

Appendix I – Wetland Delineation Report

Blue Lake Generating Station

City of Shakopee, Scott County, Minnesota

Wetland Delineation Report

Prepared for

Carlson McCain

by

Kjolhaug Environmental Services Company, Inc.

(KES Project No. 2024-085)

July 8th, 2024

Blue Lake Generating Station

City of Shakopee, Scott County, Minnesota

Wetland Delineation Report

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Blue Lake Generating Station

City of Shakopee, Scott County, Minnesota

Wetland Delineation Report

1. WETLAND DELINEATION SUMMARY

- The 72.28-acre Blue Lake Generating Station site was inspected on June 5th and June 10th, 2024 for the presence and extent of wetland.
- The National Wetlands Inventory (NWI) map showed one PFO1A/PEM1A wetland within the site boundaries.
- The soil survey showed Marsh and Klossner soils as the hydric soil type mapped within the site boundaries.
- The DNR Public Waters Inventory did not identify any Public Waters, Watercourses, or Wetlands within the site boundaries.
- The National Hydrography Dataset did not identify any surface waters within the site boundaries.
- One (1) wetland was delineated onsite as summarized in **Table 1 below**.

Table 1. Wetlands delineated on the Blue Lake Generating Station site.

Wetland ID	Wetland Type			Dominant Vegetation	Onsite Area
	Circular 39	Cowardin	Eggers and Reed		
Wetland 1	Type 1	PEM1A	Seasonally flooded basin	Reed canary grass	0.10 acres

2. OVERVIEW

The 72.28-acre Blue Lake Generating Station site was inspected on June 5th and June 10th, 2024 for the presence and extent of wetland. The site was located in Sections 11 and 2, Township 115 North, Range 22 West, City of Shakopee, Scott County, Minnesota. The site corresponded to Scott County PIDs 279110070 (“eastern parcel”) (1200 70th Street South; 64.92 acres) and a portion of 279110130 (“western parcel”) (1200 70th Street South; 59.58 acres). The site was located north of US-169 and south of County Highway 101. More specifically, the eastern portion of the site was east of Quarry Lake and 70th Street. The western portion of the site was west of the Blue Lake Electrical Plant and south of Quarry Lake (**Figure 1**).

The site contained a generating station, several electrical towers, a substation, wooded portions, and meadows. The wooded portions contained dirt bike trails associated with Quarry Park to the north. The wooded areas were dominated by boxelder, quaking aspen, pin oak, white oak, and eastern red cedar trees. The understory was comprised of common buckthorn, Tatarian honeysuckle, and prickly ash shrubs. The herbaceous understory consisted of bindweed, wood nettle, Virginia creeper, lamb’s-quarters, hemp, stickseed, ostrich fern, wild ginger, motherwort, and poison ivy. The meadow consisted of species such as Kentucky bluegrass, spiderwort, hoary alyssum, leafy spurge, large beardtongue, prairie junegrass, smooth brome, common yarrow, common mullein, common milkweed, and pennycress.

One (1) wetland was delineated within the site boundaries. The delineated wetland boundaries and existing conditions are shown on **Figure 2**.

Appendix A of this report includes a Joint Application Form for Activities Affecting Water Resources in Minnesota, which is submitted in request for: (1) a wetland boundary and type determination from the City of Shakopee under the Minnesota Wetland Conservation Act (WCA) and (2) concurrence with MnRAM results and applied buffer widths from the City of Shakopee.

3. METHODS

Wetlands were identified using the Routine Determination method described in the Corps of Engineers Wetlands Delineation Manual (Waterways Experiment Station, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) as required under Section 404 of the Clean Water Act and the Minnesota Wetland Conservation Act.

Wetland boundaries were identified as the upper-most extent of wetland that met criteria for hydric soils, hydrophytic vegetation, and wetland hydrology. Wetland-upland boundaries were marked with pin flags that were located with a sub-meter accuracy GPS unit.

Soils, vegetation, and hydrology were documented at a representative location along the wetland-upland boundary. Plant species dominance was estimated based on the percent aerial or basal

coverage visually estimated within a 30-foot radius for trees and vines, a 15-foot radius for the shrub layer, and a 5-foot radius for the herbaceous layer within the community type sampled. Soils were characterized to a minimum depth of 24 inches (unless otherwise noted) using a Munsell Soil Color Book and standard soil texturing methodology. Hydric soil indicators used are from Field Indicators of Hydric Soils in the United States (USDA Natural Resources Conservation Service (NRCS) in cooperation with the National Technical Committee for Hydric Soils, Version 8.2, 2010).

Mapped soils are separated into five classes based on the composition of hydric components and the Hydric Rating by Map Unit color classes utilized on Web Soil Survey. The five classes include Hydric (100 percent hydric components), Predominantly Hydric (66 to 99 percent hydric components), Partially Hydric (33 to 65 percent hydric components), Predominantly Non-Hydric (1 to 32 percent hydric components), and Non-Hydric (less than one percent hydric components).

Plants were identified using standard regional plant keys. Taxonomy and indicator status of plant species was taken from the 2020 National Wetland Plant List (U.S. Army Corps of Engineers 2020. National Wetland Plant List, version 3.3, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH).

4. RESULTS

4.1 Review of NWI, Soils, Public Waters, and NHD Information

The National Wetlands Inventory (NWI) (Minnesota Geospatial Commons 2009-2014 and U.S. Fish and Wildlife Service) showed one PFO1A/PEM1A wetland within the site boundaries (**Figure 3**).

The Soil Survey (USDA NRCS 2015) showed Marsh and Klossner soils as the hydric soil types mapped within the site boundaries. Soil types mapped on the site are listed in **Table 2** and a map showing soil types is included as **Figure 4**.

Table 2. Soil types mapped on the Blue Lake Generating Station site.

Symbol	Soil Name	Acres	% of Area	% Hydric	Hydric Category
ZaC2	Sartell fine sand, 6 to 12 percent slopes, moderately eroded	52.3	72.3%	0%	Non-Hydric
Ia	Isanti fine sandy loam	5	7.0%	92%	Predominantly Hydric
Dg	Dune land	4.7	6.5%	0%	Non-Hydric
PaA	Klossner muck, 0 to 1 percent slopes	3.6	5.0%	100%	Hydric
ZaB	Sartell fine sand, 2 to 6 percent slopes	3.1	4.3%	5%	Predominantly Non-Hydric
Ma	Marsh	2.5	3.5%	100%	Hydric
INT	Water, intermittent	1.1	1.5%	0%	Non-Hydric

The Minnesota DNR Public Waters Inventory (Minnesota Department of Natural Resources 2015) did not identify any Public Waters, Watercourses, or Wetland within 2,000 feet of the site boundaries (**Figure 5**).

The National Hydrography Dataset (U.S. Geological Survey 2015) did not identify any surface waters within the site boundaries (**Figure 6**).

4.2 Wetland Determinations and Delineations

Potential wetlands were evaluated during field observations on June 5th and June 10th, 2024. One (1) wetland was identified and delineated on the property (**Figure 2**). Corresponding data forms are included in **Appendix B**. The following descriptions of the wetland and the adjacent upland reflect conditions observed at the time of the field visits. During the site visits, herbaceous vegetation was actively growing. Precipitation conditions were atypical (wet) based on the gridded database and within the normal range based on the 30-day rolling precipitation total for both site visits. In the week leading up to the June 5th site visit 1.86” of precipitation fell. In the week leading up to the June 10th site visit 1.24” of precipitation fell (**Appendix C**).

Wetland 1 was a Type 1 (PEM1A) seasonally flooded basin dominated by reed canary grass and lesser amounts of stinging nettle. One inch of ponding was observed at the wetland sample point location (**SP1-1W; Figure 2**) and pockets of inundation (~1-3”) were observed throughout the basin. Additionally, secondary indicators of wetland hydrology included geomorphic position and the FAC-Neutral Test.

The adjacent upland at the upland sample location was dominated by common buckthorn shrubs with lesser amounts of quaking aspen trees, wood nettle, Virginia creeper, and wild ginger. Additional species observed throughout the upland included common mullein, motherwort, creeping Charlie, common milkweed, and quaking aspen trees. No primary or secondary hydrology indicators were observed on the upland.

The wetland boundary corresponded to slight changes in topography and changes from a wetland plant community to an upland plant community. Wetland 1 was shown as a PFO1A/PEM1A wetland on the NWI map and was partially located within a mapped hydric soil type (Klossner Muck) on the soil survey. No inlets or outlets were observed.

4.3 Other Areas

Area A (Figure 2) was located in a wooded outcrop in the southern half of the eastern parcel. This depressional area did not contain a hydrophytic plant community. The area was comprised of black cherry, white oak, bur oak, quaking aspen, and eastern red cedar trees, smooth sumac, prickly ash, Tatarian honeysuckle, and common buckthorn shrubs. The understory was comprised of motherwort, garlic mustard, Virginia creeper, Virginia stickseed, and wood nettle. A sample point (**SP-A; Figure 2**) taken within Area A is included in **Appendix B**. Hydric soils were observed within the sample borehole. No free water or saturation was observed within 40 inches of the soil surface. Area A was determined to be non-wetland based on the lack of hydrology and hydrophytic vegetation.

Area B (Figure 2) was a depression at the lowest elevation in the western parcel. This depressional area did not contain a hydrophytic plant community. The area was comprised of white oak and bur oak trees, smooth sumac, prickly ash, and common buckthorn shrubs. The understory was comprised of motherwort, Virginia creeper, and Virginia stickseed. The majority of the western parcel was a man-made dirt bike path. Area B was determined to be non-wetland based on the lack of hydrophytic vegetation.

Area C (Figure 2) was south/southwest of Wetland 1. This depressional area did not contain a hydrophytic plant community. The area was comprised of quaking aspen trees, common buckthorn shrubs, motherwort, creeping Charlie, Virginia creeper, common mullein and wild ginger. Area C was determined to be non-wetland based on the lack of hydrophytic vegetation.

No other areas with hydrophytic vegetation or wetland hydrology were observed on the site. No other areas were shown as hydric soil on the soil survey or as wetland on the NWI map.

4.4 MnRAM Analysis Results

A MnRAM analysis was completed for the delineated wetland to determine applied buffer widths. MnRAM output results are included in **Appendix D**. A summary of MnRAM results plus City applied buffer width is provided in **Table 3**.

Table 3. MnRAM Analysis Results – Blue Lake Generating Station

Function/Type/Classification	Wetland 1
Wetland Type	Type 1
Vegetative Diversity/Integrity	Low
Hydrology - Characteristic	High
Flood Attenuation	High
Water Quality--Downstream	High
Water Quality--Wetland	Medium
Shoreline Protection	N/A
Wildlife Habitat Structure	Medium
Fish Habitat	N/A
Amphibian Habitat	N/A
Aesthetics/Recreation/Education/Cultural	Low
Highest Rated Function	Medium for Wildlife Habitat Structure
MNRAM Management Classification	Manage 2/Medium
City Management Classification & Associated Buffer Width	35-ft Average; 25-ft Minimum

4.5 Request for Wetland Boundary and Jurisdictional Determination

Appendix A of this report includes a Joint Application Form for Activities Affecting Water Resources in Minnesota, which is submitted in request for: (1) a wetland boundary and type determination from the City of Shakopee under the Minnesota Wetland Conservation Act

(WCA) and (2) concurrence with MnRAM results and applied buffer widths from the City of Shakopee.

5. CERTIFICATION OF DELINEATION

The procedures utilized in the described delineation are based on the U.S. Army Corps of Engineers 1987 Wetlands Delineation Manual as required under Section 404 of the Clean Water Act and the Minnesota Wetland Conservation Act. This wetland delineation and report were prepared in compliance with the regulatory standards in place at the time the work was performed. Site boundaries indicated on figures within this report are approximate and do not constitute an official survey product.

Delineation completed by: Mary Clare McAleer, Wetland/Soil Specialist
Minnesota Certified Wetland Professional In-Training No. 5466

Faith Holaday, Wetland/Soil Specialist
Minnesota Certified Wetland Professional In-Training No. 5526

Report prepared by: Mary Clare McAleer, Wetland/Soil Specialist
Minnesota Certified Wetland Professional In-Training No. 5466

Report reviewed by:  _____ Date: July 8th, 2024
Mark Kjolhaug, Professional Wetland Scientist No. 000845

Blue Lake Generating Station Shakopee, Minnesota

Wetland Delineation Report

Figures

1. Site Location
2. Existing Conditions
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4. Soil Survey
5. DNR Protected Waters Inventory
6. National Hydrography Dataset



Figure 1 - Site Location



KJOLHAUG ENVIRONMENTAL SERVICES COMPANY
Source: OpenStreets Map

N



0 2,000 Feet




Blue Lake Generating Station (KES 2024-085)
Shakopee, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.



Figure 2 - Existing Conditions (2020 Twin Cities Metro Photo)




KJOLHAUG ENVIRONMENTAL SERVICES COMPANY
Source: MNGEO Spatial Commons

Blue Lake Generating Station (KES 2024-085)
Shakopee, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.




Figure 3 - National Wetlands Inventory




KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USFWS

N



0 2,000 Feet



Blue Lake Generating Station (KES 2024-085)
Shakopee, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

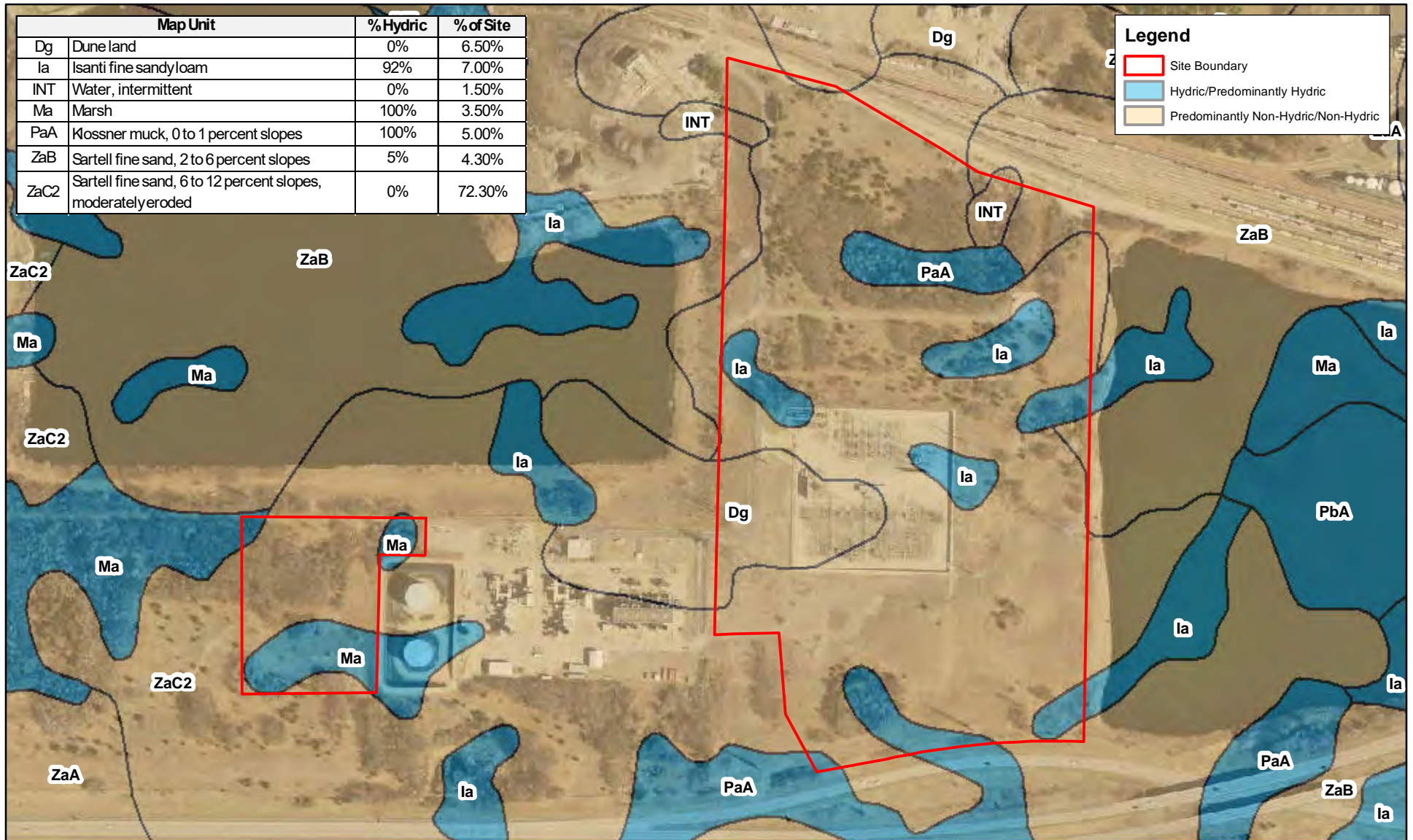




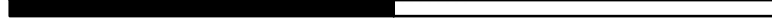
Figure 4 - Soil Survey



N



0



2,000

Blue Lake Generating Station (KES 2024-085)
Shakopee, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY
Source: MNGEO Spatial Commons, USDA, NRCS



Figure 5 - DNR Public Waters Inventory



KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, MN DNR

N



0 2,000 Feet



Blue Lake Generating Station (KES 2024-085)
Shakopee, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.



Figure 6 - National Hydrography Dataset



KJOLHAUG ENVIRONMENTAL SERVICES COMPANY

Source: MNGEO Spatial Commons, USGS

N



0 2,000



Feet

Blue Lake Generating Station (KES 2024-085)
Shakopee, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

**Blue Lake Generating Station
Shakopee, Minnesota**

Wetland Delineation Report

APPENDIX A

**Joint Application Form for Activities
Affecting Water Resources in Minnesota**

PART ONE: Applicant Information

If applicant is an entity (company, government entity, partnership, etc.), an authorized contact person must be identified. If the applicant is using an agent (consultant, lawyer, or other third party) and has authorized them to act on their behalf, the agent's contact information must also be provided.

Applicant/Landowner Name: Northern States Power Company-Minnesota, an Xcel Energy Com

Mailing Address: 414 Nicollet Mall, GO-2

Phone: 612-216-8185

E-mail Address: James.j.bodensteiner@xcelenergy.com

Authorized Contact (do not complete if same as above): Carlson McCain; c/o Danny Margarit

Mailing Address: 15650 36th Avenue North, Suite 110, Plymouth, MN 55446

Phone: (218) 481-8845

E-mail Address: dmargarit@carlsonmccain.com

Agent Name: Kjolhaug Environmental Services; c/o Mary Clare McAleer

Mailing Address: 2500 Shadywood Road Excelsior, MN 55331

Phone: (224) 456-7944

E-mail Address: maryclare@kjolhaugenv.com

PART TWO: Site Location Information

County: Scott

City/Township: Shakopee

Parcel ID and/or Address: Portions of 279110070 and 279110130 (1200 70th Street S.)

Legal Description (Section, Township, Range): S: 11/2, T: 115N, R: 22W

Lat/Long (decimal degrees):

Attach a map showing the location of the site in relation to local streets, roads, highways.

Approximate size of site (acres) or if a linear project, length (feet): 72.28 acres

If you know that your proposal will require an individual Permit from the U.S. Army Corps of Engineers, you must provide the names and addresses of all property owners adjacent to the project site. This information may be provided by attaching a list to your application or by using block 25 of the Application for Department of the Army permit which can be obtained at:

http://www.mvp.usace.army.mil/Portals/57/docs/regulatory/RegulatoryDocs/engform_4345_2012oct.pdf

PART THREE: General Project/Site Information

If this application is related to a delineation approval, exemption determination, jurisdictional determination, or other correspondence submitted *prior to* this application then describe that here and provide the Corps of Engineers project number.

Describe the project that is being proposed, the project purpose and need, and schedule for implementation and completion. The project description must fully describe the nature and scope of the proposed activity including a description of all project elements that effect aquatic resources (wetland, lake, tributary, etc.) and must also include plans and cross section or profile drawings showing the location, character, and dimensions of all proposed activities and aquatic resource impacts.

Wetland delineation concurrence/approval.

PART FOUR: Aquatic Resource Impact¹ Summary

If your proposed project involves a direct or indirect impact to an aquatic resource (wetland, lake, tributary, etc.) identify each impact in the table below. Include all anticipated impacts, including those expected to be temporary. Attach an overhead view map, aerial photo, and/or drawing showing all of the aquatic resources in the project area and the location(s) of the proposed impacts. Label each aquatic resource on the map with a reference number or letter and identify the impacts in the following table.

Aquatic Resource ID (as noted on overhead view)	Aquatic Resource Type (wetland, lake, tributary etc.)	Type of Impact (fill, excavate, drain, or remove vegetation)	Duration of Impact Permanent (P) or Temporary (T) ¹	Size of Impact ²	Overall Size of Aquatic Resource ³	Existing Plant Community Type(s) in Impact Area ⁴	County, Major Watershed #, and Bank Service Area # of Impact Area ⁵

¹If impacts are temporary; enter the duration of the impacts in days next to the "T". For example, a project with a temporary access fill that would be removed after 220 days would be entered "T (220)".

²Impacts less than 0.01 acre should be reported in square feet. Impacts 0.01 acre or greater should be reported as acres and rounded to the nearest 0.01 acre. Tributary impacts must be reported in linear feet of impact and an area of impact by indicating first the linear feet of impact along the flowline of the stream followed by the area impact in parentheses). For example, a project that impacts 50 feet of a stream that is 6 feet wide would be reported as 50 ft (300 square feet).

³This is generally only applicable if you are applying for a de minimis exemption under MN Rules 8420.0420 Subp. 8, otherwise enter "N/A".

⁴Use *Wetland Plants and Plant Community Types of Minnesota and Wisconsin* 3rd Ed. as modified in MN Rules 8420.0405 Subp. 2.

⁵Refer to Major Watershed and Bank Service Area maps in MN Rules 8420.0522 Subp. 7.

If any of the above identified impacts have already occurred, identify which impacts they are and the circumstances associated with each:

PART FIVE: Applicant Signature

Check here if you are requesting a pre-application consultation with the Corps and LGU based on the information you have provided. Regulatory entities will not initiate a formal application review if this box is checked.

By signature below, I attest that the information in this application is complete and accurate. I further attest that I possess the authority to undertake the work described herein.

Signature:  Date: July 8, 2024

I hereby authorize Kjolhaug Environmental Services to act on my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this application.

¹ The term "impact" as used in this joint application form is a generic term used for disclosure purposes to identify activities that may require approval from one or more regulatory agencies. For purposes of this form it is not meant to indicate whether or not those activities may require mitigation/replacement.

Attachment A

Request for Delineation Review, Wetland Type Determination, or Jurisdictional Determination

By submission of the enclosed wetland delineation report, I am requesting that the U.S. Army Corps of Engineers, St. Paul District (Corps) and/or the Wetland Conservation Act Local Government Unit (LGU) provide me with the following (check all that apply):

Wetland Type Confirmation

Delineation Concurrence. Concurrence with a delineation is a written notification from the Corps and a decision from the LGU concurring, not concurring, or commenting on the boundaries of the aquatic resources delineated on the property. Delineation concurrences are generally valid for five years unless site conditions change. Under this request alone, the Corps will not address the jurisdictional status of the aquatic resources on the property, only the boundaries of the resources within the review area (including wetlands, tributaries, lakes, etc.).

Preliminary Jurisdictional Determination. A preliminary jurisdictional determination (PJD) is a non-binding written indication from the Corps that waters, including wetlands, identified on a parcel may be waters of the United States. For purposes of computation of impacts and compensatory mitigation requirements, a permit decision made on the basis of a PJD will treat all waters and wetlands in the review area as if they are jurisdictional waters of the U.S. PJDs are advisory in nature and may not be appealed.

Approved Jurisdictional Determination. An approved jurisdictional determination (AJD) is an official Corps determination that jurisdictional waters of the United States are either present or absent on the property. AJDs can generally be relied upon by the affected party for five years. An AJD may be appealed through the Corps administrative appeal process.

In order for the Corps and LGU to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the *Guidelines for Submitting Wetland Delineations in Minnesota* (2013).

<http://www.mvp.usace.army.mil/Missions/Regulatory/DelineationJDGuidance.aspx>

**Blue Lake Generating Station
Shakopee, Minnesota**

Wetland Delineation Report

APPENDIX B

Wetland Delineation Data Forms

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Blue Lake Generating Station City/County: Shakopee/Scott Sampling Date: 6/5/2024
 Applicant/Owner: Carlson McCain State: MN Sampling Point: SP1-1UP
 Investigator(s): M. McAleer and F. Holaday Section, Township, Range: S: 11, T: 115N, R: 22W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear
 Slope (%): 2-5% Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name Water, intermittent NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? Yes
 (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	

Remarks: (Explain alternative procedures here or in a separate report.)
 Climatic conditions are atypical (wet) based on the gridded database.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet	
1 _____	_____	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across all Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>75.00%</u> (A/B)	
2 _____	_____	_____	_____		
3 _____	_____	_____	_____		
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
<u>0</u> = Total Cover				Prevalence Index Worksheet	
Sapling/Shrub stratum (Plot size: <u>15 ft.</u>)					
1 <u>Rhamnus cathartica</u>	<u>30</u>	<u>Y</u>	<u>FAC</u>		Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>70</u> x 3 = <u>210</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>110</u> (A) <u>330</u> (B) Prevalence Index = B/A = <u>3.00</u>
2 _____	_____	_____	_____		
3 _____	_____	_____	_____		
4 _____	_____	_____	_____		
5 _____	_____	_____	_____		
<u>30</u> = Total Cover					
Herb stratum (Plot size: <u>5 ft.</u>)					
1 <u>Rhamnus cathartica</u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: _____ Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
2 <u>Laportea canadensis</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>		
3 <u>Asarum canadense</u>	<u>10</u>	<u>N</u>	<u>FACU</u>		
4 <u>Solidago canadensis</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
5 _____	_____	_____	_____		
6 _____	_____	_____	_____		
7 _____	_____	_____	_____		
8 _____	_____	_____	_____		
9 _____	_____	_____	_____		
10 _____	_____	_____	_____		
<u>75</u> = Total Cover					
Woody vine stratum (Plot size: <u>30 ft.</u>)					
1 <u>Parthenocissus quinquefolia</u>	<u>5</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic vegetation present? <u>Y</u>	
2 _____	_____	_____	_____		
<u>5</u> = Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)
 All but one species FAC or drier.

SOIL

Sampling Point: SP1-1UP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 2/2	100					Loamy Sand	
8-11	10YR 4/2	100					Loamy Sand	
11-17	10YR 5/2	80					Sand	
	10YR 2/2	20					Loam	
17-20	10YR 5/2	95	10YR 5/8	5	C	M	Sand	
20-24	10YR 3/2	80	10YR 5/2	15	D	M	Sand	
			10YR 5/8	5	C	M		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p>Indicators for Problematic Hydric Soils:</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
--	---	---

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p>Restrictive Layer (if observed):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric soil present? <u> N </u></p>
--	--

Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
---	---

<p>Field Observations:</p> <p>Surface water present? Yes _____ No <u> X </u> Depth (inches): _____</p> <p>Water table present? Yes _____ No <u> X </u> Depth (inches): _____</p> <p>Saturation present? Yes _____ No <u> X </u> Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p>Indicators of wetland hydrology present? <u> N </u></p>
---	---

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No water to 24 inches during a wetter than normal period.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Blue Lake Generating Station City/County: Shakopee/Scott Sampling Date: 6/5/2024
 Applicant/Owner: Carlson McCain State: MN Sampling Point: SP1-1W
 Investigator(s): M. McAleer and F. Holaday Section, Township, Range: S: 11, T: 115N, R: 22W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0-2% Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name Water, intermittent NWI Classification: PEM1A/PFO1A

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
If yes, optional wetland site ID: <u>Wetland 1</u>	

Remarks: (Explain alternative procedures here or in a separate report.)
 Climatic conditions are atypical (wet) based on the gridded database.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 _____	_____	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across all Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>105</u> x 2 = <u>210</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>105</u> (A) <u>210</u> (B) Prevalence Index = B/A = <u>2.00</u>
Sapling/Shrub stratum (Plot size: <u>15 ft.</u>)				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft.</u>)				
1 <u>Phalaris arundinacea</u>	<u>100</u>	<u>Y</u>	<u>FACW</u>	
2 <u>Urtica dioica</u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>105</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft.</u>)				
1 _____	_____	_____	_____	
2 _____	_____	_____	_____	
<u>0</u> = Total Cover				

Hydrophytic Vegetation Indicators:
 _____ Rapid test for hydrophytic vegetation
 Dominance test is >50%
 Prevalence index is ≤3.0*
 _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
 _____ Problematic hydrophytic vegetation* (explain)
 *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: SP1-1W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 2/1	100					Sandy Loam	
6-22	10YR 5/1	60	10YR 2/1	33	C	M	Loamy Sand	
			10YR 4/6	7	C	M	Loamy Sand	
22-24	10YR 2/1	85	7.5YR 5/8	15	C	M	Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input checked="" type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p>Indicators for Problematic Hydric Soils:</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR K, L, R)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR K, L)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12) (LRR K, L, R)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (explain in remarks)</p>
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*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

<p>Restrictive Layer (if observed):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric soil present? <u>Y</u></p>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
<p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input checked="" type="checkbox"/> Surface Water (A1)</p> <p><input checked="" type="checkbox"/> High Water Table (A2)</p> <p><input checked="" type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>

<p>Field Observations:</p> <p>Surface water present? Yes <u>X</u> No _____ Depth (inches): <u>1</u></p> <p>Water table present? Yes <u>X</u> No _____ Depth (inches): <u>0</u></p> <p>Saturation present? Yes <u>X</u> No _____ Depth (inches): <u>0</u></p> <p>(includes capillary fringe)</p>	<p>Indicators of wetland hydrology present? <u>Y</u></p>
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Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
1 inch of ponded water at sample point.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site Blue Lake Generating Station City/County: Shakopee/Scott Sampling Date: 6/10/2024
 Applicant/Owner: Carlson McCain State: MN Sampling Point: SP-A
 Investigator(s): M. McAleer and F. Holaday Section, Township, Range: S: 11, T:115N, R:22W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0-2% Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name Klossner muck, 0 to 1 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? N (If no, explain in remarks)
 Are vegetation _____, soil _____, or hydrology _____ significantly disturbed? Are "normal circumstances" present? Yes
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? Yes
 (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>N</u>	
If yes, optional wetland site ID: _____	

Remarks: (Explain alternative procedures here or in a separate report.)
 Climatic conditions are atypical (wet) based on the gridded database.

VEGETATION -- Use scientific names of plants.

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet
1 <u>Prunus serotina</u>	15	Y	FACU	Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)
2 _____	_____	_____	_____	Total Number of Dominant Species Across all Strata: <u>5</u> (B)
3 _____	_____	_____	_____	Percent of Dominant Species that are OBL, FACW, or FAC: <u>40.00%</u> (A/B)
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>15</u> = Total Cover				
Sapling/Shrub stratum (Plot size: <u>15 ft.</u>)				
1 _____	_____	_____	_____	Prevalence Index Worksheet Total % Cover of: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>50</u> x 3 = <u>150</u> FACU species <u>40</u> x 4 = <u>160</u> UPL species <u>25</u> x 5 = <u>125</u> Column totals <u>120</u> (A) <u>445</u> (B) Prevalence Index = B/A = <u>3.71</u>
2 _____	_____	_____	_____	
3 _____	_____	_____	_____	
4 _____	_____	_____	_____	
5 _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb stratum (Plot size: <u>5 ft.</u>)				
1 <u>Alliaria petiolata</u>	40	Y	FAC	Hydrophytic Vegetation Indicators: ____ Rapid test for hydrophytic vegetation ____ Dominance test is >50% ____ Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) ____ Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2 <u>Ageratina altissima</u>	25	Y	FACU	
3 <u>Leonurus cardiaca</u>	25	Y	UPL	
4 <u>Rhamnus cathartica</u>	10	N	FAC	
5 _____	_____	_____	_____	
6 _____	_____	_____	_____	
7 _____	_____	_____	_____	
8 _____	_____	_____	_____	
9 _____	_____	_____	_____	
10 _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody vine stratum (Plot size: <u>30 ft.</u>)				
1 <u>Vitis riparia</u>	5	Y	FACW	Hydrophytic vegetation present? <u>N</u>
2 _____	_____	_____	_____	
<u>5</u> = Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

SOIL

Sampling Point: SP-A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-4	10YR 3/1	100					Sandy Loam	
4-20	10YR 3/1	70	5YR 5/8	20	C	M	Sandy Loam	
			10YR 4/6	10	C	M		
20-40	10YR 4/2	60	10YR 4/4	10	C	M	Sand	
	10YR 2/1	30						

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

- Coast Prairie Redox (A16) (LRR K, L, R)
- Dark Surface (S7) (LRR K, L)
- Iron-Manganese Masses (F12) (LRR K, L, R)
- Very Shallow Dark Surface (TF12)
- Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric soil present? Y

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface water present? Yes _____ No X Depth (inches): _____
 Water table present? Yes _____ No X Depth (inches): _____
 Saturation present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No free water or saturation observed within 40 inches of the soil surface.

**Blue Lake Generating Station
Shakopee, Minnesota**

Wetland Delineation Report

APPENDIX C

Precipitation Data

Shakopee, Minnesota: Precipitation Summary

Source: Minnesota Climatology Working Group

Site Visit: June 5th and 10th, 2024

Monthly Totals: 2024

Target: T 115N R 22W S 11/2, Lat: 44.78307 Lon: -93.42900

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mon year cc tttN rrw ss nnnn oooooooo pre
Jan 2024 27 116N 22W 28 NWS FLYING C .02
Feb 2024 27 116N 22W 28 NWS FLYING C .49
Mar 2024 27 116N 22W 28 NWS FLYING C 1.50
Apr 2024 27 116N 22W 28 NWS FLYING C 4.12
May 2024 27 116N 22W 28 NWS FLYING C 4.50
Jun 2024 27 116N 22W 28 NWS FLYING C 7.76
Jul 2024 66 112N 22W 35 BYRG 1.28
    
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Site Visit:
June 5th and 10th,
2024

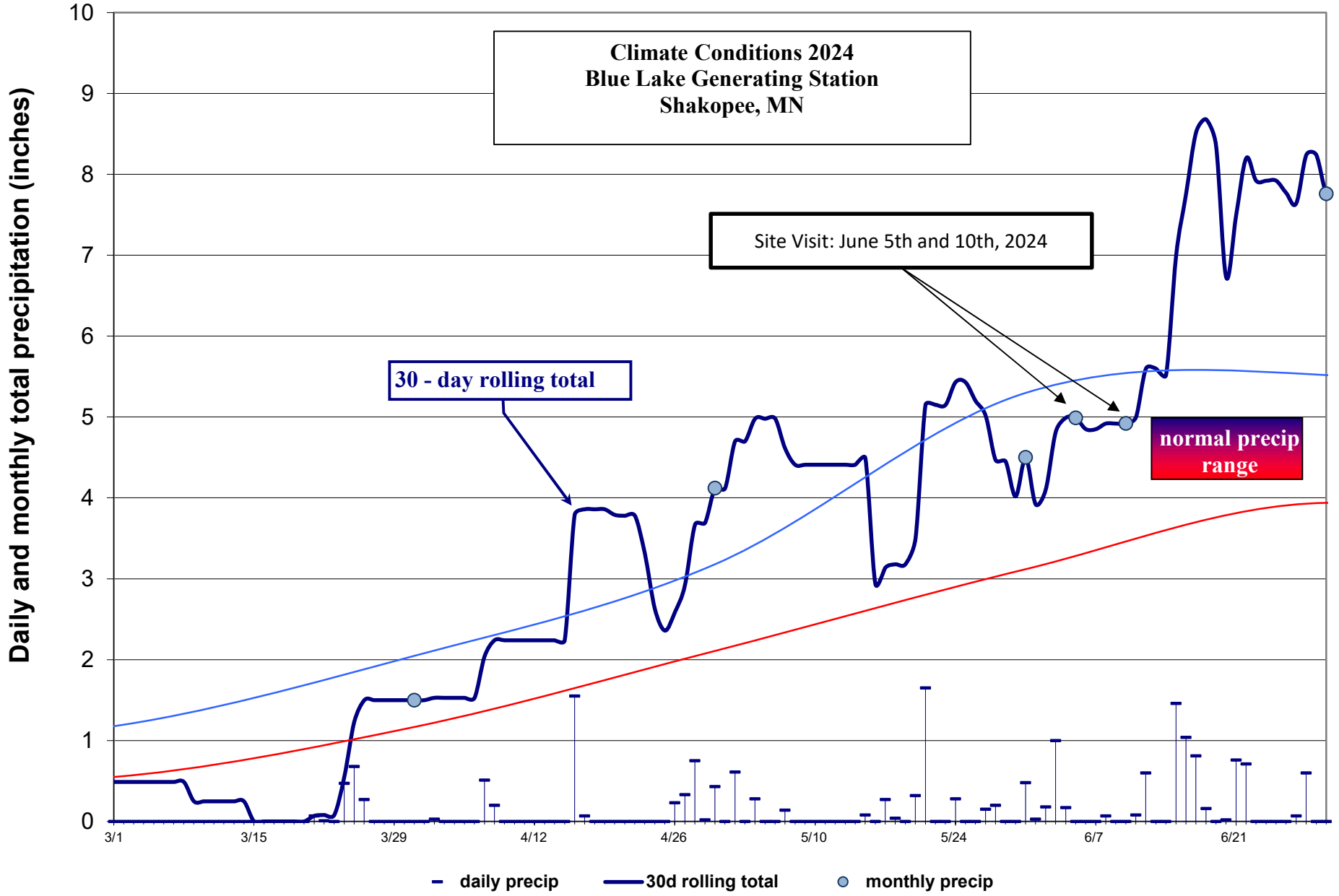
March/April/May/June Daily Records

Date	Precip.	Date	Precip.	Date	Precip.	Date	Precip.
Mar 1, 2024	0	Apr 1, 2024	T	May 1, 2024	0	Jun 1, 2024	.03
Mar 2, 2024	0	Apr 2, 2024	.03	May 2, 2024	.61	Jun 2, 2024	.18
Mar 3, 2024	0	Apr 3, 2024	0	May 3, 2024	0	Jun 3, 2024	1.00
Mar 4, 2024	0	Apr 4, 2024	0	May 4, 2024	.28	Jun 4, 2024	.17
Mar 5, 2024	0	Apr 5, 2024	0	May 5, 2024	0	Jun 5, 2024	T
Mar 6, 2024	0	Apr 6, 2024	0	May 6, 2024	0	Jun 6, 2024	0
Mar 7, 2024	0	Apr 7, 2024	.51	May 7, 2024	.14	Jun 7, 2024	0
Mar 8, 2024	0	Apr 8, 2024	.20	May 8, 2024	0	Jun 8, 2024	.07
Mar 9, 2024	0	Apr 9, 2024	T	May 9, 2024	0	Jun 9, 2024	0
Mar 10, 2024	0	Apr 10, 2024	0	May 10, 2024	T	Jun 10, 2024	0
Mar 11, 2024	0	Apr 11, 2024	T	May 11, 2024	0	Jun 11, 2024	.08
Mar 12, 2024	0	Apr 12, 2024	0	May 12, 2024	0	Jun 12, 2024	.60
Mar 13, 2024	0	Apr 13, 2024	0	May 13, 2024	0	Jun 13, 2024	0
Mar 14, 2024	0	Apr 14, 2024	0	May 14, 2024	0	Jun 14, 2024	0
Mar 15, 2024	0	Apr 15, 2024	T	May 15, 2024	.08	Jun 15, 2024	1.46
Mar 16, 2024	0	Apr 16, 2024	1.55	May 16, 2024	0	Jun 16, 2024	1.04
Mar 17, 2024	T	Apr 17, 2024	.07	May 17, 2024	.27	Jun 17, 2024	.81
Mar 18, 2024	0	Apr 18, 2024	0	May 18, 2024	.04	Jun 18, 2024	.16
Mar 19, 2024	0	Apr 19, 2024	T	May 19, 2024	T	Jun 19, 2024	0
Mar 20, 2024	0	Apr 20, 2024	T	May 20, 2024	.32	Jun 20, 2024	.02
Mar 21, 2024	.07	Apr 21, 2024	0	May 21, 2024	1.65	Jun 21, 2024	.76
Mar 22, 2024	.01	Apr 22, 2024	T	May 22, 2024	0	Jun 22, 2024	.71
Mar 23, 2024	T	Apr 23, 2024	T	May 23, 2024	0	Jun 23, 2024	0
Mar 24, 2024	.47	Apr 24, 2024	0	May 24, 2024	.28	Jun 24, 2024	0
Mar 25, 2024	.68	Apr 25, 2024	0	May 25, 2024	T	Jun 25, 2024	0
Mar 26, 2024	.27	Apr 26, 2024	.23	May 26, 2024	0	Jun 26, 2024	0
Mar 27, 2024	0	Apr 27, 2024	.33	May 27, 2024	.15	Jun 27, 2024	.07
Mar 28, 2024	0	Apr 28, 2024	.75	May 28, 2024	.20	Jun 28, 2024	.60
Mar 29, 2024	0	Apr 29, 2024	.02	May 29, 2024	0	Jun 29, 2024	0
Mar 30, 2024	0	Apr 30, 2024	.43	May 30, 2024	0	Jun 30, 2024	0
Mar 31, 2024	0			May 31, 2024	.48		

1991-2020 Summary Statistics

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	WARM	ANN	WAT
30%	0.61	0.54	1.17	2.11	3.12	3.94	3.25	2.91	1.72	1.50	0.94	0.73	18.54	31.32	30.78
70%	1.03	1.16	2.05	3.18	5.30	5.52	4.91	6.22	4.44	3.62	1.67	1.47	23.92	35.76	35.67
mean	0.89	0.89	1.69	2.90	4.38	4.83	4.20	4.79	3.34	2.73	1.58	1.22	21.54	33.44	33.39

**Climate Conditions 2024
Blue Lake Generating Station
Shakopee, MN**



Site Visit: June 5th and 10th, 2024

30 - day rolling total

normal precip range

- daily precip — 30d rolling total ● monthly precip

Minnesota State Climatology Office

State Climatology Office - DNR Division of Ecological and Water Resources

[home](#) | [current conditions](#) | [journal](#) | [past data](#) | [summaries](#) | [agriculture](#) | [other sites](#) | [about us](#) 

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: **Scott** township number: **115N**
 township name: **unnamed** range number: **22W**
 nearest community: **Barden** section number: **11**

Aerial photograph or site visit date:

Wednesday, June 5, 2024

Score using 1991-2020 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: May 2024	second prior month: April 2024	third prior month: March 2024
estimated precipitation total for this location:	4.50	4.06R	2.35R
there is a 30% chance this location will have less than:	3.12	2.11	1.17
there is a 30% chance this location will have more than:	5.30	3.18	2.05
type of month: dry normal wet	normal	wet	wet
monthly score	3 * 2 = 6	2 * 3 = 6	1 * 3 = 3
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	Wet (15)		

Other Resources:

- [retrieve daily precipitation data](#)
- [view radar-based precipitation estimates](#)
- [view weekly precipitation maps](#)
- [Evaluating Antecedent Precipitation Conditions](#) (BWSR)

**Blue Lake Generating Station
Shakopee, Minnesota**

Wetland Delineation Report

APPENDIX D

MnRAM Analysis Results

MNRAM 3.2 Wetland Assessment Data Form Page 1

	Date	Wetland name / ID Wetland 1	Wetland name / ID	Wetland name / ID	Wetland name / ID								
	Special Features (from list, p.2--enter letter/s)	-	-	-	-								
#1	Community Number (circle each community which represents at least 10% of the wetland)	3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B	3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B	3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B	3A, 3B, 4A, 4B, 7A, 7B, 8A, 8B, 10A, 13A, 13B, 12B, 14A, 15A, 15B, 16A, 16B								
#2 & #3	~ Describe each community type individually below ~		~ Describe each community type individually below ~										
Plant Community #1	Community Type (wet meadow, marsh)	16B Seasonally Flooded Basin	-	-	-								
	Community Proportion (% of total)	100%											
	Dominant Vegetation / Cover Class												
	Invasive/exotic Vegetation / Cover Class												
	Community Quality (E, H, M, L)	L 0.1	0	0	0								
Plant Community #2	Community Type (wet meadow, marsh)	-	-	-	-								
	Community Proportion (% of total)												
	Dominant Vegetation / Cover Class												
	Invasive/exotic Vegetation / Cover Class												
	Community Quality (E, H, M, L)	0	0	0	0								
Plant Community #3	Community Type (wet meadow, marsh)	-	-	-	-								
	Community Proportion (% of total)												
	Dominant Vegetation / Cover Class												
	Invasive/exotic Vegetation / Cover Class												
	Community Quality (E, H, M, L)	0	0	0	0								
Plant Community #4*	Community Type (wet meadow, marsh)	-	-	-	-								
	Community Proportion (% of total)												
	Dominant Vegetation / Cover Class												
	Invasive/exotic Vegetation / Cover Class												
	Community Quality (E, H, M, L)	0	0	0	0								
	Circular 39 Types (primary <TAB> others)												
	Cowardin Types												
	Photo ID												
	Highest rated community veg. div./integ:	0.1 Low	0 -	0 -	0 -								
	Average vegetative diversity/integrity:	0.10 Low	- -	- -	- -								
	Weighted Average veg. diversity/integrity:	0.10 Low	0.00 -	0.00 -	### -								
#4	Listed, rare, special plant species?	n Y N	Y N	Y N	Y N								
#5	Rare community or habitat?	n Y N	Y N	Y N	Y N								
#6	Pre-European-settlement conditions?	n Y N	Y N	Y N	Y N								
Floodplain Forest [1A, 2A, 3A] * Hardwood Swamp [3B] * Coniferous Bog [2A, 4B] * Coniferous Swamp [4B] * Open Bog [1B, 5A, 5B, 6A, 7A, 9A, 10A] * Calcareous Fen [7B, 11B, 14A] * Shrub Swamp [6B] * Alder Thicket [8A] * Shrub-carr [8B] * Sedge Meadow [10B, 11A, 12A, 13A] * Shallow Marsh [13B] * Deep Marsh [12B] * Wet to Wet-Mesic Prairie [14B, 15A] * Fresh (Wet) Meadow [15B] * Shallow, Open Water [9B, 16A] * Seasonally Flooded Basin [16B]					<table border="1"> <thead> <tr> <th>Cover Class Range</th> <th>Class</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0 -</td> </tr> <tr> <td>2</td> <td>3 -</td> </tr> <tr> <td>3</td> <td>10%</td> </tr> </tbody> </table>	Cover Class Range	Class	1	0 -	2	3 -	3	10%
Cover Class Range	Class												
1	0 -												
2	3 -												
3	10%												

*If there are more than four plant community types, use the next column over to enter the rest and do not rely on the automatic average

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
1	MnRAM 3.2 Digital Worksheet, Side 2														
2															
3															
4			Question Description	User entry	Rating										
5		1	Veg. Table 2, Option 4		0.10										
6			TOTAL VEG Rating	0.1	L										
7		4	Listed, rare, special plant species?	n	next										
8		5	Rare community or habitat?	n	next										
9		6	Pre-European-settlement conditions?	n	next										
10		7	hydrogeo & topo		#N/A										
11		8	Water depth (inches)												
12			Water depth (% inundation)												
13		9	Local watershed/immedita drainage (acres)												
14		10	Existing wetland size	0.1											
15		11	SOILS: Up/Wetland (survey classification + site)												
16		12	Outlet characteristics for flood retention	A	1										
17		13	Outlet characteristics for hydrologic regime	A	1										
18		14	Dominant upland land use (within 500 ft)	C	0.1	1									
19		15	Soil condition (wetland)	A	1										
20		16	Vegetation (% cover)	100%	H	1									
21		17	Emerg. veg. flood resistance	N/A	0										
22		18	Sediment delivery	A	1										
23		19	Upland soils (based on soil group)	A	0.1										
24		20	Stormwater runoff pretreatment & detention	C	0.1	1									
25		21	Subwatershed wetland density	B	0.5										
26		22	Channels/sheet flow	A	1										
27		23	Adjacent naturalized buffer average width (feet)	200	H	WQ	1	M		0.5					
28		24	Adjacent Area Management: % Full	100%	1	1	1								
29			adjacent area mgmt: % Manicured	0%	0										
30			adjacent area mgmt: % Bare	0%	0										
31		25	Adjacent Area Diversity & Structure: % Native	0%	0	1	0.5								
32			adjacent area diversity: % Mixed	100%	0.5										
33			adjacent area diversity: % Sparse/Inv./Exotic	0%	0										
34		26	Adjacent Area Slope: % Gentle	100%	1	1	1								
35			adjacent area slope: % Moderate	0%	0										
36			adjacent area slope: % Steep	0%	0										
37															
38															
39		27	Downstream sensitivity/WQ protection	A	1										
40		28	Nutrient loading	B	0.5										
41		29	Shoreline wetland?	N	N										
42		30	Rooted shoreline vegetation (%cover)		Enter a percentage										
43		31	Wetland in-water width (in feet, average)		Enter a percentage										
44		32	Emergent vegetation erosion resistance		Enter valid choice										
45		33	Shoreline erosion potential		Enter valid cho										
46		34	Bank protection/upslope veg.		Enter valid choice										
47		35	Rare Wildlife	N	N										
48		36	Scarce/Rare/S1/S2 local community	N	N										
49		37	Vegetation interspersio cover (see diagram 1)	N/A	N/A	N/A									
50		38	Community interspersio (see diagram 2)	N/A	N/A	N/A									
51		39	Wetland detritus	B	0.5										
52		40	Wetland interspersio on landscape	B	0.5	0.5									
53		41	Wildlife barriers	C	0.1										
54		42	Amphibian breeding potential-hydroperiod	I	0										
55		43	Amphibian breeding potential--fish presence	A	1										
56		44	Amphibian & reptile overwintering habitat	N/A	0										
57		45	Wildlife species (list)												
58		46	Fish habitat quality	N/A	N/A										
59		47	Fish species (list)												
60		48	Unique/rare educ./cultural/rec.opportunity	N	N										
61		49	Wetland visibility	C	0.1										
62		50	Proximity to population	N	0.1										
63		51	Public ownership	C	0.1										
64		52	Public access	C	0.1										
65		53	Human influence on wetland	A	1										
66		54	Human influence on viewshed	C	0.1										
67		55	Spatial buffer	B	0.5										
68		56	Recreational activity potential	C	0.1										
69		57	Commercial crop--hydrologic impact	N/A	N/A										
70															

This comes in from Side 1 automatically using the weighted average. To use the highest rated veg. Community rating, please manually overwrite that value (shown to the right) into the field at E5.

Highest-rated
0.1

Enter data starting here. Yellow boxes are used in calculations.

Scroll down to answer more questions and see formula calculations



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
72															
73		58	GW - Wetland soils	-	R or D	Enter "R" or "D"									
74		59	GW - Subwatershed land use	-	R or D	Enter "R" or "D"									
75		60	GW - Wetland size and soil group	-	R or D	Enter "R" or "D"									
76		61	GW - Wetland hydroperiod	-	R or D	Enter "R" or "D"									
77		62	GW - Inlet/Outlet configuration	-	R or D	Enter "R" or "D"									
78		63	GW - Surrounding upland topographic relief	-	R or D	Enter "R" or "D"									
79		64	Restoration potential w/o flooding		Y or N	0									
80		65	Landowners affected by restoration		E a b c	Enter valid choice									
81		66A	Existing wetland size (acres) [from #10]	0.1	__ acres										
82		66B	Total wetland restoration size (acres)		__ acres	0.1									
83		66C	(Calculated) Potential New Wetland Area [B-A]	-0.1	__ acres	% effectively drained: ####									
84		67	Average width of naturalized upland buffer (poten	0	__ feet	0.1 value: ####									
85		68	Likelihood of restoration success		a b c	Enter valid choice									
86		69	Hydrologic alteration type		Outlet, Tile, Ditch, GW pump, Wtrshd div., Filling										
87		70	Potential wetland type (Circ. 39)		1, 2, 3, 4, 5, 6, 7, 8										
88		71	Wetland sensitivity to stormwater		E a b c										
89		72	Additional stormwater treatment needs		a b c										

Additional questions

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
90															
91															
92															
93															
94															
95			Function Name	Raw score	Final Rating	Rating Category									
96			Vegetative Diversity/Integrity		0.10	L									
97			Hydrology - Characteristic		0.78	High									
98			Flood Attenuation		0.70	High									
99			Water Quality--Downstream		0.67	High									
100			Water Quality--Wetland		0.54	Med									
101			Shoreline Protection		N/A	N/A									
102			Characteristic Wildlife Habitat Structure	0.50	0.50	Med									
103			Maintenance of Characteristic Fish Habitat	#####	N/A	N/A									
104			Maintenance of Characteristic Amphibian Habitat		0.00	N/A									
105			Aesthetics/Recreation/Education/Cultural	0.26	0.26	Low									
106			Commercial use		N/A	N/A									
107			Special Features listing:		-										
108			Groundwater Interaction		recharge										
109			Groundwater Functional Index		no special indicators										
110			Restoration Potential (draft formula)		#VALUE!	#####									
111			Stormwater Sensitivity (not active)												
112															
113															
114															
115															
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Functional Rating Summaries

Formula shown to the right.

**Highest Rated Function; Medium for Wildlife Habitat Structure
MnRAM Management Classification; Manage 2**

Minnesota Wetland Conservation Act Notice of Decision

Local Government Unit: City of Shakopee	County: Scott
Applicant Name: Northern States Power Company - Minnesota (James Bodensteiner)	
Applicant Representative: Kjolhaug Environmental Services (Mary Clare McAleer)	
Project Name: Blue Lake Generating Station	LGU Project No. (if any): 2024-9
Date Complete Application Received by LGU: 7/17/24	
Date of LGU Decision: 8/23/24	
Date this Notice was Sent: 8/26/24	

WCA Decision Type - check all that apply

<input checked="" type="checkbox"/> Wetland Boundary/Type	<input type="checkbox"/> Sequencing	<input type="checkbox"/> Replacement Plan	<input type="checkbox"/> Bank Plan (not credit purchase)
<input type="checkbox"/> No-Loss (8420.0415)	<input type="checkbox"/> Exemption (8420.0420)		
Part: <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F <input type="checkbox"/> G <input type="checkbox"/> H	Subpart: <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9		

Replacement Plan Impacts (replacement plan decisions only)

Total WCA Wetland Impact Area:
Wetland Replacement Type: <input type="checkbox"/> Project Specific Credits: <input type="checkbox"/> Bank Credits:
Bank Account Number(s):

Technical Evaluation Panel Findings and Recommendations (attach if any)

<input checked="" type="checkbox"/> Approve <input type="checkbox"/> Approve w/Conditions <input type="checkbox"/> Deny <input type="checkbox"/> No TEP Recommendation
--

LGU Decision

<input checked="" type="checkbox"/> Approved with Conditions (specify below) ¹ <input type="checkbox"/> Approved ¹ <input type="checkbox"/> Denied
List Conditions: Provide GIS shapefile of wetland boundaries.
Decision-Maker for this Application: <input checked="" type="checkbox"/> Staff <input type="checkbox"/> Governing Board/Council <input type="checkbox"/> Other:
Decision is valid for: <input checked="" type="checkbox"/> 5 years (default) <input type="checkbox"/> Other (specify):

¹ *Wetland Replacement Plan approval is not valid until BWSR confirms the withdrawal of any required wetland bank credits. For project-specific replacement a financial assurance per MN Rule 8420.0522, Subp. 9 and evidence that all required forms have been recorded on the title of the property on which the replacement wetland is located must be provided to the LGU for the approval to be valid.*

LGU Findings – Attach document(s) and/or insert narrative providing the basis for the LGU decision¹.

<input checked="" type="checkbox"/> Attachment(s) (specify): Approved wetland boundary figure
<input checked="" type="checkbox"/> Summary: Northern States Power Company authorized Kjolhaug Environmental to delineate within the project area for the Blue Lake generating plant. Kjolhaug delineated the site and the TEP met on August 7, 2024 to review the delineation. The TEP approved the boundary of Wetland 1 as delineated in the field. One additional wetland, Wetland 2, was also identified by the TEP. This wetland had been previously delineated and approved by the LGU in 2020. The boundary for this wetland was added to the delineation, as previously approved. The applicant amended the delineation report to include the boundaries of both Wetlands 1 and 2.

¹ *Findings must consider any TEP recommendations.*

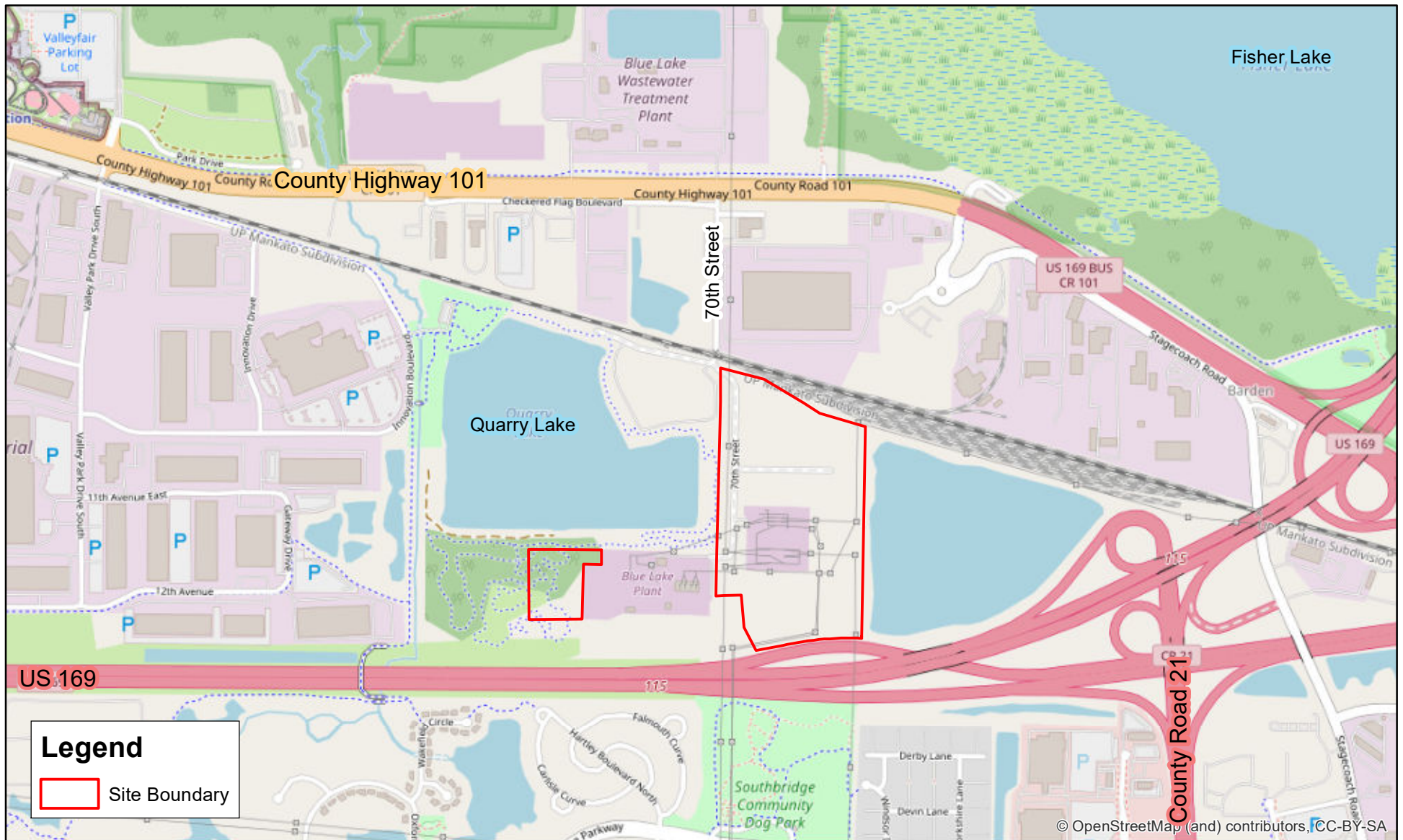


Figure 1 - Site Location



N



0 2,000 Feet



Blue Lake Generating Station (KES 2024-085)
Shakopee, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY
 Source: OpenStreets Map

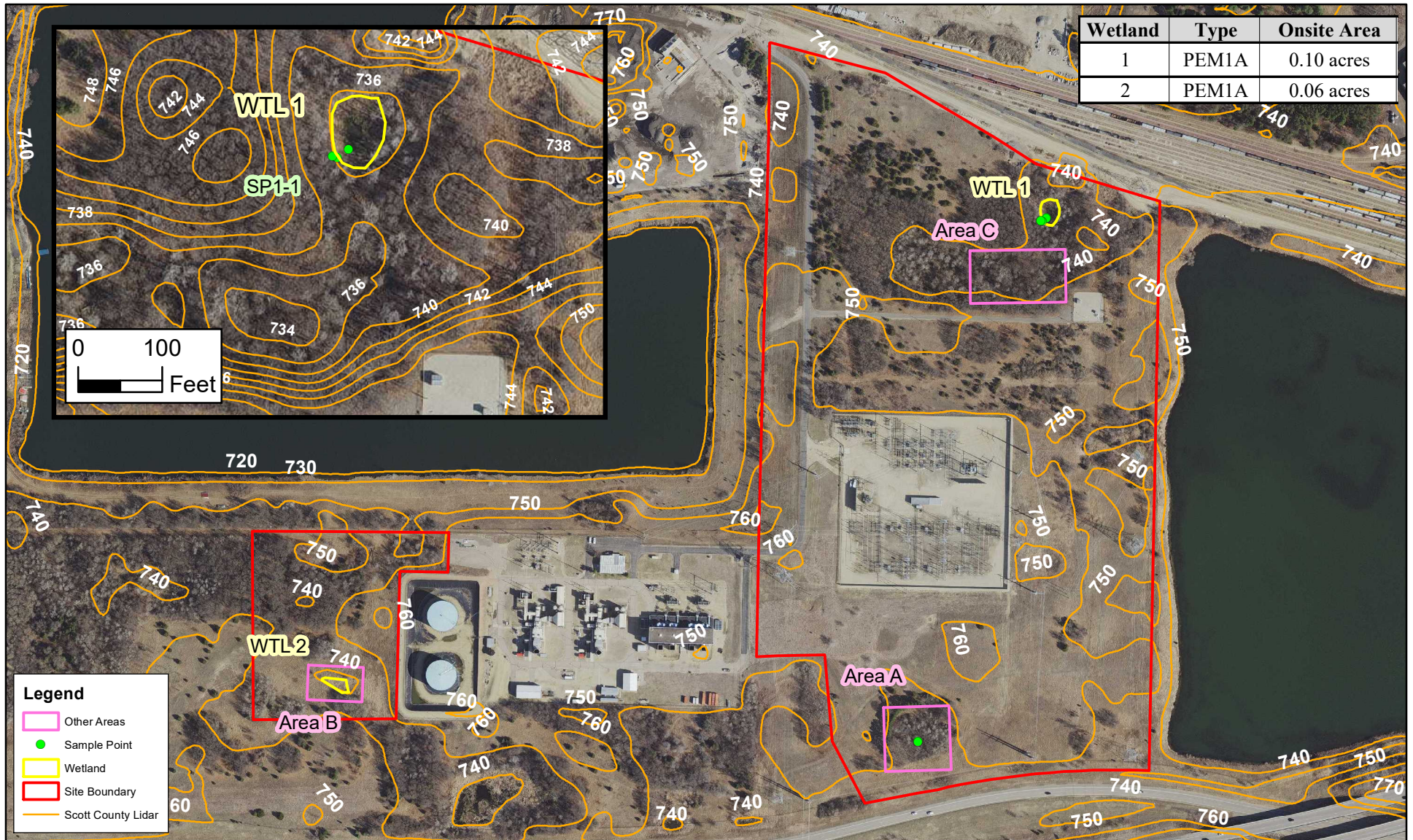


Figure 2 - Existing Conditions TEP Revised 8/7/2024 (2020 Twin Cities Metro Photo)

N

0 1,000 Feet

KJOLHAUG ENVIRONMENTAL SERVICES COMPANY
Source: MNGEO Spatial Commons

Blue Lake Generating Station (KES 2024-085)
Shakopee, Minnesota

Note: Boundaries indicated on this figure are approximate and do not constitute an official survey product.