STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

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

LINCOLN, LYON, YELLOW MEDICINE, CHIPPEWA, REDWOOD, BROWN, RENVILLE, SIBLEY, LE SUEUR, SCOTT, AND DAKOTA COUNTIES

ISSUED TO GREAT RIVER ENERGY AND NORTHERN STATES POWER COMPANY

PUC DOCKET No. ET2/TL-08-1474

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

GREAT RIVER ENERGY AND NORTHERN STATES POWER COMPANY

Great River Energy and Northern States Power Company, d/b/a Xcel Energy, are authorized by this route permit to construct the 169-mile segment located within the State of Minnesota, of a new 345 kilovolt (kV) high-voltage transmission line from a new Hampton Substation in Dakota County, Minnesota, to the Brookings Substation in Brookings County, South Dakota.

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

Approved and adopted this 14th day of September 2010

BY ORDER OF THE COMMISSION

Burl W. Haar,
Executive Secretary

I. ROUTE PERMIT

The Minnesota Public Utilities Commission (Commission) hereby issues this route permit to Great River Energy and Xcel Energy (Permittees) pursuant to Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850. This permit authorizes the Permittees to construct approximately 169 miles of new 345 kV transmission line and associated facilities in Lincoln, Lyon, Yellow Medicine, Chippewa, Redwood, Brown, Renville, Sibley, Le Sueur, Scott, and Dakota counties, Minnesota.

II. PROJECT DESCRIPTION

The Permittees are authorized to construct a project comprising an approximate 169-mile transmission line and associated facilities as evaluated in the Environmental Impact Statement and described below.

A. High-Voltage Transmission Line

The route authorized in this Permit includes five route segments (Segments 1,2,3, 5, and 6) totaling approximately 169 miles, constructed between (1) the Brookings County substation near White, South Dakota, and a new Hampton substation near Hampton, Minnesota and (2) the Lyon County substation near Marshall, Minnesota, and the Minnesota Valley substation near Granite Falls, Minnesota. See web links to the maps for the approved route segments on Attachment A.

1. Brookings County Substation to Lyon County Substation

The transmission line will originate at the Brookings County Substation, near White, South Dakota, and extend approximately four to eight miles to the Minnesota border. Minnesota permitting authority begins as this segment crosses the Minnesota border passing through Lincoln and Lyon counties for approximately 50 miles to the existing Lyon County Substation near Marshall, Minnesota. This segment will be constructed and operated as a 345 kV single-circuit on double-circuit structures.

2. Lyon County Substation to Hazel Creek Substation to Minnesota Valley Substation

This segment is approximately 28 miles long passing through Lyon, Yellow Medicine, and Chippewa counties, and will replace the existing Lyon County to Minnesota Valley 115 kV transmission line. This segment will be constructed and operated as a 345 kV single-circuit on double-circuit structures, with the exception of the segment of transmission line running from the newly proposed Hazel Creek Substation to the existing Minnesota Valley Substation, which will initially be operated at 230 kV.

3. Lyon County Substation to Cedar Mountain Substation

This segment is approximately 51 miles long passing through Lyon, Redwood, Brown, and Renville counties. This segment will be constructed and operated as a double-circuit 345 kV on double-circuit structures.

5. Helena Substation to Lake Marion Substation

Passing through Scott County, this section is approximately 20 miles in length. Similar to the first two segments this stretch of the route would also be constructed and operated as a 345 kV single-circuit on double-circuit structures.

6. Lake Marion Substation to Hampton Substation

This segment will connect the Lake Marion Substation to the final termination point, the newly proposed Hampton Substation. This segment is approximately 20 miles in length passing through Scott and Dakota counties. This route segment will be constructed and operated as a 345 kV single-circuit on double-circuit structures.

B. Substations

The project includes the construction of four new substations (Hazel Creek, Cedar Mountain, Helena, and Hampton) and the expansion of and upgrades to three existing substations (Lyon County, Minnesota Valley, and Lake Marion). The location and description of the substations are as follows:

1. Hazel Creek Substation

The new Hazel Creek substation will be located at the southeast corner of the intersection of 520th Street (County Road B3) and 260th Avenue in section 18 of Minnesota Falls Township. The substation fenced and graded area will be approximately 10 to 12 acres. Equipment to be installed includes 345 kV equipment (one 345 kV breaker and a half-yard with nine breaker positions and five breakers with one new 345 kV (336 MVA) transformer and one future 345 kV transformer position), 230 kV equipment (a 230 kV yard with nine breaker positions and five breakers, one new 230 kV transformer, and one future 230 kV transformer position), and reactive support on the 115 kV yard. The substation will include the associated line switches, foundations, steel structures and control panels. The substation yard will require graded access roads.

2. Cedar Mountain Substation

The new Cedar Mountain Substation will be located at the northwest corner of the intersection of County Road 3 and 640th Avenue in Camp Township. The substation site will consist of five to eight acres of land, fenced and graded. The

substation will be designed and constructed with a 345 kV breaker and a half-yard with nine breaker positions and five breakers, one 345 kV transformer (448 MVA) and one future transformer position. A 115 kV breaker and a half-yard will be constructed with six to nine breaker positions and two breakers and a 115 kV bus with circuit breakers and reactive support. The new substation will require line switches, a control house, relay panels, foundations, steel structures, and switches. The substation yard will require graded access roads.

3. Helena Substation

The new Helena Substation will be located at the along West 270th Street between Church Avenue and Aberdeen Avenue in Belle Plaine Township. The substation fenced and graded area will be approximately five to eight acres. The substation will initially be designed and constructed with one 345 kV breaker and a half-yard with nine breaker positions and five breakers. The new substation will require line switches, a control house, relay panels, foundations, and steel structures. The substation yard will require graded access roads. The substation will include sufficient space for a future 115 kV substation yard and a future 345 kV transformer. The Helena Substation will also connect with the existing Wilmarth – Blue Lake 345 kV transmission line.

4. Hampton Substation

The Hampton Substation will be located on the west side of Highway 52 near 215th Street on the north side of 215th Street. The substation fenced and graded area will be approximately five to eight acres. The substation will be designed and constructed with one 345 kV breaker and a half-yard with nine breaker positions and five breakers. The new substation will require line switches, a control house, relay panels, foundations, and steel structures. The substation yard will require graded access roads. The Hampton Substation will be designed to connect with the existing Prairie Island – Blue Lake 345 kV transmission line. The Prairie Island – Blue Lake 345 kV transmission line will be split prior to the connection point, creating two transmission lines.

5. Lyon County Substation

The existing Lyon County 115/69 kV Substation will be modified by adding four to six acres of fenced and graded substation area and associated equipment. The substation expansion is proposed to extend to the north and east, no additional land acquisition will be required.

The substation expansion will upgrade the system with 345 kV equipment, including one 345 kV breaker and a half-yard with nine breaker positions and five breakers. One new 345 kV transformer (448 MVA), one future 345 kV transformer position and associated line switches, foundations, steel structures, and control panels will be installed to integrate this transformer into the existing equipment. The existing 115 kV yard will be expanded with two additional breakers and a total of six breaker positions. Two circuit breakers and capacitor banks will be installed.

6. Minnesota Valley Substation

Additions to the existing Minnesota Valley Substation will include a 230 kV breaker and a half-yard with nine breaker positions and five breakers and the associated foundations, steel structures and control panels. Additional land will not be required to accommodate the upgraded facilities.

7. Lake Marion Substation

The Project will require an expansion to the south of the existing Lake Marion Substation of five to eight acres of fenced and graded substation area to house necessary equipment. The equipment will include a 345 kV breaker and a half-yard with six breaker positions and three breakers, one new 345 kV transformer (448 MVA) and one 345 kV transformer position. The expansion will also include expansion of the 115 kV yard to breaker and a half configuration with a total of twelve breaker positions and five breakers, and a 115 kV bus with circuit breakers and capacitor banks. The construction will include the associated line switches, foundations, steel structures and control panels.

8. Franklin Substation

The Project will require an expansion to the north of the existing Franklin Substation, which will consist of two to four acres of fenced and graded substation area to house necessary equipment. The equipment will include a new 115kV breaker-and-a-half yard with nine breaker positions, five breakers installed, and provisions for additional breakers and future reactive support. The construction will include the associated line switches, foundations, steel structures, equipment enclosures, and control panels.

C. Interconnections and Associated Facilities

The project will include a short transmission line connector (approximately one-half mile) between the existing Wilmarth – Blue Lake 345 kV line and the new Helena Substation; and a short transmission line connector (approximately one-half mile) between the existing Prairie Island – Blue Lake 345 kV line and the new Hampton Substation.

An approximate five-mile 115 kV transmission line will be constructed between the Cedar Mountain Substation and Franklin Substation and expansion of and modifications to the Franklin Substation to accommodate the new 115 kV transmission line facilities.

D. Structures

The transmission line will be supported by single pole, galvanized or self-weathering steel double-circuit structures for the majority of the 345 kV line portions of the Project. For the 345 kV line sections where only one circuit (three phases) is proposed to be initially installed, Permitees will place the second set of davit arms that will be used to support the second 345 kV circuit on these structures during the initial installation. The following table details specifics on the various structure types as presented in the route permit application.

Line Type	Structure Type	Structure Material	ROW Width (feet)	Structure Height (feet)	Structure Base Diameter (inches)	Foundation Diameter (feet)	Span Between Structures (feet)	Pole to Pole Span on Single H-Frame Structure (feet)
345/345 kV Double-Circuit	Single Pole Davit Arm	Steel	150	130-175	36-48 (tangent structures) 48-72 (angle structures)	6-12	750-1,100	N/A
345/345 kV Double-Circuit	H-Frame	Steel	150-180	105-125	30-42 (tangent structures)	5.5-9	750-1,100	27
115 kV	Horizontal Post	Wood	100	65-90	20-25 (tangent structures)	N/A	300-400	N/A
	Horizontal Post	Steel	100	65-90	18-24 (tangent structures)	2.5-3.5	300-400	N/A
345/345/115 kV Triple-Circuit	H-Frame	Steel	150-180	120-160	40-65 (tangent structures)	4.5-6.5	400-700	27
345/345/69 kV Triple-Circuit	H-Frame	Steel	150-180	120-160	40-65 (tangent structures)	4.5-6.5	400-700	27

Specialty structures not listed above may be required in consultation with the USFWS and MnDNR. Permittees will work with the USFWS, MnDNR, and the Commission when designing specialty structures for the Minnesota River crossings to ensure an appropriate crossing of these river areas and when considering the sensitive nature of these areas.

In areas where existing distribution lines are present, Permittees will coordinate with local distribution utilities to offer alternatives or undergrounding distribution lines, on a case-by-case basis to the extent that such actions do not violate sound engineering principles or system reliability criteria.

Transmission lines shall be equipped with protective devices (breakers and relays located where transmission lines connect to substations) to safeguard the public in the event of an accident or if the structure or conductor falls to the ground. Associated Facilities will be properly fenced and accessible only by authorized personnel.

E. Conductors

Each phase of the 345 kV line will consist of bundled conductors composed of two 954 kcmil 54/7 Cardinal Aluminum Conductor Steel Supported (ACSS) cables or conductors of comparable capacity. The same conductor and bundled configuration is being proposed for all the 345 kV single-circuit and double-circuit transmission line sections. Drake 795 ACSS conductor will be used for the 115 kV line between the Cedar Mountain Substation and Franklin Substation.

Two shield wires will be strung above the conductors to prevent damage from lightning strikes. These shield wires are typically less than one inch in diameter and will include fiber optic cables, which allow a path for substation protection equipment to communicate with equipment at other terminals on the transmission line.

III. DESIGNATED ROUTE

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

A. Route Width and Alignment

The variable width of the designated route will be limited to between 600 feet to 1.1 miles as depicted on the attached route maps. The final alignment (i.e., permanent and maintained rights-of-way) will be located within this designated route unless otherwise authorized below. This width will provide the Permittees with the flexibility to do minor adjustments of the specific alignment or right-of-way to accommodate landowner requests and unforeseen conditions.

The designated route identifies an alignment that minimizes the overall potential impacts relating to the factors identified in Minnesota Rule 7850.4100 and which was evaluated in the environmental review and permitting processes. As such, this permit anticipates that the actual right-of-way will generally conform to this proposed alignment unless changes are requested by individual landowners or unforeseen conditions are encountered, or are otherwise provided for by this permit.

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

1. Unforeseen circumstances encountered during the detailed engineering and design process.

2. Federal or state agency requirements.

3. Existing infrastructure within the transmission line route, including but not limited to roadways, railroads, natural gas and liquid pipelines, high voltage electric transmission lines, or sewer and water lines.

4. Planned infrastructure improvements identified by state agencies and local government units and made part of the evidentiary record during the contested case proceeding for this permit.

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

B. Right-of-Way Placement

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

C. Right-of-Way Width

The 345 kV transmission line will be built primarily with single pole structures, which will typically require a 150 feet right-of-way. Where specialty structures are required for long spans or in environmentally sensitive areas, up to 180 feet of right-of-way may be employed. The 115 kV transmission line will require an 80 foot right-of-way.

When the proposed transmission line is adjacent to a roadway it shall share the existing road right-of-way and an easement of lesser width may be required from the landowner depending on road configuration, structure requirements consistent with local, county, and state policies and procedures or agreements.

When the transmission line is placed cross-country across private land, an easement for the entire right-of-way (150 to 180 foot width) shall be acquired from the affected landowner(s). Permittees shall locate the poles as close to property division lines as reasonably possible and in cooperation with landowners.

IV. PERMIT CONDITIONS

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

A. Plan and Profile

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

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

B. Construction Practices

1. Application

The Permittees shall follow those specific construction practices and material specifications described in the Great River Energy and Xcel Energy Application to the Commission for a Route Permit, dated December 29, 2008, and as described in the environmental impact statement and findings of fact, unless this permit establishes a different requirement, in which case this permit shall prevail.

2. Field Representative

At least 10 days prior to commencing construction, the Permittees shall advise the Commission in writing of the person or persons designated to be the field representative for the Permittees with the responsibility to oversee compliance with the conditions of this permit during construction.

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

3. Local Governments

During construction, The Permitees shall minimize any disruption to public services or public utilities. To the extent disruptions to public services occur, these would be temporary and the Permitees will work to restore service promptly. Where any impacts to utilities have the potential to occur, Permitees will work with both landowners and local agencies to determine the most appropriate pole placement.

The Permittees shall cooperate with county and city road authorities to develop appropriate signage and traffic management during construction. Conductors and overhead wire stringing operations will use guard structures to eliminate potential delays. When appropriate, lead vehicles will accompany the movement of heavy equipment. Traffic control barriers and warning devices will be used when appropriate.

4. Cleanup

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

5. Noise

Construction and routine maintenance activities will be limited to daytime working hours to ensure nighttime noise level standards will not be exceeded.

6. Vegetation Removal in the Right-of-Way

The Permittees shall minimize the number of trees to be removed in selecting the right-of-way, specifically preserving to the maximum extent practicable, windbreaks, shelterbelts and living snow fences. As part of construction, low growing brush or tree species are allowable within and at the outer limits of the easement area. Taller tree species that endanger the safe and reliable operation of the transmission facility need to be removed. To the extent practical, low growing vegetation that will not pose a threat to the transmission facility or impede construction should remain in the easement area.

7. Aesthetics

The Permittees will consult with landowners or land management agencies prior to final location of structures, rights-of-way, and other areas with the potential for visual disturbance. Care will be used to preserve the natural landscape and prevent any unnecessary destruction of the natural surroundings in the vicinity of the project during construction and maintenance.

New structures will be designed to support the existing transmission and distribution lines, thereby allowing the use of existing alignments and will share existing road rights-of-way to the extent that such actions do not violate sound engineering principles or system reliability criteria.

Structures will be placed at the maximum feasible distance from intersecting roads, highway, or trail crossings and could cross roads to minimize or avoid impacts. The applicants work with landowners to identify issues related to the transmission line such as distance from existing structures, tree clearing, and other aesthetic concerns.

8. Erosion Control

The Permittees shall follow requirements outlined in the attached Agriculture Impact Mitigation Plan (AIMP) developed for this project to control erosion, weeds, water from other fields, and manage soils to continue the original status of the field.

The Permittees shall implement reasonable measures to minimize runoff during construction and shall promptly plant or seed, erect silt fences, and/or use erosion control blankets in non-agricultural areas that were disturbed where structures are installed. Contours will be graded as required so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that will facilitate re-vegetation, provide for proper drainage, and prevent erosion. All areas disturbed during construction of the facilities will be returned to their pre-construction condition.

Larger disturbed areas of one acre or more (proposed substation sites) will be regulated by a National Pollution Discharge Elimination System (NPDES) permit and Stormwater Pollution Prevention Plan prepared for the project.

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

9. Wetlands and Water Resources

Minimal grading of areas around pole locations may be required to accommodate construction vehicles and equipment. The Permittees will use wooden mats or the DURA-BASE® composite mat system or construction during frozen conditions to minimize disturbance and compaction of wetlands and riparian areas during construction. Soil excavated from the wetlands and riparian areas will be contained and not placed back into the wetland or riparian area. Silt fencing or other erosion control measures will be used to prevent sedimentation when working near wetlands and watercourses. Areas disturbed by construction activities will be restored to pre-construction conditions (soil horizons, contours, vegetation, etc.).

10. Temporary Work Space

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

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

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

11. Restoration

The Permittees shall restore the right-of-way, temporary work spaces, access roads, abandoned right-of-way, and other private lands affected by construction of the transmission line. As necessary, areas will be reseeded with a seed mix recommended by the local DNR management and that is certified to be free of noxious weeds. Restoration within the right-of-way must be compatible with the safe operation, maintenance, and inspection of the transmission line. Within 60 days after completion of all restoration activities, the Permittees shall advise the Commission in writing of the completion of such activities. The Permittees shall compensate landowners for any yard/landscape, crop, soil compaction, drain tile, or other damages that may occur during construction.

12. Notice of Permit

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

13. The Permittees shall distribute to relevant landowners information prepared by state agencies regarding landowner rights with respect to right-of-way negotiations concurrent with the Permittees' first contact with those landowners regarding right-of-way acquisition.

C. Periodic Status Reports

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

D. Complaint Procedure

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

E. Notification to Landowners

The Permittees shall provide all affected landowners with a copy of this permit and the complaints procedures at the time of the first contact with the landowners after issuance of this permit.

The Permittees shall contact landowners prior to entering the property or conducting maintenance along the route and avoid maintenance practices, particularly the use of fertilizer, herbicides, or pesticides, inconsistent with the landowner's or tenant's use of the land (e.g. organic certified farms).

The Permittees shall work with landowners to locate the high-voltage transmission lines to minimize the loss of agricultural land, forest, and wetlands, and to avoid homes and farmsteads. This may include sharing existing road or other utility rights-of-way to the greatest extent possible.

The Permittees shall distribute to relevant landowners information prepared by state agencies regarding landowner rights with respect to right-of-way negotiations concurrent with the Applicants' first contact with those landowners regarding right-of-way acquisition.

F. Completion of Construction

1. Notification to Commission

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

2. As-Builts

The Permittees shall submit copies of all the final as-built plans and specifications developed during the project.

3. GPS Data

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

G. Electrical Performance Standards.

1. Grounding

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

2. Electric Field

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

3. Interference with Communication Devices

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

H. Other Requirements.

1. Applicable Codes

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

2. Other Permits

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

3. Pre-emption

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

I. Delay in Construction

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

J. Special Conditions

Applicants shall provide a report to the Commission as part of the Plan and Profile submission that describes the actions taken and mitigative measures developed regarding the following Special Conditions.

1. Alignment Alternatives

The five alignment alternatives identified below fall within the 1,000 foot requested route width. All the alignments were analyzed in the Environmental Impact Statement and provide one or more mitigations to the impacts potentially realized should a transmission line be constructed in these areas.

The Permittees will work with landowners in these areas and other areas to develop the most appropriate alignment to the extent that such actions do not violate sound engineering principles or system reliability criteria.

- The transmission alignment would follow along the north side of 275th Street in section 5 of New Avon Township.

- The transmission alignment would follow along the north side of County Road 12 through section 2 of Granite Rock Township.

- The transmission alignment would follow along the north side of County Road 74/660th Avenue from 470th Street to County Highway 4 just north of the city of Fairfax.

- The transmission alignment would follow along the south side of County Road 74/660th Avenue from 490th Street to County Highway 27/500th Street in sections 3 and 4 of Cairo Township.

- The transmission alignment would follow along the south side of County Road 74/660th Avenue at a point approximately 5,500 feet west of County Road 22 to County Road 22 in section 5 of Severance Township.

2. Archaeological and Historic Resources

The Permittees shall make every effort to avoid impacts to identified archaeological and historic resources when installing the high voltage transmission line on the approved route. In the event that an impact would occur, the applicants will consult with State Historic Preservation Office (SHPO) and invited consulting parties. Where feasible, avoidance of the resource is required.

In cooperation with SHPO, the applicants shall conduct a phase 1 survey of areas within the project that are known or have been reported as historic and/or archaeologically significant sites prior to commencing construction activities. Should the construction plans for the proposed project have the potential of disturbing known but unidentified historic, archaeological, or burial areas, monitoring by qualified personnel would be reasonable.

In the event that a resource is encountered, the SHPO should be contacted and consulted; the nature of the resource should be identified; and a determination should be made on the eligibility for listing in the NRHP.

Permittees shall work with Native American tribes and other state and federal permitting or land management agencies to assist in the development of avoidance, minimization or treatment measures.

3. Avian Concerns

The Permittees will evaluate mitigative measures in areas of the project where the chance of avian collision or electrocution is higher, specifically the areas where the route will span the Minnesota River.

The Permittees shall, in cooperation with the U.S. Fish and Wildlife Service (USFWS) and the Minnesota Department of Natural Resources (DNR), identified areas where bird flight diverters will be incorporated into the transmission line design to prevent avian collisions attributed to visibility issues.

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

Permittees shall work with the USFWS to ensure construction activities are scheduled so as not to disturb or impact normal eagle breeding, feeding, or sheltering behavior. Permittees shall consult with the USFWS to ensure the project conforms with the requirements of the Bald and Golden Eagle Protection Act in consultation with the USFWS.

4. Rare and Unique Resources

The DNR indicated occurrences of Blanding's turtles near the project area. The Blanding's turtle is considered a species in greatest need of conservation in Minnesota. Mitigation measures for potential impacts to the Blanding's turtle and its habitat shall include measures and recommendations outlined in the *Minnesota DNR Division of Ecological Resources Environmental Review Fact Sheet Series. Blanding's Turtle* (attached). Construction and maintenance personnel will be made aware of the Blanding's turtle and their habitat during pre-construction meetings in an effort to minimize possible disturbance.

Permittees will span, where possible, rivers, streams and wetlands, and any habitats where prairie remnants and rock outcrops have been recorded or are likely to occur. Wherever it is not feasible to span, a survey will be conducted to determine the presence of special status species or suitability of habitat for such species. Where the survey shows such species or habitat, Permittees will

coordinate with the MnDNR and other appropriate agencies to avoid and minimize any impact.

5. Scenic By-Ways

For the alignment crossing U.S. Highway 75 - The King of Trails and County Highway 5 – The Minnesota River Valley Scenic Byway, the Permittees shall consult with Mn/DOT Office of Environmental Services, the King of Trails Coalition, and the Minnesota River Valley Alliance regarding methods to minimize and prevent damage to vegetation along these scenic byways.

Methods may include preserving the natural and cultural landscape and using design and construction techniques and procedures to prevent unnecessary destruction, scarring, or defacing of vegetation in the right-of-way, minimizing the number of trees to be removed, and installing vegetative buffers to limit visual impacts to the extent that such actions do not violate sound engineering principles or system reliability criteria.

V. PERMIT AMENDMENT

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

VI. TRANSFER OF PERMIT

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

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

VII. REVOCATION OR SUSPENSION OF THE PERMIT

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

MINNESOTA PUBLIC UTILITIES COMMISSION
COMPLIANCE FILING PROCEDURE
FOR PERMITTED ENERGY FACILITIES

1. Purpose

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

2. Scope and Applicability

This procedure encompasses all compliance filings required by permit.

3. Definitions

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

4. Responsibilities

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

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

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

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

PERMIT COMPLIANCE FILINGS[1]

PERMITTEES: Great River Energy and Xcel Energy
PERMIT TYPE: HVTL Route Permit
PROJECT LOCATION: Lincoln, Lyon, Yellow Medicine, Chippewa, Redwood, Brown, Renville, Sibley, Le Sueur, Scott, and Dakota counties
PUC DOCKET NUMBER: ET2/TL-08-1474

Filing Number	Permit Section	Description	Due Date
1	Section IV.B.2	Contact information for field representative	10 days prior to construction
2	Section IV.A.	Plan and profile of right-of-way	30 days before ROW preparation or construction
3	Section IV.F	Notice of completion and date of placement in service	Three days prior to energizing
4	Section IV.F.3	Provide As-built and GPS information	Within 60 days of construction

[1] This compilation of permit compliance filings is provided for the convenience of the permittees and the Commission. However, it is not a substitute for the permit; the language of the permit controls.

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

A. Purpose

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

B. Scope

This document describes complaint reporting procedures and frequency.

C. Applicability

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

D. Definitions

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

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

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

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

E. Complaint Documentation and Processing

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

    a. Name of complainant, address, phone number, and e-mail address.
    b. Precise property description or parcel number.
    c. Name of Permittees representative receiving Complaint and date of receipt.
    d. Nature of Complaint and the applicable Site Permit conditions(s).
    e. Activities undertaken to resolve the Complaint.
    f. Final disposition of the Complaint.

2. The Permittees shall designate an individual to summarize Complaints for the Commission. This person's name, phone number and e-mail address shall accompany all complaint submittals.

3. A Person presenting the Complaint should to the extent possible, include the following information in their communications:

    a. Name, address, phone number, and e-mail address.
    b. Date
    c. Tract or parcel
    d. Whether the complaint relates to (1) a route permit matter, or (2) a compliance issue.

F. Reporting Requirements

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

Immediate Reports: All substantial complaints shall be reported to the Commission the same day received, or on the following working day for complaints received after working hours. Such reports are to be directed to High-Voltage Transmission Line Permit Compliance, 1-800-657-3794, or by e-mail to: DOC.energypermitcompliance@state.mn.us, or voice messages are acceptable.

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

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

G. Complaints Received by the Commission or Office of Energy Security

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

H. Commission Process for Unresolved Complaints

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

I. Permittees Contacts for Complaints

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

Dan Lesher
Great River Energy
12300 Elm Creek Boulevard
Maple Grove, MN 55369

Telephone: (763) 445-5975

Email: dlesher@grenergy.com

ATTACHMENT A

ROUTE PERMIT FOR CONSTRUCTION OF A HIGH-VOLTAGE TRANSMISSION LINE AND ASSOCIATED FACILITIES
IN
LINCOLN, LYON, YELLOW MEDICINE, CHIPPEWA, REDWOOD, BROWN, RENVILLE, SIBLEY, LE SUEUR, SCOTT, AND DAKOTA COUNTIES
ISSUED TO
GREAT RIVER ENERGY AND
NORTHERN STATES POWER COMPANY
PUC DOCKET No. ET2/TL-08-1474

September 14, 2010

Web links to the maps for the five route segments (Segments 1,2,3,5, and 6) authorized in this Route Permit are:

Segment 1= SL on the OES's Overview Map (Brookings County Substation to Lyon County Substation):

1 of 6: (SL 1-11)
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={0AF84007-E6DD-4074-BE78-1540EE11D84D}&documentTitle=20107-52220-01

2 of 6: (SL 12 – 22)
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={93EA434D-17E6-4856-9B1A-045F94DC6E5C}&documentTitle=20107-52220-02

3 of 6: (SL 23 – 33)
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=viewDocument&documentId={8E52818A-3A9F-4A14-96AA-F36072622E10}&documentTitle=20107-52220-03&userType=public

4 of 6: (SL 34 – 44)
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={87369F31-AF2D-46D3-893A-C87121C50ED9}&documentTitle=20107-52220-04

5 of 6: (SL 45 – 55)
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={124B4F11-E982-4009-B521-91C2E0D611A2}&documentTitle=20107-52220-05

6 of 6: (SL 56 – 66)
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={FC3267C8-D4C4-49AF-BFE0-F5027F231E56}&documentTitle=20107-52220-06

Segment 2 = LM on the OES's Overview Map (Lyon County Substation to Hazel Creek Substation to Minnesota Valley Substation)

1 of 4: LM 1-11
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={208CB543-5A1B-49AC-A7DB-63482BDF1E70}&documentTitle=20107-52221-01

2 of 4: LM – 12-22
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={A3B68C30-D320-4BD3-BE4B-0A9C14F2ABFC}&documentTitle=20107-52221-02

3 of 4: LM 23-33
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={A3B68C30-D320-4BD3-BE4B-0A9C14F2ABFC}&documentTitle=20107-52221-02

4 of 4:
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=viewDocument&documentId={6ABF3C53-4BED-4CA4-A04A-603A0B4A5AE2}&documentTitle=20107-52221-04&userType=public

Segment 3 = LC on the OES's Overview Map (Lyon County Substation to Cedar Mountain Substation)

1 of 5: LC 1-11
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={96991350-D366-4FA7-A1CA-2E54D597AB1A}&documentTitle=20107-52222-01

2 of 5: LC 12-22
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=viewDocument&documentId={A696F879-949A-4DA7-98D9-4F816288DC11}&documentTitle=20107-52222-02&userType=public

3 of 5: LC 323-33
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={A61DD118-5BB5-4407-8CD6-91613A5A2A33}&documentTitle=20107-52222-03

4 of 5: LC 34-44
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={4877505B-610C-46A9-9338-97B3FCF53EF4}&documentTitle=20107-52222-04

5 of 5: LC 45-57
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={398532A9-D270-47F5-A13A-70341198F24E}&documentTitle=20107-52222-05

Segment 5 = HL on OES's Overview Map (Helena Substation to Lake Marion Substation)

1 of 2: HL 1-11
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={48E68415-E707-4015-B489-22071B1892E4}&documentTitle=20107-52224-01

2 of 2: HL 12-23
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={97FABF76-0697-42EA-8C81-8BE2B52FE650}&documentTitle=20107-52224-02

Segment 6 = LH (Lake Marion Substation to Hampton Substation)

1 of 2: LH 1-11
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={29B63B44-FC28-4FFF-A22F-F21045E5A159}&documentTitle=20107-52224-03

2 of 2: **LH 12 – 22**
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={9DB37F47-27CD-4A23-AE04-8F2C3BF5E560}&documentTitle=20107-52224-04

AGRICULTURAL IMPACT MITIGATION PLAN

CapX2020 345 kV Electric Transmission Projects in Minnesota

CapX2020

June 2009

AGRICULTURAL IMPACT MITIGATION PLAN

CapX2020

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AGRICULTURAL IMPACT MITIGATION PLAN

CapX2020

Purpose

This Agricultural Impact Mitigation Plan ("AIMP" or 'the plan') was developed by Northern States Power Company, a Minnesota corporation and wholly-owned subsidiary of Xcel Energy Inc., and Great River Energy, a Minnesota generation and transmission cooperative (together, referred to as "the Utilities"), representing the CapX2020 utility consortium and with the Minnesota Department of Agriculture ("MDA"). The overall objective of this AIMP is to identify measures the Utilities will take to avoid, mitigate, repair and/or provide compensation for impacts that may result from 345 kV electric transmission line construction of the CapX2020 projects on Agricultural Land in Minnesota.

CapX2020 ("CapX2020") is a joint initiative of 11 transmission-owning utilities in Minnesota and the surrounding region. The purpose of CapX2020 is to study, develop, permit and construct electric transmission infrastructure as needed to implement long-term and cost-effective solutions for customers to meet the growth in energy use expected by the year 2020. The three CapX2020 projects included in this AIMP are described as:

1) the 345 kV transmission line from Brookings County, South Dakota to Hampton, Minnesota;

2) the 345 kV transmission line from Monticello, Minnesota to St. Cloud to the Fargo area, North Dakota; and

3) the 345 kV transmission line from Hampton, Minnesota to Rochester to La Crosse, Wisconsin.

Collectively, these three transmission lines are referred to as the "CapX2020 Projects".

The construction standards and policies in this plan apply only to construction activities occurring partially or wholly on privately owned Agricultural Land. The measures do not apply to construction activities occurring entirely on public rights-of-way, railroad rights-of-way, publicly owned land, or private land that is not Agricultural Land. The Utilities will, however, adhere to the same construction standards relating to the repair of agricultural tile (Item No. 3 in the AIMP) when Tiles are encountered on public highway rights-of-way, railroad rights-of-way, or publicly or privately owned land.

Appendix B of this AIMP applies only to Organic Agricultural Land as described in the National Organic Program Rules, 7 CFR Parts 205.100, 205.202, and 205.101.

Unless the Easement or other agreement, regardless of nature, between the Utilities and the Landowner or Tenant specifically provides to the contrary, the mitigative actions specified in the construction standards and policies set forth in this AIMP will be implemented in accordance with the General Provisions.

General Provisions

The mitigative actions are subject to change by Landowners or Tenants, provided such changes are negotiated with and acceptable to the Utilities.

Certain provisions of this AIMP require the Utilities to consult with the Landowner and Tenant of a property. The Utilities will engage in a good faith effort to secure the agreement of both Landowner and Tenant in such cases.

Unless otherwise specified, the Utilities will retain qualified contractors to execute mitigative actions. However, the Utilities may negotiate with Landowners or Tenants to carry out the mitigative actions that Landowners or Tenants wish to perform themselves.

Mitigative actions employed by the Utilities pursuant to this AIMP, unless otherwise specified in this AIMP or in an Easement or other agreement negotiated with an individual Landowner or Tenant, will be implemented within 45 days following completion of Final Clean-up on an affected property, weather permitting, or unless otherwise delayed by mutual agreement between Landowner or Tenant and Utility. Temporary repairs will be made by the Utilities during construction as needed to minimize the risk of additional property damage or interference with the Landowner's or Tenant's access to or use of the property that may result from an extended time period to implement mitigative actions.

The Utilities will implement the mitigative actions contained in this AIMP to the extent that they do not conflict with the requirements of any applicable federal and/or state rules and regulations and other permits and approvals that are obtained by the Utilities for the project or they are not determined to be unenforceable by reason of other requirements of federal and state permits issued for the project. To the extent a mitigative action required by this agreement is determined to be unenforceable in the future due to requirements of other federal or state permits issued for the project, the Utilities will so inform the Landowner or Tenant and will work with them to develop a reasonable alternative mitigative action.

Prior to the construction of the transmission line, the Utilities will provide each Landowner and Tenant with a telephone number and address which can be used to contact the Utilities, both during and following the completion of construction, regarding the agricultural impact mitigation work which is performed on their property or other construction-related matter. If the contact information changes at any time before completion of Final Clean-up and/or after the completion of construction, the Utilities will provide the Landowner and Tenant with updated contact information. The Utilities will respond to Landowner and Tenant telephone calls and correspondence within a reasonable time.

The Utilities will use good faith efforts to obtain a written acknowledgement of completion from each Landowner and Tenant upon the completion of Final Clean-up on their respective property.

If any provision of this AIMP is held to be unenforceable, no other provision will be affected by that holding, and the remainder of the AIMP will be interpreted as if it did not contain the unenforceable provision.

Mitigative Actions

The Utilities will reasonably restore or compensate Landowners and/or Tenants, as appropriate, for damages caused by the Utilities as a result of transmission line construction, and as outlined in this plan. The decision to restore land or compensate Landowners will be made by the Utilities after discussion with the Landowner or Tenant.

1. Pole Placement

During the design of the project, the Utilities' engineering, land rights and permitting staff will work together to address pole placement issues. Utilities' staff will work with Landowners on pole placement. When the preliminary design is complete, the land rights agents will review the staked pole locations with the Landowners.

2. Soil and Rock Removal for Bored Holes

Any excess soil and rock will be removed from the site unless otherwise requested by the Landowner.

3. Damaged and Adversely Affected Tile

The Utilities will contact affected Landowners or Tenants for their knowledge of Tile locations prior to the transmission line's installation. Utilities will make every attempt to probe for Tile if the Landowner does not know if Tile is located in the proposed pole location. Tile that is damaged, cut, or removed as a result of this probe will be immediately repaired. The repair will be reported to the Inspector.

If Tile is damaged by the transmission line installation, the Tile will be repaired in a manner that restores the Tile's operating condition at the point of repair. If Tiles on or adjacent to the transmission line's construction area are adversely affected by the construction of the transmission line, the Utilities will take such actions as are necessary to restore the functioning of the Tile, including the relocation, reconfiguration, and replacement of the existing Tile. The affected Landowner or Tenant may elect to negotiate a fair settlement with the Utilities for the Landowner or Tenant to undertake the responsibility for repair, relocation, reconfiguration, or replacement of the damaged Tile. In the event the Landowner or Tenant chooses to undertake the responsibility for repair, relocation, reconfiguration, or replacement of the damaged Tile, the Utilities will not be responsible for correcting Tile repairs after completion of the transmission line (the Utilities are responsible for correcting Tile repairs after completion of the transmission line, provided the repairs were made by the Utilities or their agents or designees).

Where the damaged Tile is repaired by the Utilities, the following standards and policies will apply to the Title repair:

A. Tiles will be repaired with materials of the same or better quality as that which was damaged.

B. If water is flowing through a damaged Tile, temporary repairs will be promptly installed and maintained until such time that permanent repairs can be made.

C. Before completing permanent Tile repairs, Tiles will be examined within the work area to check for Tile that might have been damaged by construction equipment. If Tiles are found to be damaged, they will be repaired so they operate as well after construction as before construction began.

D. The Utilities will make efforts to complete permanent Tile repairs within a reasonable timeframe after Final Clean-up, taking into account weather and soil conditions.

E. Following completion of the Final Clean-up and damage settlement, the Utilities will be responsible for correcting and repairing Tile breaks, or other damages to Tile systems that are discovered on the Right-of-Way to the extent that such breaks are the result of transmission line construction. These damages are usually discovered after the first significant rain event. The Utilities will not be responsible for Tile repairs the Utilities have paid the Landowner or Tenant to perform.

4. Installation of Additional Tiles

The Utilities will be responsible for installing such additional Tile and other drainage measures as are necessary to properly drain wet areas on the Right-of-Way caused by the construction of the transmission line.

5. Construction Debris

Construction-related debris and material which are not an integral part of the transmission line, and which have been placed there by the Utilities, will be removed from the Landowner's property at the Utilities' cost. Such material to be removed would include excess construction materials or litter generated by the construction crews.

6. Compaction, Rutting, Fertilization, Liming, and Soil Restoration

A. Compaction will be alleviated as needed on Cropland traversed by construction equipment. Cropland that has been compacted will be plowed using appropriate deep-tillage and draft equipment. Alleviation of compaction of the topsoil will be performed during suitable weather conditions, and must not be performed when weather conditions have caused the soil to become so wet that activity to alleviate compaction would damage the future production capacity of the land as determined by the Agricultural Monitor.

B. The Utilities will restore rutted land to as near as practical to its pre-construction condition.

C. If there is a dispute between the Landowner or Tenant and the Utilities as to what areas need to be ripped or chiseled, the depth at which compacted areas should be

ripped or chiseled, or the necessity or rates of lime, fertilizer, and organic material application, the Agricultural Monitor's opinion will be considered by the Utilities.

7. Damaged Soil Conservation Practices

Soil conservation practices such as terraces and grassed waterways which are damaged by the transmission line's construction, will be restored to their pre-construction condition.

8. Weed Control

On land which is owned by Utilities for substation facilities, the Utilities will work with Landowners if requested on weed control activities outside of the substations with the intent to not allow the spread of weeds onto adjacent Agricultural Land. Any weed control spraying will be in accordance with State of Minnesota regulations.

9. Irrigation Systems

A. If the transmission line and/or temporary work areas intersect an operational (or soon to be operational) spray irrigation system, the Utilities will establish with the Landowner or Tenant, an acceptable amount of time the irrigation system may be out of service.

B. If, as a result of the transmission line construction activities, an irrigation system interruption results in crop damages, either on the Right-of-Way or off the Right-of-Way, compensation of Landowners and/or Tenants, as appropriate, will be determined as described in section 11 of this AIMP.

C. If it is feasible and mutually acceptable to the Utilities and the Landowner or Tenant, temporary measures will be implemented to allow an irrigation system to continue to operate across land on which the transmission line is also being constructed. Utilities will work with the Landowner or Tenant to identify a preferable construction time.

10. Temporary Roads

The location of temporary roads to be used for construction purposes will be discussed with the Landowner or Tenant.

A. The temporary roads will be designed so as to not impede proper drainage and will be built to mitigate soil erosion on or near the temporary roads.

B. Upon abandonment, temporary roads may be left intact through mutual agreement of the Landowner or Tenant and the Utilities unless otherwise restricted by federal, state or local regulations.

C. If a temporary road is to be removed, the Agricultural Land upon which the temporary road is constructed will be returned to its previous use and restored to equivalent condition as existed prior to their construction.

11. Construction in Wet Conditions

If it is necessary to construct during wet conditions, and if the Agricultural Monitor believes conditions are too wet for continued construction, damages which may result from such construction will be paid for by the Utilities and/or appropriate restoration will be conducted. Compensation for Landowners and/or Tenants, as appropriate, will be determined as described in section 12 of this AIMP.

12. Procedures for Determining Construction-Related Damages and Providing Compensation

A. The Utilities will develop and put into place a procedure for the processing of anticipated Landowners' or Tenants' claims for construction-related damages. The procedure will be intended to standardize and minimize Landowner and Tenant concerns in the recovery of damages, to provide a degree of certainty and predictability for Landowners, Tenants and the Utilities, and to foster good relationships among the Utilities, Landowners and their Tenants over the long term.

B. Negotiations between the Utilities and any affected Landowner or Tenant will be voluntary in nature and no party is obligated to follow any particular method for computing the amount of loss for which compensation is sought or paid. The compensation offered is only an offer to settle, and the offer shall not be introduced in any proceeding brought by the Landowner or Tenant to establish the amount of damages the Utilities must pay. In the event the Utilities and a Landowner or Tenant are unable to reach an agreement on the amount of damages, the Landowner or Tenant may seek recourse through mediation.

13. Advance Notice of Access to Private Property

The Utilities will endeavor to provide the Landowner and/or Tenant advanced notice before beginning construction on the property. Prior notice will consist of a personal contact, email, letter or a telephone contact, whereby the Landowner and the Tenant are informed of the Utilities' intent to access the land.

14. Role and Responsibilities of Agricultural Monitor

The Agricultural Monitor will be retained and funded by the Utilities, but will report directly to the MDA. The primary function of the Agricultural Monitor will be to audit the Utilities' compliance with this AIMP. The Agricultural Monitor will not have the authority to direct construction activities and will not have authority to stop construction. The Agricultural Monitor will notify the Utilities' Inspector if he/she believes a compliance issue has been identified. The Agricultural Monitor will have full access to Agricultural Land crossed by the CapX2020 projects and will have the option of

attending meetings where construction on Agricultural Land is discussed. Specific duties of the Agricultural Monitor will include, but are not limited to the following:

1. Participate in preconstruction training activities sponsored by the Utilities.

2. Monitor construction and restoration activities on Agricultural Land for compliance with provisions of this AIMP.

3. Report instances of noncompliance to the Utilities Inspector.

4. Prepare regular compliance reports and submit to MDA, as requested by the MDA.

5. Act as liaison between Landowners and Tenants and MDA, if necessary.

6. Maintain a written log of communications from Landowners and/or Tenants regarding compliance with this AIMP. Report Landowner complaints to the Utilities Inspector and/or Right-of-Way representative.

7. In disputes between Utilities and a Landowner and/or Tenant over restoration, determine if agricultural restoration is reasonably adequate in consultation with the Utilities Inspector.

15. Qualifications and Selection of Agricultural Monitor

The Agricultural Monitor will have a bachelor's degree in agronomy, soil science or equivalent work experience. The Agricultural Monitor will have demonstrated practical experience with pipeline or electric transmission line construction and restoration on Agricultural Land. Final selection of the Agricultural Monitor will be a joint decision between the MDA and the Utilities.

16. Role of the Utilities Inspector

The Utilities Inspector will:

1. Be full-time member of the Utilities inspection team.

2. Be responsible for verifying the Utilities compliance with provisions of this AIMP during construction.

3. Work collaboratively with other Utilities Inspectors, Right-of-Way agents, and the Agricultural Monitor in achieving compliance with this AIMP.

4. Observe construction activities on Agricultural Land on a regular basis.

5. Have the authority to stop construction activities that are determined to be out of compliance with provisions of this AIMP.

6. Document instances of noncompliance and work with construction personnel to identify and implement appropriate corrective actions as needed.

7. Provide construction personnel with training on provisions of this AIMP before construction begins.

8. Provide construction personnel with field training on specific topics as needed.

Appendix A: **Definitions**

Agricultural Land	Land that is actively managed for cropland, hayland, or pasture, and land in government set-aside programs.
Agricultural Monitor	Monitor retained and funded by the Utilities, reporting directly to the Minnesota Department of Agriculture ("MDA") and responsible for auditing the Utilities' compliance with provisions of this AIMP.
Cropland	Land actively managed for growing row crops, small grains, or hay.
Easement	The agreement(s) and/or interest in privately owned Agricultural Land held by the Utilities by virtue of which it has the right to construct, operate and maintain the transmission line together with such other rights and obligations as may be set forth in such agreement.
Final Clean-up	Transmission line activity that occurs after the power line has been constructed. Final Clean-up activities include but are not limited to: removal of construction debris, de-compaction of soil as required, installation of permanent erosion control structures, final grading, and restoration of fences and required reseeding. Once Final Clean-up is finished, Landowners will be contacted to settle all damage issues and will be provided a form to sign confirming final settlement.
Landowner	Person(s) holding legal title to Agricultural Land on the transmission line route from whom the Utilities is seeking, or has obtained, a temporary or permanent Easement, or their representatives.
Non-Agricultural Land	Any land that is not "Agricultural Land" as defined above.
Right-of-Way	The Agricultural Land included in permanent and temporary Easements which the Utilities acquires for the purpose of constructing, operating and maintaining the transmission line.
Tenant	Any Person lawfully renting or sharing land for agricultural production which makes up the "Right-of-Way" as defined in this AIMP.
Tile	Artificial subsurface drainage system.
Topsoil	The uppermost horizon (layer) of the soil, typically with the darkest color and highest content of organic matter.
Utilities Inspector	Full-time on-site inspector retained by the Utilities to verify compliance with requirements of this AIMP during construction of the transmission line. The Inspector will have demonstrated experience with transmission line construction on Agricultural Land.

Appendix B: Mitigative Actions for Organic Agricultural Land

Introduction

The Utilities recognize that Organic Agricultural Land is a unique feature of the landscape and will treat this land with the same level of care as other sensitive environmental features. This Appendix identifies mitigation measures that apply specifically to farms that are Organic Certified or farms that are in active transition to become Organic Certified, and is intended to address the unique management and certification requirements of these operations. All protections provided in the Agricultural Impact Mitigation Plan will also be provided to Organic Agricultural Land in addition to the provisions of this Appendix.

The provisions of this Appendix will apply to Organic Agricultural Land for which the Landowner or Tenant has provided to the Utilities a true, correct and current version of the Organic System Plan within 60 days after the signing of the Easement for such land or 60 days after the issuance of a Route Permit to the Utilities by the PUC, whichever is sooner, or, in the event the Easement is signed later than 60 days after the issuance of the Route Permit. The provisions of this Appendix are applicable when the Organic System Plan is provided to the Utilities at the time of the signing of the Easement.

Organic System Plan

The Utilities recognize the importance of the individualized Organic System Plan (OSP) to the Organic Certification process. The Utilities will work with the Landowner or Tenant, the Landowner or Tenant's Certifying Agent, and/or a mutually acceptable third-party Organic consultant to identify site-specific construction practices that will minimize the potential for Decertification as a result of construction activities. Possible practices may include, but are not limited to: equipment cleaning, planting a deep-rooted cover crop in lieu of mechanical decompaction, applications of composted manure or rock phosphate, preventing the introduction of disease vectors from tobacco use, restoration and replacement of beneficial bird and insect habitat, maintenance of organic buffer zones, use of organic seeds for any cover crop, or similar measures. The Utilities recognizes that Organic System Plans are proprietary in nature and will respect the need for confidentiality.

Prohibited Substances

The Utilities will avoid the application of Prohibited Substances onto Organic Agricultural Land. No herbicides, pesticides, fertilizers or seed will be applied unless requested and approved by the Landowner. Likewise, no refueling, fuel or lubricant storage or routine equipment maintenance will be allowed on Organic Agricultural Land. Equipment will be checked prior to entry to make sure that fuel, hydraulic and lubrication systems are in good working order before working on Organic Agricultural Land. If Prohibited Substances are used on land adjacent to Organic Agricultural Land, these substances will be used in such a way as to prevent them from entering Organic Agricultural Land.

Temporary Road Impacts

Topsoil and subsoil layers that are removed during construction on Organic Agricultural Land for temporary road impacts will be stored separately and replaced in the proper sequence after the transmission line is installed. Unless otherwise specified in the site-specific plan described above, the Utilities will not use this soil for other purposes, including creating access ramps at road crossings. No topsoil or subsoil (other than incidental amounts) may be removed from Organic Agricultural Land. Likewise, Organic Agricultural Land will not be used for storage of soil from non-Organic Agricultural Land.

Erosion Control

On Organic Agricultural Land, the Utilities will, to the extent feasible, implement erosion control methods consistent with the Landowner or Tenant's Organic System Plan. On land adjacent to Organic Agricultural Land, the Utilities' erosion control procedures will be designed so that sediment from adjacent non-Organic Agricultural Land will not flow along the Right-of-Way and be deposited on Organic Agricultural Land. Treated lumber, non-organic hay bales, non-approved metal fence posts, etc. will not be used in erosion control on Organic Agricultural Land.

Weed Control

On Organic Agricultural Land, the Utilities will, to the extent feasible, implement weed control methods consistent with the Landowner's or Tenant's Organic System Plan. Prohibited Substances will not be used in weed control on Organic Agricultural Land. In addition, the Utilities will not use Prohibited Substances in weed control on land adjacent to Organic Agricultural Land in such a way as to allow these materials to drift onto Organic Agricultural Land.

Monitoring

In addition to the responsibilities of the Agricultural Monitor described in the AIMP, the following will apply:

A. The Agricultural Monitor will monitor construction and restoration activities on Organic Agricultural Land for compliance with the provisions of this appendix and will document any activities that may result in Decertification.

B. Instances of non-compliance will be documented according to Independent Organic Inspectors Association protocol consistent with the Landowner's Organic System Plan, and will be made available to the MDA, the Landowner, the Tenant, the Landowner's or Tenant's Certifying Agent, the Utilities Inspector and to the Utilities.

If the Agricultural Monitor is responsible for monitoring activities on Organic Agricultural Land, he/she will be trained, at the Utilities' expense, in organic inspection, by the Independent Organic Inspectors Association, unless the Agricultural Monitor received such training during the previous three years.

Compensation for Construction Damages

The settlement of damages will be based on crop yield and/or crop quality determination and the need for additional restoration measures. Unless the Landowner or Tenant of Organic Agricultural Land and Company agree otherwise, at the Utilities expense, a mutually agreed upon professional agronomist will make crop yield determinations, and the Minnesota Department of Agriculture Fruit and Vegetable Inspection Unit will make crop quality determinations. If the crop yield and/or crop quality determinations indicate the need for soil testing, the testing will be conducted by a commercial laboratory that is properly certified to conduct the necessary tests and is mutually agreeable to the Utilities and the Landowner or Tenant. Field work for soil testing will be conducted by a Professional Soil Scientist or Professional Engineer licensed by the State of Minnesota. The Utilities will be responsible for the cost of sampling, testing and additional restoration activities, if needed. Landowners or Tenants may elect to settle damages with the Utilities in advance of construction on a mutually acceptable basis or to settle after construction based on a mutually agreeable determination of actual damages.

Compensation for Damages Due to Decertification

Should any portion of Organic Agricultural Land be Decertified as a result of construction activities, the settlement of damages will be based on the difference between revenue generated from the land affected before Decertification and after Decertification so long as a good faith effort is made by the Landowner or Tenant to regain Certification.

Definitions

Unless otherwise provided to the contrary in this Appendix, capitalized terms used in this Appendix shall have the meanings provided below and in the AIMP. In the event of a conflict between this Appendix and the AIMP with respect to definitions, the definition provided in this Appendix will prevail but only to the extent such conflicting terms are used in this Appendix. The definition provided for the defined words used herein shall apply to all forms of the words.

Apply	To intentionally or inadvertently spread or distribute any substance onto the exposed surface of the soil.
Certifying Agent	As defined by the National Organic Program Standards, Federal Regulations 7 CFR Part 205.2.
Decertified or Decertification	Loss of Organic Certification.
Organic Agricultural Land	Farms or portions thereof described in 7 CFR Parts 205.100, 205.202, and 205.101.
Organic Buffer Zone	As defined by the National Organic Program Standards, Federal Regulations 7 CFR Part 205.2.
Organic Certification or Organic Certified	As defined by the National Organic Program Standards, Federal Regulations 7 CFR Part 205.100 and 7 CFR Part 205.101.
Organic System Plan	As defined by the National Organic Program Standards, Federal Regulations 7 CFR Part 205.2.
Prohibited Substance	As defined by the National Organic Program Standards, Federal Regulations 7 CFR Part 205.600 through 7 CFR 205.605 using the criteria provided in 7 USC 6517 and 7 USC 6518.

Environmental Review Fact Sheet Series

Endangered, Threatened, and Special Concern Species of Minnesota

Blanding's Turtle

(Emydoidea blandingii)

Minnesota Status:	Threatened	State Rank[1]:	S2
Federal Status:	none	Global Rank[1]:	G4

HABITAT USE

Blanding's turtles need both wetland and upland habitats to complete their life cycle. The types of wetlands used include ponds, marshes, shrub swamps, bogs, and ditches and streams with slow-moving water. In Minnesota, Blanding's turtles are primarily marsh and pond inhabitants. Calm, shallow water bodies (Type 1-3 wetlands) with mud bottoms and abundant aquatic vegetation (e.g., cattails, water lilies) are preferred, and extensive marshes bordering rivers provide excellent habitat. Small temporary wetlands (those that dry up in the late summer or fall) are frequently used in spring and summer -- these fishless pools are amphibian and invertebrate breeding habitat, which provides an important food source for Blanding's turtles. Also, the warmer water of these shallower areas probably aids in the development of eggs within the female turtle. Nesting occurs in open (grassy or brushy) sandy uplands, often some distance from water bodies. Frequently, nesting occurs in traditional nesting grounds on undeveloped land. Blanding's turtles have also been known to nest successfully on residential property (especially in low density housing situations), and to utilize disturbed areas such as farm fields, gardens, under power lines, and road shoulders (especially of dirt roads). Although Blanding's turtles may travel through woodlots during their seasonal movements, shady areas (including forests and lawns with shade trees) are not used for nesting. Wetlands with deeper water are needed in times of drought, and during the winter. Blanding's turtles overwinter in the muddy bottoms of deeper marshes and ponds, or other water bodies where they are protected from freezing.

LIFE HISTORY

Individuals emerge from overwintering and begin basking in late March or early April on warm, sunny days. The increase in body temperature which occurs during basking is necessary for egg development within the female turtle. Nesting in Minnesota typically occurs during June, and females are most active in late afternoon and at dusk. Nesting can occur as much as a mile from wetlands. The nest is dug by the female in an open sandy area and 6-15 eggs are laid. The female turtle returns to the marsh within 24 hours of laying eggs. After a development period of approximately two months, hatchlings leave the nest from mid-August through early-October. Nesting females and hatchlings are often at risk of being killed while crossing roads between wetlands and nesting areas. In addition to movements associated with nesting, all ages and both sexes move between wetlands from April through November. These movements peak in June and July and again in September and October as turtles move to and from overwintering sites. In late autumn (typically November), Blanding' s turtles bury themselves in the substrate (the mud at the bottom) of deeper wetlands to overwinter.

IMPACTS / THREATS / CAUSES OF DECLINE

- loss of wetland habitat through drainage or flooding (converting wetlands into ponds or lakes)
- loss of upland habitat through development or conversion to agriculture
- human disturbance, including collection for the pet trade* and road kills during seasonal movements
- increase in predator populations (skunks, raccoons, etc.) which prey on nests and young

*It is illegal to possess this threatened species.

RECOMMENDATIONS FOR AVOIDING AND MINIMIZING IMPACTS

These recommendations apply to typical construction projects and general land use within Blanding's turtle habitat, and are provided to help local governments, developers, contractors, and homeowners minimize or avoid detrimental impacts to Blanding's turtle populations. **List 1** describes minimum measures which we recommend to prevent harm to Blanding's turtles during construction or other work within Blanding's turtle habitat. **List 2** contains recommendations which offer even greater protection for Blanding's turtles populations; this list should be used *in addition to the first list* in areas which are known to be of state-wide importance to Blanding's turtles (contact the DNR's Natural Heritage and Nongame Research Program if you wish to determine if your project or home is in one of these areas), or in any other area where greater protection for Blanding's turtles is desired.

List 1. Recommendations for all areas inhabited by Blanding's turtles.	**List 2. *Additional* recommendations for areas known to be of state-wide importance to Blanding's turtles.**
GENERAL	
A flyer with an illustration of a Blanding's turtle should be given to all contractors working in the area. Homeowners should also be informed of the presence of Blanding's turtles in the area.	Turtle crossing signs can be installed adjacent to road-crossing areas used by Blanding's turtles to increase public awareness and reduce road kills.
Turtles which are in imminent danger should be moved, by hand, out of harms way. Turtles which are not in imminent danger should be left undisturbed.	Workers in the area should be aware that Blanding's turtles nest in June, generally after 4pm, and should be advised to minimize disturbance if turtles are seen.
If a Blanding's turtle nests in your yard, do not disturb the nest.	If you would like to provide more protection for a Blanding's turtle nest on your property, see "Protecting Blanding's Turtle Nests" on page 3 of this fact sheet.
Silt fencing should be set up to keep turtles out of construction areas. It is critical that silt fencing be removed after the area has been revegetated.	Construction in potential nesting areas should be limited to the period between September 15 and June 1 (this is the time when activity of adults and hatchlings in upland areas is at a minimum).
WETLANDS	
Small, vegetated temporary wetlands (Types 2 & 3) should not be dredged, deepened, filled, or converted to storm water retention basins (these wetlands provide important habitat during spring and summer).	Shallow portions of wetlands should not be disturbed during prime basking time (mid morning to mid- afternoon in May and June). A wide buffer should be left along the shore to minimize human activity near wetlands (basking Blanding's turtles are more easily disturbed than other turtle species).
Wetlands should be protected from pollution; use of fertilizers and pesticides should be avoided, and run-off from lawns and streets should be controlled. Erosion should be prevented to keep sediment from reaching wetlands and lakes.	Wetlands should be protected from road, lawn, and other chemical run-off by a vegetated buffer strip at least 50' wide. This area should be left unmowed and in a natural condition.
ROADS	
Roads should be kept to minimum standards on widths and lanes (this reduces road kills by slowing traffic and reducing the distance turtles need to cross).	Tunnels should be considered in areas with concentrations of turtle crossings (more than 10 turtles per year per 100 meters of road), and in areas of lower density if the level of road use would make a safe crossing impossible for turtles. Contact your DNR Regional Nongame Specialist for further information on wildlife tunnels.
Roads should be ditched, not curbed or below grade. If curbs must be used, 4 inch high curbs at a 3:1 slope are preferred (Blanding's turtles have great difficulty climbing traditional curbs; curbs and below grade roads trap turtles on the road and can cause road kills).	Roads should be ditched, not curbed or below grade.

ROADS cont.	
Culverts between wetland areas, or between wetland areas and nesting areas, should be 36 inches or greater in diameter, and elliptical or flat-bottomed.	Road placement should avoid separating wetlands from adjacent upland nesting sites, or these roads should be fenced to prevent turtles from attempting to cross them (contact your DNR Nongame Specialist for details).
Wetland crossings should be bridged, or include raised roadways with culverts which are 36 in or greater in diameter and flat-bottomed or elliptical (raised roadways discourage turtles from leaving the wetland to bask on roads).	Road placement should avoid bisecting wetlands, or these roads should be fenced to prevent turtles from attempting to cross them (contact your DNR Nongame Specialist for details). This is especially important for roads with more than 2 lanes.
Culverts under roads crossing streams should be oversized (at least twice as wide as the normal width of open water) and flat-bottomed or elliptical.	Roads crossing streams should be bridged.
UTILITIES	
Utility access and maintenance roads should be kept to a minimum (this reduces road-kill potential).	
Because trenches can trap turtles, trenches should be checked for turtles prior to being backfilled and the sites should be returned to original grade.	
LANDSCAPING AND VEGETATION MANAGEMENT	
Terrain should be left with as much natural contour as possible.	As much natural landscape as possible should be preserved (installation of sod or wood chips, paving, and planting of trees within nesting habitat can make that habitat unusable to nesting Blanding's turtles).
Graded areas should be revegetated with native grasses and forbs (some non-natives form dense patches through which it is difficult for turtles to travel).	Open space should include some areas at higher elevations for nesting. These areas should be retained in native vegetation, and should be connected to wetlands by a wide corridor of native vegetation.
Vegetation management in infrequently mowed areas -- such as in ditches, along utility access roads, and under power lines -- should be done mechanically (chemicals should not be used). Work should occur fall through spring (after October 1st and before June 1st).	Ditches and utility access roads should not be mowed or managed through use of chemicals. If vegetation management is required, it should be done mechanically, as infrequently as possible, and fall through spring (mowing can kill turtles present during mowing, and makes it easier for predators to locate turtles crossing roads).

Protecting Blanding's Turtle Nests: Most predation on turtle nests occurs within 48 hours after the eggs are laid. After this time, the scent is gone from the nest and it is more difficult for predators to locate the nest. Nests more than a week old probably do not need additional protection, unless they are in a particularly vulnerable spot, such as a yard where pets may disturb the nest. Turtle nests can be protected from predators and other disturbance by covering them with a piece of wire fencing (such as chicken wire), secured to the ground with stakes or rocks. The piece of fencing should measure at least 2 ft. x 2 ft., and should be of medium sized mesh (openings should be about 2 in. x 2 in.). It is ***very important*** that the fencing be **removed before August 1st** so the young turtles can escape from the nest when they hatch!

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[1]Association for Biodiversity Information. "Heritage Status: Global, National, and Subnational Conservation Status Ranks." NatureServe. Version 1.3 (9 April 2001). http://www.natureserve.org/ranking.htm (15 April 2001).

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Oldfield, B., and J. J. Moriarty. 1994. Amphibians and Reptiles Native to Minnesota. University of Minnesota Press, Minneapolis, 237 pp.

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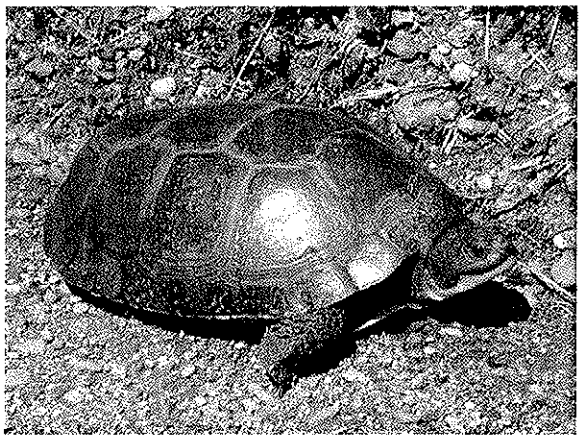
CAUTION



BLANDING'S TURTLES

MAY BE ENCOUNTERED IN THIS AREA

The unique and rare Blanding's turtle has been found in this area. Blanding's turtles are state-listed as Threatened and are protected under Minnesota Statute 84.095, Protection of Threatened and Endangered Species. Please be careful of turtles on roads and in construction sites. For additional information on turtles, or to report a Blanding's turtle sighting, contact the DNR Nongame Specialist nearest you: Bemidji (218-308-2641); Grand Rapids (218-327-4518); New Ulm (507-359-6033); Rochester (507-280-5070); or St. Paul (651-259-5764).

DESCRIPTION: The Blanding's turtle is a medium to large turtle (5 to 10 inches) with a black or dark blue, dome-shaped shell with muted yellow spots and bars. The bottom of the shell is hinged across the front third, enabling the turtle to pull the front edge of the lower shell firmly against the top shell to provide additional protection when threatened. The head, legs, and tail are dark brown or blue-gray with small dots of light brown or yellow. A distinctive field mark is the bright yellow chin and neck.

BLANDING'S TURTLES DO NOT MAKE GOOD PETS
IT IS ILLEGAL TO KEEP THIS THREATENED SPECIES IN CAPTIVITY

SUMMARY OF RECOMMENDATIONS FOR AVOIDING AND MINIMIZING IMPACTS TO BLANDING'S TURTLE POPULATIONS

(see Blanding's Turtle Fact Sheet for full recommendations)

- This flyer should be given to all contractors working in the area. Homeowners should also be informed of the presence of Blanding's turtles in the area.
- Turtles that are in imminent danger should be moved, by hand, out of harms way. Turtles that are not in imminent danger should be left undisturbed to continue their travel among wetlands and/or nest sites.
- If a Blanding's turtle nests in your yard, do not disturb the nest and do not allow pets near the nest.
- Silt fencing should be set up to keep turtles out of construction areas. It is critical that silt fencing be removed after the area has been revegetated.
- Small, vegetated temporary wetlands should not be dredged, deepened, or filled.
- All wetlands should be protected from pollution; use of fertilizers and pesticides should be avoided, and run-off from lawns and streets should be controlled. Erosion should be prevented to keep sediment from reaching wetlands and lakes.
- Roads should be kept to minimum standards on widths and lanes.
- Roads should be ditched, not curbed or below grade. If curbs must be used, 4" high curbs at a 3:1 slope are preferred.
- Culverts under roads crossing wetland areas, between wetland areas, or between wetland and nesting areas should be at least 36 in. diameter and flat-bottomed or elliptical.
- Culverts under roads crossing streams should be oversized (at least twice as wide as the normal width of open water) and flat-bottomed or elliptical.
- Utility access and maintenance roads should be kept to a minimum.
- Because trenches can trap turtles, trenches should be checked for turtles prior to being backfilled and the sites should be returned to original grade.
- Terrain should be left with as much natural contour as possible.
- Graded areas should be revegetated with native grasses and forbs.
- Vegetation management in infrequently mowed areas -- such as in ditches, along utility access roads, and under power lines -- should be done mechanically (chemicals should not be used). Work should occur fall through spring (after October 1st and before June 1st).

Compiled by the Minnesota Department of Natural Resources Division of Ecological Resources, Updated March 2008
Endangered Species Environmental Review Coordinator, 500 Lafayette Rd., Box 25, St. Paul, MN 55155 / 651-259-5109