Franklin's ground squirrel	*Spermophilus franklinii*		Raccoon	*Procyon lotor*
Gray squirrel	*Sciurus carolinensis*		Red bat	*Lasiurus borealis*
Hoary bat	*Lasiurus cinereus*		Red fox	*Vulpes vulpes*
House mouse	*Mus musculus*		Red squirrel	*Tamiasciurus hudsonicus*
Least weasel	*Mustela nivalis*		River otter	*Lontra canadensis*
Little brown myotis	*Myotis lucifugus*		Silver-haired bat	*Lasionycteris noctivagans*
Long-eared myotis	*Myotis evotis*		Snowshoe hare	*Lepus americanus*
Long-tailed weasel	*Mustela frenata*		Southern red-backed vole	*Clethrionomys gapperi*
Lynx	*Lynx lynx*		Striped skunk	*Mephitis mephitis*
Masked shrew	*Sorex cinereus*		Thirteen-lined ground squirrel	*Spermophilus tridecemlineatus*
Meadow jumping mouse	*Zapus hudsonius*		Virginia opossum	*Didelphis virginiana*
Meadow vole	*Microtus pennsylvanicus*		Western jumping mouse	*Zapus princeps*
Mink	*Mustela vison*		White-footed mouse	*Peromyscus leucopus*
Mule deer	*Odocoileus hemionus*		White-tailed deer	*Odocoileus virginianus*
Muskrat	*Ondatra zibethicus*		White-tailed jackrabbit	*Lepus townsendii*
Northern flying squirrel	*Glaucomys sabrinus*		Woodchuck	*Marmota monax*

Source: The Mammal Society. 2010. Mammals of North Dakota. Available online at: http://www.mammalsociety.org/statelists/ndmammals.html. Accessed on October 4, 2010.

Common Bird Species That May Occur in North Dakota				
Common Name	**Scientific Name**		**Common Name**	**Scientific Name**
American avocet	*Recurvirostra americana*		Least sandpiper	*Calidris minutilla*
American bittern	*Botaurus lentiginosus*		Lesser scaup	*Aythya affinis*
American coot	*Fulica americana*		Lesser yellowlegs	*Tringa flavipes*
American crow	*Corvus brachyrhynchos*		Lincoln's sparrow	*Melospiza lincolnii*
American goldfinch	*Carduelis tristis*		Long-billed dowitcher	*Limnodromus scolopaceus*
American kestrel	*Falco sparverius*		Mallard	*Anas platyrhynchos*
American redstart	*Setophaga ruticilla*		Marbled godwit	*Limosa fedoa*
American robin	*Turdus migratorius*		Marsh wren	*Cistothorus palustris*
American tree sparrow	*Spizella arborea*		Mountain bluebird	*Sialia currucoides*
American white pelican	*Pelecanus erythrorhynchos*		Mourning dove	*Zenaida macroura*
American wigeon	*Anas americana*		Mourning warbler	*Oporornis philadelphia*

Common Bird Species That May Occur in North Dakota			
Common Name	**Scientific Name**	**Common Name**	**Scientific Name**
Baird's sandpiper	*Calidris bairdii*	Northern flicker	*Colaptes auratus*
Baird's sparrow	*Ammodramus bairdii*	Northern harrier	*Circus cyaneus*
Bank swallow	*Riparia riparia*	Northern oriole	*Icterus galbula*
Barn swallow	*Hirundo rustica*	Northern pintail	*Anas acuta*
Belted kingfisher	*Ceryle alcyon*	Northern rough-winged swallow	*Stelgidopteryx serripennis*
Black tern	*Chlidonias niger*	Northern shoveler	*Anas clypeata*
Black-and-white warbler	*Mniotilta varia*	Northern waterthrush	*Seiurus noveboracensis*
Black-billed cuckoo	*Coccyzus erythropthalmus*	Orange-crowned warbler	*Vermivora celata*
Black-billed magpie	*Pica hudsonia*	Orchard oriole	*Icterus spurius*
Black-capped chickadee	*Poecile atricapilla*	Ovenbird	*Seiurus aurocapillus*
Black-crowned night-heron	*Nycticorax nycticorax*	Palm warbler	*Dendroica palmarum*
Black-headed grosbeak	*Pheucticus melanocephalus*	Pectoral sandpiper	*Calidris melanotos*
Blackpoll warbler	*Dendroica striata*	Pied-billed grebe	*Podilymbus podiceps*
Blue jay	*Cyanocitta cristata*	Purple martin	*Progne subis*
Blue-winged teal	*Anas discors*	Red-eyed vireo	*Vireo olivaceus*
Bobolink	*Dolichonyx oryzivorus*	Redhead	*Aythya americana*
Bonaparte's gull	*Larus philadelphia*	Red-headed woodpecker	*Melanerpes erythrocephalus*
Brewer's blackbird	*Euphagus cyanocephalus*	Red-necked phalarope	*Phalaropus lobatus*
Broad-winged hawk	*Buteo platypterus*	Red-tailed hawk	*Buteo jamaicensis*
Brown thrasher	*Toxostoma rufum*	Red-winged blackbird	*Agelaius phoeniceus*
Brown-headed cowbird	*Molothrus ater*	Ring-billed gull	*Larus delawarensis*
Bufflehead	*Bucephala albeola*	Ring-necked duck	*Aythya collaris*
Canada goose	*Branta canadensis*	Ring-necked pheasant	*Phasianus colchicus*
Canvasback	*Aythya valisineria*	Rock dove	*Columba livia*
Cedar waxwing	*Bombycilla cedrorum*	Rose-breasted grosbeak	*Pheucticus ludovicianus*
Chestnut-collared longspur	*Calcarius ornatus*	Rough-legged hawk	*Buteo lagopus*
Chimney swift	*Chaetura pelagica*	Ruby-throated hummingbird	*Archilochus colubris*
Chipping sparrow	*Spizella passerina*	Ruddy duck	*Oxyura jamaicensis*
Clay-colored sparrow	*Spizella pallida*	Ruffed grouse	*Bonasa umbellus*
Cliff swallow	*Petrochelidon pyrrhonota*	Rufous-sided towhee	*Pipilo erythrophthalmus*
Common grackle	*Quiscalus quiscula*	Sage grouse	*Centrocercus urophasianus*
Common merganser	*Mergus merganser*	Sandhill crane	*Grus canadensis*
Common nighthawk	*Chordeiles minor*	Savannah sparrow	*Passerculus sandwichensis*
Common redpoll	*Acanthis flammea*	Scarlet tanager	*Piranga olivacea*
Common snipe	*Gallinago gallinago*	Semipalmated plover	*Charadrius semipalmatus*
Common yellowthroat	*Geothlypis trichas*	Semipalmated sandpiper	*Calidris pusilla*

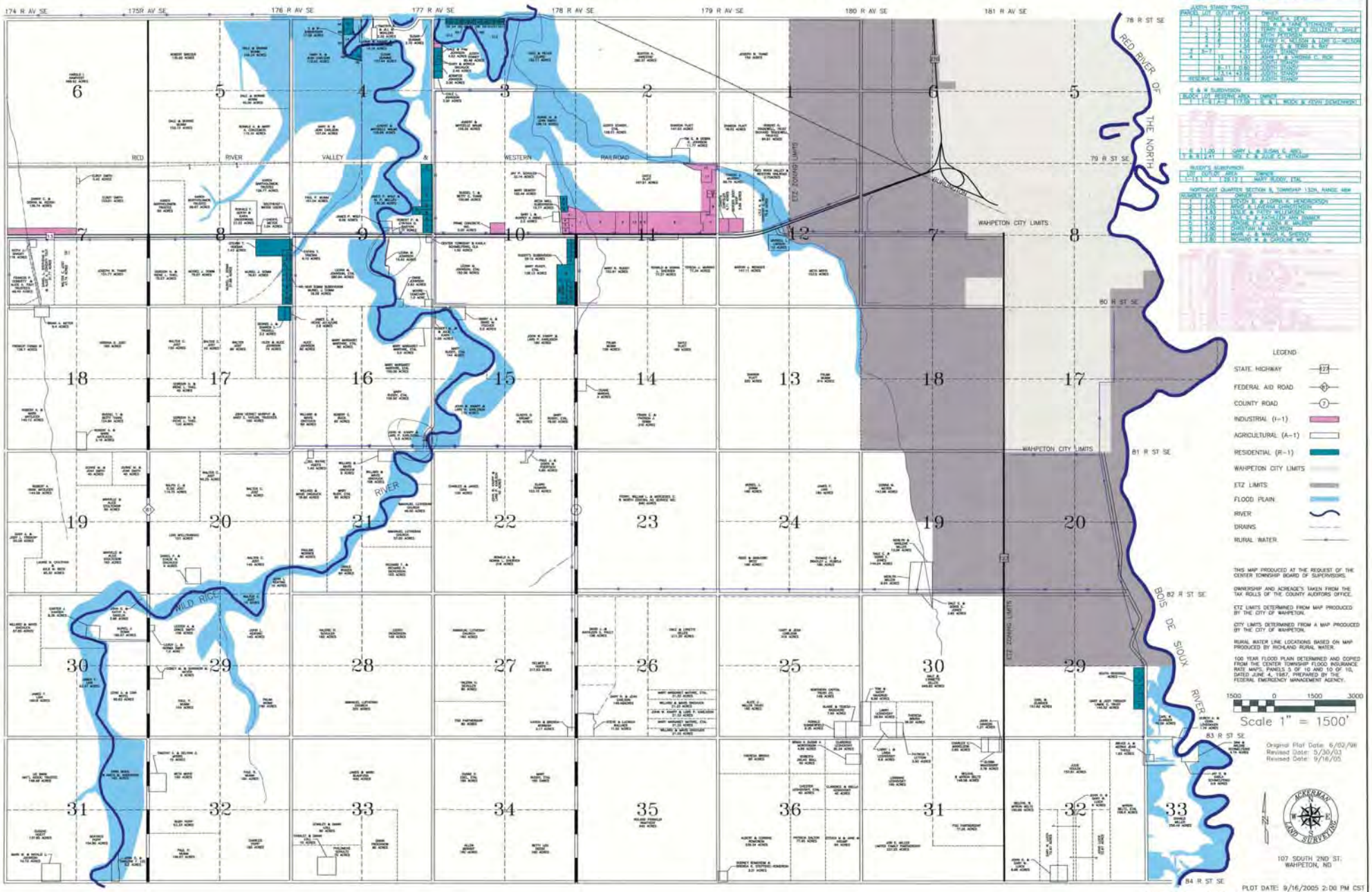
Common Bird Species That May Occur in North Dakota				
Common Name	**Scientific Name**		**Common Name**	**Scientific Name**
Dark-eyed junco	*Junco hyemalis*		Sharp-shinned hawk	*Accipiter striatus*
Double-crested cormorant	*Phalacrocorax auritus*		Sharp-tailed grouse	*Tympanuchus phasianellus*
Downy woodpecker	*Picoides pubescens*		Short-eared owl	*Asio flammeus*
Eared grebe	*Podiceps nigricollis*		Snow bunting	*Plectrophenax nivalis*
Eastern bluebird	*Sialia sialis*		Snow goose	*Chen caerulescens*
Eastern kingbird	*Tyrannus tyrannus*		Song sparrow	*Melospiza melodia*
Eastern wood-pewee	*Contopus virens*		Sora	*Porzana carolina*
European starling	*Sturnus vulgaris*		Stilt sandpiper	*Calidris himantopus*
Ferruginous hawk	*Buteo regalis*		Swainson's hawk	*Buteo swainsoni*
Franklin's gull	*Larus pipixcan*		Swainson's thrush	*Catharus ustulatus*
Gadwall	*Anas strepera*		Tennessee warbler	*Vermivora peregrina*
Golden eagle	*Anas strepera*		Tree swallow	*Tachycineta bicolor*
Grasshopper sparrow	*Ammodramus savannarum*		Tundra swan	*Cygnus columbianus*
Gray catbird	*Dumetella carolinensis*		Turkey vulture	*Cathartes aura*
Gray partridge	*Perdix perdix*		Upland sandpiper	*Bartramia longicauda*
Gray-cheeked thrush	*Catharus minimus*		Veery	*Catharus fuscescens*
Great blue heron	*Ardea herodias*		Vesper sparrow	*Pooecetes gramineus*
Great crested flycatcher	*Myiarchus crinitus*		Virginia rail	*Rallus limicola*
Great horned owl	*Bubo virginianus*		Water pipit	*Anthus spinoletta*
Greater white-fronted goose	*Anser albifrons*		Western grebe	*Aechmophorus occidentalis*
Greater yellowlegs	*Tringa melanoleuca*		Western kingbird	*Tyrannus verticalis*
Green-winged teal	*Anas crecca*		Western meadowlark	*Sturnella neglecta*
Hairy woodpecker	*Picoides villosus*		White-breasted nuthatch	*Sitta carolinensis*
Harris' sparrow	*Zonotrichia querula*		White-crowned sparrow	*Zonotrichia leucophrys*
Herring gull	*Larus argentatus*		White-rumped sandpiper	*Calidris fuscicollis*
Horned grebe	*Podiceps auritus*		White-throated sparrow	*Zonotrichia albicollis*
Horned lark	*Eremophila alpestris*		Wild turkey	*Meleagris gallapavo*
House sparrow	*Passer domesticus*		Willet	*Catoptrophorus semipalmatus*
House wren	*Troglodytes aedon*		Willow flycatcher	*Empidonax traillii*
Indigo bunting	*Passerina cyanea*		Wilson's phalarope	*Phalaropus tricolor*
Killdeer	*Charadrius vociferus*		Wilson's warbler	*Wilsonia pusilla*
Lapland longspur	*Calcarius lapponicus*		Wood duck	*Aix sponsa*
Lark bunting	*Calamospiza melanocorys*		Yellow warbler	*Dendroica petechia*
Lark sparrow	*Chondestes grammacus*		Yellow-breasted chat	*Icteria virens*
Lazuli bunting	*Passerina amoena*		Yellow-headed blackbird	*Xanthocephalus xanthocephalus*
Least flycatcher	*Empidonax minimus*		Yellow-rumped warbler	*Dendroica coronata*

Source: North Dakota Game and Fish. 2010. North Dakota Bird Checklist. Available online at: http://gf.nd.gov/multimedia/ndoutdoors/issues/articles-brochures/nd-birds-check-list/docs/nd-birds-chk-lst.pdf. Accessed on October 4, 2010.

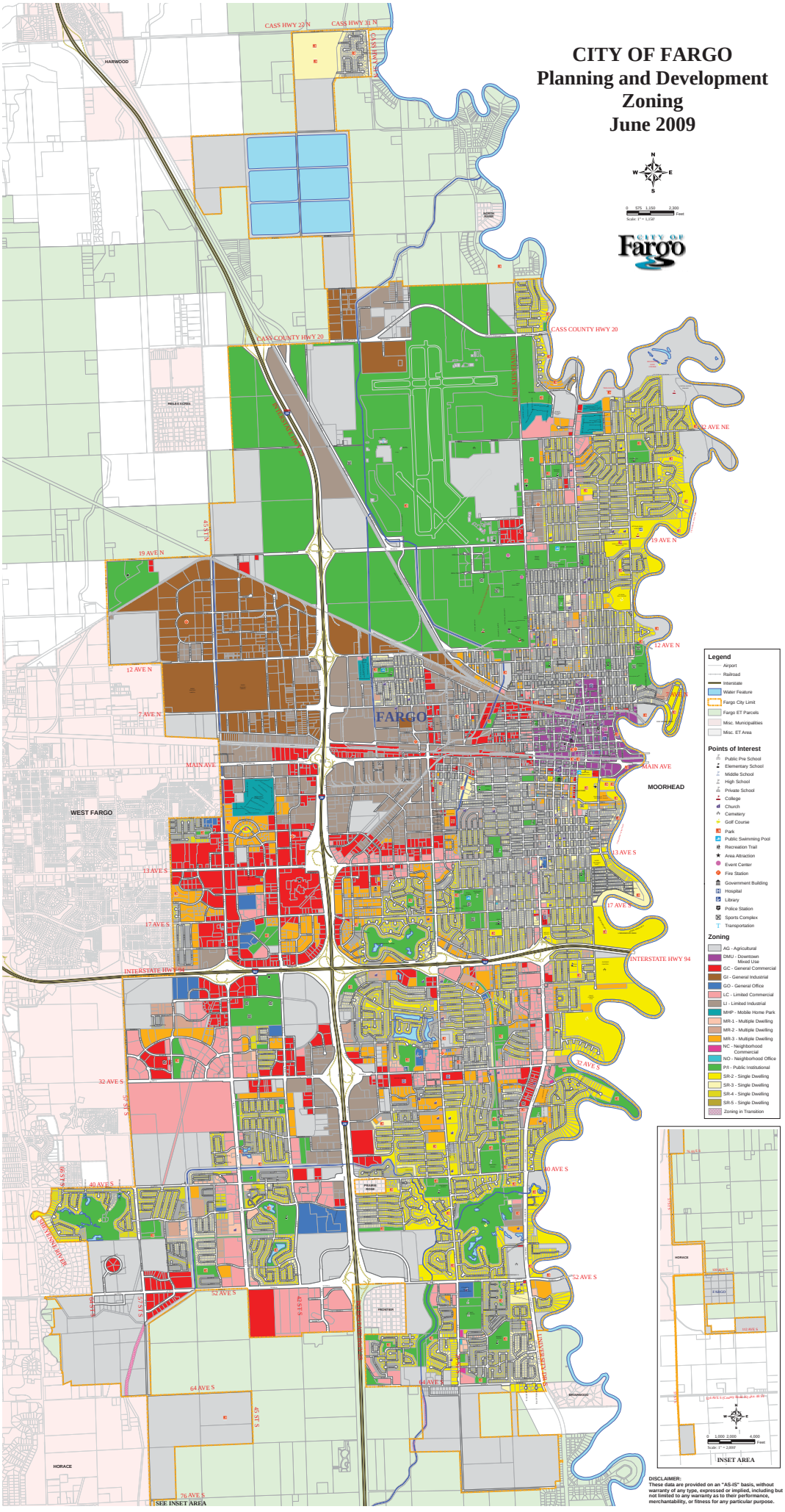
Common Reptile and Amphibian Species That May Occur in North Dakota				
Common Name	**Scientific Name**		**Common Name**	**Scientific Name**
Northern prairie skink	*Eumeces septentrionalis*		Canadian toad	*Bufo hemiophyrys*
Common snapping turtle	*Chelydra serpentina*		Great plains toad	*Bufo cognatus*
Western painted turtle	*Chrysemys picta belli*		Woodhouse's toad	*Bufo woodhousei*
Common garter snake	*Thamnophis sirtalis*		Green frog	*Rana clamitans*
Plains garter snake	*Thamnophis radix*		Northern leopard frog	*Rana pipiens*
Redbelly snake	*Storeria occipitomaculata*		Western chrous frog	*Pseudacris triseriata*
Smooth green snake	*Opheodrys vernalis*		Wood frog	*Rana sylvatica*
Western hognose snake	*Heterodon nasicus*		Mudpuppy	*Necturus maculosus*
American toad	*Bufo americanus*		Tiger salamander	*Ambystoma tigrinum*

Source: Hoberg, Ted and Cully Gause. 1992. Reptiles and amphibians of North Dakota. North Dakota Outdoors 55(1):7-19. Jamestown, ND: Northern Prairie Wildlife Research Center Online. http://www.npwrc.usgs.gov/resource/herps/amrepnd/index.htm (Version 16JUL97).

CENTER TOWNSHIP ZONING MAP

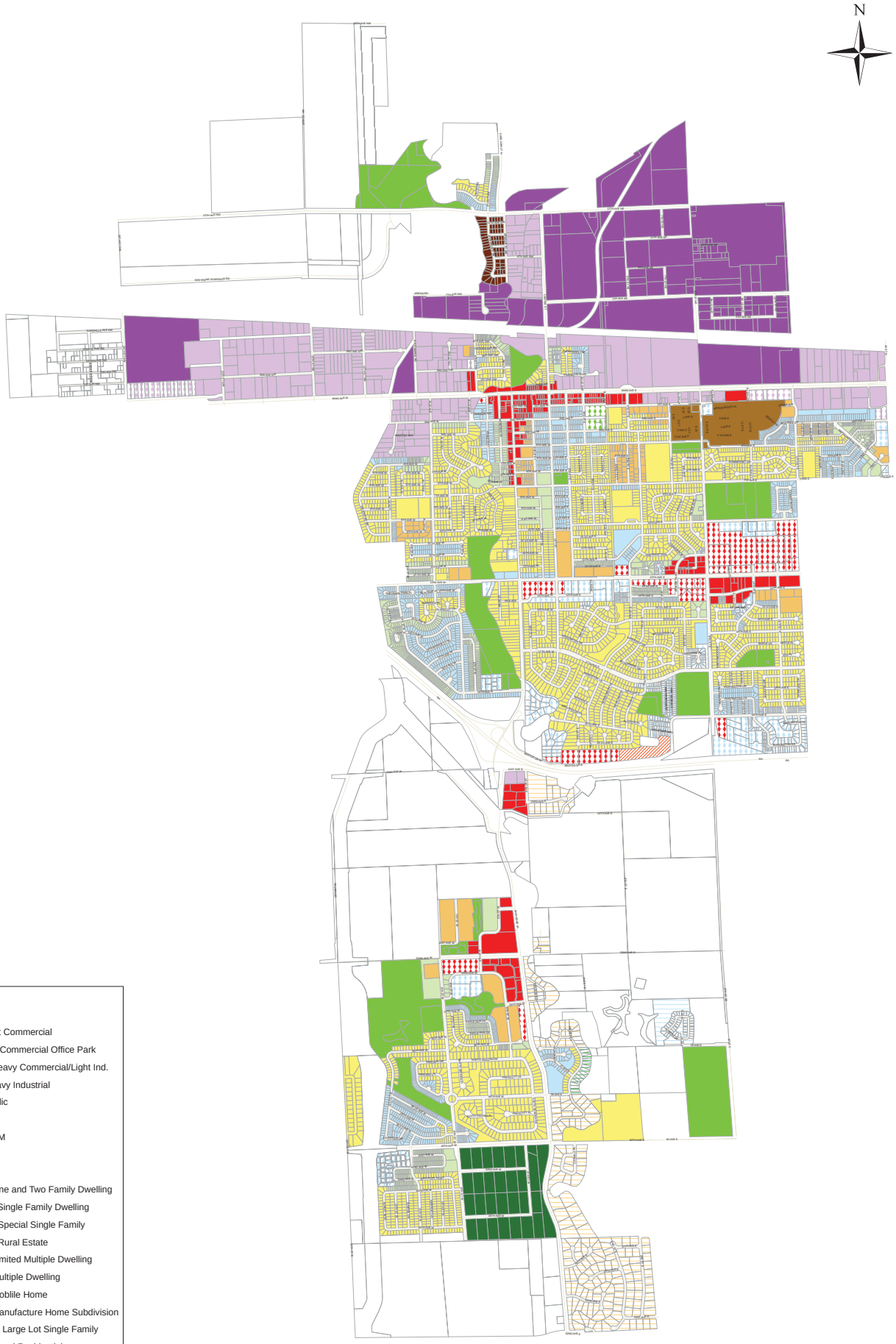


CITY OF FARGO
Planning and Development
Zoning
June 2009



DISCLAIMER:
These data are provided on an "AS-IS" basis, without warranty of any type, expressed or implied, including but not limited to any warranty as to their performance, merchantability, or fitness for any particular purpose.

2009 West Fargo Zoning



Legend

- A - Ag
- C- Light Commercial
- C-OP - Commercial Office Park
- CM - Heavy Commercial/Light Ind.
- M - Heavy Industrial
- P - Public
- PUD-C
- PUD-CM
- PUD-P
- PUD-R
- R-1 - One and Two Family Dwelling
- R-1A - Single Family Dwelling
- R-1B - Special Single Family
- R-1E - Rural Estate
- R-2 - Limited Multiple Dwelling
- R-3 - Multiple Dwelling
- R-4 - Moblile Home
- R-5 - Manufacture Home Subdivision
- R-L1A - Large Lot Single Family
- R-R - Rural Residential

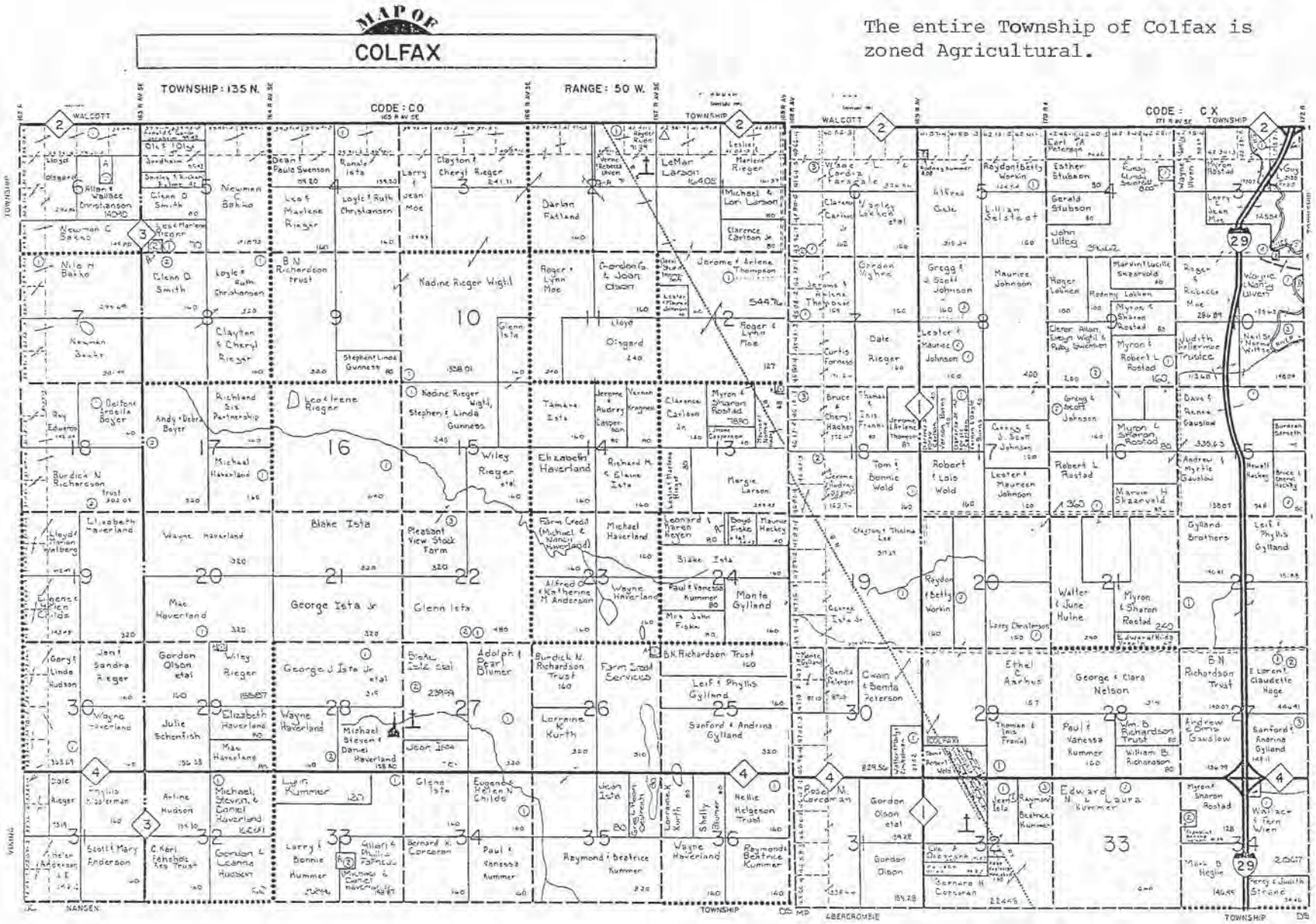
Map is subject to change. The City of West Fargo bares no liability for the use and interpretation of the data represented on this map.

Updated 3/5/09

OFFICIAL ZONING MAP

Date Adopted:_____

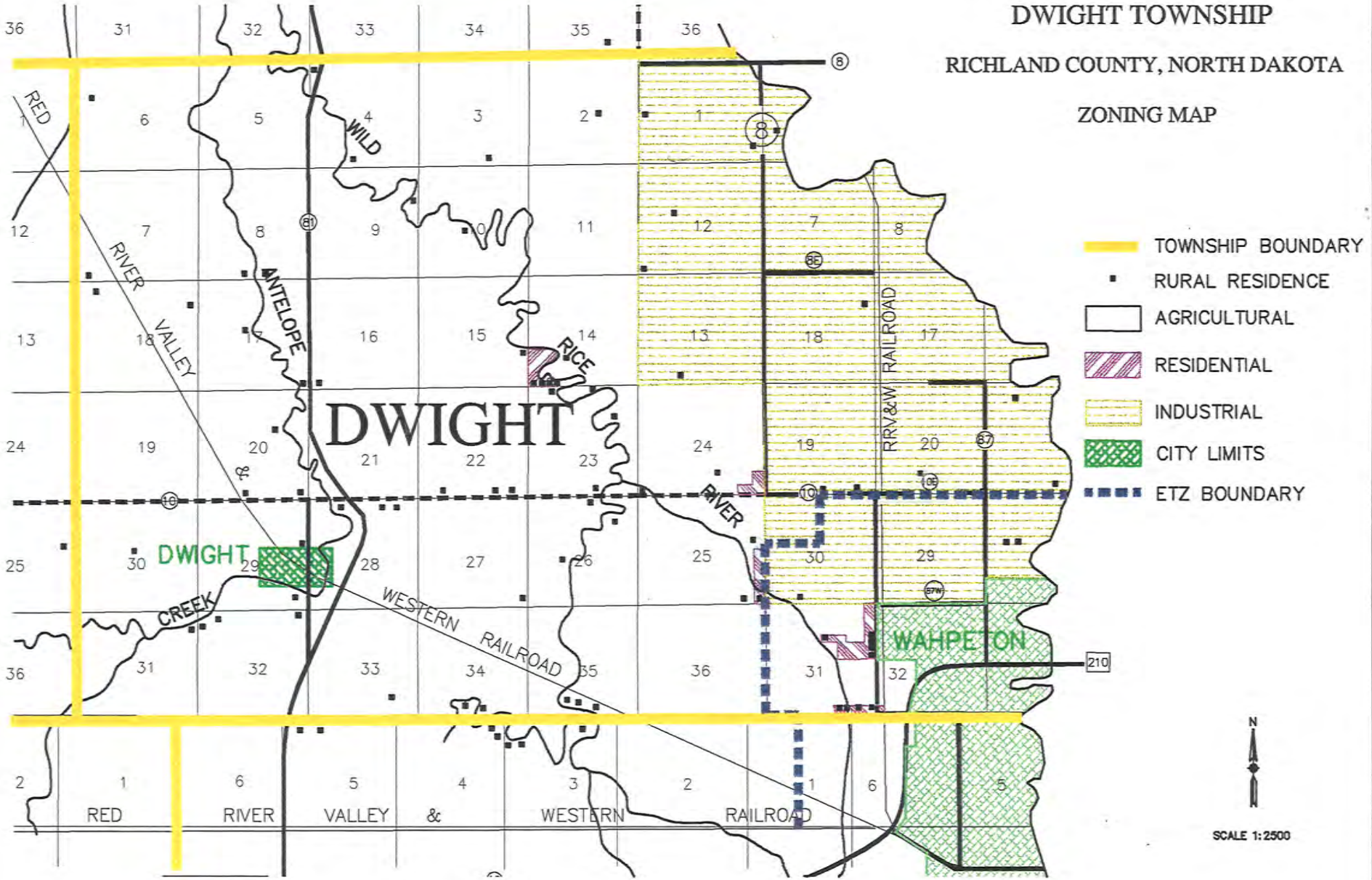
The entire Township of Colfax is zoned Agricultural.



DWIGHT TOWNSHIP

RICHLAND COUNTY, NORTH DAKOTA

ZONING MAP



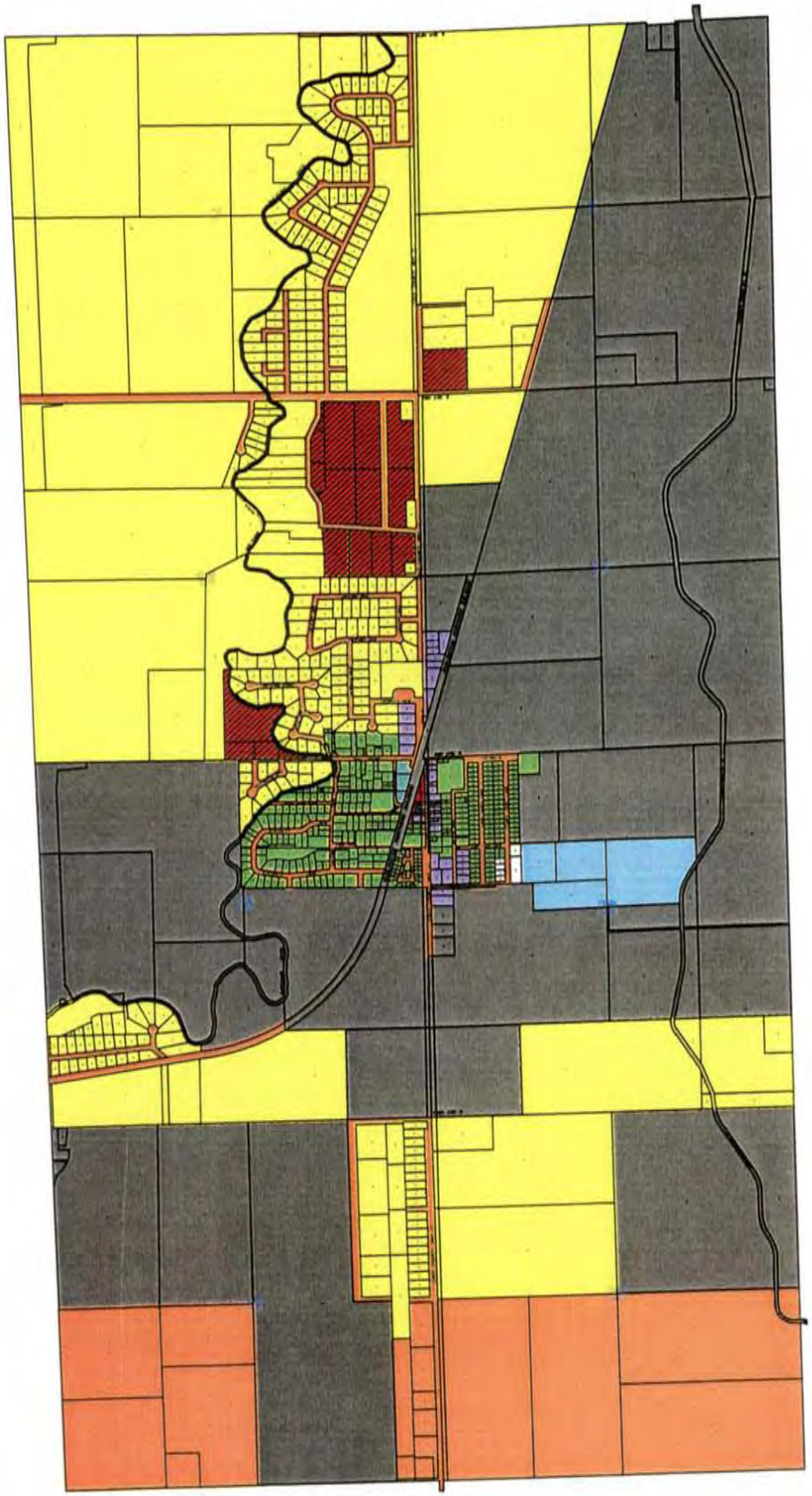
SOURCE:
GENERAL ROAD MAP OF RICHLAND COUNTY
AND INFORMATION OBTAINED FROM R.E.T. SMITH
AND DWIGHT TOWNSHIP BOARD.
JANUARY, 1995

DATE ADOPTED: 2-4-98

SIGNATURE Roger Slotten

Prepared By:
interstate engineering, inc.

OFFICIAL ZONING MAP
CITY OF HORACE



N

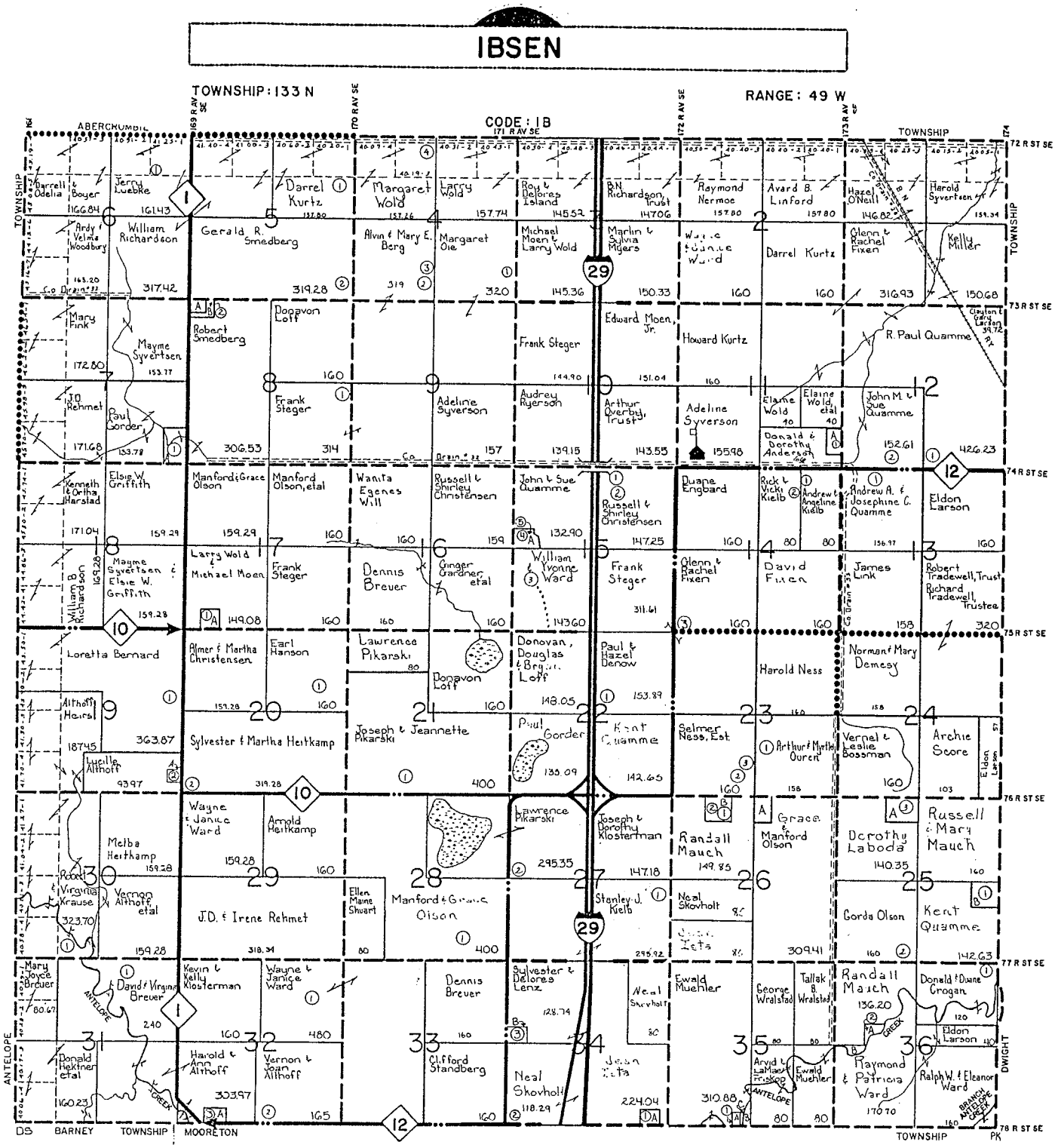
- AC ZONE (AG COMMERCIAL)
- LI ZONE (LIGHT INDUSTRIAL
- RH ZONE (HIGH DENSITY RESIDENTIAL)
- CG ZONE (GENERAL COMMERCIAL)
- RM ZONE (MIXED USE RESIDENTIAL)
- AG ZONE (AGRICULTURAL)
- RL ZONE (LARGE RESIDENTIAL)
- LAND NOT ZONED
- ANIMAL UNITS APPLY
- WASTE WATER STABILIZATION PONDS

CITY MAYOR: _____

AUDITOR: _____

APPROVAL DATE: _____

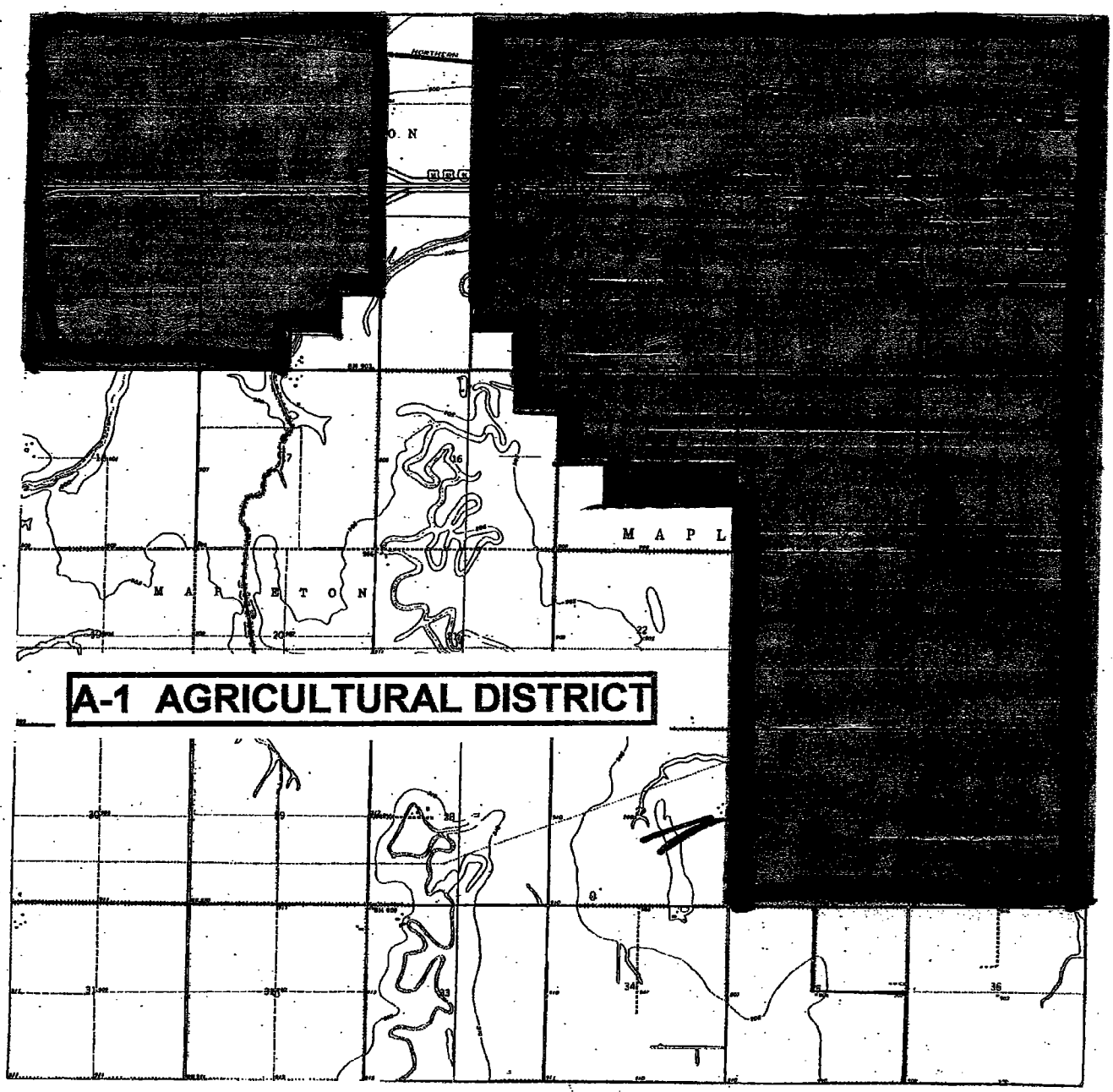
OFFICAL ZONING MAP



THE OFFICAL ZONING MAP IBSEN TOWNSHIP
THE ENTIRE TOWNSHIP IS ZONED AGRICULTURE

ADOPTED_____

OFFICIAL ZONING MAP
MAPLETON TOWNSHIP



LEGEND:

A-1 AGRICULTURAL DISTRICT

[redacted]

FARGO EXTRATERRITORIAL AREA

[redacted]

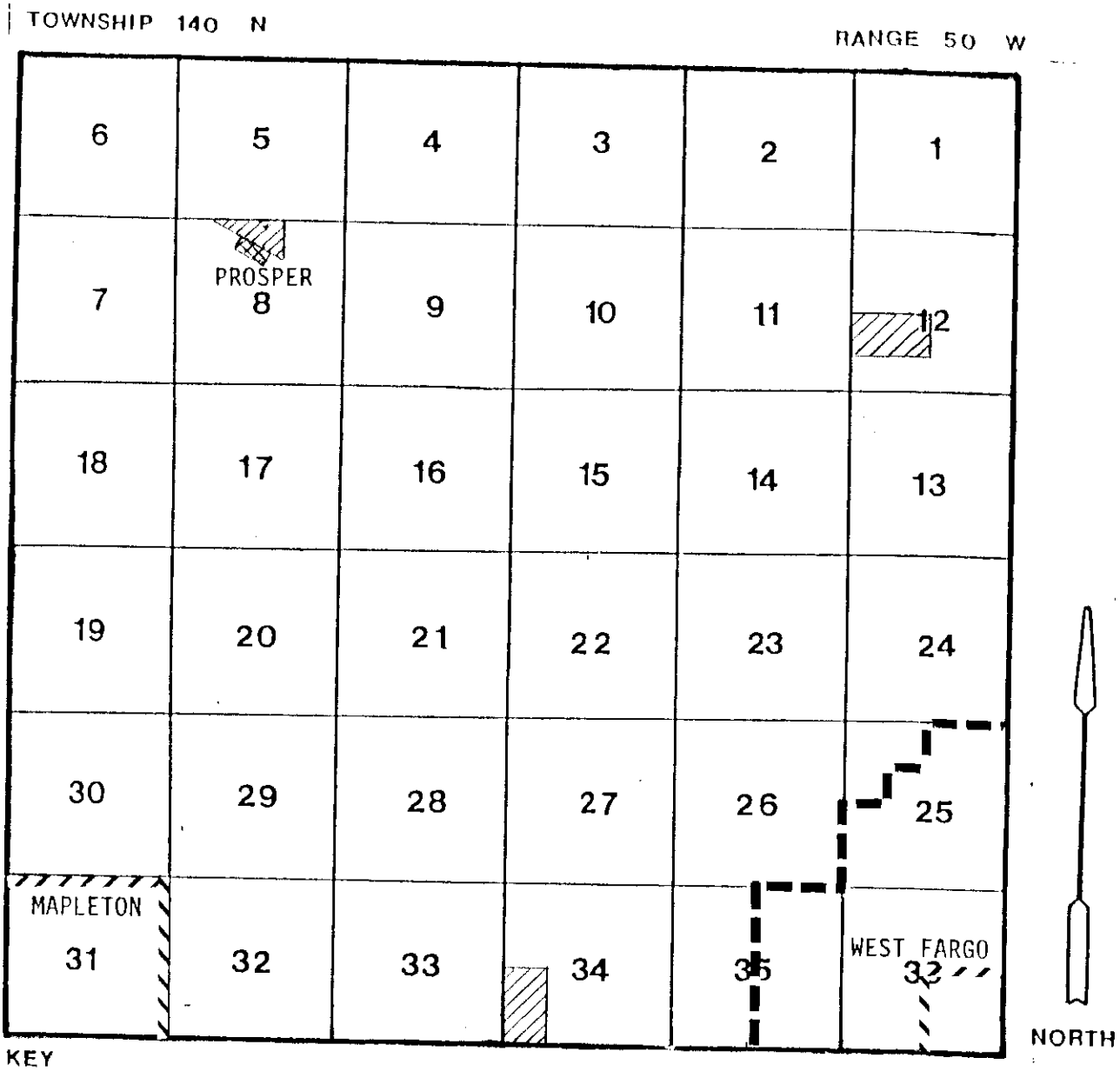
DATE OF ADOPTION: 5/2/06

SIGNED: John W Rutten chairman

ATTEST: [signature]
William Sisluwa

Official
Zoning District Map

RAYMOND



Agricultural District

Residential District

Industrial District

Date Adopted: _____

BY: _____

Chair, Township Board

Amended: _____ _____ _____

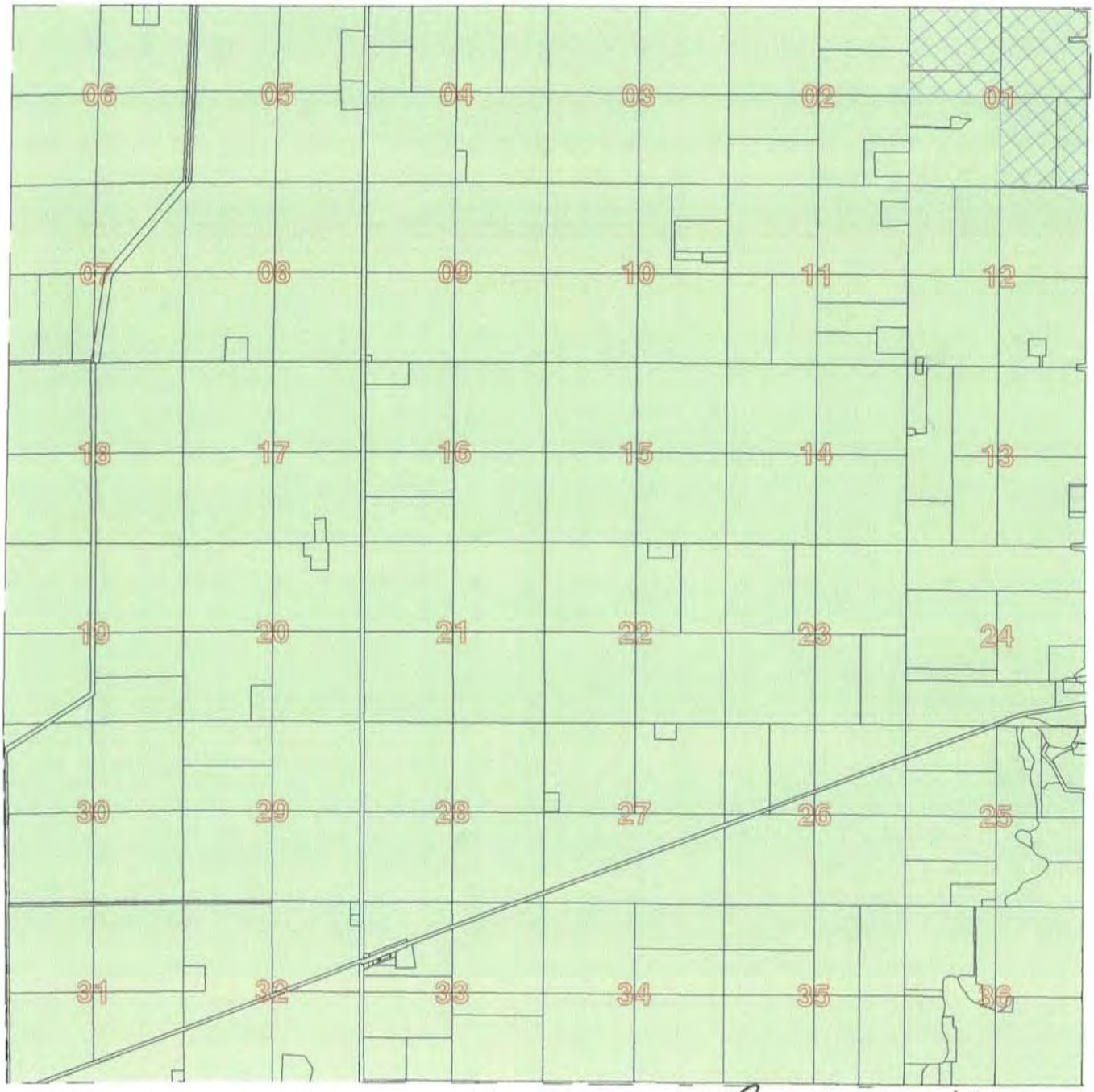
_____

Warren Township
Zoning Map

Zoning

A-1 Agricultural District

Fargo ET Boundary



Warren Township Board of Supervisors on 10/29, 2004 Randall Hajek Chairman

Wally Fuchs Clerk

Revised on on _____, 200__ _____ Chairman _____ Clerk

Appendix D. Project Development Agreement

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FARGO – ST. CLOUD TRANSMISSION PROJECT

PROJECT DEVELOPMENT AGREEMENT

Dated as of March 7, 2007

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PROJECT DEVELOPMENT AGREEMENT

THIS PROJECT DEVELOPMENT AGREEMENT dated as of March 7, 2007 (this "**Agreement**") is entered into by and among **Great River Energy**, a cooperative corporation incorporated under the laws of Minnesota, **ALLETE, Inc., d/b/a Minnesota Power**, a Minnesota corporation ("**Minnesota Power**"), **Missouri Basin Municipal Power Agency**, an intergovernmental entity organized under Chapter 28E of the Code of Iowa and existing under the intergovernmental corporation statutes of the States of Iowa, Minnesota, North Dakota, and South Dakota, d/b/a (and referred to herein) as **Missouri River Energy Services, Otter Tail Corporation,** d/b/a Otter Tail Power Company, a corporation organized and existing under the laws of the State of Minnesota, **Northern States Power Company**, a Minnesota corporation and wholly owned subsidiary of Xcel Energy Inc., d/b/a Xcel Energy ("**Xcel Energy**") and Xcel Energy in its capacity as the Development Manager.

RECITALS

A. Each Participant is empowered by law to acquire, construct, maintain and operate facilities for the transmission of electrical energy for public or private use and to acquire, construct and maintain all rights, properties, improvements and other interests necessary therefor in the State of Minnesota and the surrounding region in which such Participant has a load serving obligation;

B. The Participants have determined that the existing transmission system for the region to be served by the Project appears insufficient to serve reliably the projected growth of the electricity requirements of Participants' respective customers;

C. The Project is one of several transmission projects arising from the CapX 2020 Initiative planning process (the "**CapX Projects**"). The Project is being undertaken to assist in the maintenance of and enhance system reliability for electric customers in Minnesota and the surrounding region;

D. The Participants have further determined that because the Project is regional in nature it is most efficient and effective for the Participants to develop the Project in a collaborative manner to, among other things, prepare and/or obtain such reports, applications and filings that may be required, necessary or desirable to (i) certify the need for the Project, (ii) obtain routing consents and approval(s), and (iii) acquire such other Permits to commence work on the Project;

E. Certain of the Participants have entered into a "Transmission Project Memorandum of Understanding" dated August 24, 2006, as amended (the "**Project MOU**") pursuant to which the Participants have previously undertaken certain matters, actions and activities in furtherance of the Project;

F. The Participants desire to pursue Development Work for the Project, which was initiated under and pursuant to the Project MOU, pursuant to the terms and conditions of this Agreement; and

G. Each Participant enters into this Agreement to facilitate such Participant's pursuit of the Development Work for the Project as described herein.

AGREEMENT

In consideration of the foregoing Recitals, the definitions in which are incorporated by reference herein as terms hereof, the mutual covenants set forth in this Agreement, and other good and valuable consideration, the receipt of which is hereby acknowledged, the Participants agree as follows.

1. **DEFINITIONS.** In addition to the other terms defined herein, the following terms, whether in the singular or in the plural, when used herein and in the Appendices attached hereto and initially capitalized, shall have the meanings specified:

ADR Rules. The term ADR Rules shall have the meaning ascribed thereto in Paragraph 1 of **Appendix D** to this Agreement.

Additive Expenses. The term Additive Expenses shall have the meaning ascribed thereto in **Appendix C** hereof.

Additive Expenses Percentage. The term Additive Expenses Percentage shall have the meaning ascribed thereto in **Appendix C** hereof.

Affiliate. An Affiliate means any Person that, directly or indirectly, through one or more intermediaries, controls, or is controlled by, or is under common control with, a Participant. For purposes of this Agreement, Western Minnesota Municipal Power Agency shall be deemed to be an "Affiliate" of Missouri River Energy Services.

Agreement. This Project Development Agreement, as the same may be supplemented or amended.

Applicable Law. The term Applicable Law shall mean any and all laws (including all statutory enactments and common law), ordinances, constitutions, regulations, treaties, rules, codes, standards, Permits, requirements and Orders that (i) have been adopted, enacted, implemented, promulgated, ordered, issued, entered or deemed applicable by or under the authority of any Governmental Body or arbitrator having jurisdiction over a specified Person (or the properties or assets of such Person), and (ii) are applicable to the Development Work or the performance of the obligations of the Participants under this Agreement.

Approved Amount of Increase in Maximum Development Costs. The term Approved Amount of Increase in Maximum Development Costs shall have the meaning ascribed thereto in Section 5.4.1 hereof.

Available Percentages. The term Available Percentages shall have the meaning ascribed thereto in Section 2.6.1 hereof.

CapX Projects. The term CapX Projects shall have the meaning ascribed thereto in Recital C hereof.

CapX 2020 Initiative. The cooperative efforts of certain Participants and other Persons to engage in electric transmission projects designed to serve reliably the projected growth of electricity requirements in the transmission grid in Minnesota and the immediately surrounding region, which efforts are anticipated to include, in the aggregate over a long-term period, the study, planning, coordination, development, construction and ownership of electric transmission facilities.

Cause. The term Cause shall have the meaning ascribed thereto in Section 4.11.1 hereof.

Chairperson. The term Chairperson shall have the meaning ascribed thereto in Section 3.5 hereof.

Confidential Information. The term Confidential Information shall have the meaning ascribed thereto in Section 9.1 hereof.

Construction Industry Rules. The term Construction Industry Rules shall have the meaning ascribed thereto in Paragraph 4 of **Appendix D** to this Agreement.

Construction Management Agreement. The Construction Management Agreement in the form approved by the Management Committee as provided herein, as the same may be amended or supplemented.

Cost Offering. The term Cost Offering shall have the meaning ascribed thereto in Section 5.5 hereof.

Critical Permits. Certificates of need, certificates of public convenience, and routing permits, and such other applicable Permits that the Management Committee may designate from time to time as a Critical Permit.

Damages. The term Damages means without limitation any loss arising from claims, suits, actions, costs (including reasonable fees and/or reasonable costs of investigation), expenses, fines, interest, penalties, assessments, judgments, demands, causes of action and litigation of any kind.

Defaulted Amount. The term Defaulted Amount shall have the meaning ascribed thereto in Section 2.11.2.1 hereof.

Development Costs. The cost obligations paid, payable or incurred (as a future obligation) with respect to carrying out Development Work and Joint Development Work, as well as those costs which, pursuant to the terms of this Agreement are, or are deemed to be, Development Costs. The following Development Costs shall not be counted in the calculation of Maximum Development Costs: (i) amounts paid to MOU Participants in accordance with Section 2.10 hereof, and (ii) costs arising from or paid under the Project MOU.

Development Manager. The Participant who is responsible, in accordance with the terms of this Agreement, for carrying out Development Work. The Development Manager shall be a Participant. Reference to the "Development Manager" excludes any reference to such Participant in any other capacity.

Development Work. The term Development Work shall have the meaning ascribed thereto in Section 5.1.1 hereof. Development Work shall include Joint Development Work.

Disclosing Party. The term Disclosing Party shall have the meaning ascribed thereto in Section 9.3 hereof.

Elected Project Participation. The term Elected Project Participation shall have the meaning ascribed thereto in Section 6.4 hereof.

Election Right. As to any Participant, the maximum percentage of its Participant Percentage which such Participant shall have the right of first refusal to elect to take in accordance with Section 6 hereof, which percentage for each Participant shall be the indicated percentage set forth opposite such Participant's name on **Appendix A** hereto, except as specifically provided otherwise herein.

FERC. FERC means the Federal Energy Regulatory Commission, a regulatory Governmental Body of the United States, or any successor thereto.

FERC Standards of Conduct. The term FERC Standards of Conduct shall have the meaning ascribed thereto in Section 9.4.

Final Order. The term Final Order shall have the meaning ascribed thereto in Section 6.1.1 hereof.

Force Majeure. Force Majeure means the occurrence of an event or series of events that is/are beyond the reasonable control of the Person affected that affects the performance under contract of such Person. Such events include acts of God, fire, flood, earthquake, explosion, labor-called strike, sabotage, pestilence, catastrophe, act of a public enemy, terrorism, Order of a civil or military authority or other Governmental Bodies, insurrection or riot, Applicable Laws that prevent performance, and events of similar uncontrollable import.

GAAP. GAAP means generally accepted accounting principles practiced in the United States of America, as in effect from time to time, applied on a consistent basis.

Good Reason. The term Good Reason shall have the meaning ascribed thereto in Section 4.12.1 hereof.

Good Utility Practice. Any of the practices, methods, and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety, and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method or act, or the exclusion of all others, but rather to be a range of acceptable practices, methods, or acts generally accepted in the region.

Governmental Body. Governmental Body shall mean any: (i) nation, state, county, city, town, village, district or other jurisdiction of any nature, and/or (ii) federal, state, local, municipal, foreign or other government, and/or (iii) governmental or quasi governmental authority of any nature (including any governmental agency, branch, board, commission, department, instrumentality, office or other entity, and any court), in any such case exercising, or entitled to exercise, administrative, executive, judicial, legislative, police, regulatory or taxing authority or power of any nature over the Agreement, the performance of the Development Work or any of the Participants.

Independent Accountants. The term Independent Accountants shall have the meaning ascribed thereto in Section 5.6.3 hereof.

Initial Budget. The term Initial Budget shall have the meaning ascribed thereto in Section 5.3.1.1 hereof.

Initial Elected Project Participation. The term Initial Elected Project Participation shall have the meaning ascribed thereto in Section 6.3.1 hereof.

Initial Hearing Statement. The term Initial Hearing Statement shall have the meaning ascribed thereto in Section 3.6.6.3 hereof.

Initial Term. The term Initial Term shall have the meaning ascribed thereto in Section 10.1.2 hereof.

Injunction. Injunction means any and all writs, rulings, awards, directives, injunctions (whether temporary, preliminary or permanent), judgments, decrees or other orders adopted, enacted, implemented, promulgated, issued, entered or deemed applicable by or under the authority of any Governmental Body or arbitrator.

Interest Rate. The term Interest Rate means, for each month, the monthly average of the daily one-month LIBOR, plus an adder equal to one-half of 1% (0.50%) or such other adder as the Management Committee approves in accordance with Section 2.11.1 hereof.

Issue at Impasse. The term Issue at Impasse shall have the meaning ascribed thereto in Section 3.6.5.3 hereof.

Joint Development Work. The term Joint Development Work shall have the meaning ascribed thereto in Section 5.2.1.2 hereof.

LIBOR. The term LIBOR means the London Interbank Offered Rate of interest equal to the per annum rate of interest at which United States dollar deposits of a Eurodollar loan for the applicable period are offered in the London Interbank Eurodollar market at 11:00 a.m. (London time) by the British Bankers' Association, as displayed in its website (http://www.bba.org.uk) in the Bloomberg Financial Markets System, or other authoritative source selected by the Development Manager in its reasonable discretion.

Late Payment Fee. The term Late Payment Fee shall have the meaning ascribed thereto in Section 2.11.2.

Level A Vote. The term Level A Vote shall have the meaning ascribed thereto in Sections 3.3.4.1 and 3.3.4.4 hereof.

Level B Vote. The term Level B Vote shall have the meaning ascribed thereto in Sections 3.3.4.2 and 3.3.4.4 hereof.

Level C Vote. The term Level C Vote shall have the meaning ascribed thereto in Section 3.3.4.3 hereof.

MAPP. MAPP means the Mid-Continent Area Power Pool, or its successor entity.

MP North Dakota Status Determination Date. The term MP North Dakota Status Determination Date shall have the meaning ascribed thereto in Section 3.6.5.1.2 hereof.

MP Reapportionment. The term MP Reapportionment shall have the meaning ascribed thereto in Section 3.6.5.2.1 hereof.

Major Contract. Major Contract means: (i) any contract with respect to Development Work: (A) that at the time of execution has a total cost to the Project greater than $500,000, or (B) involves acquisition of any electric transmission line equipment or real property rights, to the extent permitted by Applicable Law, and (ii) any other contract which the Management Committee may designate as a Major Contract. If any contract referred to above is a time-and-materials contract, the total cost of such contract, for purposes of this Agreement, shall be estimated in good faith by the Development Manager.

Management Committee. The term Management Committee means the management committee established pursuant to Section 3 hereof.

Material Change in Project Withdrawal Event. The term Material Change in Project Withdrawal Event shall have the meaning ascribed thereto in Section 2.5.2.1 hereof.

Maximum Development Costs. The term Maximum Development Costs shall have the meaning ascribed thereto in Section 5.3.1.3 hereof.

Mediator. The term Mediator shall have the meaning ascribed thereto in Paragraph 3.1.1 of **Appendix D** hereof.

Midwest ISO. Midwest ISO means Midwest Independent Transmission System Operator, Inc., or its successor entity.

Midwest ISO Tariff. The Midwest ISO Open Access Transmission and Energy Markets Tariff, including all schedules or attachments thereto, of the Midwest ISO as amended from time to time and including any successor tariff or rate schedule approved by FERC.

Monthly Development Costs. The term Monthly Development Costs shall have the meaning ascribed thereto in Section 4.4.4 hereof.

MOU Participant. The term MOU Participant shall have the meaning ascribed thereto in Section 2.10 hereof.

Non-Elected Amount. The term Non-Elected Amount shall have the meaning ascribed thereto in Section 6.3.2 hereof.

Offered Interest. The term Offered Interest shall have the meaning ascribed thereto in Section 2.9.2.2 hereof.

Officers. The term Officers shall have the meaning ascribed thereto in Section 3.5 hereof.

Opting-Out Participant. The term Opting-Out Participant shall have the meaning ascribed thereto in Section 6.5 hereof.

Option Period. The term Option Period shall have the meaning ascribed thereto in Section 2.9.2.2 hereof.

Order. Order means any judgment, award, decision, consent decree, Injunction, ruling, writ or order of any Governmental Body or arbitrator that is binding on any Person or its property under Applicable Law.

Ownership and Operation Agreement. The Ownership and Operation Agreement (which may be in the form of one or more agreements) in the form approved by the Management Committee as provided herein, as the same may be amended or supplemented.

Participant. Each Person listed as a Participant on **Appendix A** hereto; provided, however, that the term Participant shall (i) exclude, from and after the date of withdrawal or termination, any Participant who withdraws after the date of this Agreement or whose rights are terminated in accordance with the terms of this Agreement, and (ii) include a Person that later becomes a Participant pursuant to the provisions of Section 2.9 hereof from and after the effective date of the admission of such Person. Wherever in this Agreement the term "Participant" is used, where applicable, such term shall also refer to any other capacity of such Participant under this Agreement, including that of Development Manager or Subcontractor.

Participant Percentage. The term Participant Percentage means the percentage stated in **Appendix A** hereto opposite the Participant name set forth therein. Participant Percentages may be adjusted pursuant to the terms of this Agreement, with **Appendix A** hereto adjusted accordingly.

Participant Transferee. The term Participant Transferees shall have the meaning ascribed thereto in Section 2.9.2.1 hereof.

Permits. Permits means all waivers, franchises, variances, permits, authorizations, certificates, licenses and Orders of or from any Governmental Body having jurisdiction over the Participants and their respective obligations under this Agreement or the Development Work, as may be in effect from time to time.

Permitted Purpose. The term Permitted Purpose shall have the meaning ascribed thereto in Section 9.1 hereof.

Person. Person means any individual, corporation, partnership, limited liability company, association, joint stock company, trust, unincorporated organization, joint venture, Governmental Body or other entity with legal constitution under Applicable Laws.

Preliminary Increase in Maximum Development Costs. The term Preliminary Increase in Maximum Development Costs shall have the meaning ascribed thereto in Section 5.3.1.5 hereof.

Proceeding. The term Proceeding means any suit, litigation, arbitration, hearing, audit, investigation or other action (whether civil, criminal, administrative or investigative) commenced, brought, conducted, heard by or before, or otherwise involving, any Governmental Body or arbitrator.

Project. The proposed facilities relating to electric transmission described in **Appendix F**, as may be modified in accordance with this Agreement or in accordance with the Critical Permits.

Project Agreement Vote Date. The term Project Agreement Vote Date shall have the meaning ascribed thereto in Section 3.6.6.6 hereof.

Project Agreements. The term Project Agreements means the Ownership and Operation Agreement, the Construction Management Agreement, and any other agreement designated a Project Agreement by the Management Committee.

Project MOU. The term Project MOU shall have the meaning ascribed thereto in Recital E hereof.

Projected Project Agreement Vote Date. The term Projected Project Agreement Vote Date shall have the meaning ascribed thereto in Section 3.6.4 hereof.

Proponent Participant. The term Proponent Participant shall have the meaning ascribed thereto in Section 3.6.6.3 hereof.

Purchase Price. The term Purchase Price shall have the meaning set forth in Section 2.9.2.2 hereof.

Regulatory Commission. The term Regulatory Commission shall have the meaning ascribed thereto in Section 6.5.2.3 hereof.

Reimbursing Participant. The term Reimbursing Participant shall have the meaning ascribed thereto in Section 6.5.2.1 hereof.

Removal Notice. The term Removal Notice shall have the meaning ascribed thereto in Section 4.11 hereof.

Representatives. The term Representatives shall have the meaning ascribed thereto in Section 9.1 hereof.

Resolution Hearing. The term Resolution Hearing shall have the meaning ascribed thereto in Section 3.6.6.1 hereof.

Responding Hearing Statement. The term Responding Hearing Statement shall have the meaning ascribed thereto in Section 3.6.6.3 hereof.

Responding Participant. The term Responding Participant shall have the meaning ascribed thereto in Section 3.6.6.3 hereof.

Seams Issues. The term Seams Issues shall have the meaning ascribed thereto in Section 3.6.1.1 hereof.

Secretary. The term Secretary shall have the meaning ascribed thereto in Section 3.5 hereof.

Subcontract. The term Subcontract means any contract between the Development Manager and a Subcontractor with respect to performing any part of the Development Work or providing any goods, including equipment and materials, in connection with the Development Work.

Subcontractor. The term Subcontractor means each and every supplier, subcontractor, consultant or contractor of any tier performing any part of the Development Work or providing any studies, reports, plans, evaluations, goods, including equipment and materials, in connection with the Development Work, directly

or indirectly for or to the Development Manager. Reference to a Participant as a "Subcontractor" excludes any reference to such Person in any other capacity.

Term. The term Term shall have the meaning ascribed thereto in Section 10.1.2 hereof.

Transfer. The term Transfer shall have the meaning ascribed thereto in Section 2.9 hereof.

Transfer Notice. The term Transfer Notice shall have the meaning ascribed thereto in Section 2.9.2.2 hereof.

Transferring Participant. The term Transferring Participant shall have the meaning ascribed thereto in Section 2.9.2.1 hereof.

Vice Chairperson. The term Vice Chairperson shall have the meaning ascribed thereto in Section 3.5 hereof.

Withdrawing Participant. The term Withdrawing Participant shall have the meaning ascribed thereto in Section 2.5.2 hereof.

2. PARTICIPANTS.

2.1 **Actions Reserved to Participants.** All powers that are not granted to the Management Committee or the Development Manager under this Agreement are reserved to the Participants.

2.2 **Participant Covenants Regarding Project Agreements and Critical Permits.**

2.2.1 Development of Project Agreements. Each Participant shall comply with the covenants and procedures set forth in Section 3.6 hereof in connection with the development of Project Agreements, including the covenant of good faith and facilitation described in Section 3.6.1.

2.2.2 Cooperation. Each Participant shall make good faith efforts to cooperate with the other Participants to facilitate the granting or issuance of all Critical Permits required to proceed with the Project. The preceding sentence shall not in any way limit any Participant's right to seek protective Orders for, or otherwise seek to preserve the confidentiality of, information provided to any Governmental Body in connection with any Proceeding. Nothing herein shall entitle any Participant to seek to treat as Development Costs its costs to comply with any condition applicable solely to it under the terms of a Critical Permit. Nothing herein shall require a Participant to comply with any condition applicable solely to it under the terms of a Critical Permit granted or issued by Final Order prior to execution and delivery by such Participant of the Project Agreements, unless (i) such compliance is required by the Critical Permit (A) to remedy non-compliance with an obligation of the Participant that existed prior to the issuance of the Critical Permit, or (B) as a preconstruction requirement that must be complied with to facilitate the authority granted under the Critical Permit, and (ii) the Participant has not exercised its right of withdrawal under Section 2.5.2.1 (Material Change in Project Withdrawal Event) within the prescribed time period for withdrawal. If such Participant executes and delivers the Project

Agreements, compliance with and the costs of such condition(s) shall become an obligation of the Participant under the Project Agreement.

2.3 **Designation of Management Committee Representatives.**

2.3.1 Appointment of Representatives and Alternates. **Appendix E** identifies the duly authorized representative and alternate of each Participant. The alternate may act as a Participant's representative on the Management Committee in the absence of the regular representative. Each Participant may change its Management Committee representative or alternate at any time, subject to the provisions of Section 2.3.2.

2.3.2 Changes in Designation of Representative or Alternate. Each Participant shall promptly give notice to all other Participants of any changes in the designation of its representative or alternate on the Management Committee and any other committee. Any such notice shall be effective if given at or before the first meeting of the Management Committee at which such new representative or alternate will act as a representative.

2.4 **Participant Breach of Agreement.** The following provisions apply to default by a Participant solely in its capacity as a Participant, and do not apply to (i) a Participant acting in its role as Development Manager, or (ii) a Participant acting in a role as a Subcontractor pursuant to Section 4.2.3.

2.4.1 Notice of Participant Default. If the Management Committee is advised by a Participant, including the Development Manager, that another Participant may be in default under this Agreement, the Management Committee shall give written notice to all Participants of the alleged default and such notice shall contain the asserted factual basis for such default and reference the applicable provision(s) of this Agreement to which such factual basis may apply. Within ten (10) business days after such written notice has been given, the Management Committee shall meet to attempt to resolve the matter. If no such resolution is achieved within ten (10) business days after such meeting of the Management Committee, it shall determine the existence and nature of the alleged default by a Level B Vote, excluding the alleged defaulting Participant and allocating the alleged defaulting Participant's Participant Percentage to the non-defaulting Participants, solely for purposes of such vote, in accordance with Section 2.4.5 hereof. If it is determined by such vote that a default exists, a representative of the Management Committee shall give written notice of such default to the defaulting Participant and shall send copies of such notification to each non-defaulting Participant. Said notice shall include a demand to immediately cure the default.

2.4.2 Disputing Finding of Default. The defaulting Participant may appeal such determination pursuant to the dispute resolution provisions of Section 8.1 of this Agreement. Any such appeal must be made by the Participant within ten (10) business days after the Participant receives the Management Committee's notice of default determination. If such an appeal is timely made, the default determination by the Management Committee shall be stayed until final determination of such appeal process.

2.4.3 Obligation to Cure Default and Excuse of Performance.

2.4.3.1 Obligation to Cure. Subject to Sections 2.4.2 and 2.4.3.2 hereof, a Participant determined to be in default by the Management Committee under Section 2.4.1 shall take all steps necessary to cure such default as promptly as possible.

2.4.3.2 Excuse of Performance. Other than with respect to the obligation of a Participant to make payments as provided in this Agreement, no Participant shall be considered to be in default in the performance of any of its obligations under this Agreement when a failure of performance is due to Force Majeure. An event of Force Majeure shall excuse the timely performance of such Person for a reasonable period following such event or events. If a Participant is rendered unable to fulfill any of its obligations under this Agreement by reason of Force Majeure, such Participant shall (i) give prompt written notice of such Force Majeure to each other Participant, and (ii) exercise reasonable commercial efforts to effect performance following the occurrence of such Force Majeure. Nothing contained herein shall be construed to require a Participant to settle any labor-called strike or dispute in which it may be involved.

2.4.4 Termination of Participant Rights.

2.4.4.1 Termination of Rights of Defaulting Participant. Subject to any stay on appeal pursuant to Section 2.4.2 hereof, if a Participant that has been determined by action of the Management Committee under Section 2.4.1 to be in default hereunder has not (i) cured such default within fifteen (15) days after notice to the Participant concerning such default, (ii) in the case of a default that cannot be cured within fifteen (15) days, initiated within fifteen (15) days actions reasonably likely to cure such default and diligently pursued and completed such cure within no more than forty-five (45) days after notice to the Participant concerning such default, or (iii) complied with subsections (i) or (ii) of this Section 2.4.4.1, as applicable, following an unsuccessful appeal of the Management Committee's default determination pursuant to the dispute resolution process described in Section 2.4.2, then except as otherwise determined by the Management Committee at a Level B Vote, the defaulting Participant shall no longer be a Participant under this Agreement and all rights and obligations of the defaulting Participant shall terminate (except those obligations which would survive a termination of this Agreement pursuant to Section 12.9) except it will remain liable for such defaulting Participant's Participant Percentage of the then current Maximum Development Costs under this Agreement at the time of termination, less those Development Costs already paid by such Participant under this Agreement, all of which shall be promptly paid. Subject to Section 2.11.2.2, upon receipt of payment for such Development Costs from the defaulting Participant, the Development Manager shall hold such monies for the non-defaulting Participants (including any new or existing Participants electing to take the defaulting Participant's Participant Percentage), which shall incur interest at the Interest Rate, and apply such

monies as a credit for Monthly Development Costs on a pro rata basis based upon the remaining, non-defaulting Participants' Participant Percentages. Within ten (10) business days of any such termination, the Management Committee shall give written notification of such termination to each non-defaulting Participant.

2.4.4.2 Available Percentages Upon Default. The defaulting Participant's Participant Percentage in the Project shall be treated as an Available Percentage, and the Participants shall follow the procedures set forth in Sections 2.6.2 through 2.6.4 hereof to reallocate the defaulting Participant's Participant Percentage.

2.4.5 Effect of Breach by Participant and Modification of Voting Percentages. So long as a Participant is in default under this Agreement, a defaulting Participant's representative on the Management Committee shall not be entitled to vote. During the period a Participant is in default, such defaulting Participant's Participant Percentage shall be allocated to the non-defaulting Participants, pro rata, solely for purposes of determining the vote of the Management Committee.

2.5 **Participant Withdrawal.**

2.5.1 Right to Withdraw. A Participant may not withdraw from this Agreement nor avoid its obligation to pay for its Participant Percentage of Development Costs except as expressly provided for in this Agreement, including Section 2.5.2 hereof.

2.5.2 Withdrawal Events. A Participant may withdraw (the "**Withdrawing Participant**") as set forth below.

2.5.2.1 Material Change in Project Withdrawal Event. A Participant may withdraw from this Agreement upon the issuance or approval of the Certificate of Need or Certificate of Public Convenience and Necessity, with conditions or modifications that are determined by the Management Committee, by a Level B Vote, to materially change the Project or the feasibility thereof (a "**Material Change in Project Withdrawal Event**").

2.5.2.1.1 The Development Manager shall send a notice of a Material Change in Project Withdrawal Event to each Participant. Each Participant shall have thirty (30) days from the date of the notice of a Material Change in Project Withdrawal Event to provide written notice to all other Participants that it is withdrawing from the Project.

2.5.2.2 Increase in Maximum Development Costs Withdrawal Event. A Participant has the right to withdraw from this Agreement as a result of an increase in the Maximum Development Costs approved by the Management Committee as provided in Section 5.3.1.5, and is subject to Sections 5.4.2 and 5.4.4 hereof. By way of clarification, such right of withdrawal shall not apply if Maximum Development Costs are increased pursuant to the Cost Offering described in Section 5.5 of this Agreement. A Participant may provide written notice to all

other Participants, within thirty (30) days from the date of the notice of the Preliminary Increase in Maximum Development Costs, that it irrevocably exercises its right to withdraw from this Agreement if the Management Committee subsequently approves as final the amount of increase in Development Costs as provided in the notice of Preliminary Increase in Maximum Development Costs as provided in Section 5.3.1.5 hereof, and will be deemed to have withdrawn if such approval occurs.

2.5.2.3 Development Manager Withdrawal After Removal Vote. If the Management Committee votes to remove the Development Manager: (i) without the Development Manager having initiated an arbitration appeal as permitted by Section 4.11.5, or (ii) if the Development Manager is not successful in its arbitration appeal of such Management Committee removal vote, then within ten (10) days following the receipt of the notice of either event (as applicable), the Development Manager shall have the right to withdraw from this Agreement solely as a Participant by giving written notice of withdrawal to each other Participant, and the effective date of such withdrawal shall be the date of the applicable removal event.

2.5.2.4 Participant Withdrawal After Removal Appeal. If the Development Manager exercises its right to appeal the decision of the Management Committee to remove the Development Manager and the Development Manager is successful in its appeal and is not removed, any Participant (except the Development Manager, whose withdrawal rights are described under Section 2.5.2.3) may withdraw from this Agreement if, on the date of the Management Committee's vote to remove the Development Manager, not more than fifty percent (50%) of the initial Maximum Development Costs has been paid or committed to be paid (as evidenced, as of such date, by binding contractual commitments to pay Development Costs in the future). To so withdraw, the Withdrawing Participant must give written notice of withdrawal to each other Participant within ten (10) days of its receipt of the arbitration appeal decision, and the effective date of such withdrawal shall be the date of receipt of the arbitration appeal decision.

2.5.3 Effect of Withdrawal.

2.5.3.1 Withdrawing Participant Rights and Obligations. Upon giving notice of withdrawal to the other Participants, a Withdrawing Participant (i) shall no longer be a Participant under this Agreement, (ii) shall forfeit its rights and interests as set forth in Section 2.8.2, (iii) shall not be allowed to participate in the Project in the future, and (iv) shall not be relieved of its obligations incurred through the date of withdrawal except as expressly set forth in this Agreement. Except for withdrawals under Sections 2.5.2.3 and 2.5.2.4, a Withdrawing Participant shall remain obligated to pay its Participant Percentage of Development Costs up to the Maximum Development Costs that were authorized in accordance with Section 5.3.1 at the time: (A) the notice of a Material Change in Project Withdrawal Event was issued, if the Withdrawing

Participant has withdrawn pursuant to Section 2.5.2.1 hereof, or (B) the notice of a Preliminary Increase in Maximum Development Costs was issued pursuant to Section 5.3.1.5 hereof, if the Withdrawing Participant has withdrawn pursuant to Section 2.5.2.2 hereof. With respect to withdrawals under Sections 2.5.2.3 and 2.5.2.4, a Withdrawing Participant shall be obligated for its Participant Percentage of Development Costs (including for all contractual commitments that existed on the date of such withdrawal) incurred through the date of such withdrawal. The Withdrawing Participant's Participant Percentage shall be deemed an Available Percentage and shall be reallocated in accordance with Section 2.6 hereof.

2.5.3.2 No Reimbursement of Payments for Development Costs. No Withdrawing Participant shall be reimbursed for Development Costs paid by such Withdrawing Participant; provided, however, that a Participant that opts out of the Project in accordance with Section 6.5 hereof shall not be deemed to be a Withdrawing Participant for purposes of this Section 2.5.3.2.

2.6 Participant Percentages and Offering of Available Percentages.

2.6.1 Available Percentages. Under Sections 2.4 and 2.5 hereof, a Participant may be terminated or withdraw from this Agreement and, in either event, the resulting relinquished or withdrawn Participant Percentage of such a Participant ("**Available Percentage**") must be reallocated among the remaining Participants or allocated to third parties as provided in this Section 2.6.

2.6.2 Initial Offering of Available Percentages. Promptly following the creation or availability of Available Percentages, the Development Manager shall provide written notice thereof to each Participant that it has a right of first refusal to a pro rata share of such Available Percentages. Within thirty (30) days of the date of such notification (or such other period of time determined by the Management Committee), each Participant shall provide written responses to the Development Manager indicating either the Participant has elected not to increase its Participant Percentage or that it elects to increase its Participant Percentage by exercising its right to accept Available Percentages. In the latter case, the Participant shall include in its written response the specific amount (up to but not to exceed its pro rata share) of Available Percentages it accepts, which will result in a corresponding increase in its Participant Percentage set forth in **Appendix A**. The Development Manager shall advise all Participants of the results of the first offering of Available Percentages. The amount of outstanding Available Percentages shall be reduced by the aggregate amount of Available Percentages elected to be accepted by the Participants. **Appendix A** shall be revised to reflect each Participant's election to accept Available Percentages and correspondently increase its Participant Percentage.

2.6.3 Second Offering to Participants. If there are outstanding Available Percentages remaining following the completion of the initial offering under Section 2.6.2 hereof, the Development Manager shall promptly provide written notice thereof to all Participants and a Participant may offer to increase its Participant Percentage up to the total amount of outstanding Available Percentages. If the responding Participants' total amount of requests

exceed the total amount of outstanding Available Percentages, the outstanding Available Percentages shall be allocated to such Participants on a pro rata basis based upon their relative Participant Percentages as adjusted pursuant to Section 2.6.2. The Development Manager shall advise all Participants of the results of the second offering of Available Percentages. A Participant who accepts Available Percentages under this Section 2.6.3 shall have its Participant Percentage increased by a corresponding amount and **Appendix A** shall be modified accordingly.

2.6.4 Final Offering and Reallocation of Available Percentages. If there are outstanding Available Percentages after the initial and second offering pursuant to Sections 2.6.2 and 2.6.3 hereof, the Management Committee shall offer the outstanding Available Percentages first to other CapX Project participants and then to third parties on terms and conditions determined by the Management Committee at a Level B Vote. For purposes of this Section 2.6.4 only, "third parties" as referred to in the previous sentence may include a Participant that previously elected not to increase its Participant Percentage. If offers to other CapX Project participants or third parties to participate in this Agreement fail to dispose of all remaining Available Percentages, and the Participant Percentages equal less than one hundred percent (100%), the Management Committee shall determine at a Level C Vote, within ninety (90) days after expiration of the final offering of Available Percentages, whether there should be a revision in the size, character or capacity of the Development Work under this Agreement and allow each Participant to modify its Participant Percentage so that they aggregate one hundred percent (100%) or take such other action at a Level C Vote. If the Management Committee does not approve such a revision within such ninety (90) day period, this Agreement shall automatically terminate.

2.7 **Representations and Warranties of Participants.** Each Participant, on a continuing basis, respectively represents and warrants as follows:

2.7.1 Organization and Good Standing. Participant is, as set forth in the preamble to this Agreement, an agency, non-profit corporation, cooperative, association, municipal corporation, political subdivision, limited liability company, corporation or a similar Person organized, existing and in good standing under the laws of the state of its formation and authorized to conduct business in the state(s) in which authorization may be required to perform its obligations under this Agreement.

2.7.2 Power and Authority. Participant has the power and authority to enter into and perform this Agreement and is not prohibited from entering into this Agreement or discharging and performing all covenants and obligations on its part to be performed under and pursuant to this Agreement.

2.7.3 Authorization. Participant has taken all action required by Applicable Law and its governing documents, including its charter, in order to approve, execute and deliver this Agreement.

2.7.4 No Violation. The execution and delivery of this Agreement by Participant, the performance by Participant of its obligations hereunder and the consummation by Participant of the transactions contemplated herein do not and will not (i) contravene any

Applicable Law in effect on the date hereof or any Order in effect on the date hereof of any Governmental Body or arbitrator having jurisdiction over Participant or its property, or (ii) result in a breach or violation of any of the terms and provisions of, or constitute a default under, any indenture, mortgage, deed of trust or other agreement in effect on the date hereof and to which Participant is a party or by which it or its property is bound.

2.7.5 Approvals and Consents. No approval, consent or authorization of any Governmental Body or other Person is required for the execution and delivery by Participant of this Agreement, or the performance by Participant of its obligations hereunder, except such approvals, consents or authorizations that have been given or obtained by Participant and are in full force and effect.

2.7.6 Binding Effect. This Agreement has been executed and delivered by Participant. Assuming that the other Participants have all the requisite power and authority, and have taken all necessary action to execute and deliver this Agreement, this Agreement is the legal, valid and binding obligation of such Participant enforceable in accordance with its terms, except as limited by laws of general applicability limiting the enforcement of creditor's rights (e.g., bankruptcy, insolvency, moratorium) or by the exercise of judicial discretion in accordance with general principles of equity.

2.8 **Property Interests.**

2.8.1 Property Interests. All tangible, intangible and mixed property interests (which include any and all rights and licenses, express or implied) that arise as a result of the Development Work under this Agreement shall be owned by the Participants as tenants in common in undivided ownership interests; subject, however, to the limitations set forth in this Section 2.8 and as otherwise provided in this Agreement. Such ownership interests shall be in accordance with the Participant Percentages set forth in **Appendix A** to this Agreement, as adjusted pursuant to this Agreement. During the Term, such tangible, intangible and mixed property interests that arise as a result of the Development Work under this Agreement shall be used for the Project (and with respect to Joint Development Work, for other applicable CapX Projects) on such terms as approved and permitted by this Agreement (and to the extent empowered hereunder, by the Management Committee).

2.8.2 Effect of Withdrawal, Termination or Opt-Out on Property Interests. Any Participant that (i) withdraws from this Agreement pursuant to Section 2.5, or (ii) is terminated from this Agreement pursuant to Section 2.4, or (iii) is an Opting-Out Participant pursuant to Section 6.5 shall irrevocably forfeit and release any and all rights to any tangible, intangible or mixed property interests which may have been obtained pursuant to this Agreement. The forfeiture and release of any rights of any such withdrawing, terminated or Opting-Out Participants in and to any such property interests that must be and are transferred or granted to the owners of the Project in the manner contemplated by this Section 2.8 shall not affect rights acquired by such withdrawing, terminated or Opting-Out Participants as an electing owner in, or purchaser of an interest in, any CapX Project(s) pursuant to the provisions of other transactions and/or agreements.

2.8.3 Property Interests with Respect to Projects. It is understood and agreed that the work of the Participants (including the Development Manager) which gives rise to the creation of such property interests is undertaken and funded with the specific intent of the Participants that such interests will be (i) used for the Project and for no other purpose, other than as expressly authorized herein, and (ii) deemed created and owned by the Project, in the name of the owners of such Project, by right and/or license (perpetual, royalty-free, transferable (limited) and non-exclusive) for use in and by the owners of such Project, free and clear of any and all liens, encumbrances and interests (other than such liens, encumbrances and interests of the other Participants therein).

2.8.4 Estoppel with Respect to Property Interests. Based upon, and in furtherance of the foregoing Sections 2.8.1 through 2.8.3, each Participant acknowledges and agrees that it does not have and shall not claim, except as expressly provided herein, either through itself or any other Person, any right, title or other interest in or to any of the tangible, intangible or mixed property interests that may arise as a result of this Agreement except insofar as such interests are conclusively established in this Agreement. Each Participant further acknowledges and agrees that any assertion by any Participant, or any Person claiming interests through a Participant, of any right, title or other interest in such property interests inconsistent with the foregoing shall be null and void. Any such claim made by a Participant in all or any part of the property interests created hereunder, shall be estopped by the provisions of this Section 2.8, and any costs and expenses incurred by the non-claiming Participants in defense of such claim shall be chargeable to the Participant making the claim (and the Person claiming interests through such Participant). The foregoing is intended to eliminate assertion of any claim of right or other interest inconsistent with the rights and interests established in this Agreement by any Person against the tangible, intangible or mixed property interests that may arise as a result of this Agreement, including without limitation the security interests of lenders of any Participant and/or the interests of any trustee of the bankruptcy estate of any Participant, such that the property interests created hereunder are transferred to and utilized by the Project, in the name of the owners of such Project, free and clear of any and all liens, encumbrances and interests.

2.8.5 Further Assurances of Participants. Each Participant agrees that at any time and from time-to-time it will do or cause to be done all reasonable further acts and things, and execute, acknowledge and deliver, any and all papers, documents, instruments, agreements, assignments, transfers, assurances and conveyances that may be necessary or desirable to carry out and give effect to the provisions and intent of this Agreement with respect to the property interests described herein.

2.8.6 Effect of Agreement Termination on Property Interests. If this Agreement is terminated, the property interests hereunder shall be governed by Section 10.2.2 of this Agreement.

2.9 **Assignment and Transfer of Participant Interest.** The following shall govern the sale or transfer (collectively, "**Transfer**") or assignment of this Agreement and/or the rights, interests and obligations under and pursuant to this Agreement:

2.9.1 Assignment by Participants. Except as set forth in Sections 2.9.1.1 (collateral assignment and assignment to an Affiliate) and 2.9.2.1 (Transfer of a Participant interest) of this Agreement, a Participant may not assign this Agreement, or its rights or interests under this Agreement, including its Participant Percentage and its property interests herein and hereunder, without the prior written consent of all other Participants. Any such purported assignment by a Participant without such consent shall be null, void and of no legal effect whatsoever. By way of clarification, not less than all of the rights and interests under this Agreement shall be assigned with respect to any permitted assignment; no partial assignments of any rights or interests under this Agreement shall be permitted.

Any Subcontract entered into by the Development Manager in connection with the Development Work shall not deemed to be an assignment for purposes of this Agreement.

2.9.1.1 Permitted Assignment. A Participant may without the prior written consent of any other Participants (i) grant a collateral assignment of this Agreement, and the rights and interests hereunder, to one or more of its lenders as security for such Participant's performance under one or more lending instruments pursuant to which Participant is the borrower, and (ii) assign this Agreement (together with all the rights, interests and obligations hereunder) to any Person that is an Affiliate of the Participant. Any such assignment under any such lending instrument(s) to which it applies shall not be deemed to (A) convey or perfect to such lender or Affiliate any right, interest or obligation greater than that held by the Participant, and/or (B) abrogate or otherwise depreciate any right, interest or obligation held by the assigning Participant.

2.9.1.2 Notice of Assignment/Transfer. After the date hereof, any Participant desiring to assign or Transfer its rights, interests, and obligations as a Participant under and pursuant to Section 2.9 of this Agreement shall provide prior written notice of any proposed assignment or Transfer (excluding collateral assignment) to each other Participant and to the Management Committee. Such notice shall include (i) the name of the assigning/transferring Participant, (ii) the name, address, description and qualifications, and contact representative(s) of the assignee/transferee of the Participant's interest, (iii) the terms of the assignment or Transfer and whether the consent of the Participants is required, (iv) a copy of the proposed assignment or Transfer instrument, and (v) the form of consent desired by the Participant and/or its assignee/transferee, if required hereunder.

2.9.1.3 No Relief from Liability. No assignment of this Agreement, or any duties and obligations hereunder, shall relieve the assigning Person from such duties and obligations unless pursuant to a novation of such duties and obligations that is executed and delivered by the assignor, the assignee and the parties to this Agreement.

2.9.1.4 No Application to Transfer. This Section 2.9.1 does not address the Transfer or other alienation of (i) a Participant's rights, interests and obligations as a Participant to a third party (other than an Affiliate) for the purpose of such third party becoming a Participant in and to this Agreement, which is governed

by Section 2.9.2.2, and (ii) the Development Manager's rights, interests and obligations as the Development Manager to a third party for the purpose of such third party assuming the position of Development Manager hereunder, which is governed by Section 4.11 hereof.

2.9.2 Transfer of Agreement. Except as set forth in Section 2.9.2.1 of this Agreement, a Participant may not Transfer this Agreement, or its rights, interests and obligations under this Agreement, including its Participant Percentage and its property interests herein and hereunder, without the prior written consent of all other Participants. Any such purported Transfer by a Participant without such consent shall be null, void and of no legal effect whatsoever.

2.9.2.1 Participant Transferee. Subject to Section 2.9.2.2, Participant may Transfer its interest in this Agreement (the "**Transferring Participant**") to one or more other Participants (the "**Participant Transferee**"). Any such Transfer shall be deemed a novation to the extent of its interest transferred and shall transfer all rights, interests, duties and obligations arising from such Transferring Participant's interests transferred.

2.9.2.2 Right of First Refusal. If a Transferring Participant desires to Transfer all or part of its interest (the "**Offered Interest**") in this Agreement to Participant Transferees as permitted in Section 2.9.2.1 the Transferring Participant shall give the other Participants (including the Participant Transferee(s)) written notice of the proposed Transfer (the "**Transfer Notice**"). The Transfer Notice shall be in the form required by Section 2.9.1.2 of this Agreement. Upon receipt of the Transfer Notice, the other Participants shall have the following rights of first refusal with regard to the Offered Interest:

(i) Participants' Option. For a period of thirty (30) days beginning with the other Participants' receipt of the Transfer Notice (the "**Option Period**"), the other Participants shall have the right to purchase all or any portion of the Offered Interests at the Purchase Price and in accordance with the terms of this Section. Each of the other Participants shall be entitled to elect to purchase that portion of the Offered Interests that bears the same ratio to the Offered Interests as such other Participant's Participant Percentage bears to the Participant Percentages of all other Participants, not including the Participant Percentage of the Transferring Participant. If any of the other Participants do not elect to purchase their pro-rata portion of the Offered Interests, the other Participants who have elected to purchase their pro-rata portion may elect to purchase such non-electing Participants' pro-rata portions in the same ratio as their Participant Percentages bear to the total number of Participant Percentages of all Participants electing to so purchase. Each of the other Participants shall exercise their right to purchase the Offered Interests by delivering to the Transferring Participant and all other Participants within the

Option Period, written notice specifying the Offered Interests to be purchased.

(ii) Purchase Price. The aggregate purchase price to be paid for the entire amount of Offered Interests to be purchased shall be equal to the price set forth in the Transfer Notice, and the purchase price paid by each purchasing Participant shall equal such purchasing Participant's pro rata share (based on the portion of the Offered Interests purchased by such Participant versus the entirety of the Offered Interest) of the aggregate purchase price (such pro rata share of the aggregate purchase price being the "**Purchase Price**"). Unless otherwise agreed to by the Transferring Participant and the Participant purchaser(s), the Purchase Price shall, at the option of the Participant purchaser(s), be payable either (i) as specified in the Transfer Notice, or (ii) in cash at closing.

(iii) Closing. The closing for the sale of the Offered Interests shall occur within forty-five (45) days after the end of the Option Period. The closing may occur earlier, and shall be held at a location mutually agreed upon by the Transferring Participant and the Participant purchasers. The Transferring Participant shall deliver documentation representing the Offered Interests to be purchased, duly endorsed for transfer, shall represent and warrant that it has good and marketable title and interest to such Offered Interests and that such Offered Interests are free and clear from all liens, encumbrances and interests of third parties at the time of the closing and shall take all other actions necessary to Transfer the Offered Interests as the Participant purchaser(s) may reasonably request.

(iv) Failure to Purchase Offered Interests. If the other Participants do not elect to purchase all of the Offered Interests pursuant to the terms of Section 2.9.2.2(i) above, the Transferring Participant shall be free to Transfer all of the Offered Interests to the Participant Transferee set forth in the Transfer Notice within forty-five (45) days after the end of the Option Period. If the Transferring Participant does not sell the Offered Interests to either the Participant Transferee or the other Participants in accordance with the terms set forth in the Transfer Notice within such forty-five (45) day period, any subsequent offer of the Offered Interests shall again be subject to this Section.

2.9.2.3 Conditions to Transfer. Notwithstanding any other provisions of this Agreement, no Participant may Transfer any portion of the Participant interests associated with this Agreement unless items (i) and (ii) below are satisfied:

(i) Accepts Agreement. The transferee accepts and agrees to be bound by the terms and provisions of this Agreement, and executes such documents and instruments as the Management Committee may require as evidence of such acceptance and agreement; and

(ii) Authority. The transferee provides the Management Committee with evidence satisfactory to the Management Committee of the authority of such transferee to become a Participant under the terms and provisions of this Agreement.

2.9.2.4 Adjustment of Participant Percentages. If Participant Percentages are transferred pursuant to the provisions of this Section 2.9.2, the Participant Percentages set forth on **Appendix A** to this Agreement shall be amended and restated to reflect such Transfers.

2.10 **Reimbursement of MOU Participants.** Section 6 of the Project MOU provides that any participant of the MOU ("**MOU Participant**") may withdraw from the Project MOU at any time, subject to certain provisions set forth in the Project MOU. Section 9 of the Project MOU also provides that no MOU Participant is required to execute this Agreement. If at least two MOU Participants, whose percentages set forth in **Appendix A** of the Project MOU aggregate fifty percent (50%) or more, execute this Agreement, then the following provisions shall apply:

2.10.1 Reimbursement; No Continuing Rights. An MOU Participant failing to execute this Agreement (i) shall have no further rights or obligations in or with respect to the Project and shall be reimbursed its Development Costs paid under the MOU, within ninety (90) days of the execution of this Agreement, and (ii) shall not be allowed to participate in the Project in the future except upon the unanimous agreement (which agreement may be withheld for any reason) of all parties executing this Agreement.

2.10.2 Reimbursements Are Development Costs. Reimbursements paid to MOU Participants pursuant to Section 2.10.1 shall be deemed to be Development Costs pursuant to Section 5.1.2.1(x) of this Agreement.

2.11 **Payment of Development Costs.**

2.11.1 Participant Reimbursement and Disputed Invoices. After the Development Manager's payment of Development Costs under Section 4.4.4, and subject to Section 5.4.4(iii) (costs allocable after a Cost Offering), within twelve (12) days from the date a Participant receives an invoice for Monthly Development Costs, a Participant shall pay by wire transfer of immediately available funds or shall authorize remittance and payment through automated clearing house (ACH) procedures reasonably acceptable to the Development Manager, the Participant's Participant Percentage (or such other amount as is determined in accordance with Section 5.4.4(iii) of this Agreement) of Monthly Development Costs as set forth in the invoice. The Development Manager shall calculate carrying costs for the Monthly Development Costs by applying the Interest Rate to the average monthly balance of such Monthly Development Costs (which is based on the monthly beginning and ending balances for such Monthly Development Costs). The component of the Interest Rate that is an adder to LIBOR may be increased upon the recommendation of the Development Manager and the approval of the Management Committee at a Level B Vote. If a Participant disputes its Monthly Development Costs invoice, a Participant shall nevertheless pay the disputed amount of such invoice, under protest, and may seek resolution of the dispute, after making such payment, by submitting to the Development

Manager a written request for an adjustment of its invoice and the basis therefor. The Development Manager shall provide a written response to the Participant within sixty (60) days of the date of such written request. If requested, the Development Manager shall meet with the Participant within thirty (30) days of a written request from the Participant. If the matter is not resolved, the Participant may request the Management Committee to resolve the matter. At the next scheduled Management Committee meeting, the Management Committee shall consider and act upon the disputed invoice issue at a Level B Vote. The Management Committee's action shall be final and binding upon all parties involved.

2.11.2 Failure to Reimburse. Invoices for Monthly Development Costs not paid by a Participant in full by the due date shall thereafter bear, in addition to the ongoing Interest Rate payments required, a monthly charge as a late payment fee on the unpaid portion at two percent (2%) per month or the maximum interest rate allowable by law, if it is less, and shall be computed based upon the actual number of days elapsed from the due date to the date payment is received (the "**Late Payment Fee**"). Non-payment or late payment of invoices shall be deemed a default under this Agreement as provided in Section 2.4 hereof. Any monies received by the Development Manager with respect to Late Payment Fees shall be credited, on a pro rata basis, on the next Monthly Development Cost invoice for all Participants other than the Participant paying such Late Payment Fees.

2.11.2.1 Participant Costs for Defaulted Amounts. For up to three (3) months (or such longer period of time as determined by a Level B Vote of the Management Committee), the Development Manager may increase the Monthly Development Costs invoices to non-defaulting Participants, on a pro rata basis, in an amount equal to the amount the defaulting Participant failed to pay ("**Defaulted Amount**"); provided, however, that any Defaulted Amount related to additional payment obligations incurred by a Participant as a result of a Cost Offering shall be assessed solely to the non-defaulting Participants that elected to incur such additional Development Costs pursuant to such applicable Cost Offering.

2.11.2.2 Reduction of Participant Costs for Defaulted Amount Repayment. If the Development Manager receives payments from a defaulting Participant for Defaulted Amounts that actually were added to non-defaulting Participants' Monthly Development Cost invoices, as provided in Section 2.11.2.1 hereof, such non-defaulting Participants' subsequent Monthly Development Cost invoices shall be reduced, on a pro rata basis, to the extent of the Development Manager's subsequent receipt of payments with respect to such Defaulted Amounts, up to the additional payments made by such non-defaulting Participants under Section 2.11.2.1.

3. **MANAGEMENT COMMITTEE.** Oversight and management of matters arising under this Agreement shall be governed by a management committee (the "**Management Committee**"), whose duties, responsibilities, composition and powers are set forth herein.

3.1 **Duties and Responsibilities.** The Management Committee shall, among others things:

(i) Provide liaison among the Participants at the management level and between them and the Development Manager with respect to policy matters relating to Development Work;

(ii) Exercise general supervision over, and review, discuss and attempt to resolve any disputes within, any committees established pursuant to Section 3.4 hereof;

(iii) Review and act upon budgets for Development Work submitted pursuant to Section 4.4.1, subject to the provisions in Section 5.3.1 regarding Development Costs;

(iv) Oversee the development of Project Agreements in accordance with Section 3.6 hereof;

(v) Review and act upon (A) the proposed initial forms of Project Agreements developed in accordance with Section 3.6.1 hereof, and (B) the proposed final forms of Project Agreements developed in accordance with Sections 3.6.5 and 3.6.6 hereof;

(vi) Review and take action regarding periodic agreed-upon procedures (the scope of which shall be determined by the Management Committee), as described in Section 5.6.3, of the books and cost records regarding Development Costs of the Development Manager, any Participant carrying out Development Work and any cost reimbursable to a Subcontractor, including all Development Costs incurred by the Development Manager or any Participant before the effective date of this Agreement;

(vii) Conduct or cause to be conducted final agreed-upon procedures described in Section 5.6.3 relating to all Development Costs upon determination of the Management Committee that the Development Work is complete and shall, within thirty (30) days following completion of the final agreed-upon procedures, furnish a report of such audited costs to the Participants;

(viii) Monitor the continuation and completion of Development Work;

(ix) Make recommendations to the Development Manager with respect to Development Work;

(x) Provide such other assistance to the Development Manager in carrying out the Development Work as the Management Committee shall deem reasonable and proper and as the Development Manager shall request;

(xi) Review and act upon any Major Contract presented to the Management Committee in accordance with Section 4.2.1 and designate contracts or matters from time to time as being Major Contracts;

(xii) Review and act upon the conceptual design of the Project formulated by the Development Manager in accordance with Section 4.3.2 hereof;

(xiii) Review and act upon matters related to any Critical Permits as presented or recommended by the Development Manager for construction of the Project in accordance with Section 4.3.3 hereof;

(xiv) Review and act upon the bidders' lists submitted by the Development Manager with respect to Major Contracts in accordance with Section 4.2.4.1 hereof;

(xv) Consider and act upon any matter relating to the general supervision of the Development Work proposed by the Development Manager or any representative on the Management Committee;

(xvi) Supervise and review the Development Manager in the performance of its duties and obligations under this Agreement, including without limitation those arising in connection with Major Contracts, uninsured claims and Development Manager default;

(xvii) Address issues arising from a prudency review by a Governmental Body as described in Section 5.3.1.2; and

(xviii) Review and, in its discretion, act upon, reports provided by the Development Manager pursuant to Section 4.5.

3.2 **Members of the Management Committee.** The Management Committee shall consist of the representatives appointed by the Participants in accordance with and as specified in Section 2.3.

3.3 **Governance.**

3.3.1 Meetings and Notice of Meetings.

3.3.1.1 Regular Meetings. The Management Committee shall meet on a regular basis, at least monthly. The Management Committee shall endeavor to provide agendas at least two (2) business days in advance of each regular meeting, but notwithstanding the foregoing and subject to this Section 3.3.1.1, any failure to provide an agenda or notice of a particular matter shall not prevent review and action on such items, and regularly scheduled meetings of the Management Committee may consider any business that may come before the Management Committee. With respect to matters that are raised at a regular meeting which were not identified on an agenda that was provided at least two (2) business days before such meeting, any Management Committee representative may require that the Management Committee suspend voting on such item for a period not to exceed two (2) business days following adjournment of the Management Committee meeting at which it was raised. Such delay shall constitute an adjournment of the meeting, and no new notice or other act shall be required to continue such meeting (or vote on such matter).

3.3.1.2 Special Meetings. Special meetings of the Management Committee shall be called by the Chairperson of the Management Committee upon the written request of any Participant.

3.3.1.3 Notices of Meetings. Unless there is a change in the date, time or location of a regularly scheduled meeting of the Management Committee, no further notice of the regular meeting will be required. If there is a change in the date, time or location of a regularly scheduled meeting, then not less than ten (10) business days' prior notice to each member of the Management Committee shall be required.

Except as may be provided in Section 4.11, special meetings of the Management Committee shall be called not later than ten (10) business days after the date such request is given by a Participant and not less than five (5) business days before the date of the meeting. The notice of such special meeting shall (i) be in writing, (ii) state the date, time and place of the meeting, (iii) state the specific purpose(s) of the special meeting in the notice, and (iv) state that the actions that may be taken at the special meeting shall be confined to the specific purpose(s) stated in the notice.

3.3.1.4 Method of Meeting; Minutes. Any meeting of the Management Committee may be held by an assembled meeting or by telephone or other electronic means by which all Management Committee members participating in the meeting can hear each other. Voting matters delayed by an adjournment as described in Section 3.3.1.1 may be voted on by electronic transmission by the number of representatives that would ordinarily be required to approve such matter. Minutes shall be taken by the Secretary for each meeting of the Management Committee. All actions taken at meetings of the Management Committee shall be stated in the minutes. The Secretary shall promptly prepare and distribute such minutes to the Management Committee representatives.

3.3.2 Quorum. The quorum for a Management Committee meeting shall be a minimum of two representatives on the Management Committee, or their designated alternates, that represent Participants having Participant Percentages totaling greater than fifty percent (50%).

3.3.3 Voting Rights of Representatives. Each representative on the Management Committee shall be entitled to a vote equal to the Participant Percentage of the Participant it represents.

3.3.4 Acts of Management Committee. When determining matters with respect to this Agreement, the Management Committee shall have three different voting levels.

3.3.4.1 Routine Vote. Except as otherwise provided in this Agreement, an action by the Management Committee shall mean an affirmative vote of (i) greater than fifty percent (50%) of total Participant Percentages entitled to vote, and (ii) not less than two (2) Management Committee representatives affirmatively voting (subject to Section 3.3.4.4, a **"Level A Vote"**).

3.3.4.2 Supermajority Vote. Certain actions of the Management Committee with respect to those matters specifically identified in this Agreement shall require an affirmative vote of (i) greater than fifty percent (50%) of total Participant Percentages entitled to vote, and (ii) not less than three (3) Management Committee representatives affirmatively voting (subject to Section 3.3.4.4, a **"Level B Vote"**).

3.3.4.3 Unanimous Vote. Certain actions of the Management Committee with respect to those matters specifically identified in this Agreement shall require the unanimous affirmative vote of all representatives of the Management Committee entitled to vote (a "**Level C Vote**").

3.3.4.4 Less than Four Participants. The foregoing Sections 3.3.4.1 through 3.3.4.3 shall remain in effect if there are at least four (4) Participants. If there are three (3) Participants, "**Level A Vote**" and "**Level B Vote**" shall mean an affirmative vote of (i) greater than fifty percent (50%) of total Participant Percentages entitled to vote, and (ii) not less than two (2) Management Committee representatives affirmatively voting. If there are two (2) Participants, "Level A Vote" and "Level B Vote" shall mean greater than fifty percent (50%) of total Participant Percentages entitled to vote.

3.3.5 Terms and Phrases Regarding Management Committee Actions. When the phrases "review and take action," "review and act upon," "review and action" or language of similar import are used in this Agreement with respect to the Management Committee, such action shall include, but not be limited to, rejection of a matter, modification and approval of a matter or approval of a matter.

3.4 **Committees.**

3.4.1 Establishment of Committee. The Management Committee may establish committees reporting to the Management Committee that relate to matters arising under this Agreement, including, but not limited to, committees for Critical Permits, engineering, environmental, insurance, auditing, and legal matters.

3.4.2 Appointment of Representatives. Each Participant may appoint a duly authorized representative to serve on each committee so established. Each Participant may, by giving notice to all other Participants, designate an alternate to act as its representative on each committee so established in the absence of the regular representative or to act on specified occasions with respect to specified matters. Any such notice shall be effective if given at or before the first meeting at which such alternate will act as a representative.

3.4.3 Authority and Duties. The authority and duties of any committee shall be established by the Management Committee, and such committee shall be subject to the provisions of this Agreement. Each such committee may establish its own rules, regulations, standards and procedures for carrying out the authorities and duties so established for it. Each such committee shall be responsible to and subject to the supervision and directives of the Management Committee.

3.5 **Officers of the Management Committee.** The Management Committee shall elect a Chairperson of the Management Committee from among the representatives of the Participants (who shall not be the Management Committee representative of the Development Manager) (the "**Chairperson**") who shall act in a general executive capacity of the Management Committee, subject to the direction of the Management Committee, and shall be responsible for calling and presiding over all meetings of the Management Committee at which he or she is present. The Management Committee shall elect a

Vice Chairperson of the Management Committee ("**Vice Chairperson**") who shall perform the duties of the Chairperson in his or her absence. The Management Committee shall elect a Secretary of the Management Committee ("**Secretary**") who shall keep the minutes of the meetings of the Management Committee (or cause such minutes to be kept), endeavor to prepare and send agendas, send all required notices of Management Committee meetings and exercise such other powers as usually incident to such office. The Chairperson or Vice Chairperson may also serve in the capacity as Secretary. The Chairperson, Vice Chairperson and Secretary (collectively, the "**Officers**") shall perform such further duties as are assigned to them by the Management Committee and may be removed at any time with or without cause by the Management Committee pursuant to the affirmative vote of the Management Committee. The Management Committee shall appoint the Officers on an annual basis to terms of one (1) year, and the Officers shall serve until their successors are elected, subject to resignation, death, disability, removal as a representative by the Participant, appointing such Officer, or the removal of an Officer as an Officer by the Management Committee. Each of the Officers shall be selected from members of the Management Committee and approved by a Level B Vote.

3.6 **Development of Project Agreements.** The Management Committee shall oversee the development, and review and act upon proposed initial and final forms, of Project Agreements as provided in this Section 3.6. The Management Committee may from time to time designate an agreement as a Project Agreement. Except as otherwise determined by the Management Committee, the Project Agreements shall be drafted by counsel appointed by the Management Committee in consultation with the Participants and their respective counsel.

3.6.1 Participant Project Agreement Covenants and Acknowledgements Related to Initial Forms. Each Participant shall attempt in good faith to facilitate development of proposed initial forms of Project Agreements that contain substantially complete and final provisions concerning those matters that can be addressed before the date established by the Management Committee under Section 3.6.2 hereof to vote on proposed initial forms of Project Agreements. Each Participant acknowledges that not all material terms and information necessary to complete final forms of Project Agreements will be known at the time the proposed initial forms of Project Agreements are prepared. By way of illustration and not limitation, each Participant acknowledges that to the extent Critical Permits are pending, the Participants will not know final project routing, approval conditions, etc.

3.6.1.1 Other Understandings – Seams Issues. The Participants acknowledge and agree that certain Participants are members of Midwest ISO and other Participants are not. As a consequence, the ownership structure of the Project transmission facilities which are planned and constructed pursuant to the Project Agreements could create seams issues and regulatory concerns (collectively, "**Seams Issues**"). Seams Issues might include, for example, rate pancakes, operational conflicts for determining capacity availability and curtailment obligations, and the conditions (including tariffs) under which Midwest ISO would agree to assume functional control of the Project transmission facilities constructed under any Project Agreement.

In order to facilitate resolution of Seams Issues that may affect (i) the determination of Project ownership structure among the Participants, (ii) the

timely execution and delivery of Project Agreements, and/or (iii) the recovery by any Participant of its development and construction costs, commencing in the first (1st) year under this Agreement, the Participants shall diligently and in good faith attempt to address Seams Issues and Project transmission facility ownership structures. During the first three (3) years of this Agreement, any Participant may, at its own expense, analyze Seams Issues and present Seams Issues to the other Participants, together with any proposed actions for resolution, and/or participate in Midwest ISO, MAPP and/or other working groups reviewing Seams Issues on a regional scale. If the effort to resolve Seams Issues involves presentations to or inquiries of Midwest ISO, MAPP or FERC, each of the Participants shall have the opportunity to participate in any such presentations (to the extent permitted under FERC regulations and Midwest ISO and MAPP procedures, as applicable) and, subject to compliance with the provisions of Section 9 of this Agreement, present their views for discussion and consideration. If any specific Seams Issue appears likely to increase the costs of transmission service to a Participant or become an impediment to (A) any required regulatory approval of the Project for any Participant, (B) assumption by Midwest ISO of functional control of Project transmission facilities owned by members of Midwest ISO, (C) cost recovery, or (D) optimal reliability of the Project transmission system, and such Seams Issue could possibly be resolved by, among other things, ownership of the Project transmission facilities under a tenancy in common structure, the Participants will cooperate and negotiate among themselves in good faith concerning potential means of resolution of any Seams Issue (including such an ownership structure for Project transmission facilities).

3.6.1.2 Midwest ISO Status. Missouri River Energy Services and the Central Minnesota Municipal Power Agency currently are not, but are in the process of applying to become, Transmission Owning members of the Midwest ISO, and that status as a Transmission Owning member of the Midwest ISO is a material element of the business considerations relevant to participation in the Project by Missouri River Energy Services and the Central Minnesota Municipal Power Agency. Missouri River Energy Services and the Central Minnesota Municipal Power Agency anticipate that the outcome of the proceedings necessary for Missouri River Energy Services and the Central Minnesota Municipal Power Agency to become Transmission Owning members of the Midwest ISO will not be known when the initial forms of Project Agreements are approved by the Management Committee under Section 3.6.3 hereof, but will be known, and could be addressed in the terms included, when the final forms of Project Agreements are reviewed and acted upon by the Management Committee under Section 3.6.7 hereof.

3.6.2 Commencement of Project Agreements; Vote Date for Initial Forms of Project Agreements. The Management Committee shall, at such time as it deems appropriate, provide notice to the Participants of its request that they begin work to develop proposed initial forms of Project Agreements and shall establish the date on which the Management Committee shall review and act on proposed initial forms of Project Agreements, such date

to be set to provide an amount of time the Management Committee deems adequate to allow for the drafting and negotiation of such initial forms of Project Agreements. Notice of the date established under this Section 3.6.2, together with the Management Committee's request that the Participants begin work to develop proposed initial forms of Project Agreements, shall be delivered promptly thereafter to each Participant in accordance with Section 11 (Notices).

3.6.3 Vote on Project Agreement Initial Forms. On the date established by the Management Committee under Section 3.6.2 hereof (or such later date as the Management Committee may subsequently set by a Level B Vote), the Management Committee shall review and act on the proposed initial forms of Project Agreements at a Level B Vote. If the Management Committee does not approve the proposed initial forms of Project Agreements, such lack of approval shall have no effect on the obligations of any Participant, including, without limitation, obligations to comply with Sections 3.6.5 and 3.6.6 hereof. Regardless of whether the Management Committee approves the proposed initial forms of Project Agreements, nothing herein shall prevent the Management Committee from reinitiating the process to develop (or modify previously approved forms of) initial Project Agreement forms to be approved by the Management Committee in the manner contemplated by Section 3.6.2 hereof.

3.6.4 Vote Date for Final Forms of Project Agreements. The Management Committee shall monitor the progress of Development Work and, in particular, the progress of Critical Permits and resolution of matters necessary for the completion of final forms of Project Agreements. Within two (2) business days after the Management Committee receives notice that the last Critical Permit required to proceed with the Project has been granted or issued by Final Order, the Management Committee shall establish a projected date on which the Management Committee is anticipated to review and act on proposed final forms of Project Agreements (**"Projected Project Agreement Vote Date"**). The Projected Project Agreement Vote Date shall provide an amount of time the Management Committee deems adequate to allow for the drafting and negotiation of final forms of Project Agreements; provided, however, that unless otherwise unanimously agreed in writing by the Participants, such date shall occur not less than ninety (90) days and not more than one hundred ten (110) days (unless there are no Issues at Impasse, in which case such date shall occur not less than fifty-five (55) days and not more than sixty-five (65) days) after the date on which all Critical Permits have been granted or issued by Final Order.

Within three (3) business days following the Management Committee's action under this Section 3.6.4 to establish the Projected Project Agreement Vote Date, the Management Committee shall deliver, or cause to be delivered, to each Participant in accordance with Section 11: (A) notice of the Projected Project Agreement Vote Date, (B) complete drafts of the proposed final forms of Project Agreements the Management Committee intends to review and act upon on such date (subject to further any revisions and additions negotiated by the Participants after such notice), (C) complete copies of all Critical Permits granted or issued by Final Order, and (D) notice of the projected deadline under Section 3.6.5.3 to identify any "Issues at Impasse" (as defined therein). If the initial forms of Project Agreements have not been approved by the Management Committee prior to the date that Project Agreements are anticipated to be sent to the Participants, the forms to be sent to the

Participants shall be the last forms of Project Agreements negotiated by the Participants under the auspices of the Management Committee.

3.6.5 Participant Obligations Related to Final Forms. Each Participant shall, during the course of work to develop the final forms of Project Agreements before the Projected Project Agreement Vote Date, comply with the obligations and follow the procedures set forth below.

3.6.5.1 Covenant Regarding Proposed Revisions. Each Participant shall make good faith efforts to limit areas in which it requests revisions or additional provisions to the final forms of Project Agreements proposed by the Management Committee to such revisions or additional provisions as are required to address matters the Participant considers to be essential to its willingness or ability to execute the Project Agreements. Each Participant shall review and consider in good faith all revisions and additions to the proposed final forms of Project Agreements proposed by any other Participant. Minnesota Power shall have the right to request revisions or additional provisions to the initial forms of the Project Agreements approved by the Management Committee that address matters relating to, or arising out of, the issue of Minnesota Power's ownership of Project assets in North Dakota or the MP Reapportionment described in Section 3.6.5.2.1.

3.6.5.1.1 Minnesota Power Ownership of Project Assets in North Dakota. Notwithstanding any provision of this Agreement to the contrary, if Minnesota Power provides notice to the other Participants as set forth in Section 3.6.5.1.2 that it does not own electric utility assets in North Dakota and does not provide electric service to retail customers in North Dakota, then Minnesota Power shall not be required to own Project assets in North Dakota; provided, however, that this provision is solely for the purpose of addressing Minnesota Power's ownership of Project assets in North Dakota under the Project Agreements, and creates no other rights, obligation, or conditions, express or implied, with respect to Project ownership by any of the Participants or the Participants' negotiations and discussions regarding Project ownership as contemplated by this Agreement. As illustration of the previous sentence (and not in limitation), nothing in this provision shall grant Minnesota Power any right to elect more, or require Minnesota Power to elect less, than its Election Right in non-North Dakota Project assets (presuming completion of the Development Work of the Project and exercise by Minnesota Power of its Election Right to proceed with the Project under Article 6) that Minnesota Power would have a right to obtain if it in fact had proportional ownership of North Dakota Project assets.

3.6.5.1.2 Notification of Minnesota Power North Dakota Ownership Status. If, on the date that is five (5) business days after the Management Committee's action under Section 3.6.4 to establish the Projected Project Agreement Vote ("**MP North Dakota Status Determination Date**"), Minnesota Power does not own electric utility assets in North Dakota and does not provide electric service to retail customers in North Dakota, then within three (3) business days of the MP North Dakota Status Determination Date, Minnesota Power shall so notify the other Participants.

3.6.5.2 Proposal for Revisions. As promptly as feasible, but in no event later than fifteen (15) business days after the Management Committee notice is given under Section 3.6.4, each Participant shall make good faith efforts to (i) identify all revisions and additions that it believes are needed in the final forms of Project Agreements to enable such Participant to execute the Project Agreements, (ii) develop proposed resolutions to all substantive issues so identified, and (iii) identify and propose one or more individuals who are willing and available to serve as facilitators in connection with the Resolution Hearing convened under Section 3.6.6 hereof.

3.6.5.2.1 Without limiting the generality of the foregoing, if Minnesota Power has notified the other Participants as set forth in Section 3.6.5.1.2, then Minnesota Power may request revisions or additional provisions in the final forms of the Project Agreements that would adjust the Participants' relative ownership of North Dakota and non-North Dakota Project assets so that: (i) Participants other than Minnesota Power would own a higher proportion of overall Project assets located in the state of North Dakota; (ii) Minnesota Power would own a higher proportion of overall Project assets located in Minnesota; and (iii) all Participants ultimately would own the same overall percentage or value of Project assets as they would have owned had Minnesota Power proportional ownership of North Dakota Project assets ("**MP Reapportionment**").

3.6.5.2.2 If any requested MP Reapportionment is not incorporated into the final forms of the Project Agreements that are approved by the Management Committee under Section 3.6.7 and Minnesota Power has elected its full Election Right in non-North Dakota Project assets, then such Project Agreements shall provide that Minnesota Power will receive, as an offset against amounts owed by Minnesota Power under the Project Agreements, an amount equal to the difference between: (i) the percentage of Development Costs Minnesota Power would have paid had its Participant Percentage equaled its Elected Project Participation as implemented without an MP Reapportionment, and (ii) the

percentage of Development Costs actually paid by Minnesota Power in accordance with its Participant Percentage.

3.6.5.3 Issue(s) at Impasse. If a Participant believes in good faith that there are one or more "Issues at Impasse" (as defined below) arising from (either by way of inclusion or omission) the proposed final forms of Project Agreements provided by the Management Committee pursuant to Section 3.6.4, such Participant shall within fifteen (15) business days after the Management Committee notice is given pursuant to Section 3.6.4, deliver notice to all other Participants clearly identifying its Issues at Impasse and request the initiation of the Resolution Hearing process as described in Section 3.6.6 hereof. Unless all Participants agree that one or more Participants do not need to participate in a Resolution Hearing, each Participant shall participate in good faith and in accordance with Section 3.6.6 hereof, in the Resolution Hearing requested by it or by any other Participant. For purposes of this Agreement, the term "**Issue at Impasse**" shall mean an unresolved issue that a Participant considers to be essential to its willingness or ability to execute the Project Agreements.

3.6.6 Resolution Hearing Process.

3.6.6.1 Request for Resolution Hearing and Selection of Facilitator. Upon the receipt of any Issue at Impasse from any Participant in accordance with Section 3.6.5.3 hereof, the Management Committee shall promptly arrange for and notify all Participants of the date, time and location of a facilitated negotiation process for the purpose of resolving one or more Issues at Impasse (the "**Resolution Hearing**"). The Management Committee shall set such date, time and location to reasonably accommodate participation by all Participants; provided, however, that the Resolution Hearing shall commence not later than ten (10) business days after the expiration of the fifteen (15) business day Issue at Impasse response period. All Participants shall cause duly authorized business representatives with decision-level authority and legal counsel to attend and participate in good faith in the Resolution Hearing convened in accordance with this Agreement. Except as otherwise agreed by all Participants, such Resolution Hearing shall be conducted under the auspices of a facilitator selected by agreement of all Participants from those proposed by one or more Participants under Section 3.6.5.2(iii) above. If the Participants cannot agree on a facilitator, then unless the Participants have unanimously agreed to proceed without a facilitator, the Management Committee shall, within five (5) business days after the expiration of the fifteen (15) day Issue at Impasse period, select a qualified facilitator at a Level B Vote after the Management Committee has determined that the facilitator to be selected (i) has appropriate qualifications and capabilities with respect to the negotiation and terms of major multilateral agreements related to the construction, operation, and ownership of transmission facilities, and (ii) is free from conflicts of interest based on existing or previous personal or professional relationships between one or more Participants and (A) the facilitator, (B) the facilitator's employer or business associates, (C) the facilitator's immediate

family (parents, siblings, children, or household members), (D) the employer or business associates of the facilitator's spouse, or (E) the immediate family (parents, siblings, children, or household members) of the facilitator's spouse. The Management Committee shall make adequate arrangements to ensure that all Participants receive timely, complete, and accurate copies of the proposed final forms of Project Agreement drafts at the Resolution Hearing.

3.6.6.2 Resolution Hearing. The facilitator for the Resolution Hearing (or, if the Participants have unanimously agreed to proceed without a facilitator, the Participants) shall complete the Resolution Hearing process(es) for all Issues at Impasse as expeditiously as feasible, and in any event within no more than twenty (20) business days from the date of first session of the Resolution Hearing, except as otherwise approved by the Management Committee at a Level B Vote. The objectives for the Resolution Hearing shall be to provide a formal and expedited process for all Participants to present proposed revisions and additions to the Project Agreements and to provide a collaborative structure to build alternative provisions that may better satisfy the interests of the Participants. The facilitator shall have no authority to render a decision of any kind or to impose on any of the Participants any particular resolution or terms for the Project Agreements.

3.6.6.3 Written Presentations. At a Resolution Hearing, each Participant whose Issues at Impasse are the subject of the Resolution Hearing (the **"Proponent Participant(s)"**) shall formally present, in writing, an **"Initial Hearing Statement"** setting forth the merits of the matter(s) it has identified as Issues at Impasse and how it proposes that the matter(s) be resolved. Each other Participant (each, a **"Responding Participant"**) shall respond in writing with a **"Responding Hearing Statement,"** setting forth its position with respect to the merits of each Proponent Participant's Initial Hearing Statement. To the extent that any Responding Participant believes that the resolution of a matter identified as an Issue at Impasse by a Proponent Participant in such Proponent Participant's Initial Hearing Statement could result in revisions or additions to the forms of Project Agreements that adversely affect such Responding Participant's willingness or ability to execute the Project Agreements, such Responding Participant shall so state in its Responding Hearing Statement and such matter shall be deemed, for purposes of Section 6.5 hereof, to have been identified by such Responding Participant as its own Issue at Impasse.

3.6.6.4 Oral Hearings. Within a reasonable time following the submission of Initial Hearing Statements and Responding Hearing Statements under Section 3.6.6.3, there shall be an oral hearing at which each Proponent Participant and each Responding Participant shall be allowed a reasonable opportunity to state its position and respond to others' positions on each Issue at Impasse. The oral hearing shall be held over the course of several meetings if necessary.

3.6.6.5 Consolidation of Issues at Impasse in Resolution Hearing. To expedite the resolution of all Issues at Impasse, the Management Committee shall

consolidate all Issues at Impasse for resolution in one (1) Resolution Hearing. Each Issue at Impasse shall be given due consideration and shall be addressed individually through formal written presentations and responses and oral hearings.

3.6.6.6 Revision of Forms of Project Agreements and Meeting Notice. Prior to the completion of and during the Resolution Hearing process, each Issue at Impasse shall be separately voted upon by the Management Committee. Each Issue at Impasse that receives a Level B Vote of the Management Committee shall be incorporated to the final forms of Project Agreements in form and substance approved by such Level B Vote. Within three (3) business days after the completion of the Resolution Hearing the Management Committee shall send the revised final form of Project Agreements (which shall incorporate the resolved Issues at Impasse that were approved by the Management Committee pursuant to this Section 3.6.6) to the Participants for review and internal discussion and approvals. In connection with the transmittal of the revised final forms of Project Agreements, the Management Committee shall notice a meeting of the Management Committee to be held thirty (30) days after the date of such transmittal (or the business day closest to such thirtieth (30th) day) for action by the Management Committee on the final forms of Project Agreements (the "**Project Agreement Vote Date**").

3.6.7 Management Committee Vote on Proposed Final Forms of Project Agreements. On the Project Agreement Vote Date (or such later date as the Management Committee may subsequently set by a Level B Vote), the Management Committee shall review and act on, at a Level B Vote, the proposed final forms of Project Agreements. If the conditions set forth in Section 6.5 are met, an Opting-Out Participant shall be reimbursed for its Participant Percentage of Development Costs as provided pursuant to the terms of this Agreement.

4. DEVELOPMENT MANAGER.

4.1 Appointment and General Duties.

4.1.1 Appointment. The Participants have hereby appointed and designated a Development Manager, as named in the preamble to this Agreement. The Participants authorize and direct the Development Manager to carry out, as agent for and on behalf of the Participants, Development Work in accordance with the terms of this Agreement. This agency relationship is expressly limited to this Agreement and the terms hereof, and no agency relationship is hereby created for any purpose other than carrying out Development Work pursuant to this Agreement. The fact that a Participant is serving in the capacity of the Development Manager, as well as a Participant, does not in any way change, modify or release the Development Manager from its rights, interests and obligations in its capacity as a Participant under this Agreement.

4.1.2 General Duties. The Development Manager shall competently and diligently, and in compliance with all Applicable Laws, directives and policies of the Management

Committee, and in accordance with Good Utility Practice, (i) carry out the duties and obligations of the Development Manager specified in this Agreement, (ii) conduct all other activities deemed necessary and proper to complete the Development Work pursuant to and consistent with the requirements of this Agreement, and (iii) perform such other functions and duties as may be assigned to it and appropriately budgeted by the Management Committee pursuant to a Level B Vote.

4.1.3 Not Permit Liens. The Development Manager shall not permit any unsatisfied liens incurred in connection with Development Work to remain in effect other than (i) liens for taxes or assessments not yet delinquent, (ii) liens for workers' compensation awards, and (iii) liens for labor and material not yet perfected; provided, however, that the Development Manager shall not be required to arrange payment or discharge of any such lien as long as the Development Manager is timely contesting such lien in accordance with Applicable Law.

4.2 **Contracting Responsibilities.**

4.2.1 Development Work Contracts. Subject to Sections 4.2.2 and 4.2.3 below, the Development Manager shall, on behalf of and as agent for each of the Participants, bid, negotiate, enter into contracts for, and otherwise arrange from any source (including the Development Manager's employees, Participants or third parties) the resources necessary to perform and complete the Development Work, including engineering, labor, legal counsel, consultants studies, equipment, apparatus, machinery, materials, tools, water, power and supplies necessary for the performance and completion of Development Work including materials and supplies inventory. All contracts for Development Work, as well as all amendments thereto, shall be approved solely by the Development Manager (pursuant to procedures developed by the Development Manager and submitted to the Management Committee for its information), except for Major Contracts that are subject to prior Management Committee approval pursuant to Section 4.2.5.1 of this Agreement. In performing Development Work, the Development Manager may use its own or another Participant's employees, equipment, facilities and similar resources without the approval of the Management Committee.

4.2.2 Administration and Reporting of Contracts.

4.2.2.1 Contract Administration. The Development Manager shall (i) perform, administer and enforce all contracts for Development Work, and (ii) furnish one (1) conformed copy of all such contracts to the Management Committee, and any Participant upon the written request by a Participant.

4.2.2.2 Reporting. The Development Manager shall provide a listing of each of the contracts it has entered into under and pursuant to this Agreement since the preceding regular Management Committee meeting. Such listing shall include the date of the contract, the contracting parties, a summary of the work to be performed and the contract price and payment terms.

4.2.3 Development Manager Work and Contracting with Participants Without Bid Process. Nothing in this Agreement shall require the Development Manager to engage in a bid process before (i) performing Development Work, or (ii) entering into a contract with a Participant as a Subcontractor to perform Development Work, so long as the contract is consistent with the Development Manager's contracting procedures as submitted to the Management Committee under Section 4.2.1.

4.2.4 Approved Bidders.

4.2.4.1 Preparation of Bid List. The Development Manager shall prepare and submit to the Management Committee for its approval a list of approved bidders with respect to each Major Contract before offering such contract for bid.

4.2.4.2 Notice to Participants. Before engaging in the contract bid process for third party vendors that is anticipated by the procedures to be developed by the Development Manager as described in Section 4.2.1, the Development Manager shall provide prior written notice to each of the Participants that it has determined to utilize a third party vendor for certain Development Work. Such notice shall include (i) the scope and specifications of the Development Work to be performed, (ii) the qualifications required of the third party vendor, (iii) the time schedule in which such Development Work is to be performed, (iv) the budget range for such Development Work, and (v) the bid procedures to be followed, including the documents and instruments to be submitted in the bid package.

4.2.4.3 Participant Bid Response.

(i) The Participant(s) shall have ten (10) business days from the date of the Development Manager's notice to provide a written response to the Development Manager. The Participant's response with respect to such Development Work shall include (i) the Participant's offer to perform and its professional qualifications, (ii) the Participant's workplan for the scope and specifications of such Development Work, (iii) the contract amount to be paid to the Participant, (iv) the contract that Participant is willing to enter into, and (v) any other information and/or documentation reasonably requested by the Development Manager, including whether the Participant will utilize Subcontractors, and to what extent such Development Work will be completed by Subcontractors. The information and documentation requested by the Development Manager shall not exceed that required of any third party vendor.

(ii) After compliance with subsections (i) above, to the extent reasonably practicable, with due consideration to economic considerations, including requirements under Applicable Law (such as open bidding and prudency requirements) and/or cost and rate base recovery concerns of the Participants, a qualified Participant shall be selected to

perform Development Work that the Development Manager will not perform through its employees. If more than one (1) Participant responds to the notice of the Development Manager, and the Development Manager determines to select a Participant for such Development Work, the Development Manager shall have the right to select the Participant that will be engaged for such Development Work in its sole discretion.

(iii) If no Participant submits a response under Section 4.2.3.2(i), or the response(s) received from one or more Participants is not deemed acceptable to the Development Manager in its reasonable determination, then the Development Manager may seek to use a third party vendor to perform such Development Work.

(iv) If a Participant fails to provide such a written response to the Development Manager within the time period prescribed in subsection (i) above a Participant shall be deemed to have waived its opportunity to be considered for and perform such Development Work; provided, however, a Participant may participate in the bid process and submit a bid in connection with any third party request for bids thereafter initiated by the Development Manager.

4.2.5 Major Contracts – Contracting Procedures. The following shall govern the contracting procedures for Major Contracts. All Major Contracts, including all amendments thereto, shall be reviewed, approved and entered into only in accordance with the procedures set forth in this Section 4.2.5. Such procedures shall not apply to the execution of contracts executed and delivered before the effective date of this Agreement.

4.2.5.1 Major Contracts – Management Committee Approval. The Management Committee may from time to time designate a contract as a Major Contract, provided that no such designation shall be deemed to require the approval of a contract or matter executed or determined on or before the date of such designation. The Development Manager shall present all Major Contracts, including any amendments thereto, to the Management Committee for its review and action at a Level B Vote. If the Management Committee approves such Major Contract, or an amendment thereto, the Development Manager shall have the authority to execute and deliver same.

4.2.5.2 Effect of Approval. Any Major Contract executed by the Development Manager without prior approval of the Management Committee shall be at the risk of the Development Manager. In such event, the Development Manager shall advise in writing the Management Committee and indicate why the Development Manager executed a Major Contract without prior approval of the Management Committee. The issue shall be presented and acted upon, at a Level B Vote, at the next Management Committee meeting. If the Management Committee fails to ratify the action of the Development Manager, the contract executed by the Development Manager shall not constitute

Development Costs and the Development Manager shall be responsible for all costs related thereto. If the Management Committee fails to so ratify, nothing herein shall prevent the Development Manager from terminating such Major Contract or otherwise withholding the benefits and interests of such Major Contract from the Participants under and pursuant to this Agreement.

4.3 **Technical Duties and Responsibilities.**

4.3.1 Development Work Schedule and Plan and Modifications.

4.3.1.1 Prepare Initial Development Work Schedule and Work Plan. The Development Manager shall promptly (within a commercially reasonable time) following the effective date of this Agreement prepare and submit to the Management Committee the initial Development Work schedule and initial work plan. Approval of such schedule and plan by the Management Committee shall require a Level B Vote. Such schedule shall depict in graphic form the overall performance plan of Development Work displayed in time-framed format, with critical milestones identified. Such work plan shall set forth, in general terms, how the Development Manager proposes to carry out Development Work. The Development Manager shall update, from time to time, the Development Work schedule and work plan on its own initiative and also at the request of the Management Committee. Any updated Development Work schedule and work plan to be adopted by the Management Committee shall also require a Level B Vote to become effective.

4.3.1.2 Revise Development Work Schedule. The Development Manager shall revise the Development Work schedule quarterly to reflect changes in the progress of Development Work.

4.3.2 Conceptual Design. The Development Manager shall prepare the conceptual design for the Project for review and action by the Management Committee at a Level B Vote.

4.3.3 Critical Permit Applications. The Development Manager shall prepare and file, or cause to be prepared and filed, applications for Critical Permits. Where any Critical Permit is being sought on a joint or consolidated basis with one or more other CapX Projects, the oversight and supervision of such process shall be on a coordinated basis with the development managers of the other CapX Projects, except as otherwise determined by the Management Committee at a Level B Vote. The Development Manager also shall prepare and file, or cause to be prepared and filed, applications for other applicable Permits and approvals for the Project. Approval of Critical Permit applications shall require a Level B Vote of the Management Committee.

4.4 **Management of Development Costs.**

4.4.1 Initial Budget and Revision. The Development Manager shall develop the budgets for the Development Work and make forecasts and recommendations regarding revisions to such budgets in accordance with Section 5.3 hereof.

4.4.2 Limitation on Development Costs. The Development Manager shall not incur, or allow to be incurred, Development Costs that exceed the Maximum Development Costs as defined in Section 5.3.1.

4.4.3 Development Costs. The Development Manager shall incur and pay only those Development Costs that are described in Section 5.1.2.1 hereof. The Development Manager shall not incur, pay or be reimbursed for the costs set forth in Section 5.1.2.2 hereof.

4.4.4 Expenditure on Development Costs. Utilizing the Development Manager's own funds, the Development Manager shall pay, when due, all Development Costs and shall be reimbursed for same by the Participants in accordance with Section 2.11 of this Agreement. Each month the Development Manager shall prepare and distribute to each Participant an invoice setting forth the aggregate amount of Development Costs paid by the Development Manager but not included in a previous invoice (**"Monthly Development Costs"**).

4.4.5 Payment and Reimbursement of Development Costs.

4.4.5.1 Development Manager Payments. Before the Development Manager shall pay Development Costs, the Development Manager shall create and file for auditing purposes a payment request therefor, signed by two Development Manager representatives, stating in respect of each such payment (i) the amount of such payment due, (ii) the name and address of the Person, corporation or firm to whom the payment is due, (iii) a brief description of the work, services or products covered by such payment, and (iv) that the amount is properly due and payable for work done or services rendered and has not been paid.

4.4.5.2 Participant Reimbursement and Disputed Invoices. Except as set forth in Section 5.4.4(iii) (costs allocable after a Cost Offering), Participants shall reimburse the Development Manager for the Participant's Participant Percentage of Monthly Development Costs and may dispute the invoices rendered by the Development Manager pursuant to the provisions of Section 2.11 hereof.

4.4.6 Records of Expenditures. The Development Manager shall keep and maintain records of monies expended, obligations incurred and credits accrued; and maintain for auditing by the Management Committee those accounting records used by the Development Manager for the purpose of accumulating financial and statistical data for Development Work. The Development Manager shall retain each such record for five (5) years or such longer period of time as determined by the Management Committee; provided, however, that the Development Manager shall have the right at the end of such five (5) year period to advise the Participants that it intends to dispose of such records within six (6) months of the date the notice is given, and shall have the right to so dispose of the records unless a Participant or Participants provide the Development Manager with written notice prior to the end of

such six (6) month period that the Participant(s) shall take custody of such records no later than the end of such six (6) month period.

4.5 **Development Manager Reports.**

4.5.1 Management Committee Reports. The Development Manager shall prepare and submit to the Management Committee the following reports:

(i) monthly reports (or such other time frame as reasonably determined by the Management Committee) regarding the progress of Development Work, contracts entered into (to comply with Section 4.2.2.1), and financial reports of Development Costs paid or incurred, including budget-to-actual comparisons (on a current period, yearly and overall budget basis);

(ii) monthly cost reports (or such other period of time as determined by the Management Committee), which shall include the accumulated total disbursements for Development Work including a comparison to the most recently approved budget for Development Work;

(iii) a statement of quarterly Development Cost cash flow estimates for the next quarter, including budget-to-actual comparisons (on a current period, yearly and overall budget basis). Such reports shall commence on or before the tenth (10th) business day before the first (1st) business day of the first (1st) full calendar quarter following the effective date of this Agreement, and on or before the tenth (10th) business day before the first (1st) business day of each calendar quarter thereafter; and

(iv) all financial reports submitted by the Development Manager shall be prepared in accordance with GAAP; provided, however, interim internal financial reports may be presented to the Management Committee subject to year-end adjustments and may lack footnotes and other required GAAP presentation items.

4.5.2 Final Completion Report. The Development Manager shall prepare and distribute to the Management Committee and each Participant a final completion report within a commercially reasonable period of time following termination of this Agreement, which shall include a complete cost report for Development Work.

4.6 **Development Manager Assistance and Information.** Upon request the Development Manager shall provide assistance and information that is reasonably available and arises in connection with Development Work to the Management Committee, any committee established by the Management Committee and any Participant.

4.7 **Insurance.**

4.7.1 Insurance Coverage. The Development Manager will maintain insurance for and with respect to the Development Work for the Term (and any applicable statute(s) of limitations thereafter). The types and amount(s) of such insurance coverage shall at a minimum

include: worker's compensation (statutory limits); employer's liability ($1 million); commercial general liability (combined single limits of not less than $5 million, providing for bodily injury, personal injury, property Damage and cross-liability); comprehensive auto liability (combined single limits of not less than $5 million and cross-liability); and professional liabilities/errors and omissions ($1 million). Notwithstanding the foregoing, for purposes of (i) workers' compensation coverage, the Development Manager may be a qualified self-insurer in the state of Minnesota, and (ii) errors and omissions/professional liability coverage, the Development Manager may be self-insured to the extent of any policy exclusions not available to an "owner." Other insurance, as may be appropriate in the circumstances, may be obtained and/or acquired, as determined in the reasonable discretion of the Development Manager or the Management Committee. The type and amount of coverage above such minimum amounts, individually and in the aggregate, shall be determined by the Development Manager, subject to the approval of the Management Committee. All such coverage (both the base policy and any excess policies) shall be primary and non-contributory coverage in relation to the Participants' separate insurance and self-insured coverages.

4.7.2 Required Coverage Attributes. All insurance policy coverage maintained by the Development Manager shall (i) be from an insurance company rated at least A- VII by Best Insurance Rating Service, (ii) be endorsed to show that the insurers waive subrogation against the Participants and their respective Affiliates, directors, officers and employees, (iii) not expire, terminate or otherwise discontinue coverage except upon not less than thirty (30) days prior written notice to the Management Committee, (iv) name each Participant and its respective Affiliates, directors, officers and employees as additional insureds under each such policy (excluding the policies for worker's compensation and automobile liability) and contain no special limitations on the scope of protection afforded to said additional insureds, and (v) carry cross-liability.

4.7.3 Certificates and Endorsements. Certificates of insurance and endorsement acceptable in the reasonable determination of the Management Committee shall be filed with the Management Committee by the Development Manager before the commencement of the Development Work and at least once each calendar year during the Term.

4.7.4 Subcontractors. The Development Manager shall require its Subcontractors (including any Participant acting as a Subcontractor) to maintain the equivalent insurance coverage and amounts required of the Development Manager in Sections 4.7.1 and 4.7.2 above, and provide proof of coverage for the Development Manager to submit to the Management Committee for approval.

4.7.5 Participant Insurable Interest. It is expressly understood and agreed that each Participant has an insurable interest in the property interests arising under this Agreement and may procure for its own account additional insurance with respect to its interest as it may determine. The cost of such insurance shall be paid by such Participant from its own funds and shall not constitute Development Costs. The proceeds of such insurance shall be payable to such Participant. Other Participants shall not have any rights or interest in such insurance or the proceeds thereof.

4.8 **Settlement of Third-Party Claims Against Participants.**

4.8.1 Insured Claims Against Participants.

4.8.1.1 Development Manager Rights and Obligations. The Development Manager shall, through tender of such claims to (and cooperation with) one or more applicable insurers, investigate, adjust, defend and settle insured claims against any Participant arising out of or attributable to Development Work asserted by any Person (other than a Participant) against any one or more of the Participants, so long as such claim is within the scope of coverage and policy limits provided by any of the applicable insurance policies.

4.8.1.2 Limitation on Development Manager Rights and Obligations. The foregoing right to settle insured claims is conditioned upon (i) the payment of the claim pursuant to such insurance policies; provided, however, the existence of commercially reasonable deductibles, self-insured retentions and co-insurance limits shall not affect such settlement rights, and (ii) the settlement contains the conditions set forth in clauses (i) and (iii) of Section 4.8.2.2.

4.8.1.3 No Right to Settle Independently. No Participant shall have the right to independently settle any claim covered under the provisions of this Section 4.8.1.

4.8.2 Uninsured Claims Against Participants.

4.8.2.1 Development Manager Rights and Obligations. The Development Manager shall investigate and, subject to Section 4.8.2.2, adjust, defend and settle uninsured claims arising out of or attributable to Development Work by any Person (other than a Participant) against any one or more of the Participants and, consequently, for which no insurance coverage is available for payment of such claim or claims.

4.8.2.2 Limitation on Development Manager Rights and Obligations. Except with the written consent of each Participant (which consent shall not be unreasonably withheld, delayed or conditioned), the Development Manager does not have the authority pursuant to Section 4.8.2.1 to enter into any settlement or to consent to entry of any judgment (other than a judgment of dismissal on the merits without costs) unless (i) there is no finding or admission of any violation of law and no material effect on any claims that could reasonably be expected to be made against the Participants or any of them, (ii) the sole relief provided is monetary in an amount (x) not to exceed the amount set by the Management Committee pursuant to Section 4.10 hereof, or (y) such amount as is approved by the Management Committee upon request by the Development Manager for such specific matter, and (iii) the settlement shall include a comprehensive release of each Participant by the claimant or the plaintiff of all claims, liabilities or obligations in respect of such claim or Proceeding.

Any Participant may independently, on its own behalf only, and at its sole expense, settle, or consent to an entry of judgment on, such uninsured claim if and only if the terms of such settlement or judgment do not adversely affect another Participant, the Project, or the Development Manager's ability to prosecute the Development Work, and if the settling Participant gives ten (10) days' prior written notice to each other Participant of such settlement or judgment and its terms. The act of settlement or consent to entry of judgment in and of itself shall not be determined to have such an adverse affect. In such event, the settling Participant (i) shall not be included in any other settlement of such uninsured claim by the other Participants or Development Manager, and (ii) shall not be responsible for and shall not be charged for any such other settlement of such uninsured claim, notwithstanding Sections 7.2(i) and (ii) hereof.

4.8.2.3 Participant Limited Right Participation. Each Participant shall be entitled to participate in the prosecution, defense or settlement of any claim or Proceeding undertaken by the Development Manager pursuant to Sections 4.8.2.1 and 4.8.2.2, provided that (i) such participation shall be limited to observation and comment to the Development Manager, and (ii) the counsel selected by such Participant shall not appear on such Participant's behalf in any negotiation or Proceeding resulting therefrom unless any affected Participant's legal counsel shall advise the Development Manager in writing that there is a conflict of interest that would make it inappropriate under applicable standards of professional conduct to have common counsel for some or all of the Participants, in which event each such interested Participant shall be entitled to participate in the prosecution or defense of any claim or Proceeding through its own counsel. Each Participant shall bear the fees and expenses of any additional counsel retained by it to participate in the prosecution or defense of any claim or Proceeding, unless such counsel is required due to a conflict as described in the preceding sentence of this Section 4.8.2.3.

4.9 **Claims Against Third Parties.** The Development Manager shall have the right, duty and obligation to investigate, present, prosecute, settle and enforce any and all claims against any Person for Damages in connection with Development Work, including contractors, Subcontractors, suppliers and other contract vendors, consultants and professionals arising out of Development Work. (The foregoing includes claims against a Participant acting as a Subcontractor pursuant to Section 4.2.3.) Notwithstanding the foregoing, the Development Manager shall not have the right to release a claim against a third party or a Participant acting as a Subcontractor hereunder that has a dollar amount in excess of the amount set by the Management Committee pursuant to Section 4.10 without the consent of the Management Committee.

4.10 **Maximum Claim Settlement and Release Amounts.** The maximum amount for which the Development Manager may settle or consent to the entry of judgment for any individual uninsured claim for purposes of Section 4.8.2.2 shall be initially established at $500,000. The maximum amount for which the Development Manager may release any third party from liability or potential liability without the consent of the Management Committee for purposes of Section 4.9 shall be

initially established at $250,000. The Management Committee may, from time to time, reduce or increase either or both of such maximum amounts set forth in this Section 4.10.

4.11 **Removal of Development Manager**. The Development Manager may be removed only for Cause. If two or more Participants believe that the Development Manager should be removed for Cause, such Participants shall jointly provide written notice to the Development Manager and all other Participants calling for a meeting of the Management Committee to discuss and determine what action, if any, should be taken with respect to such proposed removal (the "**Removal Notice**"). The Removal Notice shall contain the asserted factual basis for such removal and reference the applicable provision(s) of this Agreement to which such factual basis may apply. Upon receipt of the Removal Notice, the Management Committee shall schedule a meeting of the Management Committee within ten (10) business days of such receipt to review and discuss the asserted factual basis set forth in the Removal Notice. The subject matter of such meeting shall be confined to the asserted factual basis for removal as described in the Removal Notice.

4.11.1 Definition of "Cause." Subject to an opportunity to cure (if applicable) as provided in Section 4.11.2 below, "Cause" for removal of the Development Manager shall have occurred if the Development Manager has:

(i) committed an act of dishonesty, fraud or breach of trust involving the Development Work;

(ii) failed to follow any material policy or directive of the Management Committee of which the Development Manager had knowledge or for which the Development Manager should have had knowledge;

(iii) been convicted of or entered a plea of nolo contendere to any felony;

(iv) abandoned or suspended progress of the Development Work for at least four (4) consecutive weeks for any reason other than by directive of the Management Committee, Force Majeure or as otherwise permitted by this Agreement;

(v) assigned its rights or obligations as Development Manager under this Agreement or any part thereof to any Participant without the prior written consent of Management Committee, or the interest of Development Manager in this Agreement passes to any Person, otherwise than as herein permitted;

(vi) failed or refused to perform any material obligation under the Agreement;

(vii) failed or refused to comply with any Applicable Law, which failure or refusal results in a material adverse effect on the Development Work or the Project; or

(viii) failed to remove, or post bond (within ten (10) business days after filing of the lien) with respect to, any unsatisfied liens incurred in connection with the Development Work, other than to the extent permitted pursuant to Section 4.1.3.

4.11.2 Development Manager Opportunity to Cure. Notwithstanding anything in this Agreement to the contrary, the events described in Sections 4.11.1(ii), 4.11.1(iv), and 4.11.1(vi)

through (viii) above shall not constitute Cause unless and until Development Manager has failed to cure such default (with respect to Section 4.11.1(vii), the required cure of such default shall only include cure of the material adverse effect) within fifteen (15) days after delivery of notice from two or more Participants that believe one or more such events have occurred, or, in the case of a default which cannot be cured within fifteen (15) days, has failed to initiate, within fifteen (15) days, actions reasonably likely to cure such default and to diligently pursue such cure to completion within forty-five (45) days after notice to Development Manager concerning such default.

4.11.3 Process for Removal. The meeting of the Management Committee to review the Removal Notice and to determine if the conduct of the Development Manager warrants removal for Cause shall be segmented into two (2) sessions as provided below.

(i) The first session shall be an open meeting of the Management Committee, in which the assertions (and all evidence documentary or otherwise with respect to such assertions) made against the Development Manager will be reviewed and discussed. Such meeting shall include the representative of the Development Manager and such other representatives of the Development Manager as the Development Manager deems reasonably necessary or desirable to address the asserted factual basis made in the Removal Notice and the evidence. All representatives on the Management Committee, including the Development Manager, shall have the right to have separate counsel and other advisors present in and participate in such session. The Development Manager shall provide such evidence and defense against the assertions made for its removal and may (A) question Management Committee members to examine the factual basis asserted and the evidence presented with respect to such removal (with the Participants agreeing that such questioning shall not constitute an admission, be discoverable or produced in any appeal process described in Section 4.11.5), and (B) provide such evidence as it deems relevant to its defense.

(ii) The second session shall be an open meeting of the Management Committee, including the representative of the Development Manager, to further review and discuss the asserted factual basis and the evidence made against the Development Manager and the action(s) (and remedies, if any) to be taken. A vote by the Management Committee to remove the Development Manager shall require a Level C Vote of all members of the Management Committee, except the representative of the Development Manager (who shall not have the right to vote on removal).

4.11.4 No Vote to Remove. If the Management Committee does not vote to remove the Development Manager under Section 4.11.3, it shall promptly (in any event, not later than five (5) days after such determination) notify the Development Manager in writing of such determination.

4.11.5 Vote to Remove and Appeal. If the Management Committee determines that the Development Manager should be removed for Cause, it shall promptly (in any event, not later than five (5) days after such determination) notify the Development Manager in writing that it has been removed by the Management Committee and the date upon which

such removal shall become effective. The determination by the Management Committee to remove the Development Manager shall be appealable by the Development Manager pursuant to the dispute resolution procedures set forth in Section 8.2.2 hereof. Any such appeal (i) must be made by the Development Manager within ten (10) business days after the Development Manager receives notice of removal from the Management Committee, and (ii) shall stay the removal determination of the Management Committee.

If the Management Committee has voted to remove the Development Manager and the Development Manager has appealed the decision of the Management Committee, the Development Manager shall continue its duties hereunder with respect to contracts and commitments existing as of the date of the Management Committee's vote to remove; provided, however, that, during the pendency of the arbitration appeal, if the Development Manager enters into or performs any additional contracts or commitments that did not exist on the date of such Management Committee vote (including incurrence of new Development Costs) without prior written Management Committee direction to do so, then any such additional costs and expenses so incurred during the pendency of the arbitration appeal that were not so directed by or later ratified by the Management Committee shall not be considered Development Costs that are reimbursable to the Development Manager by the other Participants.

The Development Manager shall not be required to enter into or perform any additional contracts or commitments that did not exist on the date of the Management Committee removal vote (including incurrence of new Development Costs) during the pendency of the arbitration appeal. In furtherance of the foregoing, all Participants waive any claims against the Development Manager in connection with non-performance under this Agreement with respect to the duties and responsibilities that the Development Manager is not required to perform during the pendency of the arbitration appeal.

A good faith finding by the Management Committee of the existence or absence of Cause, and the provision of the particular detail thereof to the Development Manager, shall not constitute an actionable claim of defamation by the Development Manager against the Management Committee or any Participant, it being understood that the Development Manager has required that such finding be published to the Development Manager by the Management Committee.

4.12 **Resignation of the Development Manager.**

4.12.1 Resignation for Good Reason. The Development Manager may resign as Development Manager for Good Reason only upon written notice to the Management Committee at least ninety (90) days before the effective date of such resignation. Such notice shall state (i) the effective date upon which the Development Manager shall relinquish its rights, duties and obligations hereunder, (ii) the acknowledgement of the Development Manager that it shall be bound by the terms and conditions to and through such effective date, subject to the survival provisions of this Agreement, and (iii) the Development Manager's intentions, if any, with respect to status as a Participant. At any time after such notice from the Development Manager is given, the Management Committee may name a replacement

Development Manager and by written notice to the Development Manager specify the date on which the replacement Development Manager shall assume its duties.

With respect to the resignation of the Development Manager the term "Good Reason" shall mean: (A) the termination or withdrawal of the Development Manager as a Participant, (B) unreasonable interference by the Management Committee by issuance of directives and guidelines to the Development Manager which impedes or renders infeasible the ability of the Development Manager to properly perform its duties and obligations hereunder in a timely and/or cost effective manner, (C) amendment of the scope of work required by the Development Manager without a commensurate adjustment of budgetary costs for Development Work, (D) directive(s) from the Management Committee to continue Development Work when such work is not authorized hereunder or will exceed the Maximum Development Costs hereunder, (E) chronic failure of the Participants to timely remit Development Cost reimbursement to the Development Manager, or (F) receipt of a Removal Notice.

4.12.2 Resignation Upon Completion of Development Work. Upon completion of the Development Work, and the Development Manager's duties and responsibilities with respect thereto, including but not limited to completion of the transition from Project development to Project construction, the Development Manager may resign. The determination as to the completion of such transition shall be a facts-and-circumstances assessment by the Management Committee.

4.13 **Impairment of Development Manager By Bankruptcy or Other Proceedings.**

4.13.1 Effect of Development Manager Bankruptcy. If the Development Manager is the subject of a bankruptcy Proceeding under the United States Bankruptcy Code, the Development Manager shall continue to perform its duties and responsibilities, and shall not resign, except pursuant to a Final Order of the applicable bankruptcy court which specifies the rejection of this Agreement under such Proceeding and specifies the date upon which the Development Manager shall no longer be a party to this Agreement in its capacity as Development Manager. If such a Final Order is rendered, the Participants and the Development Manager shall comply with the terms of such Final Order. If such Final Order prohibits the Development Manager from acting as Development Manager under this Agreement, the Development Manager shall be deemed to have resigned on the date and pursuant to the provisions of such Final Order.

4.13.2 Effect of Other Proceedings. If the Development Manager is the subject of a Proceeding in which its ability to function as the Development Manager hereunder is or may be at issue, the Development Manager shall promptly provide the Management Committee with written notice of such Proceeding, specifying (i) the Governmental Body or arbitrator in which such Proceeding is occurring or will occur, (ii) the subject matter of the Proceeding, (iii) the reason or reasons that the Development Manager's ability to function hereunder may be at issue, and (iv) the timeframe in which a Final Order could reasonably be anticipated. Nothing herein shall prevent one or more Participants from intervening or otherwise involving such Participant in the Proceeding to the extent that such Participant may have standing before such Governmental Body or arbitrator. If the Governmental

Body or arbitrator enters a Final Order which prohibits or substantially impairs the Development Manager's ability to perform pursuant to this Agreement, the Participants and the Development Manager shall comply with the terms of such Final Order. If any such Final Order prohibits the Development Manager from acting as Development Manager under this Agreement, the Development Manager shall be deemed to have resigned on the effective date and pursuant to the provisions of such Final Order.

4.14 **Duties Upon Removal or Resignation.** If the Development Manager (i) is removed either by the Management Committee (without appeal) or the removal determination of the Management Committee is affirmed through the dispute resolution procedures contemplated by Section 4.11.3 and 4.11.5 above or Section 8.2.2 below, or (ii) resigns or is ordered to resign in accordance with the provisions of Sections 4.12.1, 4.13.1, or 4.13.2 above, the Development Manager, subject to the contrary provisions of an Order of a Governmental Body or arbitrator shall:

(A) continue to perform its duties and responsibilities until a replacement Development Manager is named and appointed by the Management Committee, which appointment shall be made within a period not to exceed the later of (A) forty-five (45) days after such removal decision is final and non-appealable, or (B) the effective date given in the Development Manager's notice of resignation,

(B) promptly and cooperatively assist in the transition process to the new development manager, including the transfer of all informational documents possessed or under the control of the Development Manager, including records, reports, studies, business plans, budgets and other financial accounting records, and all other confidential, proprietary or other records with respect to the Development Work performed or to be performed by the Development Manager, as directed by the Management Committee or the new development manager, and

(C) promptly complete its duties and responsibilities hereunder, including the timely compilation and transmittal of reports and timely submittal of billings to the Participants.

5. DEVELOPMENT WORK AND DEVELOPMENT COSTS.

5.1 Development Work and Development Costs.

5.1.1 Development Work. Development Work shall include all activities necessary or desirable and in accordance with Good Utility Practice to (i) determine the conceptual design of the Project, (ii) determine the recommended interconnection/termination points of the Project, (iii) determine the recommended alignment for the Project route, (iv) determine the scope for the Project, (v) estimate the Project's cost and schedule, (vi) obtain the Critical Permits, (vii) make or undertake such other necessary Project related studies and analyses as deemed appropriate by the Development Manager, and (viii) perform other activities as determined by this Agreement or the Management Committee ("**Development Work**").

5.1.2 Development Costs. Development Costs include both costs for Development Work and Joint Development Work (Section 5.2). The Maximum Development Costs are set forth in Section 5.3.1.3. Development Costs are determined as follows:

5.1.2.1 Development Costs. Development Costs shall include, to the extent related to Development Work:

(i) all costs of labor, services, transportation and studies, including costs of consultants and legal counsel (except as set forth in Section 5.1.2.2), performed by the Development Manager or by others in connection with this Agreement, and approved by the Development Manager;

(ii) all costs related to the acquisition of facilities or personal property rights solely in connection with the Project;

(iii) all costs of insurance procured by the Development Manager solely for the purpose of enabling it to fulfill its obligations under Section 4.7 and for which the Development Manager is not otherwise reimbursed in accordance with the provisions of Sections 2 or 3 of **Appendix C** of this Agreement;

(iv) costs and expenses of Development Manager's employees while performing Development Work in connection with this Agreement as determined in accordance with **Appendix C** attached hereto;

(v) applicable costs of materials, supplies, tools, machinery, equipment, and apparatus used solely in connection with this Agreement, including rental charges, such costs to be offset by any proceeds from salvage;

(vi) the costs of the Development Manager, to the extent not provided for by insurance, and specifically including, but not limited to, self-insured retentions and commercially reasonable deductibles, of discharging or paying any liability and loss, Damage and expense, including costs and expenses for attorney's fees and other costs of defending, settling or otherwise administering claims, liabilities or losses arising out of worker's compensation or employers' liability claims or by reason of property Damage or injuries to or death of any Person or Persons or by reason of claims of any and every character resulting from, arising out of or connected with the performance of the Development Work, whether caused wholly or partially by the negligence of the Development Manager or its employees or agents; provided, however, that Development Costs do not include loss or Damage resulting from gross negligence or intentional wrongdoing of the Development Manager or its employees;

(vii) taxes arising from and payable to any Governmental Body and payments in lieu of taxes and Permit related fees of any character arising out of the performance of this Agreement, excluding income, gross receipts, franchise or taxes similarly imposed or assessed on the results of operations of any Participant;

(viii) costs that are (A) stated to be Development Costs pursuant to this Agreement, or (B) determined by the Management Committee to be Development Costs at a Level B Vote;

(ix) all costs and expenses incurred by any Participant in respect of carrying out Development Work (except pursuant to reimbursed contracts), subject to (A) the prior approval of the Development Manager, (B) the ratification by the Development Manager of such costs and expenses by a Participant, or (C) prior approval or ratification by the Management Committee;

(x) the cost of reimbursement of MOU Participants in accordance with Section 2.10; and

(xi) the costs and expenses incurred in the wind-up of the Project as described under Sections 10.2.2 and 10.2.3.

5.1.2.2 Costs That Are Not Development Costs. Notwithstanding the provisions of Section 5.1.2.1, Development Costs shall not include:

(i) to the extent not specifically provided under Section 5.1.2.1(ix), costs of studies conducted by any Participant to determine for such Participant the usefulness, economics, legality and/or feasibility of proceeding with the Project;

(ii) to the extent not specifically provided under Section 5.1.2.1(ix), costs of any Participant associated with the preparation and negotiation of any contracts regarding the Project and Project-related facilities;

(iii) costs incurred by each Participant in functions of the Management Committee, or any other committees established pursuant to this Agreement, and expenses of its personnel while performing such functions, except regarding the Development Manager with respect to its duties and responsibilities to prosecute Development Work (or a Participant that undertakes and carries out Development Work as provided in Section 5.1.2.1(ix) hereof) and to carry out any other obligations of the Development Manager set forth in this Agreement;

(iv) costs, fees and expenses of any Participant incurred in connection with the dispute resolution appeal by the Development Manager which arises from the removal of the Development Manager pursuant to Section 4.11 of this Agreement, or other disputes under the alternative dispute resolution process, as further described in Section 4.9 of **Appendix D**;

(v) insurance purchased by individual Participants covered under Section 4.7.5;

(vi) costs and expenses arising from new contracts and arrangements entered into by a Development Manager during the pendency of an arbitration appeal following a removal vote against such Development Manager, except to the extent directed by or later ratified by the Management Committee in accordance with Section 4.11.5;

(vii) Project construction costs (except as provided in Section 5.1.2.1(viii) above); and

(viii) the cost of complying as provided in Section 2.2.2, with conditions specified in Critical Permits granted or issued by Final Order.

5.2 **Joint Development Work and Costs.**

5.2.1 Joint Development Work. One or more of the Participants are participants in the CapX 2020 Initiative.

5.2.1.1 CapX 2020 Goals. A primary goal of the CapX 2020 Initiative is to plan, facilitate and assist in the design and construction of new transmission projects to help maintain and enhance system reliability for electric customers in Minnesota and the surrounding region. The Project is one of the CapX Projects.

5.2.1.2 Joint Development Work. Certain activities related to the Project and its Development Work have been and will be undertaken on a joint basis for the benefit of the Project and other CapX Projects ("**Joint Development Work**"). Joint Development Work activities include technical standards, certificate of need processes, the drafting and negotiation of CapX Project template agreements (including but not limited to this Agreement and the Project Agreements) to be undertaken by counsel appointed by the Management Committee in consultation with the Participants and their respective counsel, and general CapX Project planning, coordination and execution activities.

5.2.1.3 Joint Development Work Cost Allocation. The Participants believe Joint Development Work is a benefit to the Project and the costs of Joint Development Work, as set forth in **Appendix B**, are equitably allocated among the CapX Projects.

5.2.1.4 Withdrawal from CapX 2020. From time to time, the Management Committee may review the benefits to the Project of Joint Development Work and/or the allocation to the Project of the costs thereof. If the Management Committee determines that Joint Development Work is no longer a sufficient benefit to the Project and/or the costs related to the Joint Development Work are no longer justified or equitably allocated, the Management Committee shall, upon a Level B Vote, provide written notice thereof to the participants in the other CapX Projects of its determination to withdraw from Joint Development Work. Said notice shall inform, among other things, that the participants in the other CapX Projects shall have sixty (60) days from the date of such written notice

to respond to the Management Committee determination regarding Joint Development Work. If, within such sixty (60) day period, written comments are received or a participant in one of the other CapX Projects requests an opportunity to address the Management Committee, the Management Committee shall promptly convene a Management Committee meeting to consider the written comments and/or provide an opportunity for one or more participants in other CapX Projects to address the Management Committee. Following consideration of all written comments and any presentations, the Management Committee shall again review and take such action it deems appropriate, at a Level B Vote, and advise the participants in the other CapX Projects in writing of the Management Committee's subsequent determination regarding Joint Development Work. If such subsequent determination is to withdraw from Joint Development Work, such determination shall not be effective until sixty (60) days following the date of the written notification of such subsequent determination. The obligation of the Participants to pay allocable costs relating to Joint Development Work, including costs with respect to any contract relating to Joint Development Work, shall cease and terminate upon sixty (60) days following the date of such written notification of such determination. If the Management Committee makes a determination not to withdraw from Joint Development Work, the Management Committee may reconsider the issue of Joint Development Work and/or the related benefits and costs at any time, following the same process and notice provisions set forth in this subsection.

5.2.2 Oversight of Joint Development Work. The Development Manager shall coordinate with representatives of the CapX 2020 Initiative and other CapX Project development managers in the supervision, oversight, undertaking and completion of Joint Development Work.

5.2.3 Allocation and Payment of Costs. The Development Manager and the development managers of other CapX Projects shall account, consolidate and pay for the costs of Joint Development Work. The Development Manager and the development managers of the other CapX Projects shall then invoice (in a manner, format and frequency mutually agreed upon among the Development Manager and the other CapX Project development managers) and allocate such Joint Development Work costs to the Participants in this Agreement and the other CapX Projects in accordance with the percentages set forth in **Appendix B**. Subject to the provisions of Section 5.2.1.4 hereof, the Participants agree to pay, as Development Costs, the percentage of Joint Development Work costs allocated to the Development Work related to this Project as set forth in **Appendix B**.

5.3 Development Costs, Budgets and Maximum Development Costs.

5.3.1 Initial Budget, Prudency Review and Maximum Development Costs.

5.3.1.1 Initial Budget, Approval and Revision. The initial budget for Development Work shall be for a period of three (3) years from the date of this Agreement and shall promptly be developed by the Development Manager following the effective date of this Agreement and submitted for review and action by the

Management Committee at a Level B Vote (the "**Initial Budget**"). The Development Manager shall update, from time to time, the Initial Budget at the request of the Management Committee. Such update shall be submitted to the Management Committee for its review and action at a Level B Vote and, as updated, shall continue to be the "Initial Budget." The Initial Budget shall be for informational purposes only, and shall not restrict the Development Manager in any way, including from incurring costs in excess of the amounts set forth therein.

5.3.1.2 Prudency Review Undertakings. If, in connection with a prudency review or similar process, a Governmental Body determines that any Development Costs were imprudently incurred by one or more Participants or otherwise disallows such costs, then the Management Committee shall work promptly, in good faith, and using reasonable efforts, to address the issues identified by such Governmental Body, which efforts may include, but are not limited to, revising the Development Work plan, the Initial Budget and any other budget for the Development Work; provided, however, that nothing in this Section 5.3.1.2 shall require any Participant to pay costs in excess of its Participant Percentage of Development Costs as otherwise required under this Agreement.

5.3.1.3 Maximum Development Costs. The Development Manager shall not incur, or allow to be incurred, Development Costs that exceed, in the aggregate, the amount of $20,000,000 (the "**Maximum Development Costs**"). Any change in the Maximum Development Costs shall be made in accordance with Sections 5.3.1.4, 5.3.1.5, 5.4 and 5.5 hereof. The following Development Costs shall not be counted in the calculation of Maximum Development Costs: (i) amounts paid to MOU Participants in accordance with Section 2.10 hereof, and (ii) costs arising or from or paid under the Project MOU.

5.3.1.4 Projection of Exceeding Maximum Development Costs. At least six (6) months before the Development Manager projects that the Maximum Development Costs set forth in Section 5.3.1.3 hereof may be reached, the Development Manager shall provide to all Participants an estimate of the amount of an increase in the Maximum Development Costs which reasonably would be necessary to complete Development Work and cause the election process to be initiated as provided in Section 6 hereof. If such estimated increase is provided by the Development Manager to the Participants, the Development Manager shall thereafter provide monthly reports to the Management Committee regarding such expenditures and the time period anticipated to equal or exceed the Maximum Development Costs.

5.3.1.5 Increase in Maximum Development Costs. Within thirty (30) days of receipt of the Development Manager's estimate of the amount of an increase of the Maximum Development Costs, the Management Committee shall review and take action regarding a possible increase in the Maximum Development Costs. If the Management Committee approves by a Level B Vote a proposed increase in the Maximum Development Costs (or a further increase to any

previously established maximum) ("**Preliminary Increase in Maximum Development Costs**"), it shall promptly provide to all Participants written notice thereof.

5.4 **Preliminary and Approved Increase in Development Costs.** With respect to any notice of Preliminary Increase in Maximum Development Costs, the following provisions shall apply.

5.4.1 Preliminary Increase Deemed Approved. If no Participant provides written notice that it irrevocably exercises its right to withdraw from this Agreement as provided in Section 2.5.2.2 hereof, the amount of increase in Development Costs as provided in the notice of Preliminary Increase in Maximum Development Costs shall, without further action or vote by the Management Committee, be deemed to be the authorized amount of increase in Development Costs ("**Approved Amount of Increase in Maximum Development Costs**") and the amount in Section 5.3.1.3 hereof shall be increased by the Approved Amount of Increase in Maximum Development Costs.

5.4.2 Final Action for Increase of Development Costs. If any Participant provides written notice that it irrevocably exercises its right to withdraw from this Agreement as provided in Section 2.5.2.2 hereof, the Management Committee shall promptly meet, but in no event later than thirty (30) days following receipt of such written notice, and review and take action, by a Level B Vote, regarding whether it should provide final approval of the amount of increase in Development Costs as provided in the notice of Preliminary Increase in Maximum Development Costs as provided in Section 5.3.1.5 hereof. If the Management Committee approves the Preliminary Increase in Maximum Development Costs as the Approved Amount of Increase in Maximum Development Costs, the provisions of Section 5.4.4 shall apply. If the Management Committee does not approve the Preliminary Increase in Maximum Development Costs as the Approved Amount of Increase in Maximum Development Costs (either pursuant to this Section 5.4.2 or Section 5.4.3), then (i) any irrevocable written notice of withdrawal given by any Participant shall be void, and no Participant shall be considered to have withdrawn due to such notice, and (ii) the amount of Maximum Development Costs in Section 5.3.1.3 shall not change. If the Management Committee does not approve the Preliminary Increase in Maximum Development Costs pursuant to this Section 5.4.2, then the procedures set forth in Section 5.4.3 shall apply.

5.4.3 Reconsideration of Preliminary Approval after Disapproval. If the Management Committee does not approve the Preliminary Increase in Maximum Development Costs as the Approved Amount of Increase in Maximum Development Costs pursuant to Sections 5.3.1.5 or 5.4.2, and is thereafter advised in a written notice given by the Development Manager that the Maximum Development Costs are not sufficient to complete the Development Work (along with the Development Manager's estimate of the amount of increase in Maximum Development Costs required to complete the required Development Work as described in Section 5.3.1.4), then the Management Committee shall hold a meeting within thirty (30) days after such notice is given and shall reconsider and may approve by a Level B Vote the Preliminary Increase in Maximum Development Costs that is not less than the increase recommended by the Development Manager. Any such approval will be governed by this Section 5.4.3. If the Management Committee does

not upon such reconsideration vote to approve the Preliminary Increase in Maximum Development Costs, the provisions of Section 5.5 shall apply. If the Management Committee approves the Preliminary Increase in Maximum Development Costs, the provisions of Section 5.4.4 shall apply.

5.4.4 Effect of Final Approval of Increased Development Costs and Subscribed Cost Offering.

(i) If the Management Committee approves the Preliminary Increase in Maximum Development Costs as the Approved Amount of Increase in Maximum Development Costs as described in Sections 5.4.2 or 5.4.3, or the Cost Offering described in Section 5.5 below is fully subscribed (A) the Maximum Development Costs shall be increased by the Approved Amount of Increase in Maximum Development Costs or the amount of the fully subscribed Cost Offering, and (B) any Participant who provided written notice of its irrevocable exercise of its right to withdraw from this Agreement as provided in Section 2.5.2.2 above (1) shall be deemed to be a Withdrawing Participant and Section 2.5.3 shall apply only if the Management Committee approved the Approved Increase in Maximum Development Costs, and (2) shall not have a right to withdraw and shall not be a Withdrawing Participant if Maximum Development Costs are increased pursuant to the Cost Offering set forth in Section 5.5 below;

(ii) if the Management Committee approves the Preliminary Increase in Maximum Development Costs as the Approved Amount of Increase in Maximum Development Costs, Development Costs will continue to be charged to the Participants on a pro rata basis as set forth in Section 4.4.5.2; and

(iii) notwithstanding any provision of this Agreement to the contrary, if the Cost Offering results in an increase in Maximum Development Costs, such increase in Development Costs above the Maximum Development Costs shall be chargeable only to the Participants that elected to incur such additional Development Costs and such additional Development Costs shall be allocated among such electing Participants in accordance with their respective elections on a pro rata basis; provided, however, that the Development Costs incurred to the amount of the Maximum Development Costs before any increase to Maximum Development Costs arising because of the Cost Offering shall continue to be charged to the Participants at the Participant Percentage in effect immediately before the Cost Offering.

5.5 **Maximum Development Cost Increase Offering.** If the Management Committee has not increased the Maximum Development Costs pursuant to Section 5.4.2 or 5.4.3, the Management Committee shall direct the Development Manager to, within fifteen (15) days after the expiration of the thirty (30) day period described in Section 5.4.3, provide a written notice to all Participants of an offering to fund the Development Manager's recommended increase in Maximum Development Costs (the "**Cost Offering**") which states (i) the amount of the Cost Offering, (ii) each Participant's right to elect to increase its payment obligation for Development Costs up to its pro rata Participant Percentage of the Cost Offering on the date of the Management Committee notice (as adjusted by the procedures in this Section 5.5), (iii) the offering process described in this Section 5.5 (including required response

dates), and (iv) the mandatory termination of this Agreement if the Cost Offering is not fully subscribed by the Participants or otherwise subscribed by third parties under Section 5.5.3. If the Cost Offering is fully subscribed (A) the Maximum Development Costs shall be increased by the amount of such Cost Offering, and (B) the Participant Percentages set forth in **Appendix A** shall be determined and modified after the Cost Offering (1) if only existing Participants subscribe to the Cost Offering, by computing the dollar amount of each Participant's aggregate financial obligation under this Agreement for Maximum Development Costs and dividing such amount by the new amount of the Maximum Development Costs (giving effect to the increase in the Maximum Development Costs by the amount of such Cost Offering described in this Section 5.5 above), or (2) if both existing Participants and third parties as described in Section 5.5.3 subscribe to the Cost Offering, then such third parties shall become Participants to this Agreement in accordance with the terms of the Cost Offering, and the Participant Percentages shall be adjusted in accordance with such terms.

5.5.1 Initial Offering of the Cost Offering. Within thirty (30) days of the date that the Development Manager's Cost Offering notice is given, each Participant shall provide written responses to the Development Manager indicating either that the Participant has elected not to increase its Development Cost payment obligation or that it elects to increase its Development Cost payment obligation pursuant to the Cost Offering. In the latter case, the Participant shall include in its written response the specific amount (up to but not to exceed its pro rata share) of the Cost Offering it elects to accept. The Development Manager shall advise all Participants of the results of the first round of the Cost Offering. The amount of the Cost Offering shall be reduced by the aggregate amount of the Cost Offering subscribed by the Participants in such round. A Participant who accepts additional Cost Offering amounts under this Section 5.5.1 shall have its Participant Percentage increased (the amount of such increase shall be determined in the manner provided in Section 5.5 above as if the amount of the Cost Offering subscribed by Participants in the first round comprised the entire Cost Offering) and **Appendix A** shall be modified accordingly, subject to and only effective upon (except for purposes of determining the pro rata rights of the Participants to subscribe in the Cost Offering pursuant to Sections 5.5.2 and 5.5.3) the full subscription of the Cost Offering.

5.5.2 Second Offering of the Offering Cost Increase. If there are unsubscribed amounts of the Cost Offering remaining following the completion of the initial round of the Cost Offering under Section 5.5.1 hereof, the Development Manager shall promptly provide written notice thereof to all Participants (including Participants who elected not to participate in the initial round of the Cost Offering pursuant to Section 5.5.1) and a Participant may offer to increase its amount of the Cost Offering up to the total outstanding Cost Offering amounts remaining. If the responding Participants' total amount of requests exceed the total Cost Offering amounts remaining, the outstanding Cost Offering amounts remaining shall be allocated to such Participants on a pro rata basis based upon their relative Participant Percentages as adjusted pursuant to the resulting Participant Percentages after giving effect to the Cost Offering subscribed by the Participants pursuant to Section 5.5.1. The Development Manager shall advise all Participants of the results of the second round offering. A Participant that accepts Cost Offering amounts under this Section 5.5.2 shall have its Participant Percentage increased in the manner contemplated by Section 5.5.1 and **Appendix A** shall be modified accordingly, subject to and only effective upon (except for

purposes of determining the pro rata rights of the Participants to subscribe in the Cost Offering pursuant to Section 5.5.3) the full subscription of the Cost Offering.

5.5.3 Final Offering of the Offering Cost Increase – Termination of Agreement. If there are unsubscribed amounts of the Cost Offering after the initial and second round offering pursuant to Sections 5.5.1 and 5.5.2, the Management Committee shall offer the outstanding unsubscribed amounts of the Cost Offering first to other CapX Project participants and then to third parties on terms and conditions determined by the Management Committee at a Level B Vote. For purposes of this Section 5.5.3 only, "third parties" as referred to in the previous sentence may include a Participant that previously elected not to increase its payment obligation by electing to subscribe in the Cost Offering. If offers to other CapX Project participants or third parties to participate in this Agreement fail to dispose of all remaining unsubscribed amounts of the Cost Offering, and the subscription commitments for the Cost Offering equal less than one hundred percent (100%), (i) the Cost Offering shall be deemed to have failed, (ii) the Participant Percentages shall not be adjusted, and (iii) the Management Committee shall determine at a Level C Vote, within ninety (90) days after expiration of the final offering of the unsubscribed amounts of the Cost Offering pursuant to this Section 5.5.3, whether there should be a revision in the size, character or capacity of the Development Work under this Agreement or take other action at a Level C Vote. If the Management Committee does not approve such a revision within such ninety (90) day period or vote to take other action, this Agreement shall automatically terminate upon the expiration of such ninety (90) day period. In the event other CapX Project participants or third parties subscribe in the Cost Offering, **Appendix A** shall be modified in accordance with Section 5.5 above. In order for a CapX Project participant or a third party to become a Participant hereunder, such Person must accept and agree to be bound by the terms and provisions of this Agreement, as modified by the Cost Offering, and execute such documents and instruments as the Management Committee may require as evidence of such acceptance and agreement.

5.6 **Financial Accounts, Reports and Independent Accountants.**

5.6.1 Accounts. There shall be strict accountability of all funds, and reporting of all receipts and disbursements made under this Agreement. The Development Manager shall establish and maintain such funds and accounts as may be required by good accounting practice. All of the Development Manager's books and records of account, and other financial and Development Work records shall be current, complete, true and correct in all material respects. All such books and records shall be consistent with the all financial reports provided hereunder. The books and records of the Development Manager maintained with respect to the Development Work shall be open to inspection at all reasonable times established at least five (5) business days in advance of such inspection to each Participant.

5.6.2 Financial Accounting Reports. The Development Manager shall prepare the reports set forth in Section 4.5 of this Agreement and shall also coordinate, prepare and provide accounting data, information and schedules to the Independent Accountants (defined in Section 5.6.3 below) for the year-end agreed-upon procedure.

5.6.3 Year End and Final Reports. After the completion of each calendar year during the Term, or such other fiscal year agreed upon by the Management Committee and the Development Manager, and any partial year for the last year of this Agreement, the Development Costs described by this Agreement shall undergo an agreed-upon procedure by a public accounting firm experienced in utility and regulated industry accounting (the "**Independent Accountants**"). The Independent Accountants shall be retained by the Development Manager, subject to the approval of the Management Committee, which approval shall not be unreasonably withheld, delayed or conditioned. The Independent Accountants shall be engaged pursuant to a written engagement letter for the applicable year. The report of the Independent Accountants shall be completed and a report issued by the Independent Accountants within seventy-five (75) days after the applicable year-end. The Management Committee shall furnish any report(s) of the Independent Accountants to the Participants promptly following receipt.

6. COMPLETION OF DEVELOPMENT WORK AND COMMENCEMENT OF PROJECT.

6.1 **Completion of Development Work.** Upon the recommendation of the Development Manager pursuant to a written report submitted to the Management Committee, the Management Committee shall consider whether the Development Work has been sufficiently completed to commence the Project. Based upon the Development Manager's recommendation, and report, and any other information that the Management Committee independently considers, the Management Committee may either (i) approve commencement of the Project, or (ii) defer commencement of the Project pursuant to a determination that the Project conditions precedent required for Management Committee approval as set forth in Section 6.1.1 below have not yet been satisfied.

6.1.1 Conditions Precedent to Approval. The Management Committee shall have the authority to approve the Project upon the satisfaction of the following conditions: (i) the receipt of Final Orders for all (A) environmental impact statements issued under Applicable Law for the Project, and (B) Critical Permits, and (ii) the Project Agreements have been approved by the Management Committee under Section 3.6.7 hereof.

"**Final Order**" means action by a Governmental Body which has become effective and has not been vacated, reversed, set aside, annulled or suspended and as to which: (1) no request for stay by such Governmental Body of the action is pending, no such stay is in effect, and, if any deadline for filing any such request is designated by Applicable Law, such deadline has passed, (2) no petition for rehearing or reconsideration of such action is pending before such Governmental Body, and if any deadline for filing any such petition is designated by Applicable Law, such deadline has passed, (3) such Governmental Body does not have the action under reconsideration on its own motion, and (4) no appeal to a court, or request for stay by a court, of such Governmental Body's action is pending or in effect, and, if any deadline for filing any such appeal or request is designated by Applicable Law, such deadline has passed.

6.1.2 Management Committee Approval. If the Development Manager has recommended to the Management Committee that the Project be commenced, and the conditions set forth above in Section 6.1 have been satisfied, the Management Committee may approve commencement of the Project by a Level B Vote of the Management Committee, subject

to the subsequent election of Participants to participate in one hundred percent (100%) of the ownership in the Project pursuant to the procedures set forth in the provisions of Section 6.3 below. If one hundred percent (100%) of the ownership interest in the Project are not subscribed, the Project shall not be deemed approved by the Management Committee.

6.2 **Required Actions Before Offer of Ownership in Project.** Upon and after approval of the Project as described in Section 6.1 above, the Management Committee shall not commence the Project offering process described in Section 6.3 below unless and until the Management Committee has reviewed and approved a preliminary Project (i) scope of work, (ii) construction cost estimate, and (iii) schedule of work for the Project. Such preliminary Project materials will be provided to the Participants in connection with the election notice described in Section 6.3 below.

6.3 **Participant Exercise of Right to Elect Project Ownership.** Upon completion and satisfaction of the approvals and tasks required by Sections 6.1 and 6.2 above as reasonably determined by the Management Committee, the Development Manager shall prepare and provide a written report and notification (subject to approval by the Management Committee) to each Participant in accordance with the notice provisions of this Agreement describing the Project and the notification that each Participant may elect to participate in ownership of the Project as set forth herein. The report of the Development Manager will also include the following attachments: (i) the preliminary Project materials described in Section 6.2 above, (ii) copies of all environmental impact statements issued by Governmental Bodies, (iii) copies of all Critical Permits and other approvals that have been obtained, and (iv) the Project Agreements.

6.3.1 Exercise of Right of First Refusal to Rights in the Project. After notification as provided for by Section 6.3 above, any Participant electing to participate in the Project shall be required to provide written notice to the Development Manager and Management Committee of the exercise of its right to participate in the Project. In order to be effective, such notice must be given within forty-five (45) days (or such longer period as shall be authorized by the Management Committee) after the date of the notification sent by the Development Manager under Section 6.3. Such written notification shall specify the percentage of the Project so elected, which may not exceed the Election Right for such Participant, and such election shall constitute the Participant's initial Elected Project Participation (the "**Initial Elected Project Participation**").

6.3.2 Failure to Exercise Right of First Refusal. Failure of a Participant to so elect or notify in accordance with the provisions of Section 6.3.1 hereof shall be conclusively deemed for all purposes an irrevocable election by the Participant not to participate in the Project and the amount of the Election Right of the Participant which the Participant fails to elect shall be deemed a "**Non-Elected Amount**" and shall be reallocated in accordance with Sections 6.3.3 and 6.3.4 hereof. Any Participant that fails to elect or to notify pursuant to the provisions of Section 6.3.1 hereof shall (i) have no further rights to or in the Project (including but not limited to the results of any Development Work), and (ii) remain obligated under this Agreement to pay its Participant Percentage of outstanding and unpaid Development Costs as provided in this Agreement, provided, however, that if such Participant is an "Opting-Out Participant," the provisions of Section 6.5 hereunder shall apply.

6.3.3 Initial Offer of Non-Elected Amounts. If a Non-Elected Amount becomes available under Section 6.3.2 hereof as a result of action or the failure to act of a Participant, then such Non-Elected Amount shall be offered within forty-five (45) days (or such other period as shall be authorized by the Management Committee) to all other Participants on a pro rata basis by the Development Manager in the same manner proscribed by Section 6.3 above. A Participant shall have the right to elect to increase its Initial Elected Project Participation generally following the notification procedures set forth in Section 6.3.1 above. A Participant who elects to obtain additional ownership through Non-Elected Amounts pursuant to this Section 6.3.3 shall have its Initial Elected Project Participation increased by a corresponding amount of such additional ownership.

6.3.4 Final Offer to Participants of Non-Elected Amounts. If Non-Elected Amounts remain available following the completion of the initial offer of Non-Elected Amounts under Section 6.3.3 above, a Participant may offer to increase its Initial Elected Project Participation up to the amount of available Non-Elected Amounts. If Participants' total amount of requests exceed the total amount of Non-Elected Amounts, the Non-Elected Amounts shall be allocated to such Participants on a pro rata basis based upon their respective Initial Elected Project Participation percentage as adjusted pursuant to Section 6.3.3. A Participant who elects to obtain additional ownership through Non-Elected Amounts pursuant to this Section 6.3.4 shall have its Initial Elected Project Participation increased by an amount corresponding to such additional ownership.

6.3.5 Final Procedure for Disposal of Non-Elected Amounts. If a Non-Elected Amount remains available and is not disposed of pursuant to Sections 6.3.3 or 6.3.4 above, the Management Committee shall offer such Non-Elected Amounts first to other CapX Project participants and then may offer, subject to compliance with Applicable Law, to third parties on terms and conditions determined by the Management Committee at a Level B Vote. For purposes of this Section 6.3.5 only, "third parties" as referred to in the previous sentence may include a Withdrawing Participant or a Participant described in Sections 6.3.1 and 6.3.2 that previously elected not to participate in the Project. If offers to other CapX Project participants and third parties to participate in the Project fail to dispose of all remaining Non-Elected Amounts, the Management Committee may determine at a Level C Vote appropriate actions to preserve the Project, including without limitation (i) a revision in the size, character or capacity of the Project, and (ii) a re-offering of ownership participation to allow each Participant to modify its Initial Elected Project Participation so that the elected percentages aggregate one hundred percent (100%) participation in the Project.

6.4 **Final Participant Elected Project Participation.** At the conclusion of the election processes set forth in the provisions of Section 6.3 above, if the aggregate of the Participants' Initial Elected Project Participation is one hundred percent (100%), then each Participant's ownership percentages in the Project shall become and be defined as that Participant's "**Elected Project Participation.**"

6.5 **Opt-Out with Reimbursement – Final Forms of Project Agreements.** If (i) a Participant has elected not to participate in the Project, or has been deemed to have elected not to participate by reason of failure to submit notice in accordance with Section 6.3.1 hereof, (ii) the Management Committee representative of such Participant has voted against approval of the proposed final forms

of Project Agreements, and (iii) such Participant provided notice to all other Participants' Management Committee representatives at the time of the vote under Section 3.6.7 hereof that its representative's vote against approval of the proposed final forms of Project Agreements was based on a good faith determination that one or more Issues at Impasse identified by such Participant in an Initial Hearing Statement or a Responding Hearing Statement have not been resolved to such Participant's satisfaction, then such Participant shall be an "**Opting-Out Participant**" for purposes of this Section 6.5.

6.5.1 Opting-Out Participant Right to Reimbursement of Development Costs; Conditions Precedent. An Opting-Out Participant shall be entitled to full reimbursement of its Participant Percentage of Development Costs actually remitted to the Development Manager hereunder, but only if (i) the Project Agreements are executed in accordance with Section 6.6 hereof, (ii) such Opting-Out Participant is not in default with respect to any material term of this Agreement as of the date on which the Project Agreements are executed, (iii) such Opting-Out Participant complies with the provisions of Section 6.5.3 hereof to the extent applicable, and (iv) and to the extent that the reimbursing Participant gains assurance that it will recover the costs of such reimbursement together with its Participant Percentage of Development Costs as further set forth under Section 6.5.2.1. The obligation to reimburse such Opting-Out Participant's Participant Percentage of Development Costs shall apply solely to those Participants that execute the Project Agreements and shall be allocated among such Participants in proportion to each Participant's Elected Project Participation (or as otherwise agreed by such Participants).

6.5.2 Timing of Reimbursement.

6.5.2.1 Certainty of Cost Recovery. A Participant that is obligated to reimburse an Opting-Out Participant under Section 6.5.1 hereof (a "**Reimbursing Participant**") shall deliver to the Opting-Out Participant payment in full as a lump sum (including interest as provided in Section 6.5.2.2 hereof) no later than six (6) months after such Reimbursing Participant has gained assurance that it will recover the costs of such reimbursement together with its own Participant Percentage of Development Costs. The manner and timing of gaining such assurance shall be a matter solely for the business judgment of the Reimbursing Participant, provided that: (i) such Reimbursing Participant shall treat its reimbursement obligation under Section 6.5.1 hereof in the same manner as it treats its own Participant Percentage of Development Costs for purposes of cost recovery, including, without limitation, making the same efforts to assure recovery of reimbursement costs as it does to assure recovery of its own Participant Percentage of Development Costs, and (ii) if such Reimbursing Participant's recovery of Project costs is not subject to the jurisdiction of a Regulatory Commission (as defined in Section 6.5.2.3 hereof), such Reimbursing Participant shall be deemed to have gained assurance of cost recovery six (6) months following full commercial energization of the entire Project, provided that before or during the fiscal year in which such commercial energization occurs, such Reimbursing Participant's own Participant Percentage of Development Costs were included in its financial statements as operating expenses or capital costs to be recovered from retail or

transmission customers (or both). Promptly after gaining assurance, or being deemed to have gained assurance, that it will recover the costs of reimbursement, the Reimbursing Participant shall notify the Opting-Out Participant of the date by which the Opting-Out Participant will receive such reimbursement.

6.5.2.2 Reimbursement Interest. All amounts to which an Opting-Out Participant is entitled under Section 6.5.1 hereof shall be subject to interest at the Interest Rate to be accrued from the date on which the Project Agreements are executed until the date payment is delivered.

6.5.2.3 Effect of Cost-Recovery Denial. If a Reimbursing Participant's recovery of its Project costs is subject to the jurisdiction of the FERC or a state public utility commission, public service commission, or equivalent (a "**Regulatory Commission**"), then such Reimbursing Participant shall be excused from its reimbursement obligations under Section 6.5.1 hereof the same extent as such Reimbursing Participant's recovery of its own Participant Percentage of Development Costs has been denied by a Regulatory Commission. Promptly after any such denial, a Reimbursing Participant shall notify the Opting-Out Participant. If a Reimbursing Participant's recovery of its Project costs is not subject to the jurisdiction a Regulatory Commission, then such Reimbursing Participant shall be excused from its reimbursement obligations under Section 6.5.1 hereof to the same extent applicable to any other Reimbursing Participant pursuant to the first sentence of this Section 6.5.2.3.

6.5.3 Transmission Service to Opting-Out Participant. To the extent that an Opting-Out Participant entitled to receive reimbursement of its Participant Percentage of Development Costs hereunder (i) serves load sinking in one or more Midwest ISO pricing zones, and (ii) cannot serve such load without using Project facilities operated by the Midwest ISO in such pricing zone(s), such Opting-Out Participant shall covenant, as a condition of reimbursement under Section 6.5.1 hereof, that it shall either take transmission service under the Midwest ISO Tariff, or pursuant to the terms of a grandfathered agreement or integrated transmission agreement then in effect and applicable to the Project by its terms or by agreement, as adjusted to reflect costs related to use of Project facilities, similar to costs had they been calculated pursuant to the Midwest ISO Tariff.

6.6 **Project Agreements.**

6.6.1 Ownership and Operation Agreement. Each Participant shall own its interests in the Project in accordance with the Ownership and Operation Agreement. As soon as practicable after the Management Committee has approved the final form of Ownership and Operation Agreement under Section 3.6.7 hereof and all actions contemplated by Sections 6.1 through 6.4 hereof have been completed, counsel appointed by the Management Committee shall complete for execution by each Participant the Ownership and Operation Agreement with such appropriate and necessary ministerial variations, insertions and deletions as shall be required, and approved by the Management Committee, to reflect (i) the ownership interest in the Project of each Participant based upon its Elected

Project Participation, (ii) the facts in existence at such time, and (iii) such other matters as shall be necessary to complete said Ownership and Operation Agreement. Any other changes to the Ownership and Operation Agreement must be approved by the Management Committee at a Level C Vote. All rights, properties, studies, certificates, approvals, options and interests resulting from Development Work hereunder shall be transferred from this Agreement and included in, and be held under, the Ownership and Operation Agreement without further action by the Participants or the Management Committee.

6.6.2 Construction Management Agreement. As soon as practicable after the Management Committee has approved the final form of the Construction Management Agreement under Section 3.6.7 hereof and all actions contemplated by Sections 6.1 through 6.4 hereof have been completed, counsel appointed by the Management Committee shall complete for execution by the Participants a Construction Management Agreement with such appropriate and necessary ministerial variations, insertions and deletions as shall be required, and approved by the Management Committee, to reflect (i) the facts in existence at such time, and (ii) such other matters as shall be necessary to complete said Construction Management Agreement. Any other changes to the Construction Management Agreement must be approved by the Management Committee at a Level C Vote.

6.6.3 Execution and Delivery of Agreements.

6.6.3.1 Finalization of Project Agreements. As soon as practicable after the completion of each of the respective (i) Ownership and Operation Agreement, and (ii) Construction Management Agreement, in accordance with Sections 6.6.1 and 6.6.2 the Management Committee shall deliver copies of each such agreement to each Participant electing into the Project. Each such Participant shall be required to execute and deliver to the Management Committee its executed counterpart within sixty (60) days after receipt thereof. The number of executed counterparts shall be determined by the Management Committee.

6.6.3.2 Failure to Complete Ownership Election. If a Participant fails to comply with any of its obligations in this Section 6.6.3, then such Participant shall be deemed to have elected not to participate in the Project, and said Participant shall have no further rights or interests with respect to the Project; provided, however, that such Participant shall remain obligated under this Agreement, including but not limited to its obligation to pay its Participant Percentage of Development Costs.

6.6.4 Other Agreements. If the Management Committee designates agreements other than the Ownership and Operation Agreement and the Construction Management Agreement as Project Agreements, the process outlined in this Section 6.6 shall apply.

7. LIABILITY, INDEMNIFICATION, CONTRIBUTION AND LIMITATION OF LIABILITY.

7.1 **Participant Liability.** No Participant shall be liable to any other Participant under this Agreement for any special, incidental, consequential, indirect or punitive Damages (whether they be exemplary, treble or punitive Damages, or any other penalty); provided, however, that the foregoing exclusion shall not apply to liability for Damages arising from the third-party claims that are indemnified by a Participant pursuant to the indemnification provisions set forth in Section 7.3 below.

7.2 **Right of Contribution.** In the event that:

(i) Damages are imposed on the Participants on a joint and several basis arising from a third-party claim that is not covered by insurance or is not indemnified by another Participant, then such Damages will be allocated pro-rata among all of the Participants in accordance with their Participant Percentages, subject to the indemnification provisions set forth in Section 7.3 below.

(ii) a Participant pays more than its Participant Percentage in connection with discharging a liability of one or more Participants to a Person other than a Participant arising under this Agreement, including Damages in connection with third-party claims, then such Participant shall have a right of contribution against any Participant that has not paid its Participant Percentage of such Damages.

(iii) a Participant is subject to a stay in bankruptcy or is terminated or withdraws from this Agreement and any amount due hereunder from such Participant remains unpaid for a period of sixty (60) days, then such unpaid amount shall be remitted by the remaining Participants on a pro-rata basis in accordance with the Participant Percentages, as such percentages are adjusted for the removal of the bankrupt, terminated or withdrawn Participant such that the remaining Participants will remit one hundred percent (100%) of such unpaid amount. Nothing herein shall be deemed to relieve the bankrupt, terminated or withdrawn Participant from its payment obligations under this Agreement, and each remaining Participant that remits a payment on behalf of such Participant shall have a right of contribution against the Participant on whose behalf such payment was made.

7.3 **Indemnification.**

7.3.1 Indemnification by Participants. Each Participant acting in its capacity as a Participant shall defend, indemnify and hold harmless to the extent allowed by Applicable Law each other Participant and its respective shareholders, members, partners, Affiliates, members of its governing body, officers, employees and agents, from and against third-party claims for Damages arising from such Participant's (i) intentional/willful misconduct, (ii) negligence, and/or (iii) breach of this Agreement; provided, however, that with respect to Damages arising from third-party claims of negligence, such Participant shall be liable only to the extent of its contributory negligence and it shall not be liable to the extent of the negligence of others.

7.3.2 Indemnification by Development Manager. The Development Manager acting in its capacity as such under this Agreement shall defend, indemnify and hold harmless to the extent allowed by Applicable Law the Participants (other than the Development Manager)

and their respective shareholders, members, partners, Affiliates, members of their governing bodies, officers, employees and agents from and against third-party claims for Damages arising from the Development Manager's (i) intentional/willful misconduct, (ii) negligence, and/or (iii) breach of the Development Manager's obligations with respect to Development Work under this Agreement; provided, however, that with respect to Damages arising from third-party claims of negligence, such Participant acting in its capacity as Development Manager shall be liable only to the extent of its contributory negligence and it shall not be liable to the extent of the negligence of others.

7.3.3 Indemnification by Participant Subcontractor. A Participant acting in its capacity as a Subcontractor under this Agreement or any agreement with the Development Manager shall defend, indemnify and hold harmless to the extent allowed by Applicable Law each other Participant, and their respective shareholders, members, partners, Affiliates, members of their respective governing bodies, officers, employees and agents from and against third-party claims for Damages arising from such Participant's (i) intentional/willful misconduct, (ii) negligence, and/or (iii) breach of such Participant's obligations with respect to Development Work or Joint Development Work under this Agreement or any agreement with the Development Manager to the extent allowed by Applicable Law; provided, however, that with respect to Damages arising from third-party claims of negligence, such Participant acting in its capacity as a Subcontractor under this Agreement shall be liable only to the extent of its contributory negligence and it shall not be liable to the extent of the negligence of others.

7.4 **Participant Obligations Several.** The obligation of a Participant to make payments under this Agreement is a several obligation and not a joint obligation with other Participants, and such obligation is absolute and unconditional irrespective of any rights of setoff or counterclaim a Participant might otherwise have against another Participant. A Participant shall not fail or refuse to make such payment and shall not terminate (other than as is specifically provided for herein) this Agreement for any cause whatsoever, including, without limiting the generality of the foregoing, any acts or circumstances that may constitute a failure of consideration, or commercial frustration of purpose, or any change in Applicable Laws, or any failure of another Participant to perform and observe its agreements hereunder or to discharge any duty or obligation arising out of or connected with this Agreement. This provision shall not be construed to release a Participant from the performance of any of its obligations or undertakings contained in this Agreement.

7.5 **Insurer Obligations.** The provisions of this Section 7 shall not be construed so as to relieve any insurer of its obligation to pay any insurance claims in accordance with insurance policies obtained for the Development Work.

8. **DISPUTE RESOLUTION.** Except as otherwise provided in this Agreement, the following dispute resolution provisions shall govern disputes among and between the Participants.

8.1 **Between and Among Participants.** If a dispute, claim or controversy arises between or among the Participants, which does not arise from (i) disputes between Participants and the Management Committee, on the one hand, and the Development Manager, on the other, in connection with removal of the Development Manager pursuant to Section 4.11 hereof, (ii) a dispute of a Development Manager invoice (which shall be resolved as provided in Section 2.11.1 hereof), or

(iii) a claim of third party indemnification pursuant to Section 7 hereof, the Participants shall have the right to seek resolution of such dispute, claim or controversy in accordance with the dispute resolution procedures set forth in **Appendix D**, which procedures shall be the sole and exclusive remedy of the Participants for resolution of such controversy or claim.

8.2 **Between Development Manager and Participants.**

8.2.1 General Dispute Resolution Provisions. If a dispute arises between one or more Participants and the Development Manager, excluding (i) the removal of the Development Manager pursuant to Section 4.11 hereof, (ii) a dispute of a Development Manager invoice (which shall be resolved as provided in Section 2.11.1 hereof), and (iii) a claim of third party indemnification pursuant to Section 7 hereof, the Development Manager and such Participant(s) shall have the right to seek resolution of such dispute, claim or controversy in accordance with the dispute resolution procedures set forth in **Appendix D** to this Agreement, which procedures shall be the sole and exclusive remedy of the Participants for resolution of such controversy or claim.

8.2.2 Development Manager Removal. If the Management Committee determines to remove the Development Manager in accordance with Sections 4.11 hereof, the Development Manager shall have the right to appeal such decision by providing a notice setting forth its intent to engage in binding arbitration pursuant to the fast track procedures of the Construction Industry Rules. Such rules shall contemplate, however, (i) a sixty (60) day time standard for case completion, (ii) establishment of a special pool of arbitrators who are pre-qualified to serve on an expedited basis, (iii) an expedited arbitration appointment process with party input, (iv) a presumption that the case will be decided with submission of testimony and documents, (v) the requirement of a hearing within thirty (30) calendar days of the arbitrator's appointment, (vi) a single day hearing, if the arbitrator deems it reasonable in the circumstances, and (vii) a binding decision to be rendered in no more than fourteen (14) calendar days after completion of the hearing. The use of the fast track procedures shall not preclude a Participant or the Development Manager from seeking injunctive relief under the Rules for Emergency Measures of Protection as described in Paragraph 4.7.2 of **Appendix D** hereto. In addition to the foregoing, the provisions of **Appendix D** at Paragraphs 4.7 (Authority of Arbitrator), 4.8 (Award Final and Binding), 4.9 (Costs and Expenses), 5 (Enforcement), and 6 (Confidentiality of Proceedings) are hereby incorporated by reference to this Section 8.2.2.

9. CONFIDENTIALITY PROVISIONS.

9.1 **Confidentiality of Information.** It may be necessary for a Participant to provide confidential or proprietary information with respect to its participation in the Project or a Participant may agree to develop certain confidential or proprietary information as part of the Development Work. Each Participant covenants, with respect to such confidential and proprietary information provided by such Participant, that any and all confidential and proprietary information so provided for use for this Agreement or the Project, whether or not it falls within the definition of "Confidential Information" as defined below, does not infringe upon or violate the rights or interests of any third party (including any trade secret or confidentiality rights of such third party). Each Participant agrees to use the confidential and proprietary information it developed in connection with this Agreement or the

Project (provided that the cost of developing such information has been treated as a Development Cost), and confidential and proprietary information provided to it by any other Participant or a CapX 2020 Initiative participant or representative in connection with this Agreement and the Project or another CapX 2020 Initiative project (**"Confidential Information"**), solely (i) in order to evaluate and/or participate in this Agreement and/or the Project, or (ii) for other activities contemplated by this Agreement, including Development Work (each a **"Permitted Purpose"**). Each Participant shall keep Confidential Information confidential and shall not, and shall advise their respective Representatives (as defined below) not to, disclose to any Person any Confidential Information in any manner whatsoever or otherwise use any Confidential Information other than for a Permitted Purpose; provided, however, that any Confidential Information may be disclosed to a Participant's financial, technical, legal and other professional advisors, members, employees, Affiliates and other representatives (collectively referred to as **"Representatives"**) who may need to know such Confidential Information for the purpose of advising the Participant with respect to this Agreement or the Project or another CapX 2020 Initiative project; provided, that such Representatives are informed by the Participant of the confidential nature of the Confidential Information and that they shall be bound by the confidentiality provisions of this Section 9 to the same extent as if they were parties hereto. Each Participant agrees that it will be responsible for any breach of this Section 9 by any of its Representatives and for any use of the Confidential Information by any of them for any purpose other than a Permitted Purpose. Written documents, electronic documents and other physical information shall be deemed Confidential Information, and protected hereby, only if clearly and prominently marked and identified as "CONFIDENTIAL." Oral or other non-written communications shall be deemed Confidential Information only if it is declared to be Confidential Information at the time disclosed.

9.2 **Information Not Deemed Confidential Information.** Notwithstanding Section 9.1 hereof, the term "Confidential Information" shall not be deemed to include any information that (i) is or becomes generally available to the public other than as a result of a disclosure by a Participant, or any of their respective Representatives in violation of Section 9.1 hereof, (ii) was within a Participant's possession before its being furnished to such Participant by or on behalf of any other Participant or a CapX 2020 Initiative participant or representative, (iii) becomes available to a Participant on a non-confidential basis from a source other than any other Participant or any of their respective Representatives or a CapX 2020 Initiative participant or representative, provided that such recipient does not know that such source is bound by a confidentiality agreement with, or other contractual, legal or fiduciary obligation of confidentiality to, the Participant, a CapX 2020 Initiative participant or representative or any other party with respect to such information, or (iv) is independently developed by a Participant, without access to the Confidential Information.

9.3 **Requirement to Disclose Confidential Information.** If a Participant is required by legal process, a Governmental Body, arbitrator or otherwise by operation of law to disclose any Confidential Information of another Participant or a CapX 2020 Initiative participant or representative (**"Disclosing Party"**), then to the extent legally permissible, the Participant, as applicable, shall provide prompt notice of such requirement to the Disclosing Party so that the Disclosing Party at its own cost may seek a protective Order or other appropriate remedy. The Participant shall disclose only that portion of the Confidential Information which it is legally required to disclose, shall provide prompt notice of same to the Disclosing Party, and shall reasonably cooperate with the Disclosing Party in connection with the efforts of the Disclosing Party seeking its Order or other remedy. If the Disclosing Party fails to obtain a protective Order or other appropriate remedy with respect to the

extent of the planned disclosure of Confidential Information by the Participant required under distraint to disclose, such Participant may rely on advice of its legal counsel (which may be its in-house counsel) with respect to its obligations of disclosure as contemplated herein.

9.4 **No Transmission Information to Sales or Marketing Function.** No Participant receiving confidential and proprietary information, including Confidential Information, as described hereunder shall, directly or indirectly, reveal any non-public Transmission Information provided by a Transmission Function to any Person employed by a Sales or Marketing Function or by an Energy Affiliate (as the defined terms used in this subsection are defined in 18 C.F.R. Part 358, as may be amended from time to time ("**FERC Standards of Conduct**")) in a manner that violates the FERC Standards of Conduct. In the event of an inadvertent disclosure of non-public Transmission Information, the Person subject to FERC Standards of Conduct shall notify such Person's Transmission Function and such Person's Transmission Function shall make arrangements to provide contemporaneous disclosure per the FERC Standards of Conduct, to the extent applicable.

9.5 **Restrictions on Access to Critical Energy Infrastructure Information.** Each Participant hereby certifies for itself and its Representatives who may be granted access to confidential and proprietary information, including Confidential Information, that (i) it and each of its Representatives are aware of the requirements of 18 C.F.R. Part 388, and (ii) it has no reason to believe that it or its Representatives would be restricted from access to Critical Energy Infrastructure Information pursuant to 18 C.F.R. Part 388.

9.6 **Property of Participant.** Except Confidential Information developed by a Participant as part of Development Work, the costs of which were included as Development Costs for which the Participant was reimbursed in accordance with this Agreement, all confidential and proprietary information, including Confidential Information, shall remain the property of the Participant providing it. Notwithstanding any provision in this Section 9 to the contrary, if such Participant subsequently (i) withdraws from this Agreement, (ii) fails to participate in the Project as provided in Section 6.1 hereof, or (iii) defaults and is terminated from this Agreement as provided in Section 2.4 hereof, such Participant shall have no right to demand that such confidential and proprietary information, including Confidential Information, be returned to such Participant or be destroyed at the instruction of such Participant, it being agreed and understood that the remaining Participants or any other CapX 2020 Initiative project shall have an irrevocable, perpetual right and license to use the confidential and proprietary information, including Confidential Information, for any Permitted Purpose on a royalty free basis thereafter under this Agreement and for the Project.

9.7 **No Accuracy Warranty.** The Participant that discloses confidential and propriety information is not providing any warranties or representations as to the accuracy of any such information. Nothing herein is intended to, nor shall it, obligate a Participant to provide any confidential and proprietary information, including Confidential Information, to any other Participant; provided, however, the foregoing shall not abrogate or otherwise absolve a disclosing Participant from the covenant set forth in Section 9.1 above regarding non-infringement and prohibitions on use.

9.8 **Breach of Confidentiality Provisions.** Each Participant expressly agrees that a breach of any of the terms or conditions of this Section 9 would result in irreparable harm and that money would not be a sufficient remedy for any such breach. Accordingly, in the event of a breach or threatened breach by a Participant or by any of its Representatives or any CapX 2020 Initiative participant or

representative of any of the provisions of this Section 9 (and in addition to any other remedy provided by law or in equity), the Participant such breach would harm shall be entitled to seek appropriate equitable relief, including injunctive relief and specific performance.

9.9 **Public Disclosure.** If a Participant intends to make, directly or indirectly, any material public comment, statement, or communication (such as a press release) with respect to, or otherwise to disclose or to permit the disclosure of a material non-public aspect of the CapX 2020 Initiative or any of the material terms, conditions, or other material aspects of this Agreement or a Project, it shall use reasonable commercial efforts to first provide to the CapX 2020 Initiative participants or representatives and the other Participants the content of the proposed disclosure, and the time and place that the disclosure will be made and provide CapX 2020 Initiative participants or representatives and the other Participants a reasonable opportunity to comment on the proposed disclosure; provided, that no such public comment, statement or communication shall include any confidential or proprietary information, including Confidential Information.

9.10 **Public Disclosure Laws.** The Participants intend that nothing in this Agreement and no action taken pursuant to this Agreement shall (i) cause confidential or proprietary information, including Confidential Information, that would otherwise have been exempt from public access or inspection to become subject to public access or inspection under any Applicable Law regarding public access to information, or (ii) make unavailable or waive any exception to or protection under public disclosure Applicable Laws that would otherwise enable the Participants to preserve the confidentiality confidential or proprietary information, including Confidential Information.

10. TERM AND TERMINATION OF AGREEMENT.

10.1 Term of Agreement.

10.1.1 Effective Date. This Agreement shall become effective and in full force and effect when all the Participants have duly executed and delivered this Agreement.

10.1.2 Term. Unless earlier terminated pursuant to the terms of Section 10.2 below, the initial term of this Agreement is five (5) years from the date of this Agreement (the "**Initial Term**"). If Development Work is not completed at the end of the Initial Term, this Agreement shall automatically extend in one-year increments until Development Work has been completed. The term of this Agreement shall be the period of the Initial Term and any one-year increment extension(s) to the date of termination of this Agreement (the "**Term**").

10.2 Termination.

10.2.1 Termination of Agreement. The Participants shall have the sole authority to terminate this Agreement except as expressly provided in this Agreement.

10.2.1.1 Voluntary Termination of Agreement. This Agreement may be terminated at any time for any reason or no reason: (i) by written action executed by all of the Participants with or without the recommendation of the Management Committee, or (ii) upon the recommendation of the Management Committee by a Level B Vote to terminate this Agreement followed by a written action

executed by (A) greater than fifty percent (50%) of the Participant Percentages, and (B) not less than three (3) Participants. The foregoing shall remain in effect if there are at least four (4) Participants. If there are three (3) Participants, the vote to terminate this Agreement shall require (1) greater than fifty percent (50%) of the Participant Percentages, and (2) not less than two (2) Participants. If there are two (2) Participants, then the vote to terminate this Agreement shall require greater than fifty percent (50%) of the total Participant Percentages entitled to vote.

10.2.1.2 Other Termination of Agreement. Continuation of the Development Work for the Project shall be deemed not feasible and this Agreement shall terminate:

(i) upon failure under Section 5.5.3 to increase the Maximum Development Costs or revise the scope of the Development Work under this Agreement or take such other action, as set forth in Section 5.5.3 hereof, or

(ii) upon failure on the part of Participants to elect or maintain to pay, in the aggregate, one hundred percent (100%) of Development Costs or elect or maintain Elected Project Participation equal to one hundred percent (100%) of the Project pursuant to Sections 2.6 or 6 hereof.

10.2.2 Effect of Agreement Termination.

10.2.2.1 Property Rights. If this Agreement is terminated before the execution and delivery of the Project Agreements pursuant to Section 6.6.3.1, the Participants shall each exercise rights as a tenant-in-common pursuant to the operation of this Agreement and under the common law with respect to such property interests; provided, however, no Participant shall have any duty to render an accounting with respect to its use of such property interests following the termination of this Agreement and no Participant shall be entitled, and hereby irrevocably waives its rights, to seek to partition such rights. Upon such termination, the Development Manager shall provide to each Participant a copy of all studies, reports, contracts and other similar data and other similar information constituting Development Work that is in the possession of the Development Manager. Each Participant shall be entitled and permitted to use any such property interests for any purposes desired, subject only to confidentiality restrictions set forth in this Agreement. If the Development Manager acquired tangible personal property in connection with this Agreement and was reimbursed for such property as Development Costs, then the Development Manager, at its option, shall either (i) cause the transfer to each Participant a percentage undivided ownership interest equal to its Participant Percentage, and/or (ii) sell the property and pay a percentage of the proceeds from such sale to the Participants in accordance with their respective Participant Percentages. Upon and after termination of this Agreement (A) nothing herein shall require any Participant to offer any other current or former Participant the right to participate in any subsequent work or project

with respect to electric transmission routes or lines, or any other efforts of such Participant, and (B) no Participant shall claim any right, title or interest in or to any such work or project of another Participant.

10.2.2.2 Wind-Up; Cooperation. Upon termination of this Agreement, each Participant shall promptly and cooperatively assist the Development Manager, at the request of the Development Manager, with the process of winding up the Project, including notification of appropriate Governmental Bodies and Subcontractors, termination of outstanding Development Work contracts and other engagements, and payment of all remaining outstanding obligations and liabilities associated with the Project or otherwise arising under this Agreement or the activities arising hereunder. The Participants and the Development Manager shall use commercially reasonable efforts to cooperate and complete the wind-up process as expeditiously as possible.

10.2.2.3 Costs and Expenses of Wind-Up. Costs and expenses incurred in connection with the wind-up upon termination pursuant to Section 10.2.2.2 (including settlement of Development Work liabilities and obligations for existing contracts) shall be deemed Development Costs, and are subject to the ordinary reimbursement and payment requirements under Section 5.2.3.

11. NOTICES.

11.1 **Notices Generally.** All notices, requests or other communications required under this Agreement shall be in writing and shall be sufficient in all respects: (i) if delivered in Person or by courier, upon receipt by the intended recipient or an employee that routinely accepts packages or letters from couriers or other Persons for delivery at the address identified (as confirmed by, if delivered by courier, the records of such courier), (ii) if sent by facsimile transmission, when the sender receives confirmation from the sending facsimile machine that such facsimile transmission was transmitted to the facsimile number of the addressee, (iii) if mailed, upon the date of delivery as shown by the return receipt therefor, or (iv) if delivered by a nationally recognized overnight mail delivery service, upon the date of delivery. Notices shall be sent to the addresses of the entities and Persons set forth on **Appendix E** to this Agreement, subject to the provisions of Section 11.3 hereof.

11.2 **Informal Communications.** Informal communications of a routine nature shall be given in such manner as the Participants deem appropriate, except as otherwise determined by the Management Committee.

11.3 **Designation of Different Addresses and Persons.** A Participant may, at any time, by written notice to each other Participant, designate different or additional Persons or different addresses for giving of notices, demands or requests to it hereunder.

12. MISCELLANEOUS PROVISIONS.

12.1 **Headings.** The headings of the articles, sections and subsections of this Agreement are intended for the convenience of the Participants only and shall in no way be held to explain, modify, construe, limit, amplify or aid in the interpretation of the provisions hereof. The terms "this Agreement," "hereof," "herein," "hereunder," "hereto" and similar expressions refer to this Agreement as a whole

and not to any particular article, section, subsection or other portion hereof and include the appendices, schedules and exhibits hereto and any document, instrument or agreement executed and/or delivered by the Participants pursuant hereto.

12.2 **Scope of Agreement**. Unless the context otherwise requires, all references in this Agreement or in any appendix, schedule, exhibit or instrument hereto, to the assets, property interests, operations, business, financial statements, employees, books and records, accounts receivable, accounts payable, contracts or other attributes of the Development Work hereunder shall mean such items or attributes as they are used in, apply to, or relate to this Agreement.

12.3 **Construction**. The Participants have participated jointly in the negotiation and drafting of this Agreement. If an ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the Participants and no presumption or burden of proof shall arise favoring or disfavoring any party by virtue of the authorship of any of the provisions of this Agreement. The terms and phrases used in this Agreement, unless the context otherwise requires, shall be interpreted as follows: (i) the words "including," "include" or "includes" shall mean including without limitation, (ii) reference to any agreement (including this Agreement), appendix, schedule, exhibit, instrument or coverage policy means as such is amended, modified or supplemented, including by waiver or consent, (iii) reference to any Applicable Law means such Applicable Law as amended, modified, codified or reenacted, in whole or part, and in effect from time to time, (iv) reference to any Participant includes such entities' successors and assigns, to the extent that such successors and assigns are permitted by this Agreement, (v) reference to a Participant as a "Participant" shall, where applicable, also refer to any other capacity of such Participant under this Agreement, including that of Development Manager or Subcontractor, except as specifically stated herein, (vi) reference to the "Development Manager" excludes any reference to such Participant in any other capacity, and (vii) reference to a Participant as a "Subcontractor" excludes any reference to such Participant in any other capacity.

12.4 **Relationship of Participants.** The covenants, obligations and liabilities of the Participants and the Development Manager are intended to be several and not joint or collective and nothing herein contained shall ever be construed to create an association, joint venture, trust, partnership or other legal relationship, or to impose a trust or partnership covenant, obligation or liability on or with regard to any of the Participants or the Development Manager. No member or customer of a Participant or customer of a member of a Participant shall be deemed a Participant or party under this Agreement unless they have or it has explicitly accepted in writing all of the terms and conditions of this Agreement. Each Participant and the Development Manager shall be individually responsible for its own covenants, obligations and liabilities as herein provided. No Participant shall be under the control of or shall be deemed to control any other Participant or the Participants as a group. No Participant acting in any capacity shall be the agent of or have a right or power to bind any other Participant without its express written consent, except as set forth in this Agreement.

12.5 **No Rights or Benefits to Third Parties.** Except as otherwise specifically provided in this Agreement, the Participants do not intend to create rights in or to grant remedies to any third party as a beneficiary of this Agreement or to create any duty to or standard of care on behalf of any third party by any covenant, obligation or undertaking established herein. There shall be no incidental third party beneficiaries to this Agreement and, by way of clarification and not of limitation, no

Governmental Body, customer or member of a Participant or customer of a Participant's member is an intended or incidental third party beneficiary hereof.

12.6 **Binding Obligations.** This Agreement shall be binding upon and shall inure to the benefit of the permitted successors and assigns, if any, of the Participants. Participants may assign their rights and obligations hereunder only in strict accordance with the provisions of Section 2.9 of this Agreement.

12.7 **Severability.** If any term, covenant or condition of this Agreement or the application of such term, covenant or condition, shall be held invalid or unenforceable as to any Person or circumstance by any Governmental Body, all other terms, covenants or conditions of this Agreement and their application shall not be affected thereby, but shall remain in force and effect unless such a Governmental Body holds that the provisions are not separable from all other provisions of this Agreement. The parties hereto specifically consent to the "blue-penciling" of this Agreement by any Governmental Body to construe as valid and enforceable the terms and conditions of this Agreement, consistent with the intent of the parties hereto. Such Governmental Body shall have the authority to reform and interpret the terms and conditions of this Agreement to find a valid and enforceable construction of this Agreement that is consistent with the intent of the parties and holds all invalid and unenforceable provisions, if any, as separable from all other remaining provisions.

12.8 **Amendment and Waiver.** The Participants shall have the sole authority to amend this Agreement. No purported amendment of this Agreement shall be effective unless in a writing specifically referring to this Agreement which is executed and delivered by all of the Participants. The terms, conditions, warranties, representations and covenants contained in this Agreement, including the documents, instruments and agreements executed and delivered by the Participants and/or the Development Manager pursuant hereto, may be waived only by a written instrument executed by the Participant waiving compliance. Any such waiver shall only be effective in the specific instance and for the specific purpose for which it was given and shall not be deemed a waiver of any other provision hereof or of the same breach or default upon any recurrence thereof. No failure on the part of a Participant or the Development Manager, as applicable in the circumstances, to exercise, and no delay in exercising, any right hereunder shall operate as a waiver thereof nor shall any single or partial exercise of any right hereunder preclude any other or further exercise thereof or the exercise of any other right.

12.9 **Survival of Representations and Warranties, Covenants and Agreements.** Each of the (i) representations and warranties of the Participants contained in this Agreement and in any ancillary documents delivered by or on behalf of any of the Participants pursuant to this Agreement and the transactions contemplated hereby shall survive in accordance with the statutes of limitations applicable to claims arising from the breach of any such representations and warranties, and (ii) covenants and agreements arising from, incident to or in connection with this Agreement hereof shall indefinitely survive the termination of this Agreement or the withdrawal or termination of any Participant; provided, however, (A) covenants and agreements shall survive only to the date when they are fully satisfied and require no performance or forbearance, and (B) the rights of a Participant expire on a specific date by the terms hereof, including without limitation the provisions of Sections 2.8 (Property Rights) and 9 (Confidentiality).

12.10 **Execution in Counterparts and Delivery of Electronic Signatures.** This Agreement may be executed in any number of counterparts. All such counterparts shall be deemed to be originals and

shall together constitute but one and the same instrument. This Agreement shall become effective upon its execution by all of the Participants listed below. The executed counterparts of this Agreement and any ancillary documents hereto, such as amendments, may be delivered by electronic means, such as email and/or facsimile, by the Participants and the receiving party may rely on the receipt of such executed counterpart as if the original had been received.

12.11 **Governing Law and Venue**. This Agreement will be governed by and construed in accordance with the laws of the State of Minnesota (exclusive of conflicts of law provisions of any jurisdiction and the principles of comity). If the dispute resolution provisions of Section 8 hereof are not enforceable for any reason, each Participant and the Development Manager agrees and consents that any Proceeding seeking to enforce any provision of this Agreement shall be instituted and adjudicated solely and exclusively in any court of general jurisdiction in Minnesota, or in the United States District Court having jurisdiction in Minnesota. Each Participant and the Development Manager agrees that each such court shall have personal jurisdiction over it with respect to such Proceeding, and waives any objections it may have, and expressly consents, to such personal jurisdiction.

12.12 **Entire Agreement**. This Agreement constitutes the entire agreement among the Participants, and supersedes all prior oral or written agreements, understandings, representations and warranties, and courses of conduct and dealing between the Participants on the subject matter hereof.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Participants have caused this Agreement be executed as of the date above recited.

PARTICIPANTS:

GREAT RIVER ENERGY

By _____
Its Vice President

ALLETE, INC., d/b/a MINNESOTA POWER

By _____
Its _____

MISSOURI BASIN MUNICIPAL POWER AGENCY, d/b/a MISSOURI RIVER ENERGY SERVICES

By _____
Its _____

OTTER TAIL CORPORATION, d/b/a OTTER TAIL POWER COMPANY

By _____
Its _____

XCEL ENERGY SERVICES INC., AS AGENT FOR: NORTHERN STATES POWER COMPANY, A MINNESOTA CORPORATION AND A WHOLLY OWNED SUBSIDIARY OF XCEL ENERGY INC., D/B/A XCEL ENERGY

By _____
Its _____

DEVELOPMENT MANAGER:

XCEL ENERGY SERVICES INC., AS AGENT FOR: NORTHERN STATES POWER COMPANY, A MINNESOTA CORPORATION AND A WHOLLY OWNED SUBSIDIARY OF XCEL ENERGY INC, D/B/A XCEL ENERGY

By _____
Its _____

[SIGNATURE PAGE FOR FARGO – ST. CLOUD PROJECT DEVELOPMENT AGREEMENT]

IN WITNESS WHEREOF, the Participants have caused this Agreement be executed as of the date above recited.

PARTICIPANTS:

GREAT RIVER ENERGY

By_____
Its_____

ALLETE, INC., d/b/a MINNESOTA POWER

By_____
Mark A. Schober
Its Sr. VP & Chief Financial Officer

MISSOURI BASIN MUNICIPAL POWER AGENCY, d/b/a MISSOURI RIVER ENERGY SERVICES

By_____
Its_____

OTTER TAIL CORPORATION, d/b/a OTTER TAIL POWER COMPANY

By_____
Its_____

XCEL ENERGY SERVICES INC., AS AGENT FOR: NORTHERN STATES POWER COMPANY, A MINNESOTA CORPORATION AND A WHOLLY OWNED SUBSIDIARY OF XCEL ENERGY INC., D/B/A XCEL ENERGY

By_____
Its_____

DEVELOPMENT MANAGER:

XCEL ENERGY SERVICES INC., AS AGENT FOR: NORTHERN STATES POWER COMPANY, A MINNESOTA CORPORATION AND A WHOLLY OWNED SUBSIDIARY OF XCEL ENERGY INC, D/B/A XCEL ENERGY

By_____
Its_____

[SIGNATURE PAGE FOR FARGO – ST. CLOUD PROJECT DEVELOPMENT AGREEMENT]

IN WITNESS WHEREOF, the Participants have caused this Agreement be executed as of the date above recited.

PARTICIPANTS:

GREAT RIVER ENERGY

By_____
Its_____

ALLETE, INC., d/b/a MINNESOTA POWER

By_____
Its_____

MISSOURI BASIN MUNICIPAL POWER AGENCY, d/b/a MISSOURI RIVER ENERGY SERVICES

By Thomas J. Heller
Its Chief Executive Officer

OTTER TAIL CORPORATION, d/b/a OTTER TAIL POWER COMPANY

By_____
Its_____

XCEL ENERGY SERVICES INC., AS AGENT FOR: NORTHERN STATES POWER COMPANY, A MINNESOTA CORPORATION AND A WHOLLY OWNED SUBSIDIARY OF XCEL ENERGY INC., D/B/A XCEL ENERGY

By_____
Its_____

DEVELOPMENT MANAGER:

XCEL ENERGY SERVICES INC., AS AGENT FOR: NORTHERN STATES POWER COMPANY, A MINNESOTA CORPORATION AND A WHOLLY OWNED SUBSIDIARY OF XCEL ENERGY INC, D/B/A XCEL ENERGY

By_____
Its_____

[SIGNATURE PAGE FOR FARGO – ST. CLOUD PROJECT DEVELOPMENT AGREEMENT]

IN WITNESS WHEREOF, the Participants have caused this Agreement be executed as of the date above recited.

PARTICIPANTS:

GREAT RIVER ENERGY

By_____
Its_____

ALLETE, INC., d/b/a MINNESOTA POWER

By_____
Its_____

MISSOURI BASIN MUNICIPAL POWER AGENCY, d/b/a MISSOURI RIVER ENERGY SERVICES

By_____
Its_____

OTTER TAIL CORPORATION, d/b/a OTTER TAIL POWER COMPANY

By John Erickson
Its President & CEO

XCEL ENERGY SERVICES INC., AS AGENT FOR: NORTHERN STATES POWER COMPANY, A MINNESOTA CORPORATION AND A WHOLLY OWNED SUBSIDIARY OF XCEL ENERGY INC., D/B/A XCEL ENERGY

By_____
Its_____

DEVELOPMENT MANAGER:

XCEL ENERGY SERVICES INC., AS AGENT FOR: NORTHERN STATES POWER COMPANY, A MINNESOTA CORPORATION AND A WHOLLY OWNED SUBSIDIARY OF XCEL ENERGY INC, D/B/A XCEL ENERGY

By_____
Its_____

[SIGNATURE PAGE FOR FARGO – ST. CLOUD PROJECT DEVELOPMENT AGREEMENT]

IN WITNESS WHEREOF, the Participants have caused this Agreement be executed as of the date above recited.

PARTICIPANTS:

GREAT RIVER ENERGY

By_____
Its_____

ALLETE, INC., d/b/a MINNESOTA POWER

By_____
Its_____

MISSOURI BASIN MUNICIPAL POWER AGENCY, d/b/a MISSOURI RIVER ENERGY SERVICES

By_____
Its_____

OTTER TAIL CORPORATION, d/b/a OTTER TAIL POWER COMPANY

By_____
Its_____

XCEL ENERGY SERVICES INC., AS AGENT FOR: NORTHERN STATES POWER COMPANY, A MINNESOTA CORPORATION AND A WHOLLY OWNED SUBSIDIARY OF XCEL ENERGY INC., D/B/A XCEL ENERGY

By_____
Its_____

DEVELOPMENT MANAGER:

XCEL ENERGY SERVICES INC., AS AGENT FOR: NORTHERN STATES POWER COMPANY, A MINNESOTA CORPORATION AND A WHOLLY OWNED SUBSIDIARY OF XCEL ENERGY INC, D/B/A XCEL ENERGY

By_____
Its_____

[SIGNATURE PAGE FOR FARGO – ST. CLOUD PROJECT DEVELOPMENT AGREEMENT]

APPENDIX A

SCHEDULE OF PARTICIPANT PERCENTAGE OF DEVELOPMENT COSTS AND ELECTION RIGHTS

The Percentage of Development Costs and Election Right of each Participant shall be the indicated percentages set forth opposite its name in the following schedule.

	Fargo-St. Cloud (DM: Xcel Energy)
Great River Energy	25.0%
Minnesota Power	14.7%
Missouri River Energy Services	11.0%
Otter Tail Corporation, d/b/a Otter Tail Power Company	13.2%
Northern States Power Company, a Minnesota corporation and wholly owned subsidiary of Xcel Energy Inc., d/b/a Xcel Energy	36.1%
Total	100%

APPENDIX B

JOINT DEVELOPMENT WORK COST ALLOCATION

Type of Project Costs	Brookings	Fargo	La Crosse	Bemidji
Technical Standards	46.718%	24.375%	20.470%	8.437%
CON – 345 KV Projects	51.024	26.621	22.355	0
CON – 230 KV Projects	0	0	0	100
Template Project Agreements	46.719	24.375	20.469	8.438
General Project execution activities (Terry & Laura costs)	46.719	24.375	20.469	8.438
General planning to refine Group 1 Projects	46.719	24.375	20.469	8.438

APPENDIX C

REIMBURSEMENT OF DEVELOPMENT MANAGER FOR DEVELOPMENT WORK

Development Costs shall include labor-related charges as set forth below with respect to the use of the Development Manager's employees to perform, undertake and carry out Development Work. These costs shall be charged to the Project as Development Costs and the Development Manager shall be reimbursed by the Participants

1. **Direct Labor**

All direct labor costs.

2. **Labor Additive Expense**

Labor-related charges to CapX shall include the labor additive expenses associated with the Development Manager's direct labor charged to CapX. The labor additive shall be based on prevailing policies of the Development Manager, or the affiliate of the Development Manager for which the relevant employee works. The labor additive is typically a percentage developed by taking labor additive expenses including, but not limited to those listed below and dividing by the Development Manager's total Direct Labor costs:

Employer FICA, Medicare, and Federal and State unemployment payroll taxes

Defined Benefit – Pension Plans – FASB 87

Long Term Disability Plans - FASB 112

Employee Medical, Dental, Disability, and Life insurance

Workers Compensation insurance (including all costs and expenses attributable to premiums, retrospective or prospective policy adjustments, deductibles, co-insurance and/or self insured retention)

Vacation, Paid time off (PTO), Sick Leave, Holiday and other non productive payroll

Defined Contribution – 401K match

Post Retirement Benefits – FASB 106

Education assistance

Union Craft Welfare

Training

Annuities

Other Employee Benefits (less than 2% of all payroll Additive Expenses)

3. General and Administrative Costs on Direct Labor.

The Development Manager shall recover general and administrative costs associated with Direct Labor. A percentage **(G&A Percentage)** of 36% shall be applied to the Development Manager's Direct Labor charged to CapX. Costs considered to be General and Administrative costs recovered through the 36% G&A Percentage adder and not reimbursed by the Participants if directly assigned to CapX include, but are not limited to the following:

Administrative Temporary Labor

Employee Procurement

Office Supplies

Office Consulting

Administrative travel and training

Telephone

Computer Hardware and Software

Headquarter Building and Grounds – Interest, depreciation, taxes and insurance

Headquarter Building and Grounds – Miscellaneous Expense

Office furniture, equipment, and computer hardware/software depreciation

Other Office Expense (less than 2% of all G&A expenses)

Insurance premium expense corresponding to policies of insurance required to be maintained by the Development Manager pursuant to Section 4.7.1 of this Agreement (other than worker's compensation insurance expense addressed under Section 2 of this **Appendix C** above), but only if any such insurance policy (or any endorsement or rider thereto) is maintained in the ordinary course of business of the Development Manager, and was not purchased solely for the purpose of meeting the Development Manager's insurance coverage obligation set forth in Section 4.7.1 of this Agreement. Costs and expenses of the insurance included in the G&A Percentage specifically do not include any costs and expenses paid or payable by the Development Manager (i) with respect to deductibles, co-insurance or self insured retentions, or (ii) to obtain any endorsements necessary to designate any Participant (other than the Development Manager) as an additional insured.

In addition, the following types of departments of the Development Manager are considered General and Administrative. Therefore, an individual working in any of these departments should not directly assign their time to CapX, as this type of direct labor is non-reimbursable. In lieu of direct charging, the Development Manager shall use the 36% G&A Percentage calculation.

Accounting

Budgeting

Finance

Administrative

Office Services

Human Resources

Information Technology

Purchasing

Building and Grounds – Headquarters

APPENDIX D

DISPUTE RESOLUTION PROCEDURES

1. **ACKNOWLEDGMENT.** The Participants to this Agreement acknowledge that it is in their respective mutual best interests to promptly and expeditiously resolve any disputes and controversies between and among Participants. To that end, except as set forth in this Paragraph 1, the Participants hereby agree that the rules of dispute resolution set forth in this **Appendix D** (the "**ADR Rules**") shall be the sole and exclusive remedy for resolution of their differences if such differences shall arise with respect to this Agreement. These ADR Rules shall not, however, govern a dispute between the Participants and the Development Manager if there is an affirmative vote to remove the Development Manager pursuant to Section 4.11 of this Agreement and the Development Manager seeks to appeal the removal determination pursuant to Sections 4.11.4 and 8.2.2.

2. **PARTICIPANT SETTLEMENT CONFERENCE.**

   2.1 **Notice.** If a dispute, claim or controversy arises between or among Participants, any such Participant shall have the right to notify all other Participants that it has elected to implement the procedures set out in these ADR Rules. Within five (5) business days after receipt of such notice, an authorized representative of each disputing Participant shall meet at a mutually agreed time and place and attempt, in a commercially reasonable manner, to resolve and settle such dispute or controversy.

   2.2 **Assignment of Representatives.** If the dispute or controversy (i) relates primarily to the performance of Development Work or is primarily operational in nature, each disputing Participant shall assign an individual qualified and experienced in electric transmission subject matter, (ii) is primarily financial in nature, each disputing Participant shall assign an experienced financial representative, or (iii) primarily relates to any other subject matter, each disputing Participant shall assign an executive familiar with the subject matter of this Agreement to act on behalf of the Participant, in each case for the purpose of resolving such dispute or controversy.

   2.3 **Time Period for Settlement Discussions.** The applicable representatives of the disputing Participants shall have up to ten (10) business days following the commencement of discussions to resolve any such dispute or controversy as conclusively evidenced by a settlement agreement in writing. If a mutual resolution or settlement of such dispute or controversy is not obtained within the period referenced above, any disputing Participant may then initiate non-binding mediation in accordance with the procedures set out below.

3. **NON-BINDING MEDIATION.** Subject to the provisions of Section 2, any disputing Participant may initiate non-binding mediation of a dispute or controversy described above by furnishing a written request for mediation to all other disputing Participants. Such mediation shall be subject to and shall proceed as follows:

   3.1 **Selection of Mediator.**

      3.1.1 Participant Selection. The disputing Participants shall mutually agree to select a mediator who is impartial, has experience in construction project dispute mediation,

and is knowledgeable regarding the design and construction of electric utility transmission projects ("**Mediator**"). The Mediator does not have the authority to impose a settlement upon the parties, but will attempt to help the parties reach a satisfactory resolution of their dispute.

3.1.2 Court Selection. If the disputing Participants cannot agree upon a Mediator, a party may apply to a court of competent jurisdiction in Hennepin County, Minnesota, for the appointment of a mediator. Once a Mediator has been appointed, each of the disputing Participants shall participate in such mediation.

3.2 **Location.** Each mediation session shall be held in the Minneapolis-St. Paul, Minnesota metropolitan area at a convenient location agreeable to the Mediator and the disputing Participants, as the Mediator shall determine, or if no such location has been established within five (5) business days of the appointment of the Mediator, the Mediator shall designate such location. The mediation shall be commenced within five (5) business days after the selection of the mediation location, unless otherwise agreed by the disputing Participants.

3.3 **Submissions and Governing Rules.** The disputing Participants shall provide written submissions to the Mediator as the Mediator shall determine. Mediations shall be subject to and governed by Rule 114 of the Minnesota Rules of Practice. Without limiting the foregoing, confidential information disclosed to the Mediator by the parties or by witnesses in the course of mediation shall not be divulged by the Mediator. The Mediator shall not divulge any such information or testify in regard to the mediation in any arbitration or other adversarial Proceeding.

3.4 **Termination of Mediation.** The mediation shall be terminated: (i) by the execution of a settlement agreement by the parties, or (ii) by a written declaration of the Mediator to the effect that further efforts of mediation are no longer worthwhile, or (iii) by a written declaration of any disputing Participant to the effect that the mediation Proceedings are terminated.

4. **BINDING ARBITRATION.** Except as set forth in Paragraph 1 above concerning removal of the Development Manager, all disputes or controversies between or among Participants arising out of or relating to this Agreement that are not resolved by either (i) the disputing Participants, or (ii) mediation, as provided in this **Appendix D** above, shall be conclusively decided by binding arbitration as provided in these ADR Rules. The regular track procedures of the Construction Industry Arbitration Rules of the American Arbitration Association ("**Construction Industry Rules**") shall govern or control all arbitrations of claims or disputes arising from and relating to this Agreement, except as modified and to the extent supplemented below. All arbitrations shall be subject to and shall proceed as follows:

4.1 **Demand for Arbitration.** Demand for arbitration shall be filed in writing with those Participants against whom the claim is made or relief is sought and with the American Arbitration Association. A demand for arbitration shall be made no later than the date when institution of legal or equitable Proceedings based on such claim, dispute or other matter in question would be barred by the applicable statutes of limitations.

4.2 **No Joinder.** No arbitration arising out of or relating to this Agreement shall include, by consolidation, joinder or in any manner, an additional Person who has not furnished services, labor or materials to the Project, except by written consent of the Participants to the arbitration. Further, nothing in the ADR Rules shall create any privity between parties or shall create or give rise to a duty owed by one party to another which does not otherwise arise by operation of law or by the terms of the contract(s) between such parties to which the ADR Rules have been attached and made a part thereof. Consent to arbitration involving an additional Person shall not constitute consent to arbitration of any claim, dispute or other matter not described in the written consent or with a Person not named or described therein.

4.3 **Procedures.** The arbitrator (or panel) shall establish reasonable procedures and requirements for the production of relevant documents and require the exchange of information concerning witnesses to be called. The parties shall be entitled to discover all documents and information reasonably necessary for a full understanding of any legitimate issue raised in the arbitration, and the parties may use all methods of discovery available under the Federal Rules of Civil Procedure and shall be governed thereby. Before the deposition of any expert witness, the party proposing to call such a witness shall provide a full and complete report by the expert, together with the expert's calculations and other data by which the expert reached any opinions concerning the subject matter of the arbitration. The report shall be provided no less than ten (10) business days before the date set for the expert witness' deposition. Any disputes arising from such discovery shall be decided by the arbitrator (or panel) and such decision or action taken by the arbitrator (or panel) shall be final as in all factual matters.

4.4 **Prehearing Meeting.** There shall be a prehearing meeting between the parties at which each party shall present a memorandum disclosing the factual basis of its claim and defenses and disclosing legal issues raised. The memorandum shall also disclose the names of any expert a party shall present as a witness during the Proceedings. At the prehearing meeting, the arbitrator (or panel) shall make and set schedules for hearings consistent with their powers as set forth in these ADR Rules.

4.5 **Abuse of Discovery.** If the arbitrator (or panel) finds, after affording an opportunity to be heard, that a party has abused the discovery process or has failed to act in good faith with regard to discovery or these arbitration rules, the arbitrator (or panel) shall have, in addition to any other powers conferred by law or the Construction Industry Rules, those powers conferred upon trial courts by the Federal Rules of Civil Procedure, subject to the same conditions and limitations set forth therein.

4.6 **Rules of Evidence.** The Federal Rules of Evidence shall be applied by the arbitrator (or panel) but liberally construed to allow for the admission of evidence that is helpful in resolving the controversy. Rulings on the admission of evidence made by the arbitrator (or panel) at the hearing shall be final and not subject to any appeal. At the time of the award, the arbitrator (or panel) shall prepare and provide to the parties findings of fact and conclusions of law supporting the award. When such findings of fact and conclusions of law are provided, the findings of fact shall be final, binding and non-appealable.

4.7 **Authority of Arbitrator.**

4.7.1 Equitable Relief and Limitation of Awards. In deciding the substance of any dispute, claim or controversy brought before the arbitrator (or panel), the arbitrator (or panel) shall have authority, power and right to award Damages and provide for other remedies as are available at law or in equity including the authority to grant temporary or permanent injunctive relief in a form substantially similar to that which would otherwise be granted by a court of law in accordance with the laws of the State of Minnesota, except that the arbitrator (or panel) shall have no authority to award special, incidental, consequential, indirect or punitive Damages against any Participant under any circumstances (whether they be exemplary, treble or punitive Damages, or any other penalty) regardless of whether such Damages may be available under the laws of the State of Minnesota. The disputing Participants hereby waive their right, if any, to recover such excluded Damages in connection with any disputes, claims or controversies between or among the Participants sought to be resolved under the ADR Rules. The Participants adopt the Rules for Emergency Measures of Protection of the American Arbitration Association under its Commercial Arbitration Rules.

4.7.2 Appeal of Injunctive Relief. If injunctive relief is granted under the Rules for Emergency Measures of Protection, then this provision shall not preclude any Participant from seeking temporary or preliminary injunctive relief before the commencement of arbitration from any court of competent jurisdiction and no bond or other security shall be required in connection with such injunctive or provisional relief.

4.8 **Award Final and Binding.** The award of the arbitrator (or panel) shall be final and binding, except as set forth in these ADR Rules (including a Section 4.7.2 appeal of an award of injunctive relief).

4.9 **Costs and Expenses.** Except as otherwise expressly provided in the ADR Rules, each party shall bear its own costs and expenses of the arbitration, including attorneys and expert witness fees, and shall equally share the expense of the arbitrator (or panel) and the administrative expenses of the arbitration.

5. **ENFORCEMENT.** These ADR Rules, together with a final award of the arbitrator (or panel), shall be enforceable in any court of competent jurisdiction, including the State and Federal Courts located in Hennepin County, Minnesota. The enforcement of such agreement and all procedural aspects thereof, including the construction and interpretation of the ADR Rules to arbitrate, scope of the issues subject to arbitration, allegations of waiver, delay or defenses as to arbitratability, and the rules (except as otherwise provided in these ADR Rules) governing the conduct of the arbitration shall be governed by and construed pursuant to the United States Arbitration Act.

6. **CONFIDENTIALITY OF PROCEEDINGS.** All Proceedings in connection with any dispute, claim or controversy shall be brought for resolution pursuant to the ADR Rules, including all documents prepared or obtained during discovery or produced during a hearing or meeting (other than documents which are already part of the public domain) and all testimony or recordings of testimony, including depositions, affidavits, and expert reports exchanged by the parties or produced

during a hearing or meeting, shall be confidential. In addition to the enforcement powers set forth in Section 5 above, the courts described above shall have jurisdiction to enter and enforce such protective Orders and to grant and enforce such appropriate injunctive relief sought by a party hereto to maintain the confidentiality of the Proceedings and to protect the parties from inappropriate disclosure. No bond or other security shall be required in connection with such injunctive relief. The prevailing party in any such action shall be entitled to all of its reasonable attorney fees and other costs and expenses associated with the enforcement of this these confidentiality provisions.

7. **NO JURY TRIAL.** IF LITIGATION IS AUTHORIZED PURSUANT TO ANY UNDERLYING AGREEMENT BETWEEN THE PARTICIPANTS AND IS BROUGHT FOR THE RESOLUTION OF ANY DISPUTE OR CLAIM ARISING FROM THE PROJECT OR THE AGREEMENT, INCLUDING BUT NOT LIMITED TO THE OBLIGATIONS OR RESPONSIBILITIES OF THE PARTICIPANTS WITH REGARD TO THE PROJECT, THE PARTICIPANTS DO HEREBY KNOWINGLY, VOLUNTARILY, AND INTENTIONALLY WAIVE THE RIGHT EACH MAY HAVE TO A TRIAL BY JURY IN RESPECT TO ANY SUCH LITIGATION AND THE ISSUES TO BE TRIED THEREIN. IT IS THE INTENT OF THE PARTICIPANTS THAT, IN ANY SUCH LITIGATION BETWEEN THE PARTICIPANTS (OR ANY OF THEM), ALL ISSUES IN SUCH LITIGATION SHALL BE TRIED TO A JUDGE AND NOT A JURY.

APPENDIX E

NOTICES

If to Great River Energy:

Great River Energy
17845 East Highway 10
P. O. Box 800
Elk River, MN 55330-0800
Representative: Will Kaul
Alternative: Terry Grove
Telephone: 763-241-2380
Fax: 763-241-6288

If to Minnesota Power:

Minnesota Power
30 West Superior Street
Duluth, MN 55802
Representative: Laura Schauer
Alternative: Mike Klopp
Telephone: 218-723-3964
Fax: 218-723-3912

If to Missouri Basin Municipal Power Agency:

Missouri River Energy Services
3724 West Avera Drive
P. O. Box 88920
Sioux Falls, SD 57109-8920
Representative: Ray Wahle
Alternative: Terry Wolf
Telephone: 605-338-4042
Fax: 605-978-9365

If to Otter Tail Corporation:

Otter Tail Corporation,
d/b/a Otter Tail Power Company
215 S. Cascade St.
P. O. Box 496
Fergus Falls, MN 56538-0496
Representative: Rodney C. H. Scheel
Alternative: Thomas R. Brause
Telephone: 218-639-2582
Fax: 218-739-8218

If to Northern States Power Company:

Northern States Power Company, a Minnesota corporation d/b/a Xcel Energy
414 Nicollet Mall, 5th Floor
Minneapolis, MN 55401
Representative: Greg Chamberlain
Alternative: Laura McCarten
Telephone: 612-337-2158
Fax: 612-573-9430

APPENDIX F

PROJECT DESCRIPTION

A 345 kV line approximately 225 to 250 miles long running from the Maple River substation near Fargo to a substation near Alexandria, to a new substation in the southwestern St. Cloud area to the Monticello substation.

Appendix E. Diversion Project Information

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Fargo-Moorhead Metropolitan Feasibility Study

Presentation for Red River Basin Conference

The Study Process

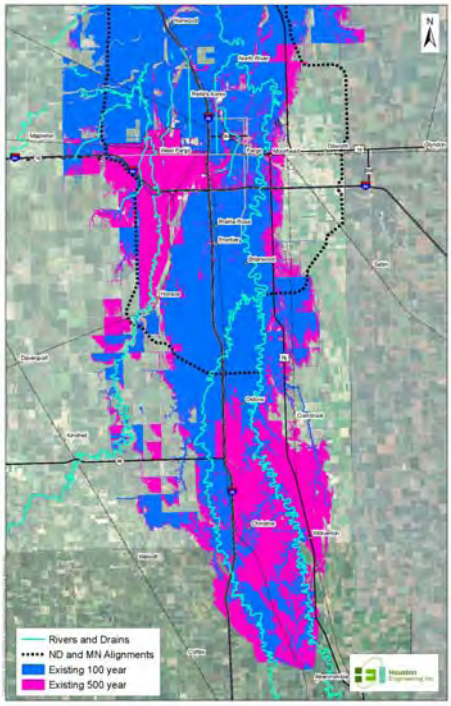
January 19, 2011

CITY OF MOORHEAD MINNESOTA

CITY OF Fargo

US Army Corps of Engineers
BUILDING STRONG®

CITY OF Fargo



CITY OF MOORHEAD MINNESOTA

19 Jan 2011

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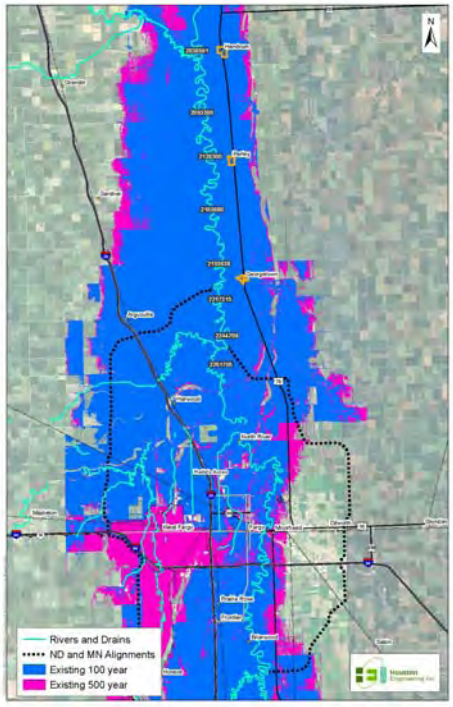

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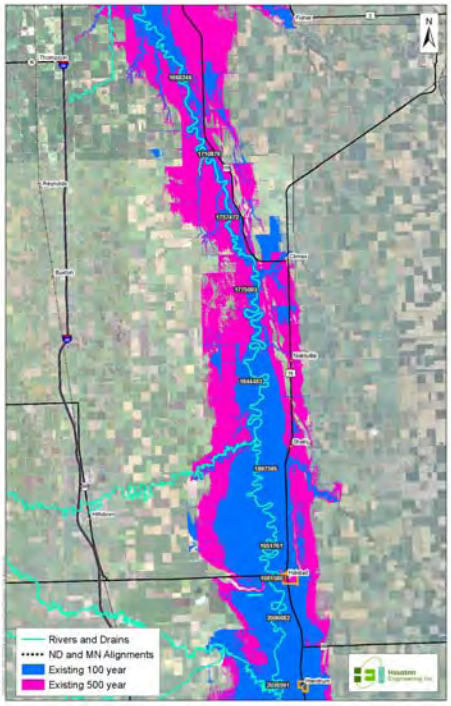


19 Jan 2011

4

The Planning Process

- From the Draft EIS
  - **The screening results produced –**
    - **Diversion channels with tie back levees**
      - Minnesota
      - North Dakota
  - **The different alignments were compared at various flow volumes**
  - **The Locally Preferred Plan (LPP) is ND 35K.**
  - **The Federally Comparable Plan (FCP) is MN 35K.**
  - **Project impacts were estimated for the LPP and FCP**

Effectiveness of Diversions:

	Stage at Fargo Gage (ft)	
	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition (Stage)	42.4	46.7
Existing Condition (CFS)	34,700	61,700
Work Group Goal	30	36
20K MN Diversion Channel	36.9	43.7
25K MN Diversion Channel	34.8	42.4
30K MN Diversion Channel	33.6	41.9
35K ND Diversion Channel	30.6	40
35K MN Diversion Channel	31.9	39.6
40K MN Diversion Channel	31.9	37.6
45K MN Diversion Channel	31.9	35.3

Fargo, N.D., March 26, 2009

Stage	Impacts
27	Fargo Elm Street closed
30	Fargo 2nd Street Dike installed
31	Moorhead 1st Ave. North closed
32	First homes in Moorhead threatened
35	First homes in Fargo threatened
40.8	2009 Flood Record Stage

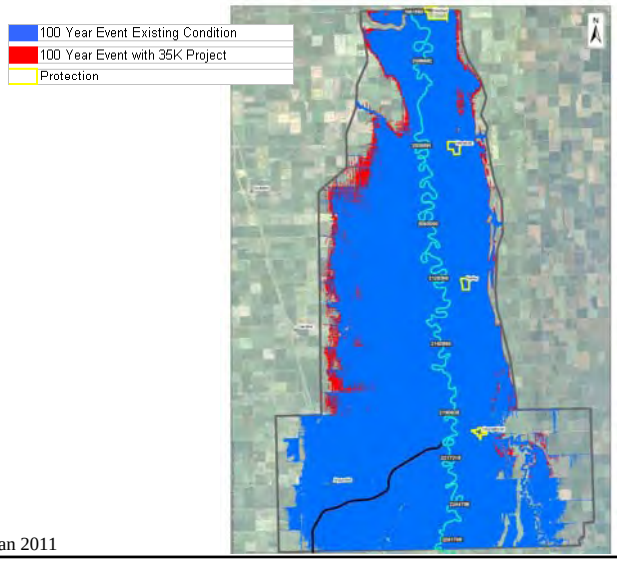
Downstream Effects:

Based on 35K diversions and 100-year event

Location	Stage increase (inches)
Minnesota Short 35K - 100 Year	
Halstad Gage	6.7
Peak	7.2
Hendrum	6.8
Perley	4.8
Georgetown	4.7
North Dakota 35K - 100 Year	
Halstad Gage	10.7
Peak	11.6
Hendrum	10.7
Perley	6.6
Georgetown	7.1

Downstream effects:

Based on ND 35K diversion and 100-year event



The Planning Process

- ✓ Downstream impacts
  - ✓ **Computer modeled to Halstad**
    - ✓ **No zero impact point identified**
  - ✓ **Computer model extended to Thompson**
    - ✓ **No zero impact point identified**
  - ✓ **Computer model extended to Drayton**
    - ✓ **No zero impact point identified**
- ✓ Initial models found no zero impact point downstream
  - ✓ **This was not anticipated and not acceptable.**
- ✓ Depth, duration, and frequency of impacts was acceptable.

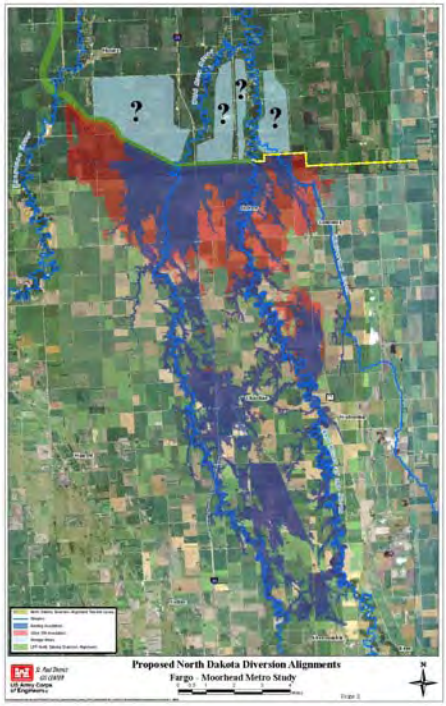
Current Analysis

- ✓ Provide Information to Public
  - ✓ **Potential upstream storage areas and impacts**
  - ✓ **Ensure distribution of information prior to supplemental draft report**
- ✓ Additional hydraulic modeling completed
  - ✓ **Model reviewed by others**
- ✓ Looking at concepts to reduce downstream impacts
  - ✓ **Storage cells along diversion**
  - ✓ **Upstream staging**

Fargo-Moorhead Flood 2009

19 Jan 2011

11



19 Jan 2011

ND Diversion 1% event
Possible number of structures Impacted*

Estimated Downstream Structures – 4500

Or

Estimated Upstream Structures - 800

***Estimates based on preliminary information – Actual impacts will be different - depth of impacts has not been determined and will vary by location**

Path Forward:

- ✓ Quantify downstream impacts
- ✓ Quantify upstream impacts
- ✓ Analyze non-structural solutions downstream of ND Diversion.
- ✓ Upstream/Storage Impacts
  - ✓ Analyze non-structural solutions
    - ✓ Buy-outs
    - ✓ Relocations
    - ✓ Ring Levees
  - ✓ Complete Takings Analysis
  - ✓ Continue working with Project Sponsors to address impacts.

Path Forward:

- ✓ Continue survey work
- ✓ Continue geotechnical work
- ✓ Continue working with natural resources agencies
- ✓ Conduct geomorphology study
- ✓ Continue to coordinate efforts with tribes
- ✓ Resolve issues generated by public and agency reviews
- ✓ No additional NED/FCP analysis
- ✓ Working with HQ/ASA(CW) on downstream impact costs

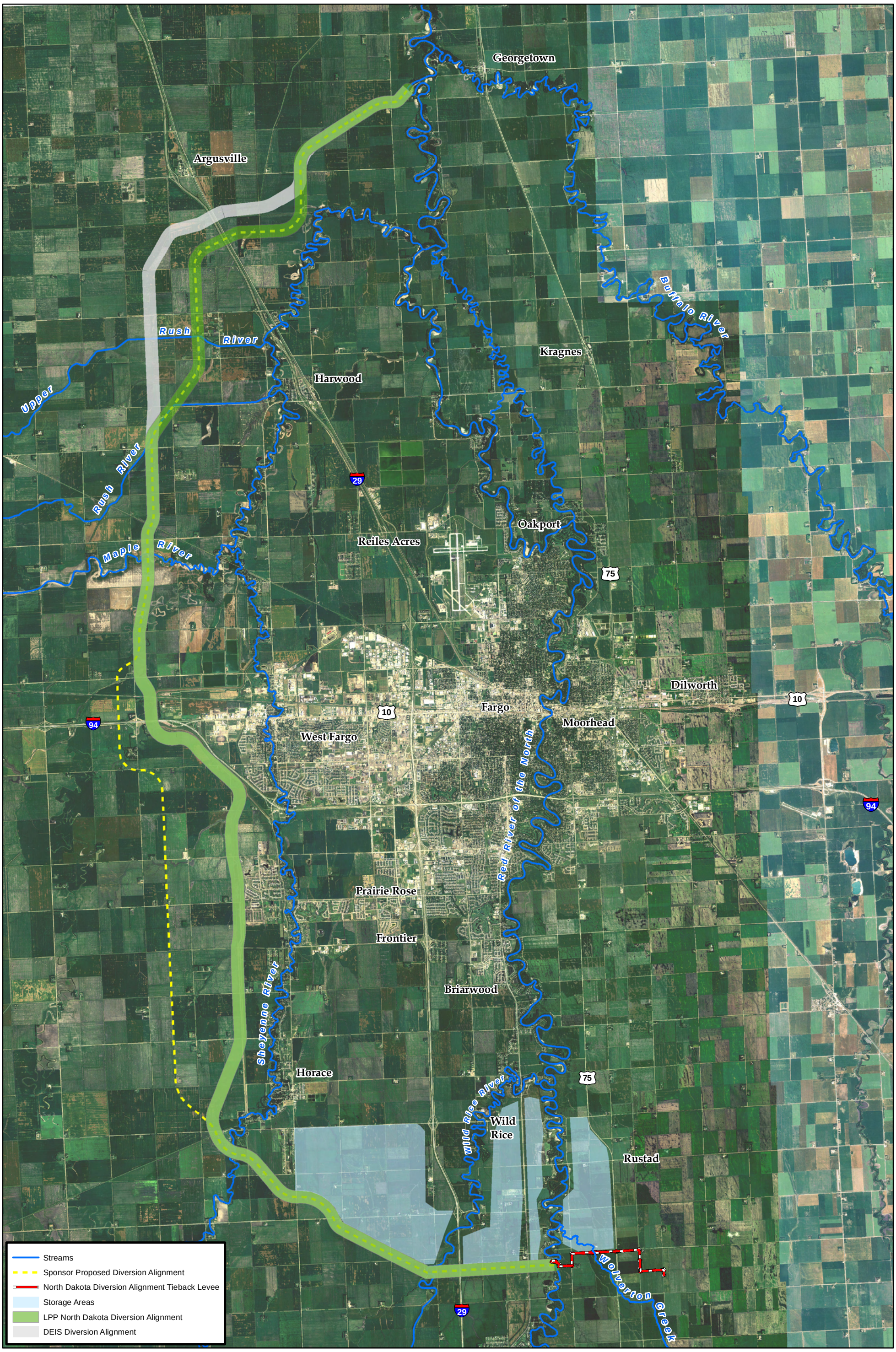
- Red River of the North

F-M Metro Study Timeline:

✓	Feb/Mar 11	Meetings in impacted areas (up or downstream)
✓	27 Apr 11	Supplemental Draft EIS to EPA for publication
✓	May 11	Public Meeting(s)
✓	20 Jun 11	Complete 45-day NEPA public comment period
✓	1 Aug 11	Division Engineer's Transmittal
✓	7 Sept 11	Submit Draft Chief's Report and Final EIS to EPA for publication
✓	1 Dec 11	Sign Chief's Report

F-M Metro Information

http://www.internationalwaterinstitute.org/feasibility/index.htm



St. Paul District
GIS CENTER
US Army Corps of Engineers®

Proposed North Dakota Diversion Alignments

Fargo - Moorhead Metro Study

0 0.5 1 2 3 4 Miles

N

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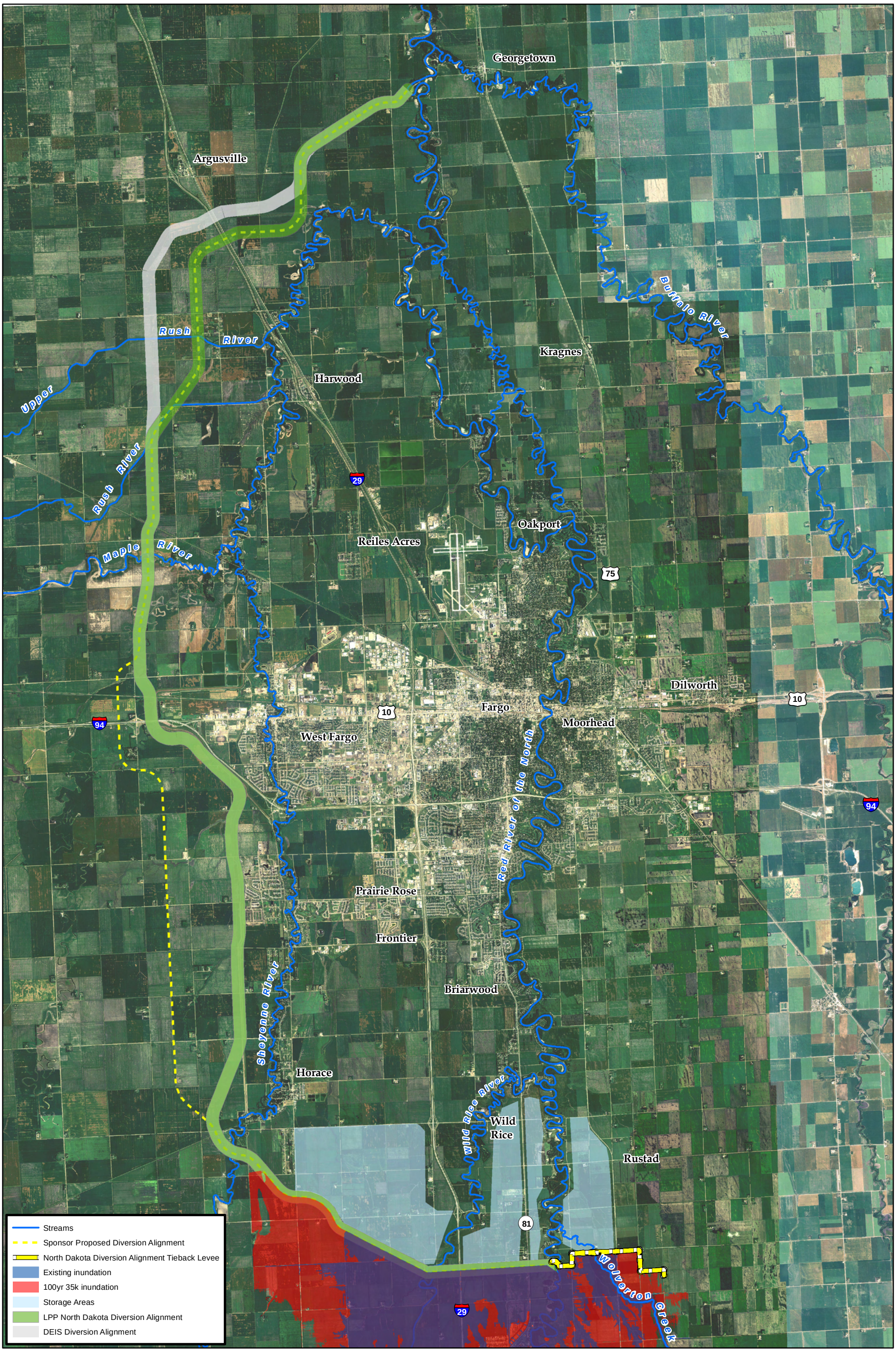
Plate 1



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Proposed North Dakota Diversion Alignments

Fargo - Moorhead Metro Study

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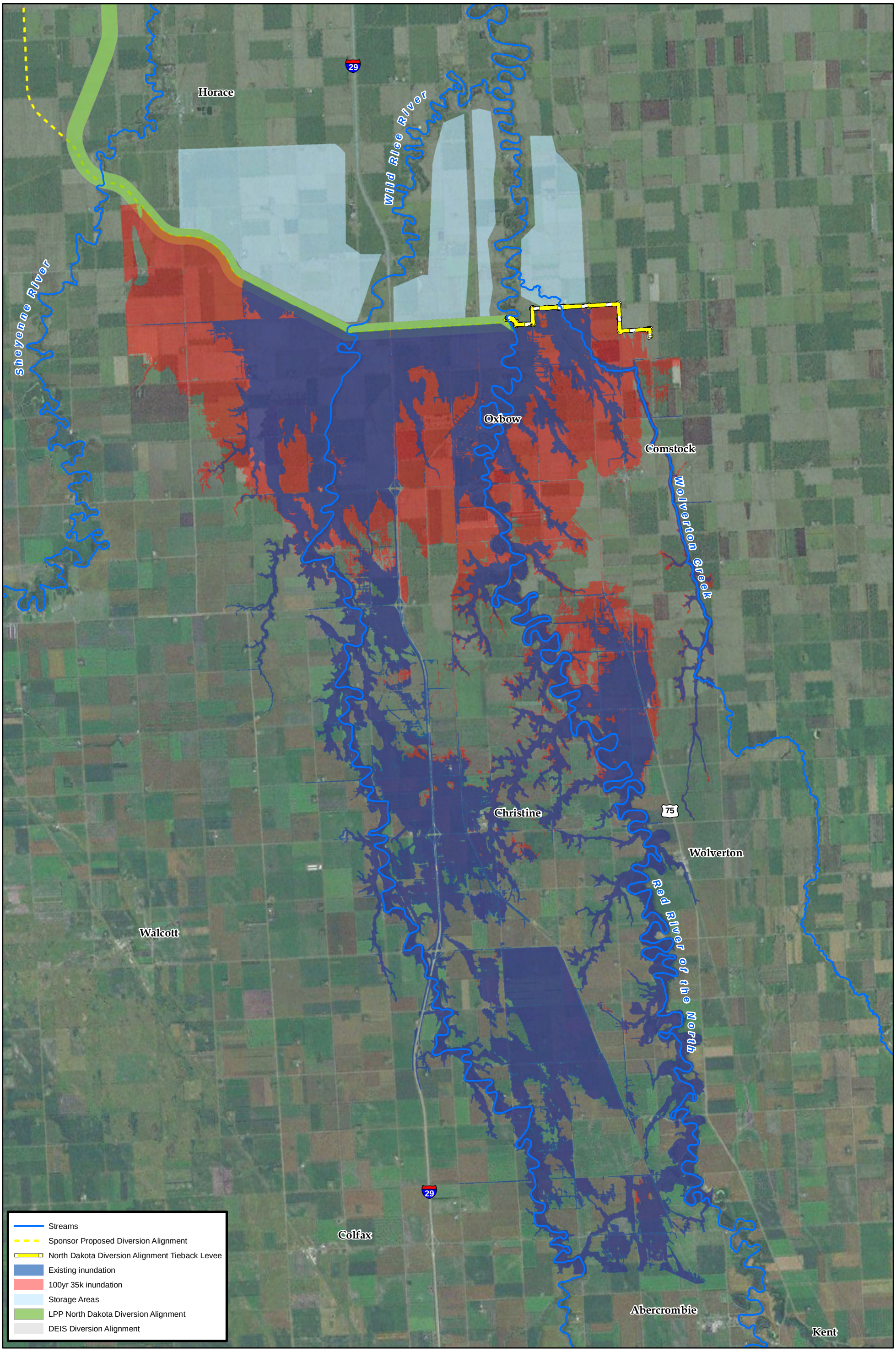
Plate 2



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Proposed North Dakota Diversion Alignments

Fargo - Moorhead Metro Study

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Plate 3

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Draft Feasibility Report and Environmental Impact Statement

Fargo-Moorhead Metropolitan Area Flood Risk Management

May 2010

US Army Corps of Engineers ®

Prepared by:
U.S. Army Corps of Engineers
St. Paul District
190 Fifth Street East, Suite 401
St. Paul, Minnesota 55101-1638

Draft Feasibility Report and Environmental Impact Statement
Fargo-Moorhead Metropolitan Area Flood Risk Management

EXECUTIVE SUMMARY

STUDY AUTHORITY

The St. Paul District, Corps of Engineers, and the sponsor cities of Fargo, North Dakota and Moorhead, Minnesota began the Fargo-Moorhead Metro Feasibility Study in September 2008. The study was authorized by a September 30, 1974, Resolution of the Senate Committee to Public Works. Prior to 2008 the Corps conducted numerous studies and projects in the study area. The Fargo-Moorhead metropolitan area was included in the Red River Reconnaissance Study approved in 2002; that study was not to a sufficient level of detail to recommend a feasibility study specifically for measures in Fargo and Moorhead. A supplemental reconnaissance report recommended this feasibility study and was approved by the Mississippi Valley Division on April 8, 2008.

Based on the reconnaissance study findings, the city of Fargo, the city of Moorhead and the Federal Government entered into a Feasibility Cost Share Agreement on September 22, 2008. The study cost share was 50/50 between the Federal Government and the two non-federal sponsors. The Corps of Engineers issued a notice of intent to prepare an environmental impact statement in the Federal Register on May 5, 2009.

PURPOSE AND SCOPE

The scope of the feasibility study was to better understand flood issues, establish flood risk management measures that could be implemented, document findings and, if appropriate, recommend implementation of a Federal project in the Fargo-Moorhead Metropolitan Area. The planning objectives were specified as follows:

- Reduce flood risk and flood damages in the Fargo-Moorhead metropolitan area.
- Restore or improve degraded riverine and riparian habitat in and along the Red River of the North, Wild Rice River (North Dakota), Sheyenne River (North Dakota), and Buffalo River (Minnesota) in conjunction with other flood risk management features.
- Provide additional wetland habitat in conjunction with other flood risk management features.
- Provide recreational opportunities in conjunction with other flood risk management features.

The study product is a decision document in the form of an integrated feasibility report and National Environmental Policy Act (NEPA) document in accordance with the Corps' Planning Guidance Notebook, Engineer Regulation (ER) 1105-2-100. The feasibility study investigated measures to reduce flood risk and analyzed the potential for federal participation in implementing a flood risk management project in the Fargo-Moorhead Metropolitan Area. This report, in

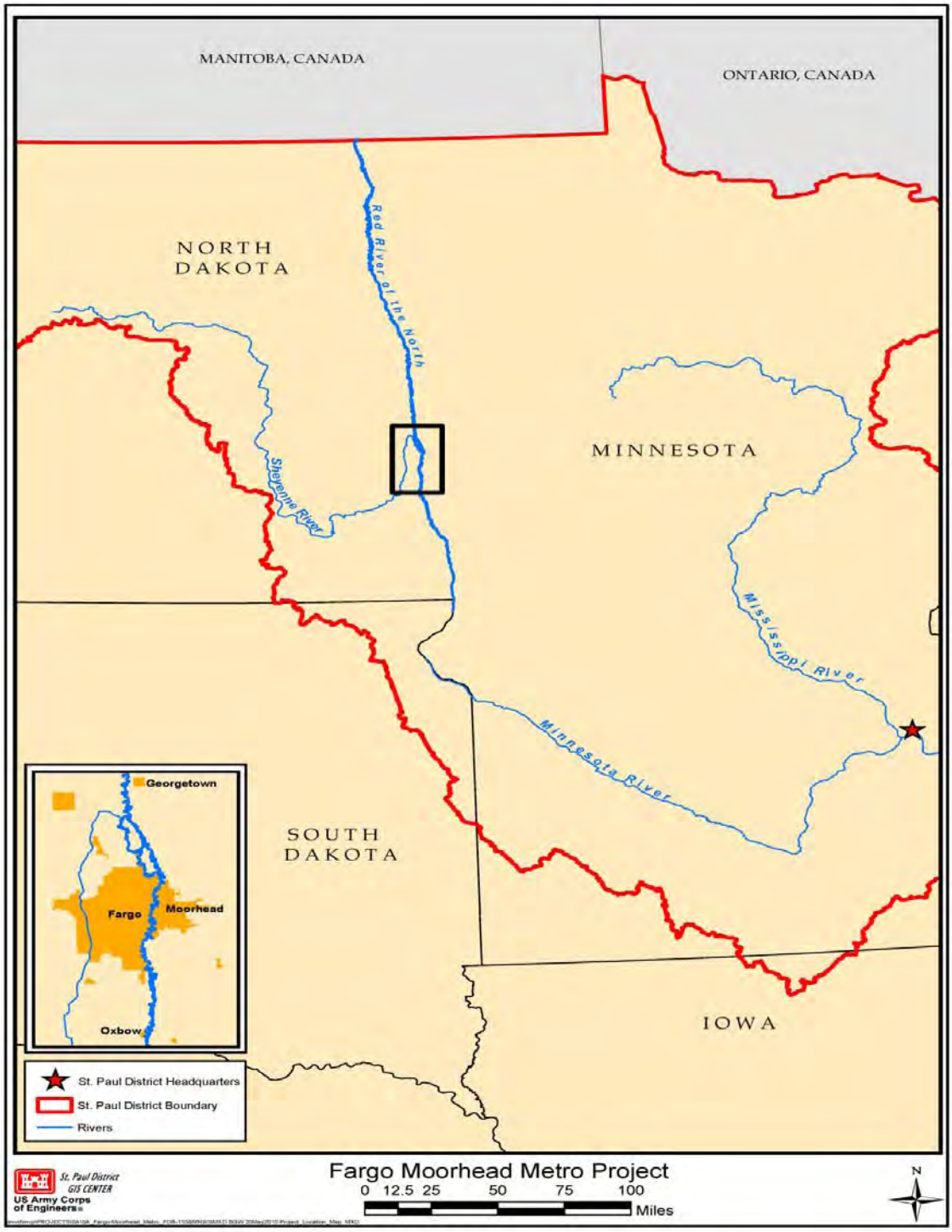
accordance with the authorizing legislation, will allow for tiering supplemental NEPA documentation as permitted by Council on Environmental Quality (CEQ) Regulation 40 C.F.R. 1508.28.

The feasibility study team collected pertinent engineering, economic, social and environmental information needed to accomplish the study objectives. Interagency, public and potentially affected landowners were identified, and potential issues and opportunities were defined. An array of possible flood risk reduction plans were considered and screened to define the costs, benefits, and impacts to the study area.

LOCATION OF STUDY AREA

The Fargo-Moorhead metropolitan area is located in the Red River of the North Basin. Fargo, North Dakota and Moorhead, Minnesota are situated on the west and east banks, respectively, of the Red River of the North. Figure 1 shows the location of the study area.

Figure 1 - Fargo-Moorhead study area location



The study area is approximately 600 square miles surrounding the cities of Fargo and Moorhead and encompassing several smaller communities within ten miles of the Red River from Hickson, North Dakota to Georgetown, Minnesota. The Wild Rice, Sheyenne, Maple, Rush and Lower Rush Rivers in North Dakota and the Buffalo River in Minnesota also cross the study area. The Red River originates at the confluence of the Otter Tail and Bois de Sioux Rivers south of Fargo-Moorhead. The river is approximately 453 river miles long and flows north where it empties into Lake Winnipeg in Manitoba, Canada.

The Fargo-Moorhead metropolitan area has a population of approximately 200,000. Fargo-Moorhead is a gateway to the west and a hub of educational and health- related industries. The metropolitan area is the largest urban area in North Dakota and a principal regional economic and social center.

FLOOD HISTORY

Because of its relatively low elevation and flat topography, the majority of the study area is located in the regulatory floodplain. The Red River of the North has exceeded the National Weather Service flood stage of 18 feet in 47 of the past 108 years, and every year from 1993 through 2010. Flooding in Fargo-Moorhead typically occurs in late March and early April. Average annual flood damages in the Fargo-Moorhead metropolitan area are estimated to be over $195.9 million in the future without project condition. Although emergency measures have been very successful, they may also contribute to an unwarranted sense of security that does not reflect the true flood risk in the area.

ALTERNATIVES CONSIDERED

The study analyzed a number of possible types of measures and alternative plans that could reduce the flood risk in the Fargo-Moorhead metropolitan area. These measures and plans included:

- No Action - Continue emergency measures
- Non-structural measures
- Flood barriers (including levees)
- Increase conveyance (including diversion channels)
- Flood storage

The alternatives went through an initial screening that used the following criteria: Effectiveness, Environmental Effects, Social Effects, Acceptability, Implementability, Cost, Risk, Separable Mitigation, and Cost Effectiveness. The initial screening analysis was published in the Alternatives Screening Document dated December 2009. The analysis resulted in two diversion concepts being carried forward: a diversion in Minnesota and a diversion in North Dakota.

The plans that were analyzed in detail were the:

- No Action – synonymous with "Without Project Condition"
- MN20k: Minnesota Short Diversion, 20,000 cubic feet per second (cfs) capacity
- MN25k: Minnesota Short Diversion, 25,000 cfs capacity
- MN30k: Minnesota Short Diversion, 30,000 cfs capacity
- MN35k: Minnesota Short Diversion, 35,000 cfs capacity
- MN40k: Minnesota Short Diversion, 40,000 cfs capacity
- MN45k: Minnesota Short Diversion, 45,000 cfs capacity
- ND30k: North Dakota East Diversion, 30,000 cfs capacity
- ND35k: North Dakota East Diversion, 35,000 cfs capacity
- The preceding plans with the addition of non-structural measures

The design, alignments, and features were refined, and cost estimates for each plan were completed. The expected future without project conditions were assessed and compared to the expected future conditions with each project in place. The hydraulic and associated economic effects of each plan were quantified so that the plans could be compared.

STUDY CONCLUSIONS

Table 1 and Table 2 summarize the final study results.

Table 1 - Phase 3 cost-effectiveness analysis results

Screened Alternatives Ranked by Net Benefits with Cost and Schedule Risk Assessment

Alternative	Cost [1]	Avg Annual Net Benefits [1]	Avg Annual Benefits [1]	Residual Damages [1]	B/C Ratio
MN Short Diversion 20K	$1,032	$87.0	$140.0	$55.9	2.64
MN Short Diversion 25K	$1,121	$98.8	$156.4	$39.5	2.71
MN Short Diversion 30K	$1,194	$101.7	$163.1	$32.8	2.66
MN Short Diversion 35K	$1,286	$104.9	$171.0	$24.9	2.59
MN Short Diversion 40K [2]	$1,367	$105.6	$175.9	$20.0	2.50
MN Short Diversion 45K [2]	$1,450	$104.9	$179.5	$16.4	2.41
ND East Diversion 35K	$1,462	$95.4	$171.1	$24.8	2.26

1. In millions of dollars with interest during construction and discounting included
2. Estimate based on linear extrapolation

Expected average annual damages without a project are $195.9 million.

Table 2 - Phase 3 estimated flood stages assuming various diversion capacities

	Stage at Fargo Gage (ft)	
	1% Chance (100- year)	0.2% Chance (500- year)
Existing Condition (Stage)	42.4	46.7
Existing Condition (CFS)	34,700	61,700
Work Group Goal	30	36
20K Diversion Channels	36.9	43.7
25K Diversion Channels	34.8	42.4
30K Diversion Channels	33.6	41.9
35K ND Diversion Channel	30.6	40.0
35K MN Diversion Channel	31.9	39.6
40K Diversion Channels	31.9	37.6
45K Diversion Channels	31.9	35.3

The study identified three plans of significance to decision makers:

- The National Economic Development plan (NED)
- The Locally Preferred Plan (LPP)
- The Federally Comparable Plan (FCP)

The NED plan was the MN40k diversion. The NED plan provides the greatest net economic benefit consistent with protecting the Nation's environment.

The LPP was the ND35k diversion. The LPP is the tentatively selected plan. The LPP is the plan that, in the opinion of the non-federal sponsors, best meets the needs of the local community. The Cities of Fargo and Moorhead, Cass County, North Dakota and Clay County Minnesota jointly requested that the ND35k plan be pursued as the LPP on March 29, 2010. The request to designate the LPP as the tentatively selected plan was approved by the Assistant Secretary of the Army for Civil Works on April 28, 2010.

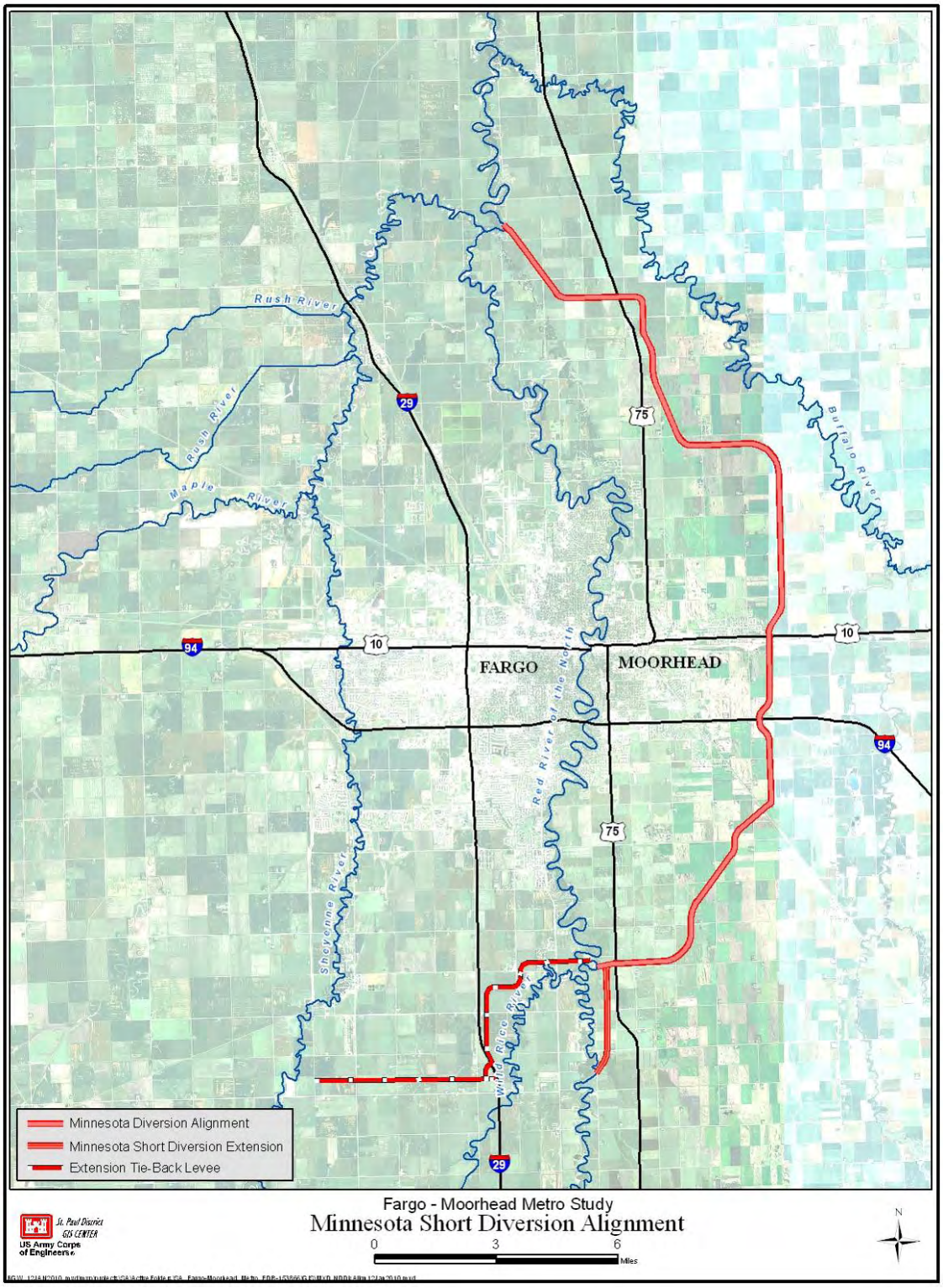
The FCP was the MN35k diversion. The FCP is a plan that provides comparable total annual economic benefits to the LPP and is smaller and less expensive than the NED plan. Normally the NED plan establishes the basis for federal cost sharing of a LPP, but in this case the LPP provides fewer total annual economic benefits than the NED plan does. Therefore, the FCP will be used as the basis for federal cost sharing instead of the NED plan.

DESCRIPTION OF THE FEDERALLY COMPARABLE PLAN (FCP)

The MN35k diversion channel, which is the FCP, would be a 25 mile long diversion channel with a base width of 360 feet and maximum depth of 30 feet. The plan would include 20 highway bridges, four railroad bridges, and a Red River control structure. The FCP would start just north of the confluence of the Red and Wild Rice Rivers and extend north and east around the cities of Moorhead and Dilworth and re-enter the Red River near the confluence of the Red and Sheyenne Rivers. The diversion channel and spoil banks would have a construction footprint of approximately 6,415 acres.

The Red River control structure located at the south end of the diversion channel would reduce water surface elevations downstream of the structure by limiting the flow of water in the natural channel. Flows in excess of the natural channel capacity would be diverted into the constructed diversion channel and passed around the urban area. In addition to the main diversion channel, the FCP would include two smaller channels upstream of the Red River control structure to prevent stage increases upstream of the project along the Red and Wild Rice Rivers. The plan would have a tie-back levee at the southern limits of the project. The tie-back levee would connect the Red River control structure to high ground and prevent flood water from flowing overland to the north and west into the protected area. Figure 2 shows the alignment of the FCP.

Figure 2 – Federally Comparable Plan (FCP) Diversion Alignment.

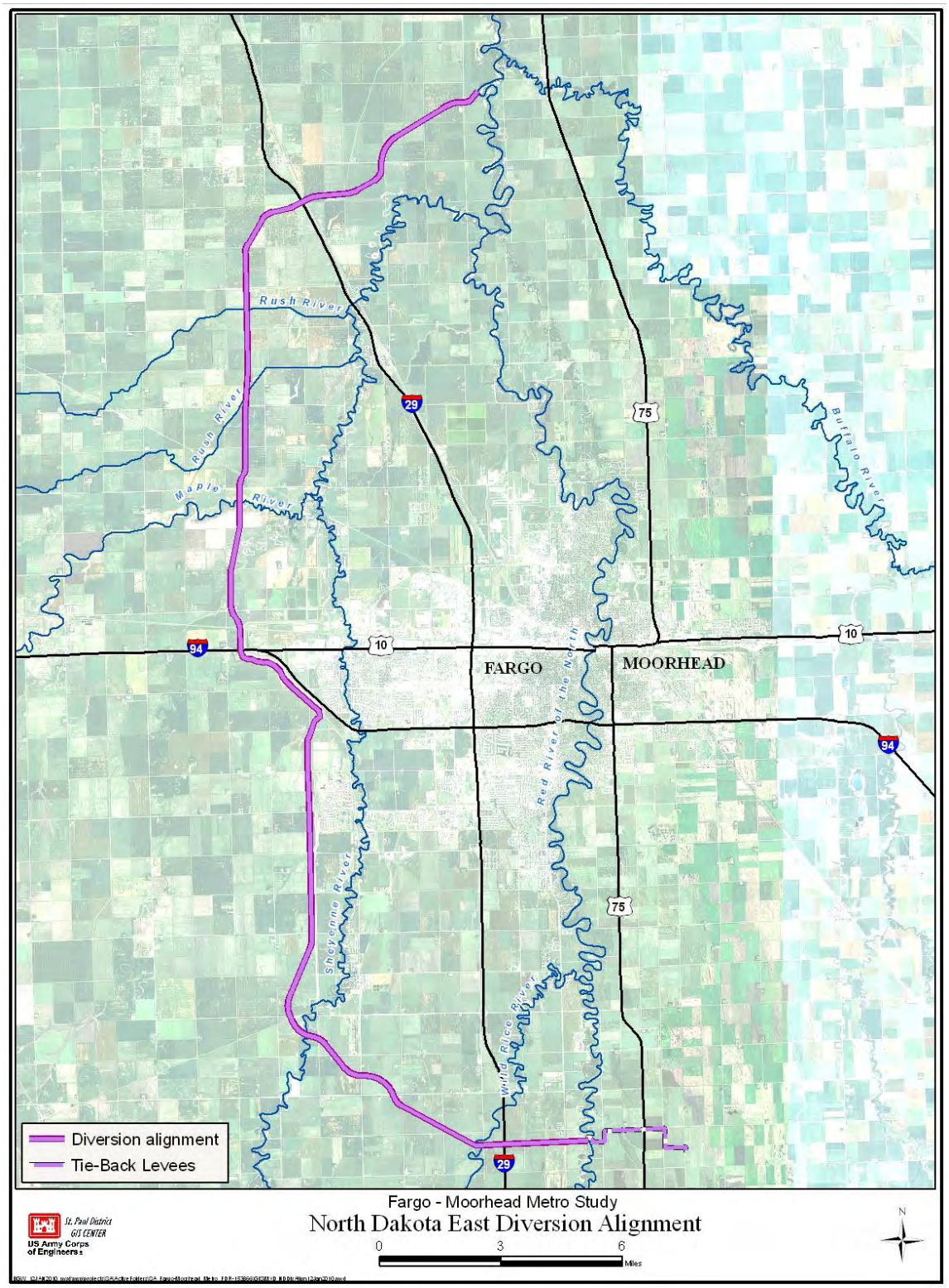


DESCRIPTION OF THE TENTATIVELY SELECTED AND LOCALLY PREFERRED PLAN (LPP)

The ND35k diversion channel is the tentatively selected and locally preferred plan (LPP). The LPP would be a 36 mile long diversion channel that would start approximately four miles south of the confluence of the Red and Wild Rice Rivers and would re-enter the Red River north of the confluence of the Red and Sheyenne Rivers. The LPP would incorporate the existing Horace to West Fargo Sheyenne River diversion channel. The channel bottom width varies on the channel from 100 to 300 feet and has a maximum depth of 29 feet. The plan includes 18 highway bridges, four railroad bridges, and would have a construction footprint of approximately 6,560 acres.

The ND35k diversion would begin approximately four miles south of the confluence of the Red and Wild Rice Rivers. A connecting channel between the Red and Wild Rice Rivers would convey flow from the Red River to the diversion channel inlet on the west side of the Wild Rice River. A combination of control structures on the Red and Wild Rice Rivers at the south end of the project, along with weirs at the west end of the connecting channel and at the entrance to the diversion channel near the Wild Rice River, control the flow split between the Red and Wild Rice River channels and the diversion channel. The diversion would also cross the Sheyenne, Maple, Lower Rush, and Rush rivers. At the Sheyenne and Maple rivers, structures would be necessary to allow base flows to follow the natural river channel. Flows in excess of a 50-percent chance event would be diverted into the diversion channel. The Lower Rush and Rush rivers would have drop structures that would drop the entire flow of those rivers into the diversion channel. Figure 3 shows the alignment of the LPP.

Figure 3 – LPP Diversion Alignment



The total estimated first cost (without interest during construction) of the LPP based on October 2009 price levels is $1,272,108,000, with the Federal and non-federal shares of total first cost estimated at $710,666,000 and $561,442,000, respectively. The flood risk management features have an estimated total first cost of $1,237,354,000 with the Federal and non-federal shares estimated at $693,289,000 and $544,065,000, respectively. The recreation features have an estimated total first cost of $34,753,000, with the Federal and non-federal shares estimated at $17,376,000 and $17,376,000 respectively. The annual operation and maintenance costs are $3,365,000. The tentatively selected plan has an overall benefit-cost ratio of 2.27 and would provide a level of risk reduction in excess of the 1-percent chance event for the majority of the region. Table 3 shows the breakout of the project first costs, interest during construction, and the project benefit cost ratio. Table 4 shows the breakout of project costs split between the non-federal sponsors and the Federal Government, along with the estimated cash contribution that is required.

Table 3 - Estimated Project Costs for the LPP (ND35K) (including interest during construction)

Estimate of Project First Costs ND 35K				
Account	**Item**	**Flood Risk Management**	**Recreation**	**Total**
01	Lands & Damages	60,593		60,593
02	Relocations	82,251		82,251
06	Fish and Wildlife Facilities	82,960		82,960
08	Roads, Railroads and Bridges	54,971		54,971
09	Channels & Canals	741,990		741,990
11	Levees and Floodwalls	2,386		2,386
14	Recreation Facilities		28,486	28,486
Subtotal		$ 1,025,151	$ 28,486	$ 1,053,637
30	Planning, Engineering and Design	144,684	4,273	148,957
31	Construction Management	67,520	1,994	69,514
Subtotal		$ 212,204	$ 6,267	$ 218,471
	Interest During Construction	224,549	760	225,309
	Total Investment Costs	**$ 1,461,904**	**$ 35,513**	**$ 1,497,417**
Estimate of Annual Costs				
	Annualized Project Costs	72,477	1,761	74,238
	Annual OMRR&R Cost	3,318	47	3,365
	Total Annual Costs	**$ 75,795**	**$ 1,808**	**$ 77,603**
Average Annual Benefits				
	Flood Damage Reduction	160,197	0	160,197
	Flood Proofing Cost Savings	9,993	0	9,993
	Flood Insurance Administrative Costs	958	0	958
	Non Structural Flood Risk Benefit	-		-
	Recreation	-	5,130	5,130
	Total Annual Benefits	**$ 171,148**	**$ 5,130**	**$ 176,278**
	Net Annual Benefits	$ 95,353	$ 3,322	$ 98,675
	Benefit to Cost Ratio	2.26	2.84	2.27
All costs and benefits in thousands ($1,000)				

Table 4 – Allocation of funds table (first costs).

ND 35,000 cfs			
Item	Federal ($)	Non-Federal ($)	Total ($)
Flood Risk Management			
Lands and Damages		60,593	60,593
Relocations	54,971	82,251	137,222
Fish and Wildlife Facilities	82,960		82,960
Channels and Canals	741,990	0	741,990
Levees and Floodwalls	2,386	0	2,386
Planning, Engineering, & Design	132,346	12,338	144,684
Construction Management	61,761	5,758	67,519
Cash Contribution	-383,126	383,126	0
Total FRM	693,289	544,065	1,237,354
Recreation			
Lands and Damages	0	0	0
Relocations	0	0	0
Recreation Facilities	28,486	0	28,486
Planning, Engineering, & Design	4,273	0	4,273
Construction Management	1,994	0	1,994
Cash Contribution	-17,376	17,376	0
Total Recreation	17,376	17,376	34,753
Total Project	710,665	561,441	1,272,107
All costs in thousands ($1,000)			

EFFECTS OF THE PROJECT

Implementing either the FCP or LPP would result in a substantial beneficial effect on the local economy by significantly reducing flood damages and flood risk, improving public safety and peace of mind. Both plans would remove much of the Fargo-Moorhead area from the regulatory floodplain. The LPP would benefit a larger geographic area and more people than the FCP would. Either diversion would significantly reduce flood damage and flood risk, but neither of the plans would completely eliminate the flood risk.

A diversion channel in either Minnesota (FCP) or North Dakota (LPP) would change the flow and timing of water during flood events, significantly reducing the quantity of water flowing in the natural Red River channel through Fargo-Moorhead. As a result of the modifications to the flow and timing, there would be downstream impacts. The potential downstream impacts resulting from operation of the MN35k and ND35k plans will be evaluated further, including an analysis of the 10-, 2-, and 1-percent chance events. Earlier analyses indicated that the increases in the level and duration of downstream flooding would have no appreciable effects on natural resources and would not be considered environmentally significant, but the resulting adverse effects on social resources may be considered significant.

There are 4,626 acres of wetlands in the project area, which is less than 0.05% of the area within the project boundary. The Minnesota diversion alignment would directly impact approximately 17 acres of wetlands and could indirectly impact up to 85 acres of wetlands. The North Dakota diversion alignment would directly impact approximately 33 acres and could indirectly impact up to 193 acres of wetlands. Either alternative would include appropriate measures to minimize or mitigate potential losses to wetland areas.

Groundwater resources in the project area include the Buffalo Aquifer and the West Fargo Aquifer. The Buffalo aquifer, located five to seven miles east of Moorhead and a mile east of the Minnesota alignment, is not expected to experience measureable effects from the diversion channel. The West Fargo aquifer appears to be deep enough to avoid adverse impacts from the North Dakota alignment. Neither the FCP or the LPP is expected to have adverse impacts to significant groundwater resources in the project area.

The FCP and LPP use similar structures to facilitate the routing of floodwater from the Red River into a diversion channel, and both plans would reduce Red River flood stages. This could affect sediment transport, accretion, and erosion, which are critical forces in shaping and maintaining aquatic habitat. Sediment would be conveyed through both the Red River control structure and down the diversion channel. Given this, the likelihood for drastic changes in sediment scour and deposition downstream of the confluence of the diversion channel appears small.

Connectivity and habitat for fisheries is a concern throughout the river basin and for either the FCP or the LPP. Habitat connectivity is important in terms of fulfilling seasonal and life stage-specific habitat needs for river fish. With either alignment, fish could use the diversion channel during flood periods, although conditions in most of the diversion channel would not provide any meaningful fisheries habitat, and this would happen relatively infrequently. The LPP diversion channel downstream of the Lower Rush River would be designed to provide fish habitat. Fish that are drawn up the diversion channel would still be able to pass back into the Red River at the head of the diversion channel. While it is possible that fish could be lost in isolated pools within the diversion channel, it is not believed that this would be a significant issue during project operation. No significant impacts would be anticipated from fish stranding under any diversion alternative.

The Minnesota alignment does not cross any tributaries or other surface waters with fisheries resources. The North Dakota alignment would cross five tributaries: Wild Rice River, Sheyenne River, Maple River, Lower Rush River and Rush River.

The FCP and LPP would remove approximately 5,700 and 5,400 acres of prime and unique farmland from operation, respectively. The plans would result in acquisition of farm land in Clay County, MN or Cass County, ND. Both plans would result in a cumulative loss of farmland and business income, but mitigation measures would be taken to ensure minimum impacts to farm land and property owners.

Both the Minnesota and North Dakota alignments would require relocation of dwellings and cause direct impacts to affected landowners. There are an estimated six residential or farmstead relocations for the North Dakota alignment and five residential or farmstead relocations for the Minnesota alignment. Owners would be fairly compensated for their property and relocation.

Recreational features are included in the tentatively selected plan. Recreation features would include but not be limited to multipurpose trails, interpretive signage, benches, and trail heads with parking facilities. The recreation plan could result in a healthier, more vibrant community. The plantings associated with the recreation would make the recreational experience more aesthetically pleasing and would enhance the overall experience. Recreational features could add social and economic benefits to the metropolitan region.

RECOMMENDATIONS

The St. Paul District Engineer, after considering the environmental, social, and economic effects, the engineering feasibility, and comments received from the other resource agencies, the non-federal sponsors, and the public, has determined that the tentatively selected plan presented in this report is in the overall public interest and is technically sound, environmentally acceptable, and economically feasible. The St. Paul District Engineer recommends that the North Dakota East 35,000 cfs diversion channel and associated features described in this report be authorized for implementation as a federal project. This plan is being recommended with such modifications thereof as in the discretion of the Commander, HQUSACE, may be advisable.