

6.5 Chisago

The proposed Chisago facility has a capacity of 7.5 MW AC and is located in Section 12 of Lent Township in Chisago County. The site is located approximately one mile south of the city of North Branch, southeast of the intersection of Kable Avenue and Lincoln Road. Aurora anticipates that the facility will be accessed through a newly constructed access road off of Lincoln Road. Preliminary plans anticipate a development area of approximately 61 acres within the 62 acres of Aurora’s site control. Electricity from the facility would be delivered to Xcel Energy’s Chisago Substation located approximately 3420 feet north of the facility.

The facility is located within the Minnesota and Northeastern Iowa Morainal Section of the Eastern Broadleaf Forest Province. Land cover within the preliminary development area (Table 18) is dominated by cultivated crops (83.3 percent). In addition to cultivated crops there are areas of deciduous forest (9 percent), developed open space (5 percent) and grassland (3 percent). The proposed location avoids the forested and wetland areas that comprise approximately 28 percent and 10 percent respectively of the land cover in the study area around the Chisago Substation, but is comparable to the agricultural land cover in the northern portion of the study area (Figure 23).

Table 18: Chisago Facility Land Cover

Land Cover	Control Area		Development Area		Study Area	
	Acres	Percent	Acres	Percent	Acres	Percent
Open Water	-	-	-	-	349.5	2.8%
Developed, Open Space	3.9	6.3%	3.1	5.1%	533.1	4.3%
Developed, Low Intensity	-	-	-	-	85.5	0.7%
Developed, Medium Intensity	-	-	-	-	12.5	0.1%
Developed, High Intensity	-	-	-	-	-	-
Barren Land	-	-	-	-	3.5	-
Deciduous Forest	6.3	10.1%	5.4	8.9%	3,481.6	27.7%
Evergreen Forest	-	-	-	-	105.6	0.8%
Mixed Forest	-	-	-	-	22.4	0.2%
Shrub/Scrub	-	-	-	-	71.2	0.6%
Grassland Herbaceous	1.6	2.64%	1.6	2.7%	488.0	3.9%
Pasture/Hay	-	-	-	-	1,256.4	10.0%
Cultivated Crops	50.6	81.0%	50.4	83.3%	4,951.4	39.5%
Woody Wetlands	-	-	-	-	68.5	0.6%
Emergent Herbaceous Wetlands	-	-	-	-	1122.9	9.0%
Totals	62.4	100.0%	60.6	100.0%	12,552.2	100.0%

6.5.1 Effects on Human Settlement

The facility is located on a cultivated parcel in a rural area. There are areas of rural residences south of Lincoln Road, to the west, south and east of the facility and predominantly agricultural areas north of Lincoln Road. The nearest home is located approximately 180 feet south of the preliminary development area. Construction of the facility will not result in displacement of any homes or businesses. The facility is located in an area zoned as Rural Residential by Lent Township.

Aurora anticipates that the facility will be accessed through a newly constructed access road off of Lincoln Road and would require a permit from Chisago County. The County Engineer has recommended facility access off of Kable Avenue and a temporary construction access from Lincoln Road.¹⁰⁰

The Carlos Avery WMA is located approximately one-quarter mile southwest of the site, and is a popular area for bird watching. A snowmobile trail is located east of the site along Kost Trail. Construction and operation of the facility would not impact the use of nearby recreational resources.

No mitigation measures beyond those described in Section 5.2 are identified for the Chisago facility.

6.5.2 Effects on Land Based Economies

The proposed facility would remove approximately 50.4 acres of farmland from agricultural use. In addition to the Chisago facility, Aurora's Lawrence Creek, Scandia and Wyoming facilities, as well as the North Star Solar Project, a 100 MW PV project proposed by North Star Solar PV LLC are all proposed in Chisago County. If all of the proposed facilities are developed, the five facilities would result in a cumulative reduction of approximately 970 acres from agricultural use in Chisago County for at least 25 years.

None of the preliminary development area is considered to be prime farmland or farmland of statewide importance (Table 13). The Prime Farmland Exclusion for electric power generation facilities identified in Minnesota Rule part 7850.4400, subpart 4, does not apply due to the facility's proximity to North Branch.

The proposed project would not impact tourism, mining or mineral extraction activities, or forest resources of economic importance.

No mitigation measures beyond those described in Section 5.3 are identified for the Chisago facility.

¹⁰⁰ Chisago County Comments, p. 5

6.5.3 Effects on Archaeological and Historic Resources

No archaeological sites were identified in a survey of the Chisago facility. No mitigation measures beyond those described in Section 5.4 are identified for the Chisago facility.

6.5.4 Effects on Natural Environment

There are no rivers, streams or lakes within the area of facility site control. Field delineations performed in the summer of 2014 show approximately 0.51 acres of Type 6 (shrub swamp) wetlands within the area of land control.¹⁰¹

The preliminary design for the facility anticipates grading of approximately 7.8 acres of the site during construction.¹⁰²

No mitigation measures beyond those described in Section 5.5 are identified for the Chisago facility.

6.5.5 Effects on Rare and Unique Natural Resources

A review of the NHIS database did not identify any documented instances of federally listed endangered or threatened species within the land control boundary of the Chisago facility. As shown in Table 19, the NHIS database review did show records for two state listed threatened species (Blanding's Turtle (*Emydoidea*) and Tooth-cup (*Rotala ramosior*)) within the preliminary development area, and several instances of threatened and special concern species within one mile of the area of site control for the facility.¹⁰³ Several of the species identified within one mile of the facility are mussels and would not be present at the facility as there is no aquatic habitat within the area of site control.¹⁰⁴

¹⁰¹ Appendix C

¹⁰² Application, at Appendix F

¹⁰³ Application, at p. 81, Appendix I

¹⁰⁴ Application at p. 81

Table 19: Chisago Facility - Rare and Unique Natural Resources

Common Name	Scientific Name	State Status	Federal Status	Records Within 1 mile of Land Control	Records Within Preliminary Development Area
Actinonaias ligamentina	Mucket	Threatened	None	1	--
Elliptio dilatata	Spike	Threatened	None	2	--
Emydoidea blandingii	Blanding's Turtle	Threatened	None	7	2
Lasmigona costata	Fluted-shell	Threatened	None	1	--
Rotala ramosior	Tooth-cup	Threatened	None	1	1
Lasmigona compressa	Creek Heelsplitter	Special Concern	None	2	--
Ligumia recta	Black Sandshell	Special Concern	None	2	--
Pleurobema sintoxia	Round Pigtoe	Special Concern	None	1	--

As discussed in Section 5.6, a field survey of the Chisago facility would identify potentially impacted rare or unique natural resources.

As identified in Section 5.5, the use of wildlife friendly mesh for erosion control can reduce the potential for reptiles becoming entangled that occurs with more typical types of erosion control mesh.

Section 14.1 of the Site Permit Template requires specific recommendations for minimizing potential impacts to Blanding's Turtle.

Figure 22: Chisago Project Detail



Figure 23: Chisago Land Cover Overview

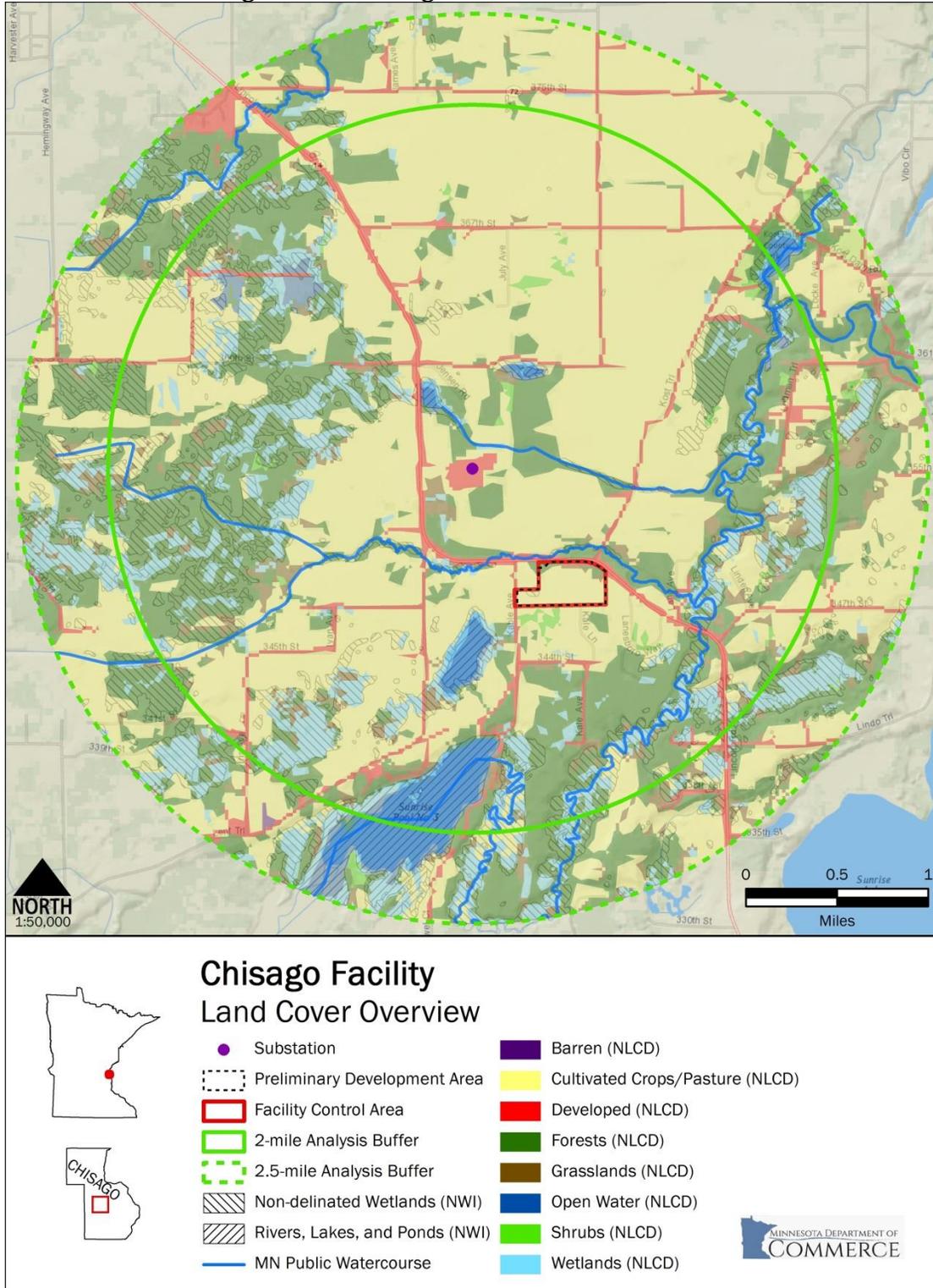
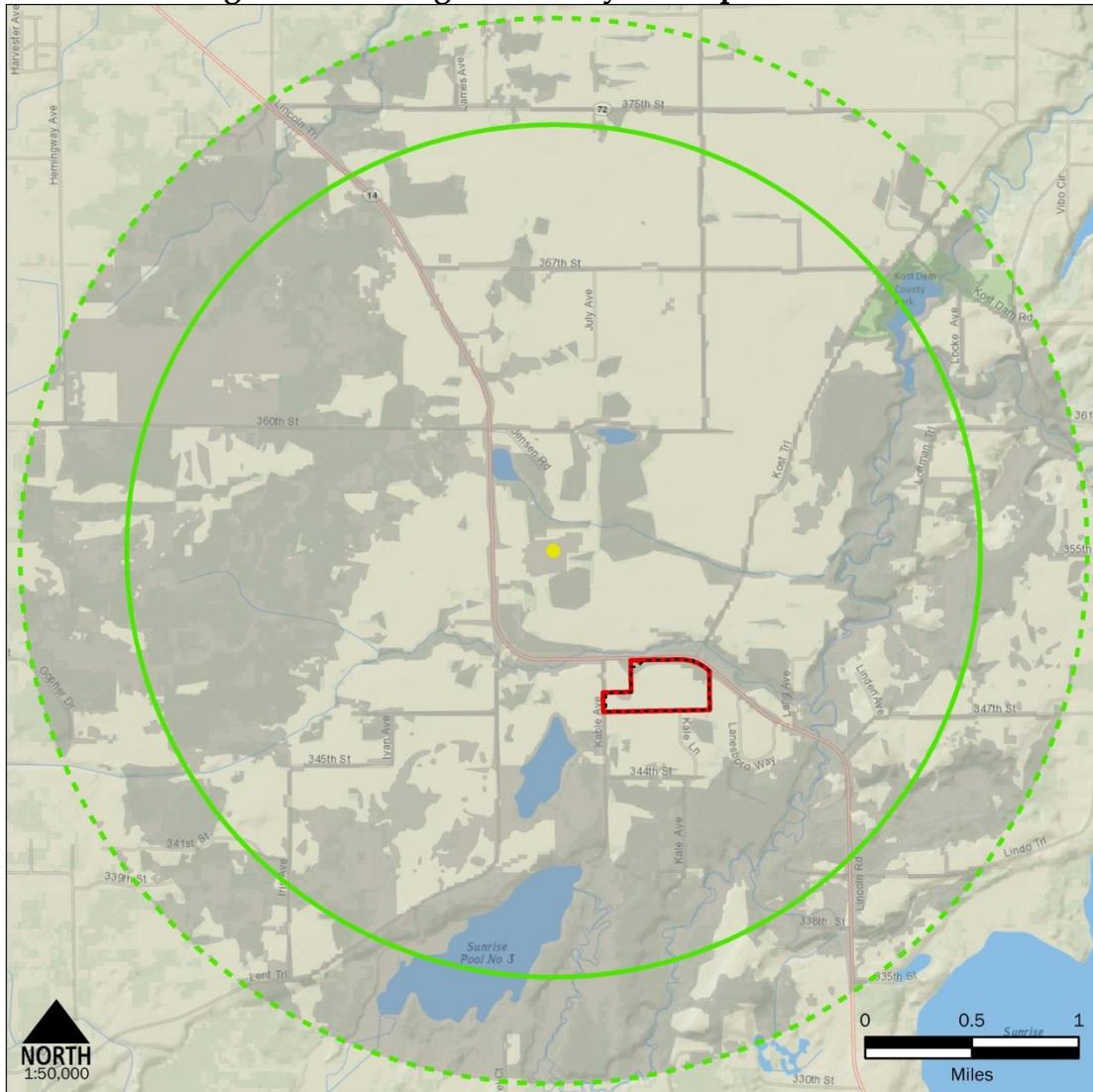


Figure 24: Chisago Generally Incompatible Areas



**Chisago Facility
 Generally Incompatible Areas**

- Substation
- Preliminary Development Area
- Facility Control Area
- 2-mile Analysis Buffer
- 2.5-mile Analysis Buffer
- Generally Incompatible Areas

“Generally Incompatible Areas” include: Minnesota Scientific and Natural Areas; Minnesota Wildlife Management Areas; US Fish and Wildlife Service Waterfowl Production Areas; the National Wetland Inventory; and areas classified as open water, developed, forest, and wetland in the National Land Cover Database.



Figure 25: Chisago Prime Farmland and Other Areas

