

Appendix I

Wetland Delineation Reports

Wetlands and Waters Survey June 30, 2023

Wetlands and Waters Survey

Summit Lake Solar

Nobles County, Minnesota



June 30, 2023

PRESENTED TO

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EXECUTIVE SUMMARY

This report presents the findings of a Wetlands and Waters Survey completed on behalf of Summit Lake Solar, LLC, for the proposed Summit Lake Solar project in Nobles County, Minnesota (the Project). The Project Area includes approximately 1,584 acres of land where solar energy facilities may be developed.

The field surveys completed for the Project identified 23 wetlands totaling 9.539 acres in the Project Area. The delineated wetlands included 22 seasonally flooded basin wetlands (PEMA, PEMAf, PEMAx) with a total area of 8.949 acres in the Project Area, and 1 seasonally flooded basin and shallow marsh wetland complex (PEMA/PEMC/PEMCx) with a total area of 0.591 acre in the Project Area. However, an additional 18.547 acres of the wetland complex were mapped outside the Project Area, and all of the shallow marsh part of the wetland complex is outside the Project Area.

A review of the Minnesota Wetland Conservation Act (WCA) found that 14 of the 23 wetlands totaling 7.280 acres would likely be regulated under the WCA. The 9 remaining wetlands appear to be “incidental wetlands” within roadside ditches excavated in uplands, which are a category of wetlands that are not regulated under the WCA. An assessment of waters of the U.S. (WOTUS) criteria and potential U.S. Army Corps of Engineers (USACE) jurisdiction under Section 404 of the Clean Water Act (CWA) found that none of the delineated wetlands appear to meet the criteria to be considered a WOTUS. Only the USACE and Nobles County SWCD can make the final determination on the regulatory jurisdiction of wetlands.

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1.0 INTRODUCTION

1.1 PURPOSE

Summit Lake Solar, LLC proposes to develop the Summit Lake Solar project (the Project) in Nobles County, Minnesota. Tetra Tech, Inc. (Tetra Tech) has completed surveys to identify and delineate wetlands and waters for the proposed Project within an approximately 1,584-acre area (Project Area) where the proposed solar energy facility may be developed. The wetlands and waters survey included desktop and field investigations of the Project Area to identify the presence and location of wetlands and other surface waters and determine which, if any, may be subject to U.S. Army Corps of Engineers (USACE) jurisdiction, Minnesota Department of Natural Resources (MN DNR) jurisdiction, or regulated locally under the Minnesota Wetland Conservation Act (WCA). This report describes the Project Area, regulatory framework, methods, survey results and conclusions, and references used to support the conclusions. Appendices include figures illustrating the Project Area, select reviewed reference materials, survey results, wetland determination data forms, and photographs.

1.2 SITE LOCATION AND ENVIRONMENTAL SETTING

The Project Area includes approximately 1,584 acres of discontinuous land where the proposed solar energy facilities may be developed (Appendix A: Figure 1). The Project Area is located north of the town of Reading in Nobles County, Minnesota and encompasses portions of nine sections of land (Table 1)

Table 1. Public Land Survey (PLS) Description of the Project Area

Civil Township	PLS Township	PLS Range	PLS Section(s)
Elk	103N	40W	18
Summit Lake	103N	41W	10, 12-14, 22-24

The landscape surrounding the Project Area consists primarily of glacial moraines and is characterized by undulating, sloping, and rolling topography (USDA 1975). The Project Area spans the Missouri and Upper Mississippi hydrologic regions. The western part of the Project Area drains generally southwest toward Kanaranzi Creek, a tributary of the Big Sioux River; and the eastern part of the Project Area drains generally southeast toward Elk Creek and northeast toward Jack Creek, which are tributaries of the Des Moines River.

1.3 REGULATORY FRAMEWORK

1.3.1 U.S. Army Corps of Engineers

The USACE has regulatory jurisdiction over waters of the U.S. (WOTUS) under Section 404 of the Clean Water Act (CWA) as defined by 33 CFR Part 328. The extent of the USACE regulatory jurisdiction over WOTUS was defined by the USACE and U.S. Environmental Protection Agency (EPA) in a final rule published in the Federal Register on January 18, 2023, which became effective on March 20, 2023 (88 FR 3004, January 18, 2023). However, the U.S. Supreme Court's May 25, 2023, decision in the case of *Sackett v. EPA*, 598 U.S. ____ (2023) found that only

wetlands with a continuous surface connection to bodies that are WOTUS in their own right are WOTUS. As of May 26, 2023, USACE has indicated that they will be interpreting the definition of WOTUS consistent with the Supreme Court's decision (USACE 2023).

The 2023 definition of WOTUS as interpreted consistent with the *Sackett* decision indicates that the USACE has regulatory jurisdiction over traditional navigable waters; tributaries of traditional navigable waters that are relatively permanent; and wetlands adjacent to another jurisdictional water such that the wetland is an indistinguishable part of the jurisdictional water. Relatively permanent tributaries have flowing or standing water year-round or continuously during certain times of the year. Relatively permanent waters do not include surface waters with flowing or standing water for only a short duration in direct response to precipitation.

The USACE is the sole authority in determining whether federal jurisdiction extends to specific wetlands or waters. Suggestions regarding the USACE jurisdiction of wetlands and waters in this report are preliminary and based on Tetra Tech's interpretation of the guidance issued by the USACE and EPA, review of available desktop data, and evidence observed in the field. There are two types of jurisdictional determinations (JDs) that can be requested from USACE to determine the jurisdiction of wetlands and waters. A preliminary JD (PJD) is a nonbinding written indication that for purposes of calculating impacts and determining compensatory mitigation requirements all waters and wetlands in the review area are treated as jurisdictional WOTUS. An approved JD (AJD) is an official USACE determination that jurisdictional WOTUS are either present or absent in the review area. An AJD precisely identifies the limits of those wetlands and waters determined to be jurisdictional under the CWA.

The USACE authorizes certain activities in navigable waters and WOTUS with pre-issued Nationwide Permits (NWP) or Regional General Permits (RGPs). Impacts of up to 0.5 acre for utility projects such as solar energy facilities may be authorized by the USACE St. Paul District Utility RGP or NWP 51 for Land-Based Renewable Energy Generation Facilities with mitigation and a Pre-Construction Notification (PCN) usually being required if impacts exceed 0.1 acre of WOTUS. In order to use a NWP or RGP, all general and regional conditions must be met. A certification from the state is required under Section 401 of the CWA for all NWPs and RGPs. The Minnesota Pollution Control Agency (MPCA) is responsible for issuing 401 Water Quality Certifications in Minnesota (see Section 1.3.4). The USACE St. Paul District has regulatory jurisdiction over the Project Area.

1.3.2 Minnesota Wetland Conservation Act

The State of Minnesota regulates wetlands under the Minnesota Wetland Conservation Act (WCA) of 1991, currently implemented under MN Rules Chapter 8420. The WCA does not apply to public waters and public waters wetlands that have been inventoried by the Minnesota Department of Natural Resources (MN DNR) (see Section 1.3.3) or to "incidental wetlands", which are wetlands created in non-wetland areas by actions that were not intended to create the wetland such as certain ditches or other excavations.

The WCA requires anyone proposing to drain, fill, or excavate a wetland first to try to avoid disturbing the wetland; second, to try to minimize any impact on the wetland; and, finally, to replace any lost wetland acres, functions, and values. The WCA also establishes eight exempt activities that do not require wetland replacement. One of these

exemptions is the “de minimis” exemption for minor wetland impacts. The de minimis exemption threshold ranges from 20 square-feet to 10,000 square-feet depending on the impacted wetland’s location in the state, the type of wetland, and location inside or outside of a shoreland wetland protection zone (see Section 1.3.5). Impacts below the relevant threshold do not require wetland replacement. The WCA is administered by Local Government Units (LGU). The Nobles County Soil and Water Conservation District (SWCD) is the LGU responsible for administering the WCA for the Project.

1.3.3 Minnesota Department of Natural Resources

The MN DNR Public Waters Work Permit Program applies to those lakes, wetlands, and streams identified on MN DNR Public Water Inventory maps. Proposed projects affecting the course, current, or cross-section of these water bodies may require a Public Waters Work Permit from the MN DNR. There are two types of Public Waters Work Permits available from the MN DNR: general and individual permits. General permits are “pre-issued” permits issued on a statewide or county level. If work proposed in public waters or public waters wetlands meets the requirements of a specific general permit, an individual permit is not required. There are also several categories of projects that are excluded from the Public Waters Work Permit requirement; however, these exclusions would not typically apply to solar energy projects.

1.3.4 Minnesota Pollution Control Agency

Section 401 of the CWA requires certification from the state that any discharge authorized by an NWP or RGP does not violate state water quality standards. The MPCA issues 401 Water Quality Certifications for NWPs and RGPs in Minnesota. The MPCA granted water quality certification with conditions for NWP 51 in a letter dated December 21, 2020, and for the Utility RGP in a letter dated February 13, 2018.

1.3.5 Nobles County

Minnesota Regulations, Parts 6120.2500 - 6120.3900 provide minimum standards and criteria to be incorporated into local government shoreland management controls that apply to shorelands of public waters of the state (see Section 1.3.3) that are subject to local government land use controls. Each local government is responsible for the administration and enforcement of its shoreland management controls adopted in compliance with these standards and criteria. Nobles County defines their shoreland districts as including the area within 1,000 feet of the normal highwater mark of a lake, pond, or flowage; and 300 feet from a river or stream, or the landward extent of a floodplain, whichever is greater (Nobles County 2006). The WCA de minimis exemption thresholds for wetlands within the shoreland zone are less than those outside the shoreland zone (see Section 1.3.2).

2.0 METHODS

2.1 EXISTING INFORMATION REVIEW

Tetra Tech reviewed available information to identify potential wetlands and waters areas within the Project Area. The following data sources were reviewed:

- National Wetlands Inventory (NWI) (U.S. Fish and Wildlife Service [USFWS] 2022);
- National Hydrography Dataset (NHD) (United States Geological Survey [USGS] 2022);
- MN DNR Public Waters Inventory (PWI) (MN DNR 2020);
- Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL) (FEMA 2023);
- Natural Resources Conservation Service (NRCS) Soil Survey Geographic (gSSURGO) Soils (NRCS 2022);
- MN DNR 2-foot elevation contours (MN DNR 2007);
- Aerial photography from 2010, 2015, 2017, 2019, and 2021 from U.S. Department of Agriculture (USDA) Farm Service Agency (FSA) National Agricultural Imagery Program (NAIP); and
- Historical precipitation data from the Minnesota State Climatology Office (Minnesota State Climatology Office 2023).

2.2 DESKTOP WETLANDS AND WATERS MAPPING

Tetra Tech reviewed aerial photographs, elevation data, NWI, NHD, PWI, and SSURGO soils data to identify potential wetlands and waters within the Project Area. Using methods described by USACE and the Minnesota Board of Water and Soil Resources (BWSR) (USACE and BWSR 2016), the aerial photographs were reviewed for wetland signatures, and antecedent precipitation was evaluated to determine if the conditions preceding each photograph were normal, wet, or dry. Signatures at locations of potential wetlands and waters on aerial photographs were classified using eight codes (Table 2). The locations of desktop wetlands and waters were digitized using ArcGIS mapping software.

Table 2. Aerial Photograph Wetland Signature Codes

Code	Classification	Implication	Code	Classification	Implication
CS	Crop Stress	Wetland	WS	Wetland Signature	Wetland
DO	Drowned Out	Wetland	AP	Altered Pattern	Wetland
NC	Not Cropped	Wetland	SS	Soil Wetness Signature	Wetland
SW	Standing Water	Wetland	NV/NSS	Normal Vegetative Cover/ No Soil Wetness	Non-wetland

2.3 WETLANDS AND WATERS SURVEY

The wetlands and waters survey included field investigations of all areas of the Project Area and offsite hydrology review using aerial photography to verify the presence or absence of wetlands and other surface waters in the Project Area.

2.3.1 Field Survey

Wetlands were delineated in the Project Area using the level two on-site routine determination method set forth in the Corps of Engineers Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region, Version 2.0 (USACE 2010). Potential wetlands were identified based on the review of existing data and observations made at the time of the survey. A transect was established in a representative transition zone of each potential wetland. The transect consisted of one sample point in the potential wetland, and if wetland criteria were met, one point in non-wetland. Vegetation, soil, and hydrology data was recorded on electronic data forms. Plant species dominance at sample points was based on the percent cover visually estimated within a 5-foot radius of the sample point for the herbaceous layer, a 15-foot radius for the shrub layer, and a 30-foot radius for tree and vine layers. Wetland indicator status for all plant species followed the National Wetland Plant List, Version 3.5 (USACE 2020). The wetland/non-wetland boundary was established based on the recorded sample point information. If a potential wetland did not meet all three wetland delineation criteria (hydrophytic vegetation, hydric soils, and hydrology) based on observations made at the time of the field visit it was determined to be non-wetland.

Boundaries for non-wetland waters (i.e., ponds and streams) were established based on observations of the ordinary high water mark (OHWM), which is defined as the “line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (51 FR 41251, November 13, 1986).

Wetlands and waters boundaries were generally established only within the Project Area. If the boundary extended outside of the Project Area and was not mapped, observations regarding that portion of the feature extending outside of the Project Area were recorded. Wetlands and waters were classified according to Circular 39 (Shaw and Fredine 1971), Cowardin (Federal Geographic Data Committee [FGDC] 2013), and plant community (Eggers and Reed 2015) methods.

An Arrow 100 GPS receiver with sub-meter accuracy paired with a tablet running ESRI's Survey123 for ArcGIS application was used in the field to survey the locations of sample points, the wetland/non-wetland boundaries, and OHWM boundaries. Upon completion of the survey, the wetland specialist who captured the field data conducted a quality control review to ensure the spatial and attribute data of the features collected correspond with field observations.

2.3.2 Offsite Hydrology Assessment of Non-Wetland Areas

Historical precipitation records and aerial photography were used to evaluate the long-term history of wetland hydrology in accordance with the USACE and BWSR guidance concerning offsite wetland mapping conventions for agricultural land (USACE and BWSR 2016) for those desktop wetlands and waters within the Project Area that were determined to be non-wetlands during the field survey. Antecedent precipitation conditions were evaluated for readily available aerial photographs of the Project Area to determine which aerial photographs were taken following periods of normal precipitation. Antecedent precipitation was classified as normal, wet, or dry by comparing the precipitation during the three months preceding aerial photography dates to the 30-year average using the Minnesota Climatology Office tool (Minnesota State Climatology Office 2023).

The offsite hydrology assessment method generally applies a wetland determination when wetland signatures appear in at least 50 percent of aerial photographs from normal years, and a non-wetland determination when wetland signatures are lacking in more than 70 percent of aerial photographs from those years. The desktop wetlands and waters with a non-wetland field survey determination were reviewed in each of the available aerial photographs with normal antecedent precipitation for wetland signatures as described above in Section 2.2 to verify that wetland hydrology is absent at those locations (i.e., wetland signatures observed in less than 50 percent of aerial photographs). If aerial photography from at least five normal years was not available, equal numbers of aerial photographs from wet and dry years were selected so that aerial photography from at least five years was reviewed.

The review of historical precipitation records and aerial photography to evaluate the long-term history of wetland hydrology is most effective in agricultural fields planted with annual row crops. Therefore, the assessment was conducted with caution for any areas that did not appear to be planted with annual row crops in one or more of the reviewed aerial photographs.

3.0 RESULTS

3.1 EXISTING INFORMATION REVIEW AND DESKTOP MAPPING

3.1.1 National Wetlands Inventory (NWI)

There are eight NWI mapped wetlands in the Project Area totaling approximately 7.1 acres (Appendix A: Figure 2). The mapped wetlands include seven small freshwater emergent wetlands (PEM1A, PEM1Af, PEM1C) totaling approximately 5.2 acres located in the south-central part of the Project Area, and one riverine wetland (R4SBC) approximately 1.9 acres in size located in the northeastern part of the Project Area.

3.1.2 National Hydrography Dataset (NHD)

There are no NHD-mapped streams or waterbodies in the Project Area (Appendix A: Figure 2). NHD-mapped waterbodies in the vicinity of the Project Area include two small, unnamed ponds to the southwest.

3.1.3 Public Waters Inventory (PWI)

There are no Public Waters mapped in the Project Area (Appendix A: Figure 2). An unnamed Public Watercourse is mapped immediately to the northeast of the Project Area and approximately aligns with the NWI riverine wetland in the northeastern part of the Project Area (see Section 3.1.1).

The approximate shoreland wetland protection zone for the unnamed watercourse was determined based on the areas defined in ordinance by Nobles County (see Section 1.3.5). A 300-foot buffer around the PWI watercourse was applied in the vicinity of the Project Area. Approximately 2.4 acres of the approximate shoreland wetland protection zone are located within the Project Area (Appendix A: Figure 2).

3.1.4 Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL)

Flood hazard data from FEMA were reviewed and found that there is no mapped floodplain in the Project Area.

3.1.5 Soil Survey Geographic (SSURGO) Soils

Soils data for the Project Area were obtained from the USDA NRCS (NRCS 2022). This information was used to study the distribution of hydric soils within the Project Area. Soils were categorized according to the five hydric classes listed below based on the hydric rating of the soil series.

- Non-hydric – all soils series components rated as non-hydric
- Predominantly non-hydric – minority of soil components that are considered hydric accounting for 1 to 32 percent of the series
- Partially hydric – a mix of hydric and non-hydric soil components with hydric components accounting for 33 to 65 percent of the series
- Predominantly hydric – majority of soil components that are considered hydric accounting for 66 to 99 percent of the series
- Hydric – all soils series components rated as hydric

The soils in the Project Area are primarily a mosaic of series categorized as predominantly non-hydric (61 percent of the Project Area) and predominantly hydric (34 percent of the Project Area). Small areas of hydric soils (4 percent of the Project Area) and non-hydric soils (1 percent of the Project Area) are also present (Appendix A: Figure 3).

3.1.6 Desktop Wetlands and Waters Mapping

Aerial photographs in combination with antecedent precipitation data from the Minnesota State Climatology Office (2023), MN DNR 2-foot elevation contours (MN DNR 2007), and the NWI were reviewed to identify potential wetlands and waters in the Project Area. Reviewed aerial photographs included images from July 1, 2010 (USDA FSA APFO 2010), September 13, 2015 (USDA FSA APFO 2015), July 23, 2017 (USDA FSA APFO 2017), July 11, 2019 (USDA FSA APFO 2019), and August 21, 2021 (USDA FSA APFO 2021). The antecedent precipitation review showed that all of the reviewed aerial photographs were taken during periods with normal antecedent precipitation.

The desktop data review found 91 potential wetlands and waters in the Project Area, totaling approximately 100 acres (Appendix A: Figure 2). Eight of the potential wetlands and waters intersect NWI mapped resources. The remaining 83 potential wetlands and waters were identified based on aerial photo interpretation and/or elevation data at locations that did not have any previously mapped resources.

3.2 WETLANDS AND WATERS SURVEY

The wetlands and waters field survey of the Project Area was conducted from October 10-18, 2022, during a period with normal antecedent precipitation based on methods described in technical guidance (USACE and BWSR 2016) and data from the Minnesota State Climatology Office (2023). Antecedent precipitation data are presented in Table 3.

Table 3. Antecedent Precipitation Analysis

Precipitation data for target wetland location:			
County: Nobles		Township Number: 103N	
Township Name: Summit Lake		Range Number: 41W	
Nearest Community: Reading		Section Number: 13	
		Site visit dates: October 10-18, 2022	
Score using 1991-2020 normal period			
Values are in inches	first prior month: September2022	second prior month: August 2022	third prior month: July 2022
estimated precipitation total for this location:	0.95	3.78	5.20
there is a 30% chance this location will have less than:	1.50	1.97	2.23
there is a 30% chance this location will have more than:	4.20	3.84	4.22
type of month: dry normal wet	dry	normal	wet
monthly score	3 * 1 = 3	2 * 2 = 4	1 * 3 = 3
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	10 (Normal)		

Each of the 91 desktop potential wetland and water areas in the Project Area were reviewed during the site visit. Wetlands or waters were confirmed to be present at 14 of the 91 reviewed desktop wetlands and waters locations in the field and were delineated based on the observations made at the time of the field surveys. The 77 remaining field-checked desktop potential wetlands and waters were determined to be non-wetlands within the Project Area. A total of 23 wetlands were identified and delineated in the Project Area at the completion of the field surveys¹. The delineated resources are summarized in Table 4 below, and depicted on Figure 4 in Appendix A. The following sections include summaries of general field survey results and observations.

¹ The total recorded wetlands and waters reflects that some desktop wetlands and waters were mapped as multiple wetlands, while others were combined into a single wetland or water; and some wetlands were delineated at locations not identified during the desktop mapping.

Table 4. Delineated Wetlands in the Project Area

Wetland ID	Wetland Classification ¹		Area (acres)	Regulatory Jurisdiction			Figure 4 Grid ID
	Circular 39	Cowardin Class		USACE	MN WCA	MN Public Water	
WA001	Type 1	PEMAf	0.362	No	Yes	No	C2
WA003	Type 1	PEMAx	0.165	No	No	No	C2
WA004	Type 1	PEMAx	0.150	No	No	No	C2
WA008	Type 1	PEMAf	0.154	No	Yes	No	B2
WA009	Type 1	PEMAf	0.174	No	Yes	No	B2
WA010	Type 1	PEMAx	0.224	No	No	No	B2
WA024	Type 1	PEMAx	0.324	No	No	No	A3
WA030	Type 1	PEMAf	0.135	No	Yes	No	A1
WA033	Type 1	PEMAf	0.122	No	Yes	No	C3
WA047	Type 1	PEMA/PEMAf/PEMAx	2.249	No	Yes	No	B3
WA048	Type 1	PEMAx	0.211	No	Yes	No	B3
WA056	Type 1	PEMA	0.164	No	Yes	No	B3
WA066	Type 1	PEMAx/PEMAf	0.240	No	No	No	B3
WA069	Type 1	PEMAx	0.043	No	No	No	C3
WA073	Type 1	PEMAx	0.183	No	Yes	No	C3
WA075	Type 1	PEMAf	0.178	No	Yes	No	B3
WB001	Type 1	PEMAx	1.009	No	Yes	No	B4
WB002	Type 1	PEMAx	0.070	No	No	No	B4
WB003	Type 1	PEMAx	0.197	No	No	No	B4
WB004	Type 1, Type 3	PEMA/PEMC/PEMCx	0.591 ²	No	Yes	No	B2
WB005	Type 1	PEMAf	1.122	No	Yes	No	B2
WB008	Type 1	PEMAx	0.846	No	No	No	B3
WB009	Type 1	PEMAx/PEMAf	0.626	No	Yes	No	B3

¹ See Appendix D for a key to the Circular 39 and Cowardin wetland classification system.² An additional 18.547 acres was mapped outside the Project Area. Total mapped area is 19.138 acres.

3.2.1 Wetlands

The wetlands delineated in the Project Area include 22 Type 1, seasonally flooded basin wetlands (PEMA, PEMAf, PEMAx²), and 1 wetland complex (WB004) composed of both Type 1, seasonally flooded basin wetland (PEMA) and Type 3, shallow marsh wetland (PEMC, PEMCx) (Table 4). However, wetland WB004 extends outside the

² A key to the Cowardin wetland classification systems is provided in Appendix D.

Project Area, and all of the Type 3, shallow marsh is in the part of the wetland that is outside the Project Area. The delineated wetlands were generally found in roadside ditches, drainage swales, or small, isolated depressions.

Wetland determination data forms and photographs for delineated wetlands are provided in Appendix B. General observations of wetland vegetation, soils, and hydrology conditions recorded during the field surveys are summarized below.

3.2.1.1 Vegetation

Vegetation observed in seasonally flooded basin wetlands with undisturbed vegetation consisted primarily of reed canary grass (*Phalaris arundinacea*) and prairie cordgrass (*Spartina pectinata*). No vegetation was documented in farmed seasonally flooded basin wetlands since fields in the Project Area had been harvested at the time of the survey. Vegetation in the shallow marsh part of wetland WB004 outside the Project Area was observed to consist primarily of dark-green bulrush (*Scirpus atrovirens*) and narrow-leaf cat-tail (*Typha angustifolia*).

Uplands near wetlands in the Project Area were primarily documented in harvested agricultural fields with no vegetation. Upland sample plots documented in vegetated areas were dominated by smooth brome (*Bromus inermis*) and flat-stem blue grass (*Poa compressa*).

3.2.1.2 Soils

Soils observed within the Project Area were predominantly fine textures ranging from clay to clay loam. A very thick (greater than 12 inches), black (10YR 2/1) A horizon was observed in most locations. The layers below the thick, black A horizon frequently were observed to be depleted and ranged from dark gray (10YR 4/1) with redoximorphic concentrations to light brownish gray (2.5Y 6/2). As a result, the thick dark surface (A12) and redox dark surface (F6) hydric soil indicators were frequently documented or assumed to be present at wetland sample plots.

3.2.1.3 Hydrology

Primary hydrology indicators were not documented at the majority of the delineated wetlands, so wetland hydrology was primarily established based on the observation of two or more secondary hydrology indicators. The secondary hydrology indicators that were documented most frequently included saturation visible on aerial imagery (C9), geomorphic position (D2), and FAC-neutral test (D5). The recent iron reduction in tilled soils (C6) primary wetland hydrology indicator was infrequently observed.

3.2.2 Non-Wetland Areas

During the field surveys 77 sample points that did not meet wetland determination criteria were recorded at desktop potential wetlands and waters locations. The 77 non-wetland features were reviewed for wetland signatures in each of the aerial photographs from the following five years with normal antecedent precipitation: July 1, 2010 (USDA FSA APFO 2010), September 13, 2015 (USDA FSA APFO 2015), July 23, 2017 (USDA FSA APFO 2017), July 11, 2019 (USDA FSA APFO 2019), and August 21, 2021 (USDA FSA APFO 2021). The locations of non-wetland sample points are included in Appendix A, Figure 4. Wetland determination data forms, reviewed historical

aerial photographs with antecedent precipitation worksheets, and site visit photographs for non-wetland sample points are provided in Appendix C.

Sixty-two of the 77 areas exhibited a wetland signature in less than 50 percent of the reviewed aerial photographs, which supports the field determination that wetland hydrology is not present in most normal years. The 15 remaining areas exhibited a wetland signature in more than 50 percent of reviewed aerial photographs, but field observations did not support a wetland determination at these locations. The results of the aerial photograph review for each non-wetland sample point are summarized in Table C-1 in Appendix C.

Of the 15 areas that exhibited wetland signature in more than 50 percent of reviewed aerial photographs, 10 sample point locations did not meet hydric soil criteria, and therefore were determined to be non-wetland. Soils were not observed at two sample point locations (NWA039A and NWA080A) due to the upland vegetation species smooth brome and green bristlegrass (*Setaria viridis*) being dominant in the sample plots. Three sample points (NWA014A, NWA019A, and NWA083A) were determined to be non-wetland based on landscape position and lack of wetland hydrology indicators observed in the field. Two of the points were located on hillslopes and one was located on a flat plain. Additionally, hydric soils were not actually documented at these sites but were assumed to meet the Thick Dark Surface (A12) hydric soils indicator because the 40-inch soil profiles observed were entirely made up of black or very dark gray soils (10YR 2/1 and 10YR 3/1).

3.3 REGULATORY REVIEW

3.3.1 U.S. Army Corps of Engineers

Each of the identified wetlands and waters in the Project Area was reviewed for potential USACE jurisdiction and an initial jurisdictional determination was recommended. An assessment of WOTUS criteria and potential USACE jurisdiction under Section 404 of the CWA found that none of the delineated wetlands appear to meet the criteria to be considered a WOTUS. Only the USACE can make the final determination on their regulatory jurisdiction of wetlands and waters.

3.3.2 Minnesota Wetland Conservation Act

Fourteen of the 23 wetlands identified in the Project Area would likely be regulated under the WCA. Project activities affecting these wetlands would require approval from the LGU. The nine remaining wetlands appear to be “incidental wetlands” within roadside ditches excavated in uplands, which are a category of wetlands that are not regulated under the WCA. The WCA jurisdictional recommendations for each feature are depicted on Figure 5 in Appendix A and are listed in Table 4 in Section 3.2.

Certain activities are exempt from the wetland replacement provisions of WCA. Tetra Tech reviewed the WCA de minimis exemption standards (MN Rules 8420.0420, Subp. 8) and found that up to 2,000 square-feet of Type 1 wetland may be permanently impacted by the Project to qualify for the de minimis exemption and would not require a replacement plan for wetlands.

3.3.3 Minnesota Department of Natural Resources

None of the delineated wetlands in the Project Area align with Public Waters identified in the PWI (Section 3.1.3). Therefore, the Project will not require a Public Waters Work Permit from the MN DNR.

4.0 REFERENCES

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2015. Nobles County, Minnesota. ortho_1-1_1n_s_mn105_2015_1

2017. Nobles County, Minnesota. ortho_1-1_1n_s_mn105_2017_1

2019. Nobles County, Minnesota. ortho_1-1_hn_s_mn105_2019_1

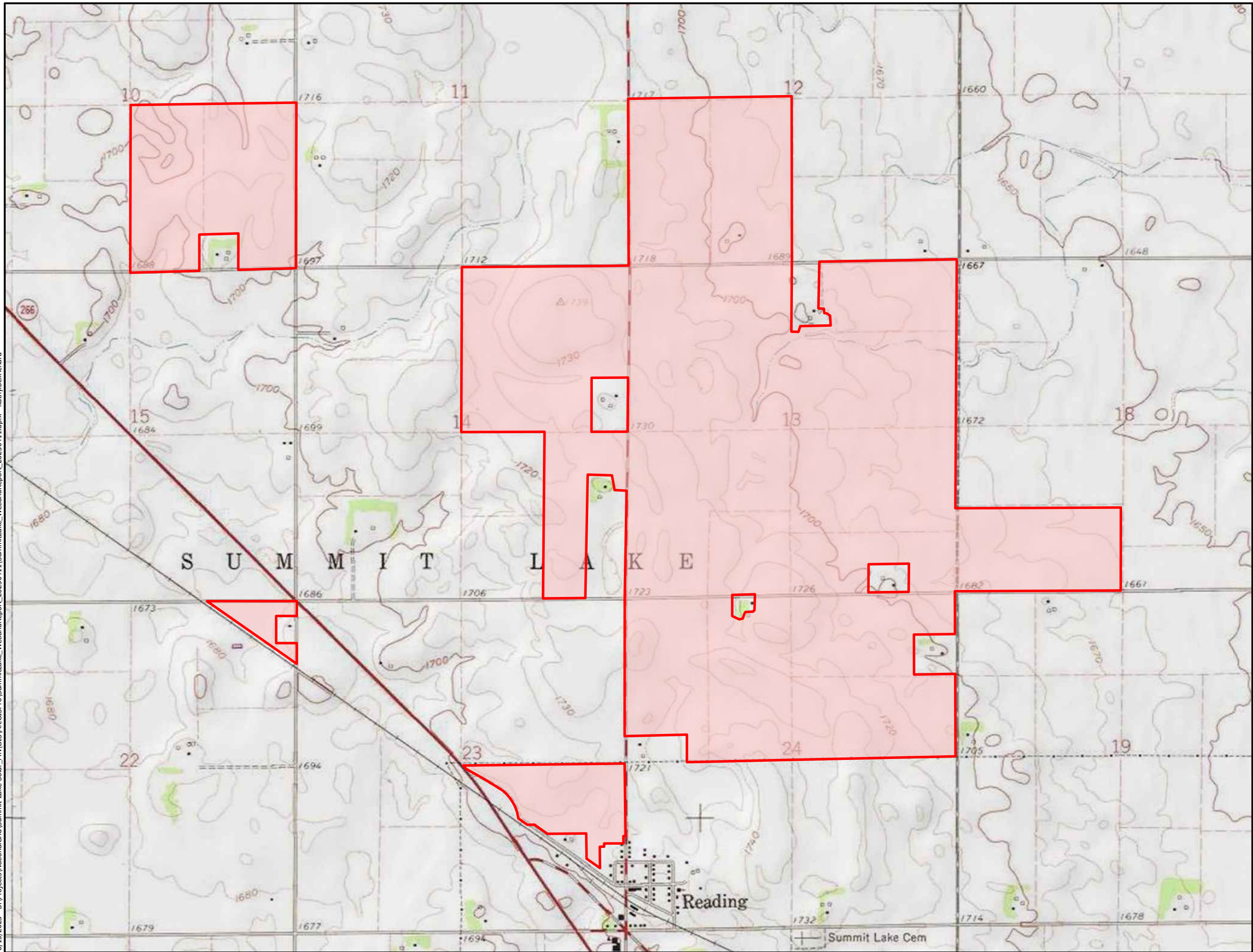
2021. Nobles County, Minnesota. ortho_1-1_hn_s_mn105_2021_1

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APPENDIX A: FIGURES 1 – 5

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 Project Area

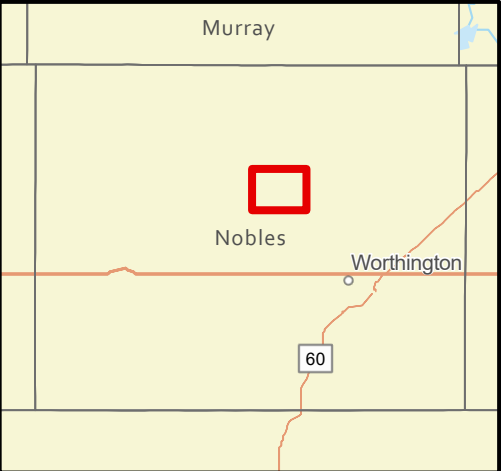
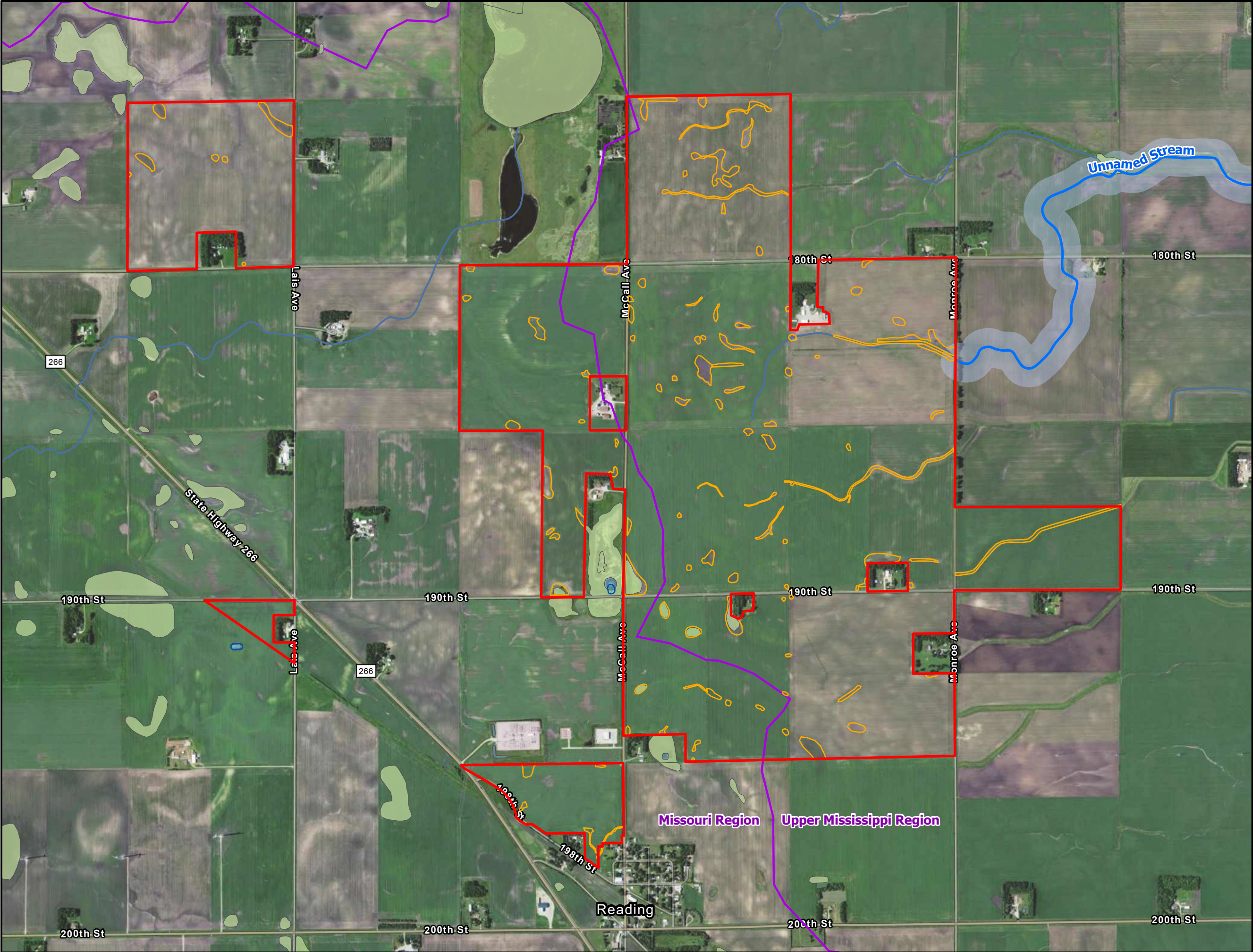


Figure 1
Project Area Location

Summit Lake Solar
Nobles County, Minnesota



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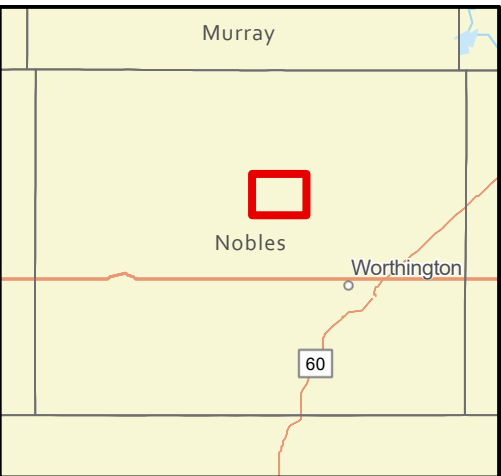
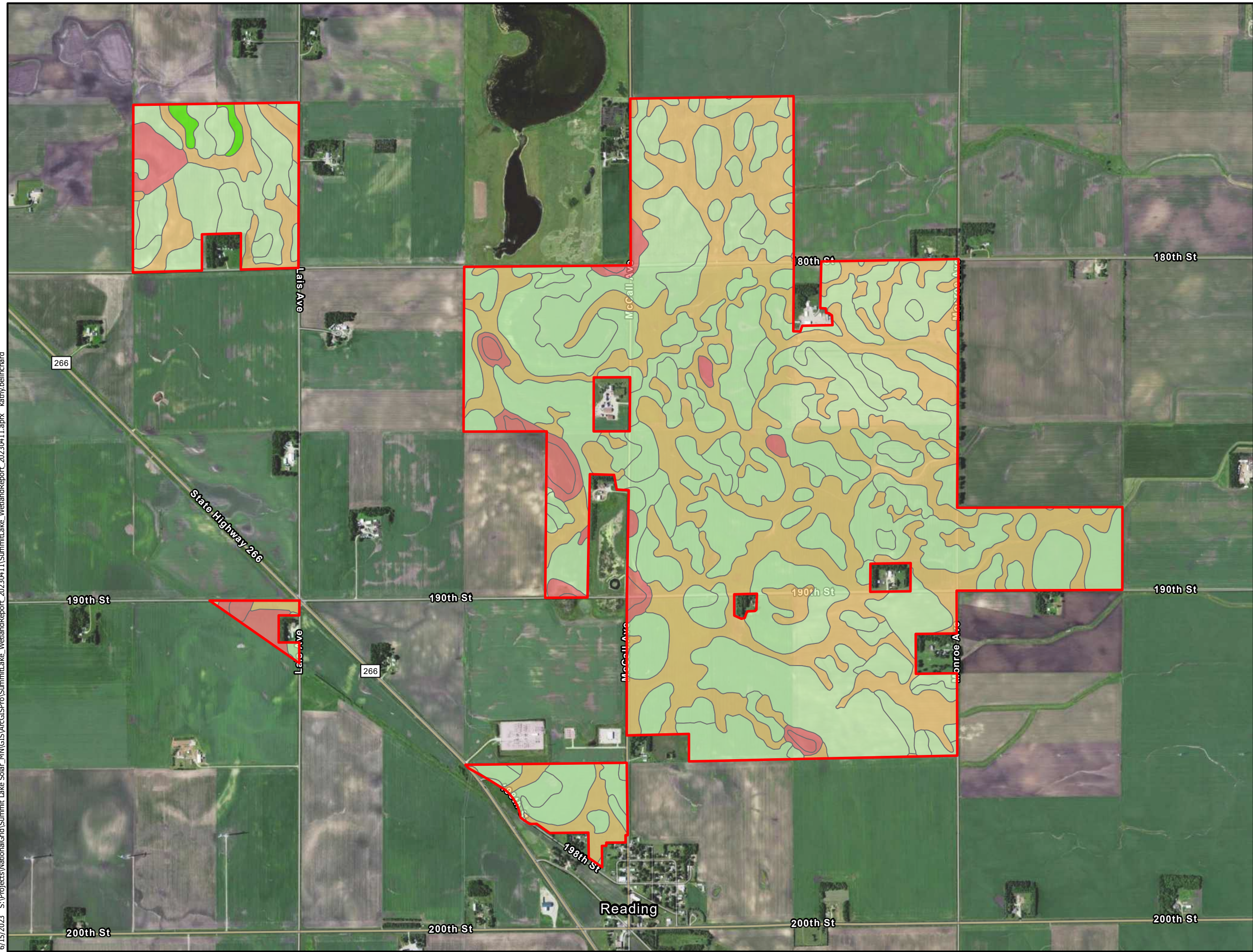


- Project Area**
- NWI Wetlands**
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Freshwater Pond
 - Riverine
- NHD Classification**
 - Lake/Pond
- Watershed Boundary Dataset**
 - 2-digit Hydrologic Unit Region
- Public Waters Inventory**
 - Watercourse
 - Approximate Shoreland Zone (300 feet from watercourses)
- Desktop Mapping**
 - Desktop Potential Wetlands and Waters



Figure 2
Desktop Wetlands and Waters Mapping
Summit Lake Solar
Nobles County, Minnesota
TETRA TECH

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- Project Area
- Hydric Classification**
- Hydric
 - Predominantly Hydric
 - Predominantly Non-Hydric
 - Non-Hydric

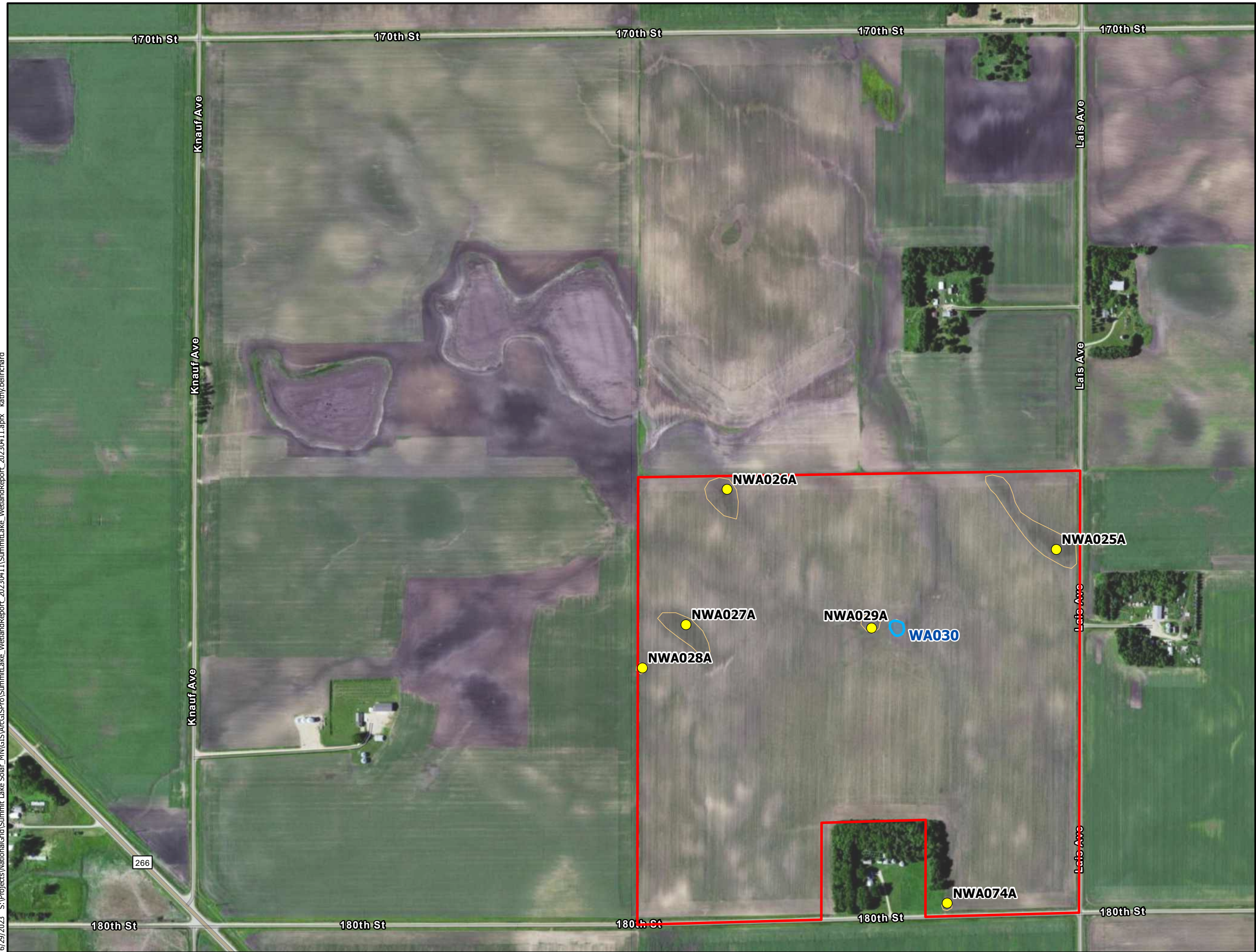


Figure 3
SSURGO Soils

Summit Lake Solar
Nobles County, Minnesota



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A1

A3

B2

B3

B4

C1

C2

C3

Reading

Project Area

Non-Wetland Sample Point

Delineated Wetland

Desktop Potential Wetlands and Waters

Page Name: A1

0

500

1,000

Feet

N

Figure 4 - A1

Wetlands and Waters

Survey Results

Summit Lake Solar

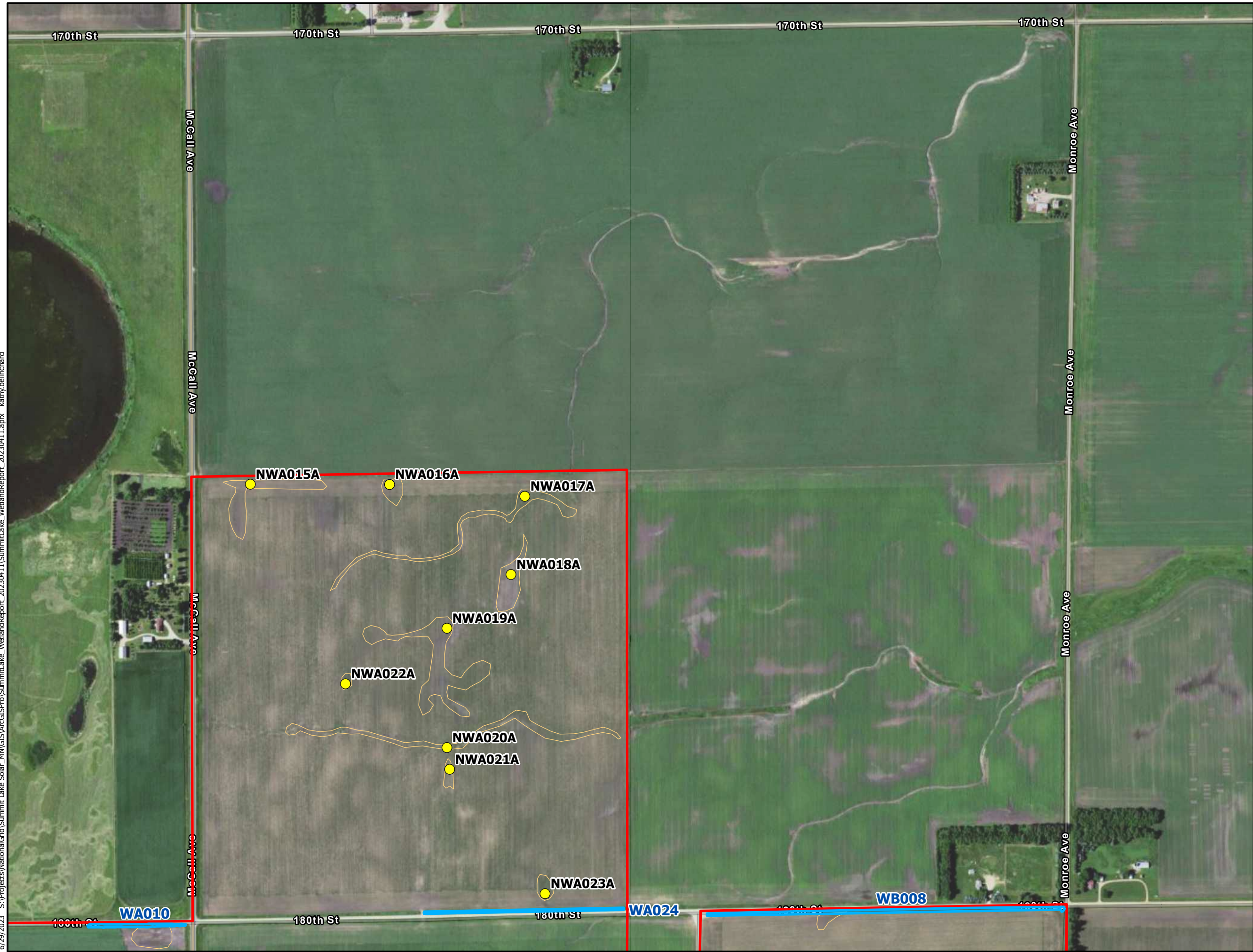
Nobles County, Minnesota

Tt

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server; Field Wetlands and Waters by Tetra Tech soils, and Project data by Summit Lake Solar, LLC. Scale: 1:9,000

6/29/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



A1

A3

B2

B3

B4

C1

C2

C3

Reading

Project Area

Non-Wetland Sample Point

Delineated Wetland

Desktop Potential Wetlands and Waters

Page Name: A3

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1,000

Feet

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Figure 4 - A3

Wetlands and Waters

Survey Results

Summit Lake Solar

Nobles County, Minnesota

Tt

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server; Field Wetlands and Waters by Tetra Tech soils, and Project data by Summit Lake Solar, LLC. Scale: 1:9,000

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A1

A3

B2

B3

B4

C1

C2

C3

Reading

Project Area

Non-Wetland Sample Point

Delineated Wetland

Desktop Potential Wetlands and Waters

Page Name: B2

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500

1,000

Feet

N

Figure 4 - B2

Wetlands and Waters

Survey Results

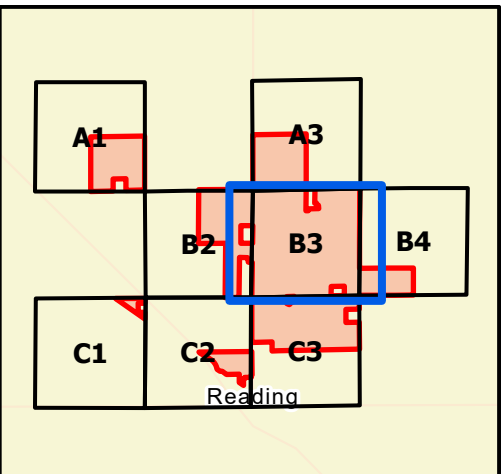
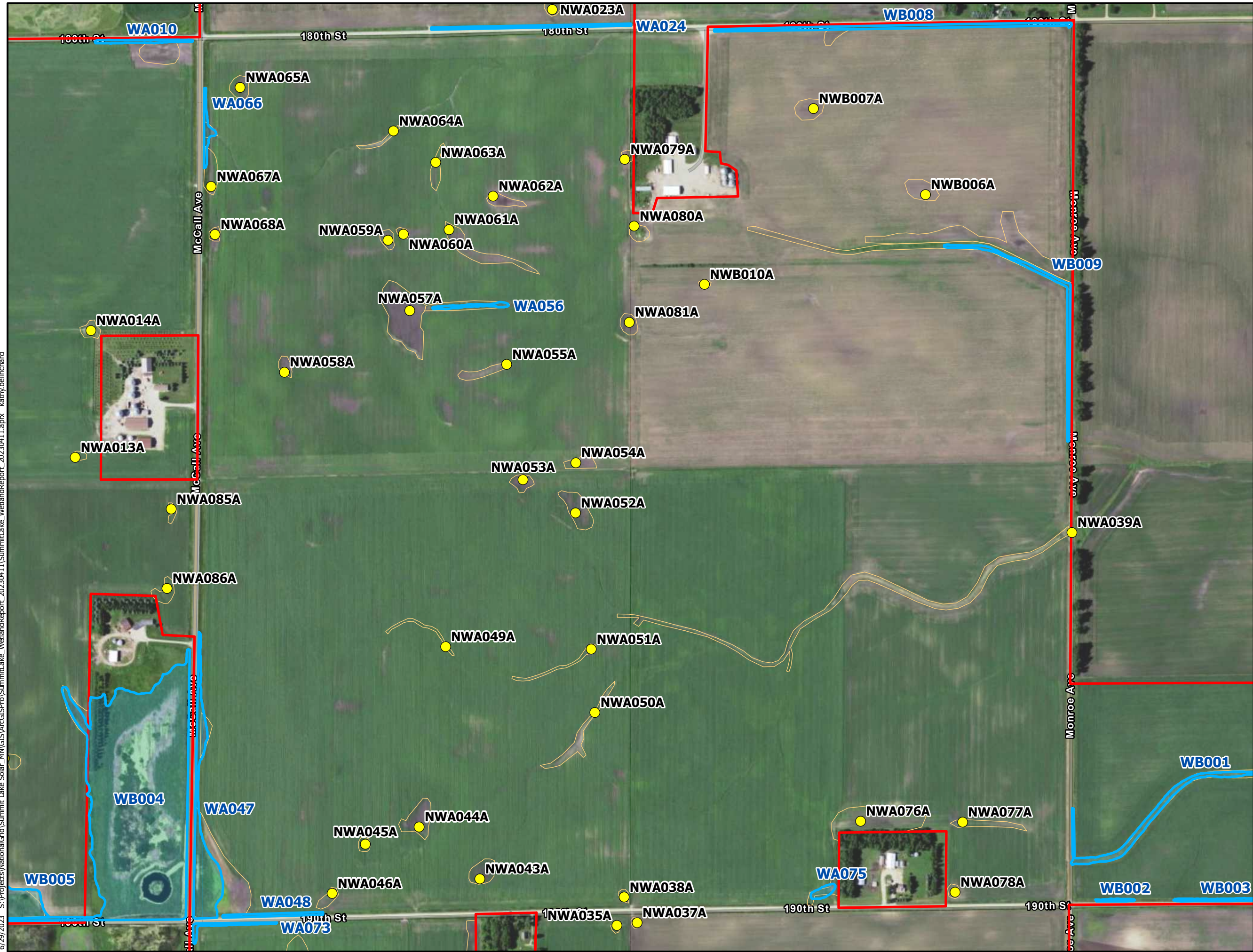
Summit Lake Solar

Nobles County, Minnesota

Tt

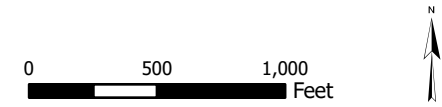
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Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech soils, and Project data by Summit Lake Solar, LLC. Scale: 1:9,000



- Project Area
- Non-Wetland Sample Point
- Delineated Wetland
- Desktop Potential Wetlands and Waters

Page Name: B3



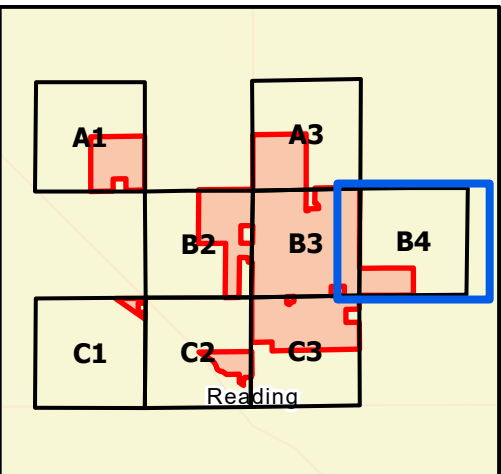
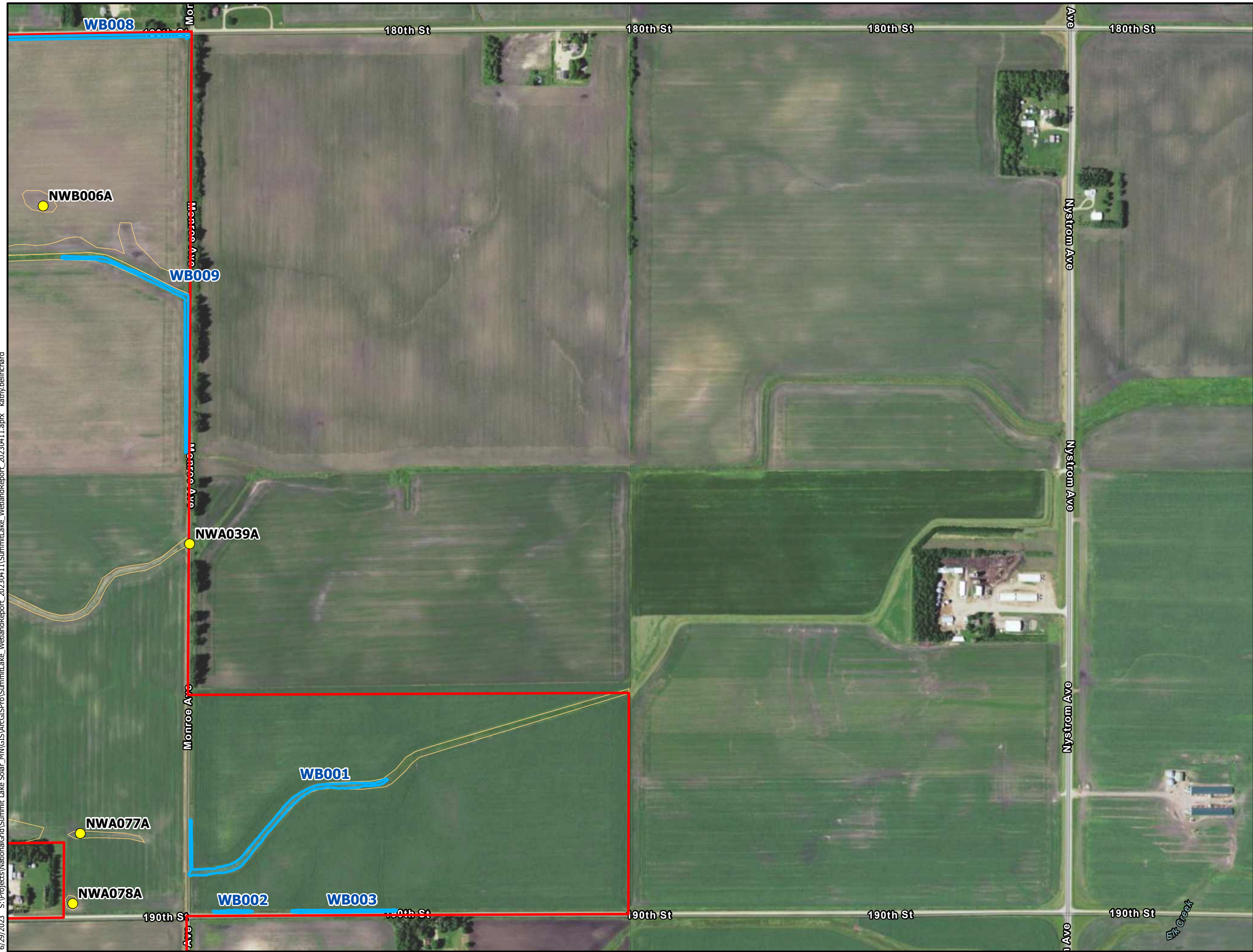
**Figure 4 - B3
Wetlands and Waters
Survey Results**

**Summit Lake Solar
Nobles County, Minnesota**



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Source: Map adapted from NAIP Imagery Hybrid Server; Field Wetlands and Waters by Tetra Tech soils, and Project data by Summit Lake Solar, LLC. Scale: 1:9,000



- Project Area
- Non-Wetland Sample Point
- Delineated Wetland
- Desktop Potential Wetlands and Waters

Page Name: B4

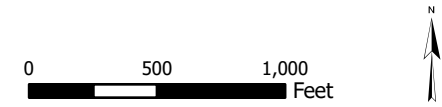
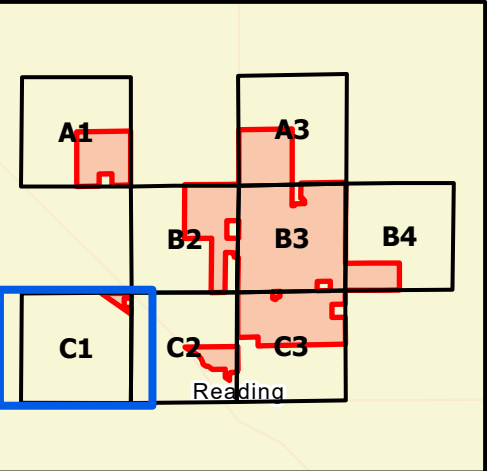
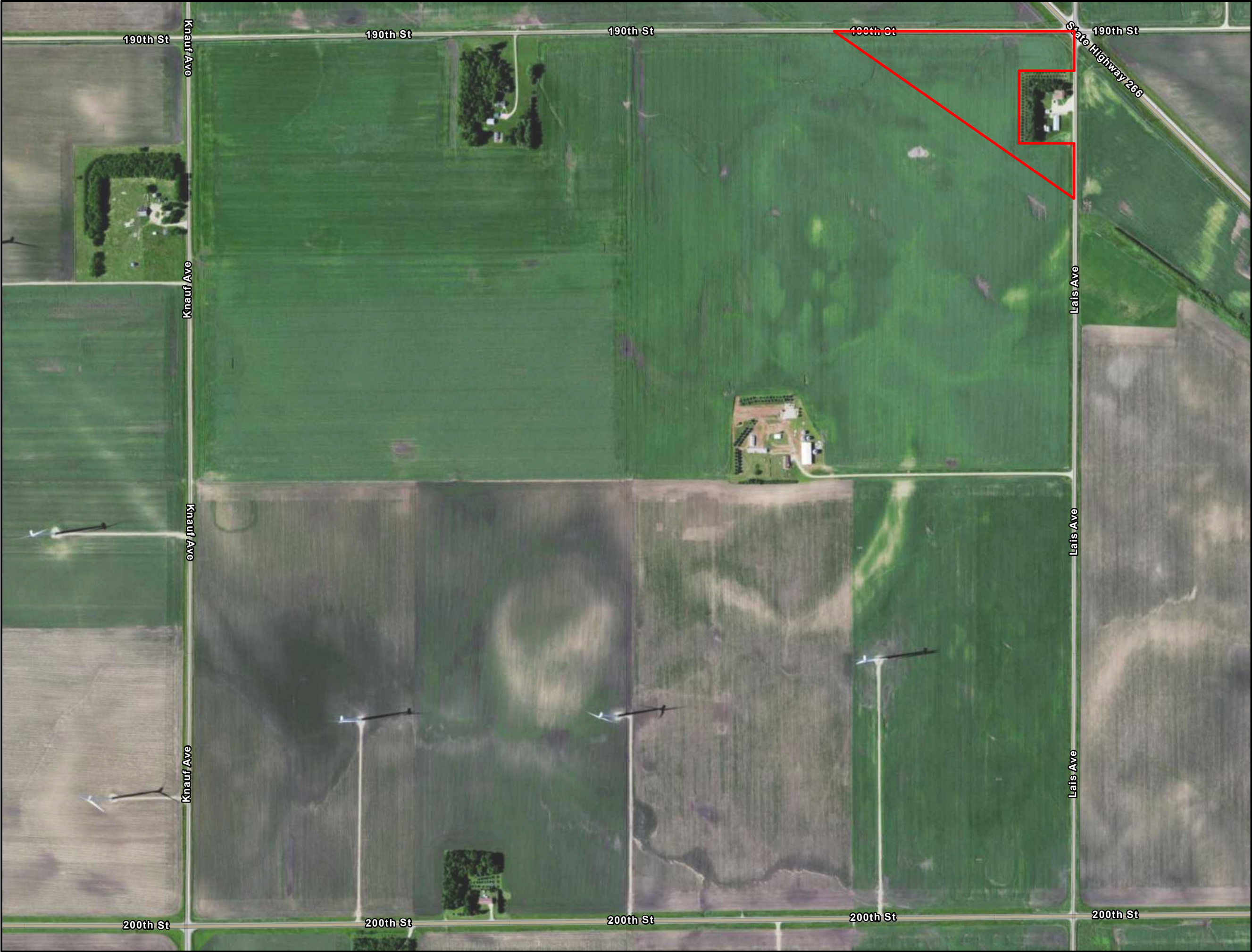


Figure 4 - B4 Wetlands and Waters Survey Results

Summit Lake Solar
Nobles County, Minnesota



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- Project Area
- Non-Wetland Sample Point
- Delineated Wetland
- Desktop Potential Wetlands and Waters

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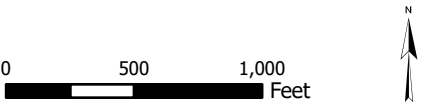
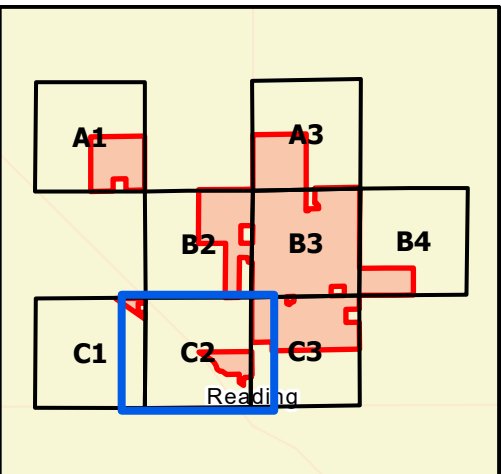
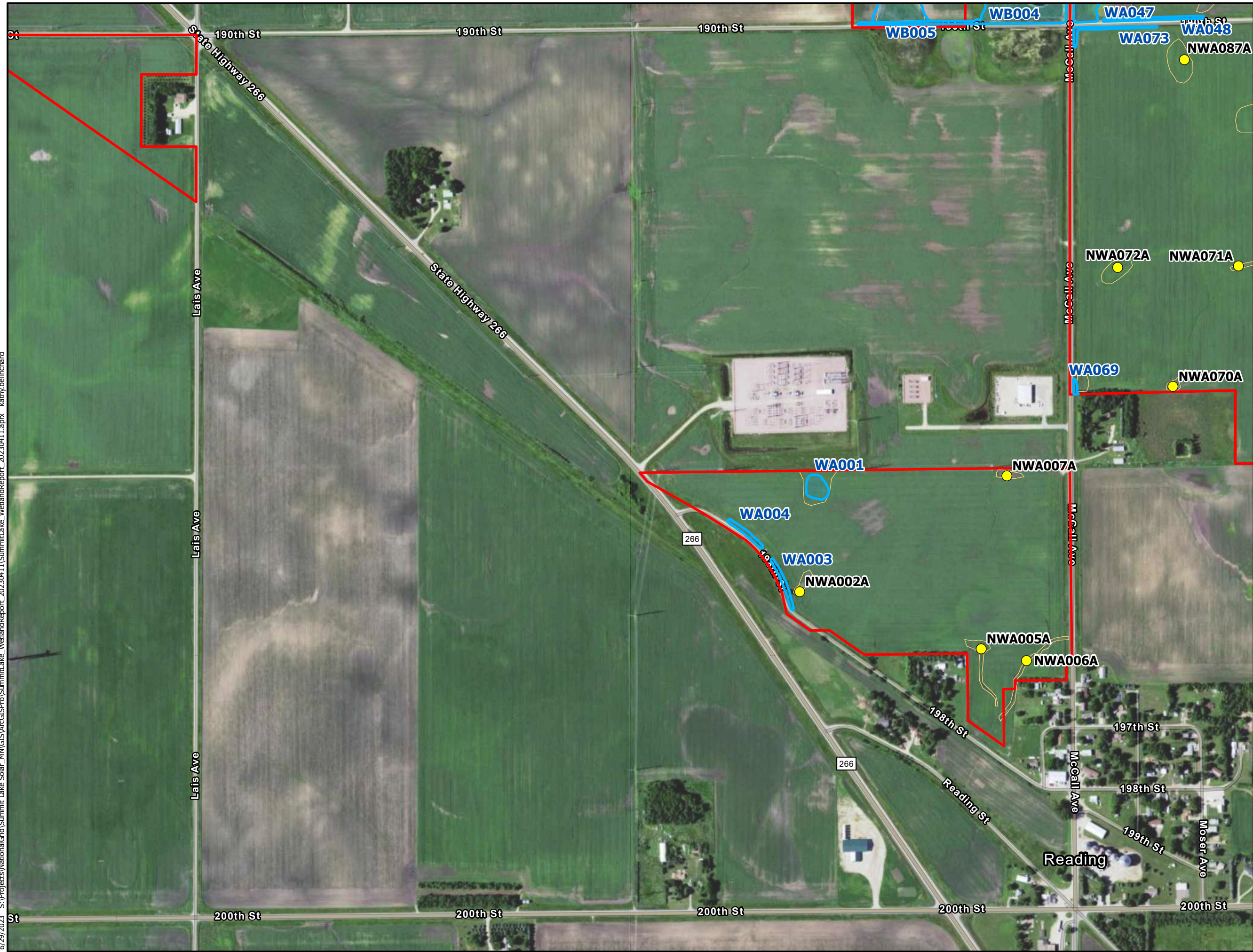


Figure 4 - C1 Wetlands and Waters Survey Results

Summit Lake Solar
Nobles County, Minnesota





- Project Area
- Non-Wetland Sample Point
- Delineated Wetland
- Desktop Potential Wetlands and Waters

Page Name: C2

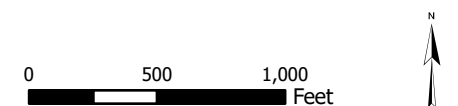
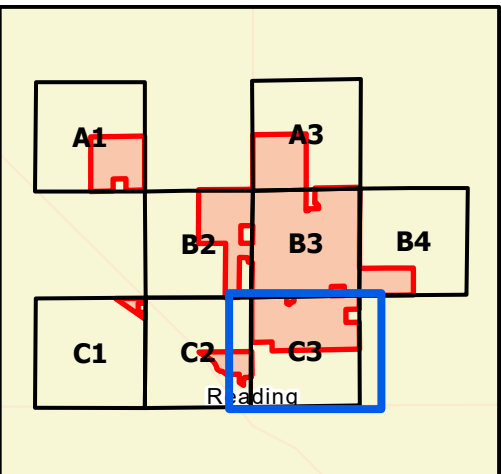
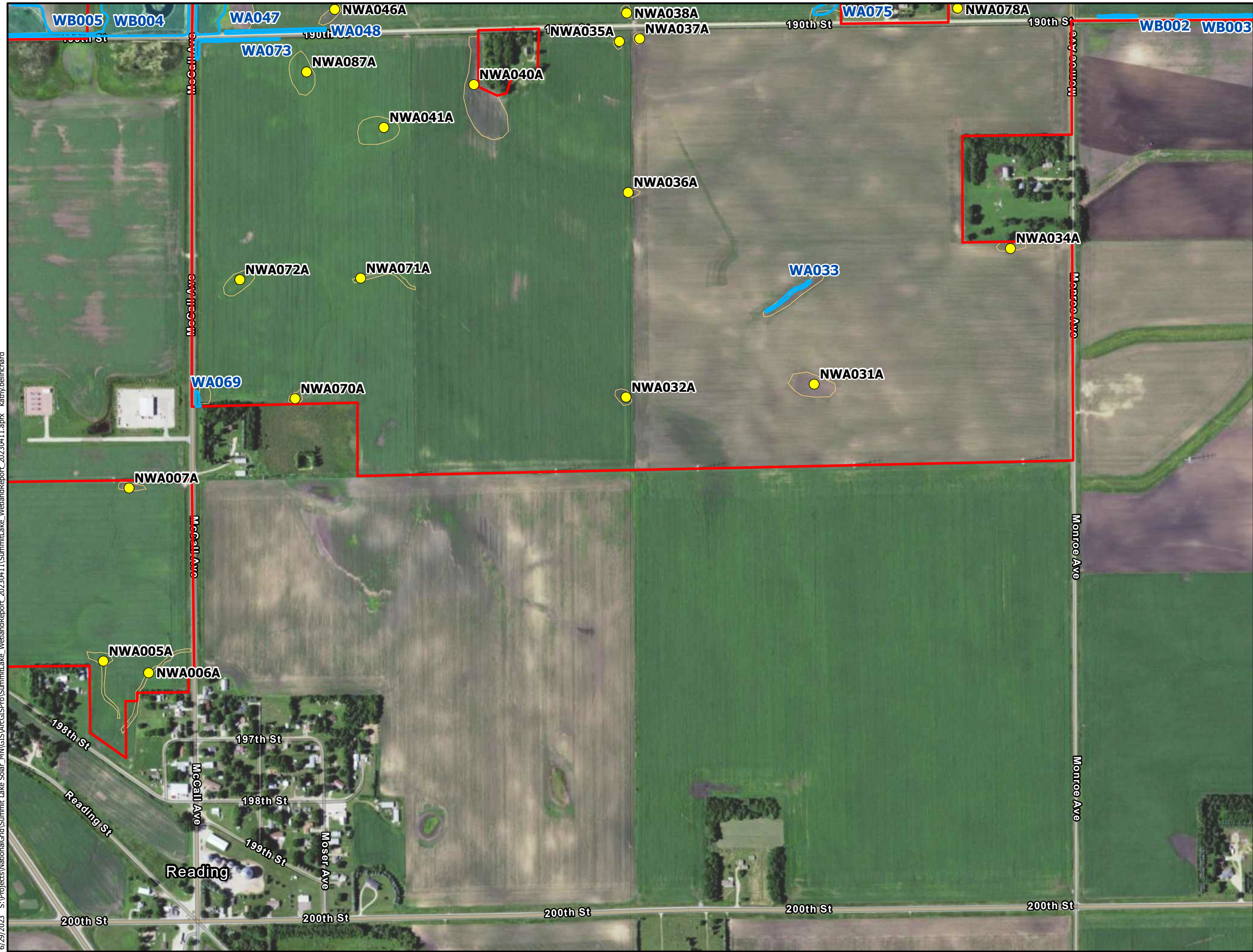


Figure 4 - C2 Wetlands and Waters Survey Results

Summit Lake Solar
Nobles County, Minnesota





- Project Area
- Non-Wetland Sample Point
- Delineated Wetland
- Desktop Potential Wetlands and Waters

Page Name: C3

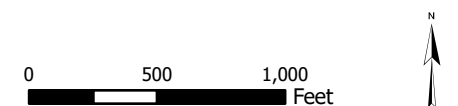


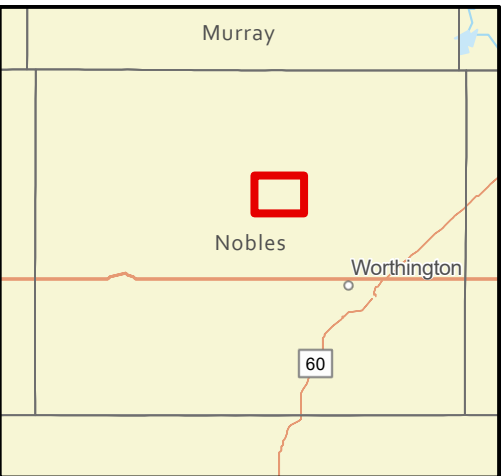
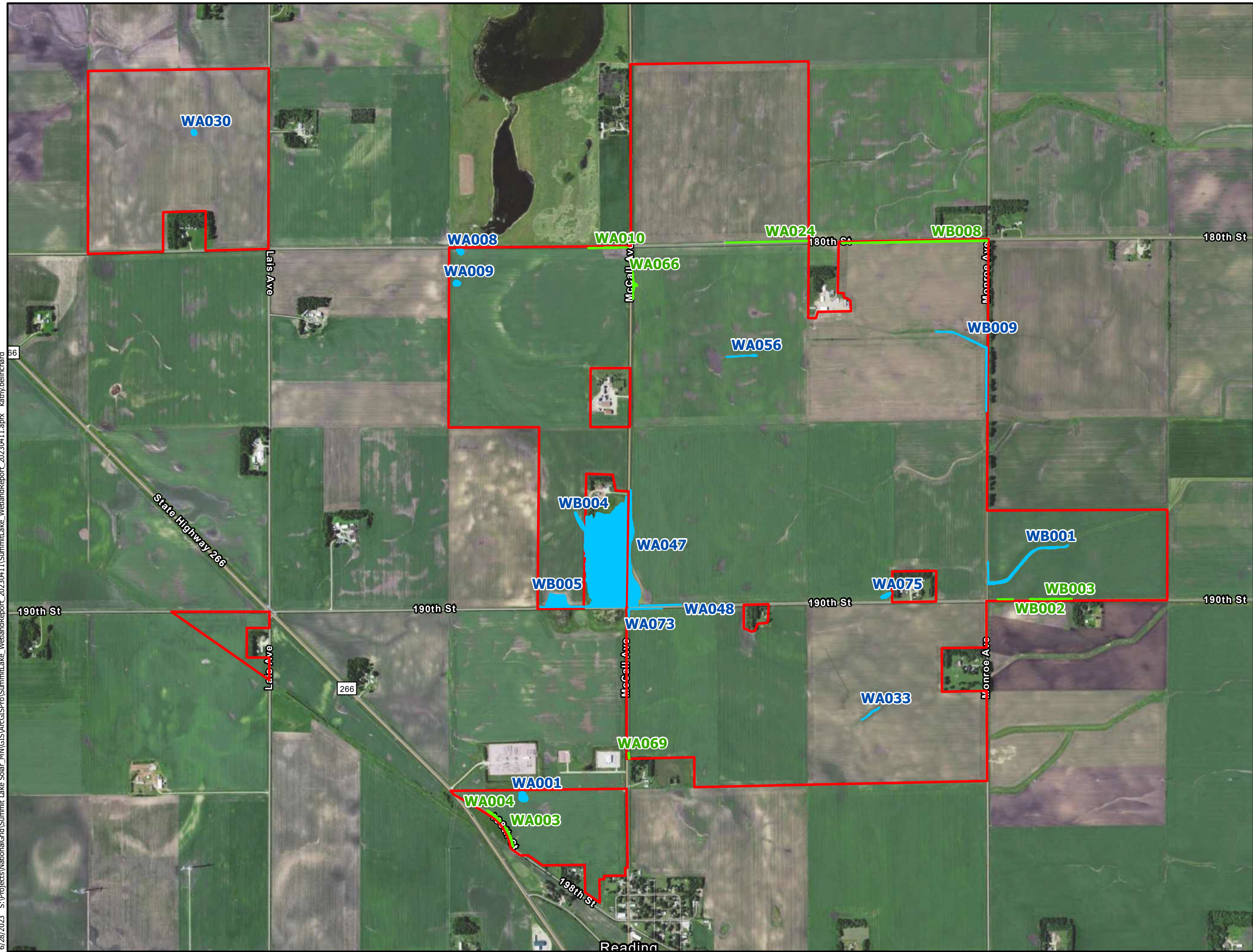
Figure 4 - C3 Wetlands and Waters Survey Results

Summit Lake Solar
Nobles County, Minnesota



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Source: Map adapted from NAIP Imagery Hybrid Server; Field Wetlands and Waters by Tetra Tech soils, and Project data by Summit Lake Solar, LLC. Scale: 1:9,000



- Project Area
- Recommended Regulatory Jurisdiction***
- LGU
 - Not Regulated

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE and LGU.



Figure 5
Wetlands and Waters Jurisdiction

Summit Lake Solar
Nobles County, Minnesota



APPENDIX B: WETLAND DETERMINATION DATA FORMS AND PHOTOGRAPHS

Wetland ID

WA001

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/10/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA001A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.23 T103N R41W
 Landform (hillslope, terrace, etc.): Broad Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.71028 Long: -95.71885 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)

Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No

Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WA001</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u> </u> =Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u>X</u> (explain)
<u>Herb Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
6. <u> </u>				
7. <u> </u>				
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Present? <u>Yes</u>
<u>Woody Vine Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
<u> </u> =Total Cover				

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

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA001A

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 2/1	100					Clay	
8-18	10YR 2/1	99	7.5YR 4/4	1	C	PL	Clay	Distinct or Prominent
18-22	10YR 3/1	95	10YR 4/4	5	C	PL	Silty Clay	Distinct or Prominent
22-30	2.5Y 3/1	90	10YR 4/4	10	C	PL	Silty Clay	Distinct or Prominent
30-36	2.5Y 5/2	90	10YR 5/6	10	C	PL	Silty Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/10/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA001B
 Investigator(s): Susan Mayer Section, Township, Range: Sec.23 T103N R41W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43.71008 Long: -95.71877 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WA001</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
=Total Cover					

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA001B

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**		
0-20	10YR 2/1	100					Clay Loam	
20-30	10YR 2/1	95	10YR 4/4	5	C	PL	Clay Loam	Distinct or Prominent
30-38	10YR 3/1	80	10YR 4/4	20	C	PL	Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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: Rock
 Depth (inches): 38

Hydric Soil Present? Yes

Remarks:

A12 Assumed

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WA001A.

Direction: North

Photo ID: delin_photo-20221010-173817.jpg

Date: 10/10/2022

Project Name: Summit Lake Solar

Feature ID: WA001



Overview of upland sample point WA001B.

Direction: Southeast

Photo ID: delin_photo-20221010-180232.jpg

Date: 10/10/2022

Project Name: Summit Lake Solar

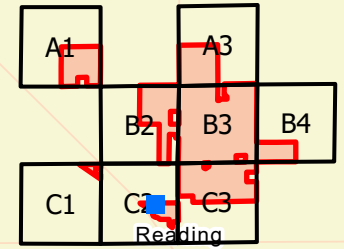
Feature ID: WA001



Overview of wetland WA001.

Direction: North	Photo ID: f_photo-20221010-180419.jpg	Date: 10/10/2022
Project Name: Summit Lake Solar		Feature ID: WA001

6/20/2023 S:\Projects\NationalGrid\Summit Lake Solar_MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20230411.aprx kathy.belrichard



 Project Area

Wetland Survey

-  Wetland Sample Plot
-  Delineated Wetland WA001
-  Other Delineated Wetland

2-foot Elevation Contour

-  Index
-  Intermediate

0 30 60 90 120 Feet



Wetland ID
WA001

Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota



Wetland ID

WA003

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/10/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA003A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.23 T103N R41W
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 43.70917 Long: -95.71995 Datum: WGS84
 Soil Map Unit Name: Nicollet clay loam, 1 to 3 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WA003</u>		
Remarks:		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet 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%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>100</u> x 2 = <u>200</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>100</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>2</u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=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)
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Phalaris arundinacea</i>		100	Y	FACW	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
100 =Total Cover					
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				Hydrophytic Vegetation Present? <u>Yes</u>
1.					
2.					
=Total Cover					

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

Bare ground/open water: 0%

SOIL

Sampling Point: WA003A

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**		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

Potential underground utility conflict. Hydric soils assumed.

HYDROLOGY**Wetland Hydrology Indicators:**

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☐ Depth (inches): _____
 Saturation Present? Yes ☐ No ☐ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/10/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA003B
 Investigator(s): Susan Mayer Section, Township, Range: Sec.23 T103N R41W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 43.70919 Long: -95.71988 Datum: WGS84
 Soil Map Unit Name: Nicollet clay loam, 1 to 3 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WA003</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
=Total Cover					

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA003B

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**		
0-25	10YR 2/1	100					Clay Loam	
25-35	10YR 2/1	50	2.5Y 4/3	50	C	M	Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

A12 assumed

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WA003A.

Direction: West

Photo ID: delin_photo-20221010-183843.jpg

Date: 10/10/2022

Project Name: Summit Lake Solar

Feature ID: WA003



Overview of upland sample point WA003B.

Direction: East

Photo ID: delin_photo-20221010-190326.jpg

Date: 10/10/2022

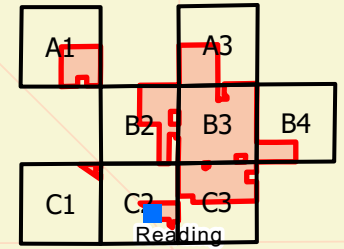
Project Name: Summit Lake Solar

Feature ID: WA003

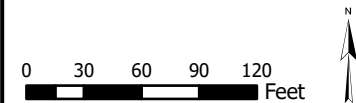


Overview of wetland WA003.

Direction: Southeast	Photo ID: f_photo-20221010-190907.jpg	Date: 10/10/2022
Project Name: Summit Lake Solar		Feature ID: WA003



-  Project Area
- Wetland Survey**
-  Wetland Sample Plot
 -  Delineated Wetland WA003
 -  Other Delineated Wetland
- 2-foot Elevation Contour**
-  Index
 -  Intermediate



Wetland ID
WA003

Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota



Wetland ID

WA004

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/10/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA004A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.23 T103N R41W
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.70939 Long: -95.7202 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)

Are vegetation , soil , or hydrology Significantly disturbed? Are "normal circumstances present? Yes

Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WA004</u>		
Remarks:		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status
1.				
2.				
3.				
4.				
5.				
				=Total Cover
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)			
1.				
2.				
3.				
4.				
5.				
				=Total Cover
<u>Herb Stratum</u>	(Plot size: <u>5</u>)			
1. <i>Phalaris arundinacea</i>		100	Y	FACW
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
				100 =Total Cover
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)			
1.				
2.				
				=Total Cover

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>100</u>	x 2 = <u>200</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>100</u> (A)	<u>200</u> (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

X Rapid test for hydrophytic vegetation

X 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?

Yes

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

Bare ground/open water: 0%

SOIL

Sampling Point: WA004A

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**		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

Potential underground utility conflict. Hydric soils assumed.

HYDROLOGY**Wetland Hydrology Indicators:**

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☐ Depth (inches): _____
 Saturation Present? Yes ☐ No ☐ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/10/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA004B
 Investigator(s): Susan Mayer Section, Township, Range: Sec.23 T103N R41W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 43.70943 Long: -95.72015 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WA004</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
=Total Cover					
Herb Stratum	(Plot size: <u>5</u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u> *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
=Total Cover					
Woody Vine Stratum	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA004B

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**		
0-15	10YR 2/1	100					Clay Loam	
15-20	10YR 2/1	75	2.5Y 5/3	25	C	PL	Clay Loam	Distinct or Prominent
20-30	2.5Y 5/4	90	2.5Y 5/6	10	C	PL	Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WA004A.

Direction: Southwest

Photo ID: delin_photo-20221010-191251.jpg

Date: 10/10/2022

Project Name: Summit Lake Solar

Feature ID: WA004



Overview of upland sample point WA004B.

Direction: Northeast

Photo ID: delin_photo-20221010-192549.jpg

Date: 10/10/2022

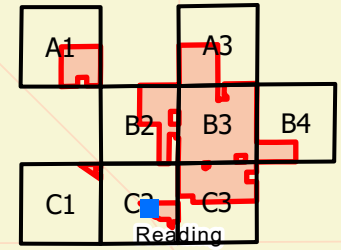
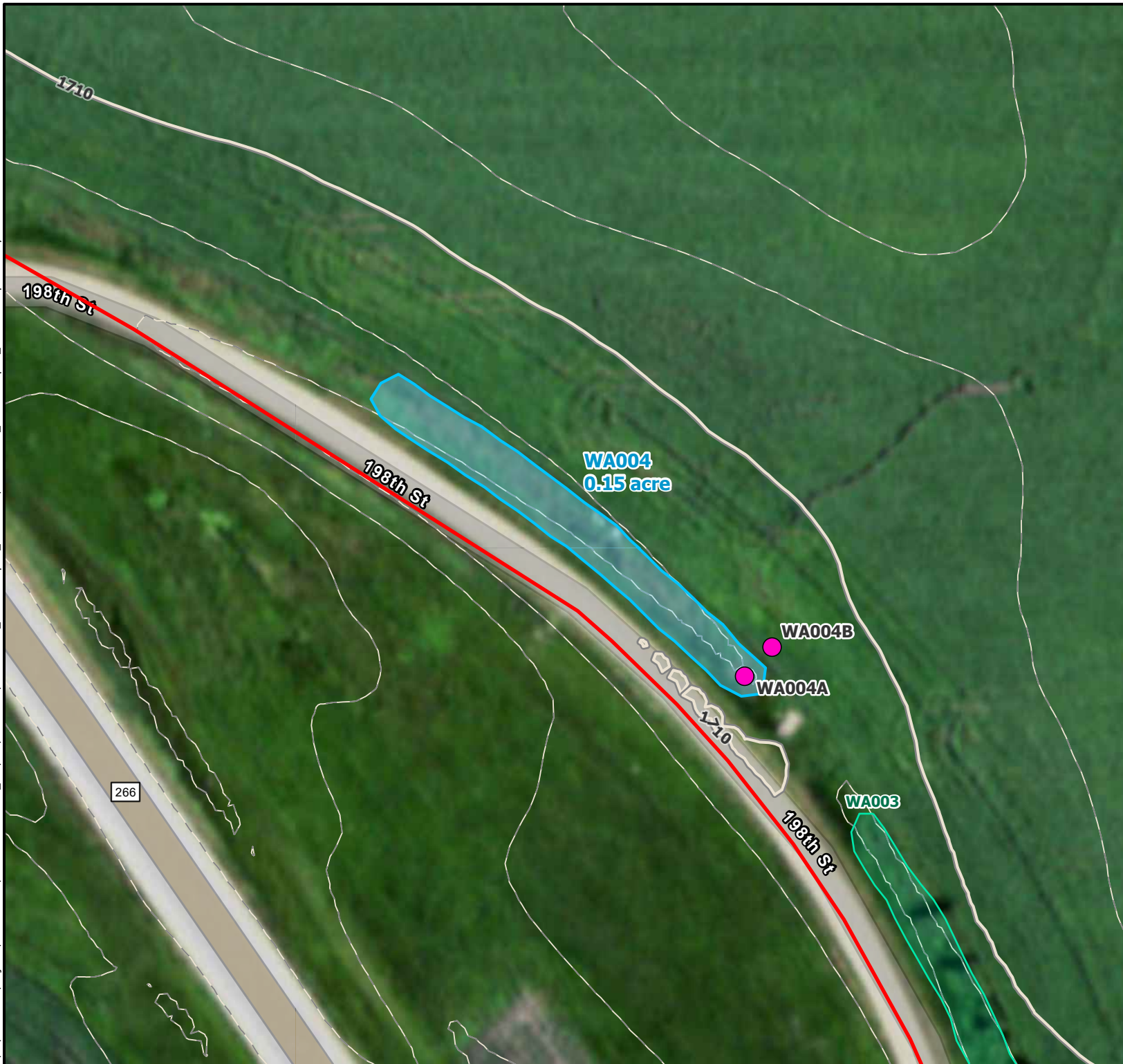
Project Name: Summit Lake Solar

Feature ID: WA004

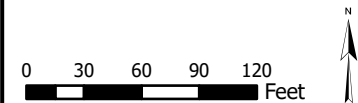


Overview of wetland WA004.

Direction: Southwest	Photo ID: f_photo-20221010-192637.jpg	Date: 10/10/2022
Project Name: Summit Lake Solar		Feature ID: WA004



-  Project Area
- Wetland Survey**
-  Wetland Sample Plot
 -  Delineated Wetland WA004
 -  Other Delineated Wetland
- 2-foot Elevation Contour**
-  Index
 -  Intermediate



Wetland ID
WA004

Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota



Wetland ID

WA008

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/10/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA008A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.14 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.73227 Long: -95.72244 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WA008</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u> </u> =Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u>X</u> (explain)
<u>Herb Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
6. <u> </u>				
7. <u> </u>				
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Present? <u>Yes</u>
<u>Woody Vine Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
<u> </u> =Total Cover				

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA008A

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**		
0-15	10YR 2/1	100					Clay Loam	
15-22	10YR 2/1	98	2.5Y 5/4	2	C	PL	Clay Loam	Distinct or Prominent
22-30	10YR 2/1	100					Clay Loam	
30-40	10YR 3/1	100					Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

A12 assumed

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/10/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA008B
 Investigator(s): Susan Mayer Section, Township, Range: Sec.14 T103N R41W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 3 Lat: 43.73206 Long: -95.72251 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WA008</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
=Total Cover					

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA008B

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**		
0-40	10YR 2/1	100					Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

A12 assumed

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WA008A.

Direction: North

Photo ID: delin_photo-20221010-213915.jpg

Date: 10/10/2022

Project Name: Summit Lake Solar

Feature ID: WA008



Overview of upland sample point WA008B.

Direction: South

Photo ID: delin_photo-20221010-215628.jpg

Date: 10/10/2022

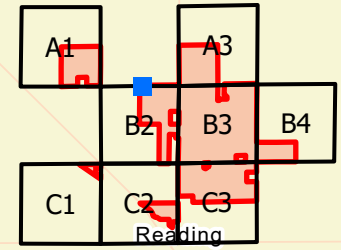
Project Name: Summit Lake Solar

Feature ID: WA008

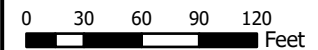


Overview of wetland WA008.

Direction: Northeast	Photo ID: f_photo-20221010-215909.jpg	Date: 10/10/2022
Project Name: Summit Lake Solar		Feature ID: WA008



-  Project Area
- Wetland Survey**
-  Wetland Sample Plot
 -  Delineated Wetland WA008
 -  Other Delineated Wetland
- 2-foot Elevation Contour**
-  Index
 -  Intermediate



Wetland ID
WA008

Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota



Wetland ID

WA009

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/10/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA009A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.14 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.73103 Long: -95.72265 Datum: WGS84
 Soil Map Unit Name: Clarion loam, 2 to 6 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WA009</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u> </u> =Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u>X</u> (explain)
<u>Herb Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
6. <u> </u>				
7. <u> </u>				
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Present? <u>Yes</u>
<u>Woody Vine Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
<u> </u> =Total Cover				

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA009A

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**		
0-17	10YR 2/1	100					Clay Loam	
17-30	10YR 2/1	97	10YR 4/4	3	C	PL/M	Clay Loam	Distinct or Prominent
30-40	10YR 3/1	90	10YR 5/4	5	C	PL/M	Clay Loam	Distinct or Prominent
			10YR 4/6	5	C	PL/M		Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

A12 assumed

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/10/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA009B
 Investigator(s): Susan Mayer Section, Township, Range: Sec.14 T103N R41W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 3 Lat: 43.73117 Long: -95.72268 Datum: WGS84
 Soil Map Unit Name: Clarion loam, 2 to 6 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WA009</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					
					=Total Cover
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
1.					
2.					
3.					
4.					
5.					
					=Total Cover
<u>Herb Stratum</u>	(Plot size: <u> </u>)				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
					=Total Cover
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				Hydrophytic Vegetation Present? <u>No</u>
1.					
2.					
					=Total Cover

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

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA009B

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					Clay Loam	
6-18	10YR 2/1	50	10YR 3/1	50	C	PL/M	Clay Loam	Faint
18-25	10YR 3/2	80	10YR 4/6	20	C	PL/M	Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

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)

Secondary Indicators (minimum of two required)

- ☐ 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)
- ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WA009A.

Direction: South

Photo ID: delin_photo-20221010-222948.jpg

Date: 10/10/2022

Project Name: Summit Lake Solar

Feature ID: WA009



Overview of upland sample point WA009B.

Direction: North

Photo ID: delin_photo-20221010-224241.jpg

Date: 10/10/2022

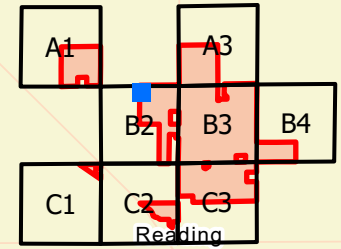
Project Name: Summit Lake Solar

Feature ID: WA009

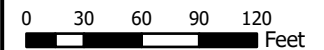


Overview of wetland WA009.

Direction: South	Photo ID: f_photo-20221010-224413.jpg	Date: 10/10/2022
Project Name: Summit Lake Solar		Feature ID: WA009



-  Project Area
- Wetland Survey**
-  Wetland Sample Plot
 -  Delineated Wetland WA009
 -  Other Delineated Wetland
- 2-foot Elevation Contour**
-  Index
 -  Intermediate



**Wetland ID
WA009**

**Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota**



Wetland ID

WA010

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/11/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA010A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.11 T103N R41W
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.7324 Long: -95.71389 Datum: WGS84
 Soil Map Unit Name: Glencoe silty clay loam, 0 to 1 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WA010</u>		
Remarks:		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet 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%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</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>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=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)
=Total Cover					
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Phalaris arundinacea</i>		100	Y	FACW	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
100 =Total Cover					Hydrophytic Vegetation Present? <u>Yes</u> *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
=Total Cover					
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

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

Bare ground/open water: 0%

SOIL

Sampling Point: WA010A

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**		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

Potential underground utility conflict. Hydric soils assumed.

HYDROLOGY**Wetland Hydrology Indicators:**

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☐ Depth (inches): _____
 Saturation Present? Yes ☐ No ☐ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/11/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA010B
 Investigator(s): Susan Mayer Section, Township, Range: Sec.11 T103N R41W
 Landform (hillslope, terrace, etc.): Broad Depression Local relief (concave, convex, none): Concave
 Slope (%): 10 Lat: 43.73231 Long: -95.71388 Datum: WGS84
 Soil Map Unit Name: Glencoe silty clay loam, 0 to 1 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WA010</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
=Total Cover					
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA010B

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**		
0-22	10YR 3/2	100					Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

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) |

Secondary Indicators (minimum of two required)

- | | |
|--|--|
| ☐ Aquatic Fauna (B13) | ☐ Surface Soil Cracks (B6) |
| ☐ True Aquatic Plants (B14) | ☐ Drainage Patterns (B10) |
| ☐ Hydrogen Sulfide Odor (C1) | ☐ Dry-Season Water Table (C2) |
| ☐ Oxidized Rhizospheres on Living | ☐ Crayfish Burrows (C8) |
| ☐ Roots (C3) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Presence of Reduced Iron (C4) | ☐ Stunted or Stressed Plants (D1) |
| ☐ Recent Iron Reduction in Tilled Soils | ☒ Geomorphic Position (D2) |
| ☐ (C6) | ☐ FAC-Neutral Test (D5) |
| ☐ Thin Muck Surface (C7) | |
| ☐ Gauge or Well Data (D9) | |
| ☐ Other (Explain in Remarks) | |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WA010A.

Direction: North

Photo ID: delin_photo-20221011-132231.jpg

Date: 10/11/2022

Project Name: Summit Lake Solar

Feature ID: WA010



Overview of upland sample point WA010B.

Direction: South

Photo ID: delin_photo-20221011-132733.jpg

Date: 10/11/2022

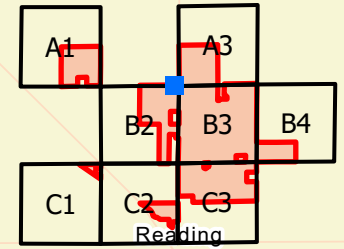
Project Name: Summit Lake Solar

Feature ID: WA010

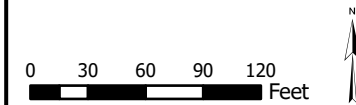


Overview of wetland WA010.

Direction: East	Photo ID: f_photo-20221011-132835.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar		Feature ID: WA010



- Project Area
- Wetland Survey**
 - Wetland Sample Plot
 - Delineated Wetland WA010
 - Other Delineated Wetland
- 2-foot Elevation Contour**
 - Index
 - Intermediate



Wetland ID
WA010

Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota



Wetland ID

WA024

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/11/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA024A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.12 T103N R41W
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.73268 Long: -95.70319 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WA024</u>		
Remarks:		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet 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%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</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>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=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)
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Spartina pectinata</i>		60	Y	FACW	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
60 =Total Cover					Hydrophytic Vegetation Present? <u>Yes</u>
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

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

Bare ground/open water: 40%

SOIL

Sampling Point: WA024A

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**		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

Potential underground utility conflict. Hydric soils assumed.

HYDROLOGY**Wetland Hydrology Indicators:**

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☐ Depth (inches): _____
 Saturation Present? Yes ☐ No ☐ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/11/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA024B
 Investigator(s): Susan Mayer Section, Township, Range: Sec.12 T103N R41W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 43.73274 Long: -95.7032 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WA024</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
=Total Cover					
Herb Stratum	(Plot size: <u>5</u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					
Woody Vine Stratum	(Plot size: <u>15</u>)				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1.					
2.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>

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

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA024B

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**		
0-15	10YR 2/1	100					Clay Loam	
15-18	10YR 2/1	90	10YR 4/3	10	C	PL	Silty Clay	Distinct or Prominent
18-28	10YR 2/1	100					Silty Clay	
28-32	10YR 2/1	95	2.5Y 5/3	5	C	PL/M	Silty Clay	Distinct or Prominent
32-40	2.5Y 5/3	50					Silty Clay	
	10YR 5/6	25						Mixed Matrix
	10YR 2/1	25						Mixed Matrix

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

Hydric Soil Indicators:

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

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? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WA024A.

Direction: Southeast

Photo ID: delin_photo-20221011-192906.jpg

Date: 10/11/2022

Project Name: Summit Lake Solar

Feature ID: WA024



Overview of upland sample point WA024B.

Direction: North

Photo ID: delin_photo-20221011-193832.jpg

Date: 10/11/2022

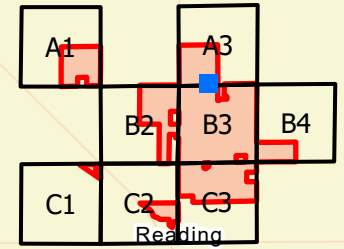
Project Name: Summit Lake Solar

Feature ID: WA024

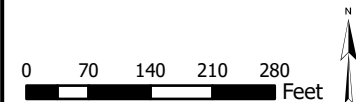


Overview of wetland WA024.

Direction: West	Photo ID: f_photo-20221011-193936.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar		Feature ID: WA024



-  Project Area
- Wetland Survey**
-  Wetland Sample Plot
 -  Delineated Wetland WA024
 -  Other Delineated Wetland
- 2-foot Elevation Contour**
-  Index
 -  Intermediate



Wetland ID
WA024

Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota



Wetland ID

WA030

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/11/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA030A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.10 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.73698 Long: -95.73722 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WA030</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u> </u> =Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u>X</u> (explain)
<u>Herb Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
6. <u> </u>				
7. <u> </u>				
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Present? <u>Yes</u>
<u>Woody Vine Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
<u> </u> =Total Cover				

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA030A

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**		
0-2	10YR 2/1	100					Clay Loam	
2-30	10YR 2/1	100					Silty Clay	
30-40	2.5Y 6/2	100					Silty Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Aquatic Fauna (B13) |
| ☐ High Water Table (A2) | ☐ True Aquatic Plants (B14) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Oxidized Rhizospheres on Living |
| ☐ Sediment Deposits (B2) | ☐ Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils |
| ☐ Iron Deposits (B5) | ☐ (C6) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Thin Muck Surface (C7) |
| ☐ Sparsely Vegetated Concave Surface (B8) | ☐ Gauge or Well Data (D9) |
| ☐ Water-Stained Leaves (B9) | ☐ 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 ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/11/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA030B
 Investigator(s): Susan Mayer Section, Township, Range: Sec.10 T103N R41W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 5 Lat: 43.73686 Long: -95.73729 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WA030</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u> </u> =Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
6. <u> </u>				
7. <u> </u>				
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
<u> </u> =Total Cover				

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA030B

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**		
0-34	10YR 2/1	100					Silty Clay	
34-40	2.5Y 5/2	100					Very Fine Sandy Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

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)

Secondary Indicators (minimum of two required)

- ☐ 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)
- ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WA030A.

Direction: Southwest

Photo ID: delin_photo-20221011-220856.jpg

Date: 10/11/2022

Project Name: Summit Lake Solar

Feature ID: WA030



Overview of upland sample point WA030B.

Direction: South

Photo ID: delin_photo-20221011-221230.jpg

Date: 10/11/2022

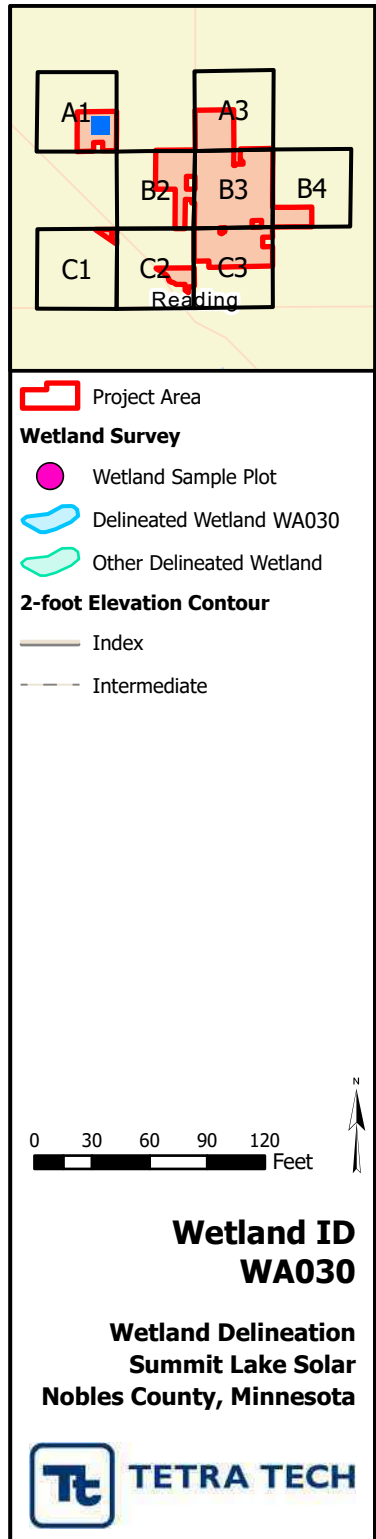
Project Name: Summit Lake Solar

Feature ID: WA030



Overview of wetland WA030.

Direction: Northeast	Photo ID: f_photo-20221011-221212.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar		Feature ID: WA030



Wetland ID

WA033

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/12/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA033A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.24 T103N R41W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave
 Slope (%): 1 Lat: 43.71391 Long: -95.69918 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WA033</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					
				<u> </u> =Total Cover	Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
				<u> </u> =Total Cover	
<u>Herb Stratum</u>	(Plot size: <u> </u>)				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u>X</u> (explain)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
				<u> </u> =Total Cover	
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				Hydrophytic Vegetation Present? <u>Yes</u>
1.					
2.					
				<u> </u> =Total Cover	

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

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA033A

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**		
0-14	10YR 2/1	100					Clay Loam	
14-24	2.5Y 5/2	60	2.5Y 5/4	20	C	PL/M	Silty Clay Loam	Distinct or Prominent
			2.5Y 5/6	20	C	PL/M		Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/12/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA033B
 Investigator(s): Susan Mayer Section, Township, Range: Sec.24 T103N R41W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 5 Lat: 43.71383 Long: -95.69913 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WA033</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u> </u> =Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
6. <u> </u>				
7. <u> </u>				
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
<u> </u> =Total Cover				

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA033B

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**		
0-18	10YR 2/1	100					Clay Loam	
18-32	2.5Y 3/1	90	10YR 4/6	10	C	PL/M	Clay Loam	Distinct or Prominent
32-38	2.5Y 4/1	85	10YR 4/6	15	C	PL/M	Silty Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

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)

Secondary Indicators (minimum of two required)

- ☐ 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)
- ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WA033A.

Direction: Northwest

Photo ID: delin_photo-20221012-141028.jpg

Date: 10/12/2022

Project Name: Summit Lake Solar

Feature ID: WA033



Overview of upland sample point WA033B.

Direction: Southeast

Photo ID: delin_photo-20221012-142255.jpg

Date: 10/12/2022

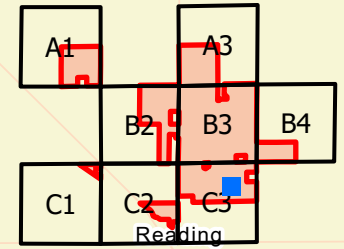
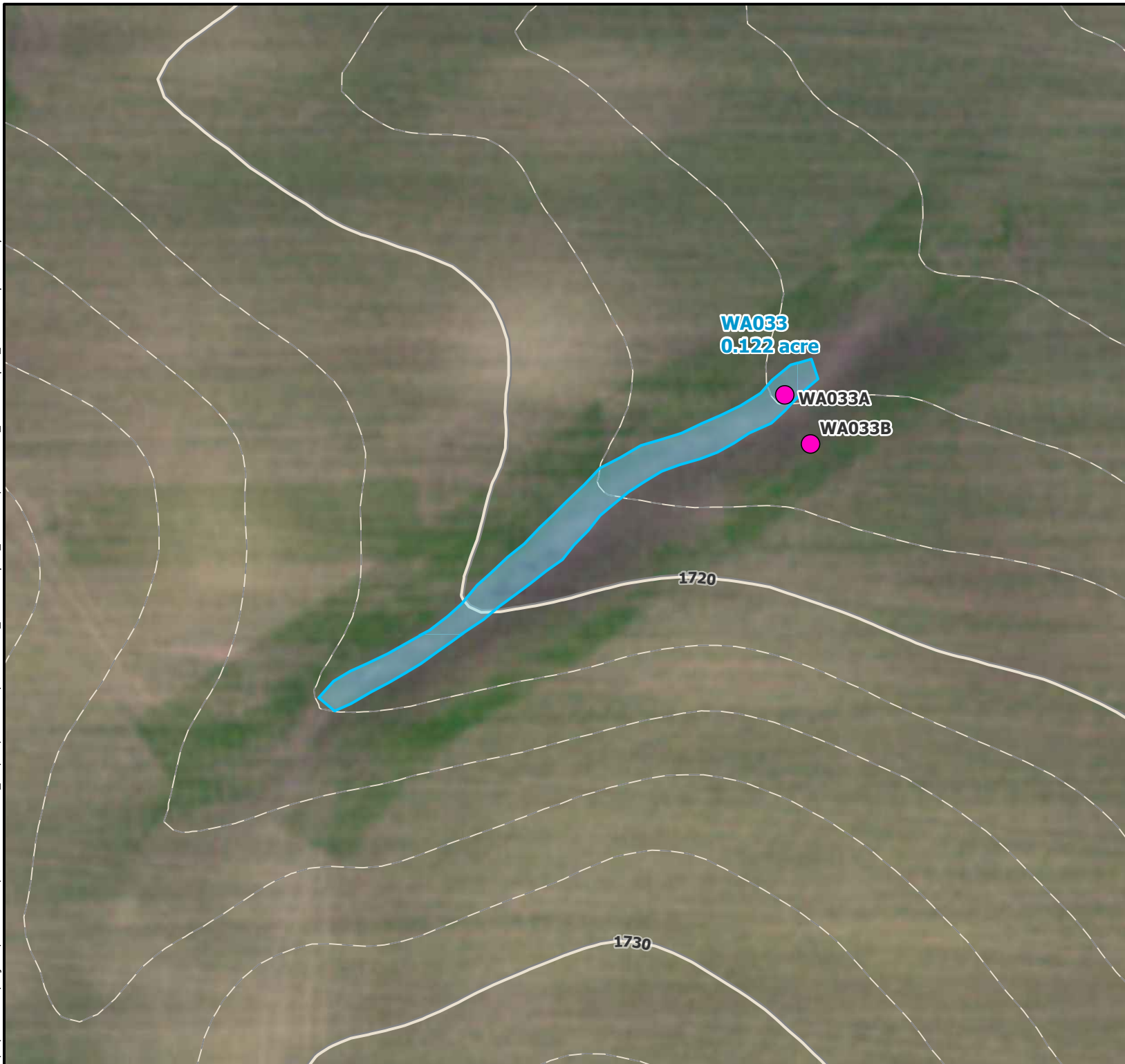
Project Name: Summit Lake Solar

Feature ID: WA033

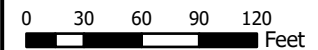
No Photo Available

Overview of wetland WA033.

Direction:	Photo ID: f_photo-20221012-141051.jpg	Date: 10/12/2022
Project Name: Summit Lake Solar		Feature ID: WA033



-  Project Area
- Wetland Survey**
-  Wetland Sample Plot
 -  Delineated Wetland WA033
 -  Other Delineated Wetland
- 2-foot Elevation Contour**
-  Index
 -  Intermediate



Wetland ID
WA033

Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota



Wetland ID

WA047

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/12/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA047A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.71873 Long: -95.71261 Datum: WGS84
 Soil Map Unit Name: Canisteo clay loam, 0 to 2 percent slopes NWI Classification: PEM1C

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WA047</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u>X</u> (explain)
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>Yes</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
=Total Cover					

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA047A

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**		
0-7	10YR 2/1	100					Clay Loam	
7-10	10YR 2/1	95	2.5Y 6/2	5	D	M	Clay Loam Trace Gravel	
10-15	10YR 2/1	100					Clay Loam Trace Gravel	
15-21	2.5Y 5/2	95	2.5Y 5/6	5	C	PL	Clay Loam Trace Gravel	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/12/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA047B
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 5 Lat: 43.71895 Long: -95.71252 Datum: WGS84
 Soil Map Unit Name: Canisteo clay loam, 0 to 2 percent slopes NWI Classification: PEM1C

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WA047</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
=Total Cover					

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA047B

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**		
0-15	10YR 2/1	100					Clay Loam	
15-24	2.5Y 5/1	90	10YR 2/1	10	D	M	Sandy Clay Loam	Faint

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

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)

Secondary Indicators (minimum of two required)

- ☐ 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)
- ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WA047A.

Direction: West

Photo ID: delin_photo-20221012-215343.jpg

Date: 10/12/2022

Project Name: Summit Lake Solar

Feature ID: WA047



Overview of upland sample point WA047B.

Direction: East

Photo ID: delin_photo-20221012-220148.jpg

Date: 10/12/2022

Project Name: Summit Lake Solar

Feature ID: WA047



Overview of wetland WA047.

Direction: West

Photo ID: f_photo-20221012-215303.jpg

Date: 10/12/2022

Project Name: Summit Lake Solar

Feature ID: WA047



Overview of wetland WA047.

Direction: North

Photo ID: f_photo-20221012-220431.jpg

Date: 10/12/2022

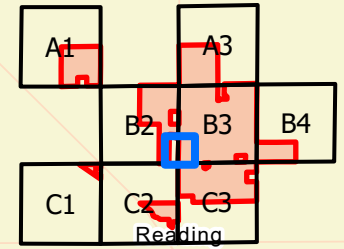
Project Name: Summit Lake Solar

Feature ID: WA047

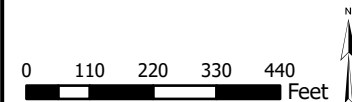


Overview of wetland WA047.

Direction: South	Photo ID: f_photo-20221012-221522.jpg	Date: 10/12/2022
Project Name: Summit Lake Solar		Feature ID: WA047



- Project Area
- Wetland Survey**
- Wetland Sample Plot
 - Delineated Wetland WA047
 - Other Delineated Wetland
- 2-foot Elevation Contour**
- Index
 - Intermediate



Wetland ID
WA047

Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota



Wetland ID

WA048

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/12/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA048A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.71804 Long: -95.71233 Datum: WGS84
 Soil Map Unit Name: Glencoe silty clay loam, 0 to 1 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WA048</u>		
Remarks:		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet 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%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</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>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=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)
Herb Stratum	(Plot size: <u>5</u>)				
1. <i>Phalaris arundinacea</i>		100	Y	FACW	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
100 =Total Cover					Hydrophytic Vegetation Present? <u>Yes</u>
Woody Vine Stratum	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

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

Bare ground/open water: 0%

SOIL

Sampling Point: WA048A

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**		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

Potential underground utility conflict. Hydric soils assumed.

HYDROLOGY**Wetland Hydrology Indicators:**

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☐ Depth (inches): _____
 Saturation Present? Yes ☐ No ☐ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/12/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA048B
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 43.71806 Long: -95.71233 Datum: WGS84
 Soil Map Unit Name: Glencoe silty clay loam, 0 to 1 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WA048</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA048B

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**		
0-20	10YR 2/1	100					Clay Loam Trace Gravel	
20-26	2.5Y 5/2	99	2.5Y 6/8	1	C	PL	Clay Loam	Distinct or Prominent

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

Hydric Soil Indicators:

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

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? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WA048A.

Direction: Southeast

Photo ID: delin_photo-20221012-222017.jpg

Date: 10/12/2022

Project Name: Summit Lake Solar

Feature ID: WA048



Overview of upland sample point WA048B.

Direction: North

Photo ID: delin_photo-20221012-223158.jpg

Date: 10/12/2022

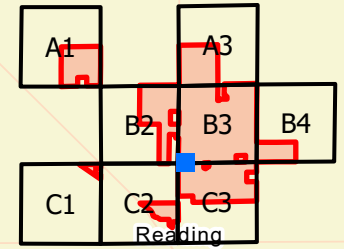
Project Name: Summit Lake Solar

Feature ID: WA048

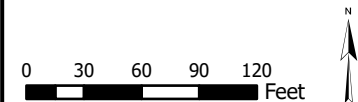


Overview of wetland WA048.

Direction: East	Photo ID: f_photo-20221012-223127.jpg	Date: 10/12/2022
Project Name: Summit Lake Solar		Feature ID: WA048



-  Project Area
- Wetland Survey**
-  Wetland Sample Plot
 -  Delineated Wetland WA048
 -  Other Delineated Wetland
- 2-foot Elevation Contour**
-  Index
 -  Intermediate



Wetland ID
WA048

Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota



Wetland ID

WA056

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/13/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA056A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.72808 Long: -95.70614 Datum: WGS84
 Soil Map Unit Name: Clarion loam, 2 to 6 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WA056</u>		
Remarks:		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet 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%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</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>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=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)
=Total Cover					
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Phalaris arundinacea</i>		<u>85</u>	<u>Y</u>	<u>FACW</u>	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>85</u> =Total Cover					Hydrophytic Vegetation Present? <u>Yes</u>
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

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

Bare ground/open water: 15%

SOIL

Sampling Point: WA056A

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 2/1	100					Clay Loam	
8-20	10YR 2/1	90	2.5Y 4/3	5	C	PL/M	Clay Loam	Distinct or Prominent
			10YR 4/4	5	C	PL/M		Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/13/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA056B
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): Convex
 Slope (%): 3 Lat: 43.72814 Long: -95.70613 Datum: WGS84
 Soil Map Unit Name: Clarion loam, 2 to 6 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WA056</u>		
Remarks: Recently tilled agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					
				=Total Cover	Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u>Sapling/Shrub Stratum</u>		(Plot size: <u>15</u>)			
1.					
2.					
3.					
4.					
5.					
				=Total Cover	
<u>Herb Stratum</u>		(Plot size: <u>5</u>)			Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
				=Total Cover	
<u>Woody Vine Stratum</u>		(Plot size: <u>15</u>)			Hydrophytic Vegetation Present? <u>No</u>
1.					
2.					
				=Total Cover	

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

 Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA056B

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**		
0-17	10YR 2/1	100					Clay Loam	
17-20	10YR 2/1	98	2.5Y 4/3	2	C	PL/M	Clay Loam	Distinct or Prominent
20-22	10YR 2/1	40					Clay Loam	
	2.5Y 3/2	30						Mixed Matrix
	2.5Y 4/4	30						Mixed Matrix
22-28	2.5Y 3/2	60					Clay Loam	
	10YR 2/1	20						Mixed Matrix
	2.5Y 4/4	20						Mixed Matrix

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

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) |

Secondary Indicators (minimum of two required)

- | | |
|--|--|
| ☐ Aquatic Fauna (B13) | ☐ Surface Soil Cracks (B6) |
| ☐ True Aquatic Plants (B14) | ☐ Drainage Patterns (B10) |
| ☐ Hydrogen Sulfide Odor (C1) | ☐ Dry-Season Water Table (C2) |
| ☐ Oxidized Rhizospheres on Living | ☐ Crayfish Burrows (C8) |
| ☐ Roots (C3) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Presence of Reduced Iron (C4) | ☐ Stunted or Stressed Plants (D1) |
| ☐ Recent Iron Reduction in Tilled Soils | ☐ Geomorphic Position (D2) |
| ☐ (C6) | ☐ FAC-Neutral Test (D5) |
| ☐ Thin Muck Surface (C7) | |
| ☐ Gauge or Well Data (D9) | |
| ☐ Other (Explain in Remarks) | |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)
Wetland Hydrology Present?No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WA056A.

Direction: South

Photo ID: delin_photo-20221013-150803.jpg

Date: 10/13/2022

Project Name: Summit Lake Solar

Feature ID: WA056



Overview of upland sample point WA056B.

Direction: North

Photo ID: delin_photo-20221013-151927.jpg

Date: 10/13/2022

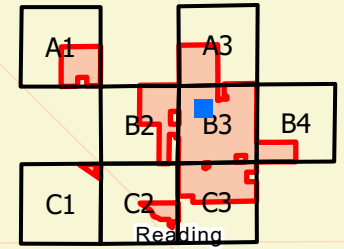
Project Name: Summit Lake Solar

Feature ID: WA056

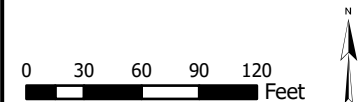


Overview of wetland WA056.

Direction: Northwest	Photo ID: f_photo-20221013-152631.jpg	Date: 10/13/2022
Project Name: Summit Lake Solar		Feature ID: WA056



-  Project Area
- Wetland Survey**
-  Wetland Sample Plot
 -  Delineated Wetland WA056
 -  Other Delineated Wetland
- 2-foot Elevation Contour**
-  Index
 -  Intermediate



Wetland ID
WA056

Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota



Wetland ID

WA066

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/13/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA066A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.73089 Long: -95.71264 Datum: WGS84
 Soil Map Unit Name: Nicollet clay loam, 1 to 3 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WA066</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u>X</u> (explain)
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>Yes</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
=Total Cover					

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA066A

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					Clay Loam	
6-15	10YR 2/1	95	2.5Y 5/6	3	C	PL/M	Clay Loam	Distinct or Prominent
			2.5Y 4/3	2	C	PL/M		Distinct or Prominent
15-23	2.5Y 5/2	95	2.5Y 5/6	5	C	PL	Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☒ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/13/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA066B
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 3 Lat: 43.73091 Long: -95.71255 Datum: WGS84
 Soil Map Unit Name: Nicollet clay loam, 1 to 3 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WA066</u>		
Remarks: Recently tilled agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					
					=Total Cover
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
1.					
2.					
3.					
4.					
5.					
					=Total Cover
<u>Herb Stratum</u>	(Plot size: <u> </u>)				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
					=Total Cover
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				Hydrophytic Vegetation Present? <u>No</u>
1.					
2.					
					=Total Cover

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

 Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA066B

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**		
0-13	10YR 2/1	100					Clay Loam	
13-18	10YR 2/1	97	2.5Y 5/6	3	C	PL	Clay Loam	Distinct or Prominent
18-24	10YR 3/2	100					Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

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) |

Secondary Indicators (minimum of two required)

- | | |
|--|--|
| ☐ Aquatic Fauna (B13) | ☐ Surface Soil Cracks (B6) |
| ☐ True Aquatic Plants (B14) | ☐ Drainage Patterns (B10) |
| ☐ Hydrogen Sulfide Odor (C1) | ☐ Dry-Season Water Table (C2) |
| ☐ Oxidized Rhizospheres on Living | ☐ Crayfish Burrows (C8) |
| ☐ Roots (C3) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Presence of Reduced Iron (C4) | ☐ Stunted or Stressed Plants (D1) |
| ☐ Recent Iron Reduction in Tilled Soils | ☐ Geomorphic Position (D2) |
| ☐ (C6) | ☐ FAC-Neutral Test (D5) |
| ☐ Thin Muck Surface (C7) | |
| ☐ Gauge or Well Data (D9) | |
| ☐ Other (Explain in Remarks) | |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)
Wetland Hydrology Present?No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WA066A.

Direction: West

Photo ID: delin_photo-20221013-181112.jpg

Date: 10/13/2022

Project Name: Summit Lake Solar

Feature ID: WA066



Overview of upland sample point WA066B.

Direction: Northeast

Photo ID: delin_photo-20221013-181649.jpg

Date: 10/13/2022

Project Name: Summit Lake Solar

Feature ID: WA066



Overview of wetland WA066.

Direction: Northwest

Photo ID: f_photo-20221013-181822.jpg

Date: 10/13/2022

Project Name: Summit Lake Solar

Feature ID: WA066



Overview of wetland WA066.

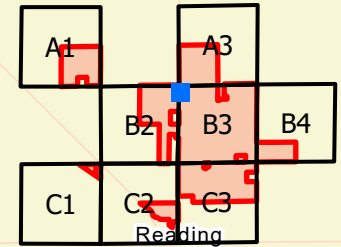
Direction: South

Photo ID: f_photo-20221013-181900.jpg

Date: 10/13/2022

Project Name: Summit Lake Solar

Feature ID: WA066



-  Project Area
- Wetland Survey**
-  Wetland Sample Plot
 -  Delineated Wetland WA066
 -  Other Delineated Wetland
- 2-foot Elevation Contour**
-  Index
 -  Intermediate

0 30 60 90 120 Feet



**Wetland ID
WA066**

**Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota**



Wetland ID

WA069

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/13/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA069A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.24 T103N R41W
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.71207 Long: -95.71306 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WA069</u>		
Remarks:		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1.					
2.					
3.					
4.					
5.					
		<u> </u> =Total Cover			Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>85</u> x 2 = <u>170</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>85</u> (A) <u>170</u> (B) Prevalence Index = B/A = <u>2</u>
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
		<u> </u> =Total Cover			
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u>X</u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
1.	<u>Phalaris arundinacea</u>	<u>65</u>	<u>Y</u>	<u>FACW</u>	
2.	<u>Spartina pectinata</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
		<u>85</u>	<u> </u> =Total Cover		
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				Hydrophytic Vegetation Present? <u>Yes</u>
1.					
2.					
		<u> </u> =Total Cover			

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

Bare ground/open water: 15%

SOIL

Sampling Point: WA069A

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**		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

Potential underground utility conflict. Hydric soils assumed.

HYDROLOGY**Wetland Hydrology Indicators:**

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☐ Depth (inches): _____
 Saturation Present? Yes ☐ No ☐ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/13/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA069B
 Investigator(s): Susan Mayer Section, Township, Range: Sec.24 T103N R41W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 3 Lat: 43.71213 Long: -95.71292 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WA069</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
=Total Cover					
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA069B

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**		
0-26	10YR 3/2	100					Clay Loam	
26-35	2.5Y 5/2	100					Silty Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

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)

Secondary Indicators (minimum of two required)

- ☐ 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)
- ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WA069A.

Direction: Southwest

Photo ID: delin_photo-20221013-203036.jpg

Date: 10/13/2022

Project Name: Summit Lake Solar

Feature ID: WA069



Overview of upland sample point WA069B.

Direction: Northeast

Photo ID: delin_photo-20221013-203526.jpg

Date: 10/13/2022

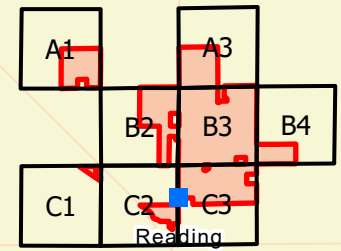
Project Name: Summit Lake Solar

Feature ID: WA069



Overview of wetland WA069.

Direction: South	Photo ID: f_photo-20221013-203304.jpg	Date: 10/13/2022
Project Name: Summit Lake Solar		Feature ID: WA069



 Project Area

Wetland Survey

 Wetland Sample Plot

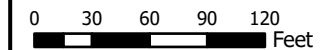
 Delineated Wetland WA069

 Other Delineated Wetland

2-foot Elevation Contour

 Index

 Intermediate



**Wetland ID
WA069**

**Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota**



Wetland ID

WA073

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/13/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA073A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.24 T103N R41W
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.71775 Long: -95.71306 Datum: WGS84
 Soil Map Unit Name: Glencoe silty clay loam, 0 to 1 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WA073</u>		
Remarks:		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet 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%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>100</u> x 2 = <u>200</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>100</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>2</u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Phalaris arundinacea</i>		<u>100</u>	<u>Y</u>	<u>FACW</u>	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>100</u> =Total Cover					Hydrophytic Vegetation Indicators: <u>X</u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic					
Hydrophytic Vegetation Present? <u>Yes</u>					

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

Bare ground/open water: 0%

SOIL

Sampling Point: WA073A

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**		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

Potential underground utility conflict. Hydric soils assumed.

HYDROLOGY**Wetland Hydrology Indicators:**

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☐ Depth (inches): _____
Saturation Present? Yes ☐ No ☐ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/13/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA073B
 Investigator(s): Susan Mayer Section, Township, Range: Sec.24 T103N R41W
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 43.71773 Long: -95.71298 Datum: WGS84
 Soil Map Unit Name: Glencoe silty clay loam, 0 to 1 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WA073</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
Herb Stratum	(Plot size: <u>5</u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
Woody Vine Stratum	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA073B

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 2/1	100					Clay Loam	
8-30	10YR 3/1	100					Clay Loam	
30-40	10YR 2/1	97	10YR 4/4	3	C	PL	Silty Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

A12 assumed

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)

Secondary Indicators (minimum of two required)

- ☐ 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)
- ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WA073A.

Direction: West

Photo ID: delin_photo-20221013-220208.jpg

Date: 10/13/2022

Project Name: Summit Lake Solar

Feature ID: WA073



Overview of upland sample point WA073B.

Direction: East

Photo ID: delin_photo-20221013-221619.jpg

Date: 10/13/2022

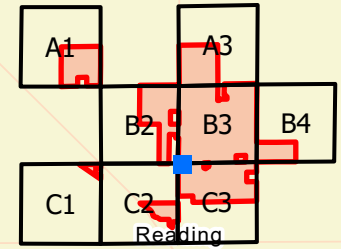
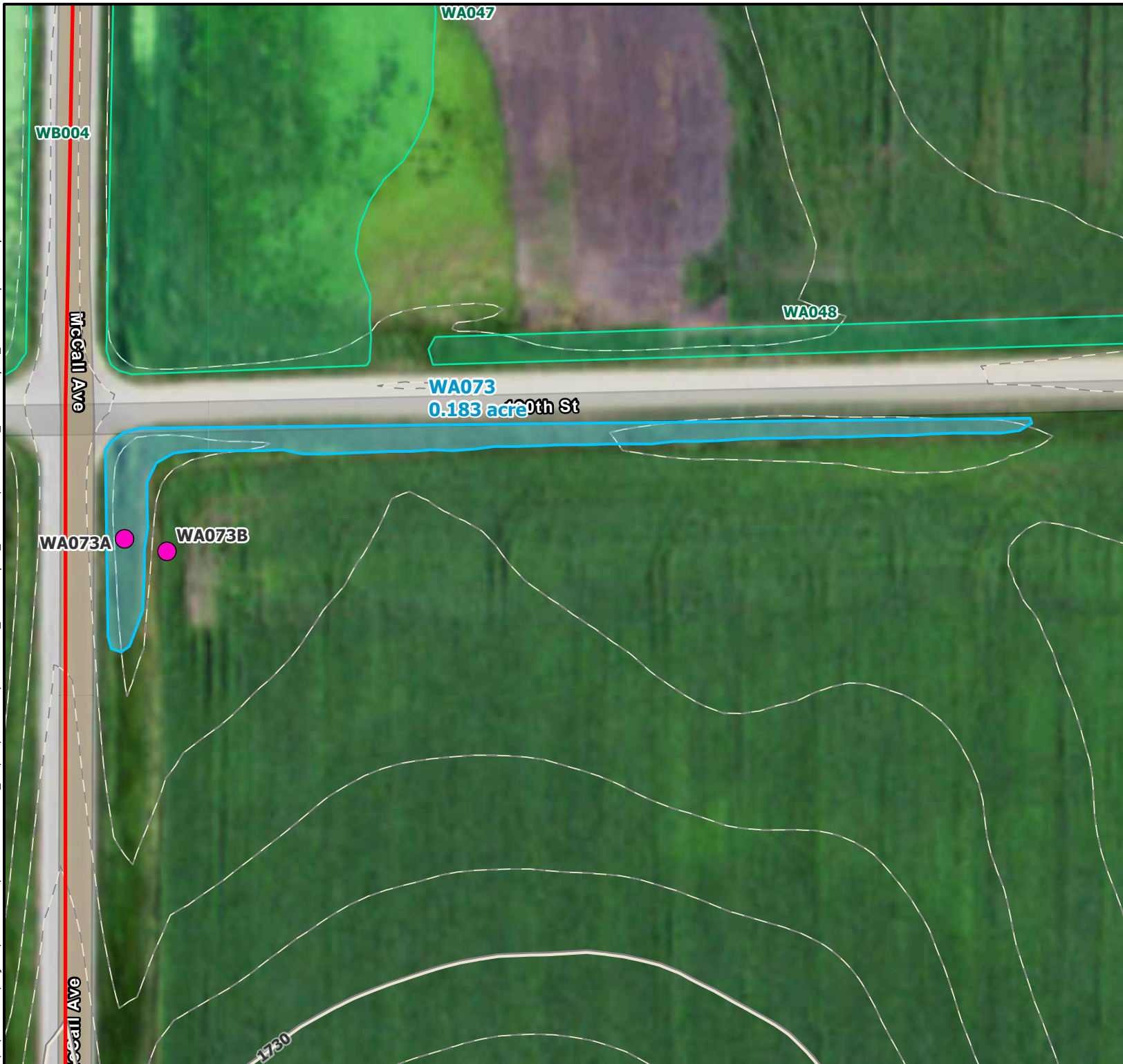
Project Name: Summit Lake Solar

Feature ID: WA073



Overview of wetland WA073.

Direction: Northwest	Photo ID: f_photo-20221013-221714.jpg	Date: 10/13/2022
Project Name: Summit Lake Solar		Feature ID: WA073



Project Area

Wetland Survey

Wetland Sample Plot

Delineated Wetland WA073

Other Delineated Wetland

2-foot Elevation Contour

Index

Intermediate

0 30 60 90 120 Feet



**Wetland ID
WA073**

**Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota**



Wetland ID

WA075

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/14/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA075A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.71838 Long: -95.69872 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WA075</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u>X</u> (explain)
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>Yes</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
=Total Cover					

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA075A

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**		
0-5	10YR 2/1	100					Clay Loam	
5-18	2.5Y 6/2	90	2.5Y 5/4	10	C	PL	Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☒ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/14/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA075B
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 5 Lat: 43.71854 Long: -95.69884 Datum: WGS84
 Soil Map Unit Name: Clarion loam, 2 to 6 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WA075</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u> </u> =Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
6. <u> </u>				
7. <u> </u>				
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
<u> </u> =Total Cover				

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA075B

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**		
0-16	10YR 2/1	100					Clay Loam	
16-19	10YR 2/1	80	2.5Y 4/3	15	C	PL/M	Clay Loam	Distinct or Prominent
			2.5Y 6/6	5	C	PL		Distinct or Prominent
19-22	2.5Y 4/3	100					Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

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)

Secondary Indicators (minimum of two required)

- ☐ 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)
- ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WA075A.

Direction: Southeast

Photo ID: delin_photo-20221014-133923.jpg

Date: 10/14/2022

Project Name: Summit Lake Solar

Feature ID: WA075



Overview of upland sample point WA075B.

Direction: North

Photo ID: delin_photo-20221014-134517.jpg

Date: 10/14/2022

Project Name: Summit Lake Solar

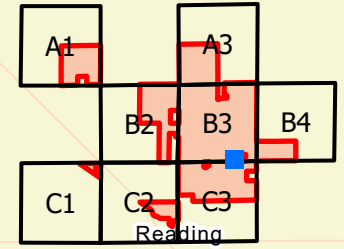
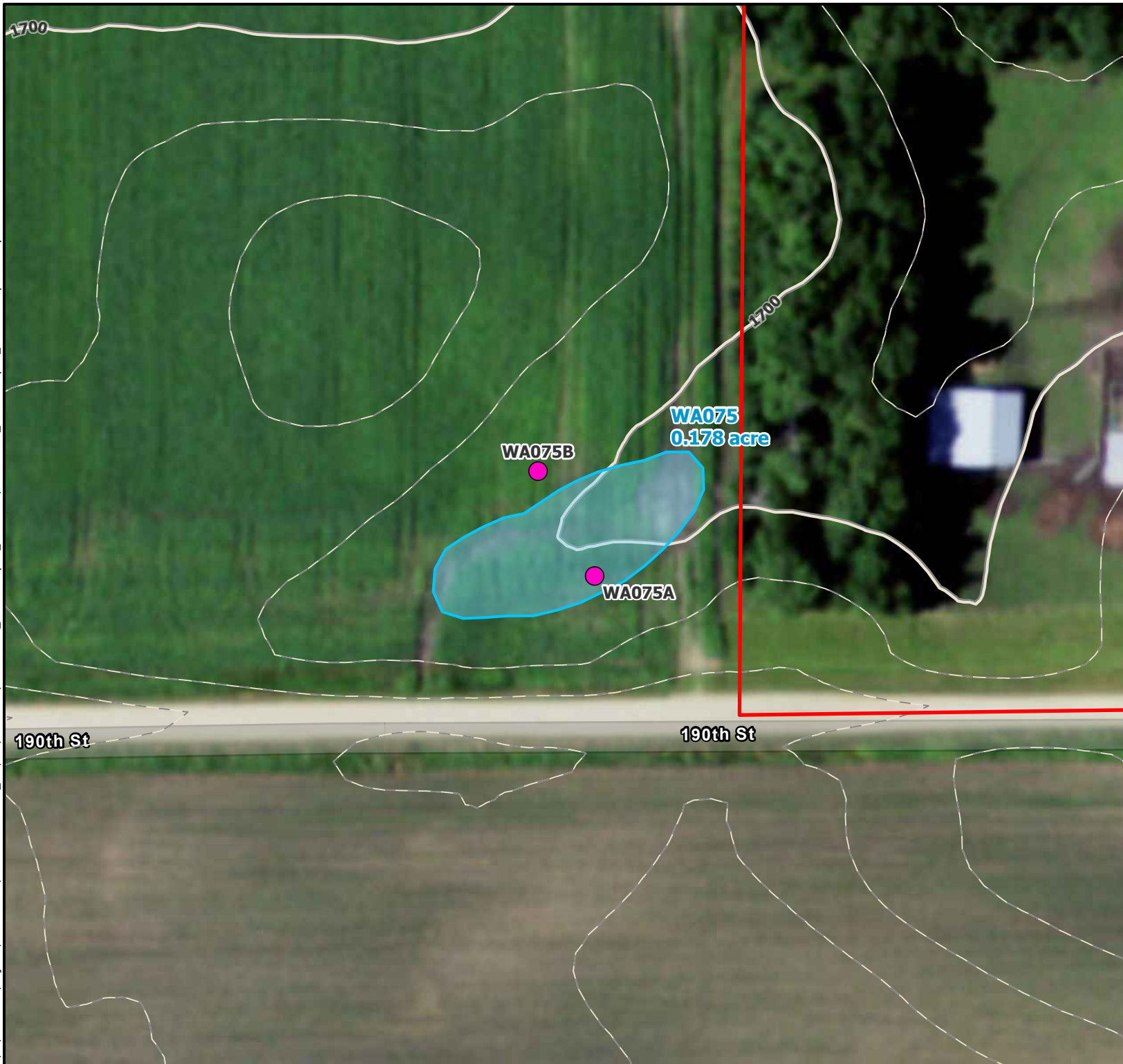
Feature ID: WA075



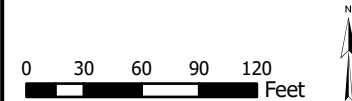
Overview of wetland WA075.

Direction: Southeast	Photo ID: f_photo-20221014-134619.jpg	Date: 10/14/2022
Project Name: Summit Lake Solar		Feature ID: WA075

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-  Project Area
- Wetland Survey**
-  Wetland Sample Plot
 -  Delineated Wetland WA075
 -  Other Delineated Wetland
- 2-foot Elevation Contour**
-  Index
 -  Intermediate



**Wetland ID
WA075**

**Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota**



Wetland ID

WB001

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/18/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WB001A
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.18 T103N R40W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave
 Slope (%): 2 Lat: 43.71899 Long: -95.69245 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WB001</u>		
Remarks:		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet 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%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>95</u> x 2 = <u>190</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>95</u> (A) <u>190</u> (B) Prevalence Index = B/A = <u>2</u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Phalaris arundinacea</i>		<u>95</u>	<u>Y</u>	<u>FACW</u>	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>95</u> =Total Cover					Hydrophytic Vegetation Indicators: <u>X</u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					
Hydrophytic Vegetation Present? <u>Yes</u>					

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

Bare ground/open water: 2%

SOIL

Sampling Point: WB001A

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**		
0-19	10YR 2/1	100					Clay	
19-23	10YR 2/1	95	10YR 5/6	5	C	PL	Clay	Distinct or Prominent
23-30	2.5Y 4/2	80	10YR 4/6	20	C	PL	Clay Trace Gravel	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/18/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WB001B
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.18 T103N R40W
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43.71907 Long: -95.69246 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WB001</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</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>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>40</u> x 4 = <u>160</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>40</u> (A) <u>160</u> (B) Prevalence Index = B/A = <u>4</u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
=Total Cover					
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Bromus inermis</i>		<u>40</u>	<u>Y</u>	<u>FACU</u>	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>40</u> =Total Cover					Hydrophytic Vegetation Present? <u>No</u> *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

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

 Harvested agricultural field. Brome on field edge Bare ground/open water: 60%

SOIL

Sampling Point: WB001B

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**		
0-19	10YR 2/1	100					Clay	
19-25	2.5Y 3/2	99	10YR 5/6	1	C	PL	Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WB001A.

Direction: South

Photo ID: delin_photo-20221018-164353.jpg

Date: 10/18/2022

Project Name: Summit Lake Solar

Feature ID: WB001



Overview of upland sample point WB001B.

Direction: North

Photo ID: delin_photo-20221018-165048.jpg

Date: 10/18/2022

Project Name: Summit Lake Solar

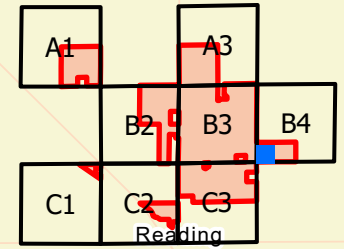
Feature ID: WB001



Overview of wetland WB001.

Direction: Northeast	Photo ID: f_photo-20221018-165019.jpg	Date: 10/18/2022
Project Name: Summit Lake Solar		Feature ID: WB001

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- Project Area
- Wetland Survey**
- Wetland Sample Plot
 - Delineated Wetland WB001
 - Other Delineated Wetland
- 2-foot Elevation Contour**
- Index
 - Intermediate



Wetland ID
WB001

Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota



Wetland ID

WB002

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/17/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WB002A
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.18 T103N R40W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave
 Slope (%): 5 Lat: 43.7183 Long: -95.69256 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WB002</u>		
Remarks:		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status
1.				
2.				
3.				
4.				
5.				
		<u> </u> =Total Cover		
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)			
1.				
2.				
3.				
4.				
5.				
		<u> </u> =Total Cover		
<u>Herb Stratum</u>	(Plot size: <u>5</u>)			
1. <i>Phalaris arundinacea</i>		<u>90</u>	<u>Y</u>	<u>FACW</u>
2. <i>Spartina pectinata</i>		<u>10</u>	<u>N</u>	<u>FACW</u>
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		<u>100</u>	<u> </u> =Total Cover	
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)			
1.				
2.				
		<u> </u> =Total Cover		

Dominance Test Worksheet
 Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>100</u>	x 2 = <u>200</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>100</u>	(A) <u>200</u> (B)

 Prevalence Index = B/A = 2

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)

Hydrophytic Vegetation Present? Yes

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

Bare ground/open water: 0%

SOIL

Sampling Point: WB002A

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**		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

Potential underground utility conflict. Hydric soils assumed.

HYDROLOGY**Wetland Hydrology Indicators:**

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☐ Depth (inches): _____
 Saturation Present? Yes ☐ No ☐ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/17/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WB002B
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.18 T103N R40W
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 43.71832 Long: -95.69256 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WB002</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
=Total Cover					
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WB002B

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**		
0-17	10YR 2/1	100					Clay	
17-19	10YR 2/2	92	2.5Y 4/2	8	D	M	Clay	
19-23	2.5Y 4/3	100					Clay	
23-26	2.5Y 5/4	99	10YR 5/6	1	C	PL	Clay Trace Gravel	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

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)

Secondary Indicators (minimum of two required)

- ☐ 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)
- ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WB002A.

Direction: South

Photo ID: delin_photo-20221017-173439.jpg

Date: 10/17/2022

Project Name: Summit Lake Solar

Feature ID: WB002



Overview of upland sample point WB002B.

Direction: North

Photo ID: delin_photo-20221017-174335.jpg

Date: 10/17/2022

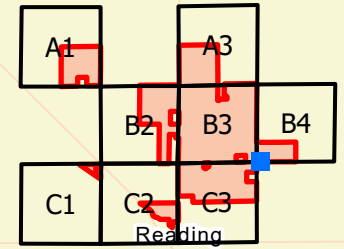
Project Name: Summit Lake Solar

Feature ID: WB002

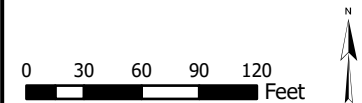


Overview of wetland WB002.

Direction: East	Photo ID: f_photo-20221017-174448.jpg	Date: 10/17/2022
Project Name: Summit Lake Solar		Feature ID: WB002



- Project Area
- Wetland Survey**
- Wetland Sample Plot
 - Delineated Wetland WB002
 - Other Delineated Wetland
- 2-foot Elevation Contour**
- Index
 - Intermediate



Wetland ID
WB002

Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota



Wetland ID

WB003

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/17/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WB003A
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.18 T103N R40W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 5 Lat: 43.71831 Long: -95.69076 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WB003</u>		
Remarks:		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet 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%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>95</u> x 2 = <u>190</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>95</u> (A) <u>190</u> (B) Prevalence Index = B/A = <u>2</u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Spartina pectinata</i>		<u>95</u>	<u>Y</u>	<u>FACW</u>	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>95</u> =Total Cover					Hydrophytic Vegetation Indicators: <u>X</u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic					
Hydrophytic Vegetation Present? <u>Yes</u>					

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

Bare ground/open water: 0%

SOIL

Sampling Point: WB003A

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**		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

Potential underground utility conflict. Hydric soils assumed.

HYDROLOGY**Wetland Hydrology Indicators:**

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☐ Depth (inches): _____
 Saturation Present? Yes ☐ No ☐ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/17/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WB003B
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.18 T103N R40W
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 43.71833 Long: -95.69075 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)

Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No

Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WB003</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					
				<u> </u> =Total Cover	Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
Sapling/Shrub Stratum	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
				<u> </u> =Total Cover	
Herb Stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
				<u> </u> =Total Cover	
Woody Vine Stratum	(Plot size: <u>15</u>)				Hydrophytic Vegetation Present? <u>No</u>
1.					
2.					
				<u> </u> =Total Cover	

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

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WB003B

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**		
0-20	10YR 2/1	100					Clay	
20-35	10YR 2/1	97	10YR 5/6	3	C	PL	Clay	Distinct or Prominent
35-38	2.5Y 3/2	90	10YR 5/6	10	C	PL	Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WB003A.

Direction: South

Photo ID: delin_photo-20221017-175557.jpg

Date: 10/17/2022

Project Name: Summit Lake Solar

Feature ID: WB003



Overview of upland sample point WB003B.

Direction: Southeast

Photo ID: delin_photo-20221017-180526.jpg

Date: 10/17/2022

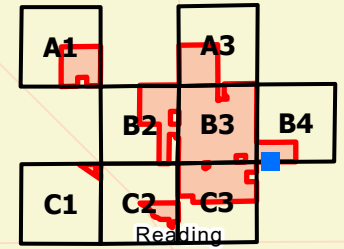
Project Name: Summit Lake Solar

Feature ID: WB003

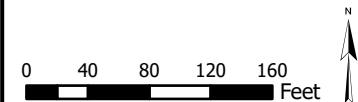


Overview of wetland WB003.

Direction: East	Photo ID: f_photo-20221017-180616.jpg	Date: 10/17/2022
Project Name: Summit Lake Solar		Feature ID: WB003



-  Project Area
- Wetland Survey**
-  Wetland Sample Plot
 -  Delineated Wetland WB003
 -  Other Delineated Wetland
- 2-foot Elevation Contour**
-  Index
 -  Intermediate



Wetland ID
WB003

Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota



Wetland ID

WB004

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/17/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WB004A
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec. 14 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 2 Lat: 43.71884 Long: -95.71529 Datum: WGS84
 Soil Map Unit Name: Clarion loam, 2 to 6 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WB004</u>		
Remarks:		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet 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%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>85</u> x 2 = <u>170</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>4</u> x 4 = <u>16</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>89</u> (A) <u>186</u> (B) Prevalence Index = B/A = <u>2.09</u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Phalaris arundinacea</i>		<u>85</u>	<u>Y</u>	<u>FACW</u>	
2. <i>Asclepias syriaca</i>		<u>2</u>	<u>N</u>	<u>FACU</u>	
3. <i>Cirsium arvense</i>		<u>2</u>	<u>N</u>	<u>FACU</u>	
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>89</u> =Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

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

Bare ground/open water: 0%

SOIL

Sampling Point: WB004A

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**		
0-16	10YR 2/1	100					Clay Loam	
16-22	10YR 2/1	98	7.5YR 3/4	2	C	PL	Clay Trace Gravel	Distinct or Prominent
22-25	10YR 4/1	85	2.5Y 5/4	15	C	PL	Clay Trace Gravel	Distinct or Prominent
25-32	2.5Y 6/2	90	10YR 5/6	10	C	PL	Sandy Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/17/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WB004B
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.14 T103N R41W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave
 Slope (%): 1 Lat: 43.71883 Long: -95.71535 Datum: WGS84
 Soil Map Unit Name: Clarion loam, 2 to 6 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)

Are vegetation , soil , or hydrology Significantly disturbed? Are "normal circumstances present? Yes

Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WB004</u>		
Remarks:		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>33%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>15</u> x 2 = <u>30</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>57</u> x 4 = <u>228</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>72</u> (A) <u>258</u> (B) Prevalence Index = B/A = <u>3.6</u>
=Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					
Herb Stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1.	<u>Poa compressa</u>	<u>35</u>	<u>Y</u>	<u>FACU</u>	
2.	<u>Bromus inermis</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	
3.	<u>Phalaris arundinacea</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	
4.	<u>Cirsium arvense</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
5.	<u>Medicago sativa</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	
6.					
7.					
8.					
9.					
10.					
<u>72</u> =Total Cover					
Woody Vine Stratum	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

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

Bare ground/open water: 30%

SOIL

Sampling Point: WB004B

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**		
0-23	10YR 2/1	100					Clay	
23-34	2.5Y 5/3	70	10YR 5/6	30	C	PL	Sandy Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WB004A.

Direction: East

Photo ID: delin_photo-20221017-204358.jpg

Date: 10/17/2022

Project Name: Summit Lake Solar

Feature ID: WB004

Photo Not Available

Overview of upland sample point WB004B.

Direction:

Photo ID:

Date: 10/17/2022

Project Name: Summit Lake Solar

Feature ID: WB004



Overview of wetland WB004.

Direction: Southeast

Photo ID: f_photo-20221017-205608.jpg

Date: 10/17/2022

Project Name: Summit Lake Solar

Feature ID: WB004



Overview of wetland WB004.

Direction: South

Photo ID: f_photo-20221017-210715.jpg

Date: 10/17/2022

Project Name: Summit Lake Solar

Feature ID: WB004



Overview of wetland WB004.

Direction: Northeast

Photo ID: f_photo-20221017-205828.jpg

Date: 10/17/2022

Project Name: Summit Lake Solar

Feature ID: WB004



Overview of wetland WB004.

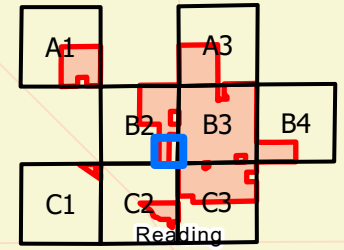
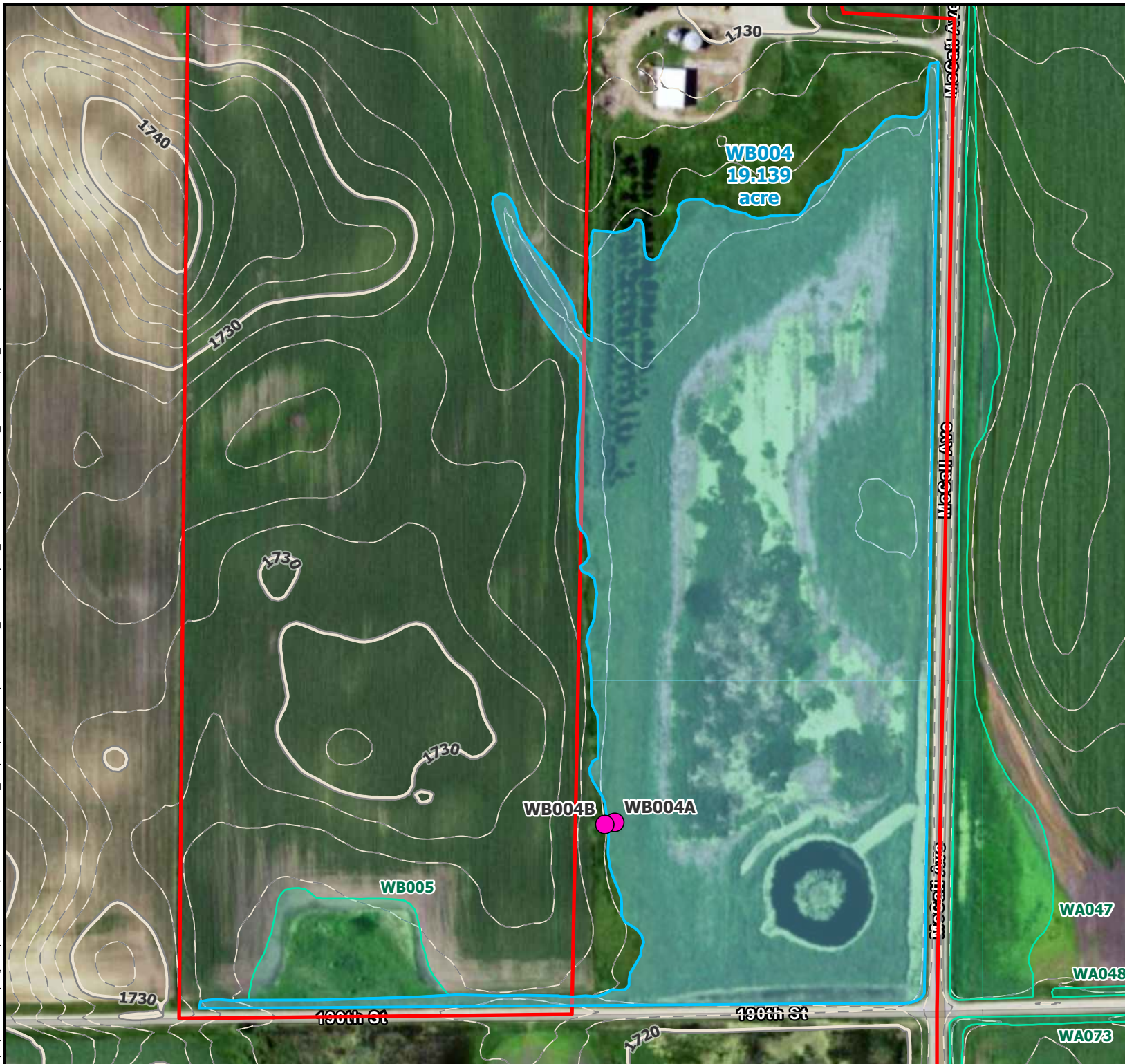
Direction: West

Photo ID: f_photo-20221017-214225.jpg

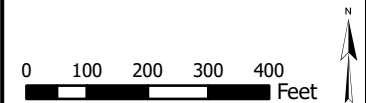
Date: 10/17/2022

Project Name: Summit Lake Solar

Feature ID: WB004



- Project Area
- Wetland Survey**
- Wetland Sample Plot
 - Delineated Wetland WB004
 - Other Delineated Wetland
- 2-foot Elevation Contour**
- Index
 - Intermediate



Wetland ID
WB004

Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota



Wetland ID

WB005

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/17/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WB005A
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec. 14 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 2 Lat: 43.71824 Long: -95.7166 Datum: WGS84
 Soil Map Unit Name: Canisteo clay loam, 0 to 2 percent slopes NWI Classification: PEM1A

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)

Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No

Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WB005</u>		
Remarks: Recently tilled agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u>X</u> (explain)
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>Yes</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
=Total Cover					

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

Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WB005A

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**		
0-15	10YR 2/1	95	7.5YR 3/4	5	C	PL/M	Clay	Distinct or Prominent
15-16	10YR 5/4	100					Clay Trace Gravel	
16-20	7.5YR 4/1	90	10YR 2/1	10	D	M	Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☒ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/17/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WB005B
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.14 T103N R41W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 3 Lat: 43.71826 Long: -95.71651 Datum: WGS84
 Soil Map Unit Name: Canisteo clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WB005</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u> </u> =Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
6. <u> </u>				
7. <u> </u>				
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
<u> </u> =Total Cover				

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WB005B

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**		
0-10	10YR 2/1	100					Clay	
10-19	10YR 3/3	95	10YR 3/2	5	D	M	Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

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)

Secondary Indicators (minimum of two required)

- ☐ 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)
- ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WB005A.

Direction: Northwest

Photo ID: delin_photo-20221017-215136.jpg

Date: 10/17/2022

Project Name: Summit Lake Solar

Feature ID: WB005



Overview of upland sample point WB005B.

Direction: North

Photo ID: delin_photo-20221017-215929.jpg

Date: 10/17/2022

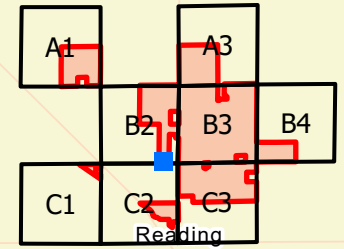
Project Name: Summit Lake Solar

Feature ID: WB005

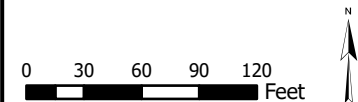


Overview of wetland WB005.

Direction: West	Photo ID: f_photo-20221017-220228.jpg	Date: 10/17/2022
Project Name: Summit Lake Solar		Feature ID: WB005



-  Project Area
- Wetland Survey**
-  Wetland Sample Plot
 -  Delineated Wetland WB005
 -  Other Delineated Wetland
- 2-foot Elevation Contour**
-  Index
 -  Intermediate



Wetland ID
WB005

Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota



Wetland ID

WB008

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/18/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WB008A
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.12 T103N R41W
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave
 Slope (%): 5 Lat: 43.73262 Long: -95.69858 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WB008</u>		
Remarks:		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet 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%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>90</u> x 2 = <u>180</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>90</u> (A) <u>180</u> (B) Prevalence Index = B/A = <u>2</u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1.	<u>Spartina pectinata</u>	<u>90</u>	<u>Y</u>	<u>FACW</u>	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>90</u> =Total Cover					Hydrophytic Vegetation Indicators: <u>X</u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

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

Bare ground/open water: 0%

SOIL

Sampling Point: WB008A

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**		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

Potential underground utility conflict. Hydric soils assumed.

HYDROLOGY**Wetland Hydrology Indicators:**

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☐ Depth (inches): _____
 Saturation Present? Yes ☐ No ☐ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/18/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WB008B
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.12 T103N R41W
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 43.73255 Long: -95.69858 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WB008</u>		
Remarks: Recently tilled agricultural field. Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
Herb Stratum	(Plot size: <u>5</u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					
Woody Vine Stratum	(Plot size: <u>15</u>)				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1.					
2.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>

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

 Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WB008B

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 2/1	100					Clay	
8-18	2.5Y 5/4	79	10YR 5/6	1	C	PL	Clay Trace Gravel	
	10YR 2/1	20						Mixed Matrix
18-19	2.5Y 5/4	93	10YR 5/6	5	C	PL	Clay Trace Gravel	Distinct or Prominent
			10YR 2/1	2	Fe/Mn Nodules	M		
19-20	10YR 2/1	100					Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

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) |

Secondary Indicators (minimum of two required)

- | | |
|--|--|
| ☐ Aquatic Fauna (B13) | ☐ Surface Soil Cracks (B6) |
| ☐ True Aquatic Plants (B14) | ☐ Drainage Patterns (B10) |
| ☐ Hydrogen Sulfide Odor (C1) | ☐ Dry-Season Water Table (C2) |
| ☐ Oxidized Rhizospheres on Living | ☐ Crayfish Burrows (C8) |
| ☐ Roots (C3) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Presence of Reduced Iron (C4) | ☐ Stunted or Stressed Plants (D1) |
| ☐ Recent Iron Reduction in Tilled Soils | ☐ Geomorphic Position (D2) |
| ☐ (C6) | ☐ FAC-Neutral Test (D5) |
| ☐ Thin Muck Surface (C7) | |
| ☐ Gauge or Well Data (D9) | |
| ☐ Other (Explain in Remarks) | |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WB008A.

Direction: North

Photo ID: delin_photo-20221018-144233.jpg

Date: 10/18/2022

Project Name: Summit Lake Solar

Feature ID: WB008



Overview of upland sample point WB008B.

Direction: South

Photo ID: delin_photo-20221018-145017.jpg

Date: 10/18/2022

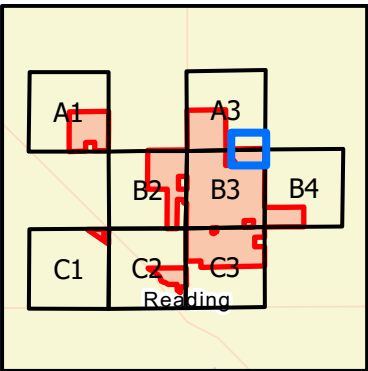
Project Name: Summit Lake Solar

Feature ID: WB008



Overview of wetland WB008.

Direction: West	Photo ID: f_photo-20221018-145130.jpg	Date: 10/18/2022
Project Name: Summit Lake Solar		Feature ID: WB008



-  Project Area
- Wetland Survey**
-  Wetland Sample Plot
 -  Delineated Wetland WB008
 -  Other Delineated Wetland
- 2-foot Elevation Contour**
-  Index
 -  Intermediate



Wetland ID
WB008

Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota



Wetland ID

WB009

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/18/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WB009A
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 2 Lat: 43.72846 Long: -95.69335 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WB009</u>		
Remarks:		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet 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%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>95</u> x 2 = <u>190</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>95</u> (A) <u>190</u> (B) Prevalence Index = B/A = <u>2</u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u>X</u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
1. <i>Phalaris arundinacea</i>		<u>95</u>	<u>Y</u>	<u>FACW</u>	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>95</u> =Total Cover					
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				Hydrophytic Vegetation Present? <u>Yes</u>
1.					
2.					
=Total Cover					

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

Bare ground/open water: 0%

SOIL

Sampling Point: WB009A

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 2/1	100					Clay	
4-14	10YR 2/1	95	10YR 4/4	5	C	PL	Clay	Distinct or Prominent
14-20	2.5Y 4/2	98	10YR 5/6	2	C	PL	Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/18/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WB009B
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 43.72851 Long: -95.69333 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: R4SBC

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WB009</u>		
Remarks: Recently tilled agricultural field. Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1.					
2.					
3.					
4.					
5.					
=Total Cover					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)					
1.					
2.					
3.					
4.					
5.					
=Total Cover					
<u>Herb Stratum</u> (Plot size: <u>5</u>)					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					
<u>Woody Vine Stratum</u> (Plot size: <u>15</u>)					Hydrophytic Vegetation Present? <u>No</u>
1.					
2.					
=Total Cover					

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

 Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WB009B

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**		
0-28	10YR 2/1	100					Clay	
28-37	2.5Y 3/3	100					Sandy Clay Trace Gravel	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

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)

Secondary Indicators (minimum of two required)

- ☐ 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)
- ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/18/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WB009C
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 2 Lat: 43.72906 Long: -95.69606 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WB009</u>		
Remarks: Recently tilled agricultural field. Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
=Total Cover					

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

 Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WB009C

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 2/1	100					Sandy Clay	
8-18	2.5Y 4/4	100					Sandy Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

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)

Secondary Indicators (minimum of two required)

- ☐ 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)
- ☐ 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 ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WB009A.

Direction: Southwest

Photo ID: delin_photo-20221018-153055.jpg

Date: 10/18/2022

Project Name: Summit Lake Solar

Feature ID: WB009



Overview of upland sample point WB009B.

Direction: North

Photo ID: delin_photo-20221018-154206.jpg

Date: 10/18/2022

Project Name: Summit Lake Solar

Feature ID: WB009



Overview of upland sample point WB009C.

Direction: West	Photo ID: delin_photo-20221018-161814.jpg	Date: 10/18/2022
Project Name: Summit Lake Solar		Feature ID: WB009



Overview of wetland WB009.

Direction: West

Photo ID: f_photo-20221018-154342.jpg

Date: 10/18/2022

Project Name: Summit Lake Solar

Feature ID: WB009



Overview of wetland WB009.

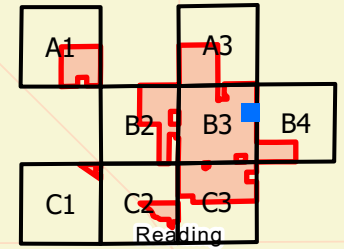
Direction: East

Photo ID: f_photo-20221018-161905.jpg

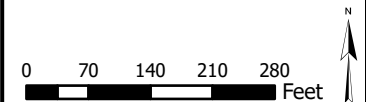
Date: 10/18/2022

Project Name: Summit Lake Solar

Feature ID: WB009



-  Project Area
- Wetland Survey**
-  Wetland Sample Plot
 -  Delineated Wetland WB009
 -  Other Delineated Wetland
- 2-foot Elevation Contour**
-  Index
 -  Intermediate



Wetland ID
WB009

Wetland Delineation
Summit Lake Solar
Nobles County, Minnesota



APPENDIX C: OFFSITE HYDROLOGY REVIEW OF NON-WETLAND AREAS

Table C-1: Observed Wetland Signatures in Non-Wetland Areas in Normal Years

Non-Wetland Sample Point	Photo Interpretation					# of Years with Wet Signatures	% of Years with Wet Signatures
	July 1, 2010	September 13, 2015	July 23, 2017	July 11, 2019	August 21, 2021		
NWA002A	NV	DO	NV	NV	NV	1	20%
NWA005A	NV	CS	NV	NV	DO	2	40%
NWA006A	NV	DO	NV	NV	NV	1	20%
NWA007A	NV	DO	NV	NV	CS	2	40%
NWA011A	NV	CS	NV	NV	CS	2	40%
NWA012A	NV	NV	NV	NV	CS	1	20%
NWA013A	NV	NV	NV	CS	CS	2	40%
NWA014A	NV	DO	CS	NV	CS	3	60%
NWA015A	NV	CS	NV	NV	CS	2	40%
NWA016A	NV	NV	NV	NV	DO	1	20%
NWA017A	NV	NV	CS	NV	CS	2	40%
NWA018A	NV	CS	CS	NV	DO	3	60%
NWA019A	CS	CS	NV	NV	CS	3	60%
NWA020A	NV	NSS	DO	CS	NV	2	40%
NWA021A	NV	NV	CS	NV	DO	2	40%
NWA022A	NV	NSS	DO	NV	CS	2	40%
NWA023A	NV	NV	DO	NV	CS	2	40%
NWA025A	NV	SS	NV	NV	CS	2	40%
NWA026A	NV	NSS	NV	NV	SW	1	20%
NWA027A	NV	SS	NV	NV	SS	2	40%
NWA028A	NV	NSS	NV	NV	SS	1	20%
NWA029A	NV	NSS	NV	NV	CS	1	20%
NWA031A	NV	SS	NV	NV	CS	2	40%
NWA032A	NV	CS	NV	NV	SS	2	40%
NWA034A	CS	NSS	NV	CS	NV	2	40%
NWA035A	NV	CS	NV	NV	SS	2	40%
NWA036A	NV	DO	NV	NV	SS	2	40%
NWA037A	NV	NSS	CS	DO	NV	2	40%
NWA038A	NV	DO	CS	NV	SS	3	60%
NWA039A	NC	NC	NC	NC	NC	5	100%
NWA040A	NV	DO	CS	CS	SW	4	80%
NWA041A	NV	NV	CS	NV	SW	2	40%
NWA043A	NV	DO	NV	NV	SS	2	40%
NWA044A	NV	DO	NV	NV	SS	2	40%
NWA045A	NV	CS	NV	NV	SS	2	40%
NWA046A	NV	DO	CS	NV	NSS	2	40%

Non-Wetland Sample Point	Photo Interpretation					# of Years with Wet Signatures	% of Years with Wet Signatures
	July 1, 2010	September 13, 2015	July 23, 2017	July 11, 2019	August 21, 2021		
NWA049A	NV	CS	NV	NV	SS	2	40%
NWA050A	NV	DO	CS	NV	SS	3	60%
NWA051A	NV	DO	CS	NV	NSS	2	40%
NWA052A	NV	DO	NV	NV	SS	2	40%
NWA053A	NV	DO	CS	NV	NSS	2	40%
NWA054A	NV	DO	NV	NV	CS	2	40%
NWA055A	NV	DO	NV	NV	CS	2	40%
NWA057A	NV	DO	NV	NV	SS	2	40%
NWA058A	NV	DO	NV	NV	SS	2	40%
NWA059A	NV	DO	CS	NV	NSS	2	40%
NWA060A	NV	DO	NV	NV	SS	2	40%
NWA061A	NV	DO	NV	NV	CS	2	40%
NWA062A	NV	DO	CS	NV	CS	3	60%
NWA063A	NV	DO	DO	NV	DO	3	60%
NWA064A	NV	DO	CS	NV	SS	3	60%
NWA065A	NV	DO	NV	NV	SS	2	40%
NWA067A	NV	DO	NV	NV	SS	2	40%
NWA068A	NV	DO	CS	NV	NSS	2	40%
NWA070A	NV	DO	NV	NV	SS	2	40%
NWA071A	NV	DO	CS	NV	SS	3	60%
NWA072A	NV	NV	CS	NV	SS	2	40%
NWA074A	NV	NSS	NV	DO	CS	2	40%
NWA076A	NV	DO	CS	NV	NV	2	40%
NWA077A	NV	CS	CS	NV	CS	3	60%
NWA078A	NV	DO	CS	NV	NV	2	40%
NWA079A	NV	DO	NV	NV	DO	2	40%
NWA080A	DO	NC	DO	CS	NV	4	80%
NWA081A	NV	DO	NV	NV	CS	2	40%
NWA082A	NV	CS	CS	NV	NSS	2	40%
NWA083A	NV	CS	CS	NV	SS	3	60%
NWA084A	NV	DO	NV	NV	CS	2	40%
NWA085A	NV	CS	CS	NV	NSS	2	40%
NWA086A	NV	CS	CS	NV	NSS	2	40%
NWA087A	NV	NV	CS	NV	SS	2	40%
NWB006A	NV	NSS	NV	NV	DO	1	20%
NWB007A	NV	SS	NV	NV	DO	2	40%
NWB010A	NV	NSS	DO	NV	DO	2	40%

Non-Wetland Sample Point	Photo Interpretation					# of Years with Wet Signatures	% of Years with Wet Signatures
	July 1, 2010	September 13, 2015	July 23, 2017	July 11, 2019	August 21, 2021		
WA010B	NV	DO	CS	NV	DO	3	60%
WA069B	NV	CS	CS	NV	NSS	2	40%
WB008B	NV	SS	NV	NV	CS	2	40%
WB009B	NV	SS	NV	NV	CS	2	40%

CS – Crop Stress
DO – Drowned Out
NC – Not Cropped

SW – Standing Water
WS – Wetland Signature
AP – Altered Pattern

SS – Soil Wetness Signature
NV – Normal Vegetative Cover
NSS – No Soil Wetness

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: Nobles	township number: 103N
township name: Summit Lake	range number: 41W
nearest community: Reading	section number: 13

Aerial photograph or site visit date:

Thursday, July 1, 2010

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: June 2010	second prior month: May 2010	third prior month: April 2010
estimated precipitation total for this location:	7.41	1.91	2.49
there is a 30% chance this location will have less than:	3.91	3.00	2.21
there is a 30% chance this location will have more than:	5.45	4.91	3.51
type of month: dry normal wet	wet	dry	normal
monthly score	3 * 3 = 9	2 * 1 = 2	1 * 2 = 2
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	13 (Normal)		

Aerial photograph or site visit date:

Sunday, September 13, 2015

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: August 2015	second prior month: July 2015	third prior month: June 2015
estimated precipitation total for this location:	6.52	3.64	3.24
there is a 30% chance this location will have less than:	1.97	2.23	3.91
there is a 30% chance this location will have more than:	3.84	4.22	5.45
type of month: dry normal wet	wet	normal	dry
monthly score	3 * 3 = 9	2 * 2 = 4	1 * 1 = 1
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	14 (Normal)		

Aerial photograph or site visit date:

Sunday, July 23, 2017

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: June 2017	second prior month: May 2017	third prior month: April 2017
estimated precipitation total for this location:	5.37	4.22	2.34
there is a 30% chance this location will have less than:	3.91	3.00	2.21
there is a 30% chance this location will have more than:	5.45	4.91	3.51
type of month: dry normal wet	normal	normal	normal
monthly score	3 * 2 = 6	2 * 2 = 4	1 * 2 = 2
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	12 (Normal)		

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: Nobles	township number: 103N
township name: Summit Lake	range number: 41W
nearest community: Reading	section number: 13

Aerial photograph or site visit date:

Thursday, July 11, 2019

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: June 2019	second prior month: May 2019	third prior month: April 2019
estimated precipitation total for this location:	2.95	6.82	6.33
there is a 30% chance this location will have less than:	3.91	3.00	2.21
there is a 30% chance this location will have more than:	5.45	4.91	3.51
type of month: dry normal wet	dry	wet	wet
monthly score	3 * 1 = 3	2 * 3 = 6	1 * 3 = 3
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	12 (Normal)		

Aerial photograph or site visit date:

Saturday, August 21, 2021

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: July 2021	second prior month: June 2021	third prior month: May 2021
estimated precipitation total for this location:	3.42	1.80	3.07
there is a 30% chance this location will have less than:	2.23	3.91	3.00
there is a 30% chance this location will have more than:	4.22	5.45	4.91
type of month: dry normal wet	normal	dry	normal
monthly score	3 * 2 = 6	2 * 1 = 2	1 * 2 = 2
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	10 (Normal)		

Non-Wetland ID

NWA002

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/10/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA002A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.23 T103N R41W		
Landform (hillslope, terrace, etc.):	Swale	Local relief (concave, convex, none):	Concave		
Slope (%):	1	Lat:	43.70864	Long:	-95.71933
		Datum:	WGS84		
Soil Map Unit Name:	Clarion loam, 2 to 6 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	
Hydric Soil Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Wetland Hydrology Present?	<u>No</u>	If yes, optional wetland site ID: _____
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		=Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		=Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		=Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		=Total Cover		

Dominance Test Worksheet

Number of Dominant Species
that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant
Species Across All Strata: 0 (B)

Percent of Dominant Species
that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

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? No _____

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA002A

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**		
0-7	10YR 2/1	100					Clay Loam	
7-25	2.5Y 4/3	99	7.5YR 5/6	1	C	PL	Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA002A.

Direction: Northeast

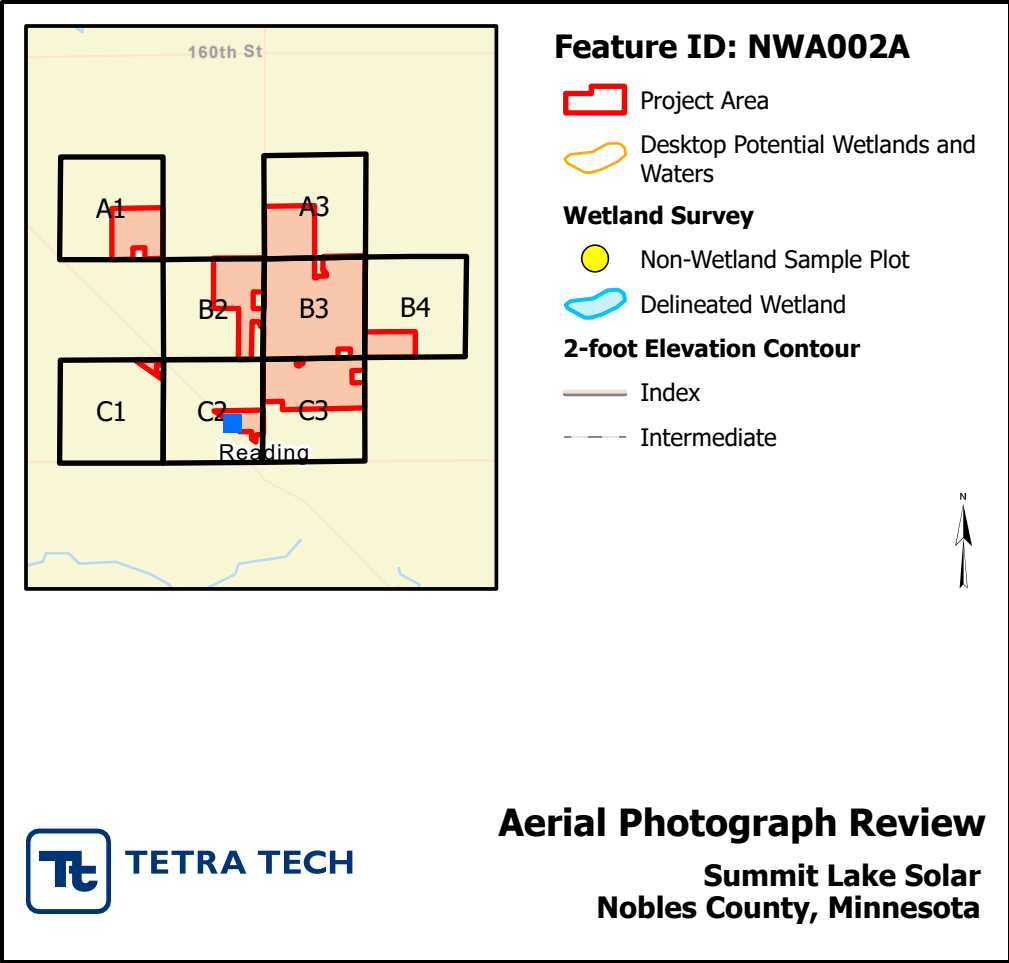
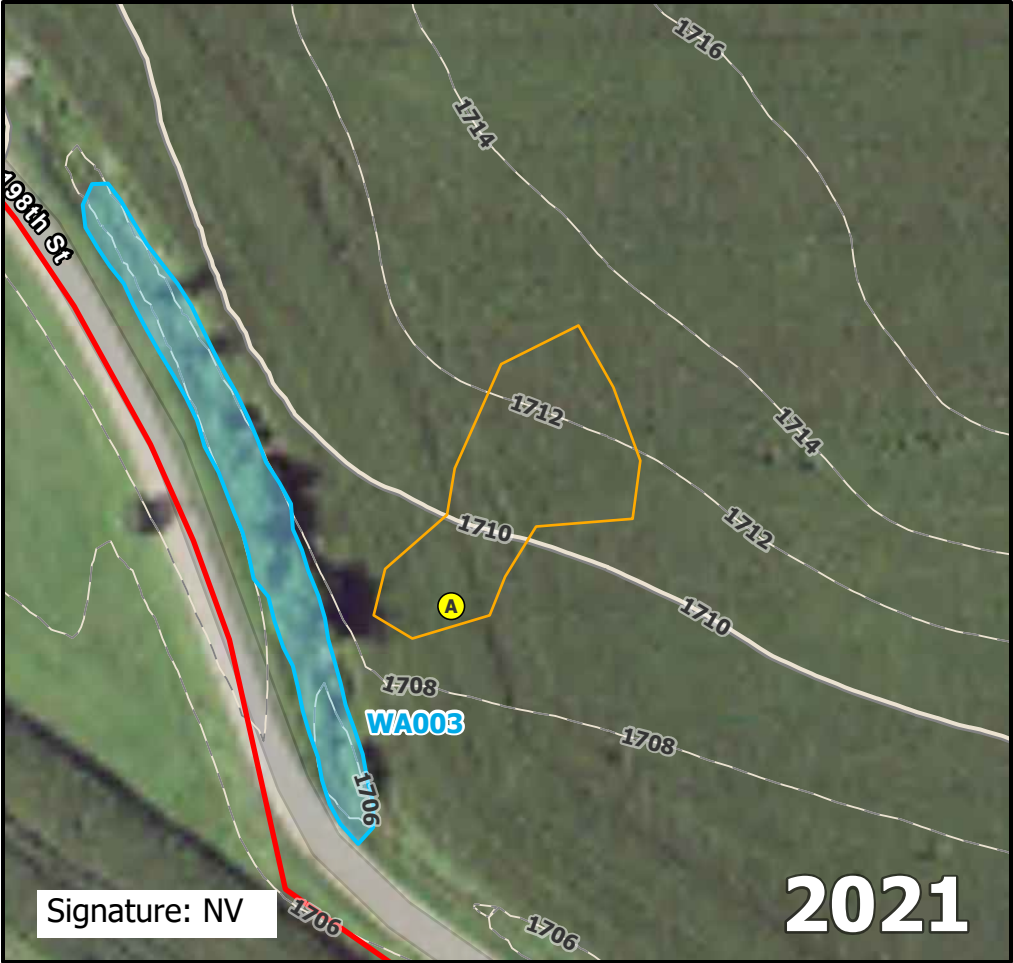
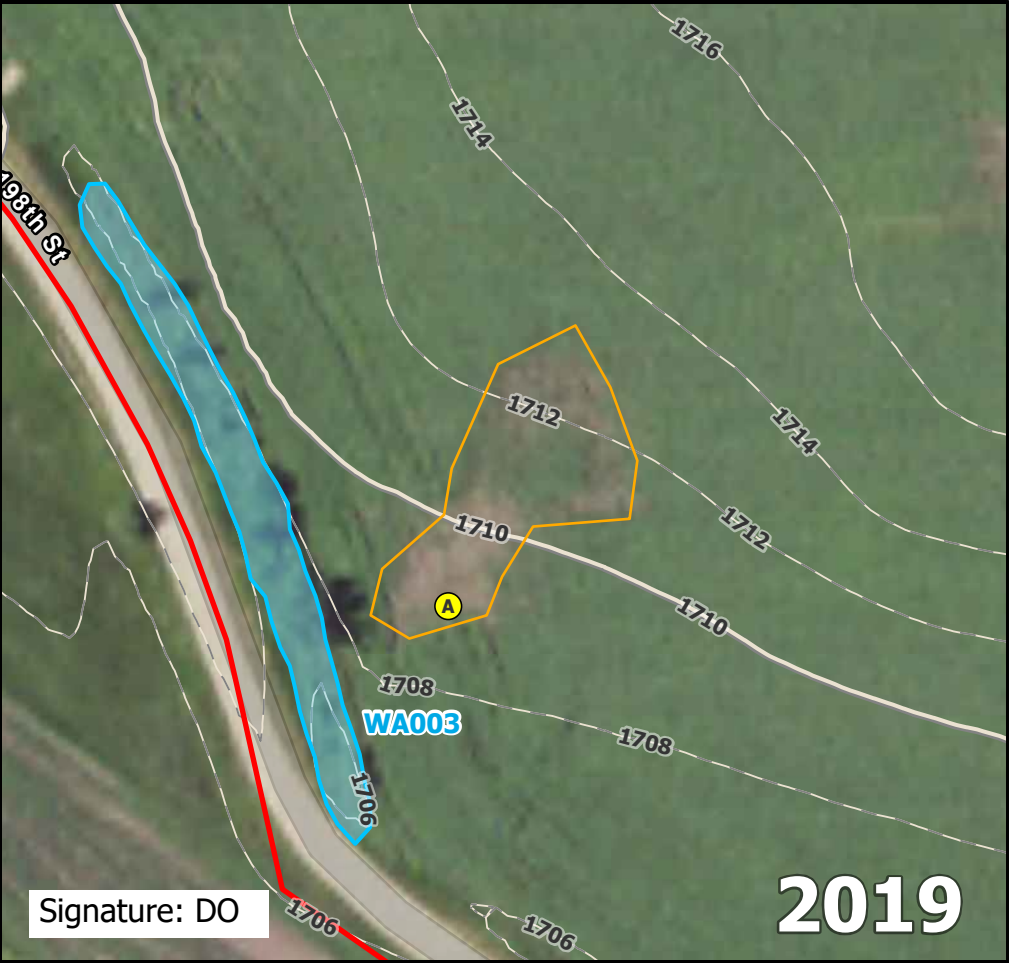
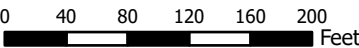
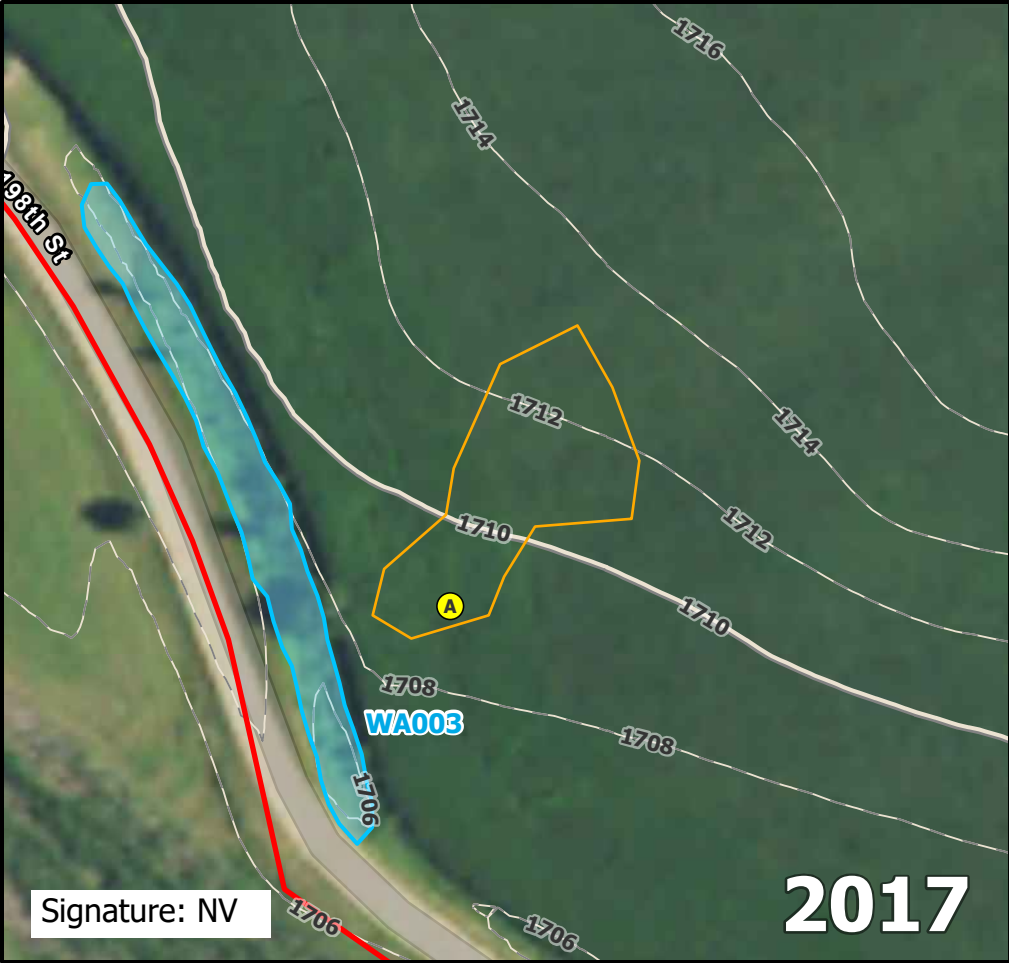
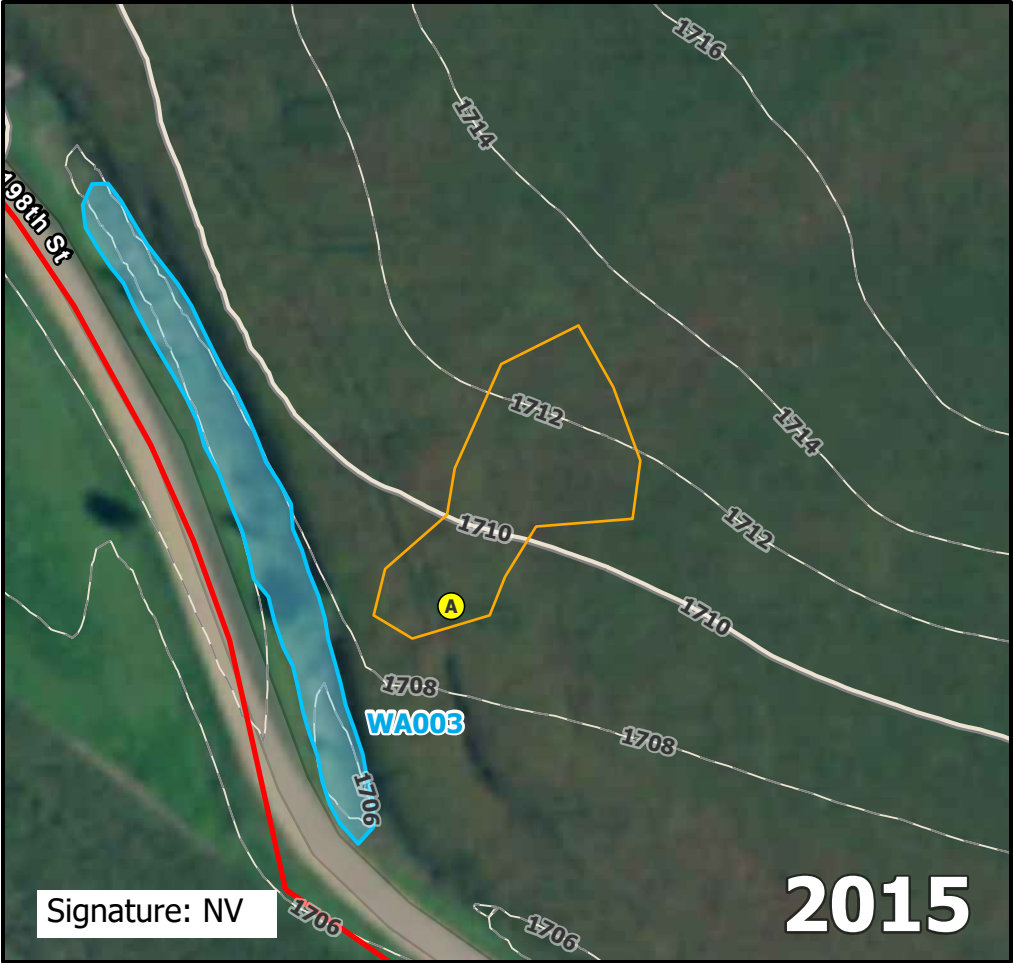
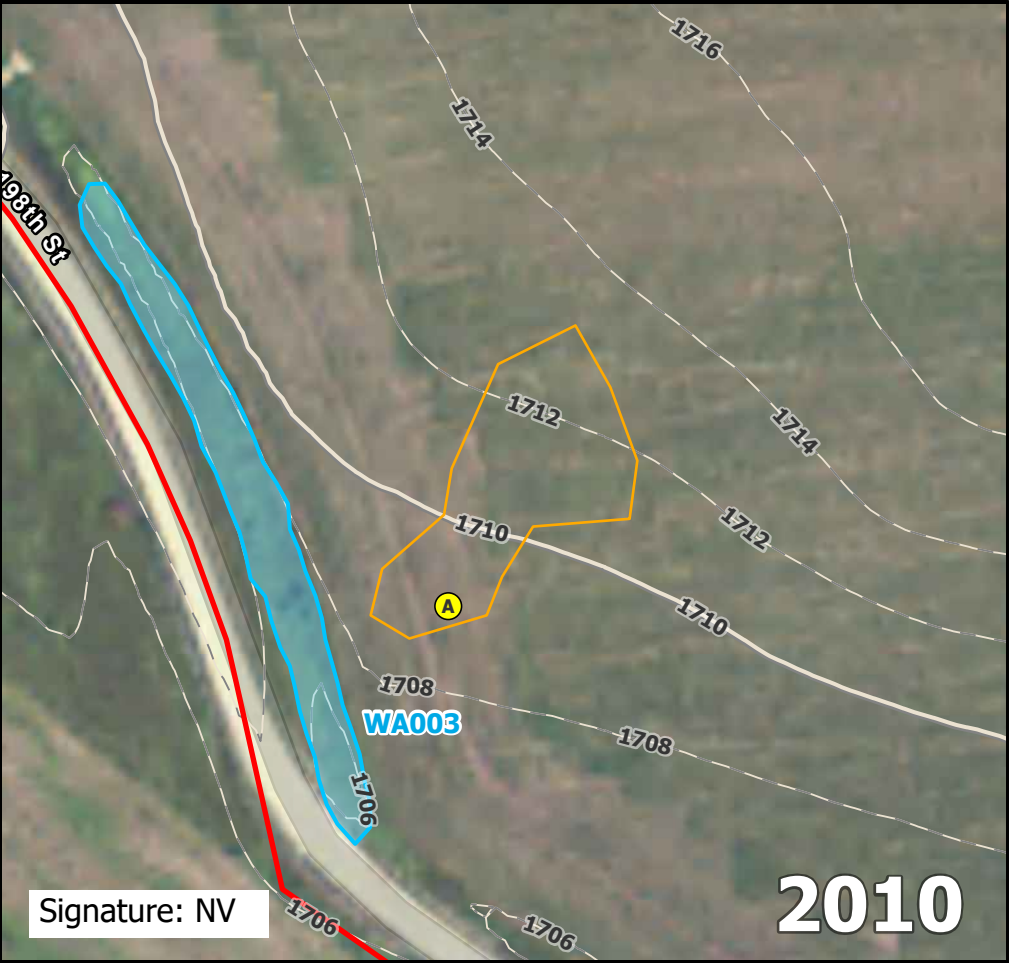
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Date: 10/10/2022

Project Name: Summit Lake Solar

Feature ID: NWA002

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathybellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA005

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/10/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA005A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.23 T103N R41W		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.7077	Long:	-95.7152
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	
Hydric Soil Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Wetland Hydrology Present?	<u>No</u>	If yes, optional wetland site ID: _____
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 = _____

FACW species x 2 = _____

FAC species x 3 = _____

FACU species x 4 = _____

UPL species x 5 = _____

Column totals (A) (B)

Prevalence Index = B/A = _____

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?

No _____

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA005A

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**		
0-20	10YR 2/1	100					Clay Loam	
20-26	2.5Y 3/2	95	2.5Y 4/4	5	C	PL	Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA005A.

Direction: East

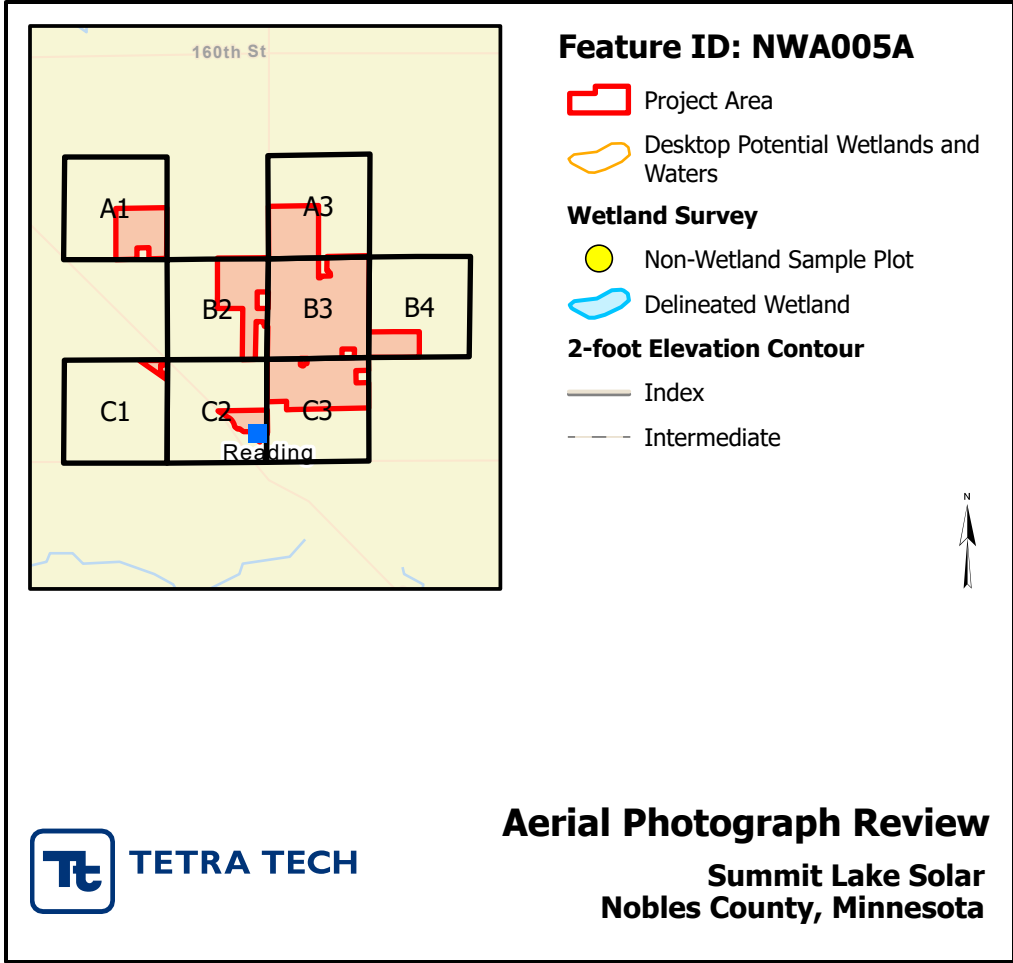
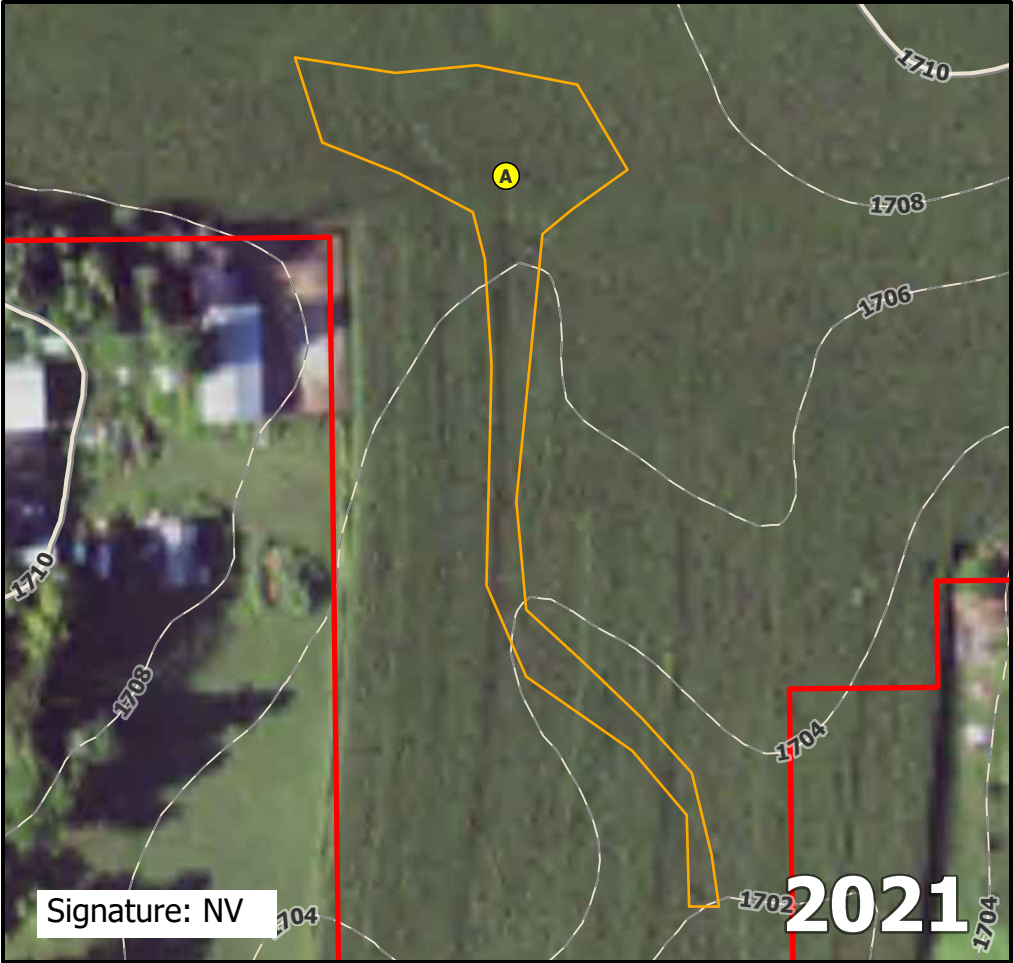
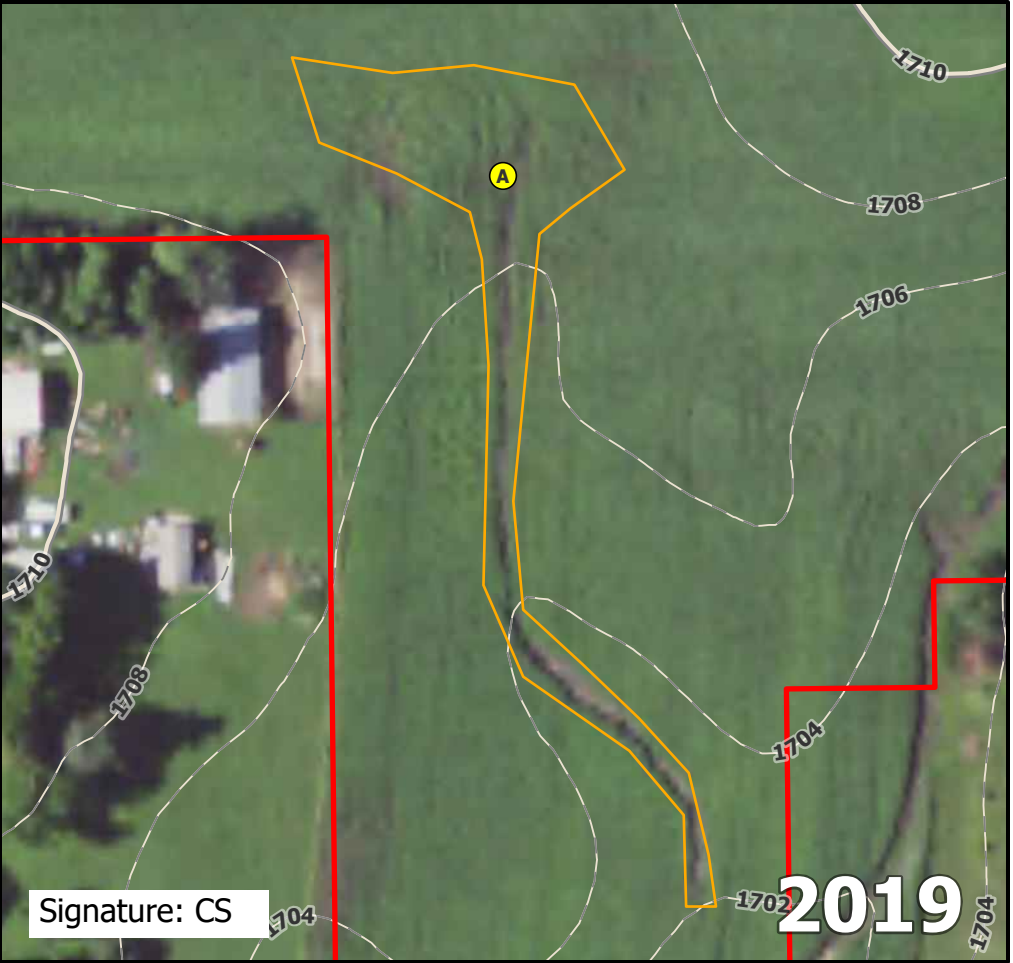
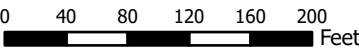
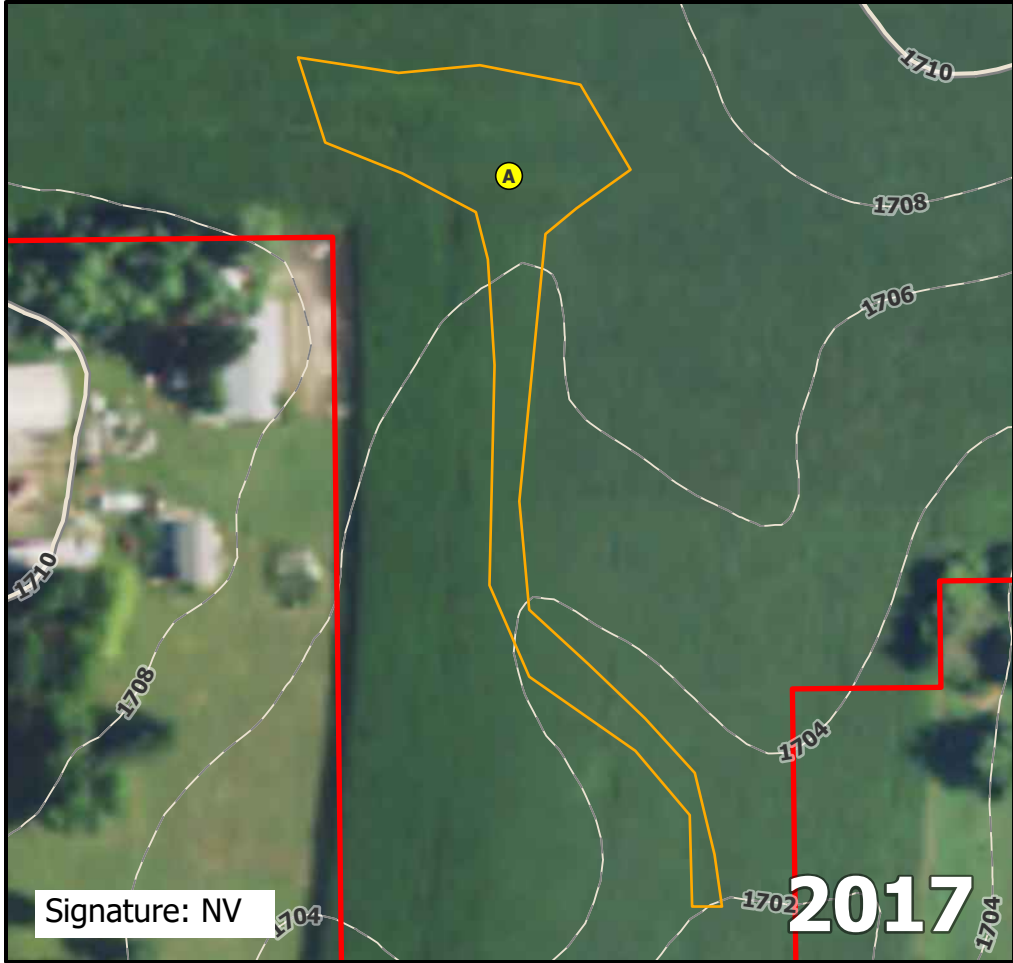
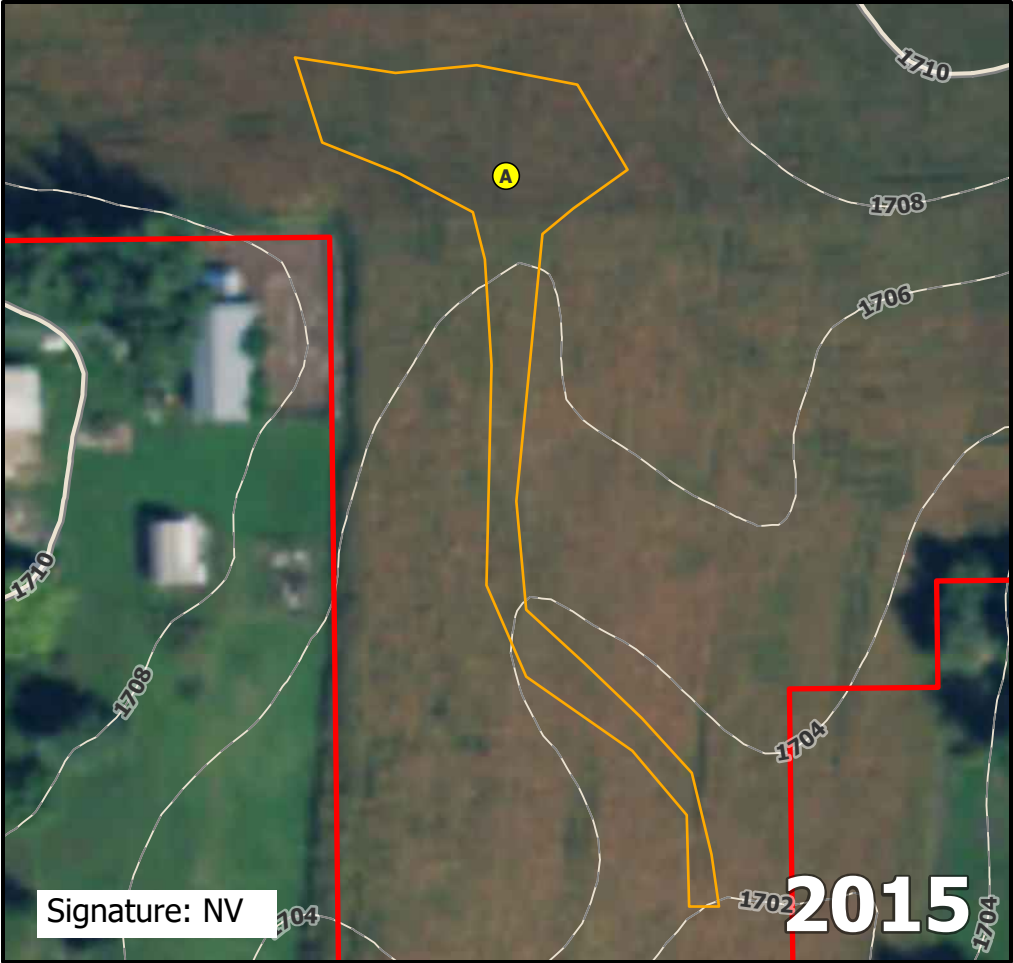
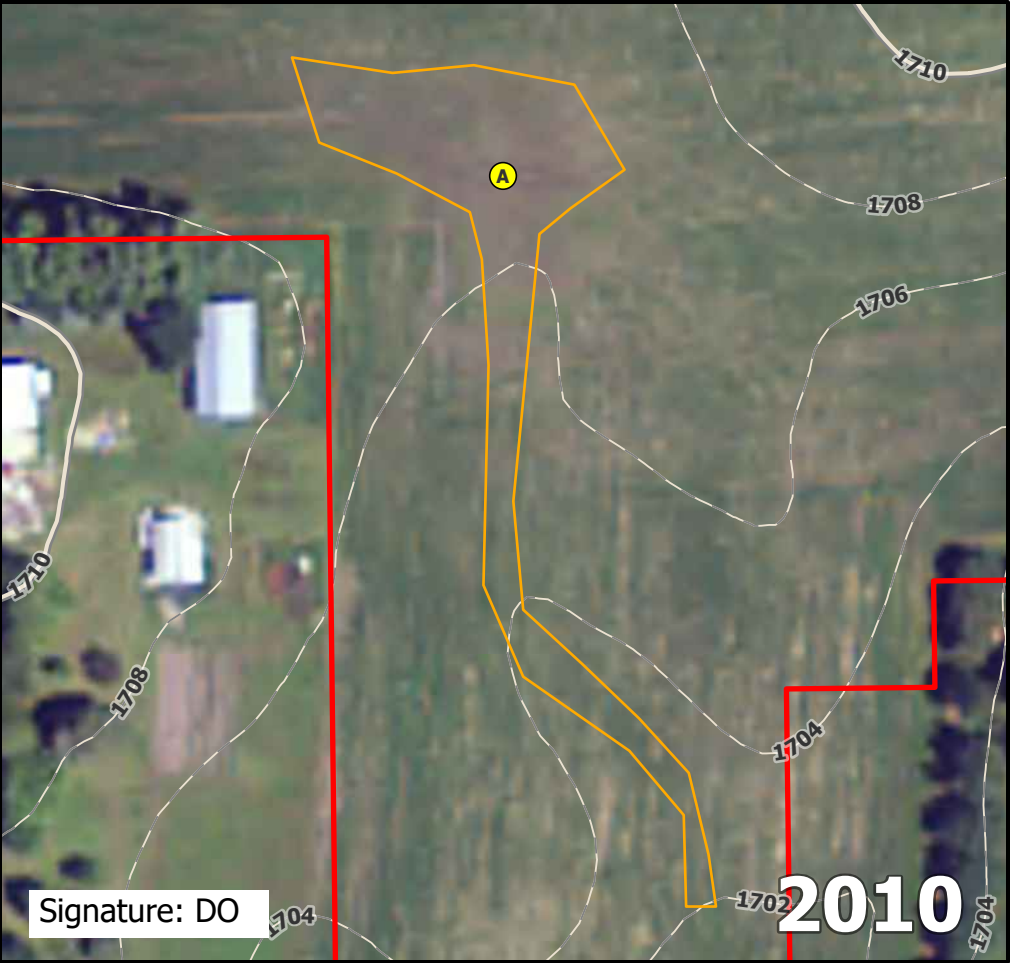
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Date: 10/10/2022

Project Name: Summit Lake Solar

Feature ID: NWA005

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA006

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/10/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA006A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.23 T103N R41W		
Landform (hillslope, terrace, etc.):	Swale	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.70751	Long:	-95.71417
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1. _____				
2. _____				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

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?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA006A

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					Clay Loam	
6-20	10YR 2/1	100					Clay	
20-30	10YR 2/1	95	10YR 3/3	5	C	PL/M	Clay Loam	Distinct or Prominent
30-40	10YR 2/1	70	2.5Y 5/2	30	D	M	Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

A12 assumed

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA006A.

Direction: Northeast

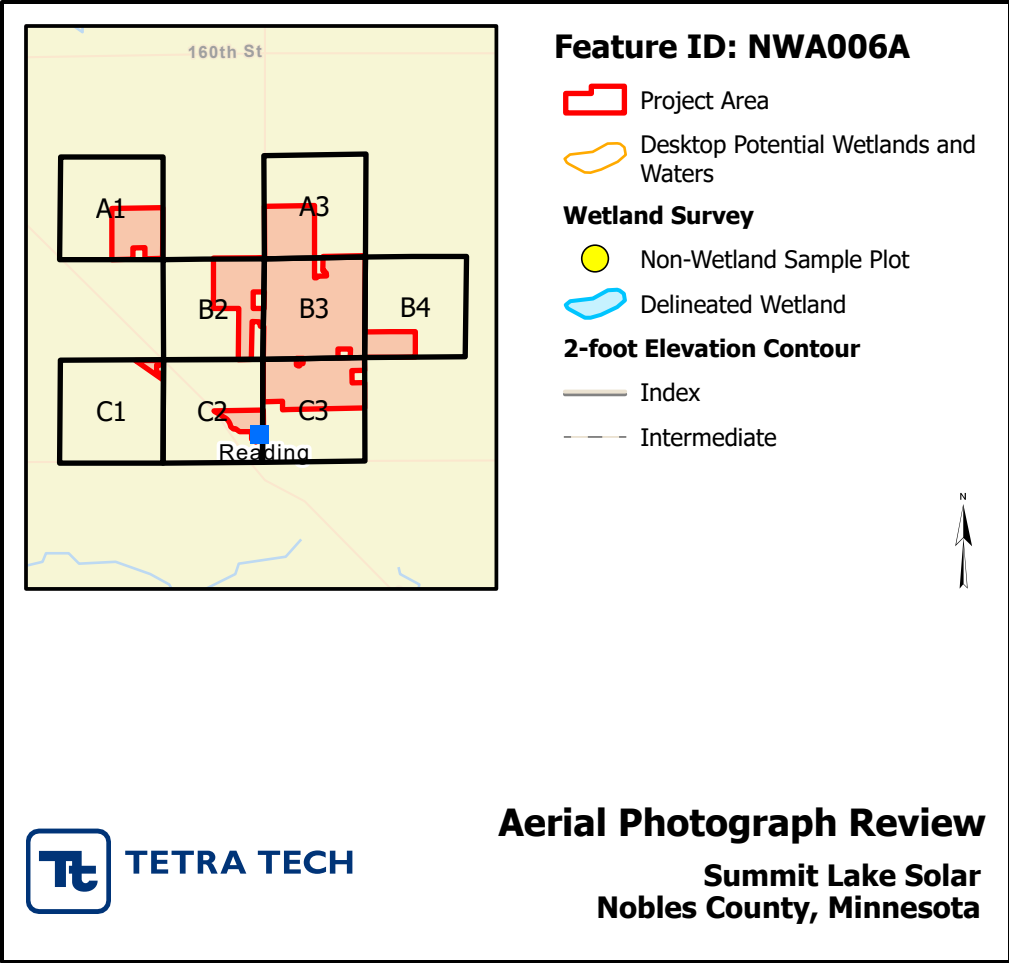
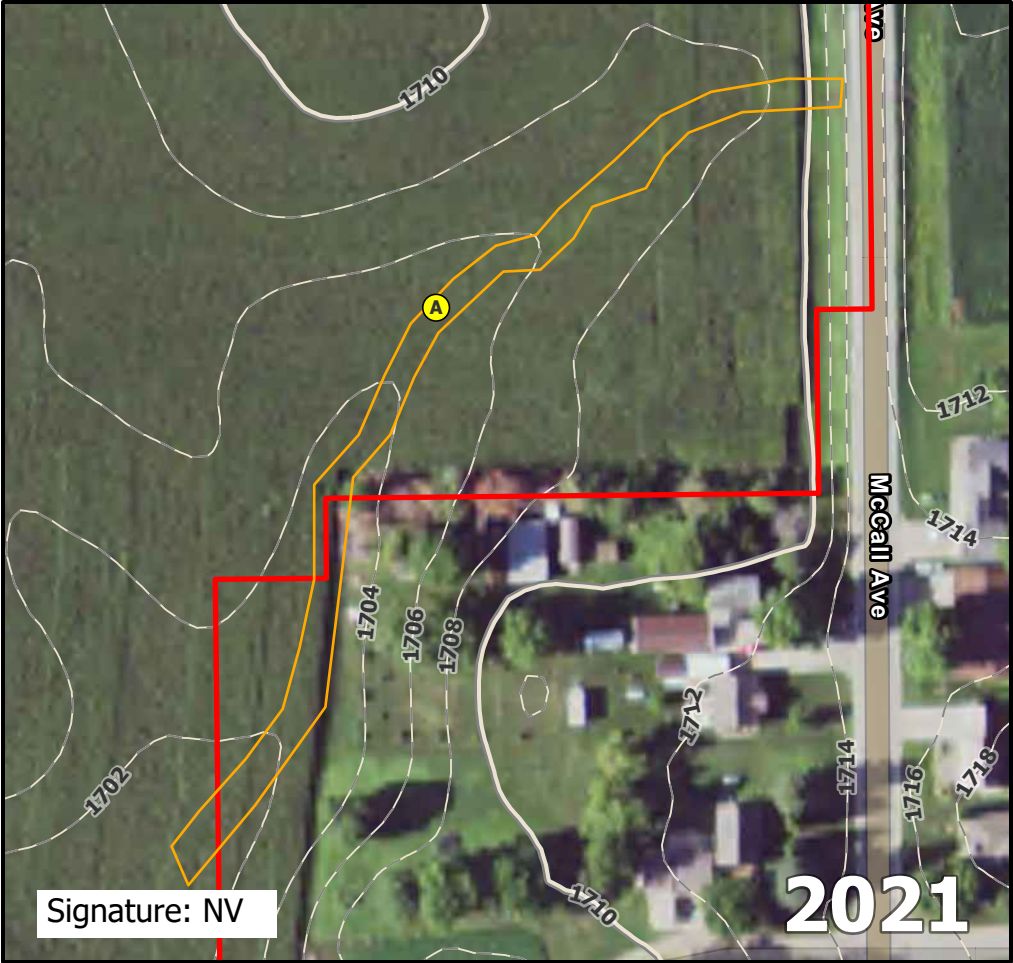
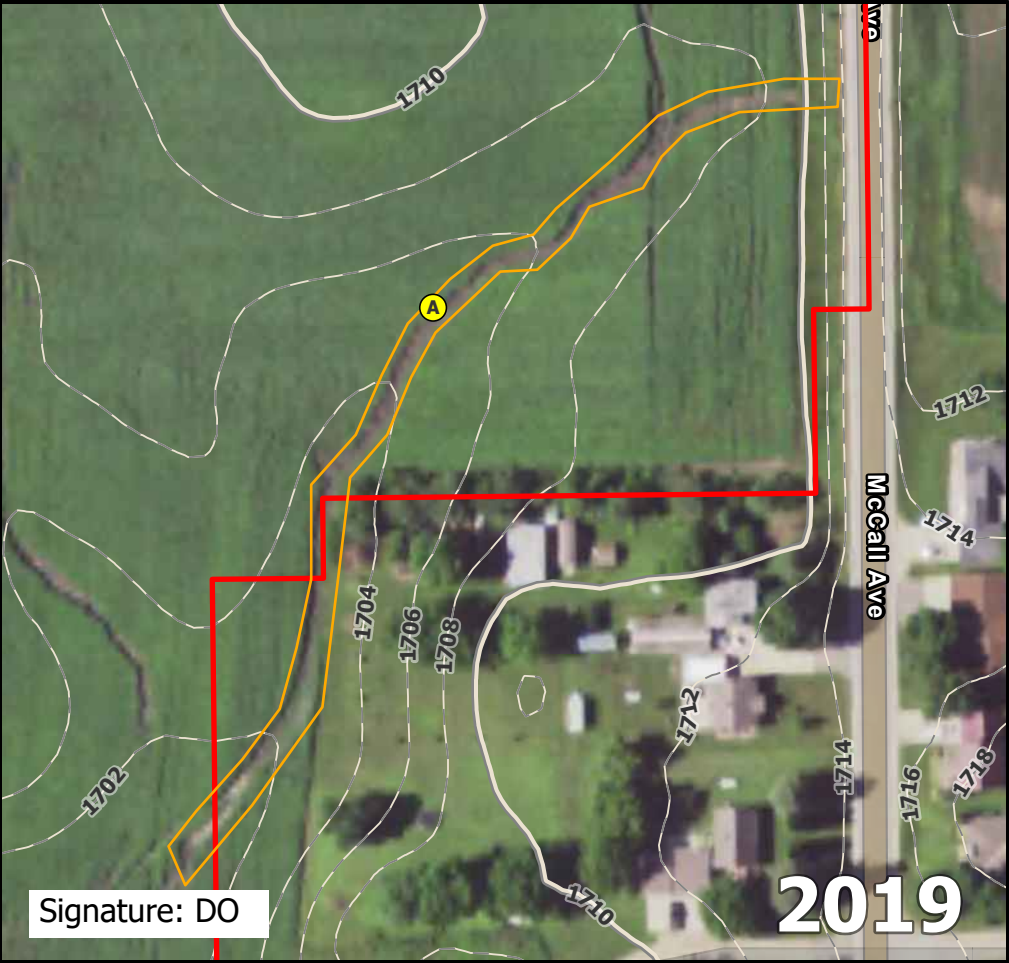
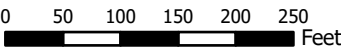
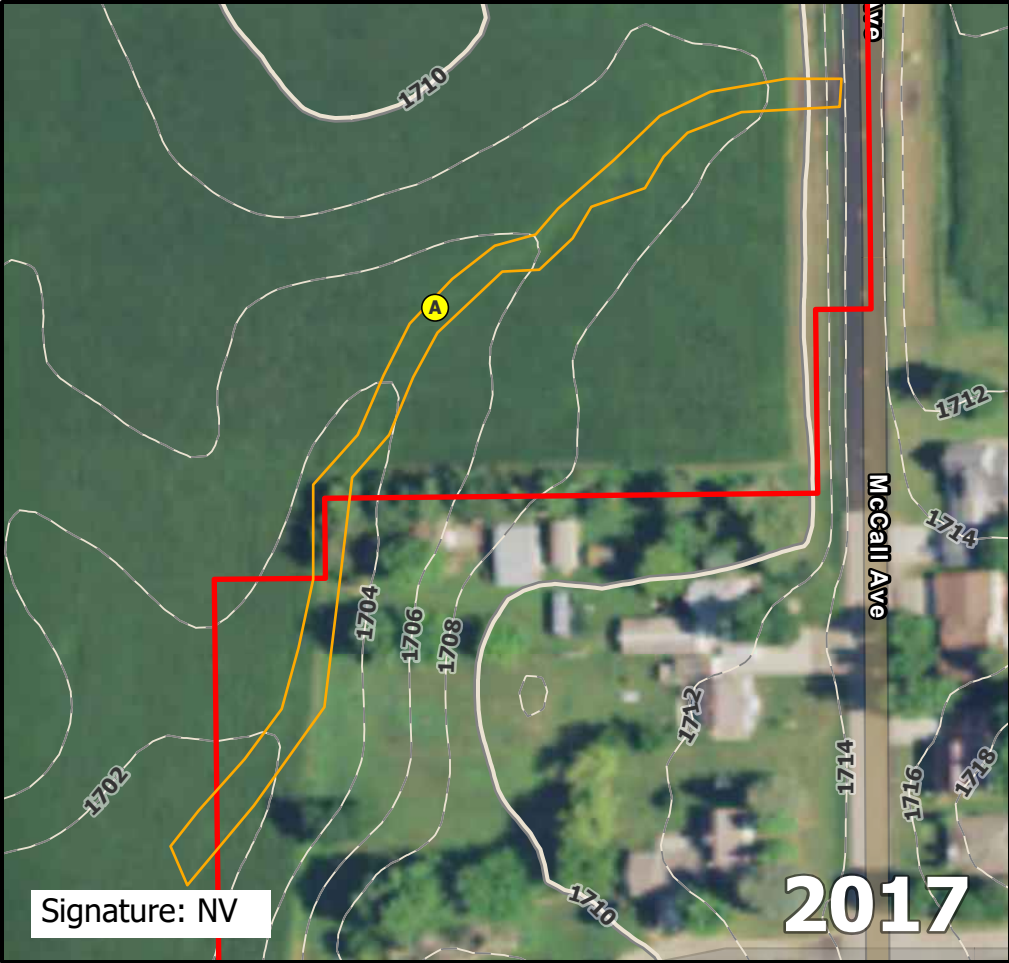
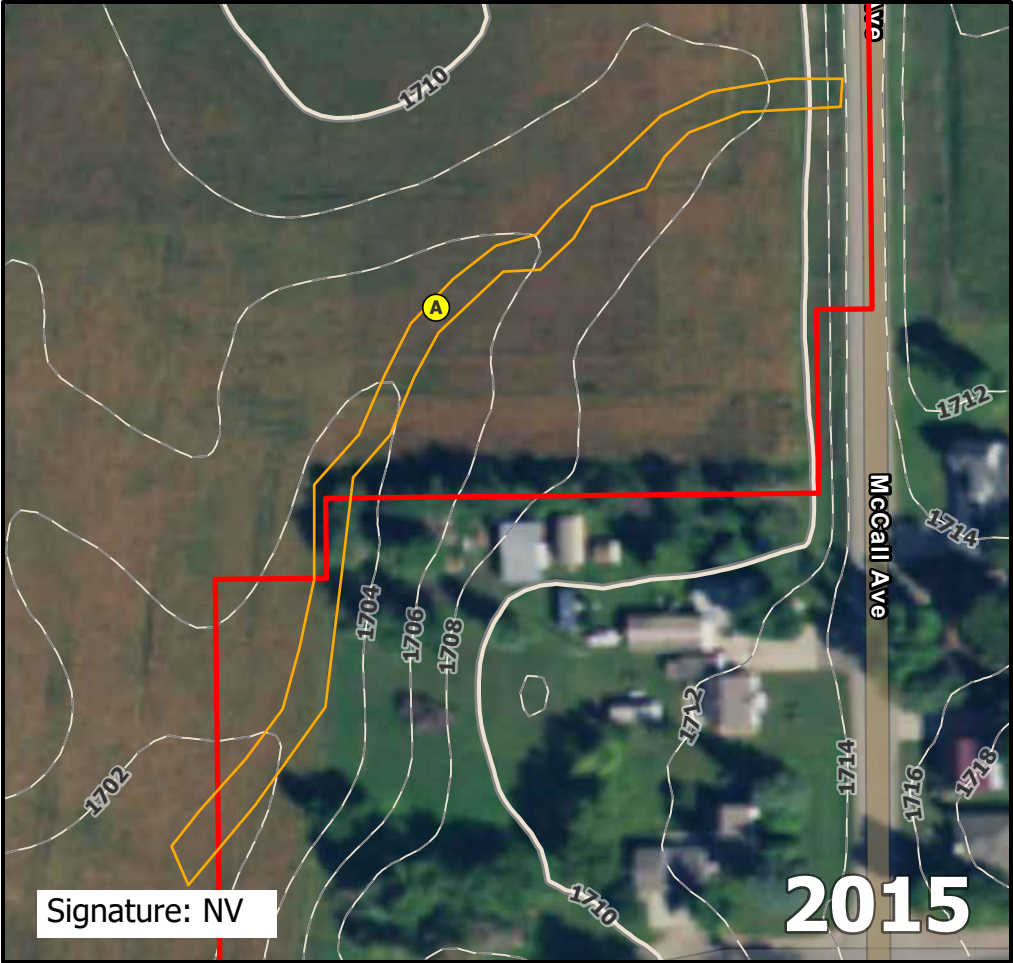
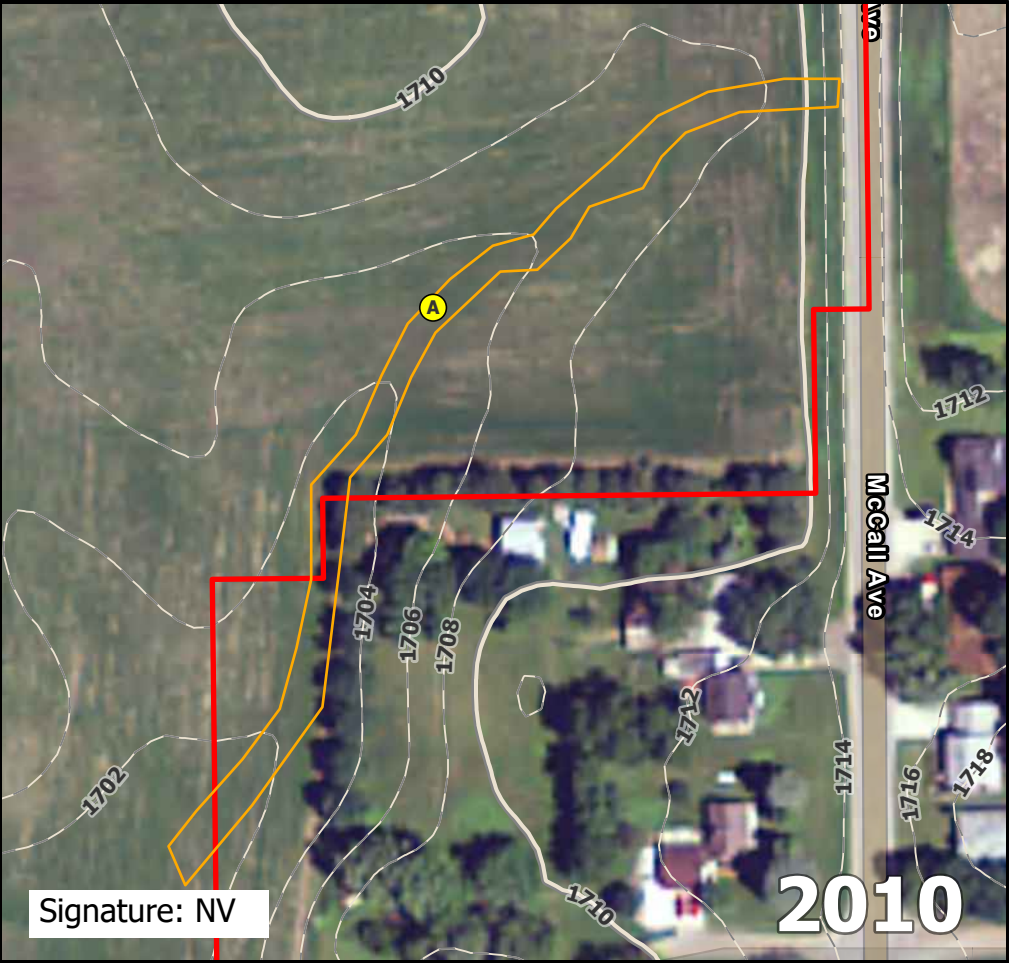
Photo ID: delin_photo-20221010-203806.jpg

Date: 10/10/2022

Project Name: Summit Lake Solar

Feature ID: NWA006

6/26/2023 5:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathybellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:2,000

Non-Wetland ID

NWA007

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/10/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA007A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.23 T103N R41W		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.71055	Long:	-95.71462
		Datum:	WGS84		
Soil Map Unit Name:	Nicollet clay loam, 1 to 3 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

		Absolute	Dominant	Indicator	Dominance Test Worksheet	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status		
1. _____					Number of Dominant Species that are OBL, FACW, or FAC: _____	0 (A)
2. _____					Total Number of Dominant Species Across All Strata: _____	0 (B)
3. _____					Percent of Dominant Species that are OBL, FACW, or FAC: _____	% (A/B)
4. _____						
5. _____						
				_____	=Total Cover	
Sapling/Shrub Stratum	(Plot size: _____)				Prevalence Index Worksheet	
1. _____					Total % Cover of: _____	Multiply by: _____
2. _____					OBL species _____	x 1 = _____
3. _____					FACW species _____	x 2 = _____
4. _____					FAC species _____	x 3 = _____
5. _____					FACU species _____	x 4 = _____
				_____	=Total Cover	
UPL species _____					_____	x 5 = _____
Herb Stratum	(Plot size: _____)				Column totals _____	(A) _____ (B)
1. _____					Prevalence Index = B/A = _____	
2. _____						
3. _____						
4. _____						
5. _____						
6. _____						
7. _____						
8. _____						
9. _____						
10. _____						
				_____	=Total Cover	
Woody Vine Stratum	(Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. _____					_____	Rapid test for hydrophytic vegetation
2. _____					_____	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)	
				_____	=Total Cover	
					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
					Hydrophytic Vegetation Present?	
					No _____	

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA007A

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 2/1	100					Clay Loam	
8-18	10YR 2/1	99	7.5YR 4/6	1	C	PL	Clay Loam	Distinct or Prominent
18-20	10YR 3/1	90	10YR 4/3	10	C	PL/M	Clay Loam	Distinct or Prominent
20-28	10YR 3/2	80	2.5Y 5/6	20	C	PL/M	Sandy Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

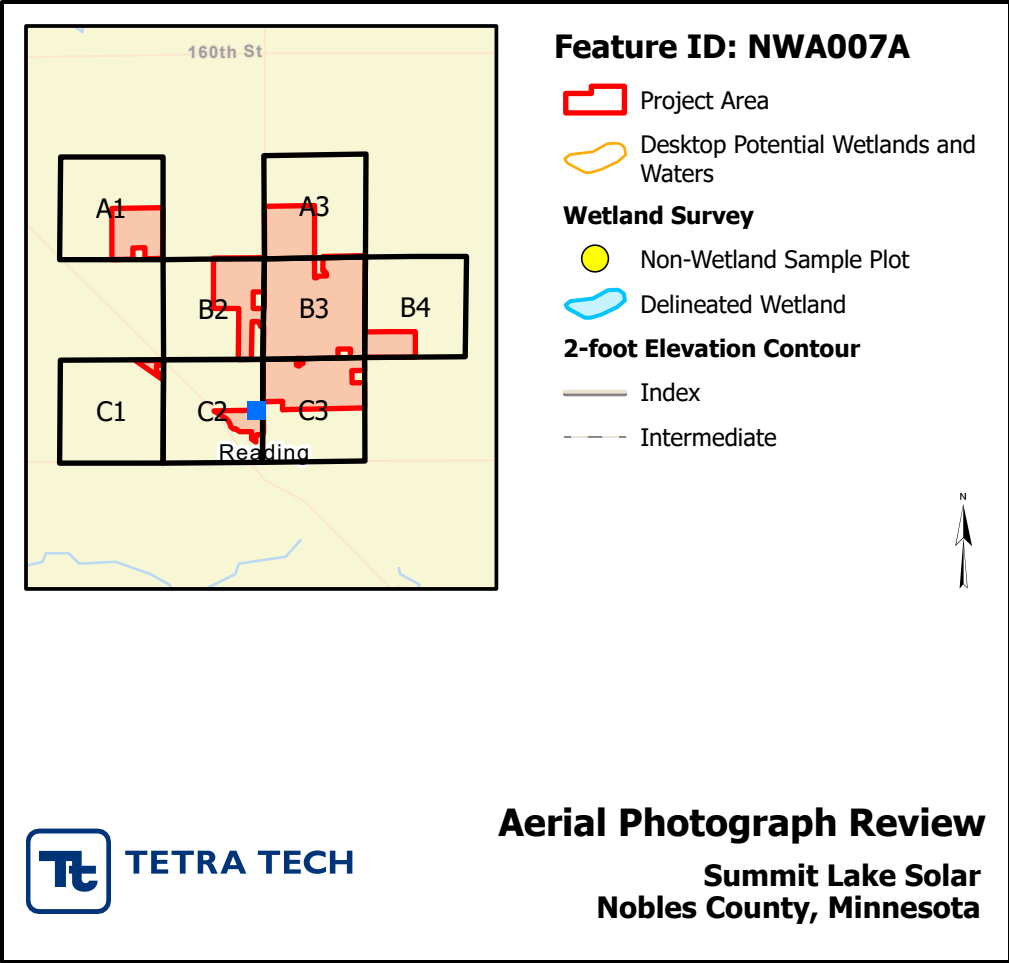
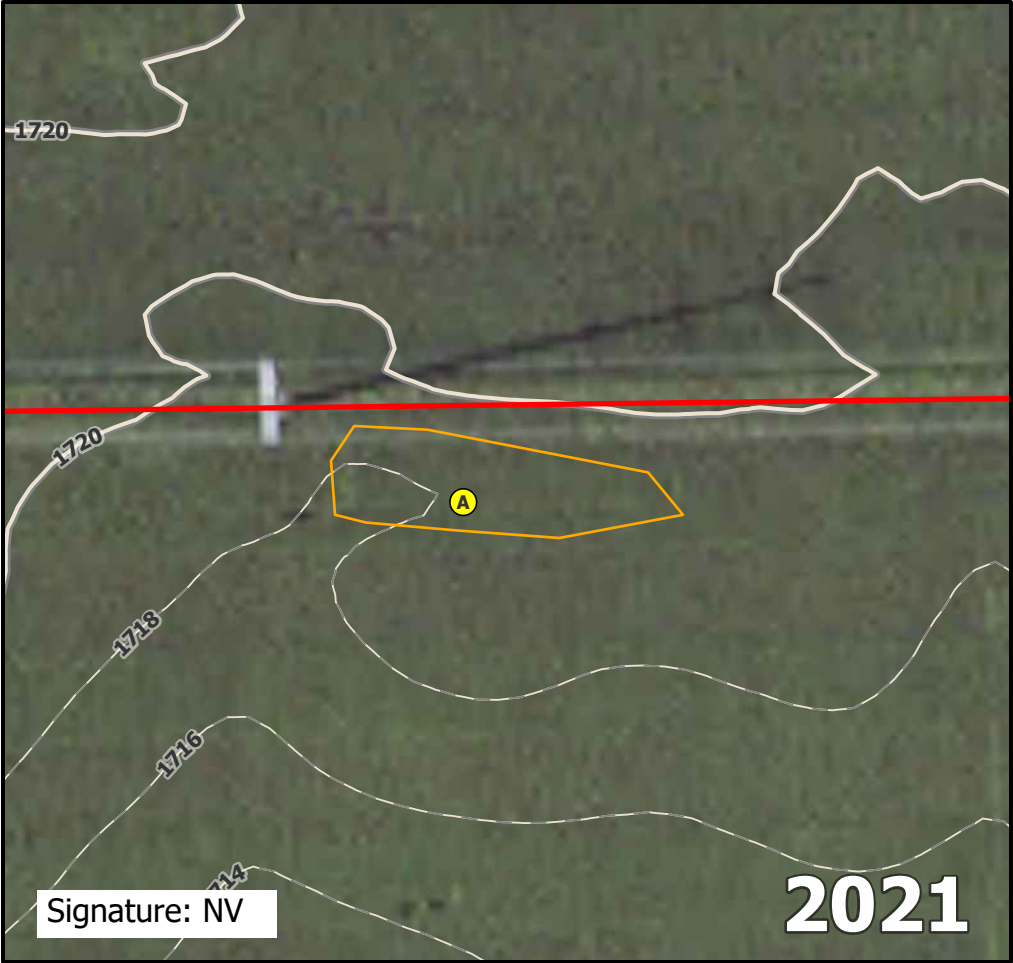
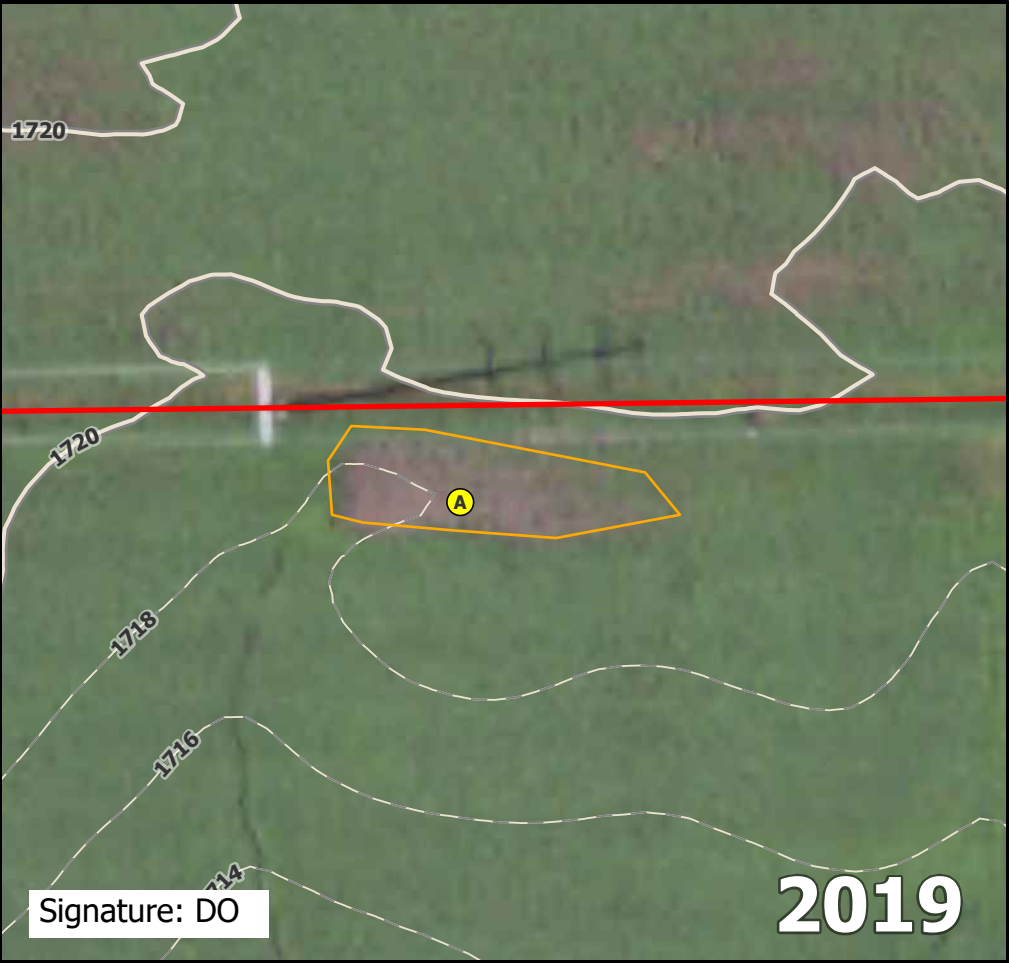
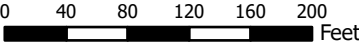
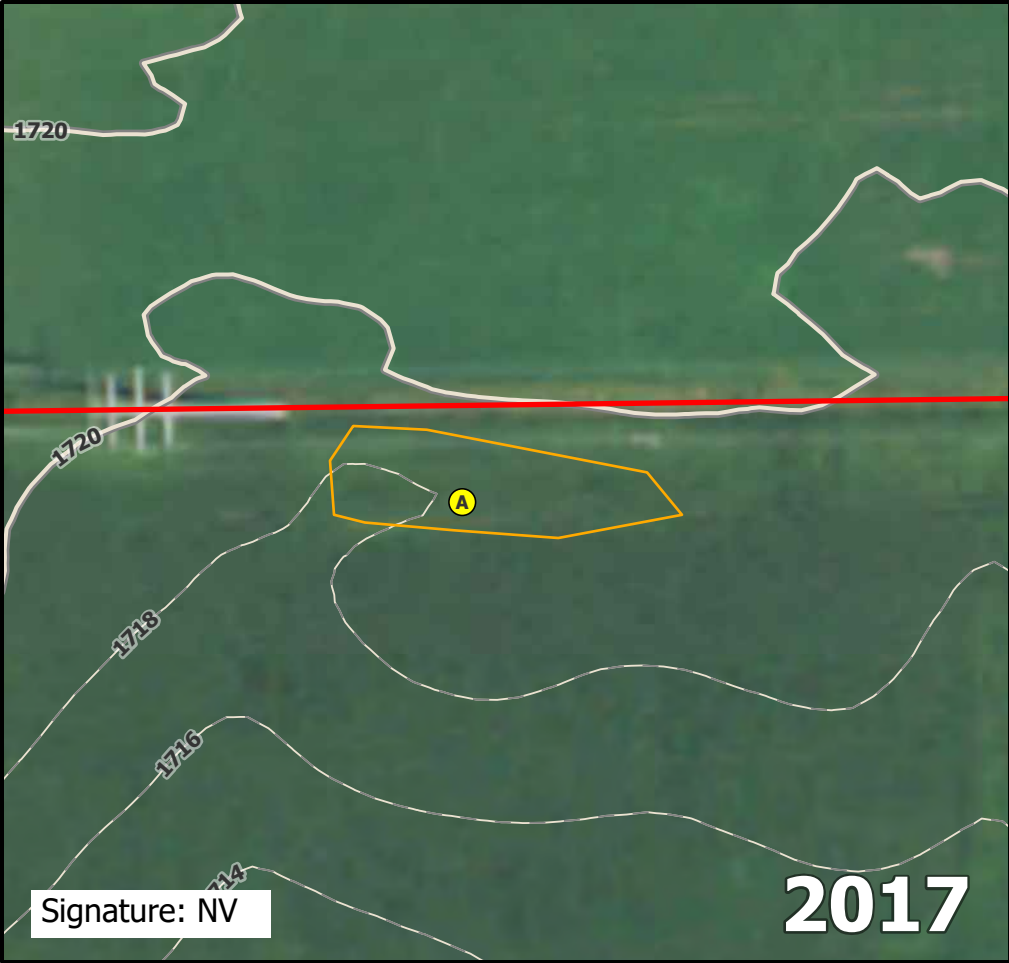
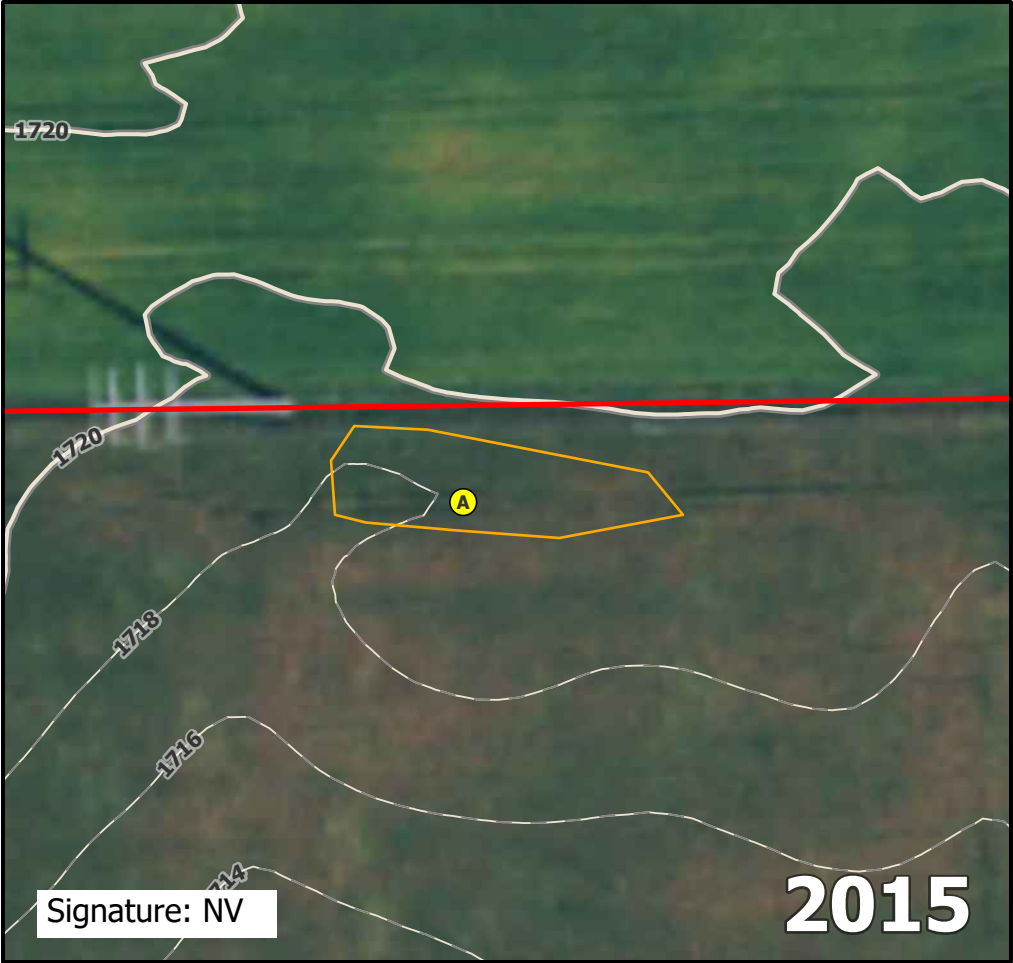
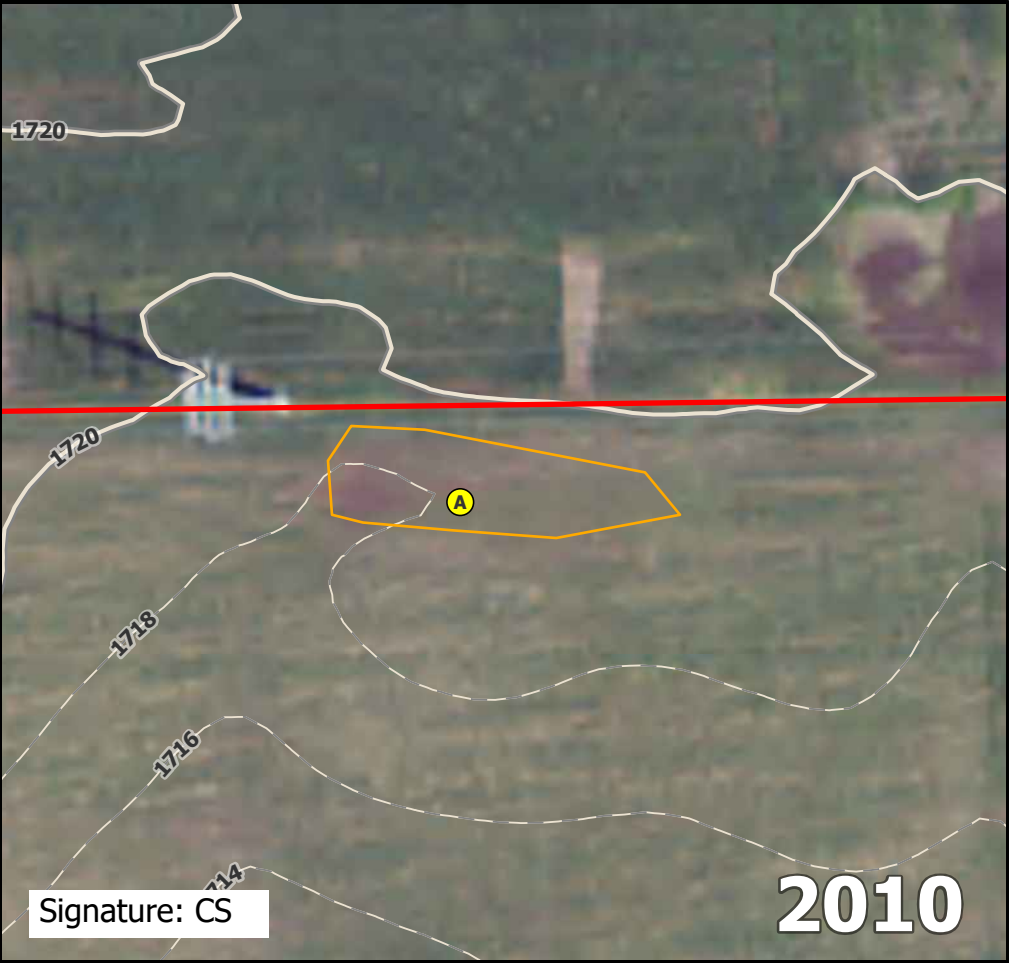
Remarks:



Overview of upland sample point NWA007A.

Direction: East	Photo ID: delin_photo-20221010-210101.jpg	Date: 10/10/2022
Project Name: Summit Lake Solar	Feature ID: NWA007	

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA011

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/11/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA011A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.14 T103N R41W		
Landform (hillslope, terrace, etc.):	Hillslope	Local relief (concave, convex, none):	None		
Slope (%):	1	Lat:	43.72928	Long:	-95.71803
		Datum:	WGS84		
Soil Map Unit Name:	Nicollet clay loam, 1 to 3 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	
Hydric Soil Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Wetland Hydrology Present?	<u>No</u>	If yes, optional wetland site ID: _____
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 = _____

FACW species x 2 = _____

FAC species x 3 = _____

FACU species x 4 = _____

UPL species x 5 = _____

Column totals (A) (B)

Prevalence Index = B/A = _____

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?

No _____

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA011A

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					Clay Loam	
4-10	10YR 3/1	99	10YR 4/3	1	MS	PL/M	Clay Loam	
10-20	10YR 4/3	90	10YR 3/1	10	C	PL/M	Clay Loam	Faint

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

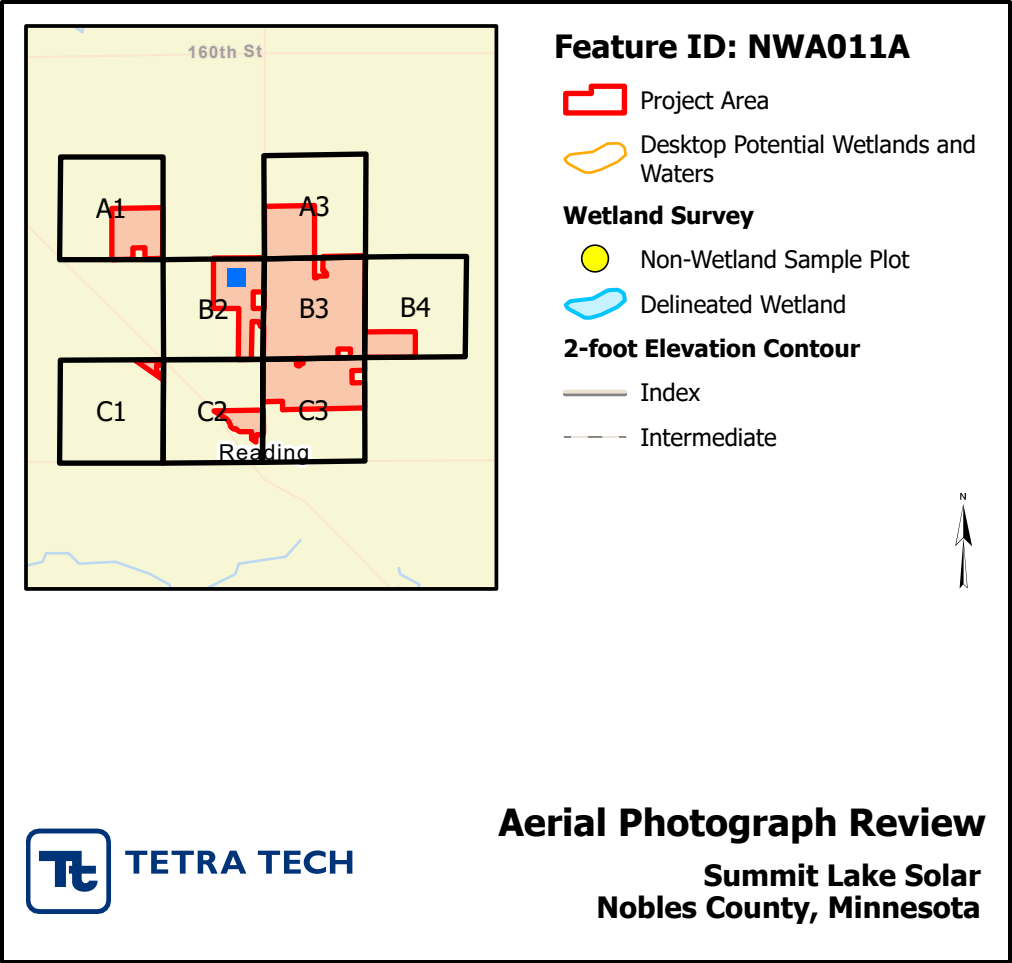
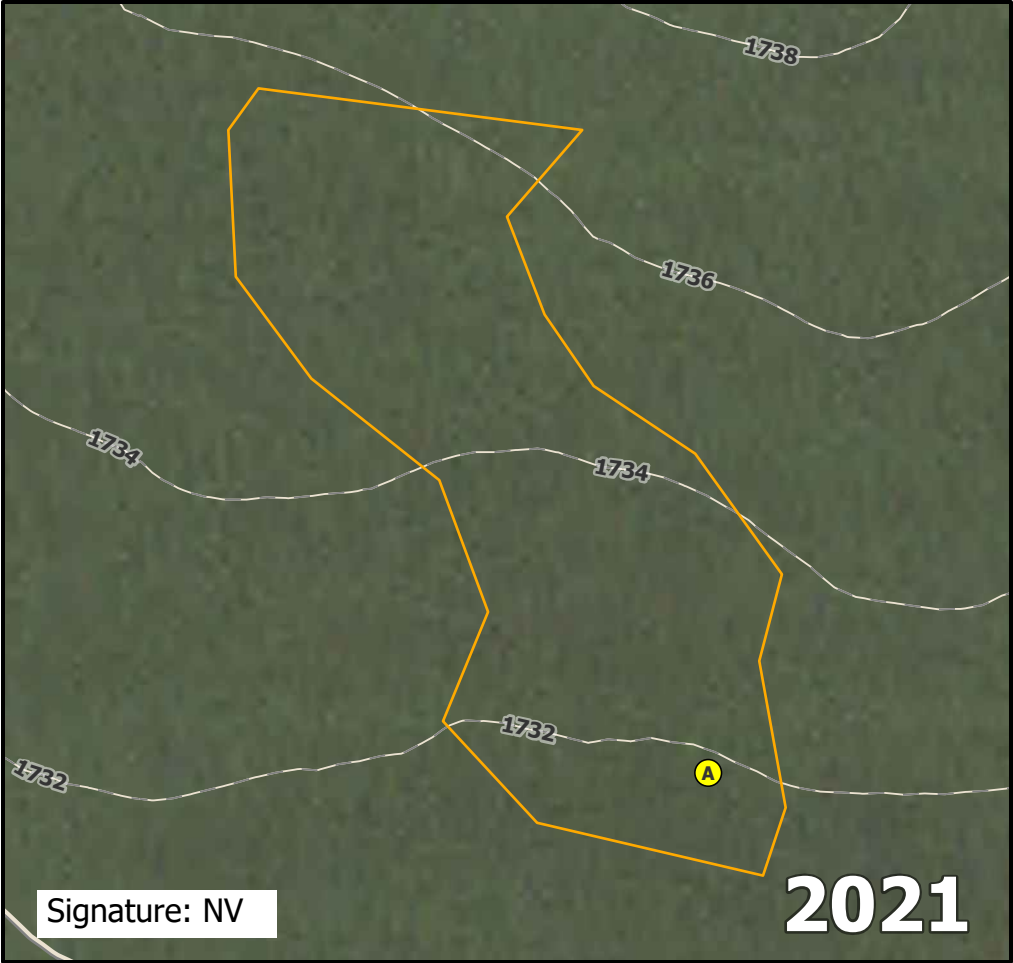
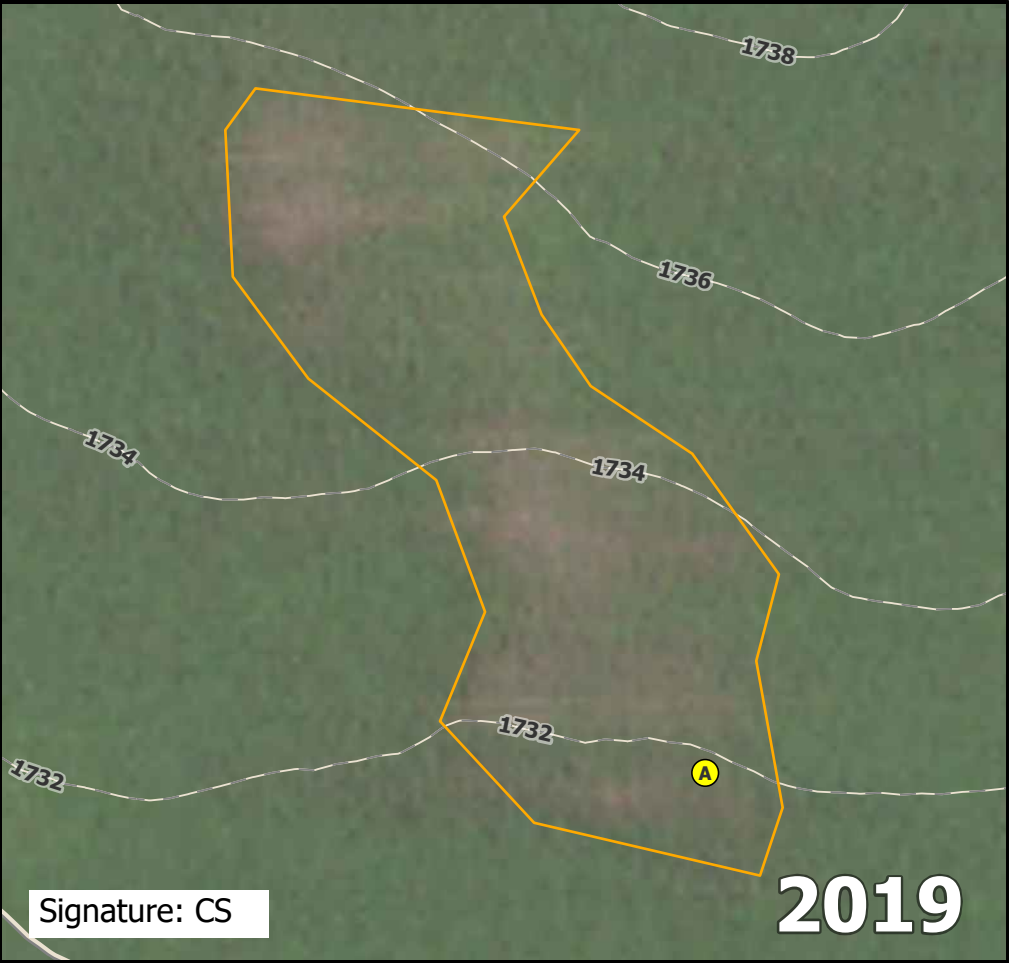
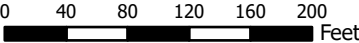
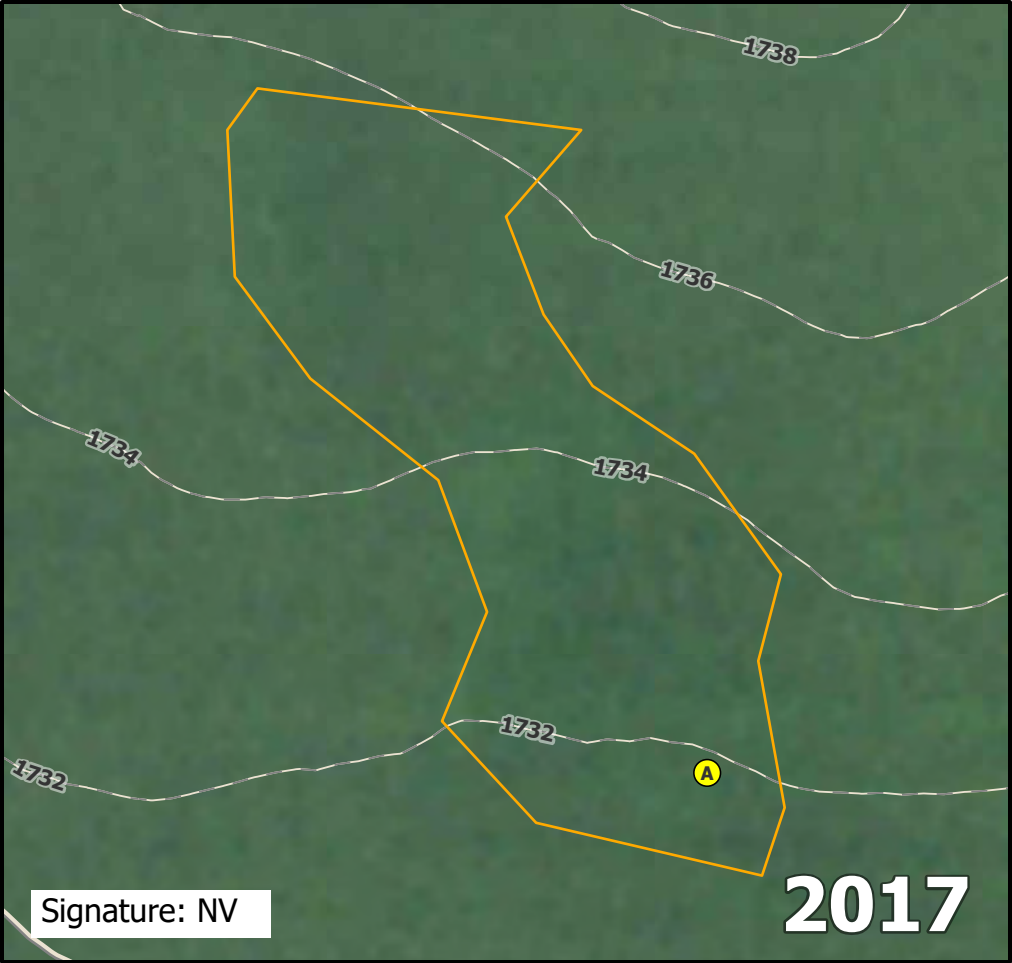
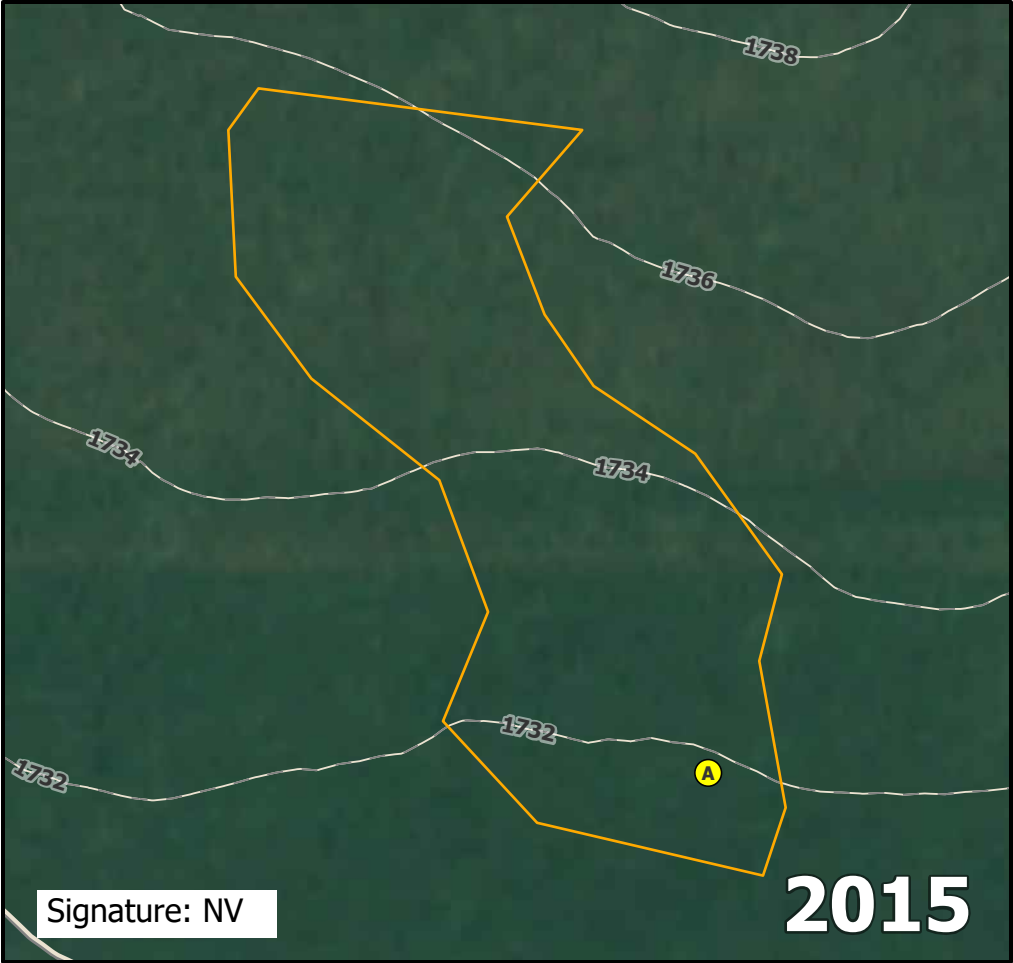
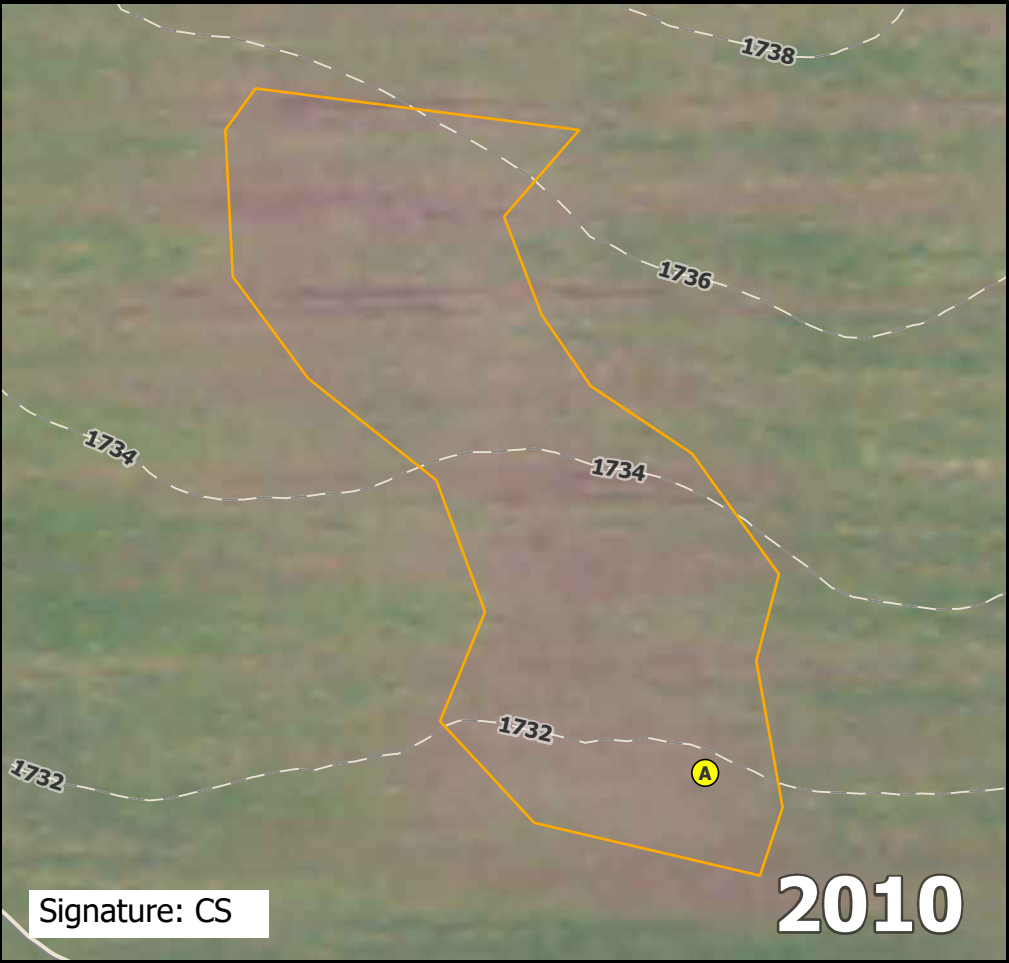
Remarks:



Overview of upland sample point NWA011A.

Direction: North	Photo ID: delin_photo-20221011-140510.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar		Feature ID: NWA011

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathybellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA012

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/11/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: NWA012A
 Investigator(s): Susan Mayer Section, Township, Range: Sec. 14 T103N R41W
 Landform (hillslope, terrace, etc.): Broad Depression Local relief (concave, convex, none): Concave
 Slope (%): 1 Lat: 43.7254 Long: -95.71975 Datum: WGS84
 Soil Map Unit Name: Glencoe silty clay loam, 0 to 1 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u> </u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u> </u> =Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
<u> </u> =Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u> </u> =Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
<u> </u> =Total Cover					

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA012A

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**		
0-25	10YR 2/1	100					Clay Loam	
25-30	10YR 2/1	95	10YR 3/2	5	C	PL/M	Clay Loam	Faint
30-32	10YR 3/1	100					Clay Loam	
32-40	2.5Y 4/3	98	2.5Y 5/4	2	C	PL/M	Clay Loam	CaCO ₃ present Distinct or Prominent.

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

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) |

Secondary Indicators (minimum of two required)

- | | |
|--|--|
| ☐ Aquatic Fauna (B13) | ☐ Surface Soil Cracks (B6) |
| ☐ True Aquatic Plants (B14) | ☐ Drainage Patterns (B10) |
| ☐ Hydrogen Sulfide Odor (C1) | ☐ Dry-Season Water Table (C2) |
| ☐ Oxidized Rhizospheres on Living | ☐ Crayfish Burrows (C8) |
| ☐ Roots (C3) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Presence of Reduced Iron (C4) | ☐ Stunted or Stressed Plants (D1) |
| ☐ Recent Iron Reduction in Tilled Soils | ☒ Geomorphic Position (D2) |
| ☐ (C6) | ☐ FAC-Neutral Test (D5) |
| ☐ Thin Muck Surface (C7) | |
| ☐ Gauge or Well Data (D9) | |
| ☐ Other (Explain in Remarks) | |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

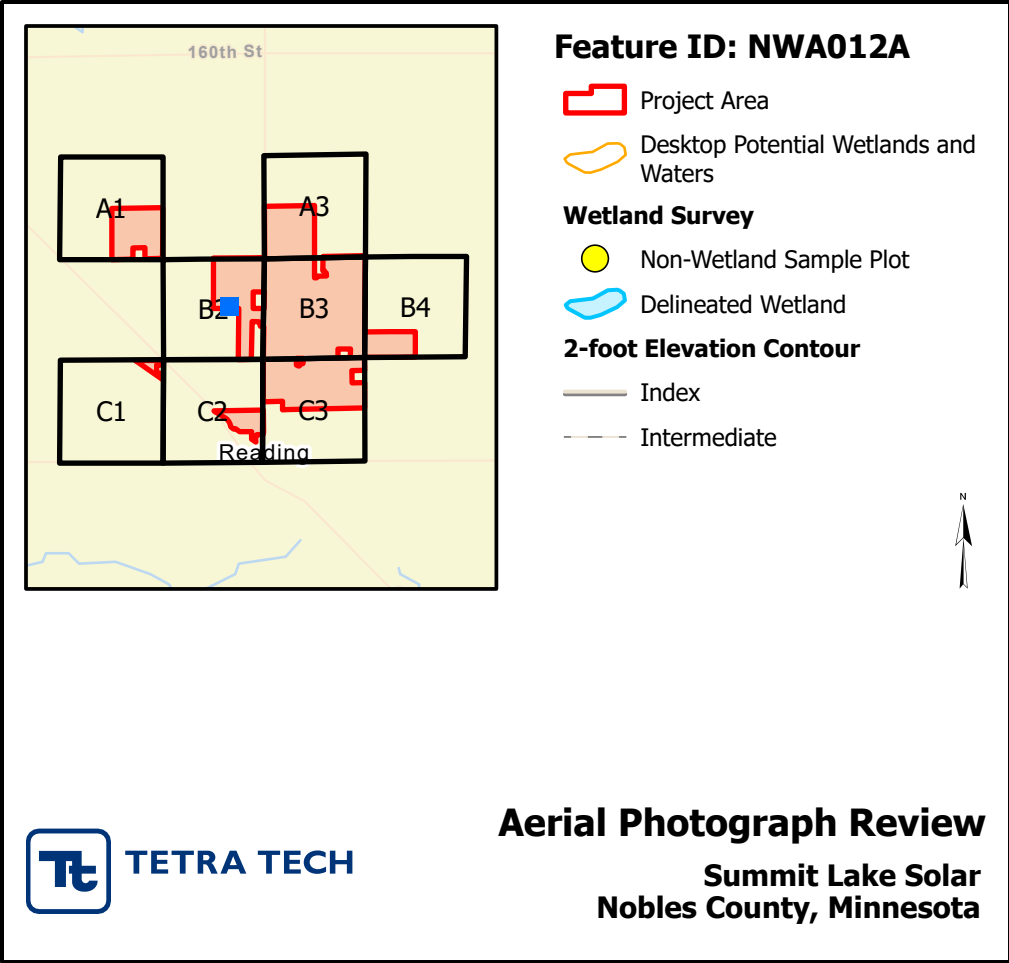
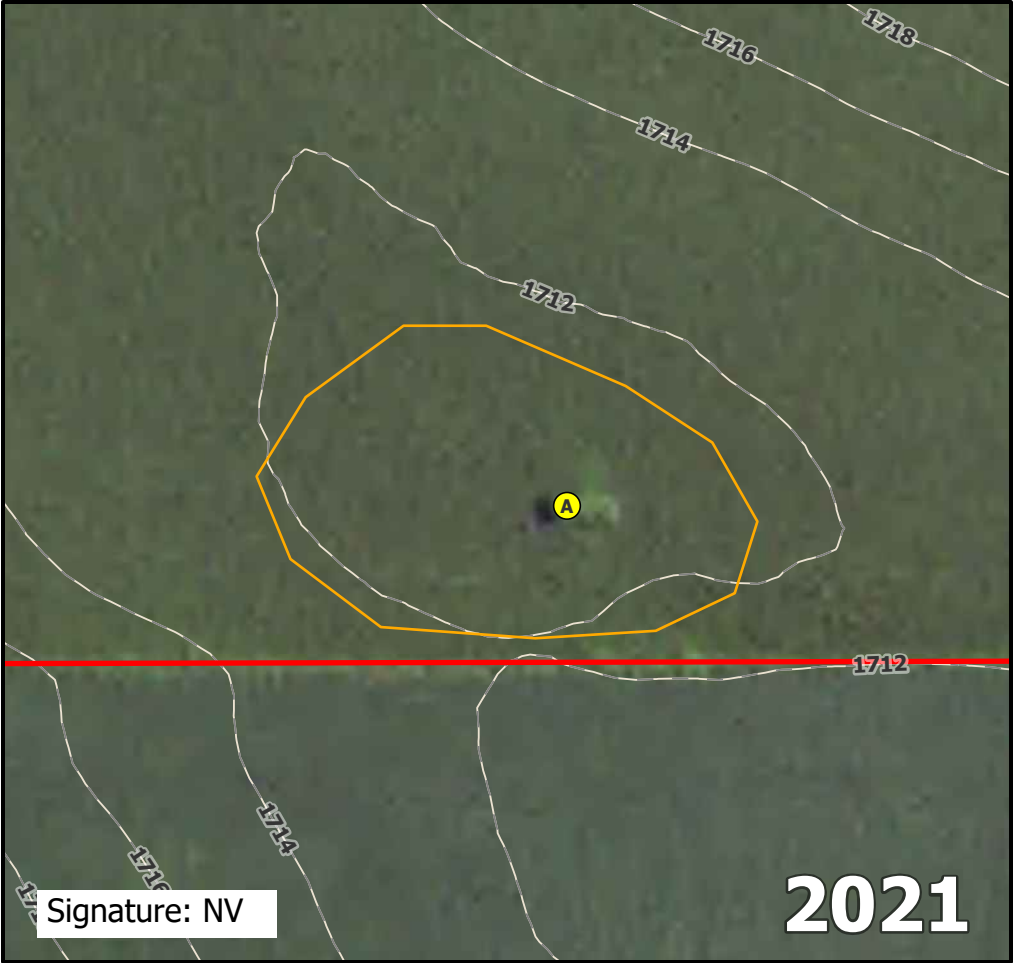
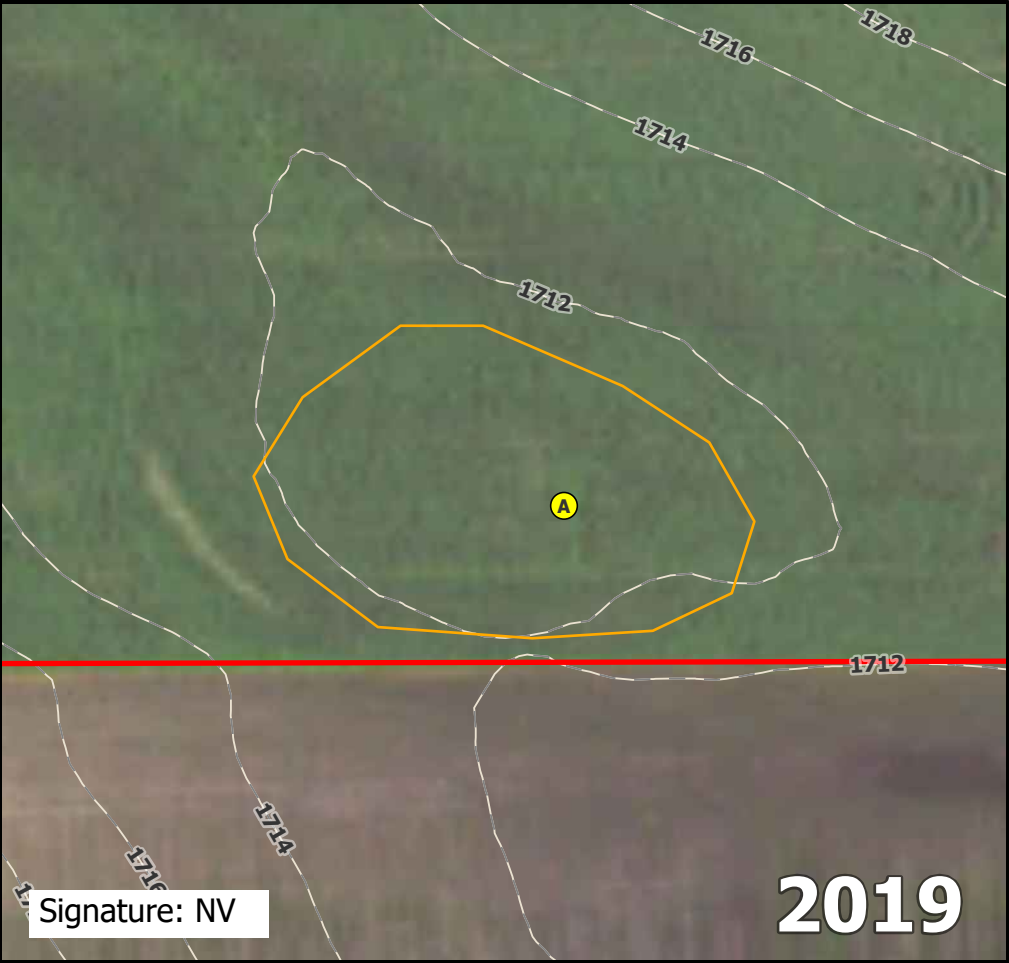
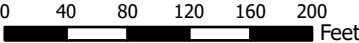
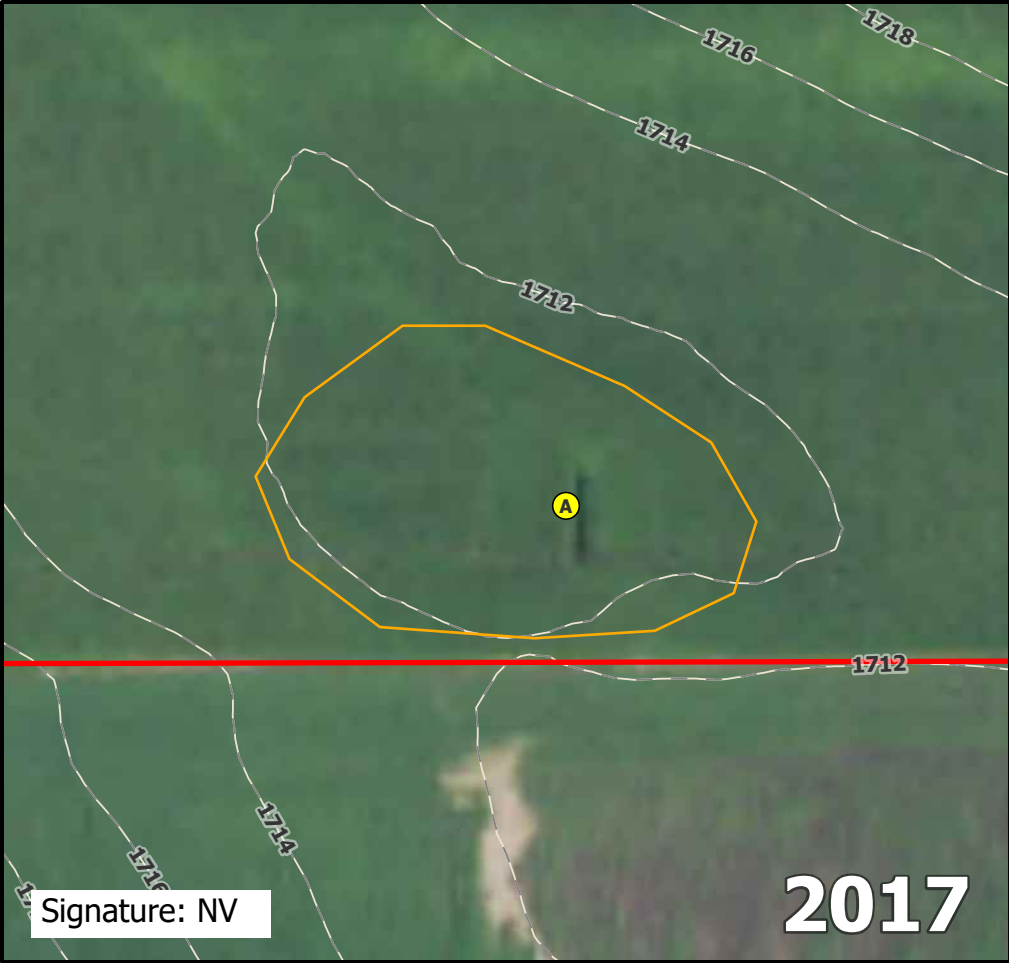
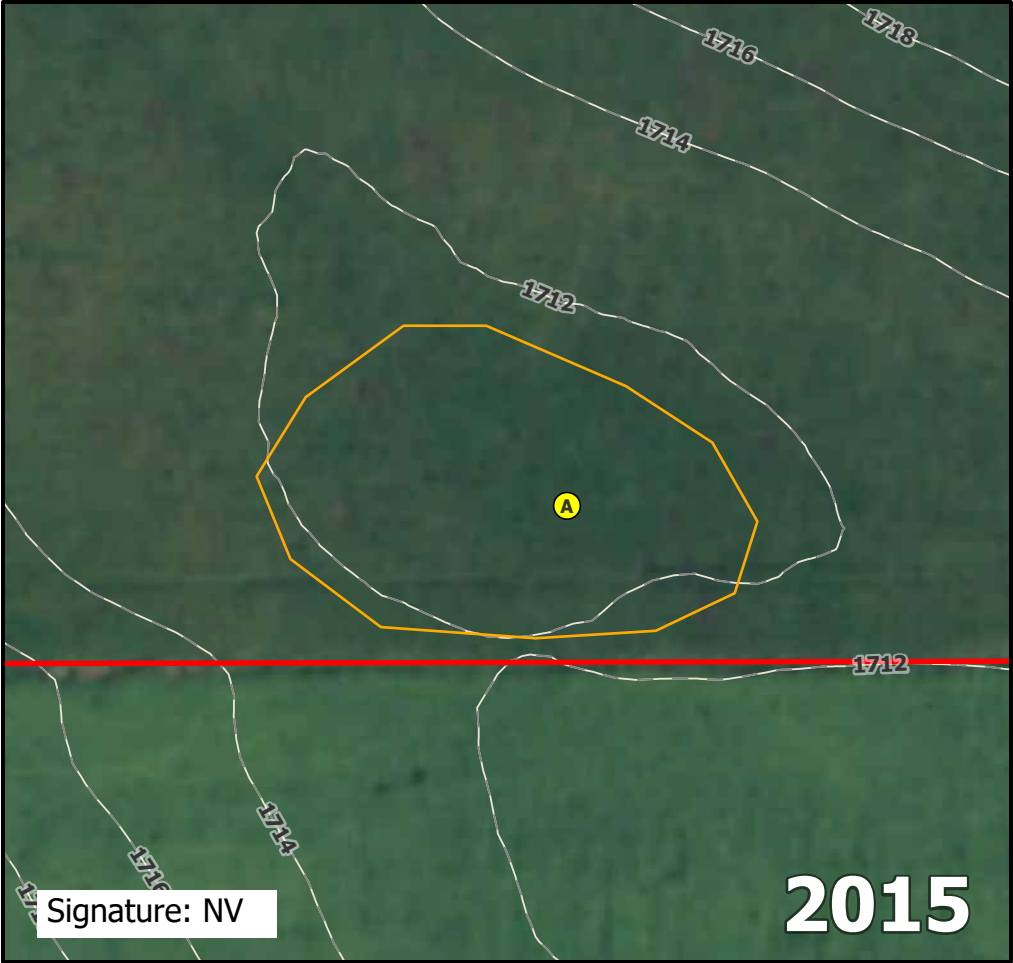
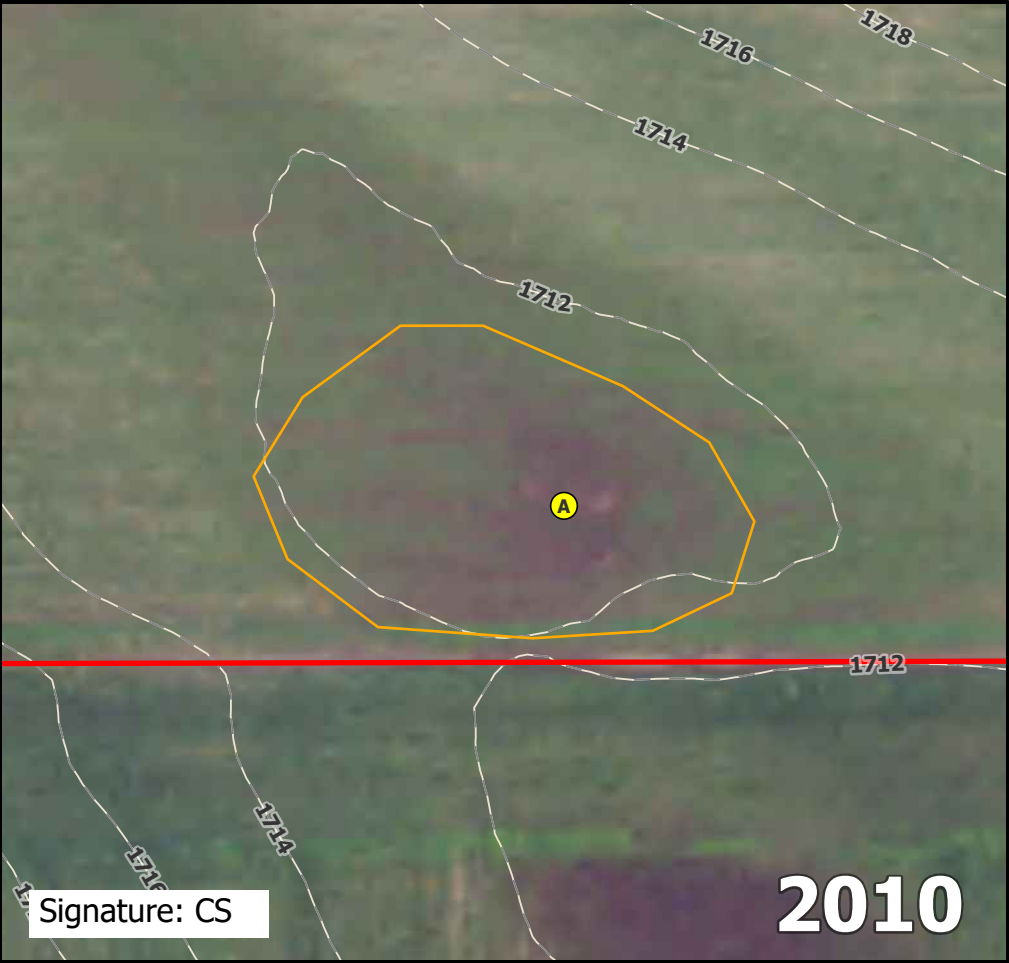
Remarks:



Overview of upland sample point NWA012A.

Direction: North	Photo ID: delin_photo-20221011-142619.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar	Feature ID: NWA012	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA013

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/11/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA013A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.14 T103N R41W		
Landform (hillslope, terrace, etc.):	Terrace	Local relief (concave, convex, none):	None		
Slope (%):	0	Lat:	43.72558	Long:	-95.71578
		Datum:	WGS84		
Soil Map Unit Name:	Clarion loam, 2 to 6 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1. _____				
2. _____				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 = _____

FACW species x 2 = _____

FAC species x 3 = _____

FACU species x 4 = _____

UPL species x 5 = _____

Column totals (A) (B)

Prevalence Index = B/A = _____

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?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA013A

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**		
0-2	10YR 3/1	100					Clay Loam	
2-4	10YR 3/1	99	2.5Y 5/4	1	C	PL/M	Clay Loam	Distinct or prominent
4-13	2.5Y 5/4	100					Clay Loam	
13-20	10YR 3/1	100					Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

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)

Secondary Indicators (minimum of two required)

- ☐ 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)
- ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

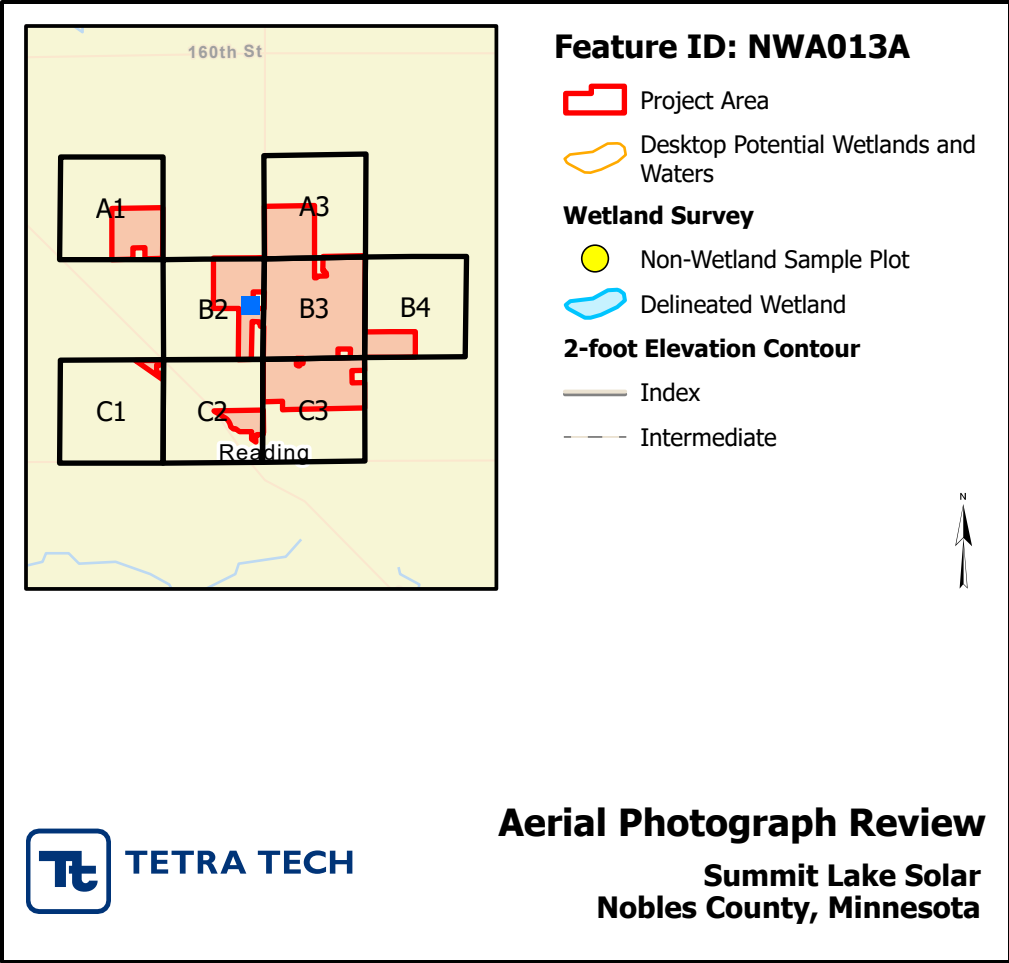
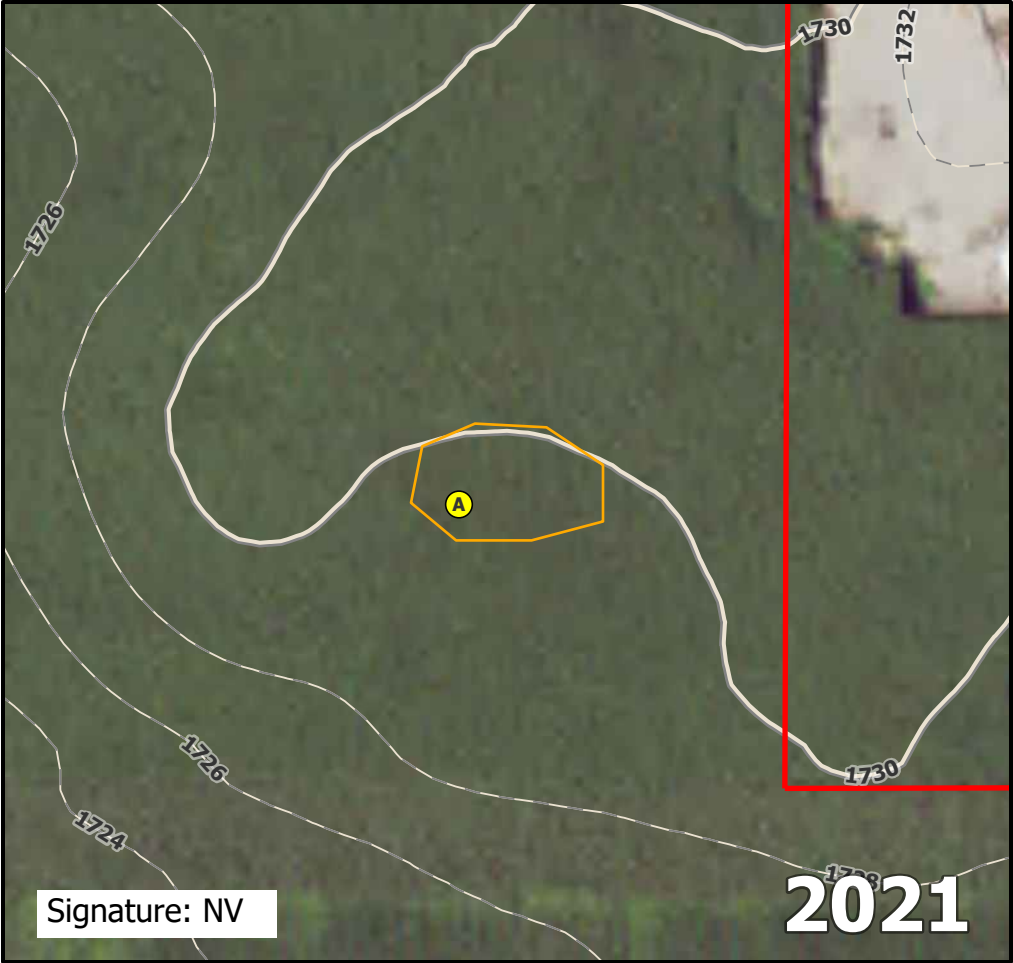
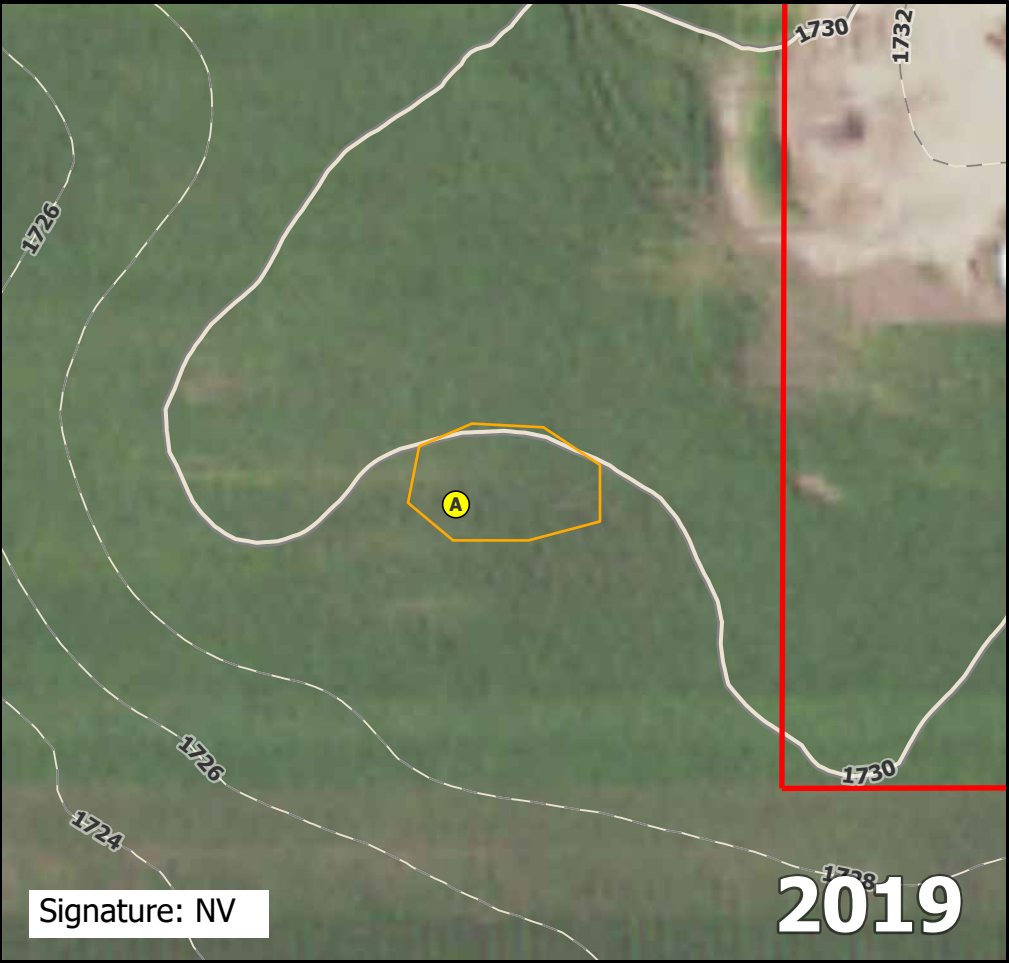
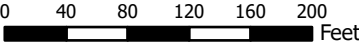
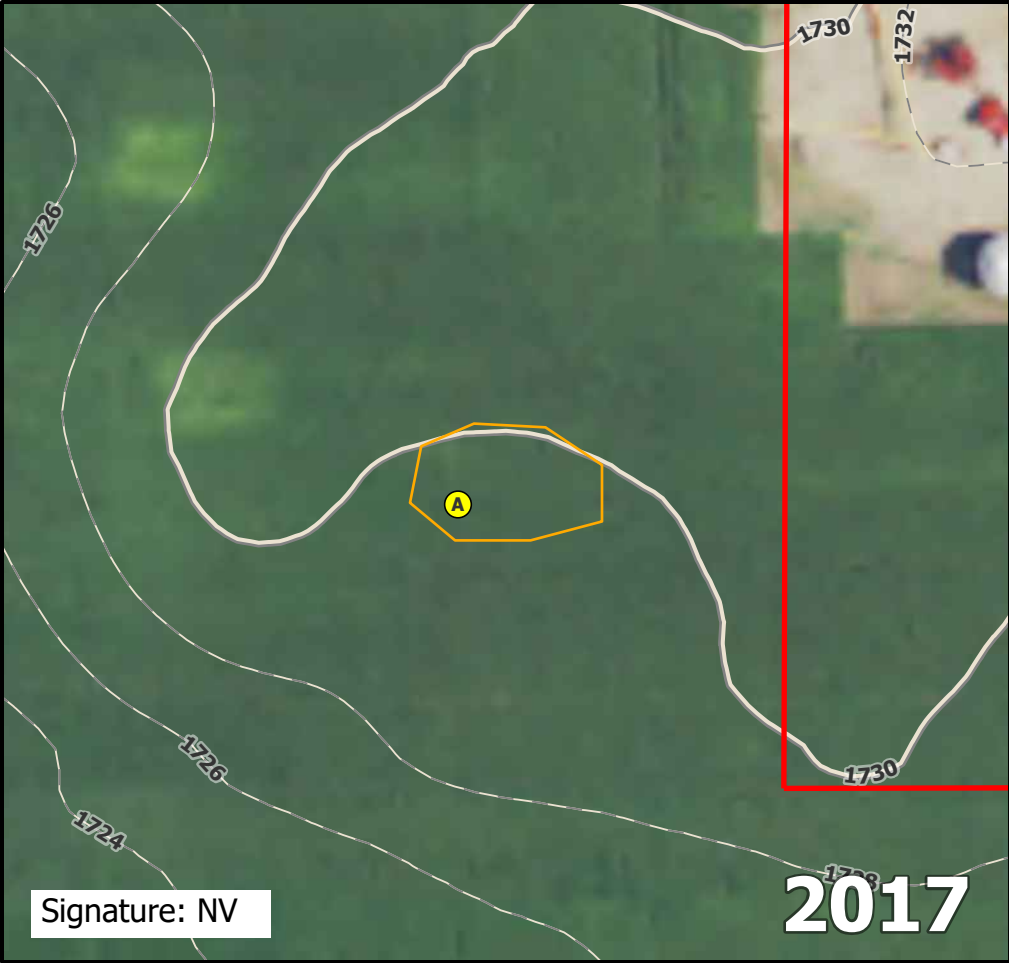
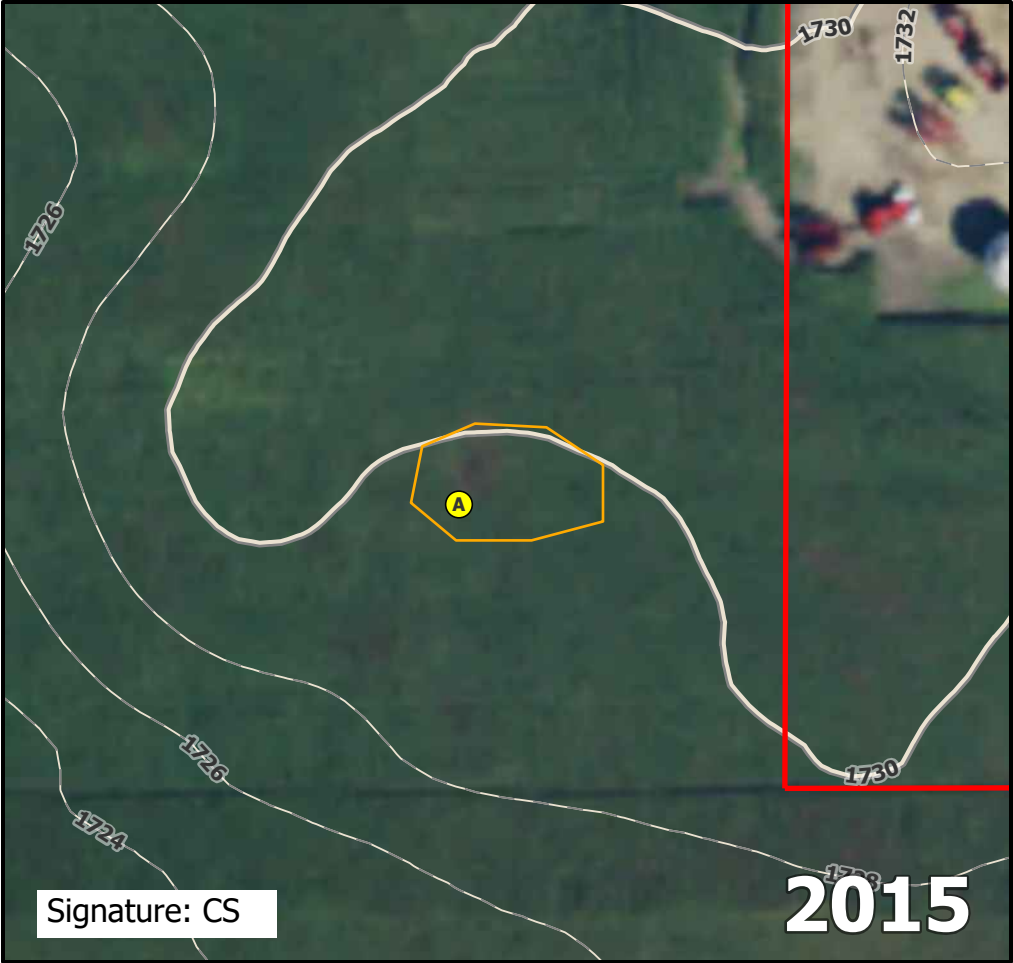
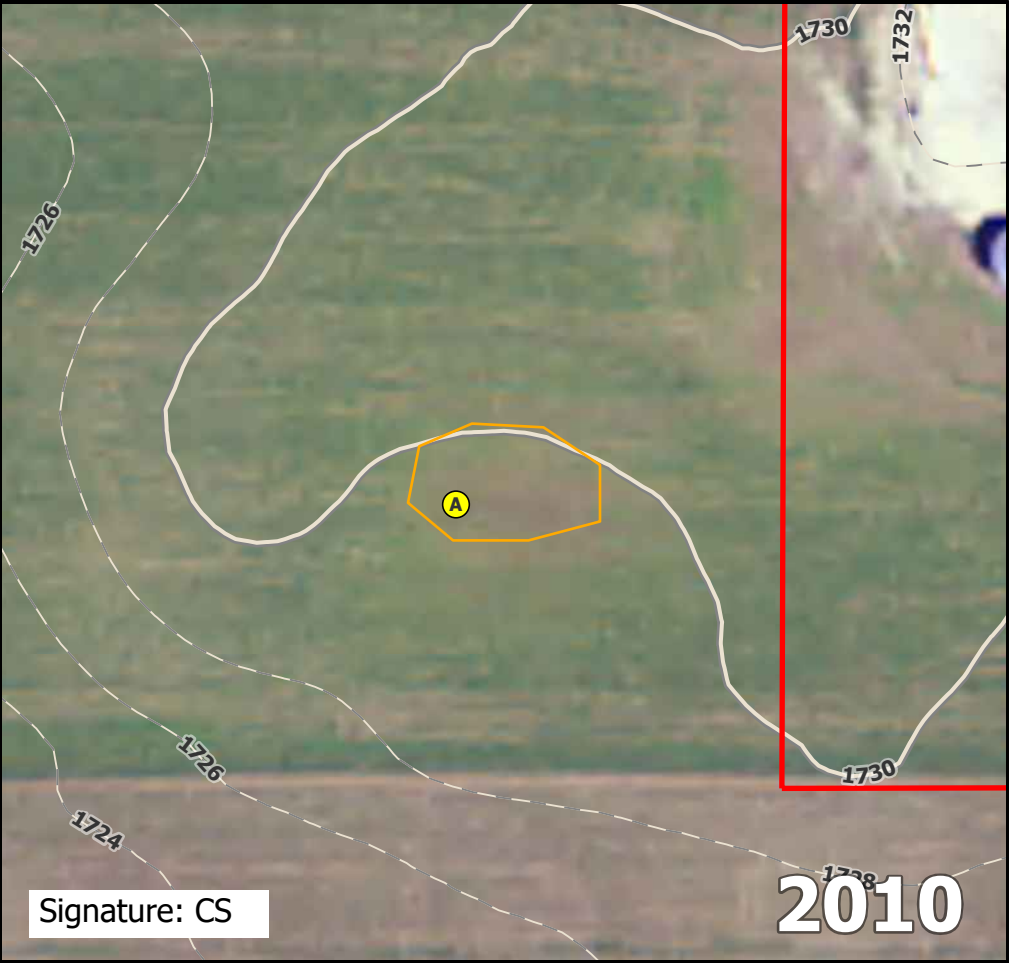
Remarks:



Overview of upland sample point NWA013A.

Direction: North	Photo ID: delin_photo-20221011-144212.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar	Feature ID: NWA013	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA014

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/11/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA014A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.14 T103N R41W		
Landform (hillslope, terrace, etc.):	Hillslope	Local relief (concave, convex, none):	Concave		
Slope (%):	1	Lat:	43.72766	Long:	-95.71543
		Datum:	WGS84		
Soil Map Unit Name:	Clarion loam, 2 to 6 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field. Field edge/corner with very compacted soils, photo signature likely from equipment compaction.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 = _____

FACW species x 2 = _____

FAC species x 3 = _____

FACU species x 4 = _____

UPL species x 5 = _____

Column totals (A) (B)

Prevalence Index = B/A = _____

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?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA014A

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 2/1	98	10YR 3/2	2	C	PL/M	Clay Loam	Faint
4-20	10YR 2/1	100					Clay Loam	
20-40	10YR 2/1	100					Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

A12 assumed

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)

Secondary Indicators (minimum of two required)

- ☐ 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)
- ☐ 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 ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☒ Depth (inches): _____
Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA014A.

Direction: Northwest

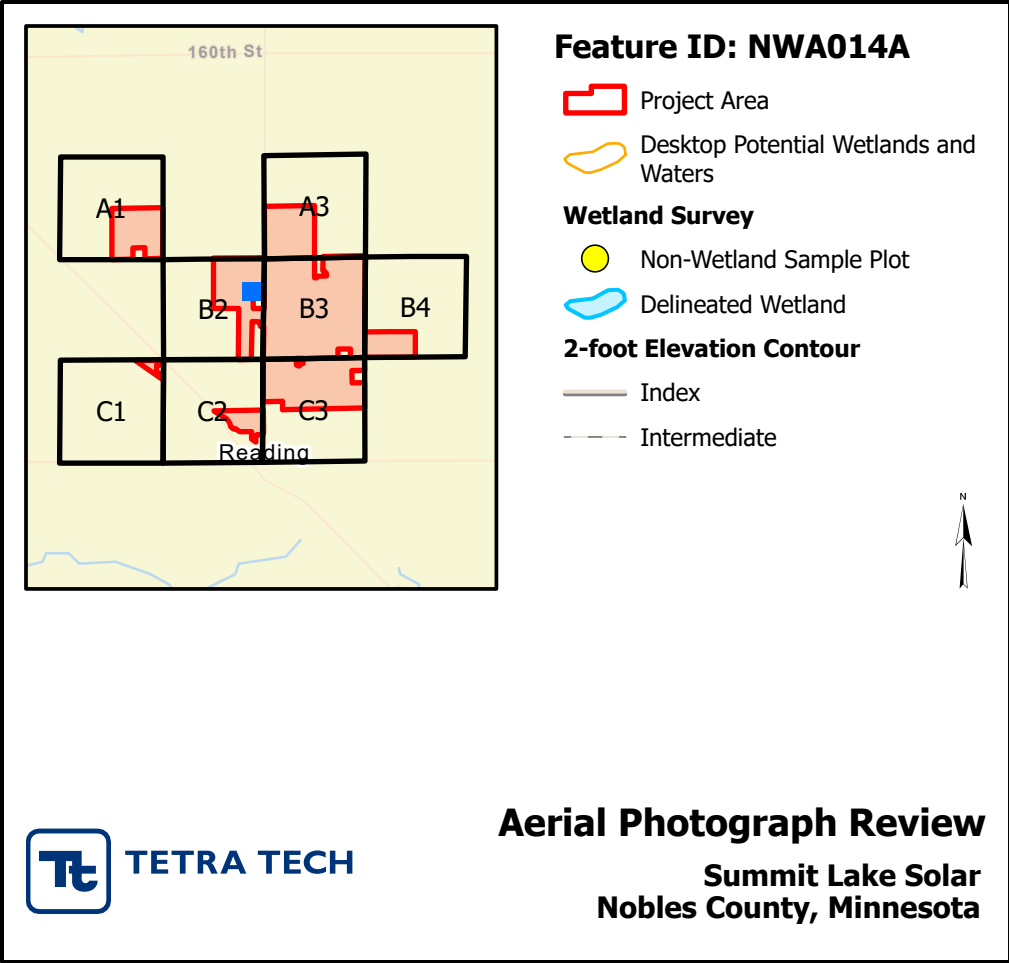
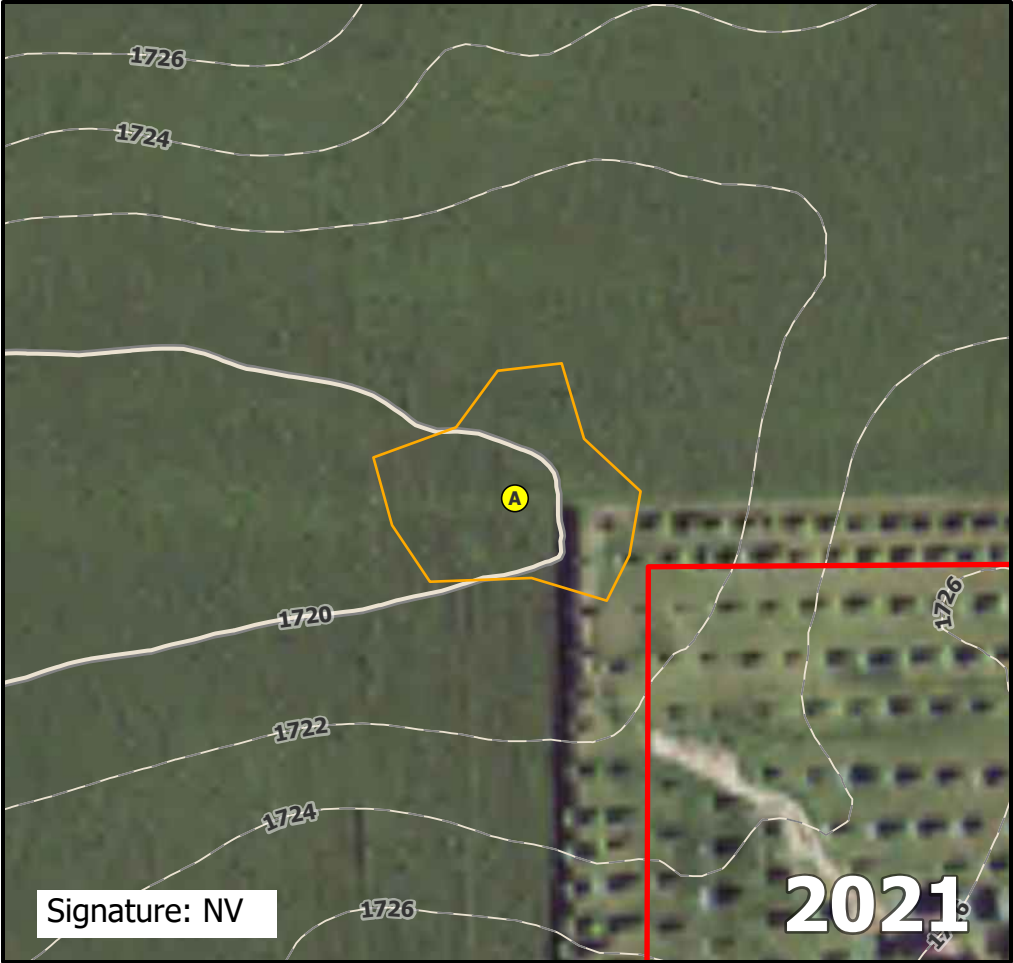
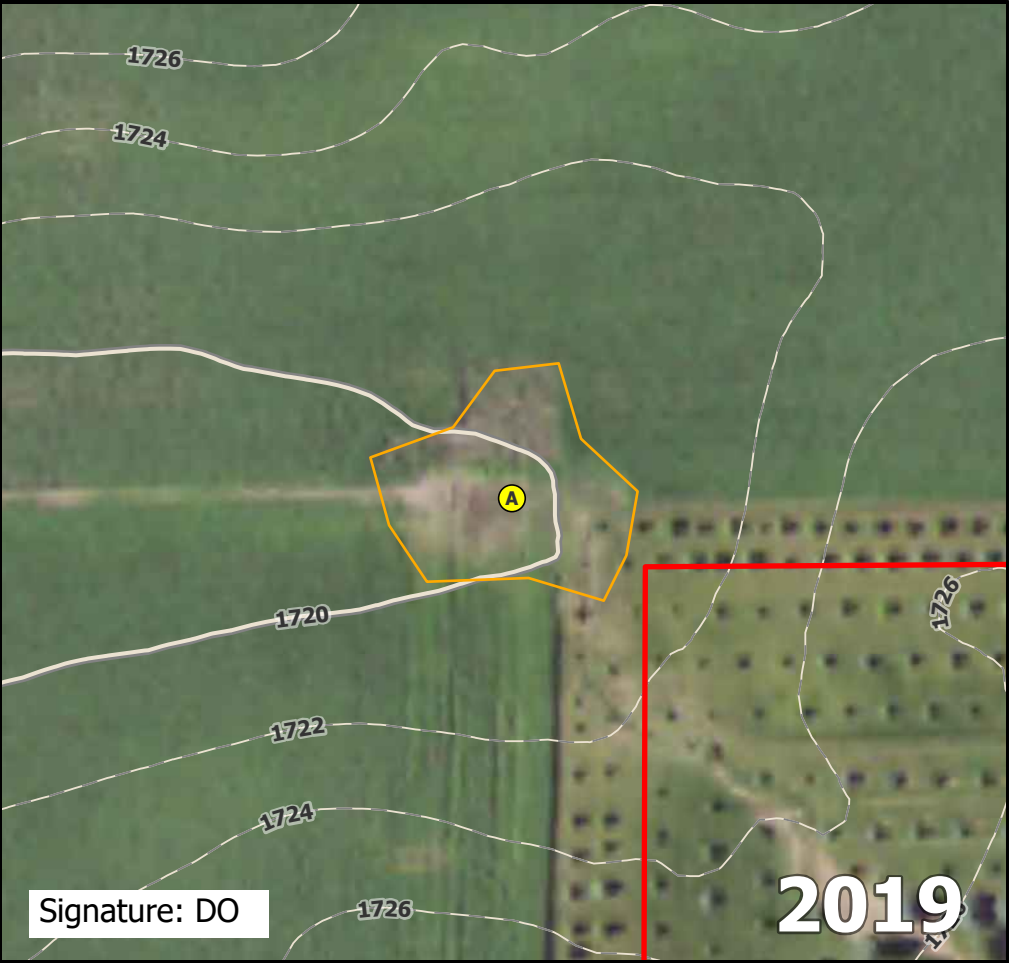
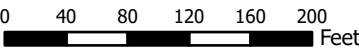
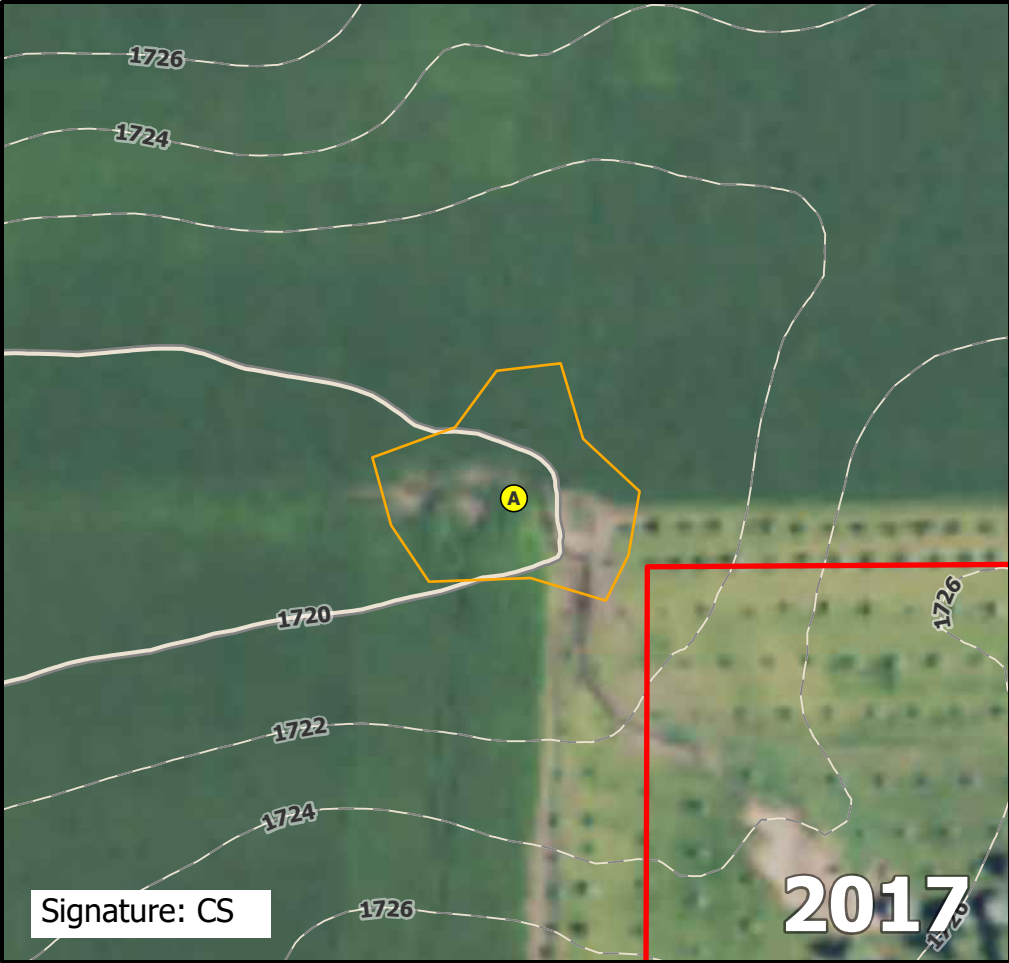
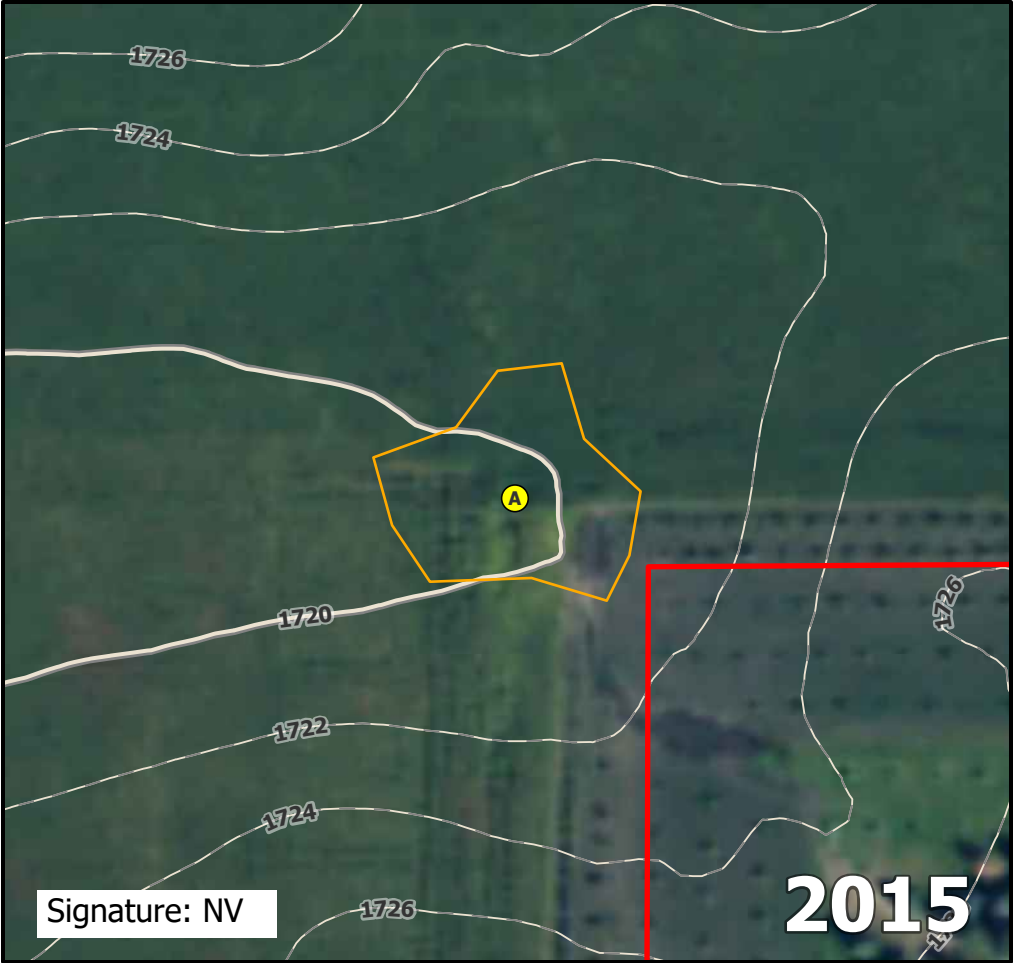
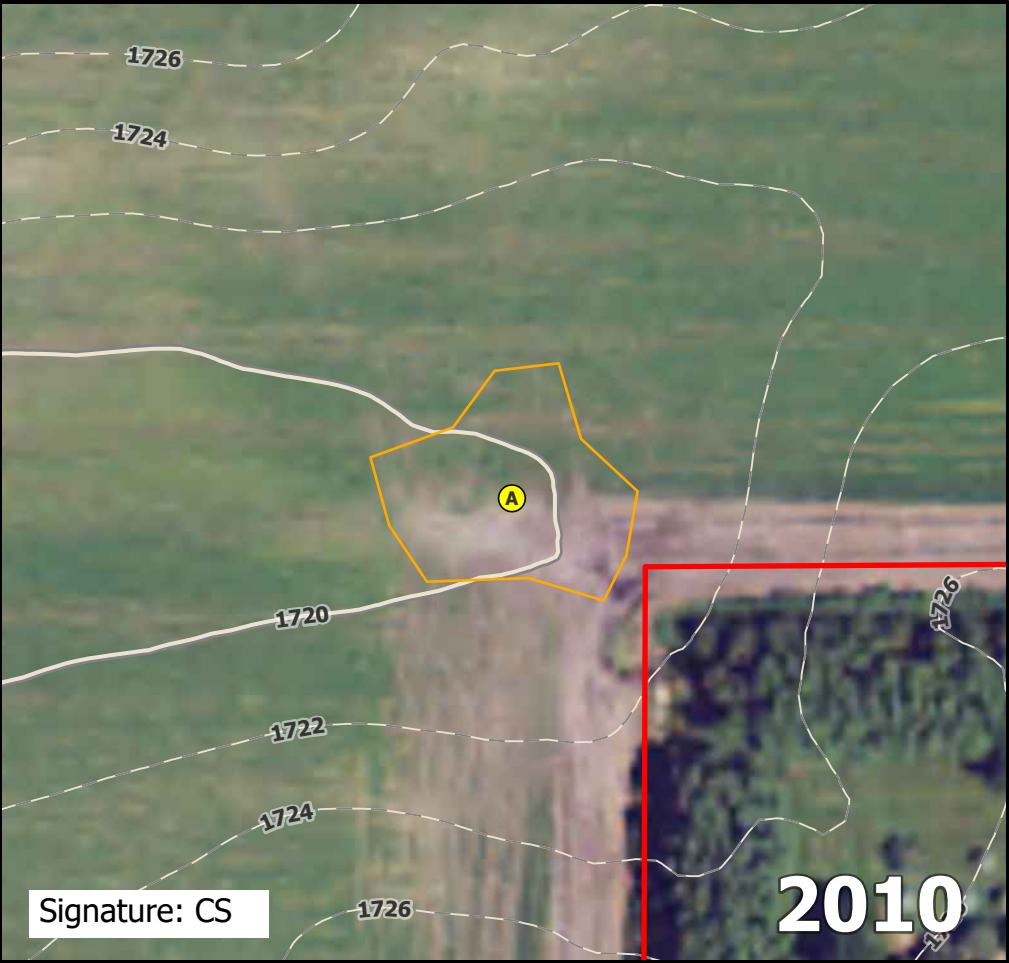
Photo ID: delin_photo-20221011-150216.jpg

Date: 10/11/2022

Project Name: Summit Lake Solar

Feature ID: NWA014

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA015

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/11/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA015A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.12 T103N R41W		
Landform (hillslope, terrace, etc.):	Swale	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.73966	Long:	-95.71164
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

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?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA015A

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**		
0-2	10YR 2/1	100					Silty Clay	
2-4	10YR 2/1	99	2.5Y 5/4	1	C	PL/M	Silty Clay	Distinct or prominent
4-12	10YR 2/1	100					Silty Clay	
12-20	2.5Y 5/4	95	2.5Y 5/6	5	C	PL/M	Very Fine Sandy Clay	Distinct or prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

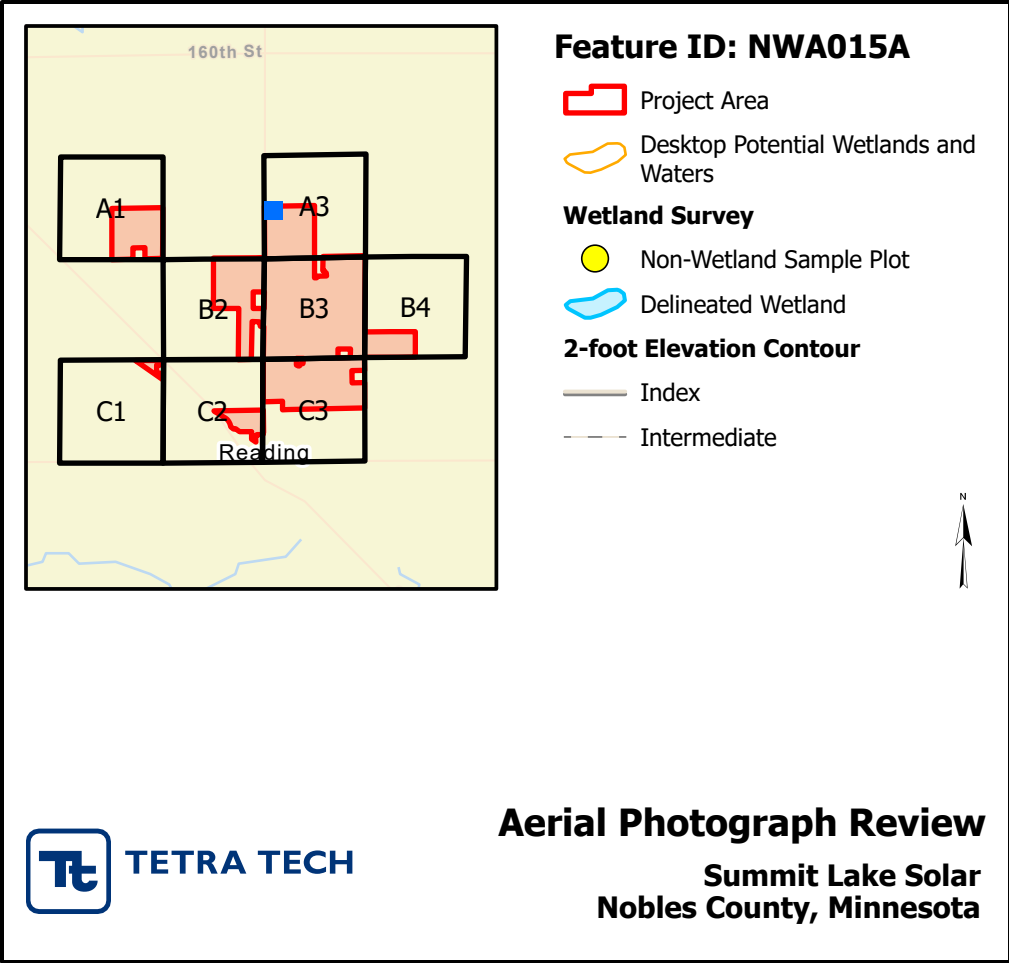
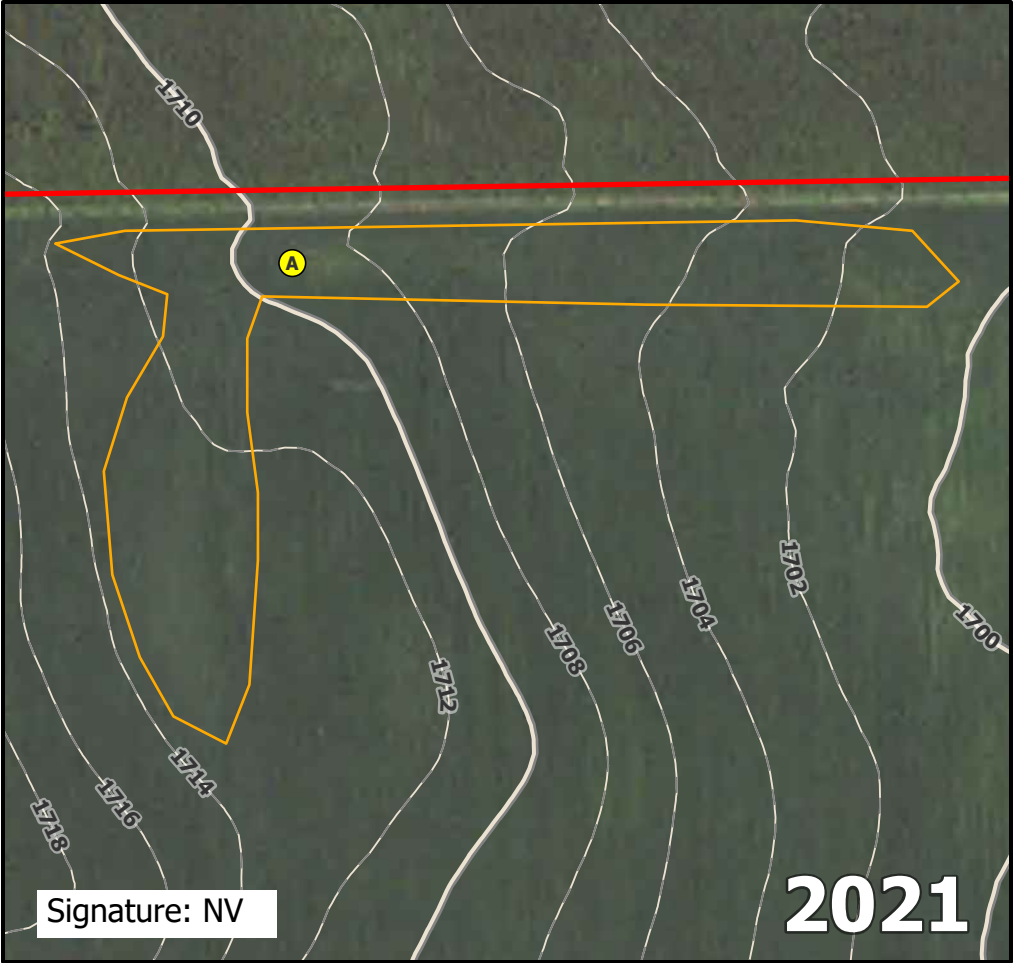
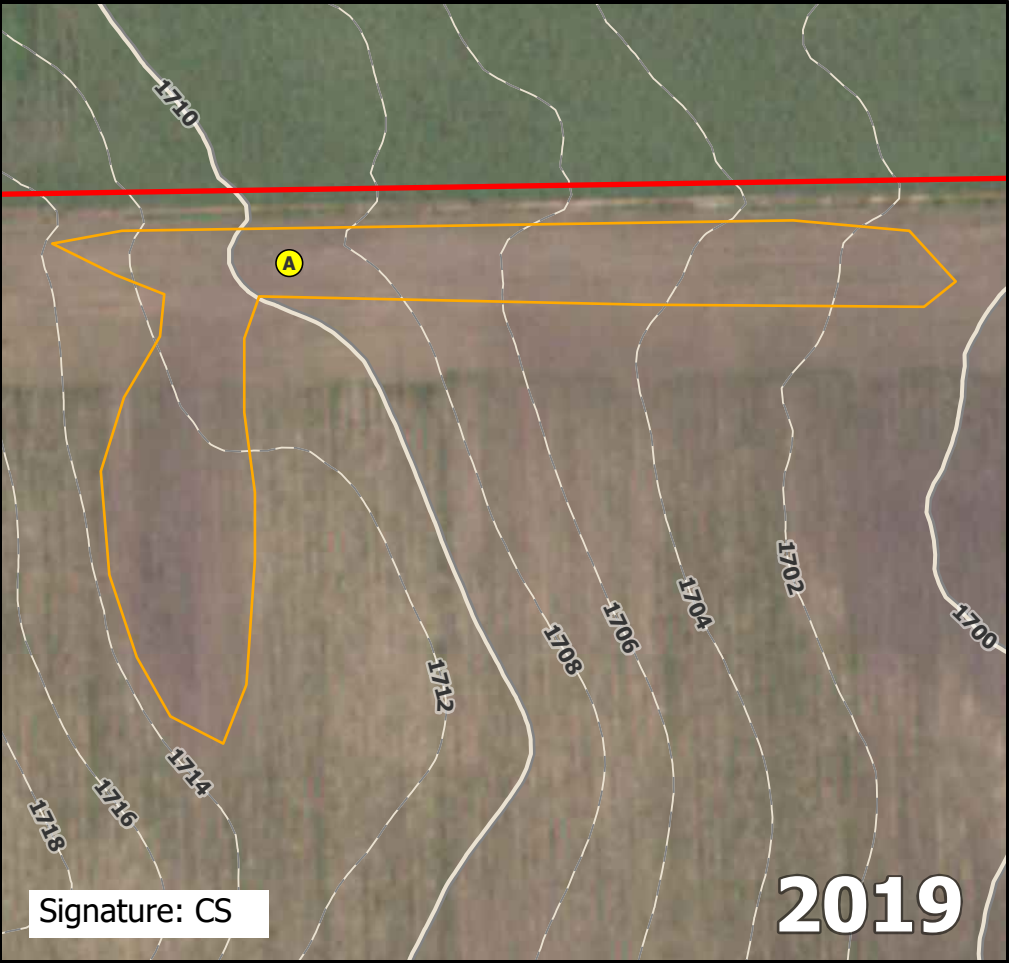
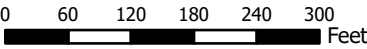
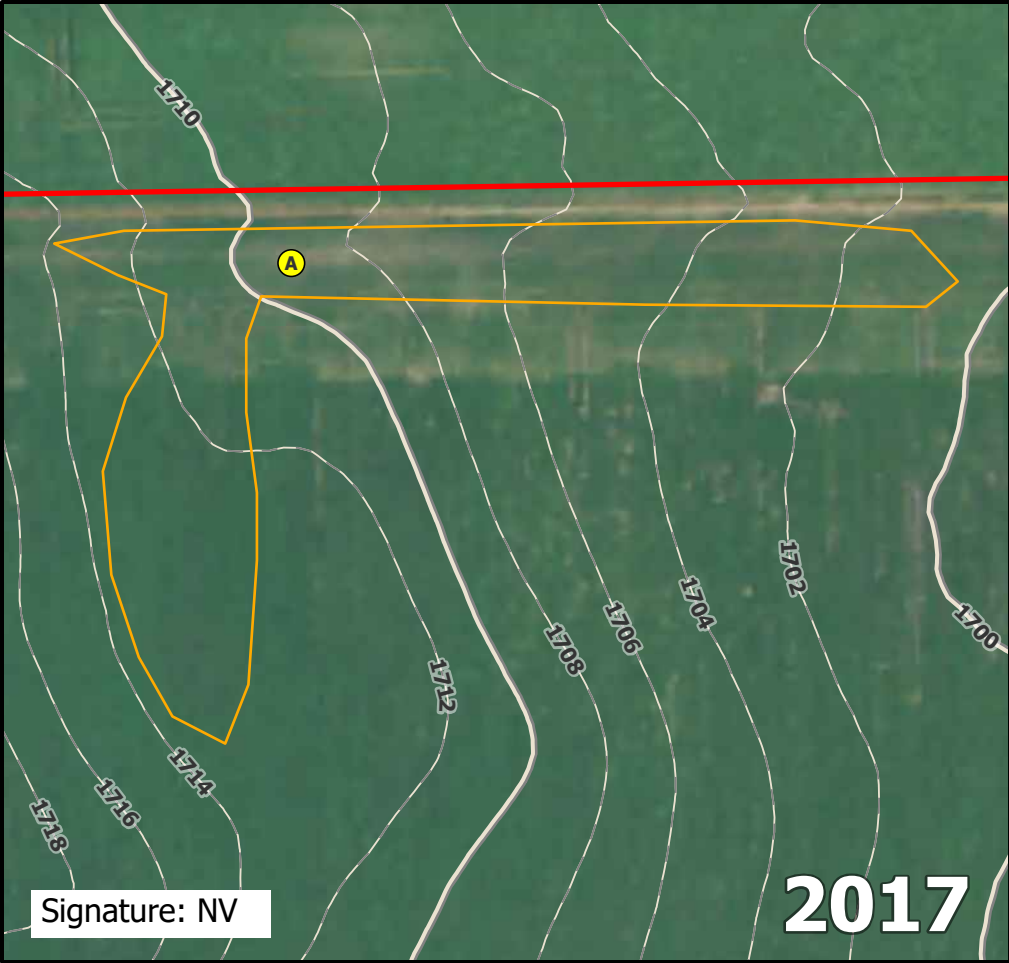
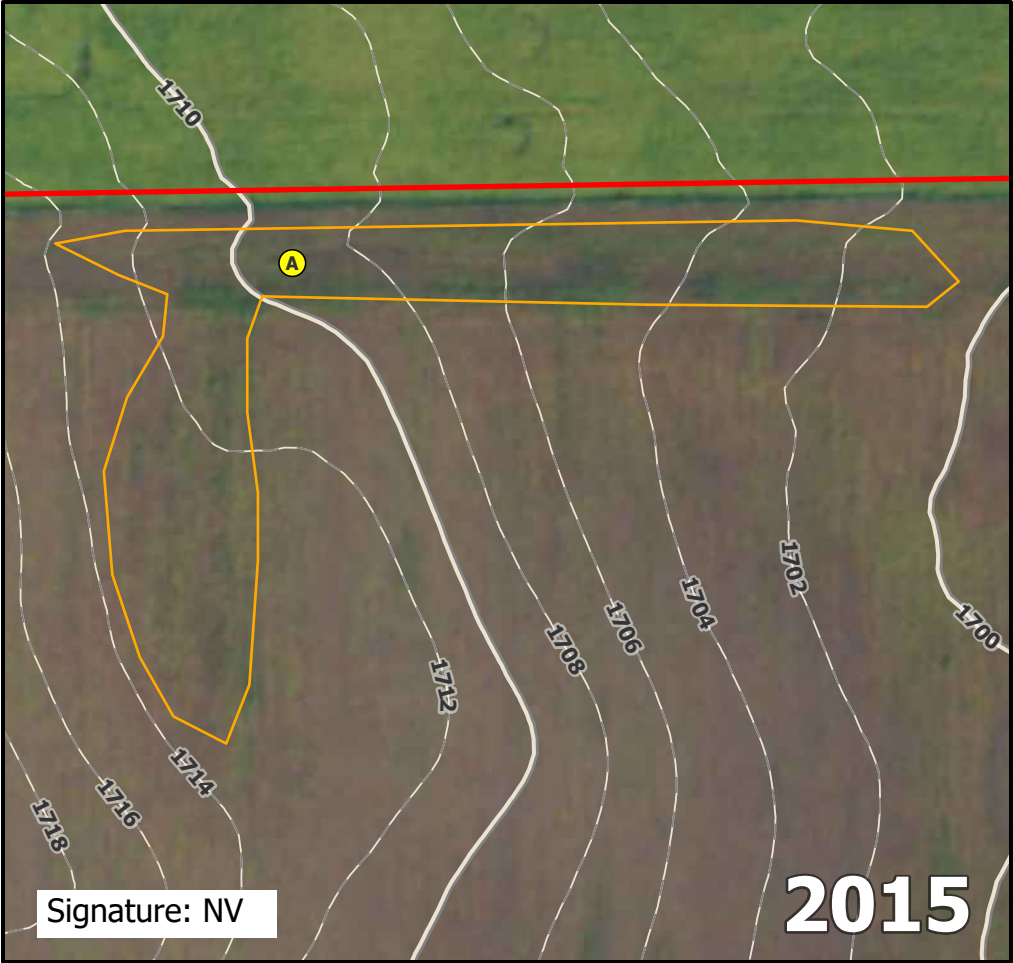
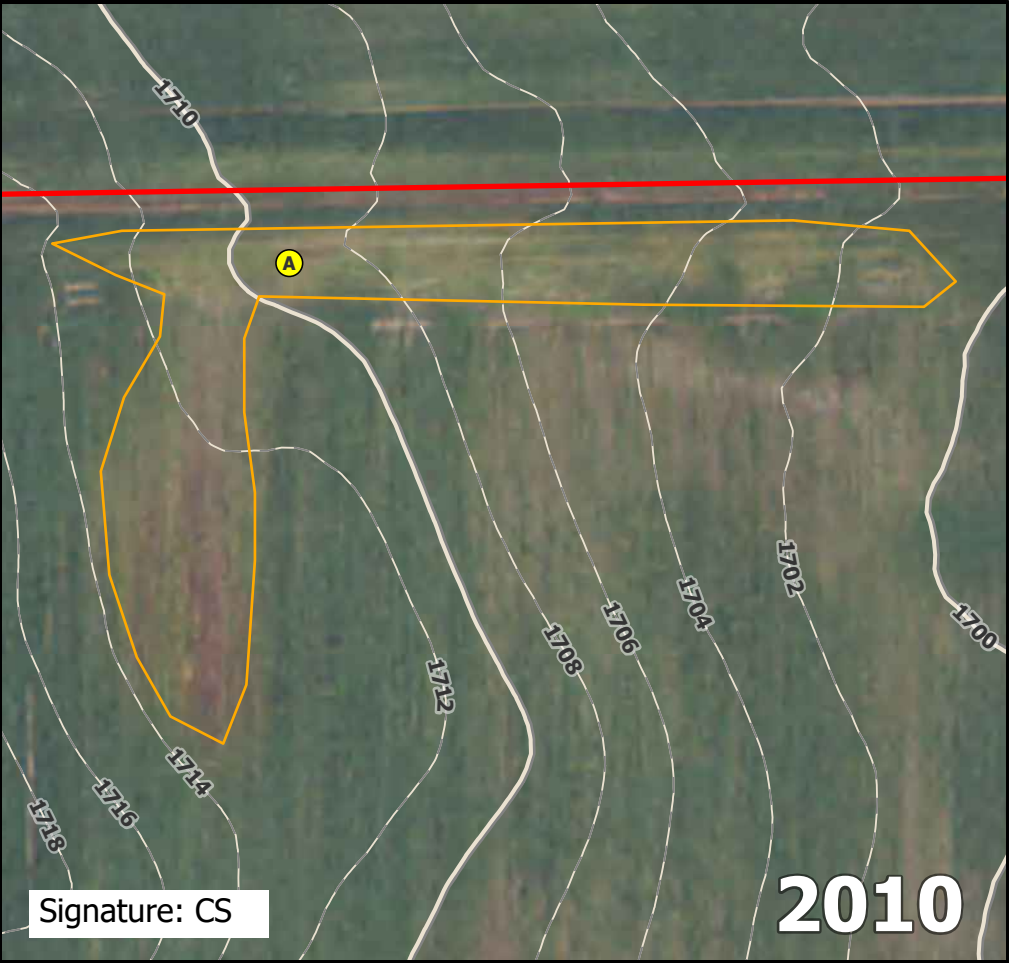
Remarks:



Overview of upland sample point NWA015A.

Direction: East	Photo ID: delin_photo-20221011-154030.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar	Feature ID: NWA015	

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathybellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:2,200

Non-Wetland ID

NWA016

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/11/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA016A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.12 T103N R41W		
Landform (hillslope, terrace, etc.):	Broad Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.73966	Long:	-95.70847
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 = _____

FACW species x 2 = _____

FAC species x 3 = _____

FACU species x 4 = _____

UPL species x 5 = _____

Column totals (A) (B)

Prevalence Index = B/A = _____

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?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA016A

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**		
0-17	10YR 2/1	100					Clay Loam	
17-22	10YR 2/1	90	2.5Y 4/3	5	C	PL/M	Clay Loam	Distinct or prominent
			10YR 5/6	5	C	PL/M		Distinct or prominent
22-30	2.5Y 5/2	90	10YR 5/6	5	C	PL/M	Silty Clay	Distinct or prominent
			2.5Y 5/4	5	C	PL/M		Distinct or prominent

*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? Yes

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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

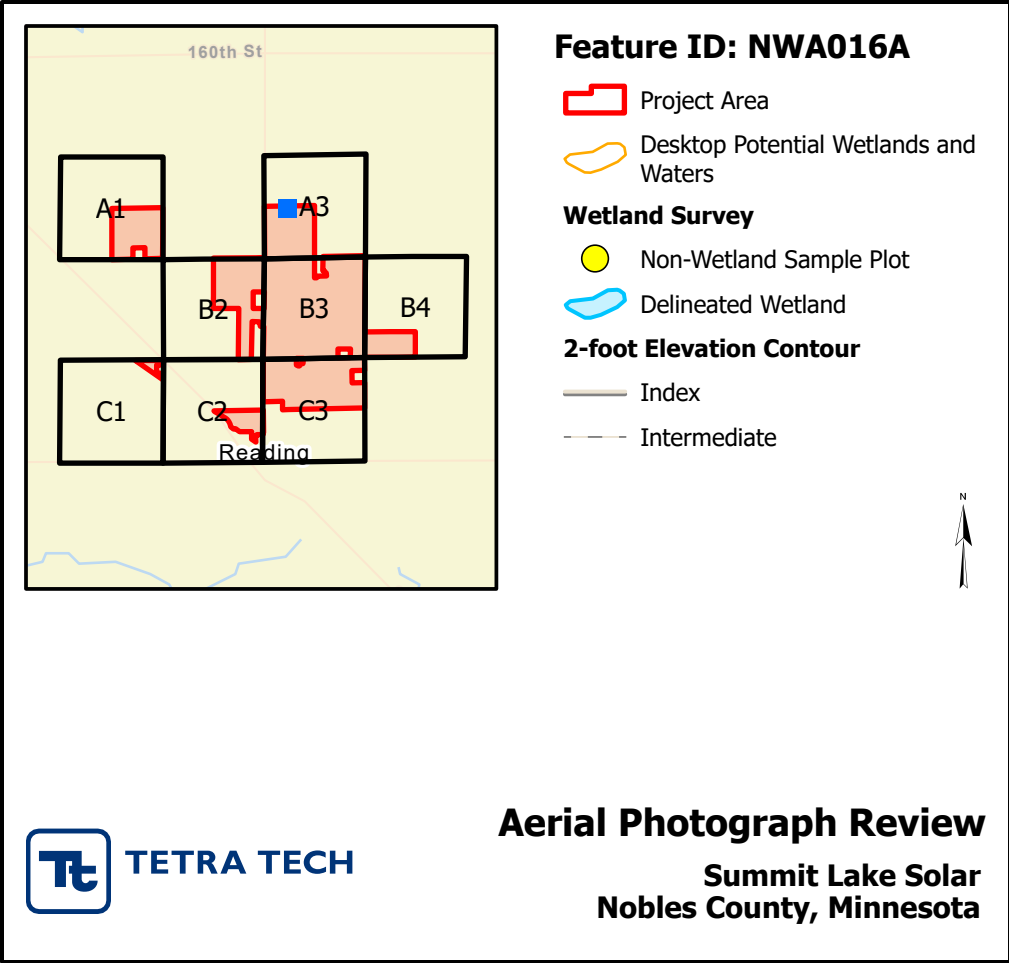
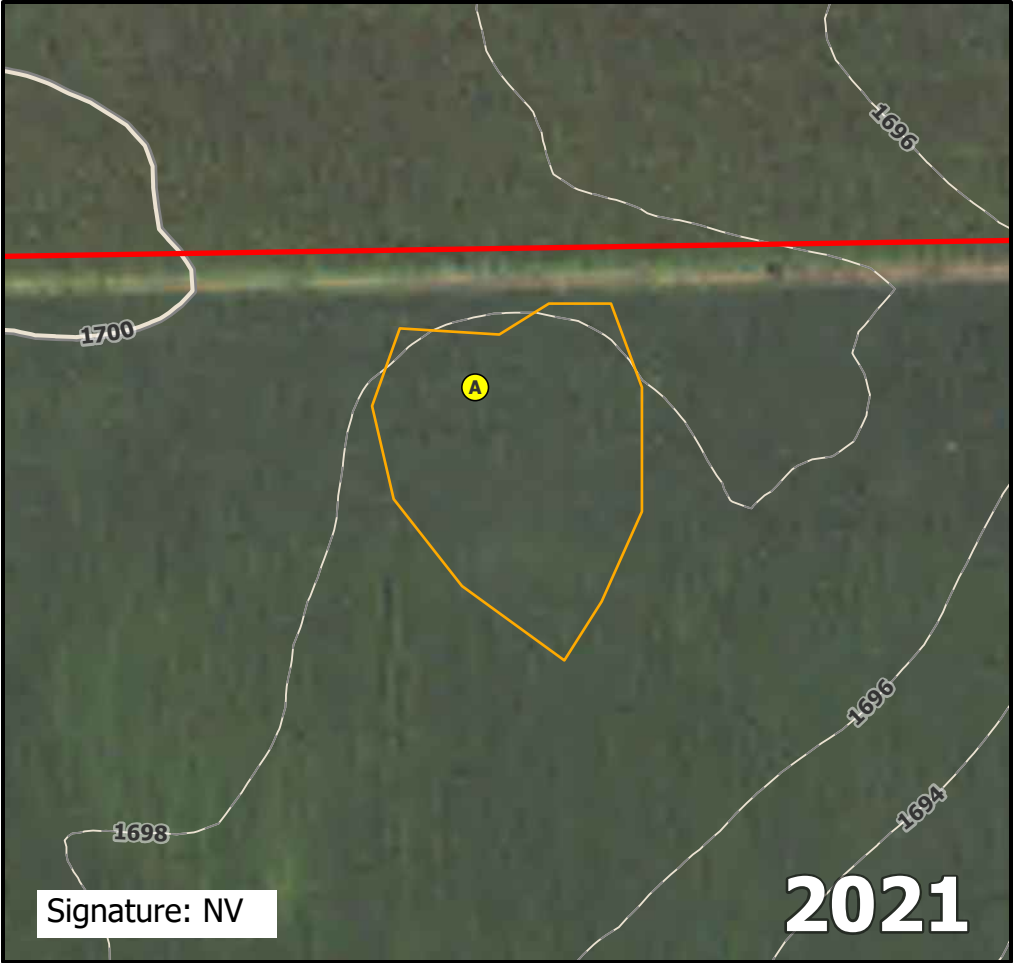
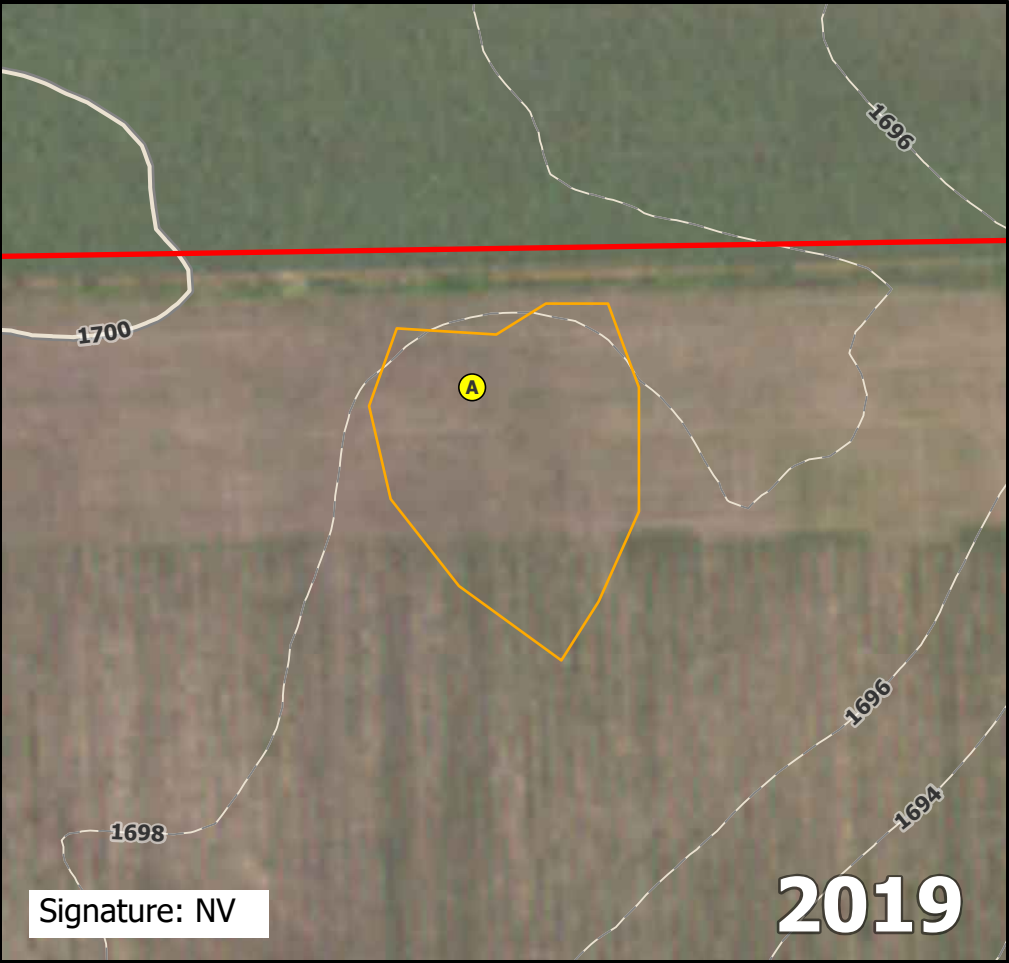
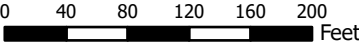
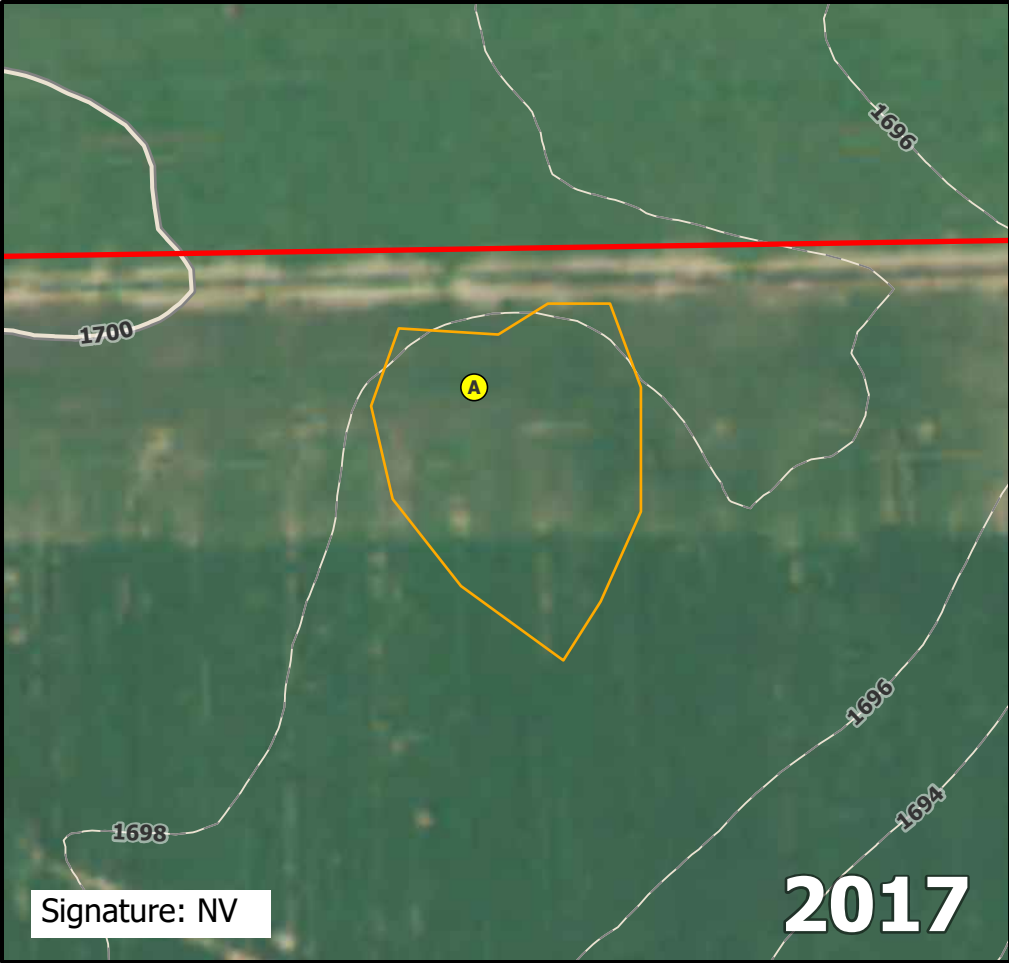
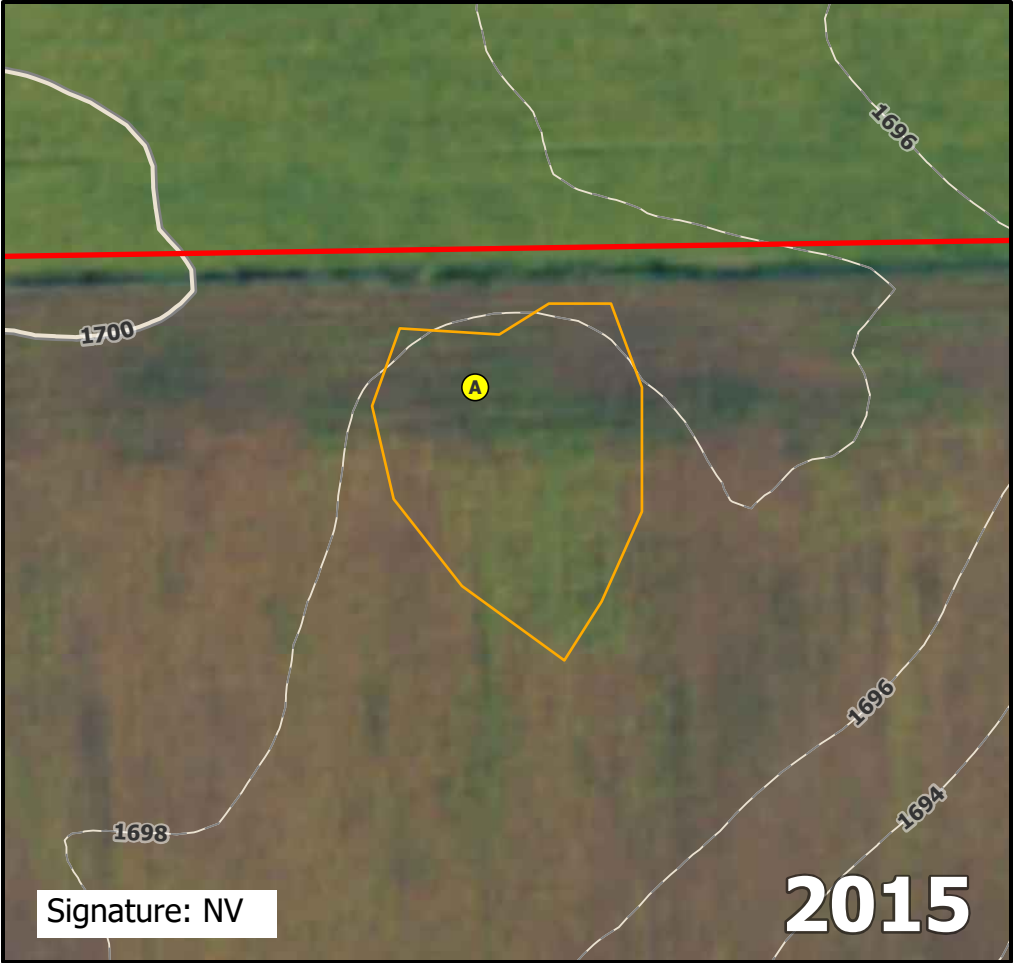
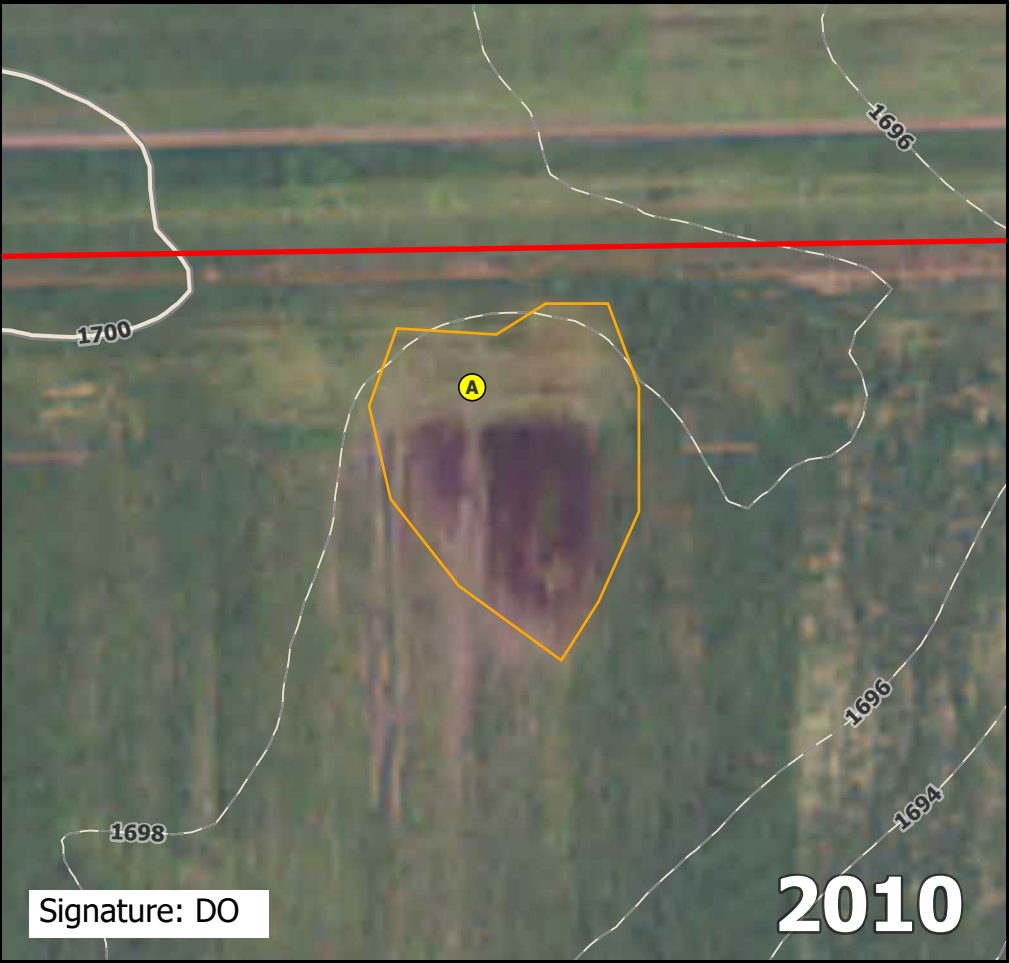
Weak geomorphic position



Overview of upland sample point NWA016A.

Direction: East	Photo ID: delin_photo-20221011-155824.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar	Feature ID: NWA016	

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA017

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/11/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA017A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.12 T103N R41W		
Landform (hillslope, terrace, etc.):	Hillslope	Local relief (concave, convex, none):	None		
Slope (%):	1	Lat:	43.73947	Long:	-95.70539
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 = _____

FACW species x 2 = _____

FAC species x 3 = _____

FACU species x 4 = _____

UPL species x 5 = _____

Column totals (A) (B)

Prevalence Index = B/A = _____

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?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA017A

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**		
0-23	10YR 2/1	100					Clay Loam	
23-40	10YR 2/1	100					Silty Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

A12 assumed

HYDROLOGY**Wetland Hydrology Indicators:**

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA017A.

Direction: Southwest

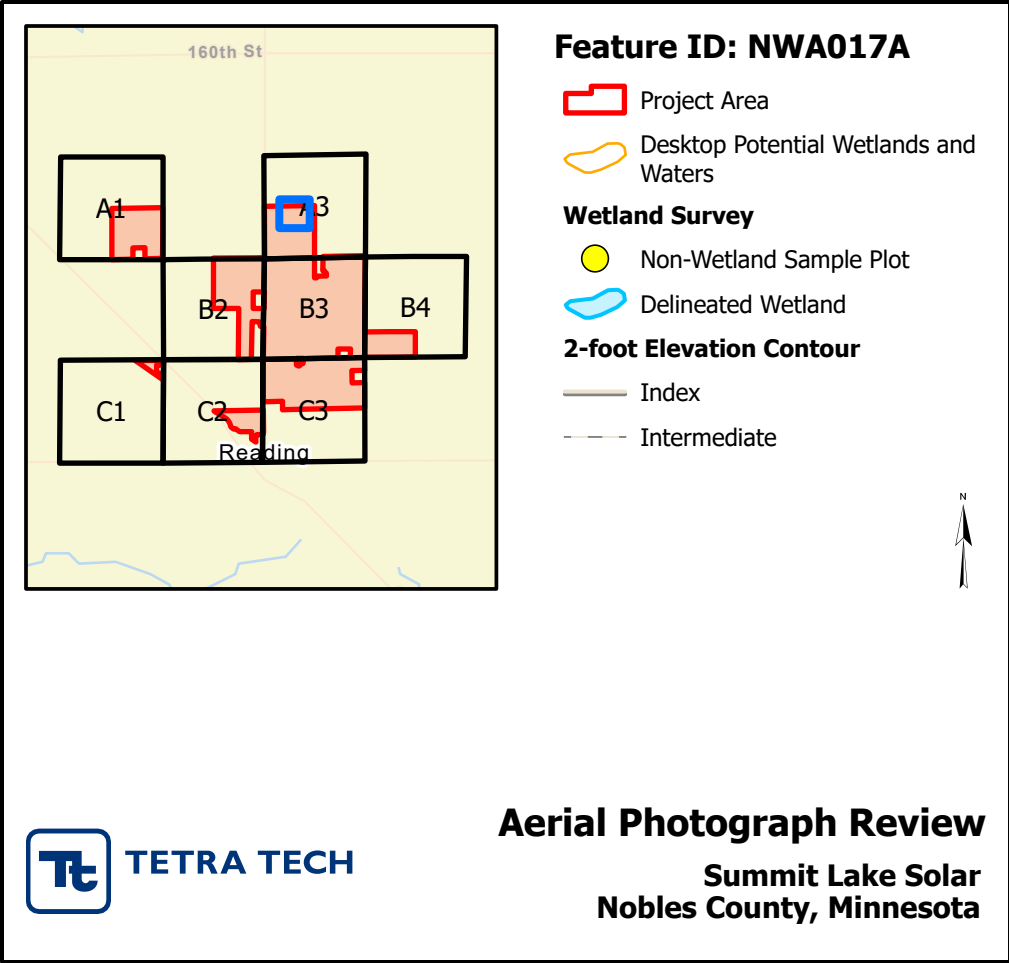
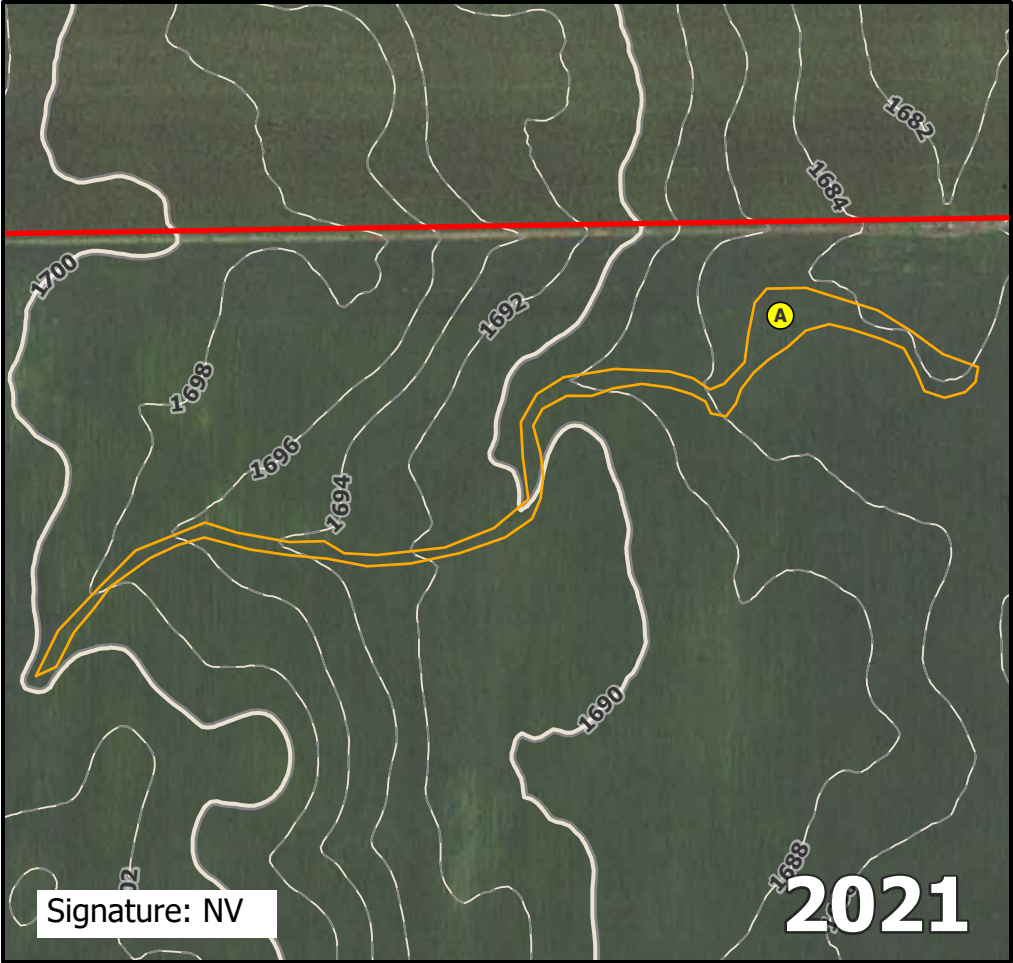
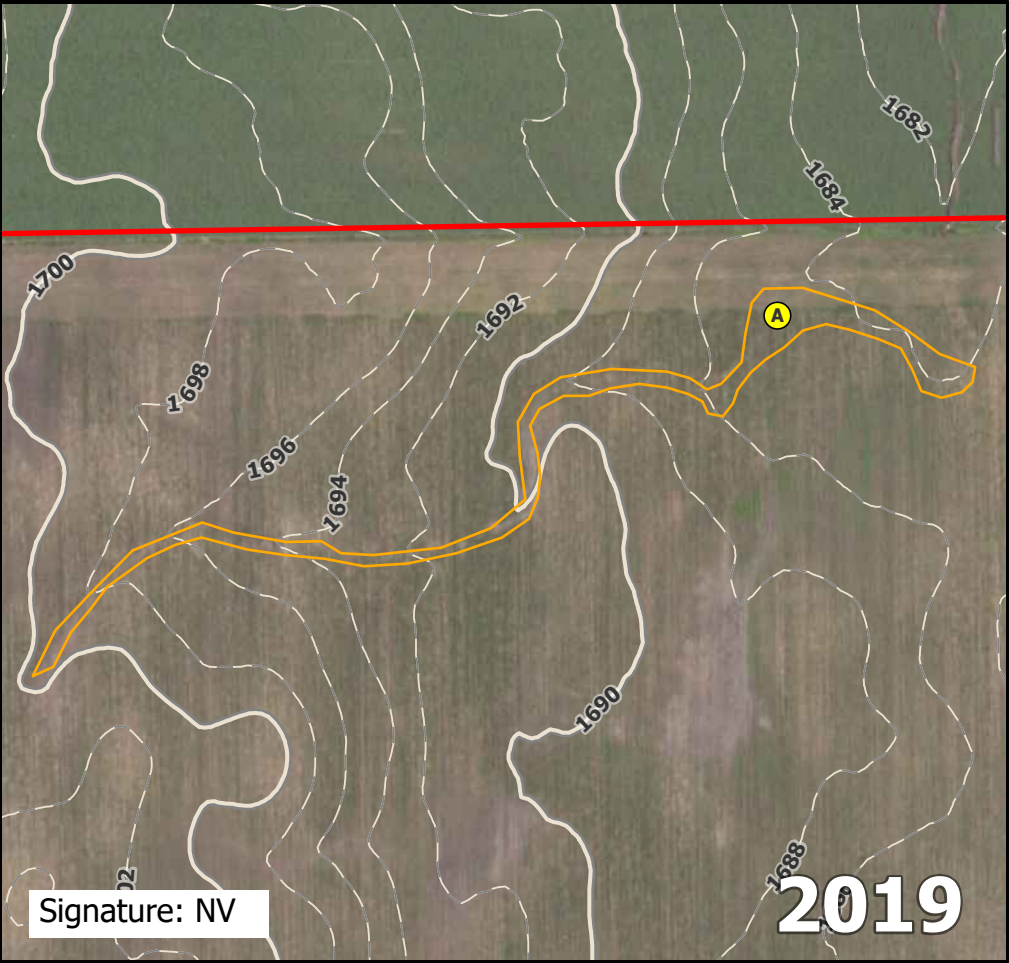
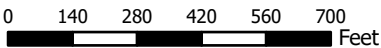
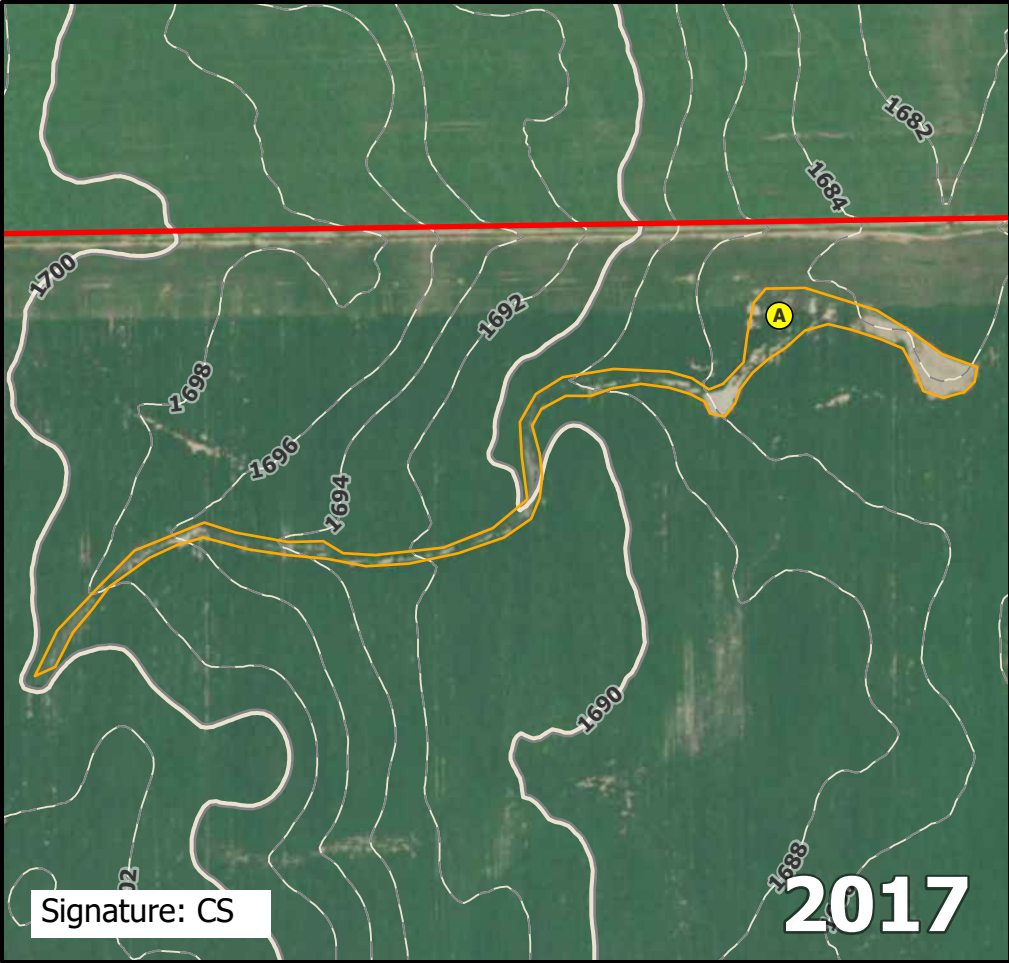
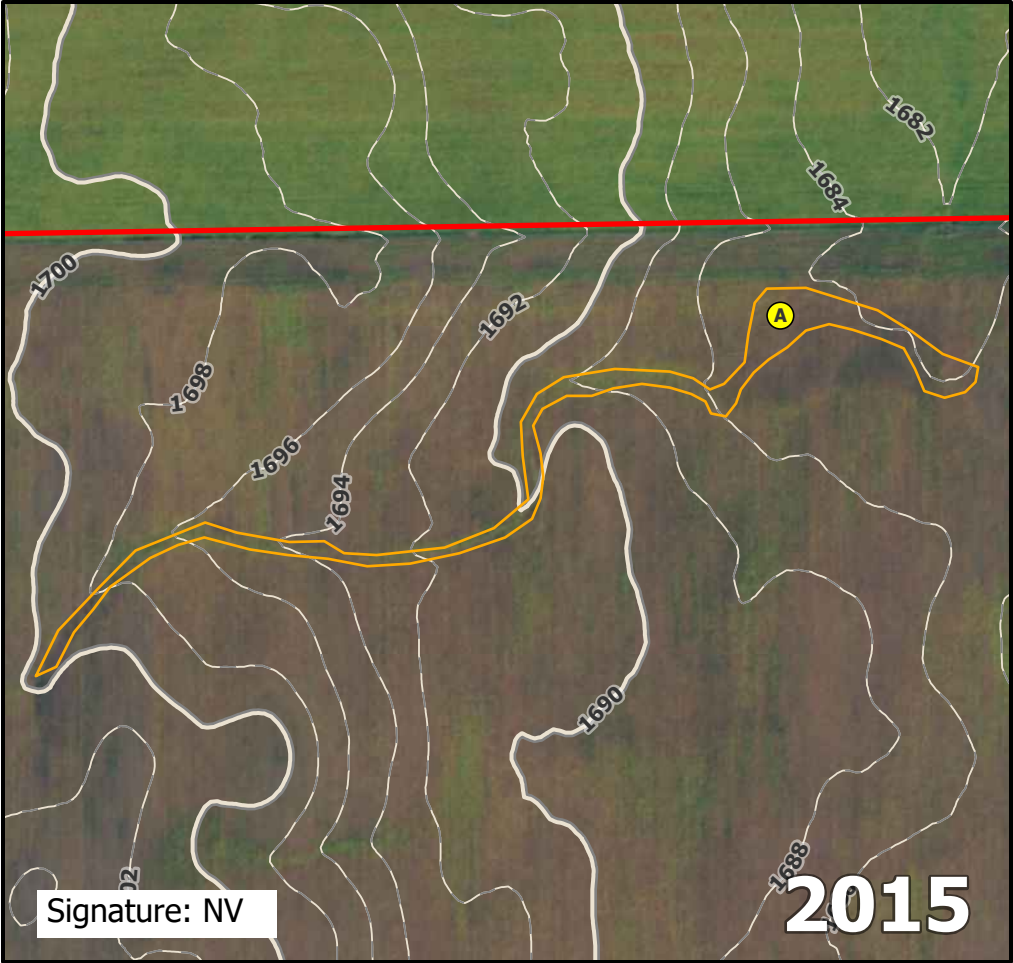
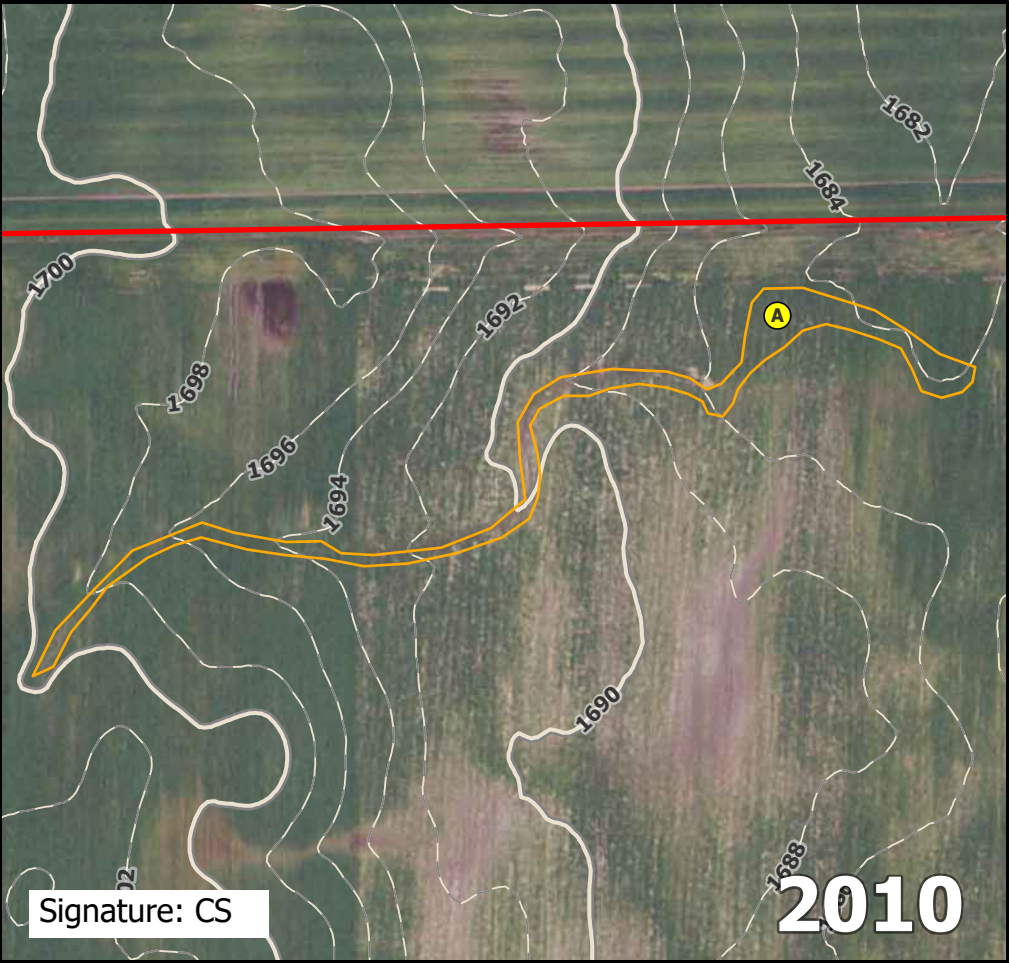
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Date: 10/11/2022

Project Name: Summit Lake Solar

Feature ID: NWA017

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:5,000

Non-Wetland ID

NWA018

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/11/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA018A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.12 T103N R41W		
Landform (hillslope, terrace, etc.):	Plain	Local relief (concave, convex, none):	None		
Slope (%):	0	Lat:	43.73818	Long:	-95.70571
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	
Hydric Soil Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Wetland Hydrology Present?	<u>No</u>	If yes, optional wetland site ID: _____
Remarks: Recently harvested agricultural field.		

		Absolute	Dominant	Indicator	
<u>Tree Stratum</u>	(Plot size: _____)	% Cover	Species	Status	
1.					Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> %</u> (A/B)
2.					
3.					
4.					
5.					
		<u> </u> =Total Cover			Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u>Sapling/Shrub Stratum</u>	(Plot size: _____)				
1.					
2.					
3.					
4.					
5.					
		<u> </u> =Total Cover			
<u>Herb Stratum</u>	(Plot size: _____)				
1.					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
		<u> </u> =Total Cover			
<u>Woody Vine Stratum</u>	(Plot size: _____)				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1.					Hydrophytic Vegetation Present? No <u> </u>
2.					
		<u> </u> =Total Cover			

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA018A

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**		
0-15	10YR 2/1	100					Clay Loam	
15-19	10YR 2/1	97	2.5Y 3/2	3	C	PL/M	Clay Loam	Faint
19-27	2.5Y 3/2	90	2.5Y 4/3	8	C	PL/M	Clay Loam	Faint
			2.5Y 6/8	2	C	PL		Distinct or prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

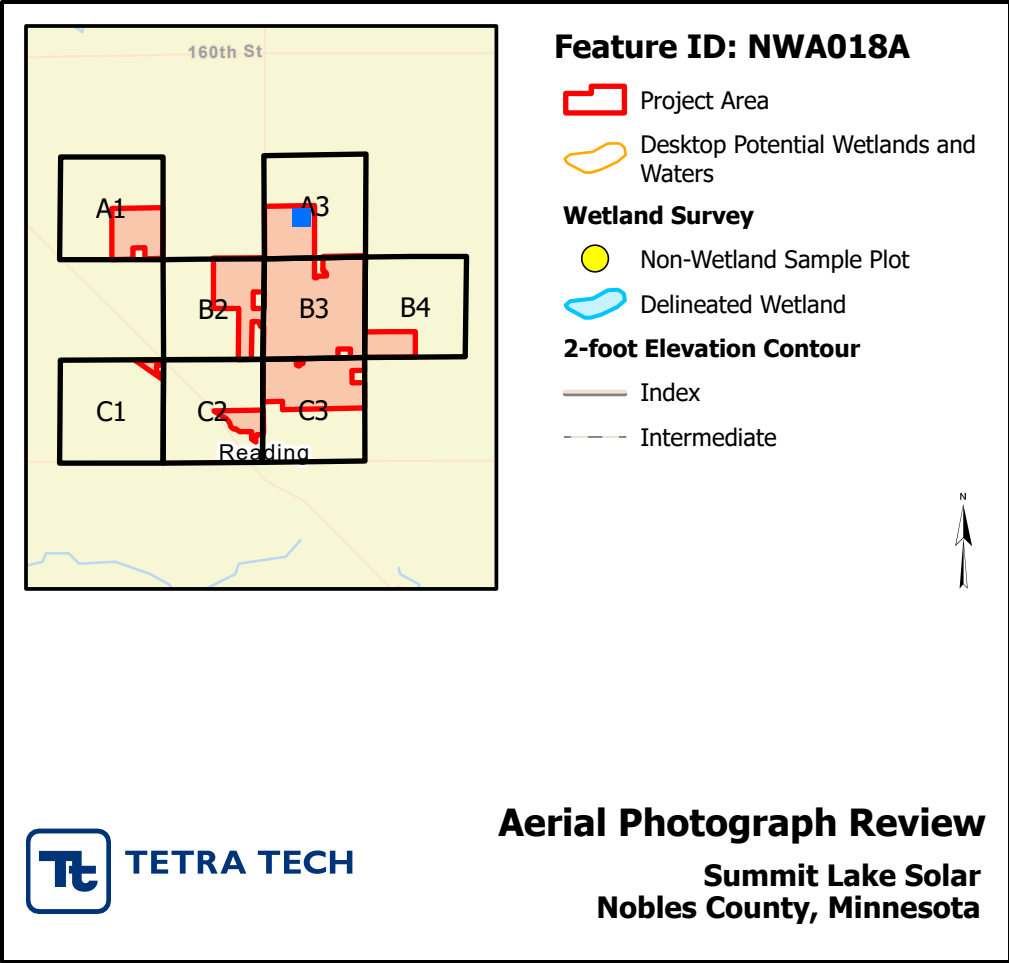
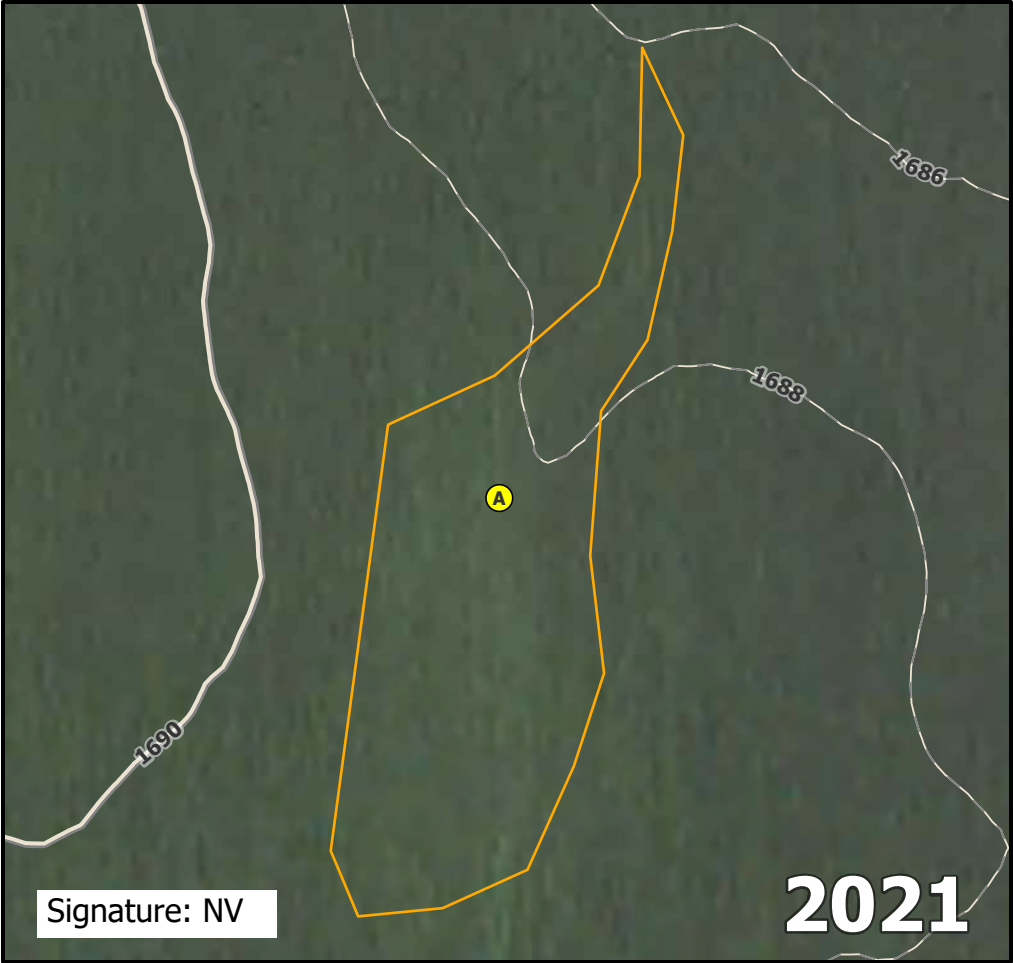
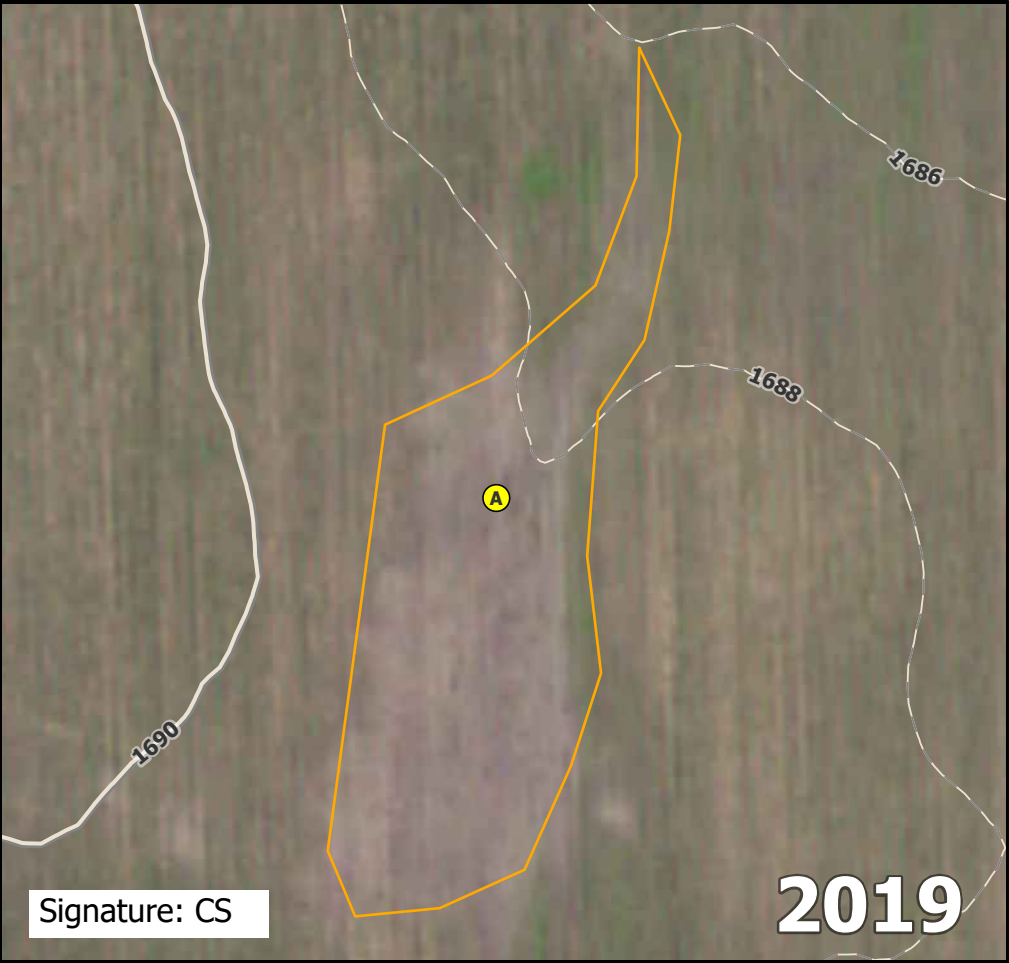
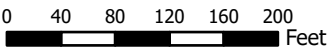
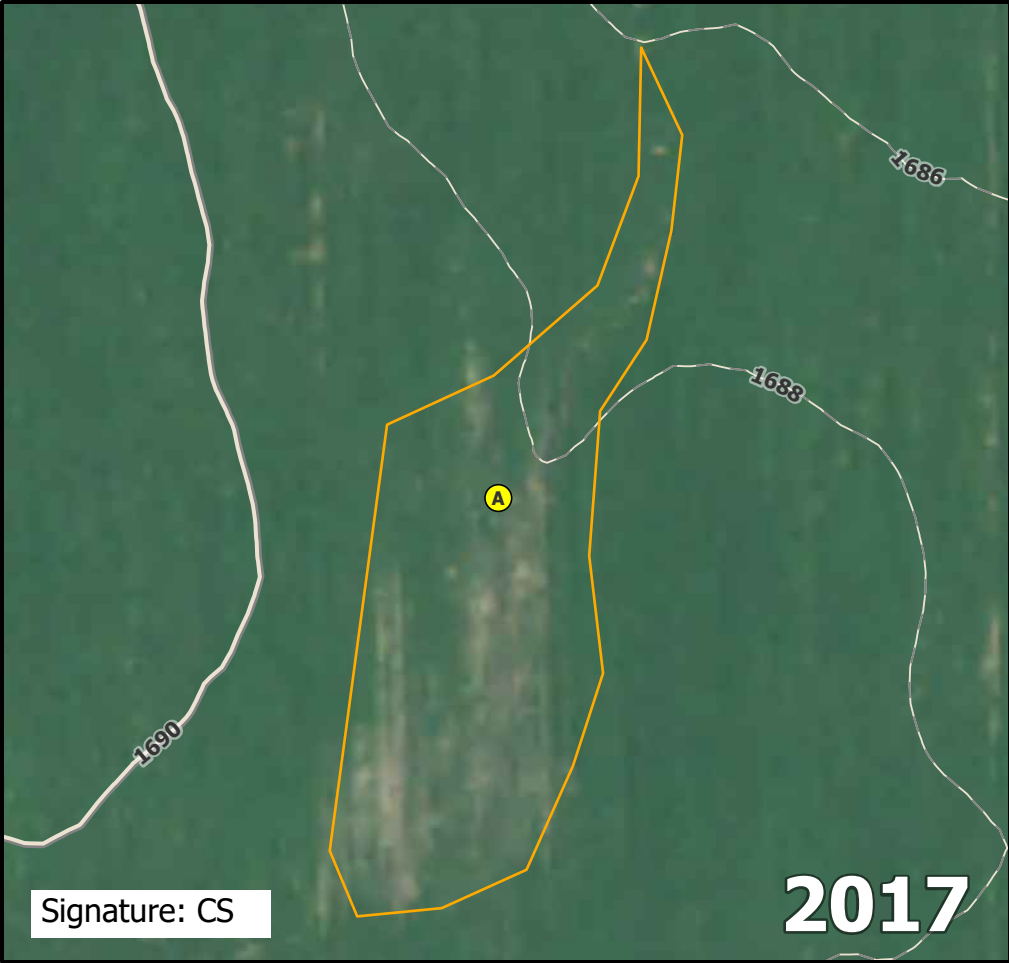
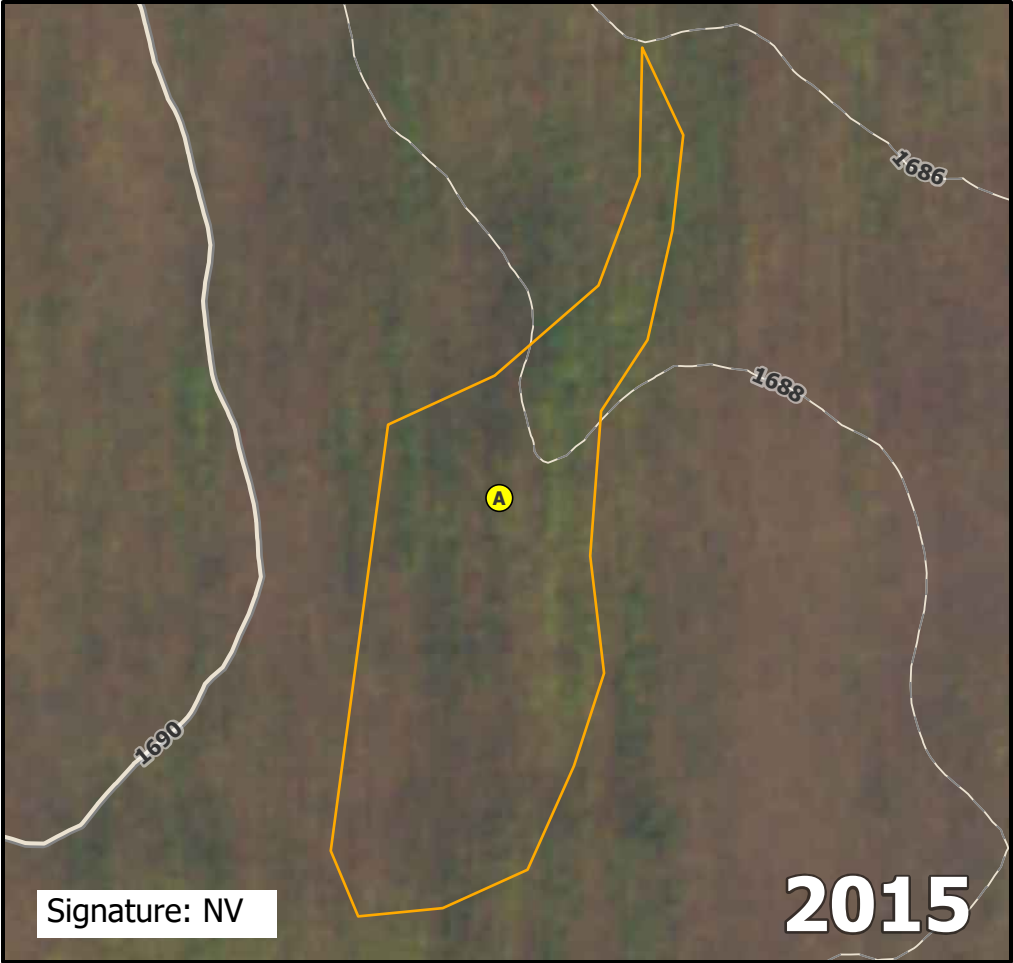
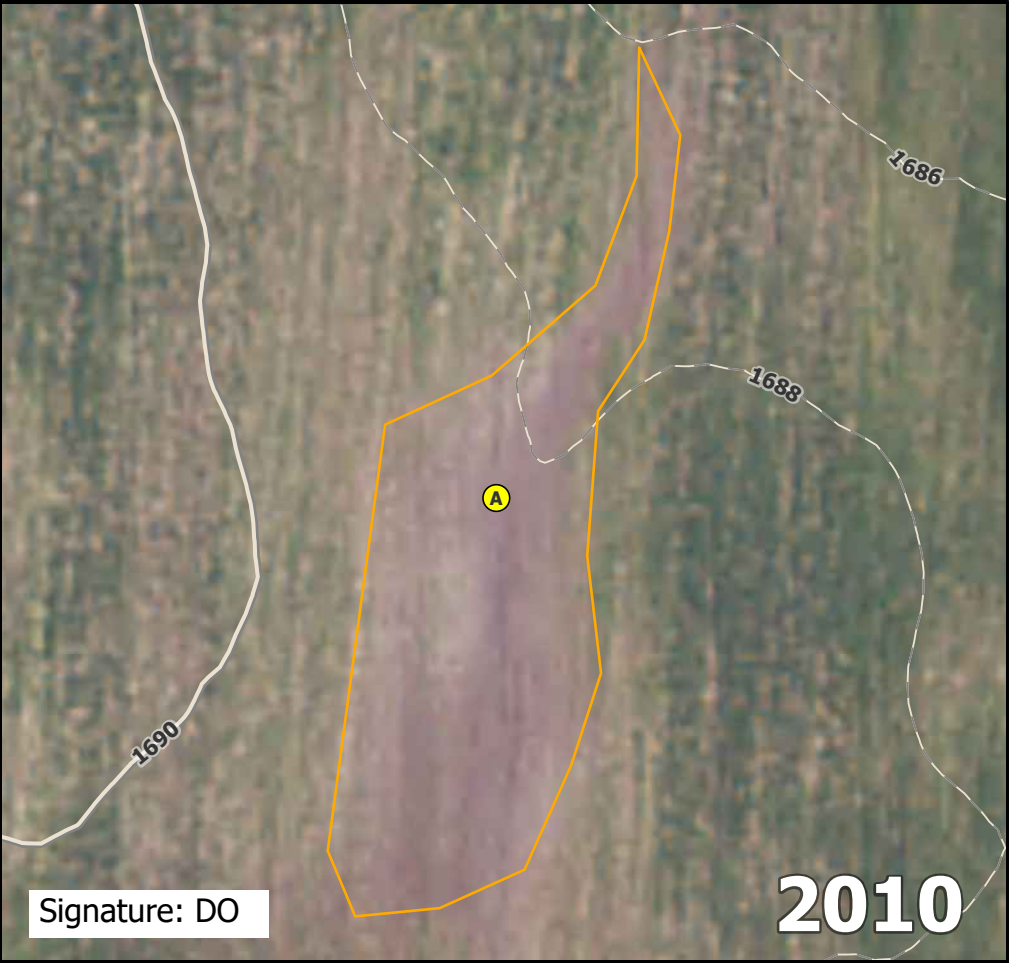
Remarks:



Overview of upland sample point NWA018A.

Direction: North	Photo ID: delin_photo-20221011-162623.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar	Feature ID: NWA018	

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,700

Non-Wetland ID

NWA019

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/11/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA019A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.12 T103N R41W		
Landform (hillslope, terrace, etc.):	Plain	Local relief (concave, convex, none):	None		
Slope (%):	1	Lat:	43.7373	Long:	-95.70717
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

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?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA019A

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**		
0-31	10YR 2/1	100					Clay Loam	
31-35	10YR 2/1	98	10YR 4/6	2	C	PL	Clay Loam	Distinct or prominent
35-40	10YR 3/1	90	10YR 5/6	10	C	PL/M	Silty Clay Loam	Distinct or prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

A12 assumed

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

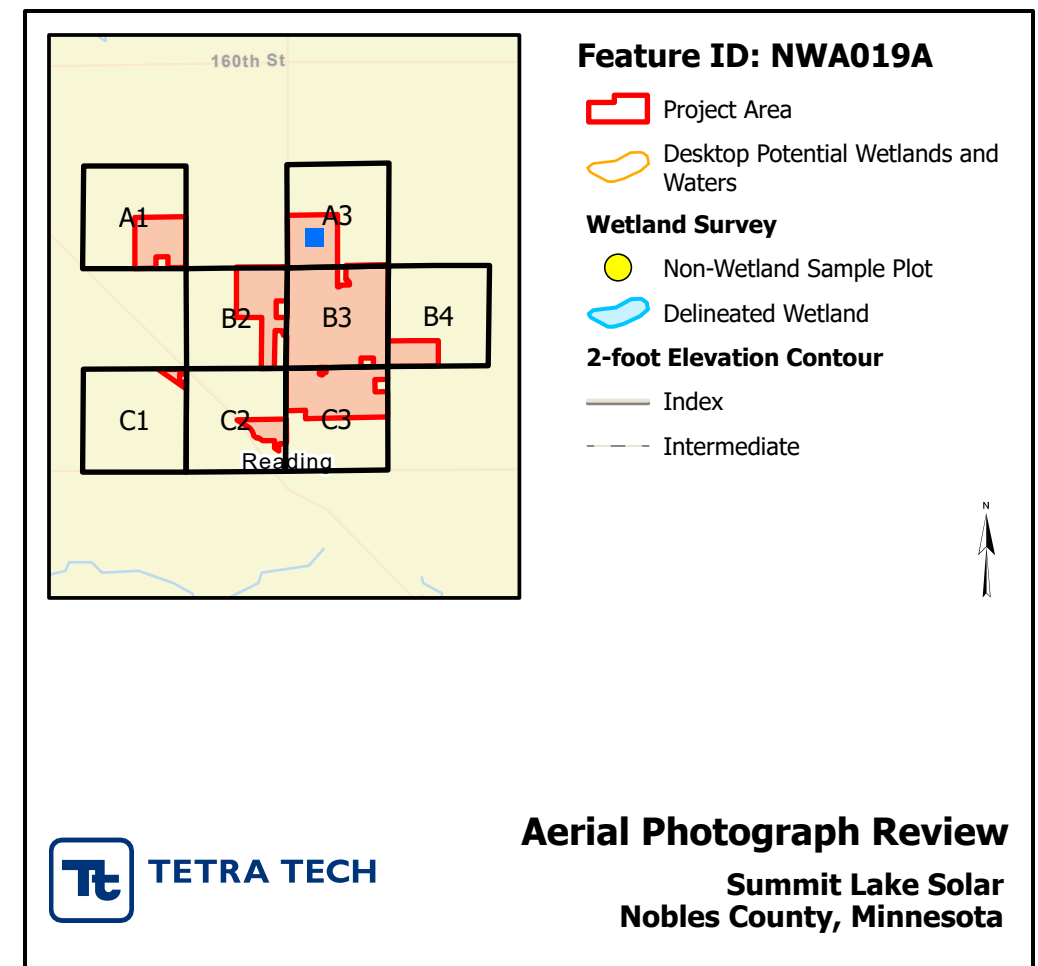
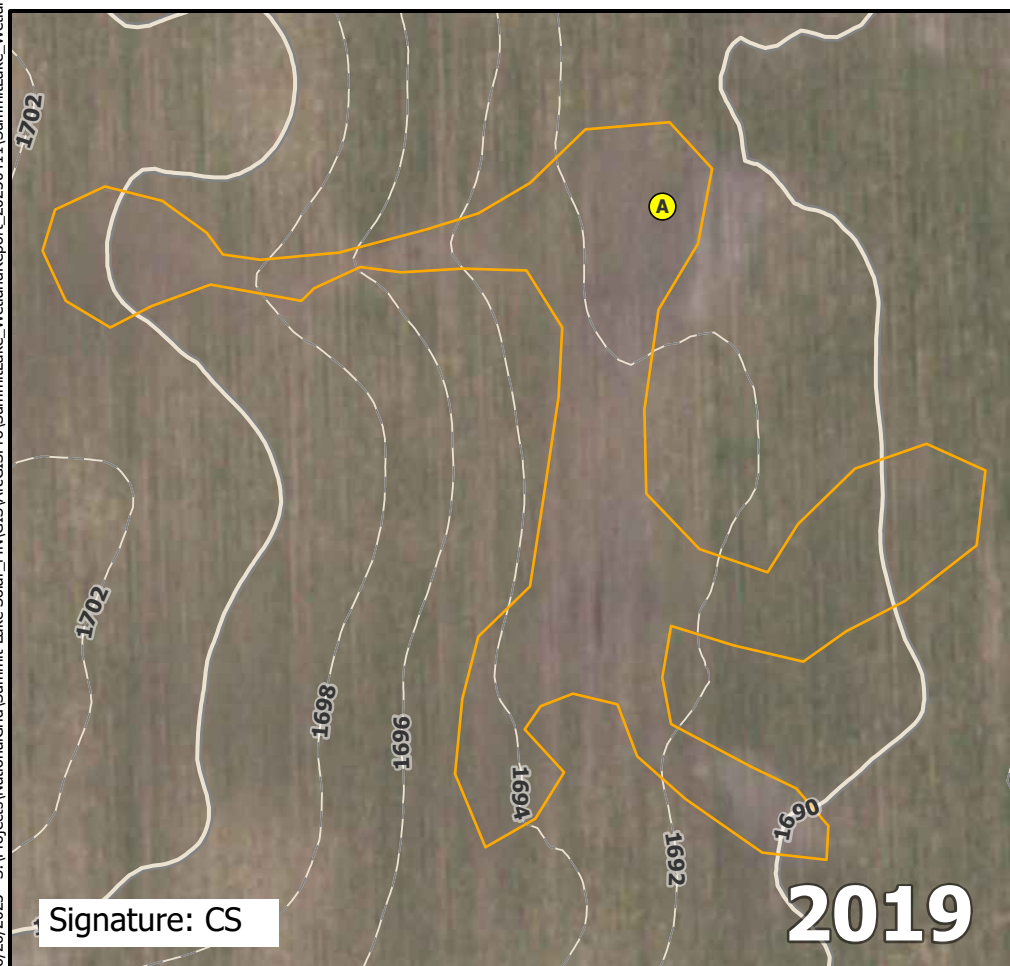
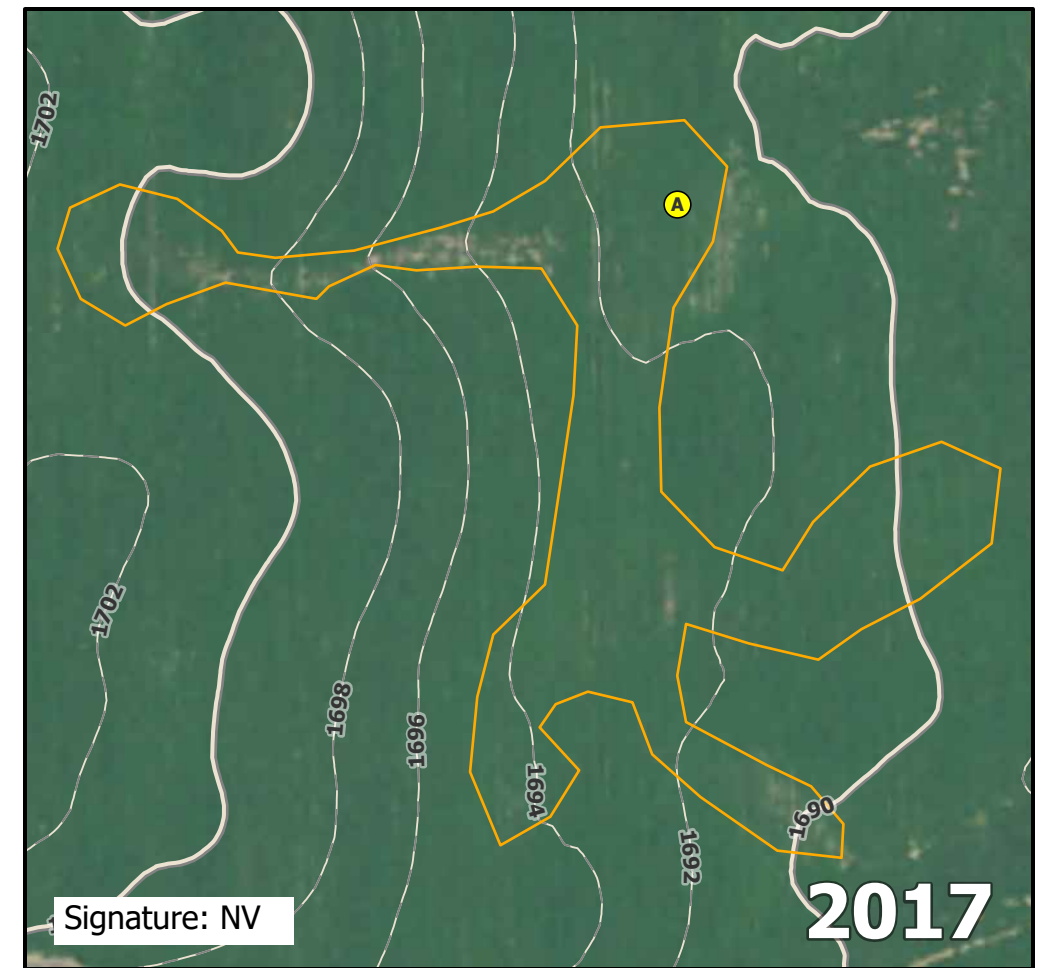
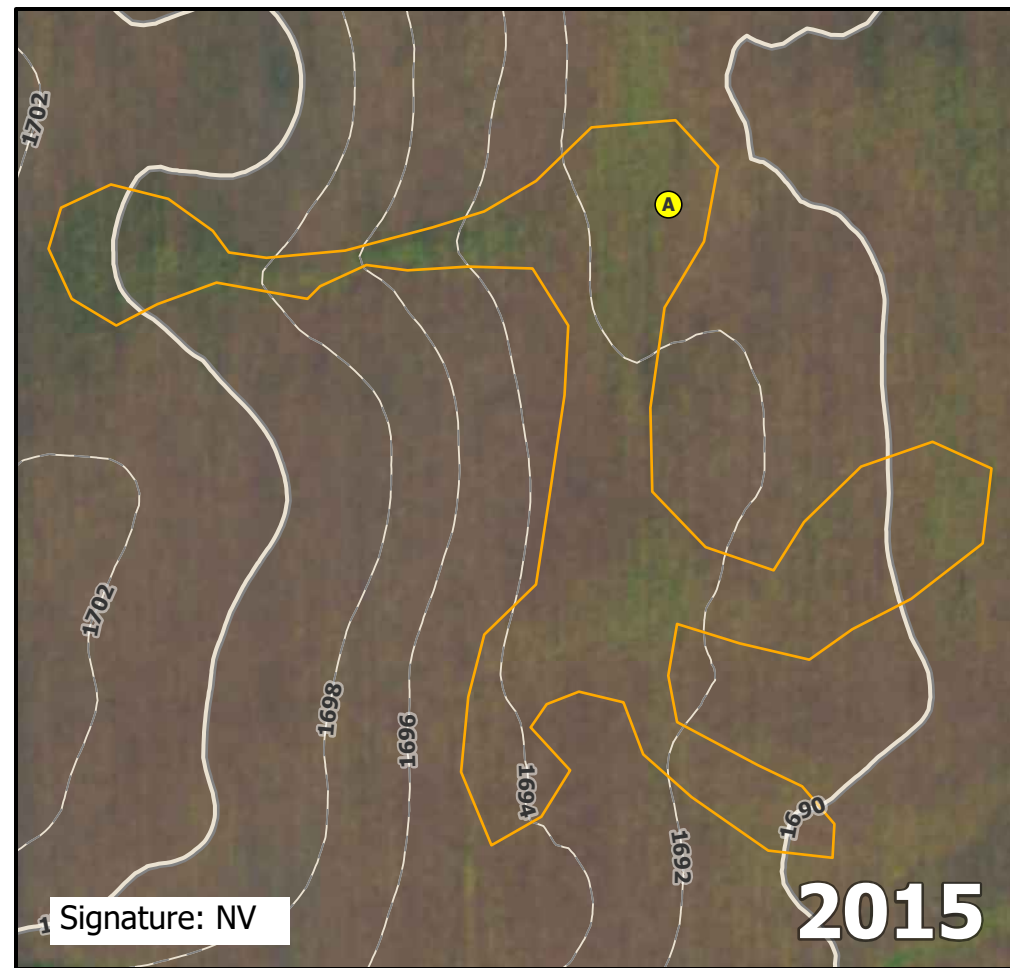
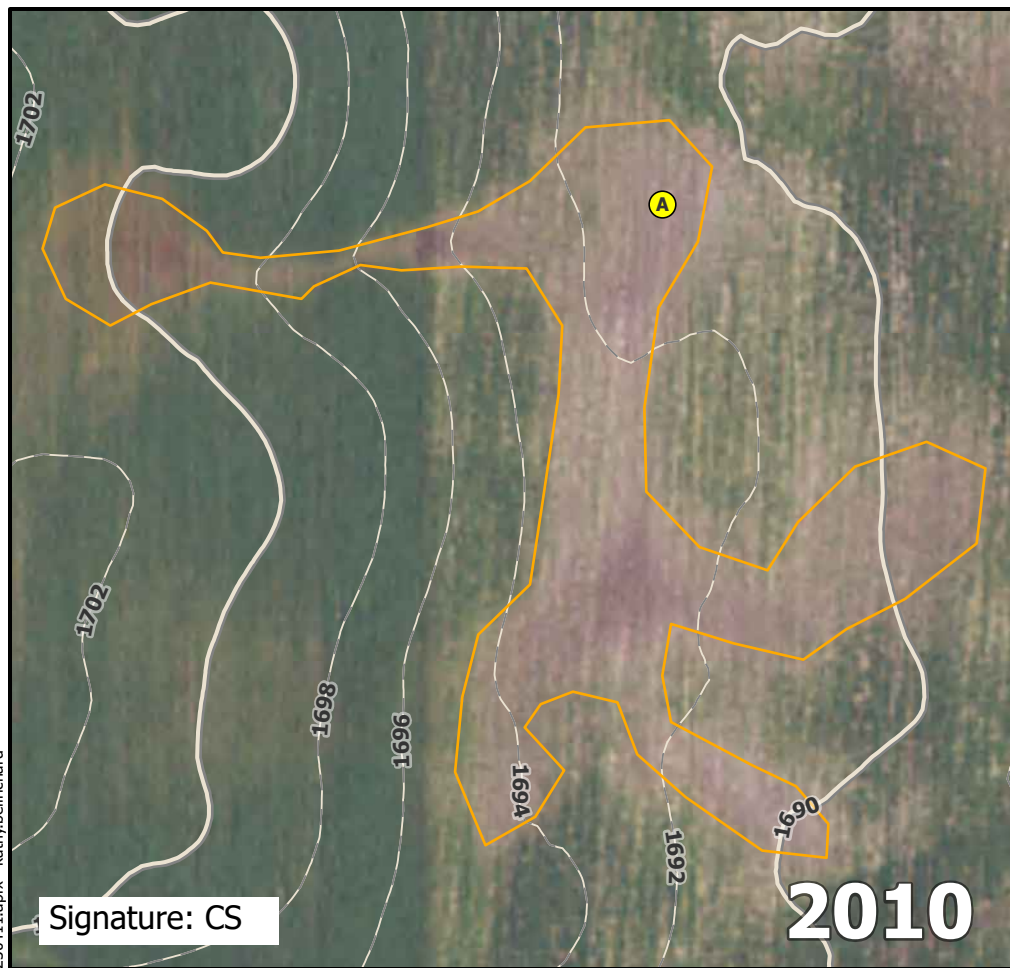
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA019A.

Direction: West	Photo ID: delin_photo-20221011-164403.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar	Feature ID: NWA019	



Non-Wetland ID

NWA020

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/11/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA020A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.12 T103N R41W		
Landform (hillslope, terrace, etc.):	Swale	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.73533	Long:	-95.70717
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	
Hydric Soil Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Wetland Hydrology Present?	<u>No</u>	If yes, optional wetland site ID: _____
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

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?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA020A

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**		
0-14	10YR 2/1	100					Very Fine Sandy Clay Loam	
12-15	10YR 2/1	50	10YR 4/6	10	C	PL/M	Clay Loam	
	2.5Y 4/3	40						Mixed Matrix
15-24	2.5Y 5/3	85	10YR 2/1	10	D	M	Clay Loam	Faint
			10YR 4/6	5	C	PL/M		Distinct or prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

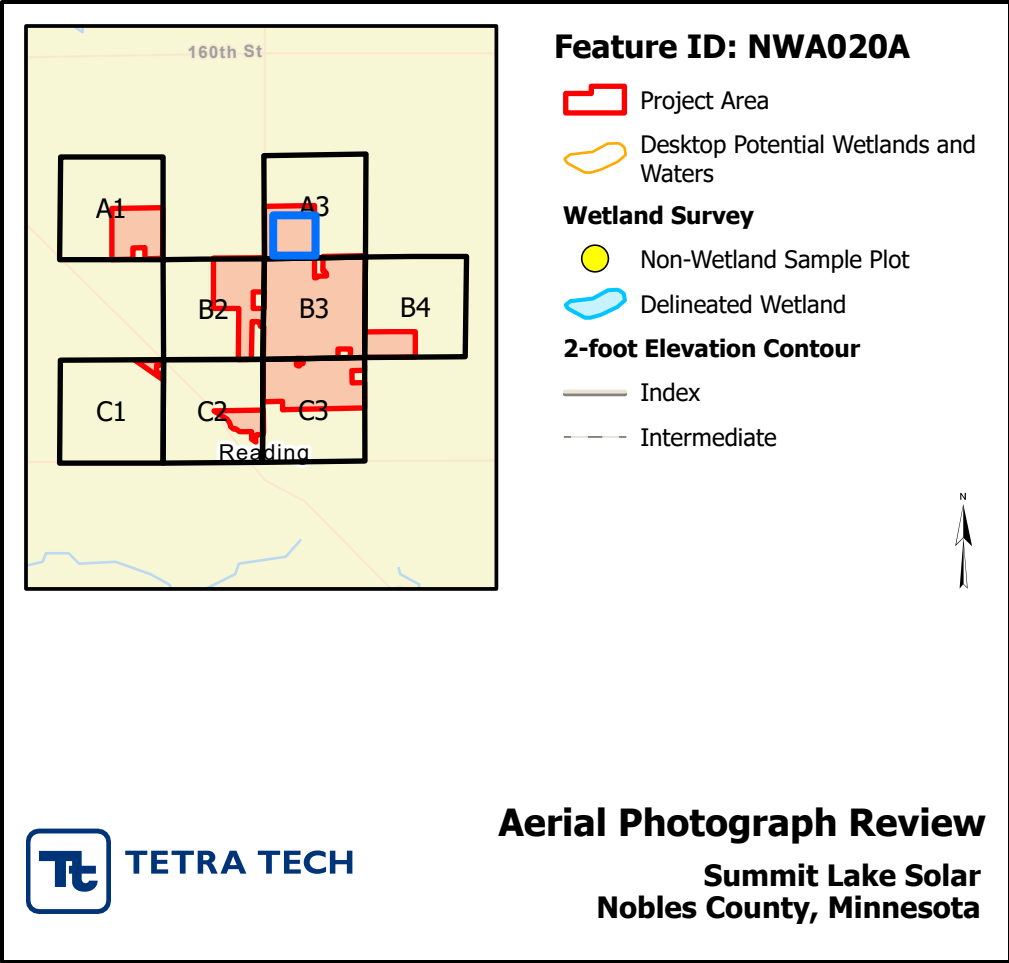
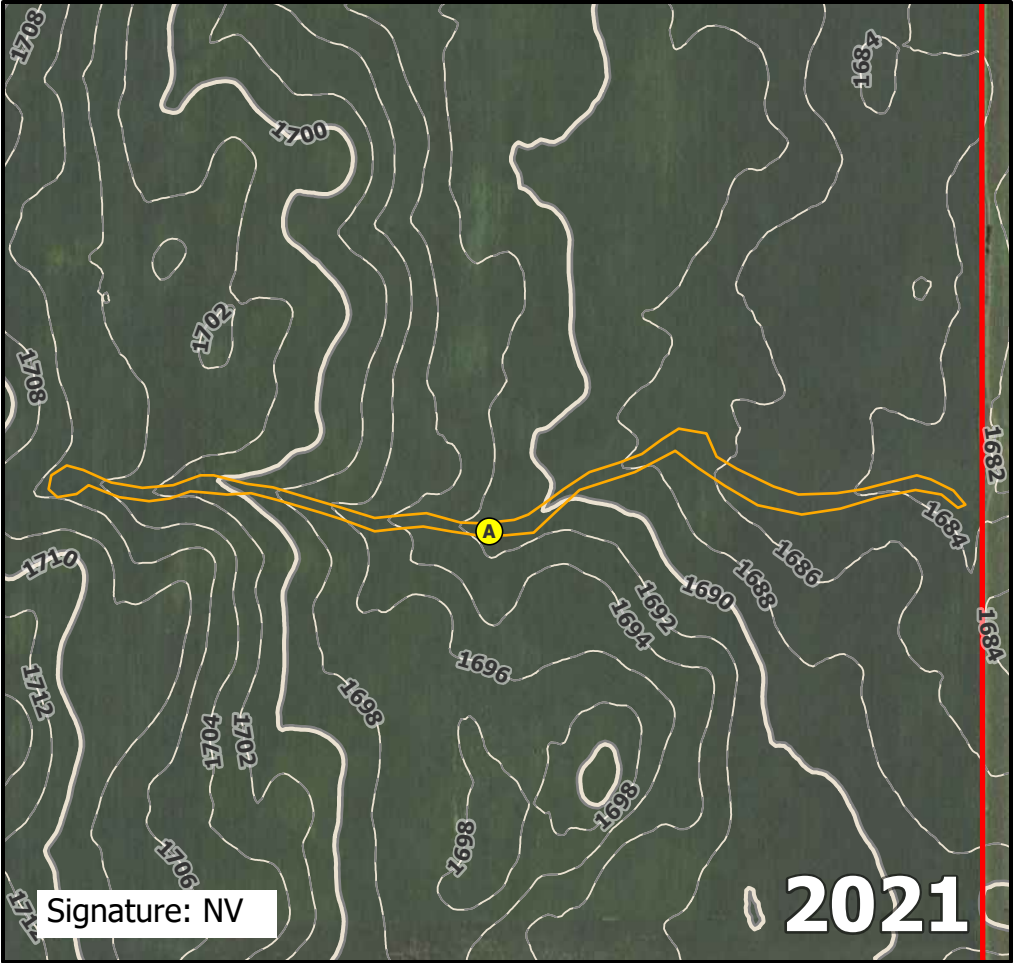
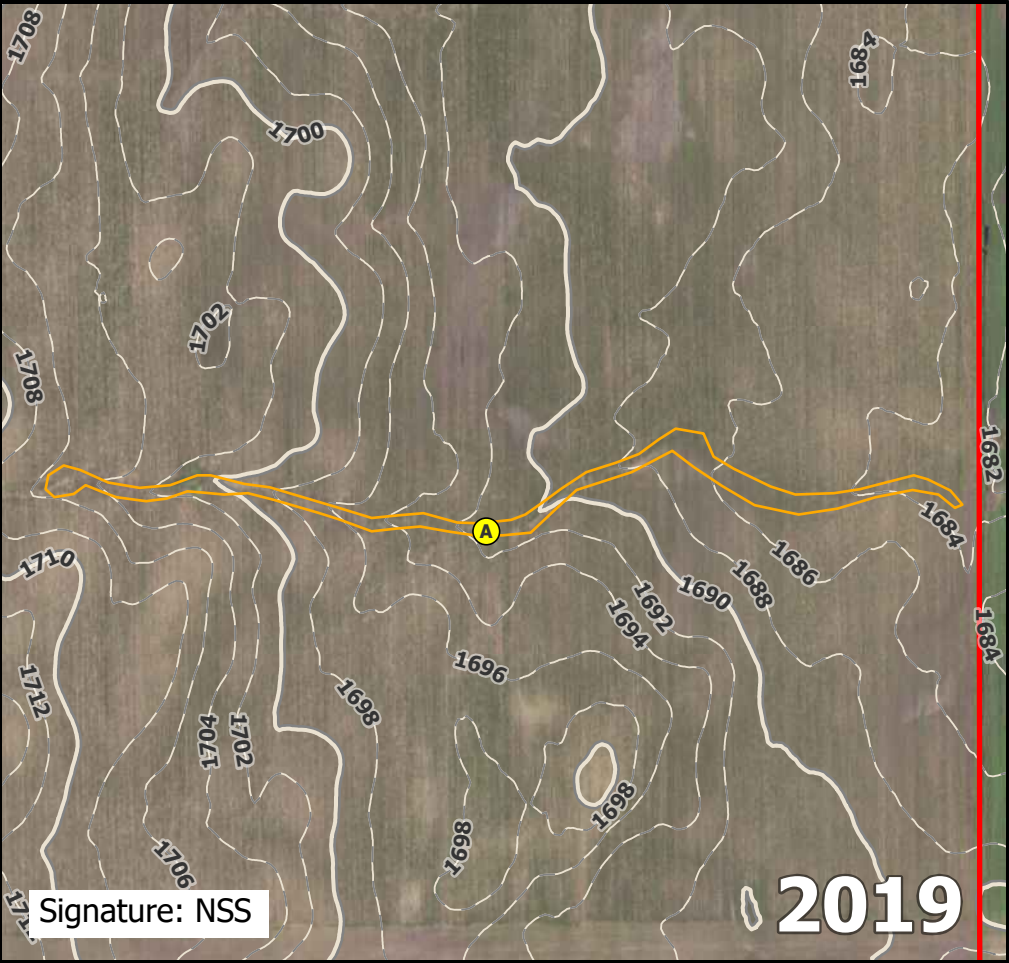
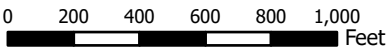
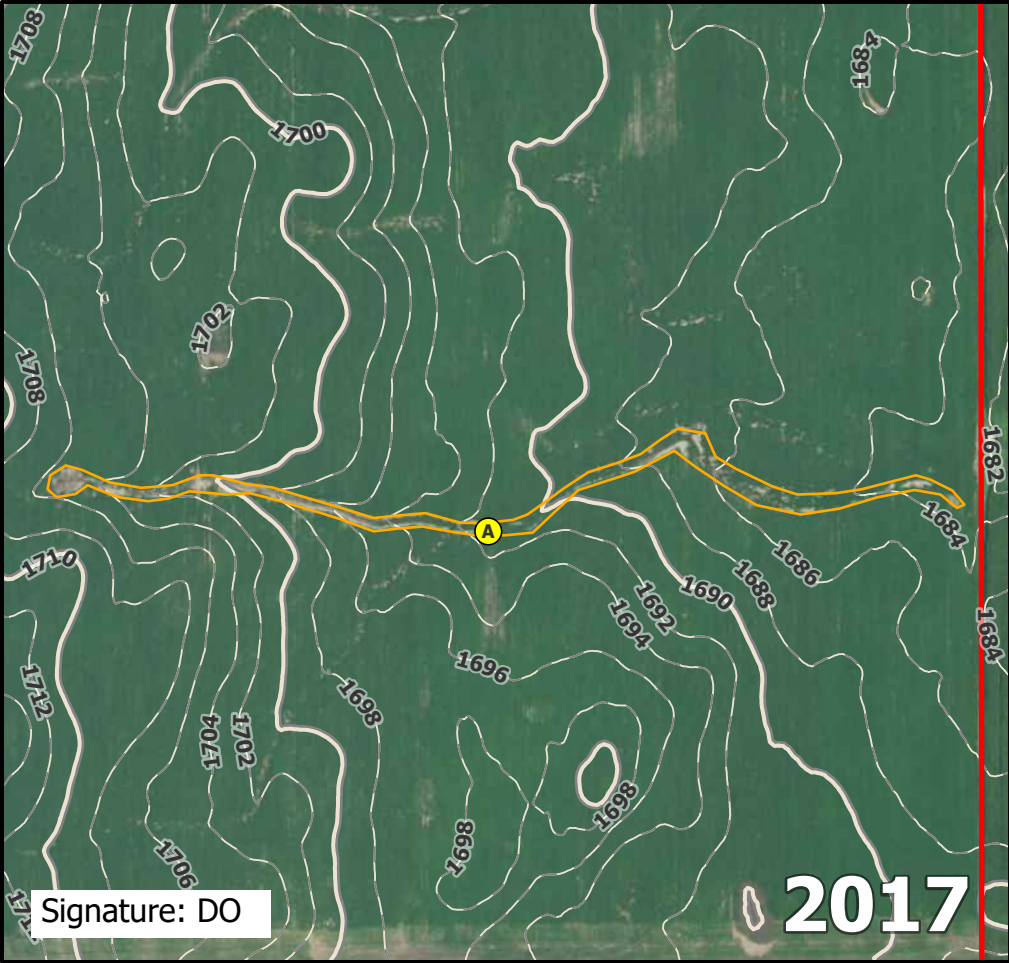
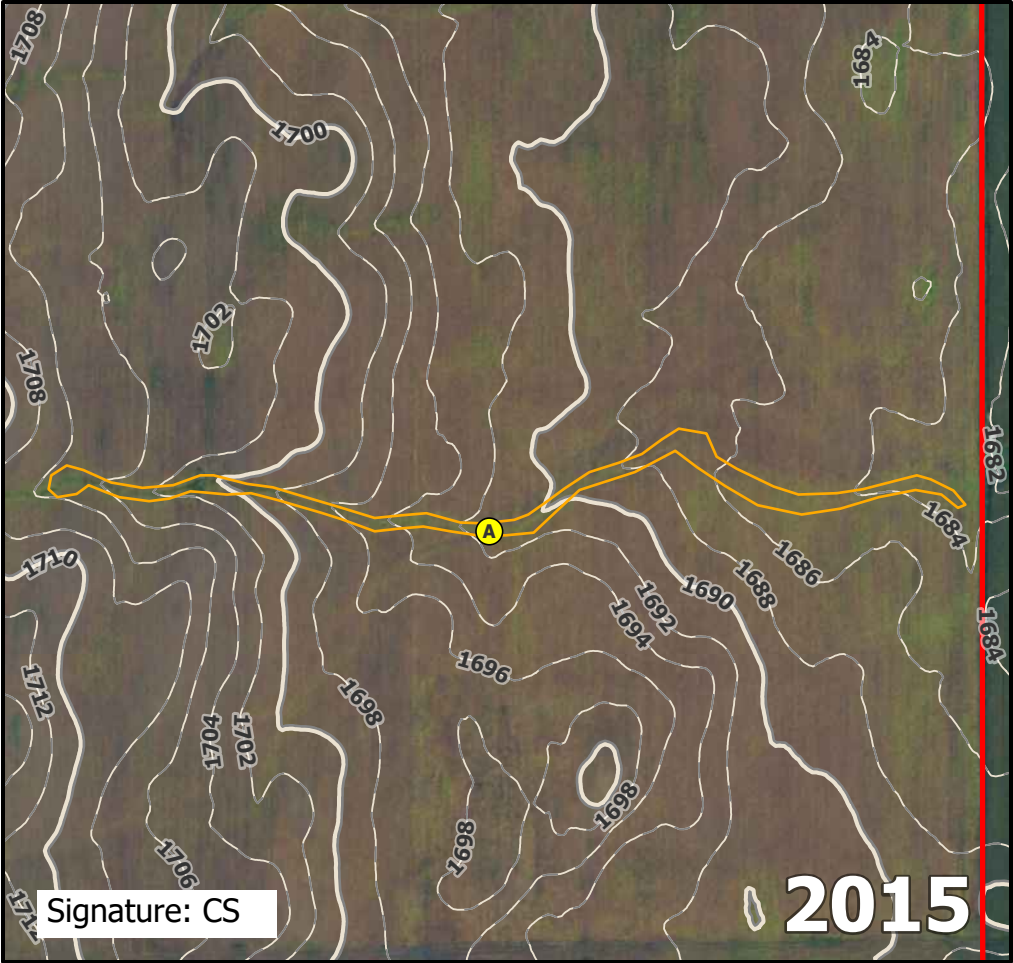
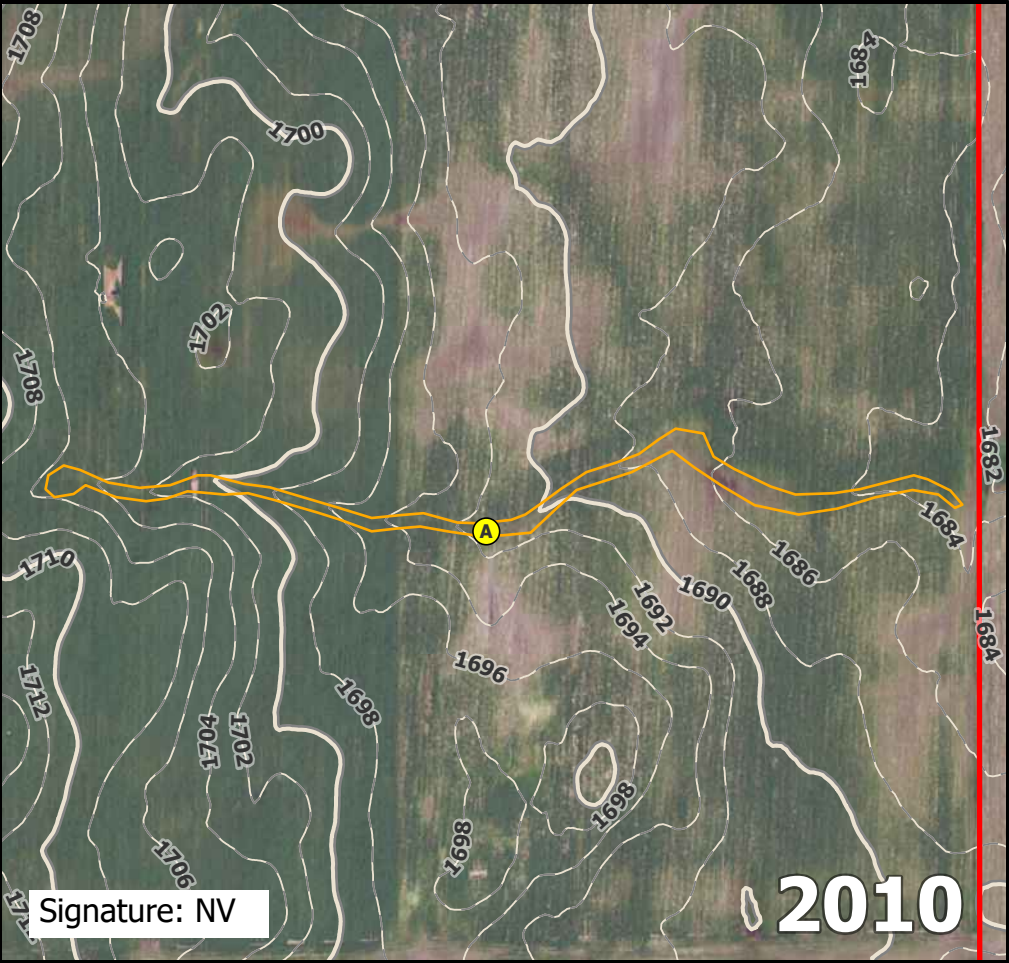
Remarks:



Overview of upland sample point NWA020A.

Direction: West	Photo ID: delin_photo-20221011-165959.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar	Feature ID: NWA020	

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathybellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:7,000

Non-Wetland ID

NWA021

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/11/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: NWA021A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.12 T103N R41W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 2 Lat: 43.73498 Long: -95.7071 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)

Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present?" No

Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u> </u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
=Total Cover					

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

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA021A

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**		
0-9	10YR 2/1	100					Clay Loam	
9-11	10YR 2/1	90	2.5Y 4/2	9	D	M	Clay Loam	
			10YR 4/6	1	C	PL		Distinct or Prominent
11-24	2.5Y 4/3	98	10YR 5/8	2	C	PL/M	Clay Loam	Distinct or Prominent

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

Hydric Soil Indicators:

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

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? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

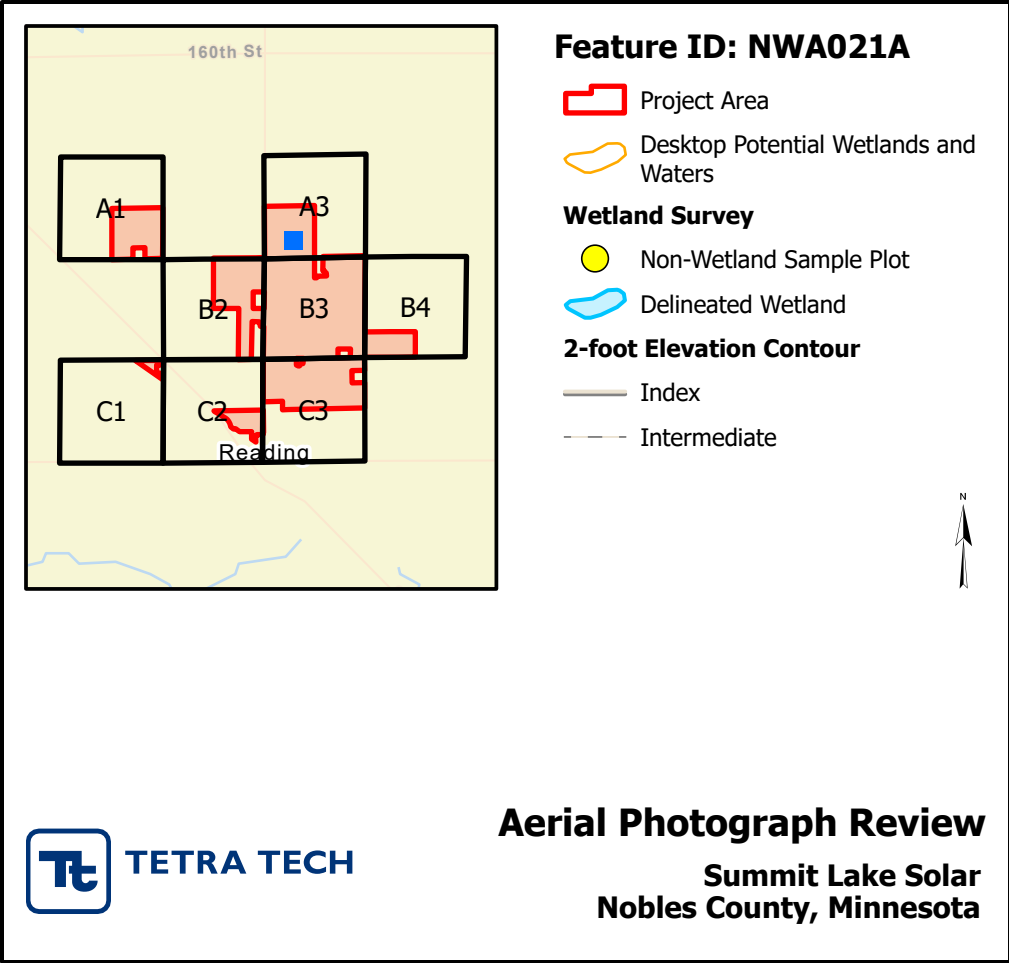
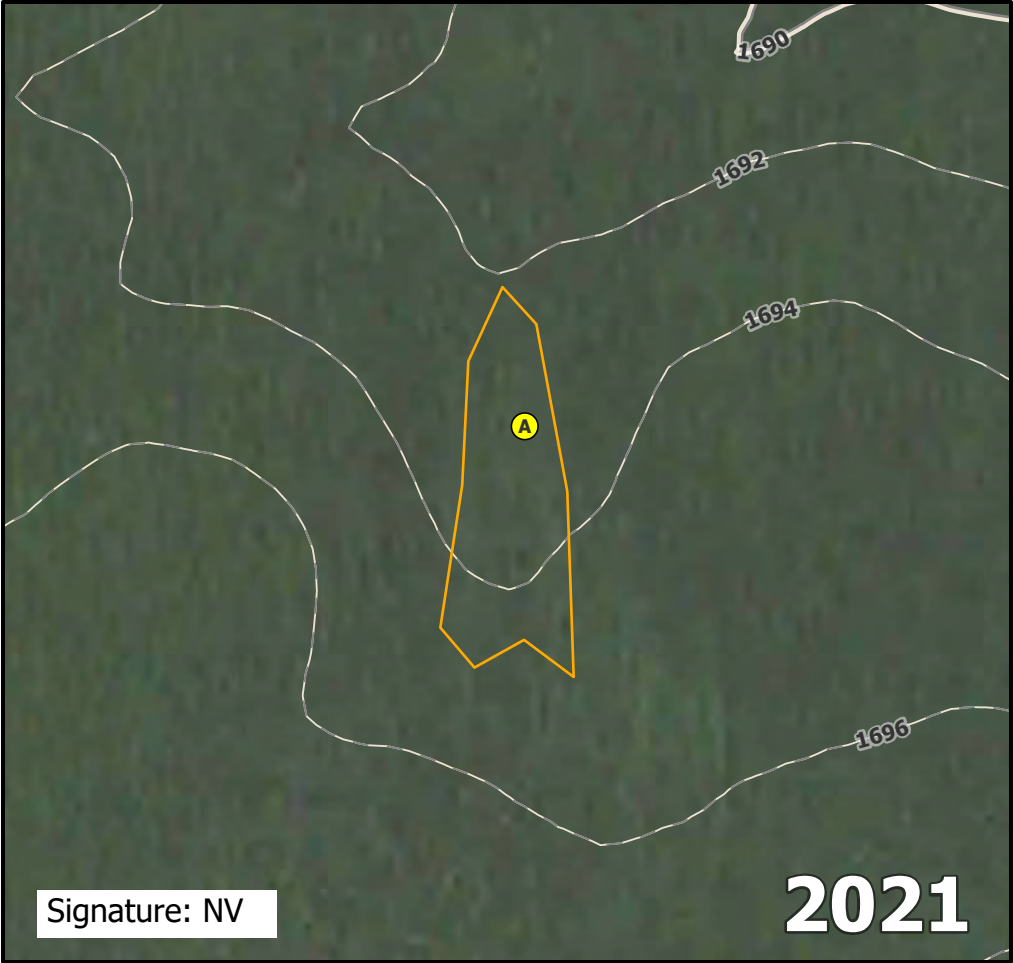
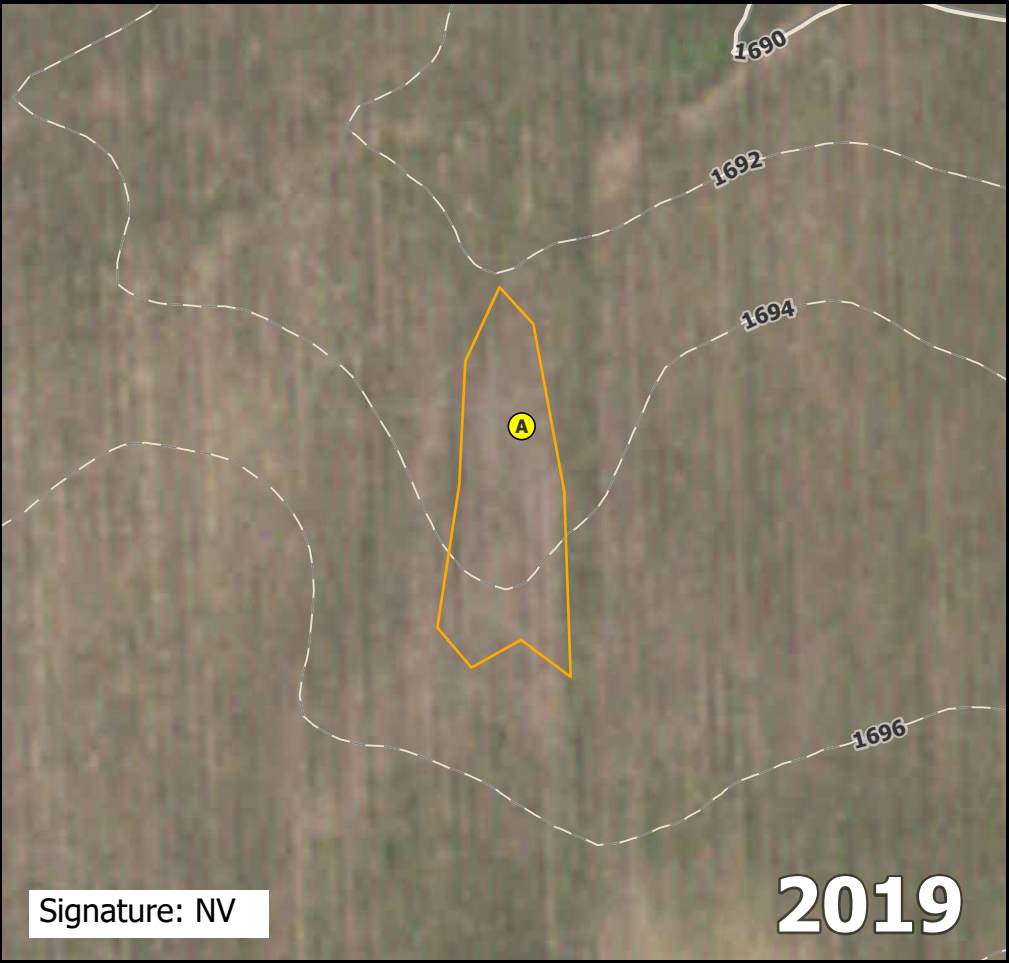
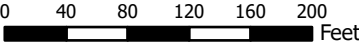
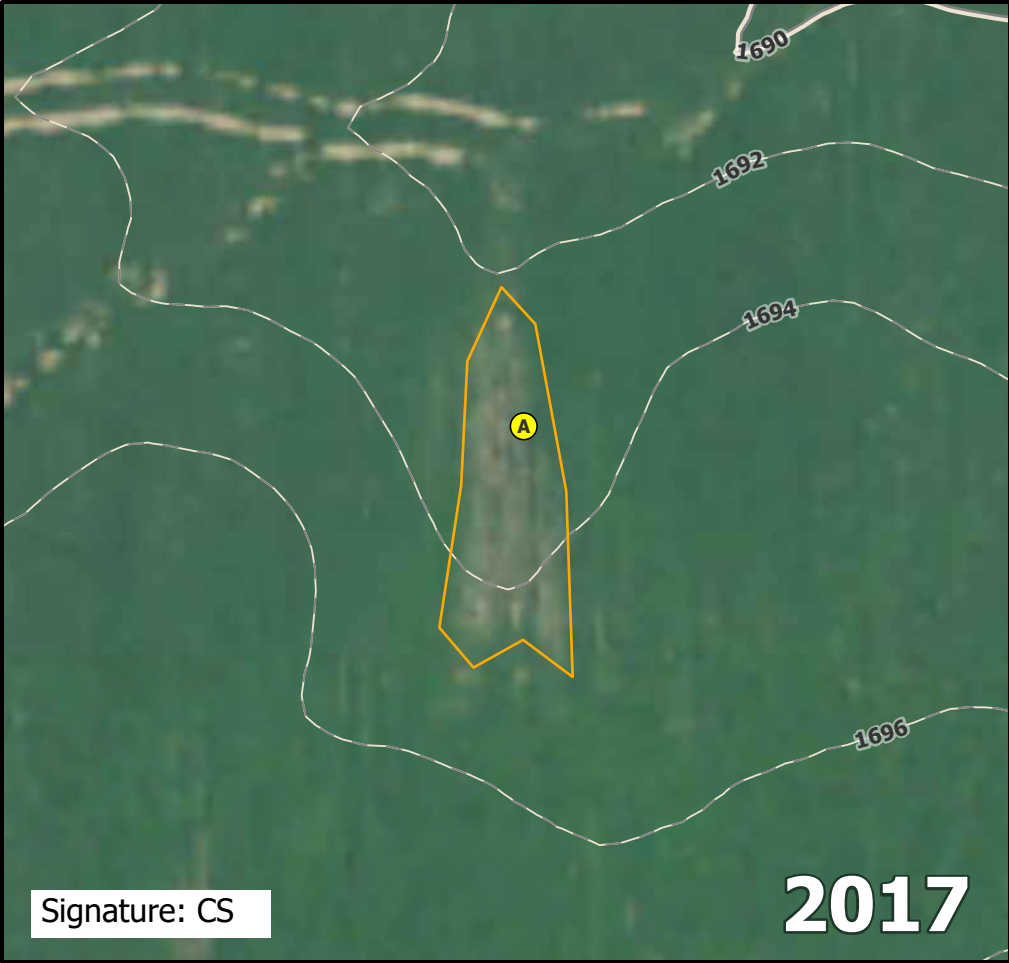
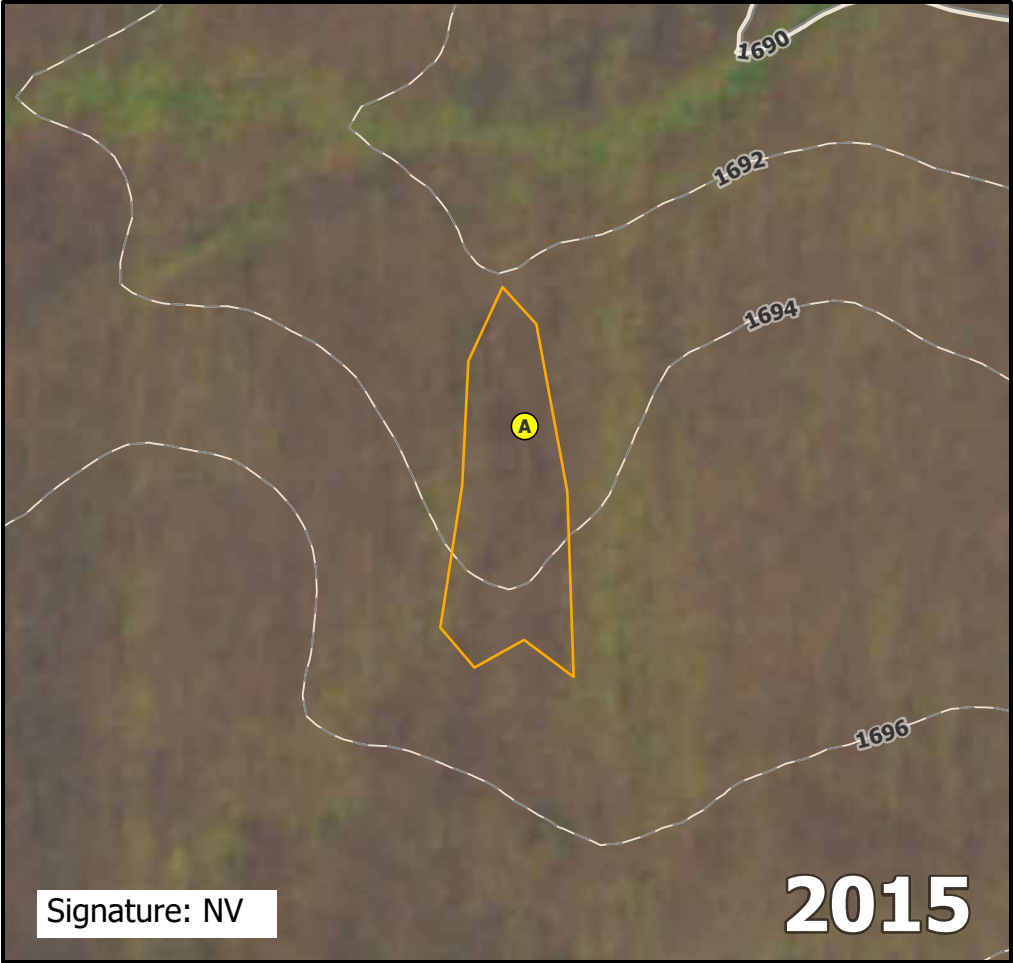
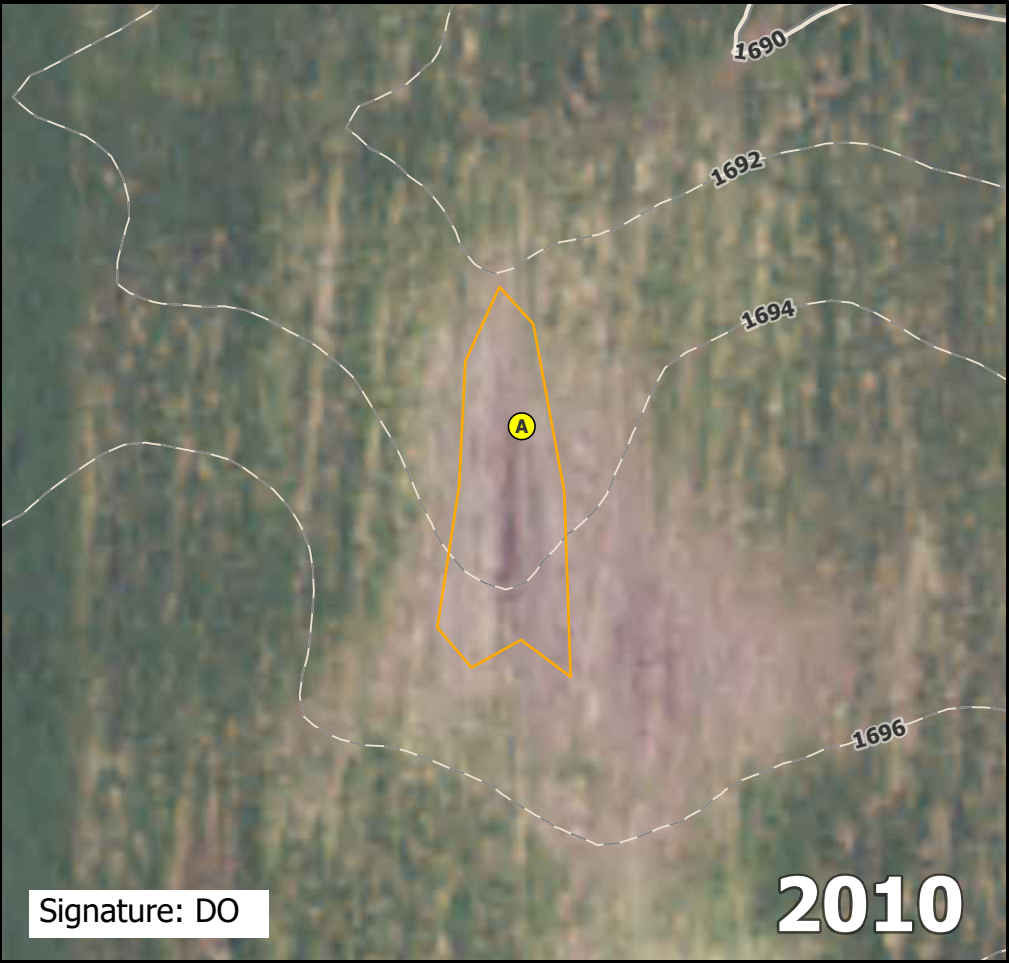
Remarks:



Overview of upland sample point NWA021A.

Direction: South	Photo ID: delin_photo-20221011-171203.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar	Feature ID: NWA021	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA022

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/11/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA022A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.12 T103N R41W		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.73638	Long:	-95.70947
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 = _____

FACW species x 2 = _____

FAC species x 3 = _____

FACU species x 4 = _____

UPL species x 5 = _____

Column totals (A) (B)

Prevalence Index = B/A = _____

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?

No _____

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA022A

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**		
0-21	10YR 2/1	100					Clay Loam	
21-28	2.5Y 2.5/1	99	10YR 3/6	1	C	PL	Clay Loam	Distinct or Prominent
28-36	2.5Y 2.5/1	94	2.5Y 5/3	3	C	PL/M	Silty Clay Loam	Distinct or Prominent
			10YR 3/6	3	C	PL/M		Distinct or Prominent
36-40	2.5Y 3/2	90	2.5Y 5/3	5	C	PL/M	Silty Clay Loam	Distinct or Prominent
			2.5Y 5/6	5	C	PL/M		Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

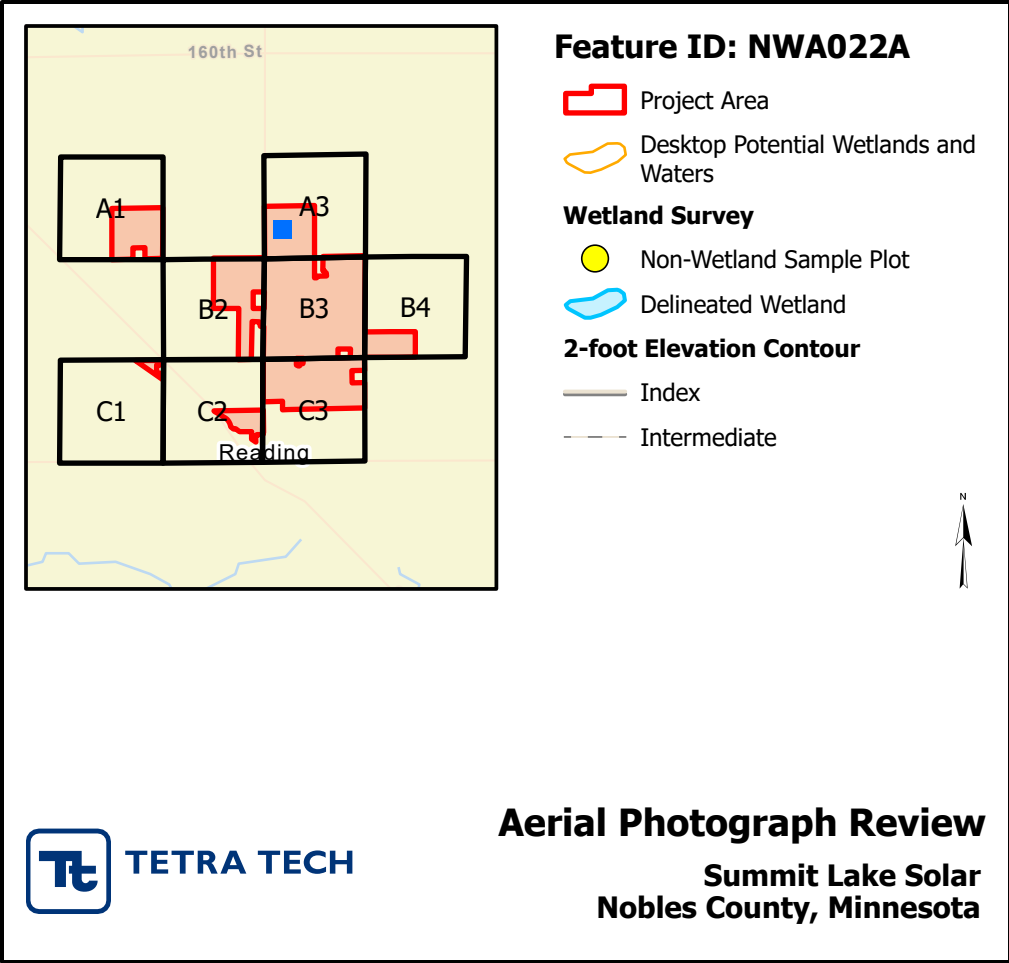
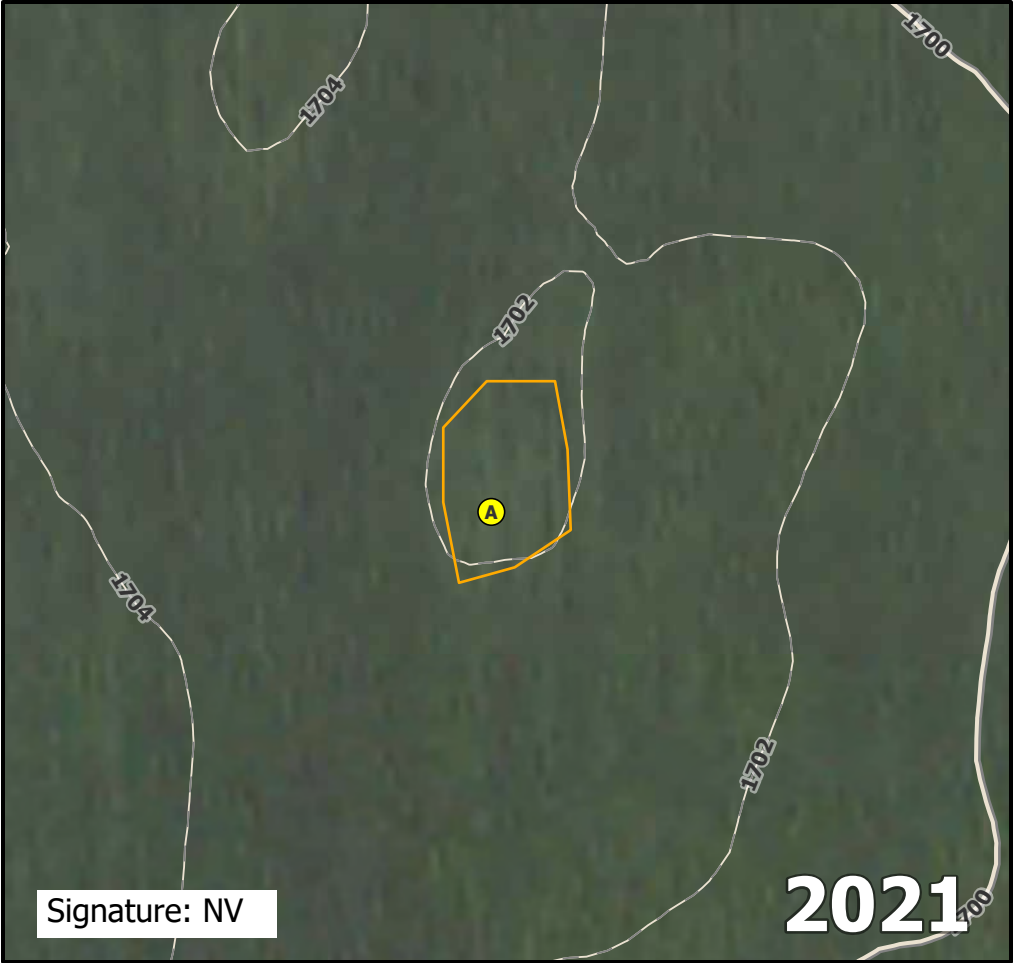
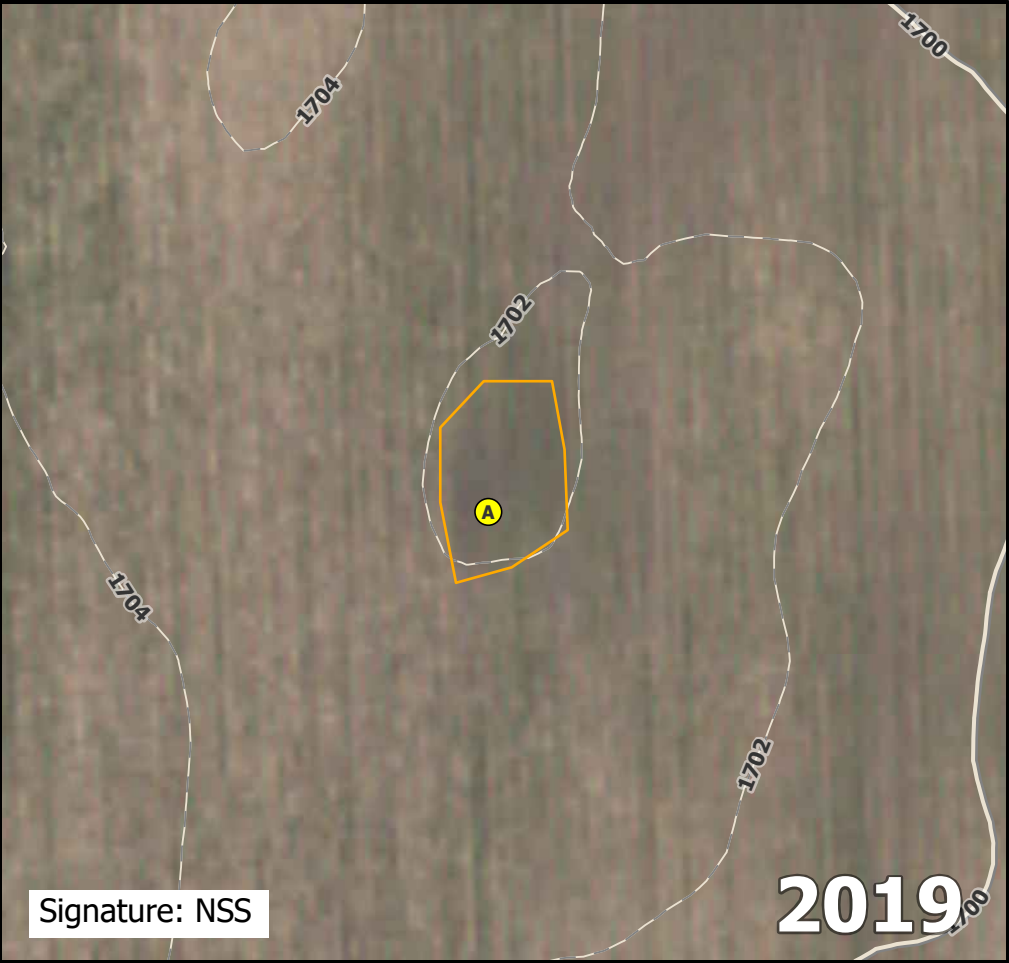
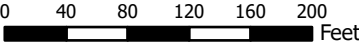
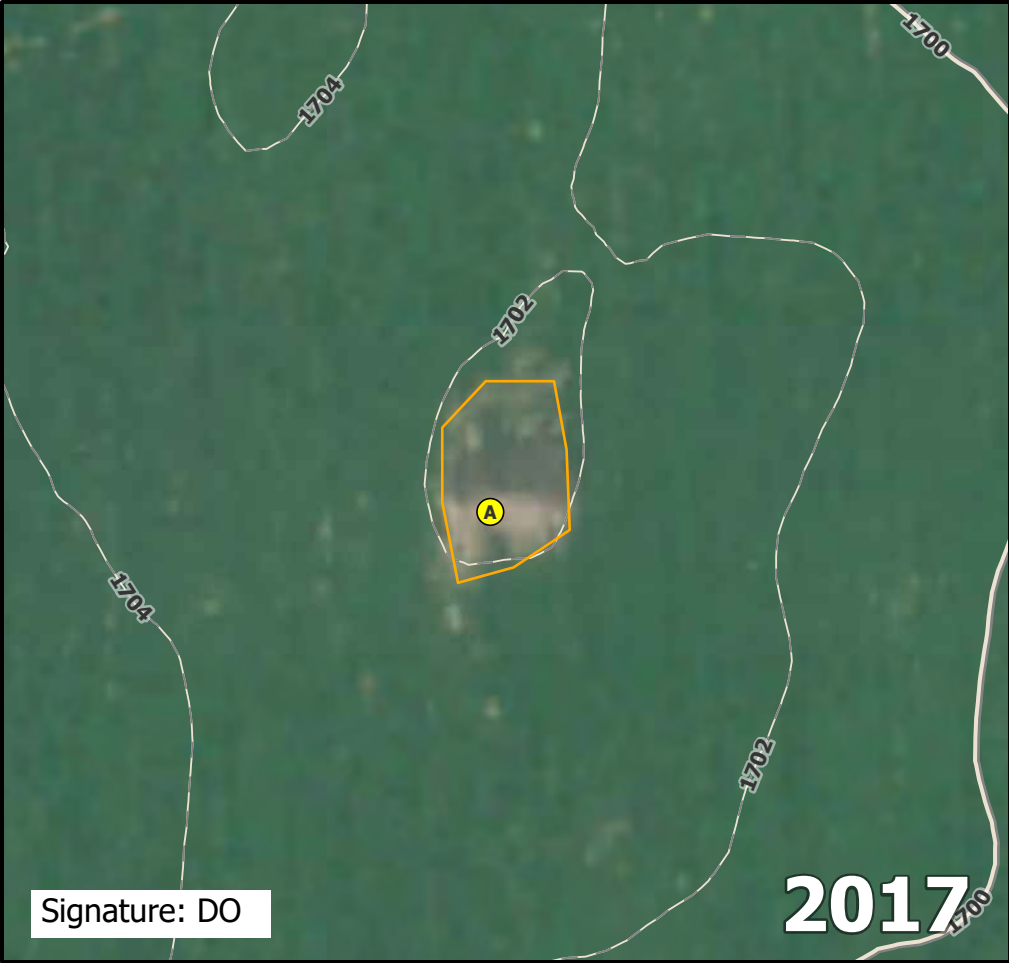
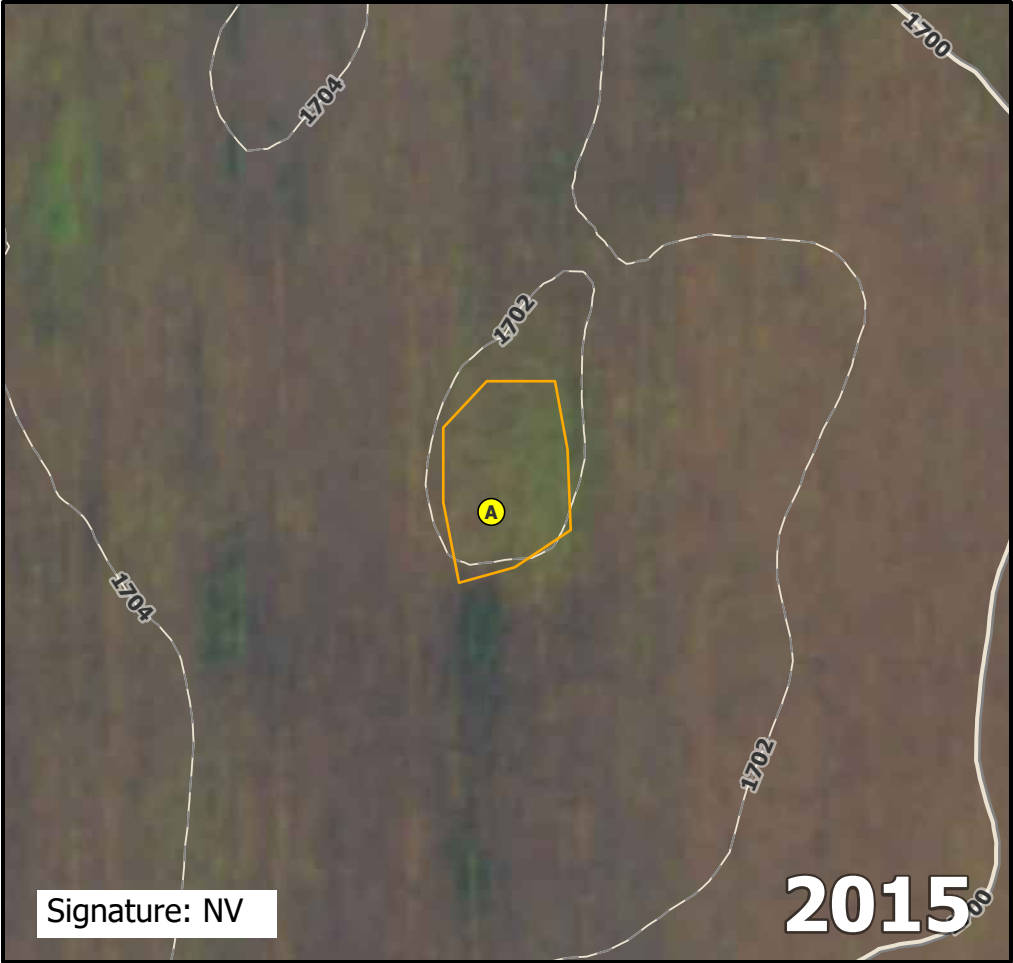
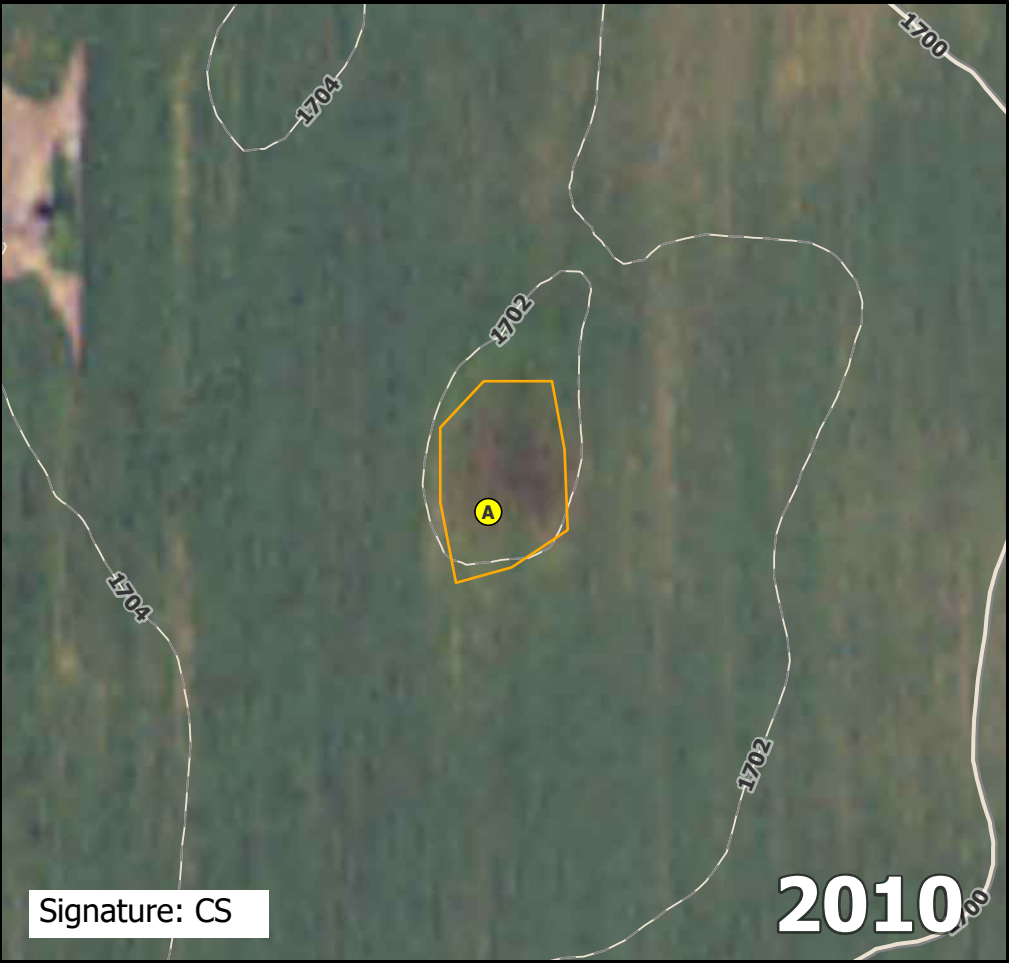
Geomorphic position is very weak.



Overview of upland sample point NWA022A.

Direction: North	Photo ID: delin_photo-20221011-173121.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar	Feature ID: NWA022	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA023

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/11/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA023A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.12 T103N R41W		
Landform (hillslope, terrace, etc.):	Plain	Local relief (concave, convex, none):	None		
Slope (%):	0	Lat:	43.73293	Long:	-95.70493
				Datum:	WGS84
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation _____, soil _____, or hydrology _____ naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	
Hydric Soil Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>No</u>
Wetland Hydrology Present?	<u>No</u>	If yes, optional wetland site ID: _____
Remarks: Recently harvested agricultural field. Weak topography.		

		Absolute	Dominant	Indicator	Dominance Test Worksheet	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status		
1. _____					Number of Dominant Species that are OBL, FACW, or FAC: _____	0 (A)
2. _____					Total Number of Dominant Species Across All Strata: _____	0 (B)
3. _____					Percent of Dominant Species that are OBL, FACW, or FAC: _____	% (A/B)
4. _____						
5. _____						
					=Total Cover	
Sapling/Shrub Stratum	(Plot size: _____)				Prevalence Index Worksheet	
1. _____					Total % Cover of: _____	Multiply by: _____
2. _____					OBL species _____	x 1 = _____
3. _____					FACW species _____	x 2 = _____
4. _____					FAC species _____	x 3 = _____
5. _____					FACU species _____	x 4 = _____
					=Total Cover	
					UPL species _____	x 5 = _____
Herb Stratum	(Plot size: _____)				Column totals _____	(A) _____ (B)
1. _____					Prevalence Index = B/A = _____	
2. _____						
3. _____						
4. _____						
5. _____						
6. _____						
7. _____						
8. _____						
9. _____						
10. _____						
					=Total Cover	
Woody Vine Stratum	(Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. _____					_____ Rapid test for hydrophytic vegetation	
2. _____					_____ 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)	
					_____ (explain)	
					=Total Cover	
					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
					Hydrophytic Vegetation Present?	
					No	
					=Total Cover	

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA023A

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**		
0-12	10YR 2/1	100					Clay Loam	
12-22	10YR 2/1	100					Silty Clay	
22-34	2.5Y 3/1	100					Silty Clay	
34-40	2.5Y 3/1	98	2.5Y 4/3	2	C	PL/M	Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

A12 assumed

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)

Secondary Indicators (minimum of two required)

- ☐ 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)
- ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

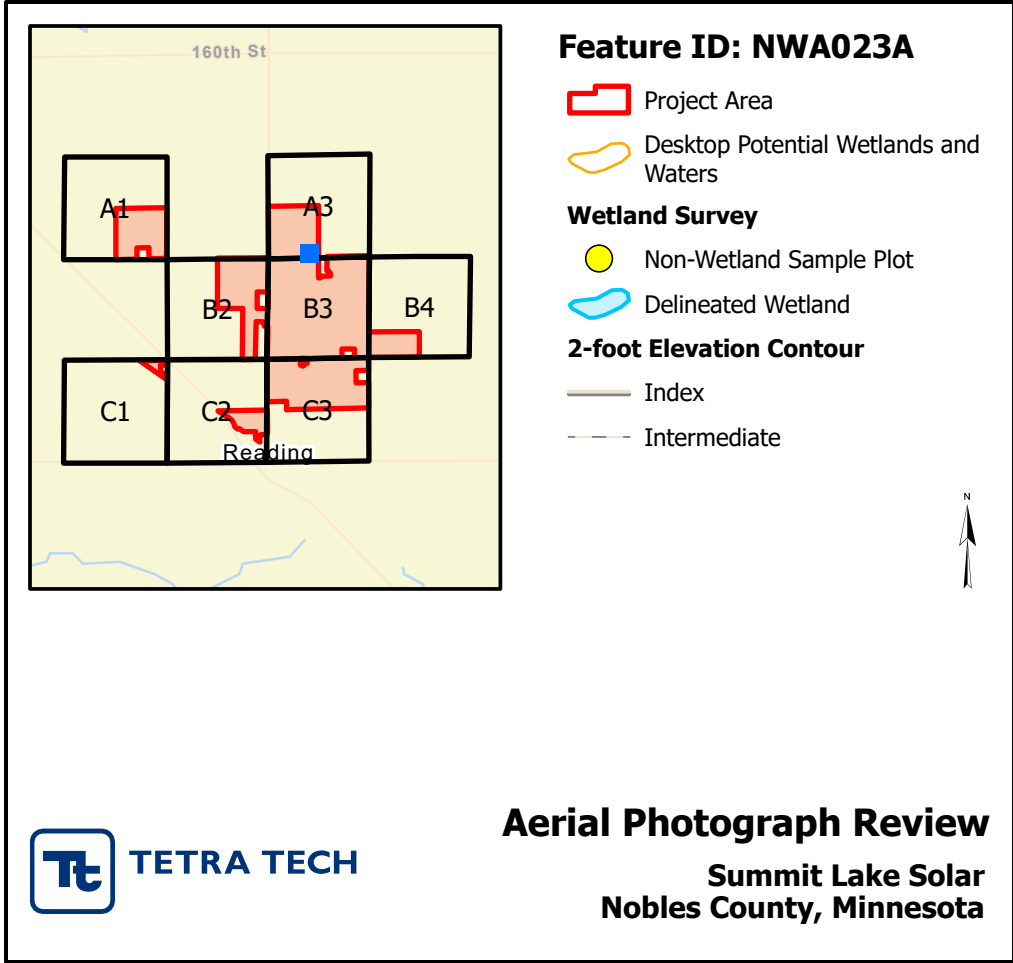
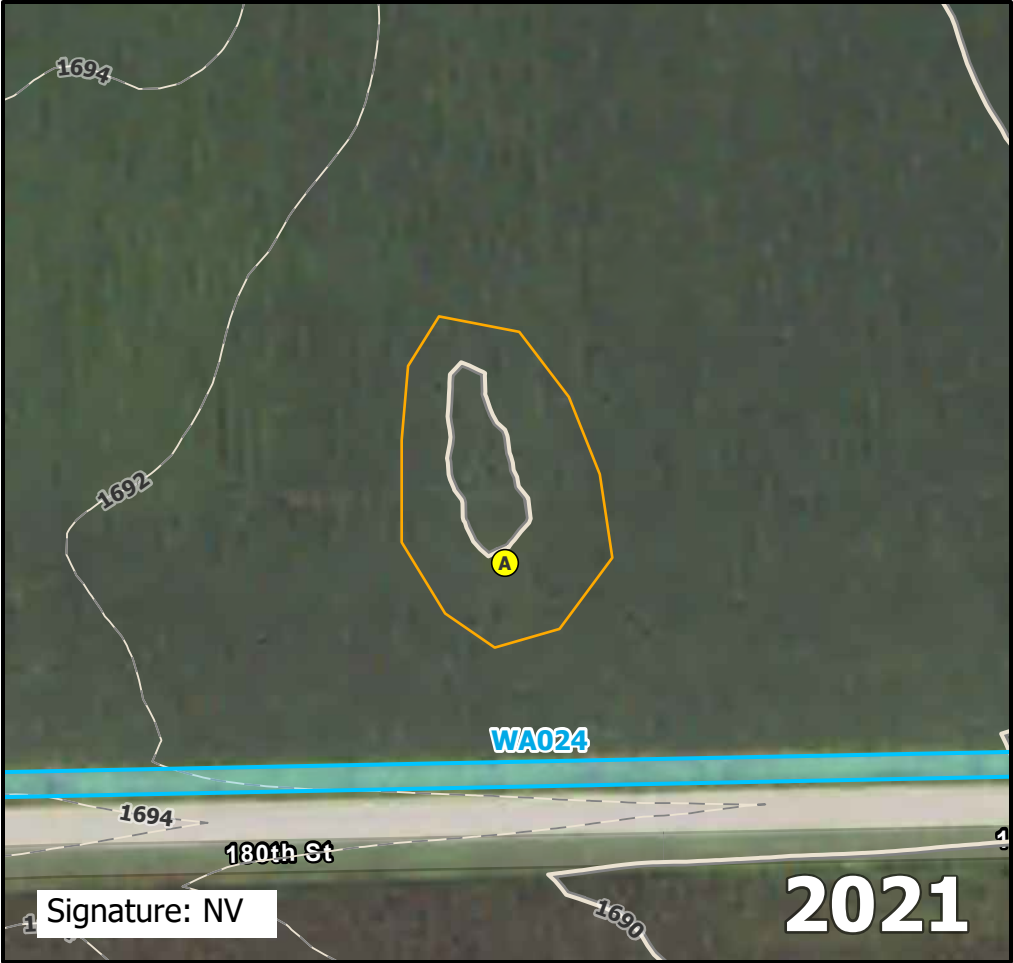
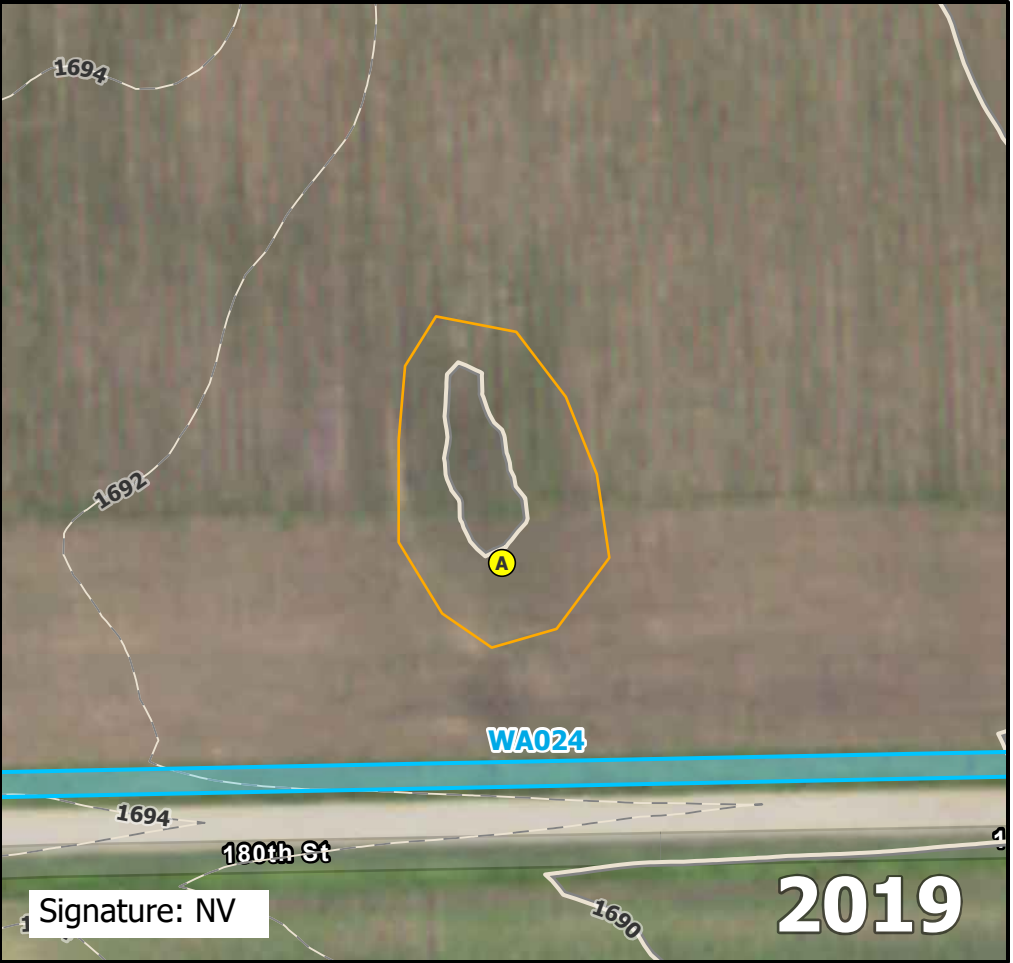
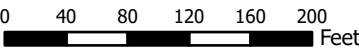
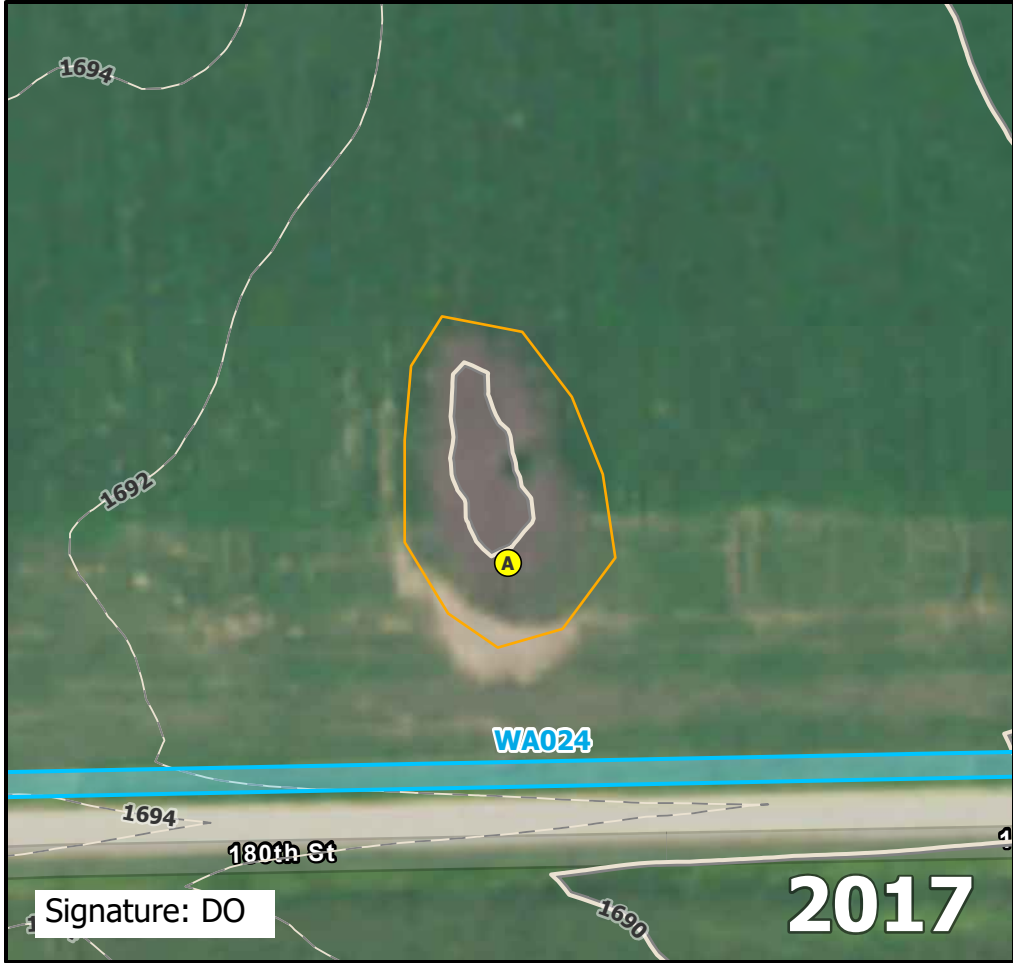
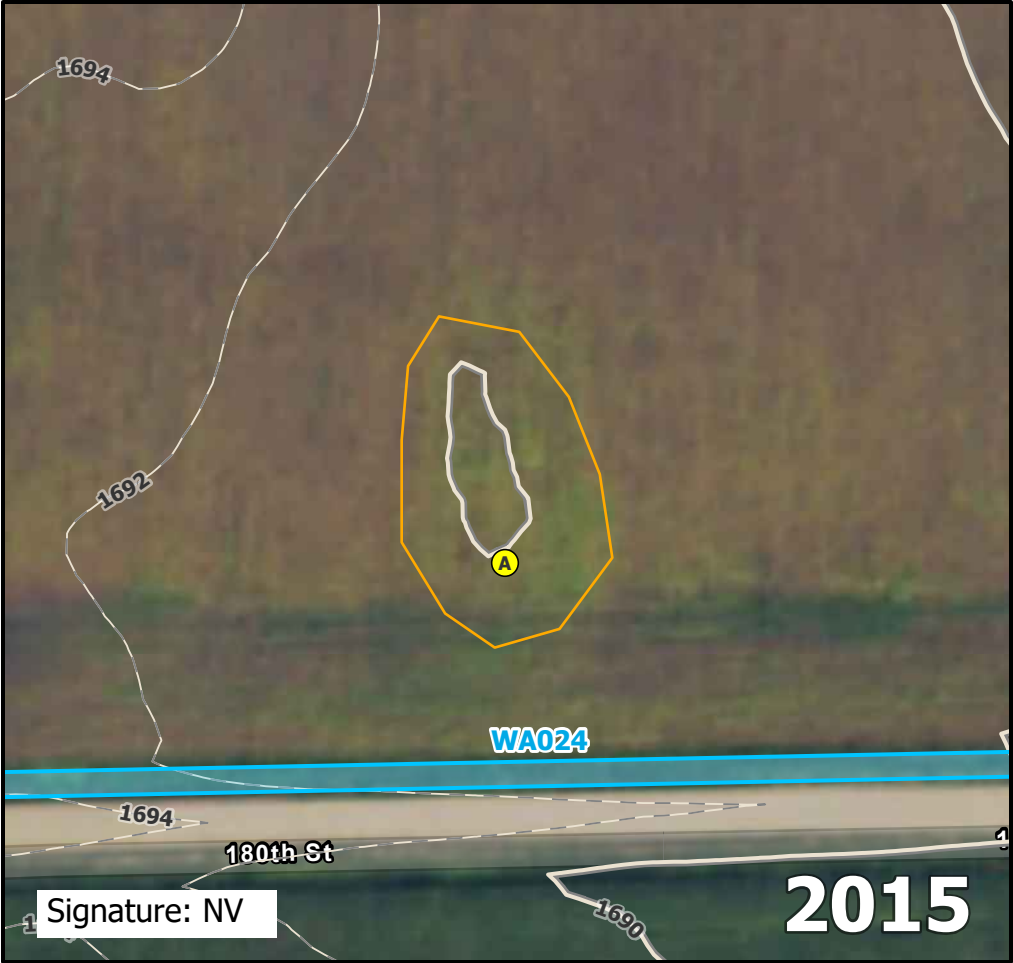
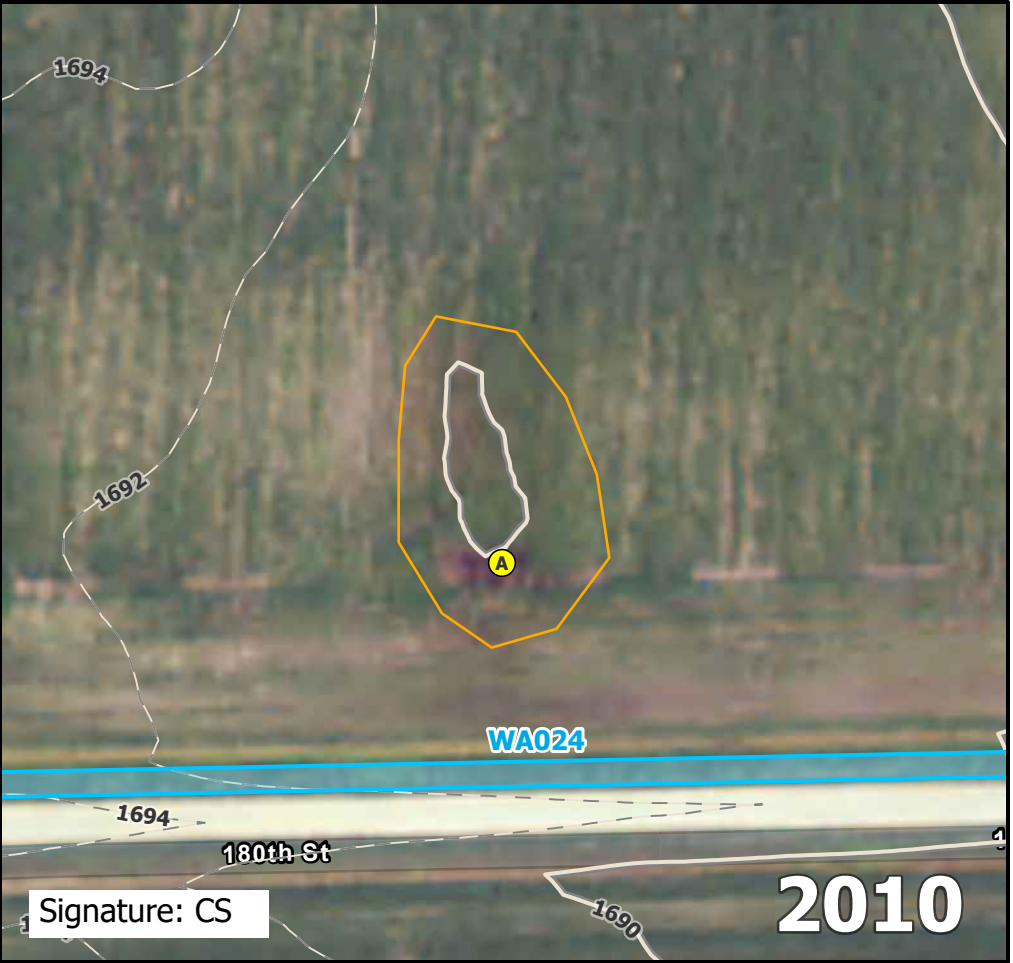
Remarks:



Overview of upland sample point NWA023A.

Direction: North	Photo ID: delin_photo-20221011-180636.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar	Feature ID: NWA023	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA025

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/11/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA025A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.10 T103N R41W		
Landform (hillslope, terrace, etc.):	Swale	Local relief (concave, convex, none):	Concave		
Slope (%):	1	Lat:	43.73833	Long:	-95.73362
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation _____, soil _____, or hydrology _____ naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	
Hydric Soil Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>No</u>
Wetland Hydrology Present?	<u>No</u>	If yes, optional wetland site ID: _____
Remarks: Recently harvested agricultural field.		

		Absolute	Dominant	Indicator	Dominance Test Worksheet	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status		
1. _____					Number of Dominant Species that are OBL, FACW, or FAC: _____ 0 (A)	
2. _____					Total Number of Dominant Species Across All Strata: _____ 0 (B)	
3. _____					Percent of Dominant Species that are OBL, FACW, or FAC: _____ % (A/B)	
4. _____						
5. _____						
				_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)				Prevalence Index Worksheet	
1. _____					Total % Cover of: _____	Multiply by: _____
2. _____					OBL species _____ x 1 = _____	
3. _____					FACW species _____ x 2 = _____	
4. _____					FAC species _____ x 3 = _____	
5. _____					FACU species _____ x 4 = _____	
				_____ =Total Cover	UPL species _____ x 5 = _____	
Herb Stratum	(Plot size: _____)				Column totals _____ (A) _____ (B)	
1. _____					Prevalence Index = B/A = _____	
2. _____						
3. _____						
4. _____						
5. _____						
6. _____						
7. _____						
8. _____						
9. _____						
10. _____						
				_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. _____					_____ Rapid test for hydrophytic vegetation	
2. _____					_____ 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)	
				_____ =Total Cover		
					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
					Hydrophytic Vegetation Present?	
					No	

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA025A

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**		
0-18	10YR 2/1	100					Clay Loam	
18-40	10YR 2/1	100					Silty Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

A12 assumed

HYDROLOGY**Wetland Hydrology Indicators:**

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

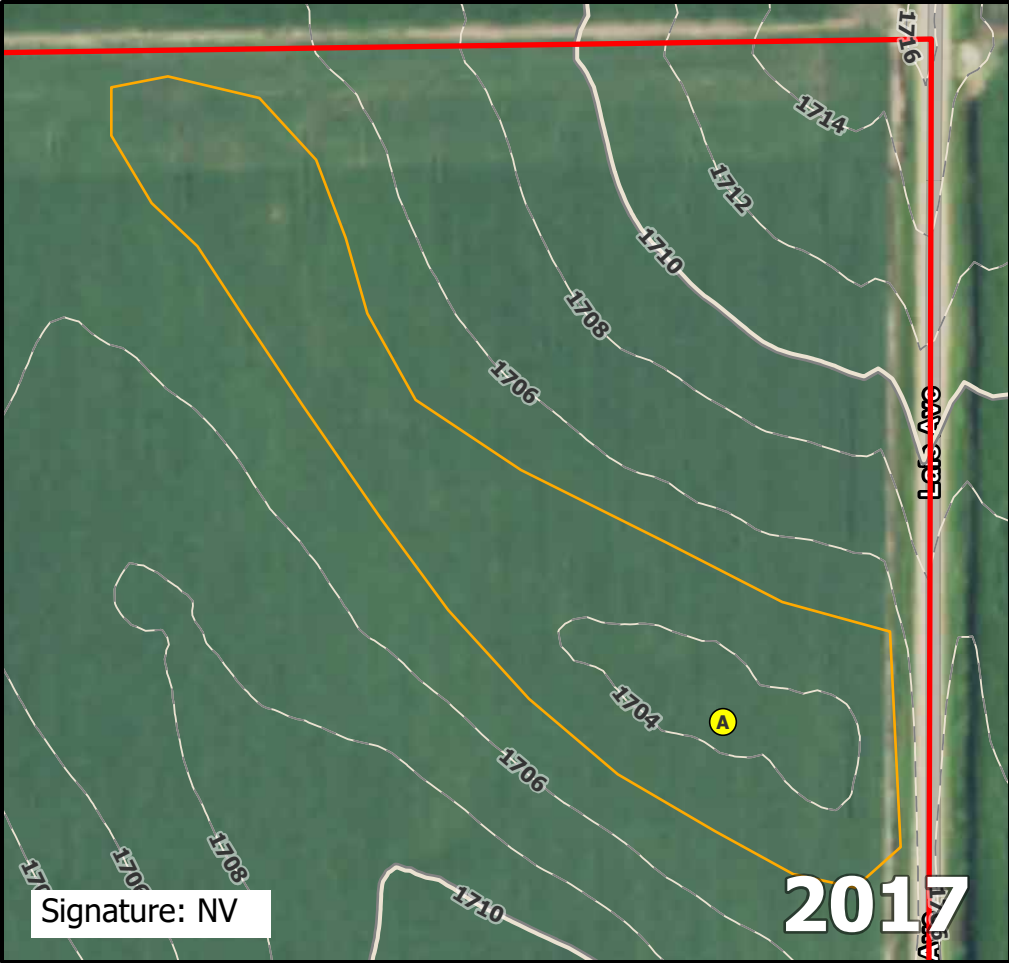
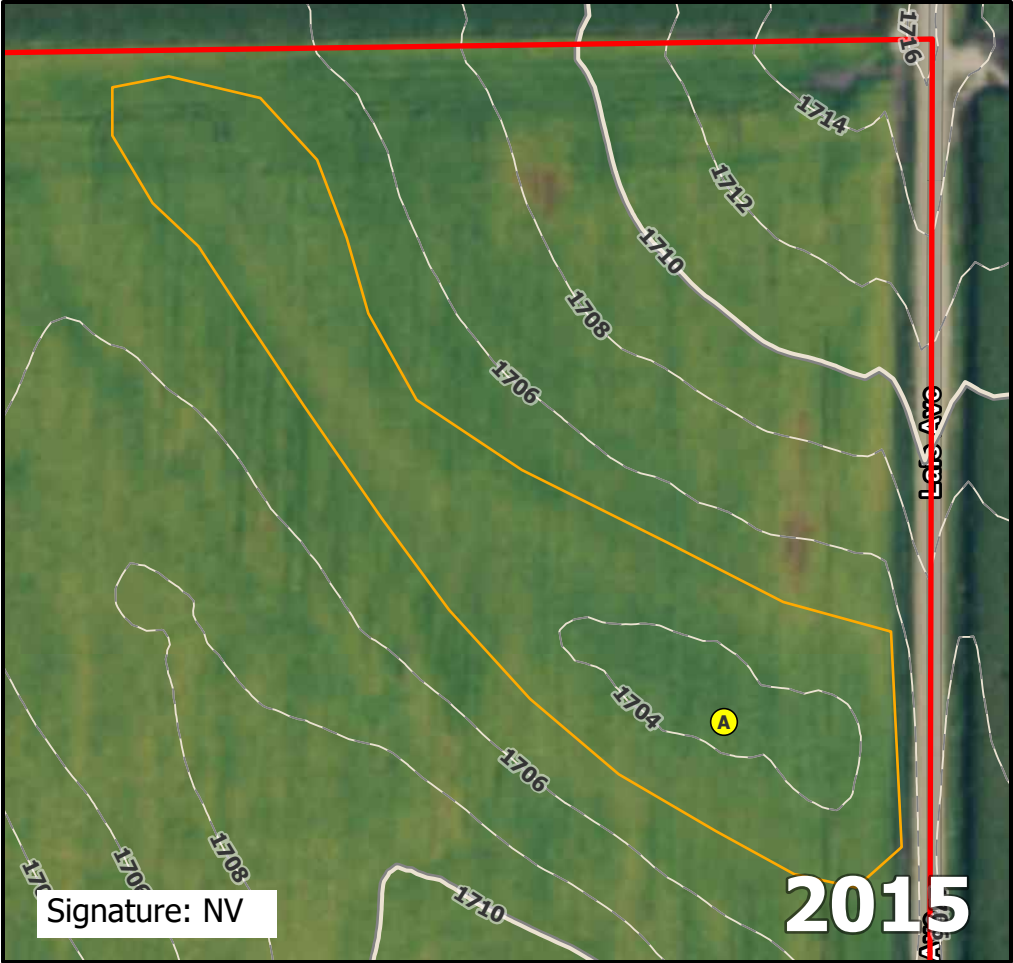
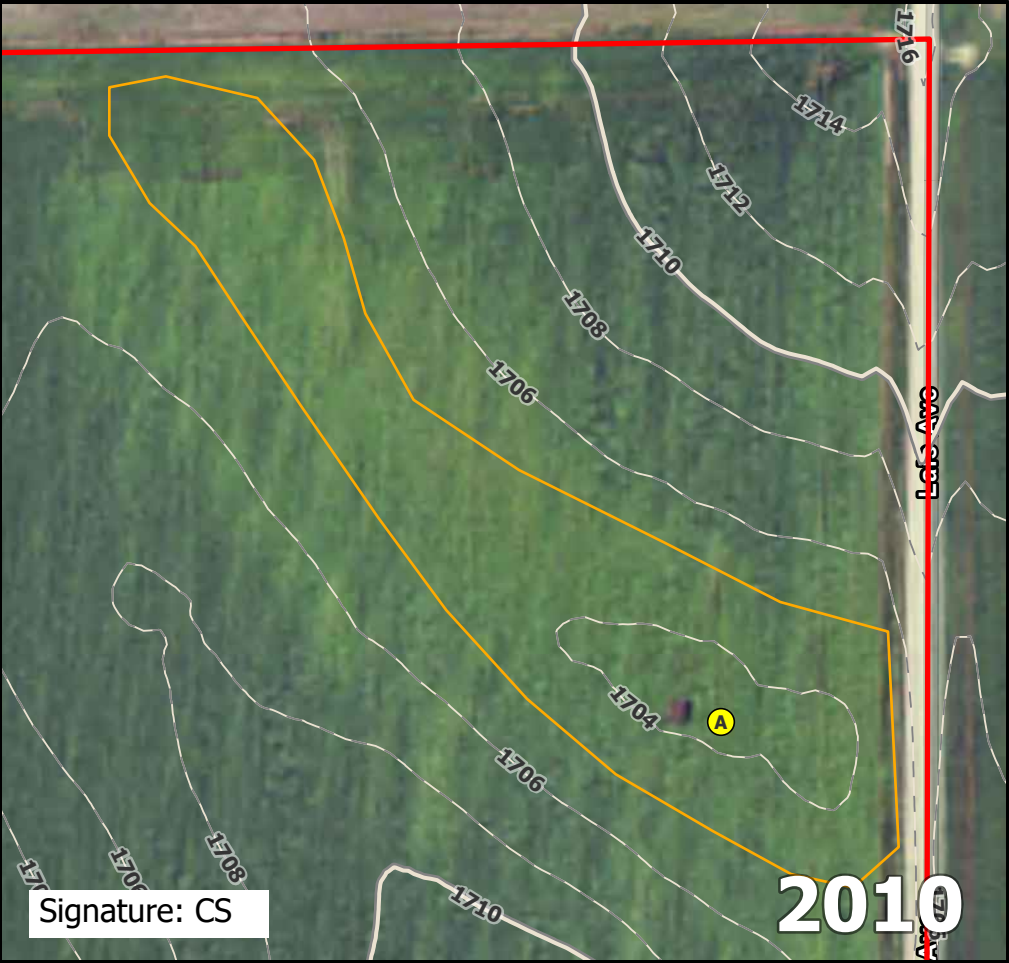
Remarks:



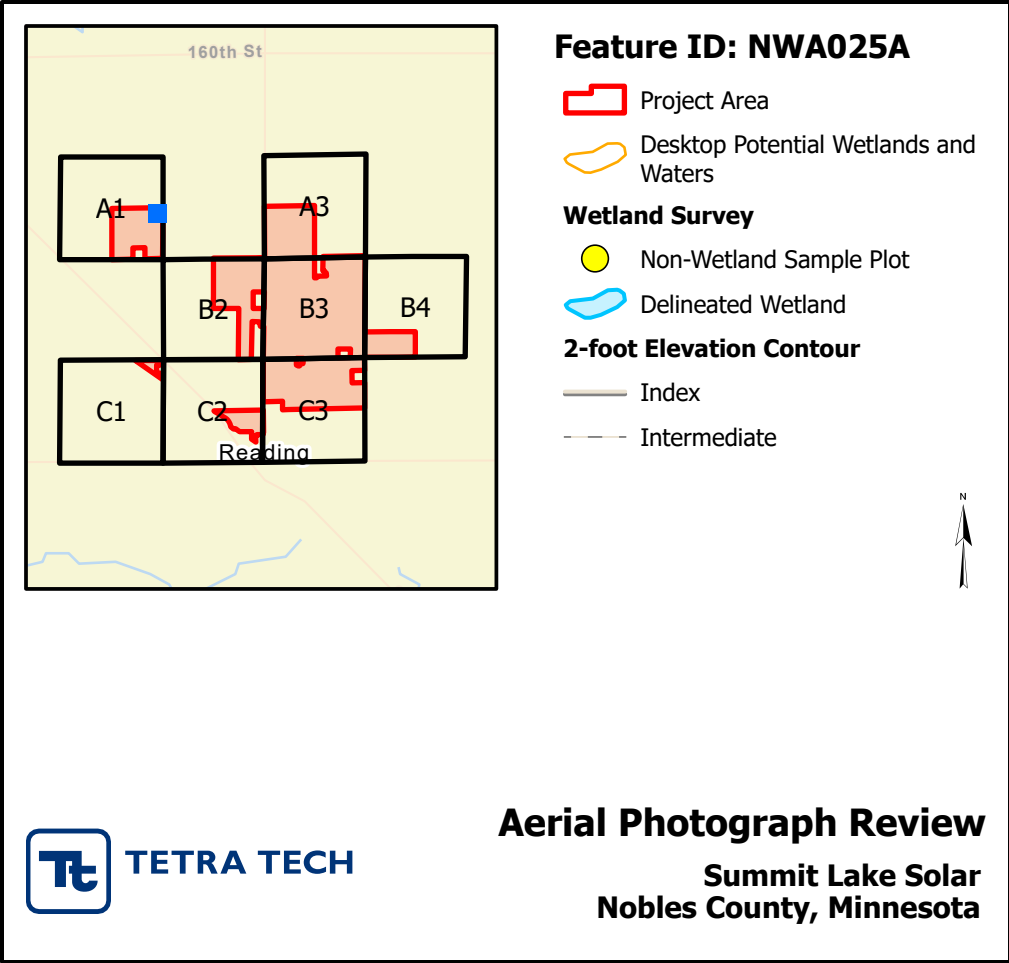
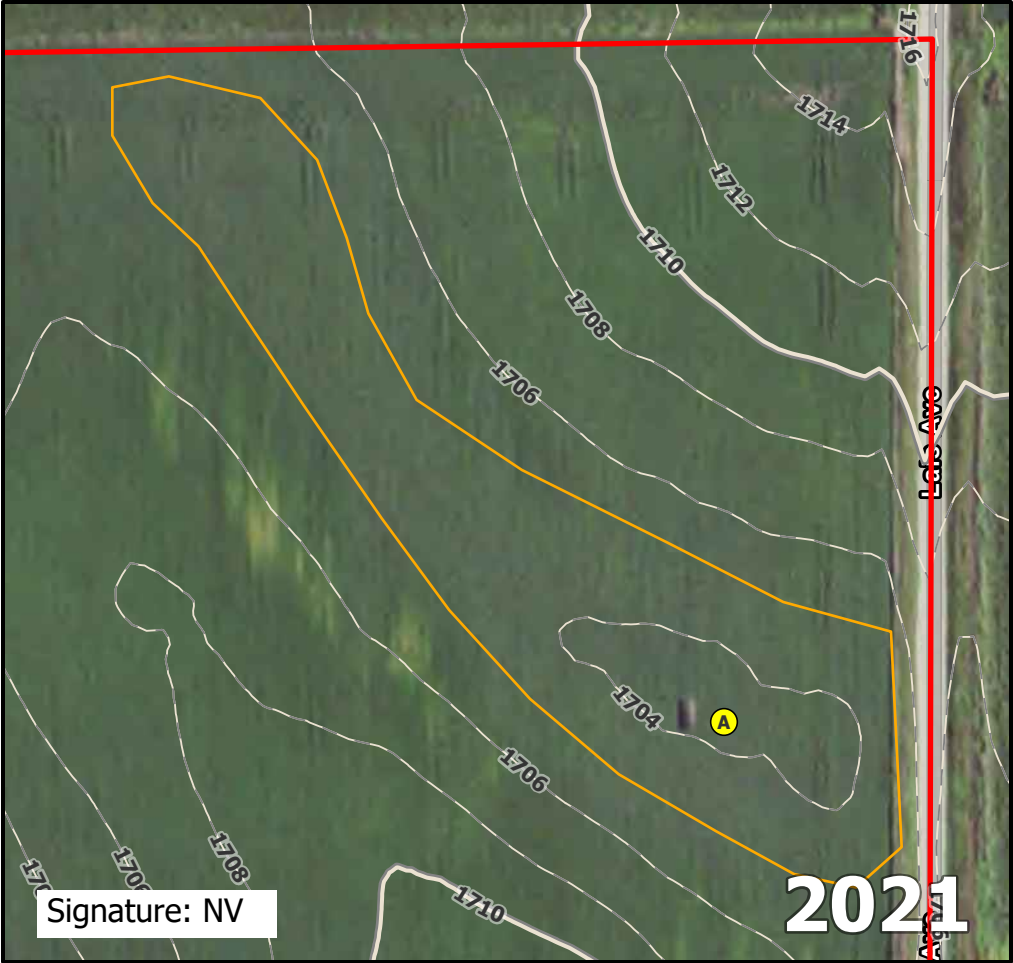
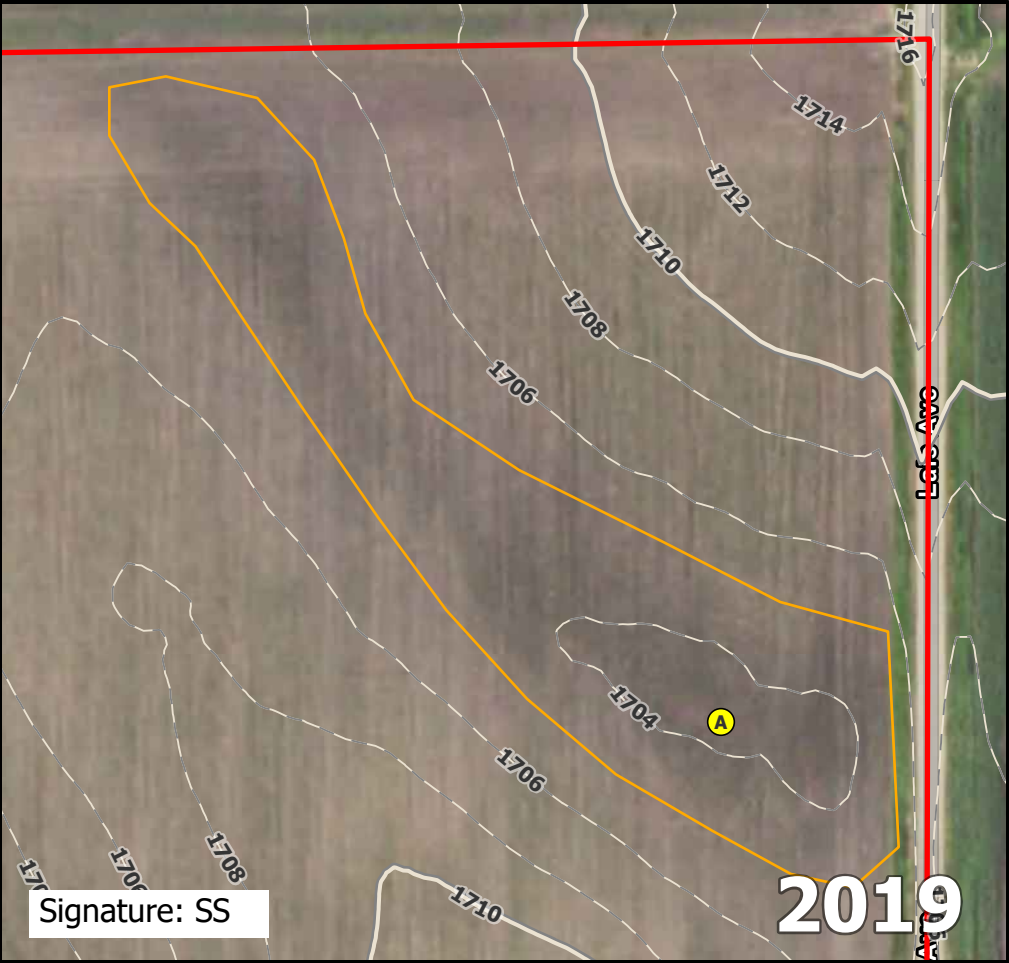
Overview of upland sample point NWA025A.

Direction: East	Photo ID: delin_photo-20221011-202141.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar	Feature ID: NWA025	

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



0 60 120 180 240 300 Feet



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:2,200

Non-Wetland ID

NWA026

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/11/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA026A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.10 T103N R41W		
Landform (hillslope, terrace, etc.):	Broad Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.73931	Long:	-95.74109
				Datum:	WGS84
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	
Hydric Soil Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Wetland Hydrology Present?	<u>No</u>	If yes, optional wetland site ID: _____
Remarks:		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

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?

No

Agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA026A

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**		
0-15	10YR 2/1	100					Clay Loam	
15-17	10YR 2/1	95	2.5Y 5/4	5	C	PL/M	Silty Clay	Distinct or Prominent
17-22	2.5Y 4/3	70	2.5Y 5/6	10	C	M	Clay Loam	
	10YR 2/1	20						Mixed Matrix
22-28	2.5Y 5/4	98	7.5YR 6/8	2	C	PL	Silty Clay	Distinct or Prominent

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

Hydric Soil Indicators:

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

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? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

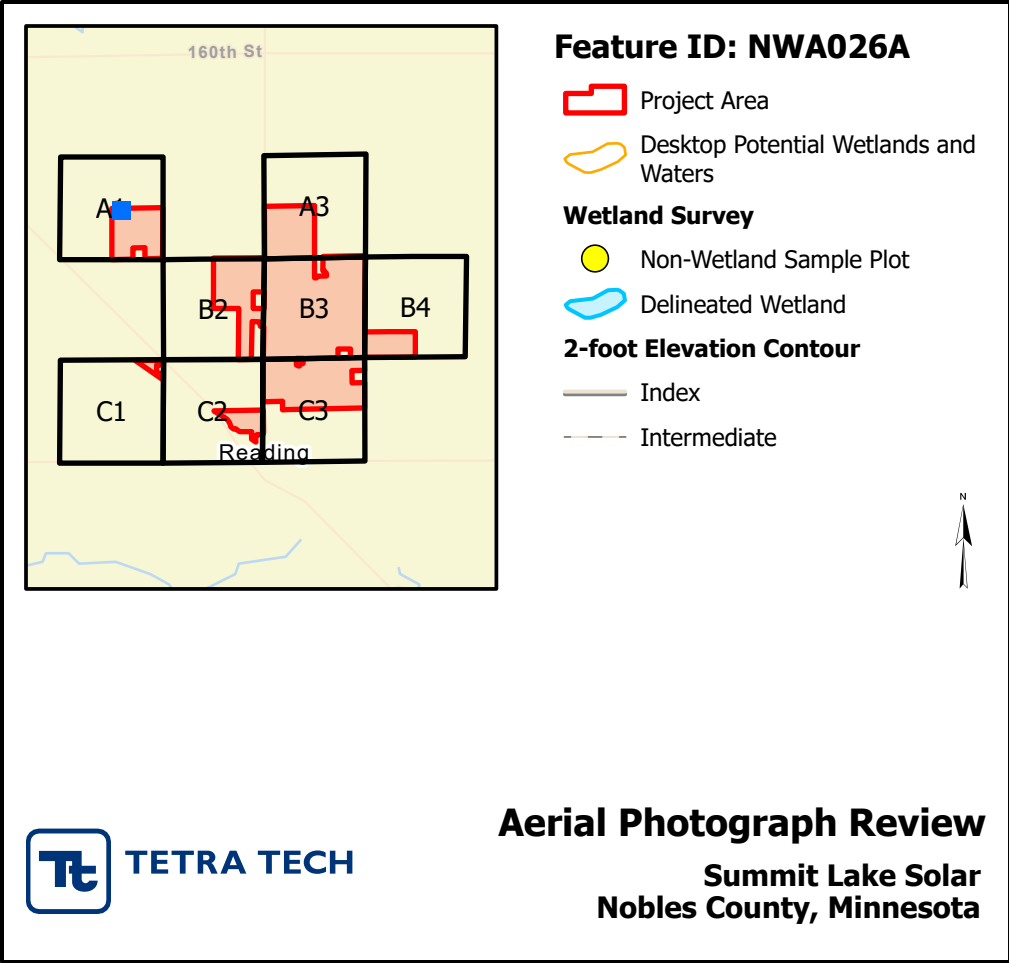
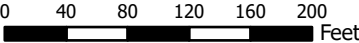
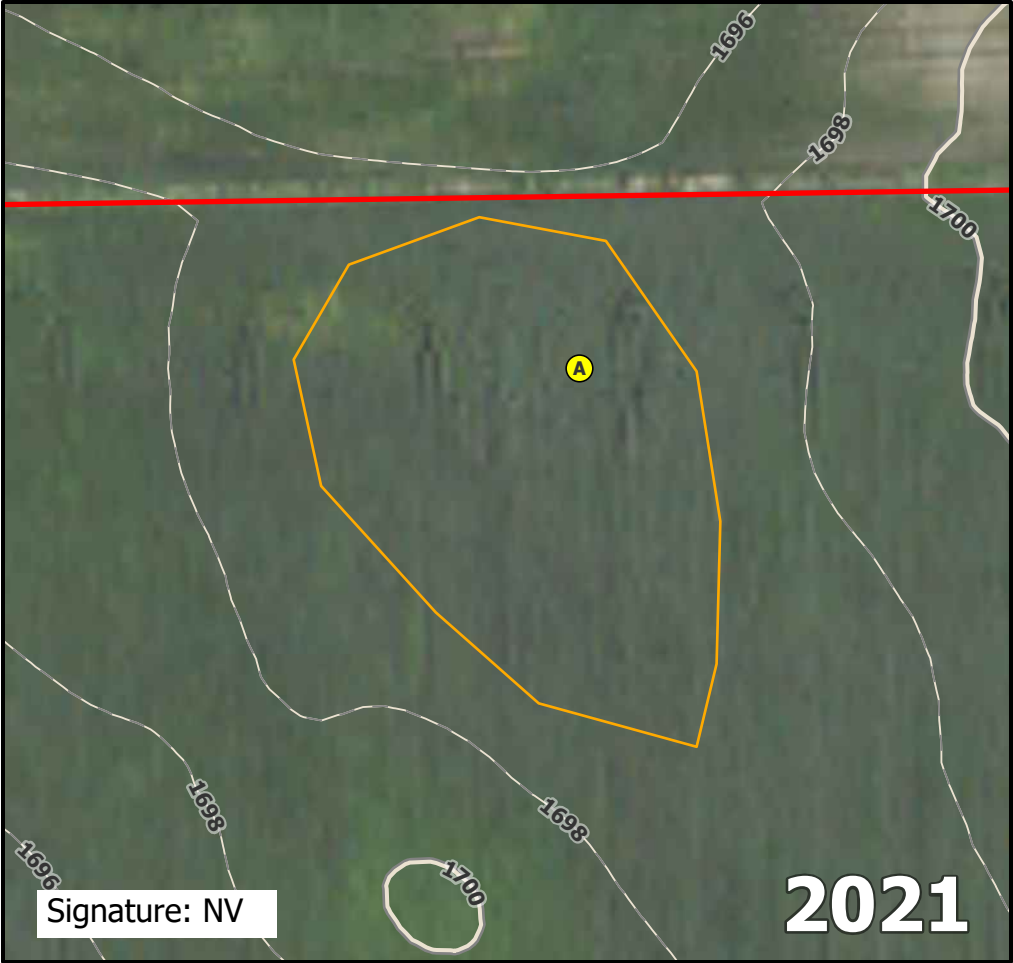
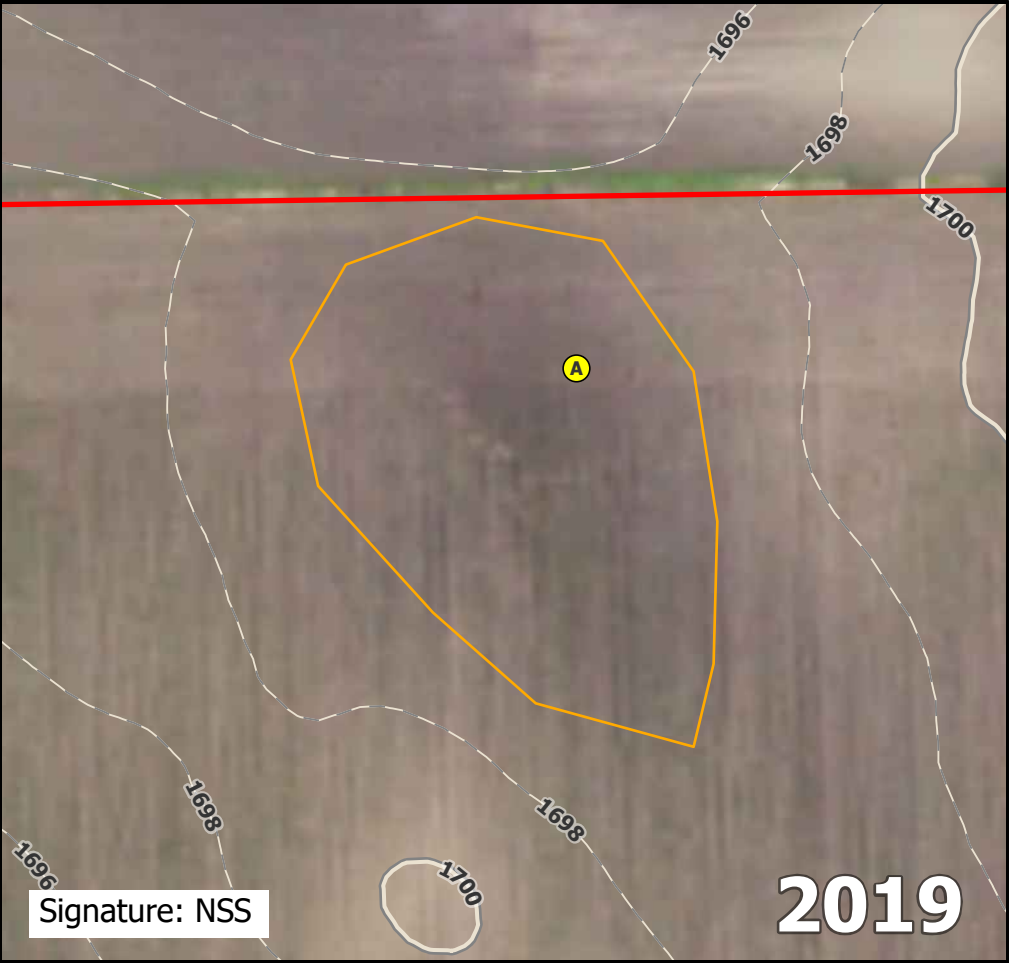
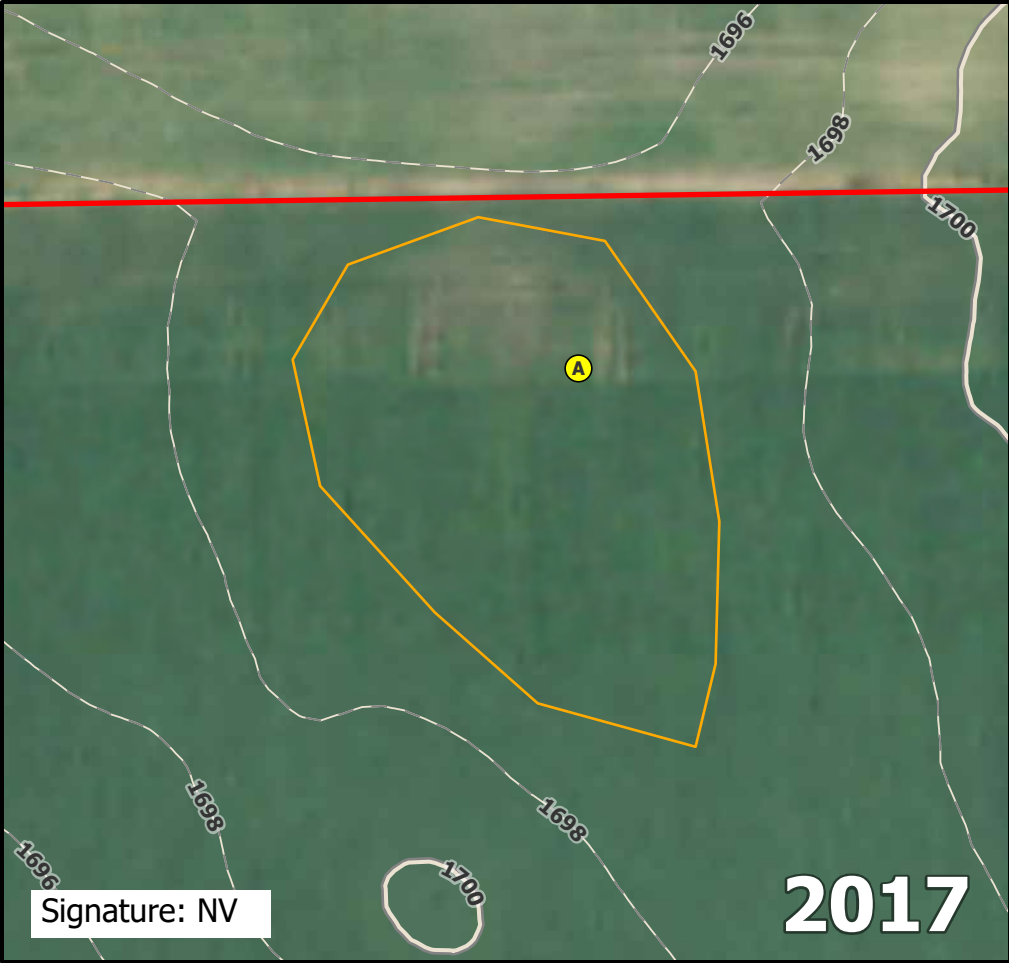
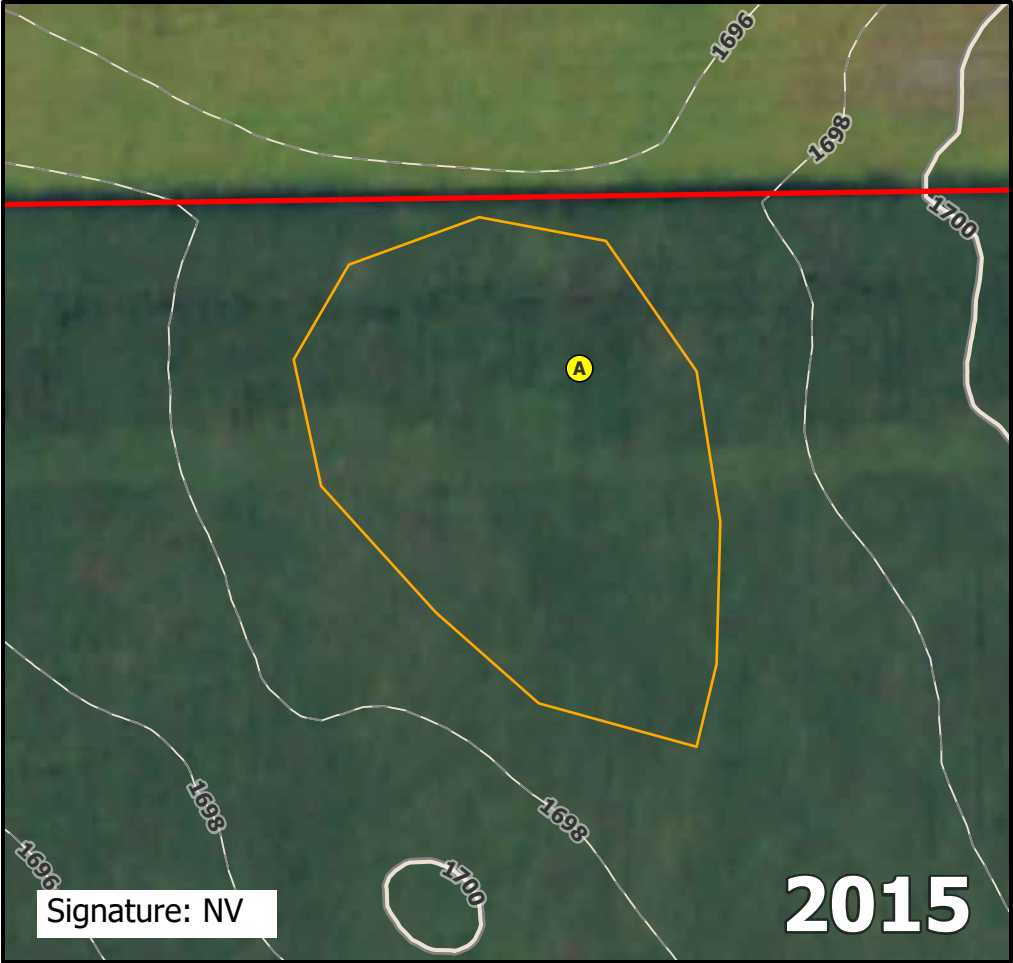
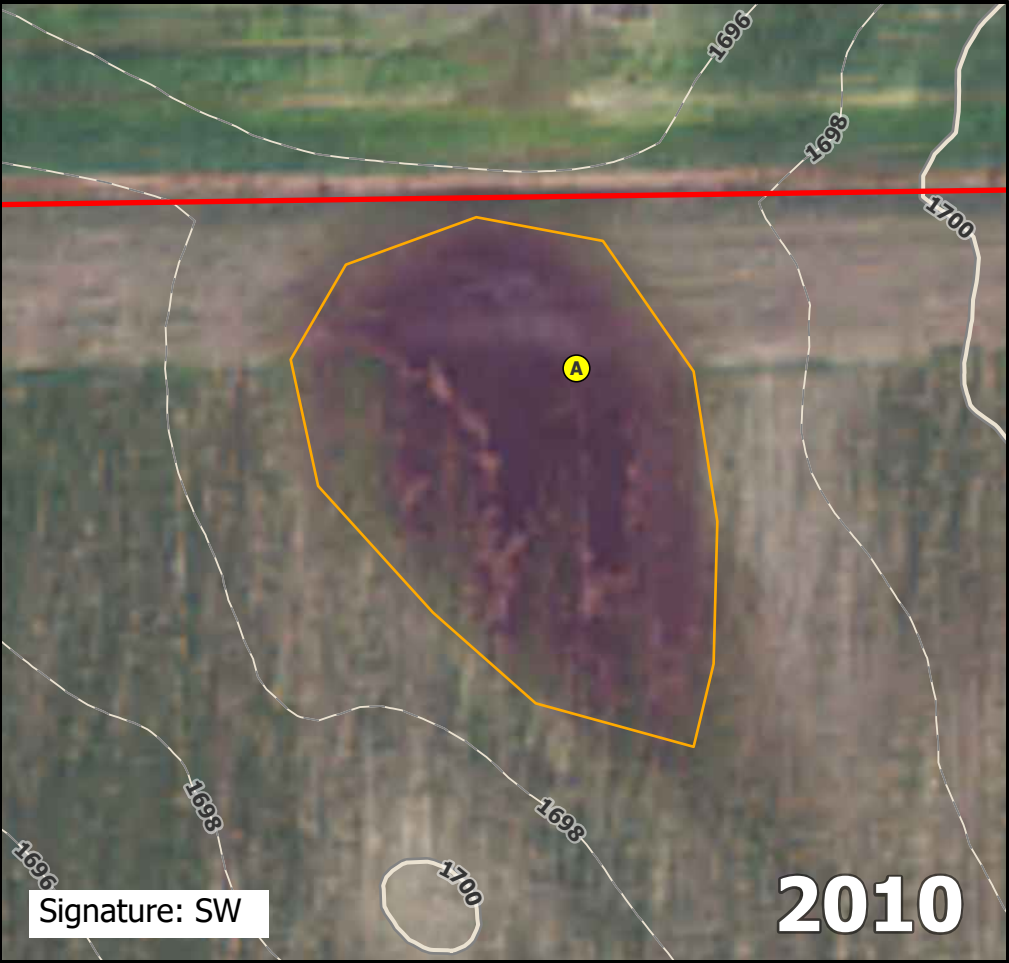
Remarks:



Overview of upland sample point NWA026A.

Direction: North	Photo ID: delin_photo-20221011-204909.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar	Feature ID: NWA026	

6/26/2023 5:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA027

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/11/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA027A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.10 T103N R41W		
Landform (hillslope, terrace, etc.):	Swale	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.73709	Long:	-95.74203
		Datum:	WGS84		
Soil Map Unit Name:	Canisteo clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1. _____				
2. _____				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 = _____

FACW species x 2 = _____

FAC species x 3 = _____

FACU species x 4 = _____

UPL species x 5 = _____

Column totals (A) (B)

Prevalence Index = B/A = _____

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?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA027A

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**		
0-40	10YR 2/1	100					Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

A12 assumed

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

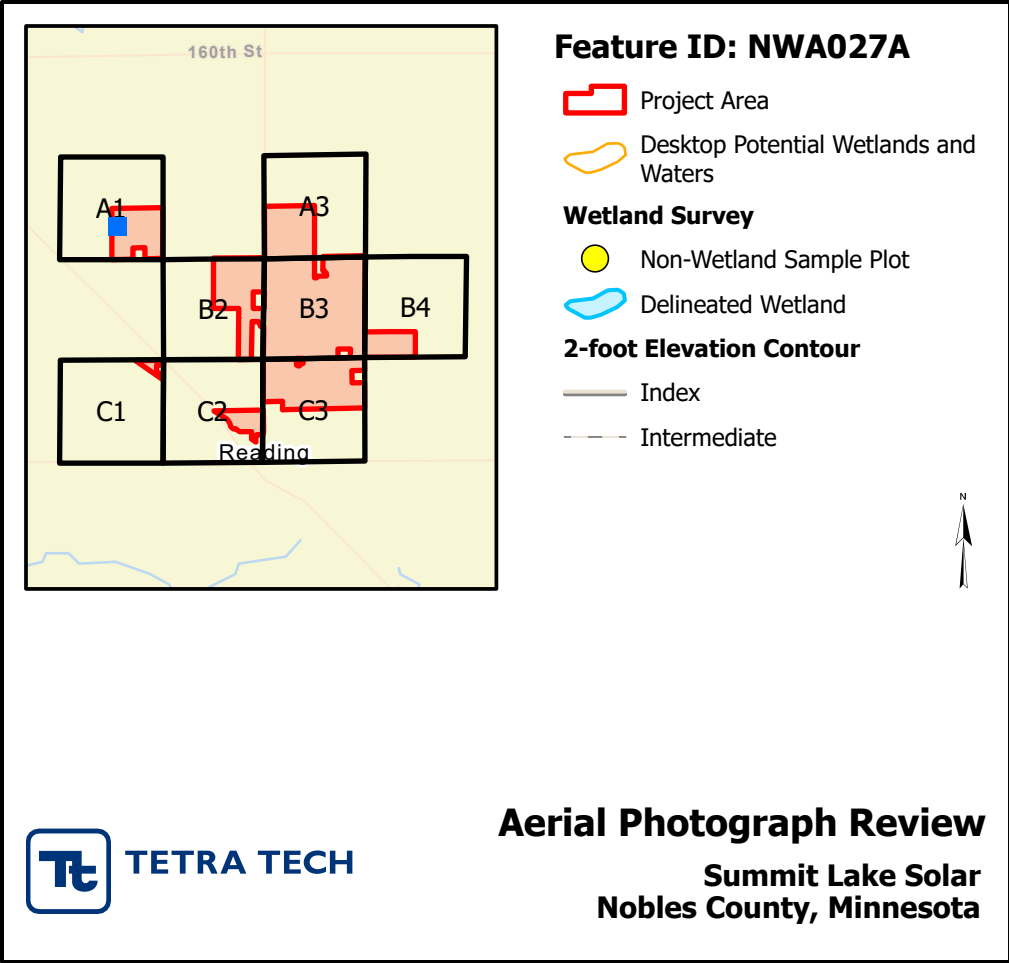
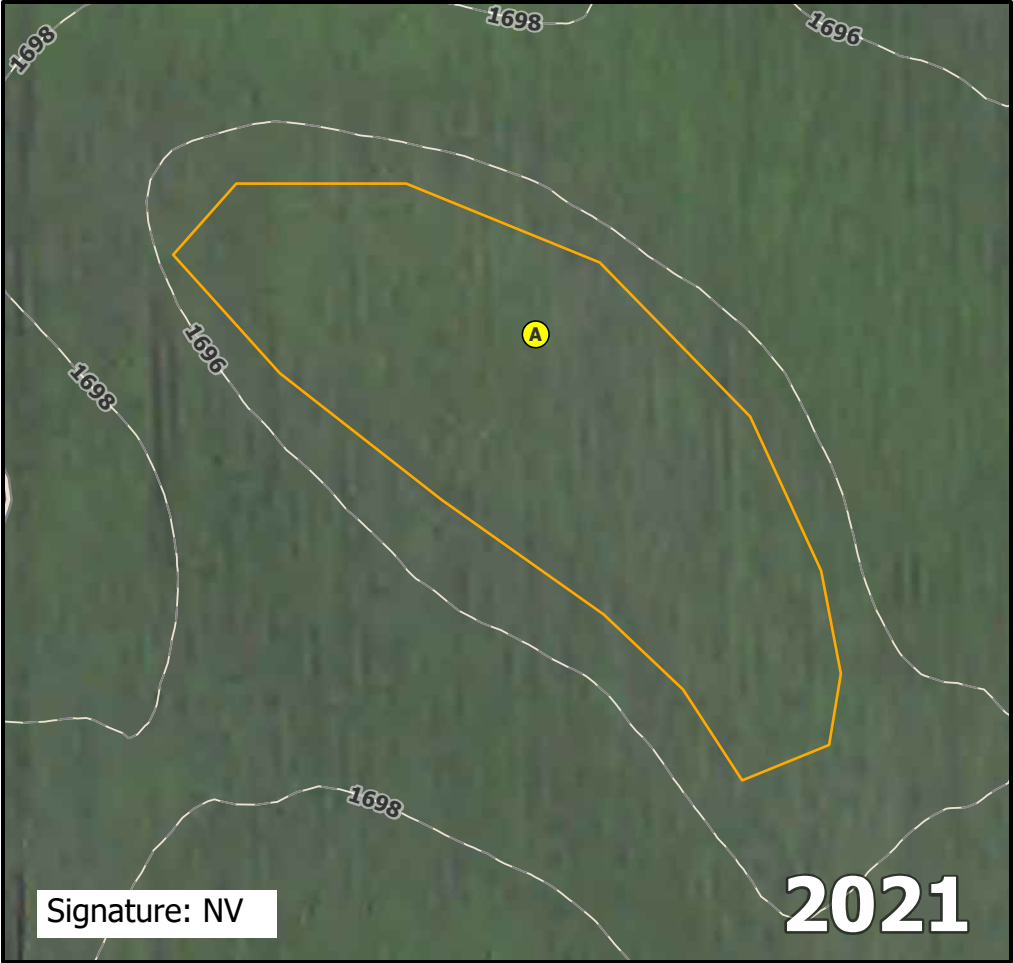
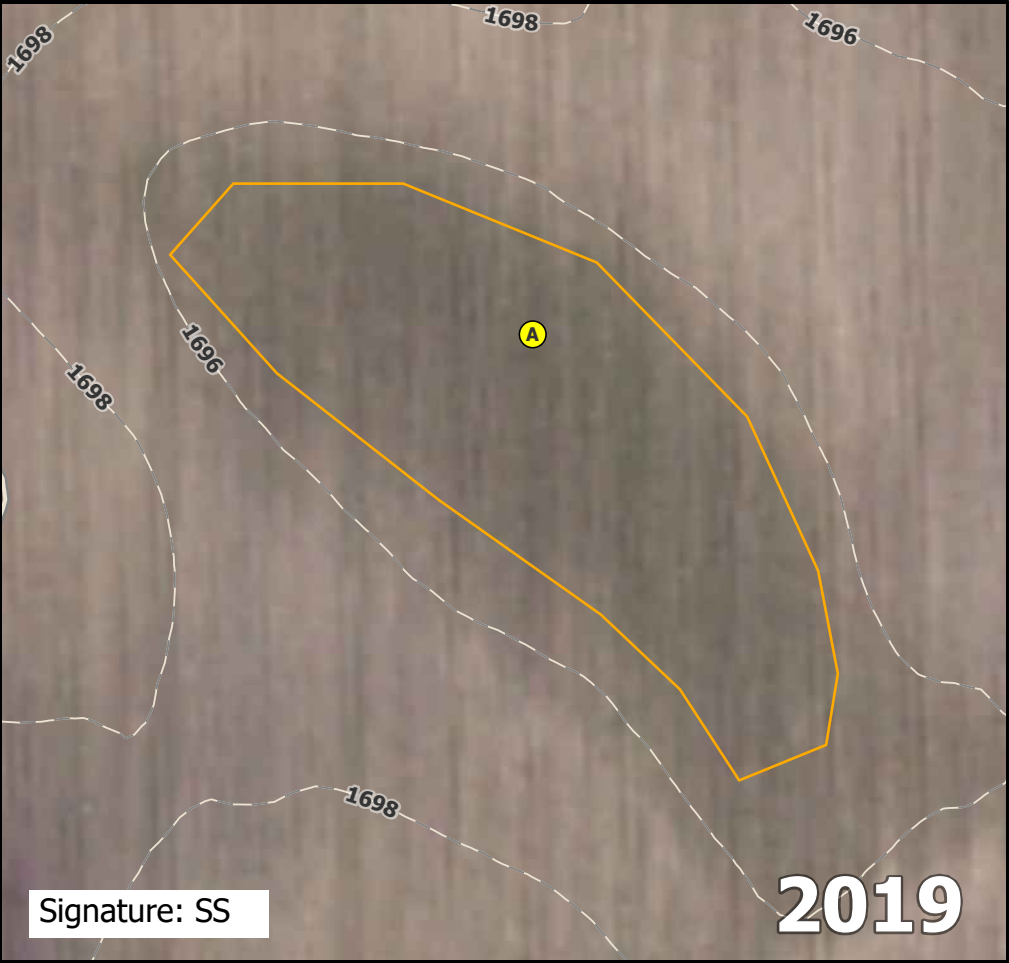
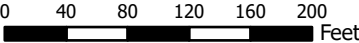
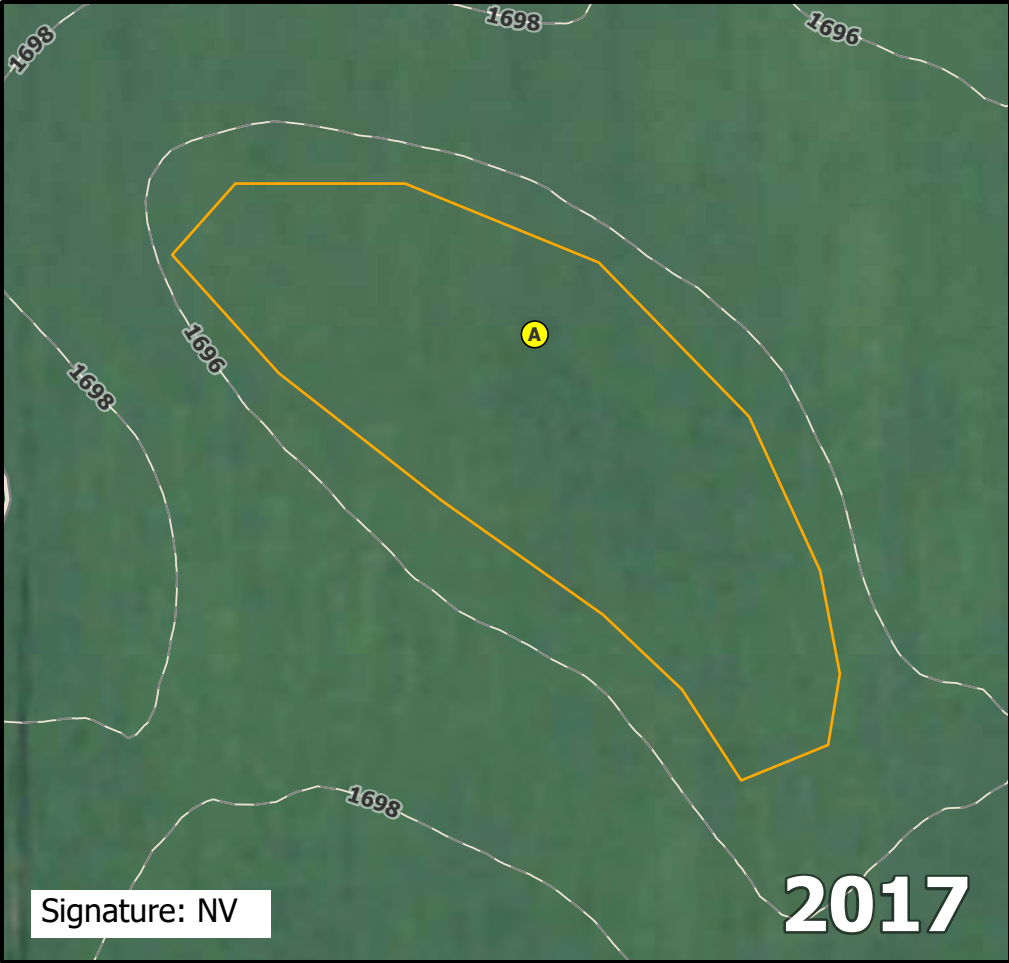
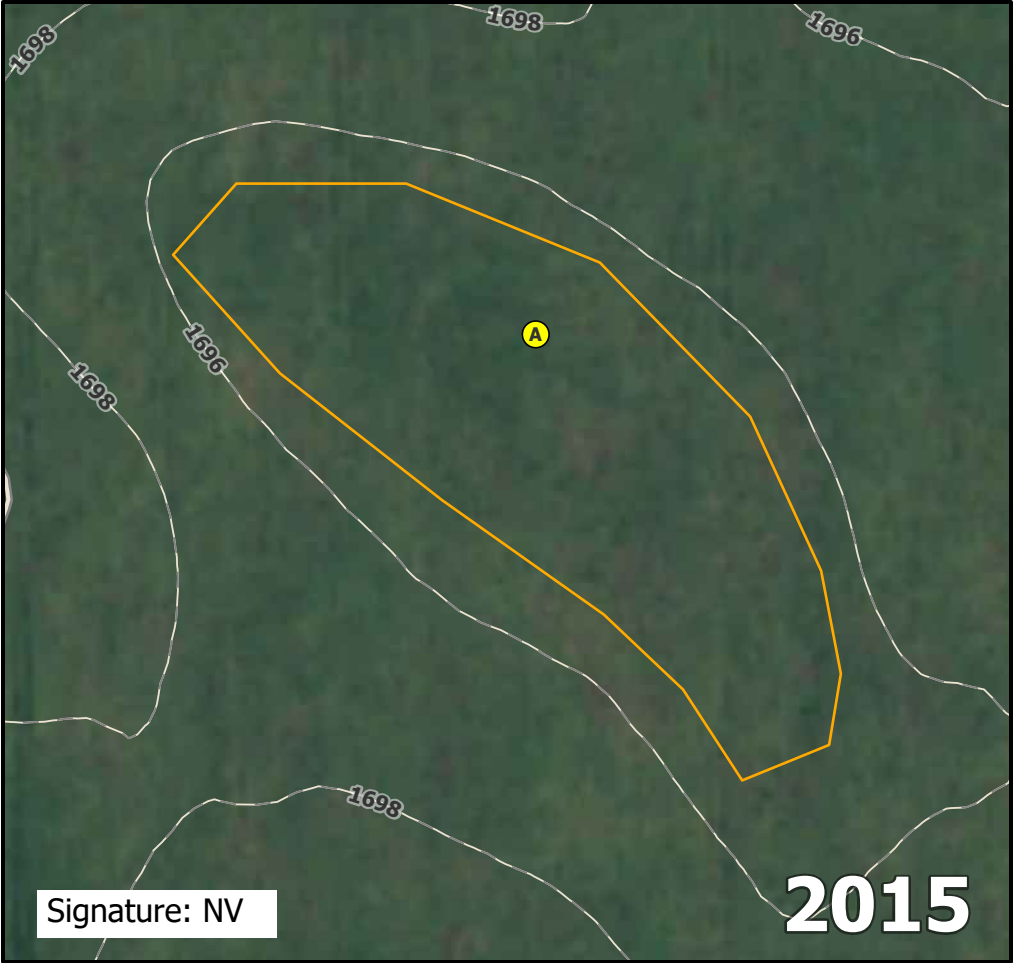
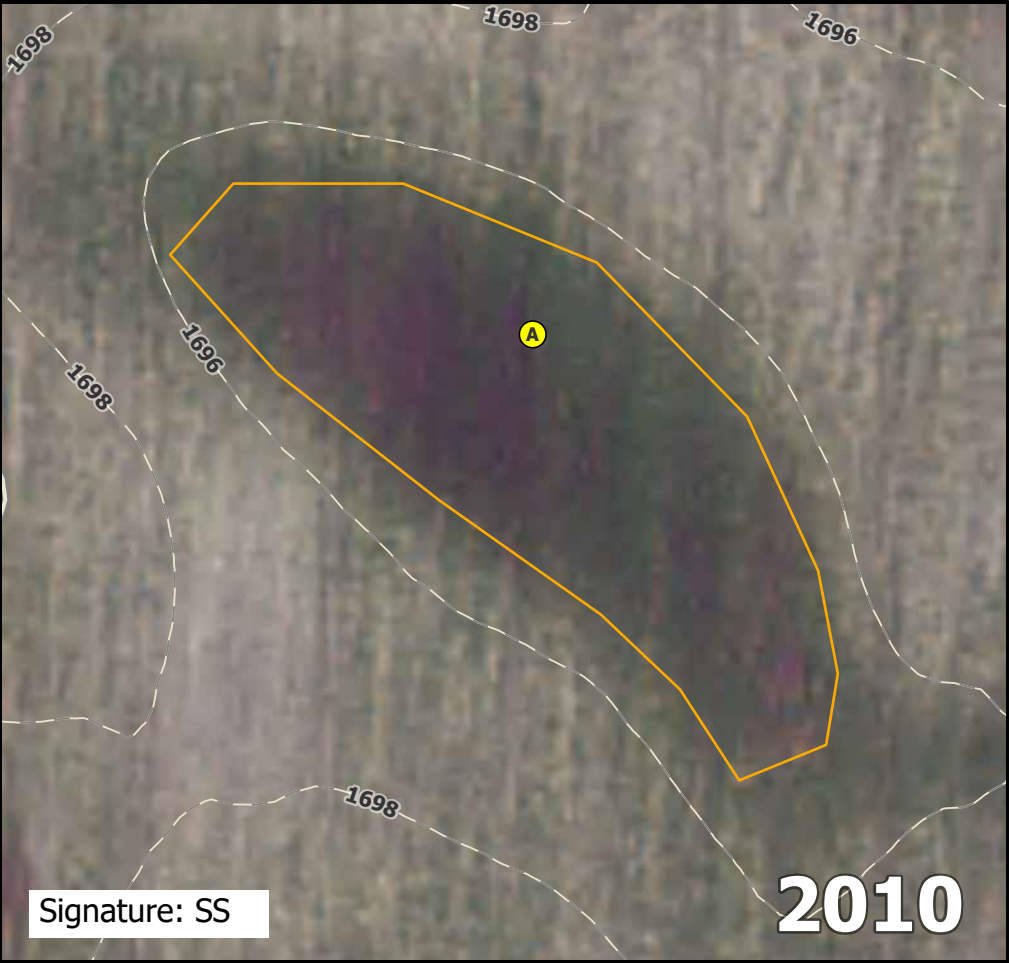
Geomorphic position is very weak.



Overview of upland sample point NWA027A.

Direction: Northwest	Photo ID: delin_photo-20221011-211100.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar	Feature ID: NWA027	

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathybellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA028

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/11/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA028A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.10 T103N R41W		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.73638	Long:	-95.74302
				Datum:	WGS84
Soil Map Unit Name:	Canisteo clay loam, 0 to 2 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1. _____				
2. _____				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species
that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant
Species Across All Strata: 0 (B)

Percent of Dominant Species
that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

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?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA028A

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**		
0-33	10YR 2/1	100					Clay Loam	
33-38	10YR 2/1	100					Silty Clay	
38-40	2.5Y 3/2	100					Silty Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

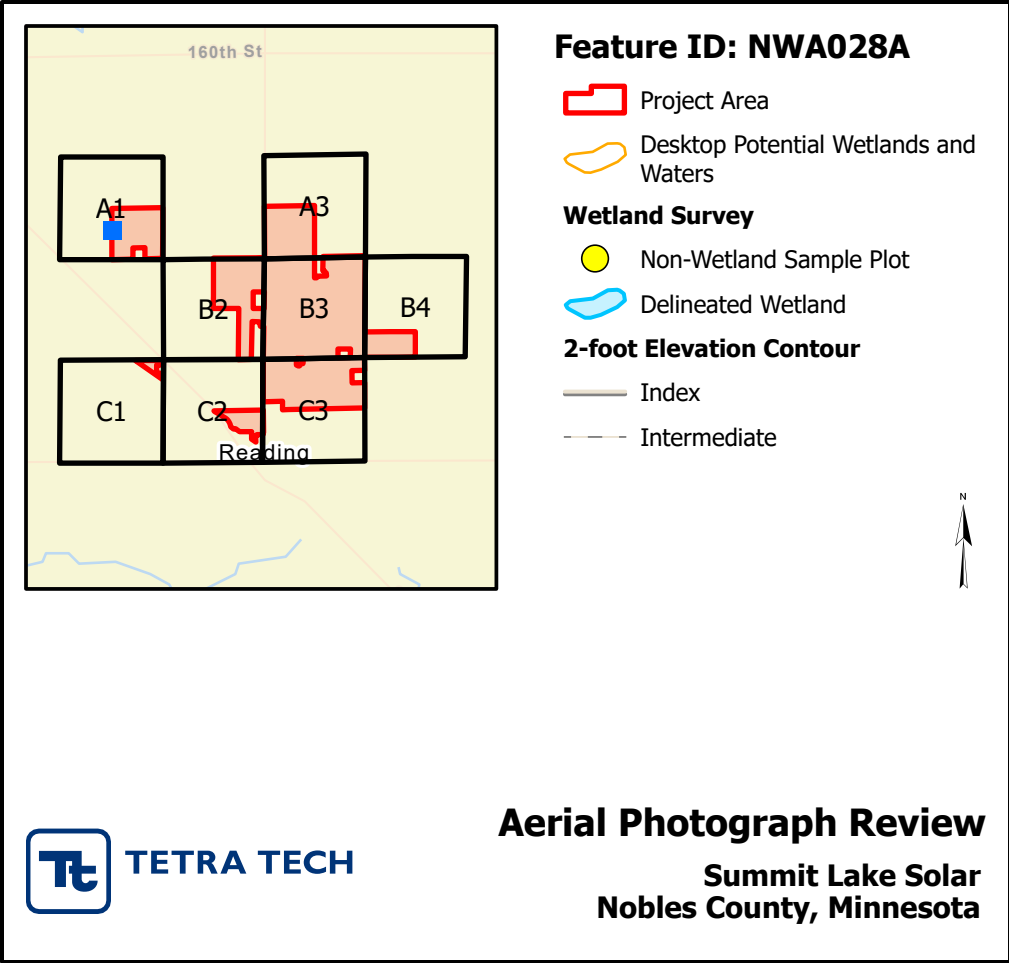
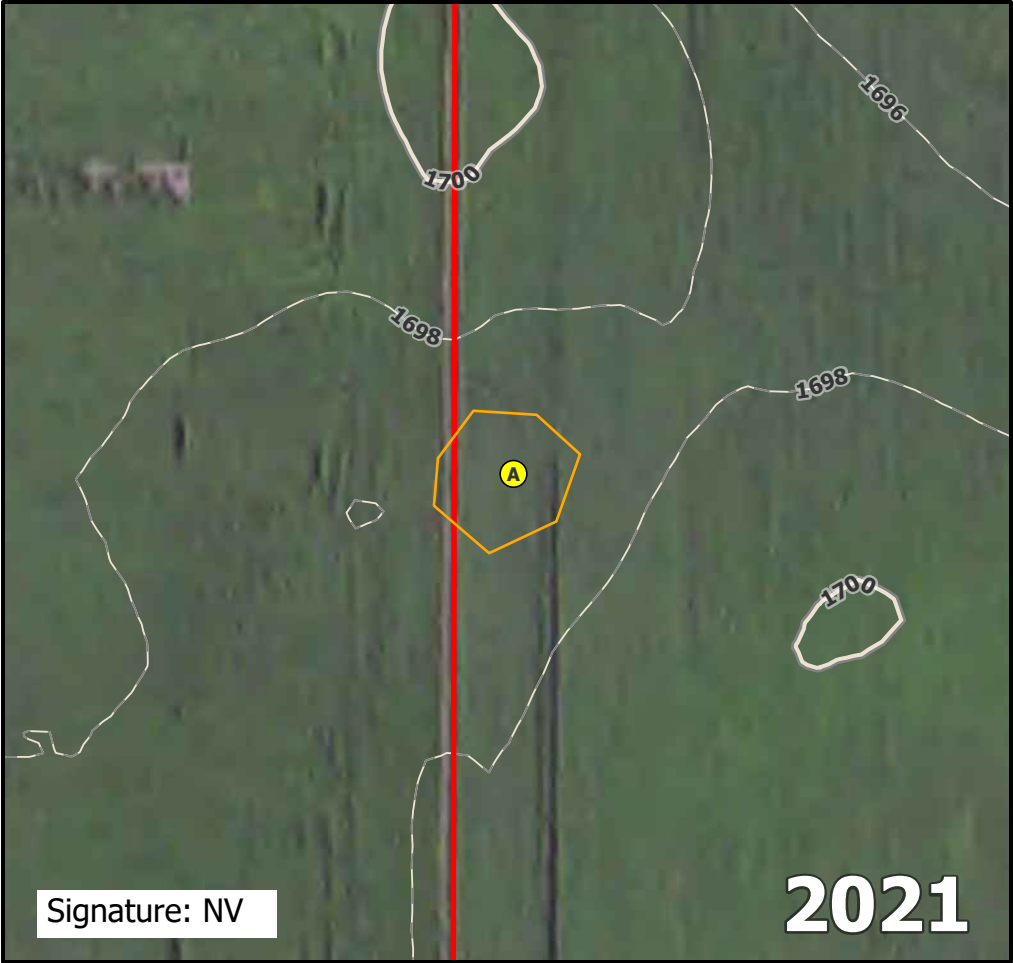
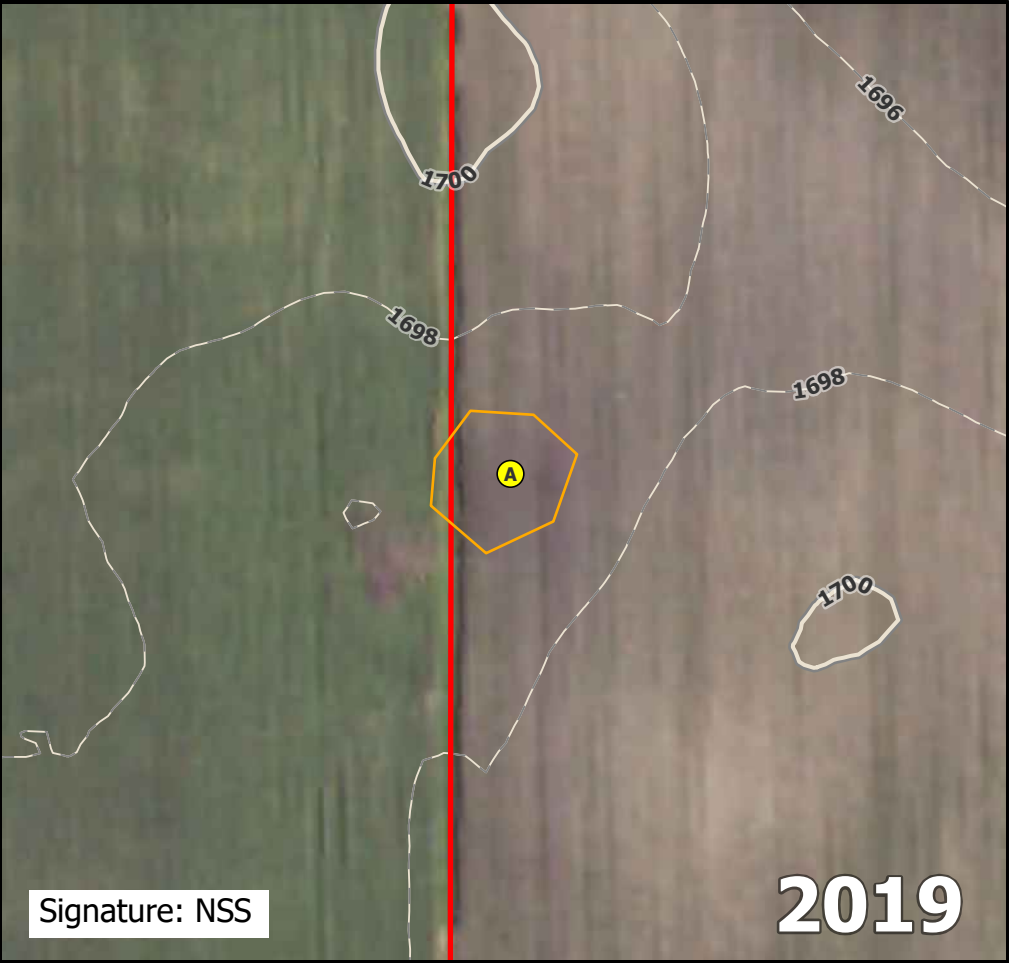
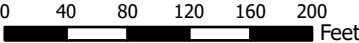
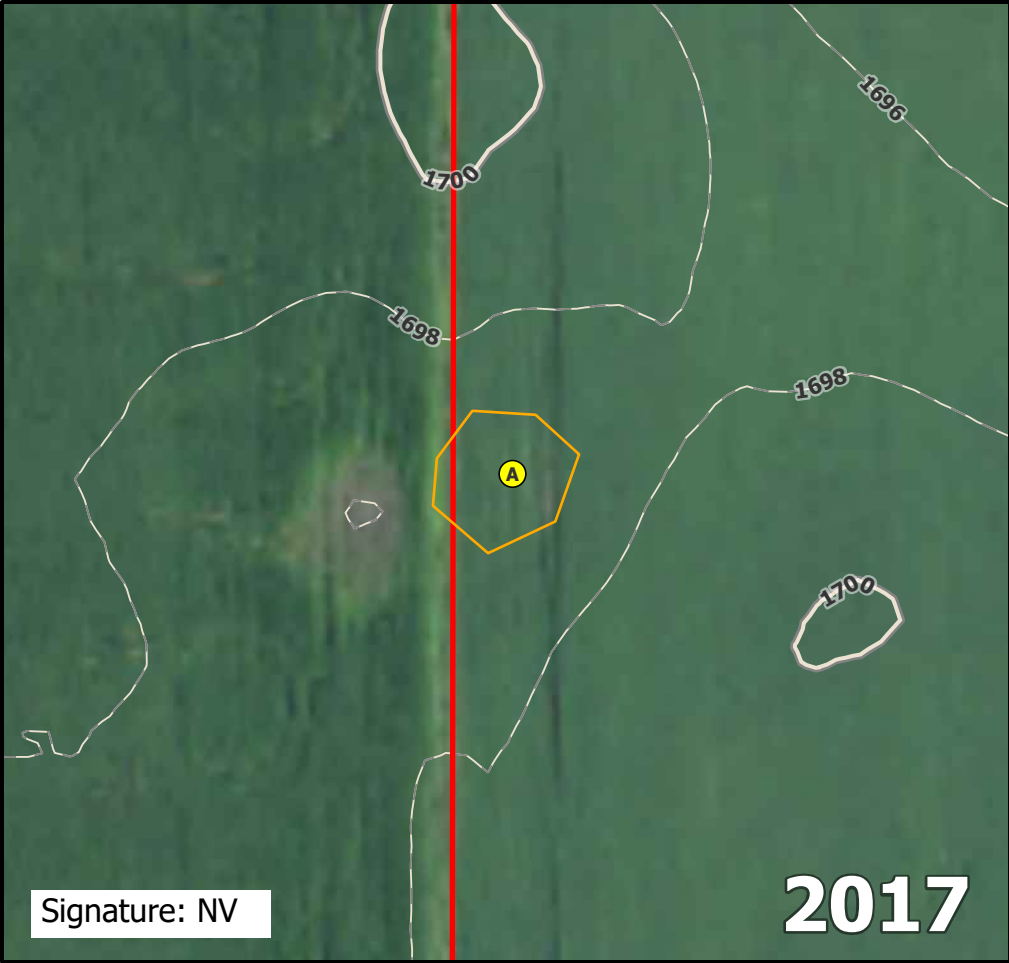
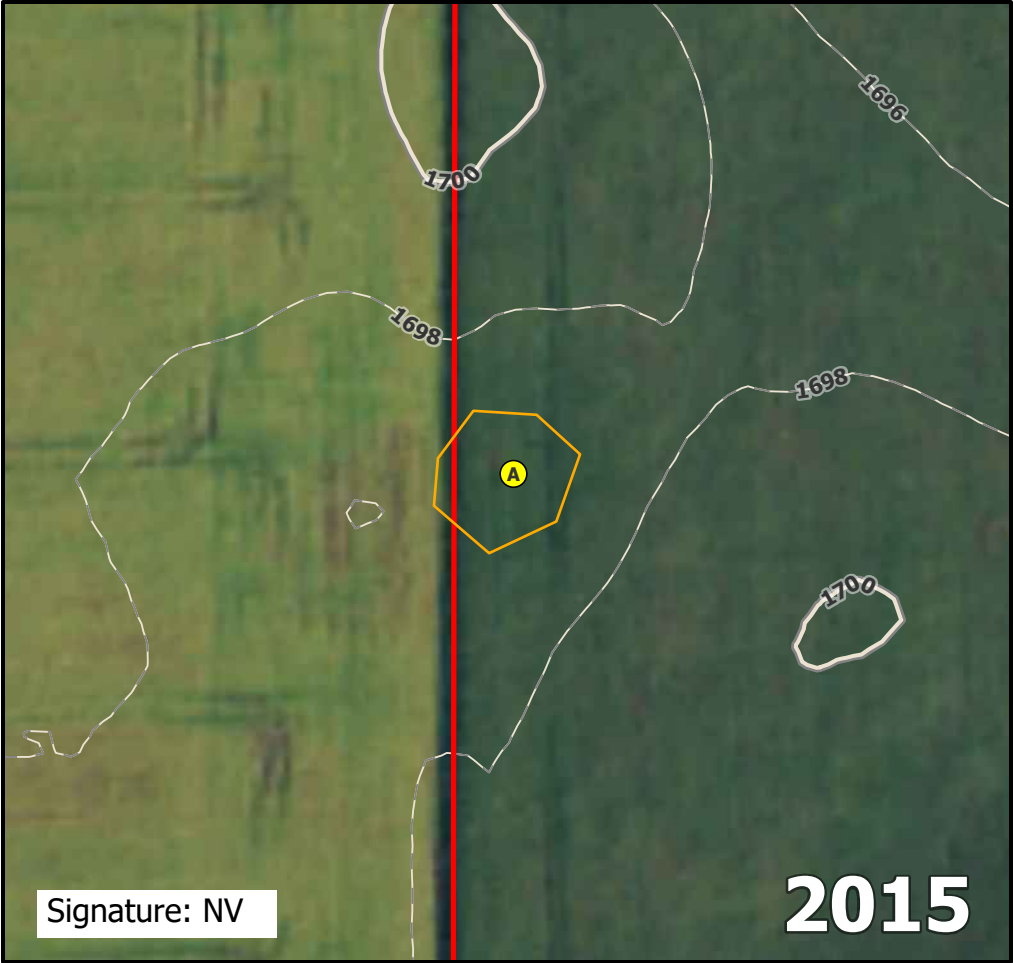
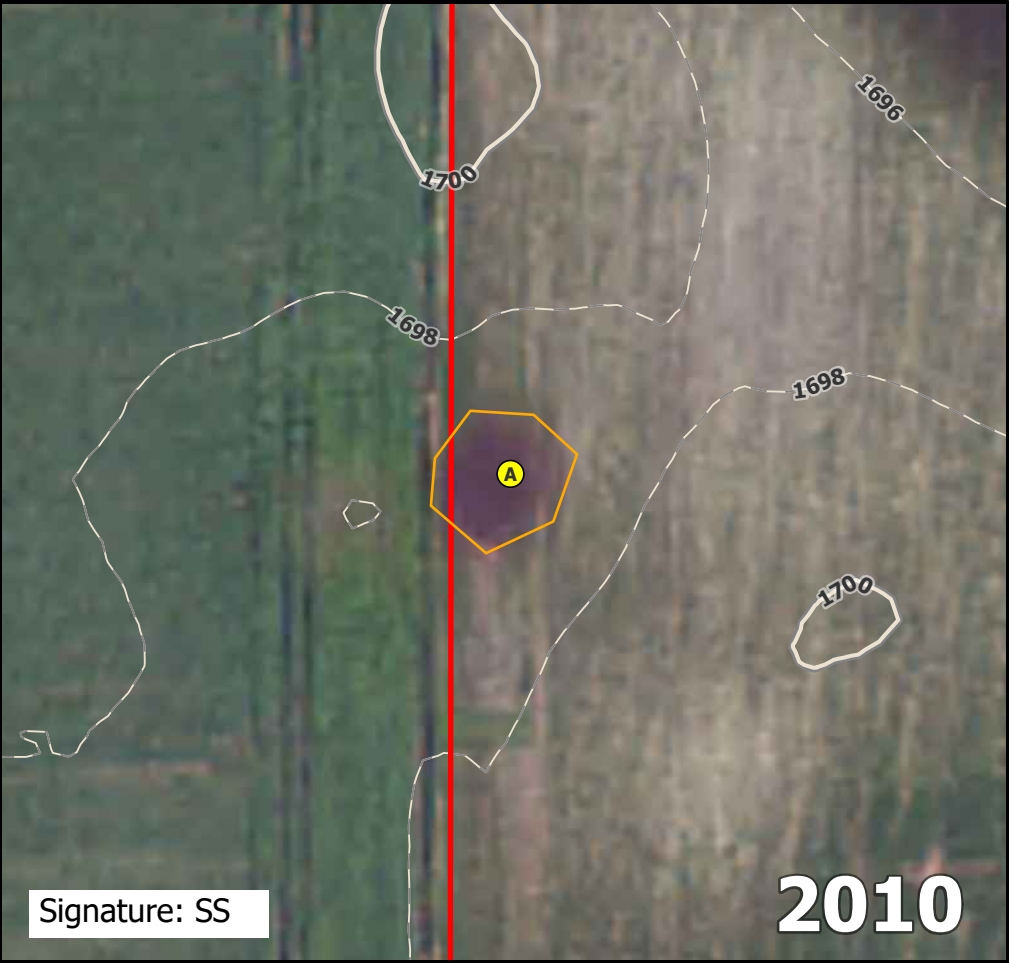
Remarks:



Overview of upland sample point NWA028A.

Direction: Northeast	Photo ID: delin_photo-20221011-212451.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar	Feature ID: NWA028	

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MWGIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA029

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/11/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA029A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.10 T103N R41W		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.73704	Long:	-95.73781
				Datum:	WGS84
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	
Hydric Soil Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Wetland Hydrology Present?	<u>No</u>	If yes, optional wetland site ID: _____
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1. _____				
2. _____				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

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?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA029A

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**		
0-16	10YR 2/1	100					Clay Loam	
16-22	10YR 2/1	70					Clay Loam	
	2.5Y 5/3	30						Mixed Matrix
22-30	2.5Y 5/3	100					Clay Loam	

*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? No

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 ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

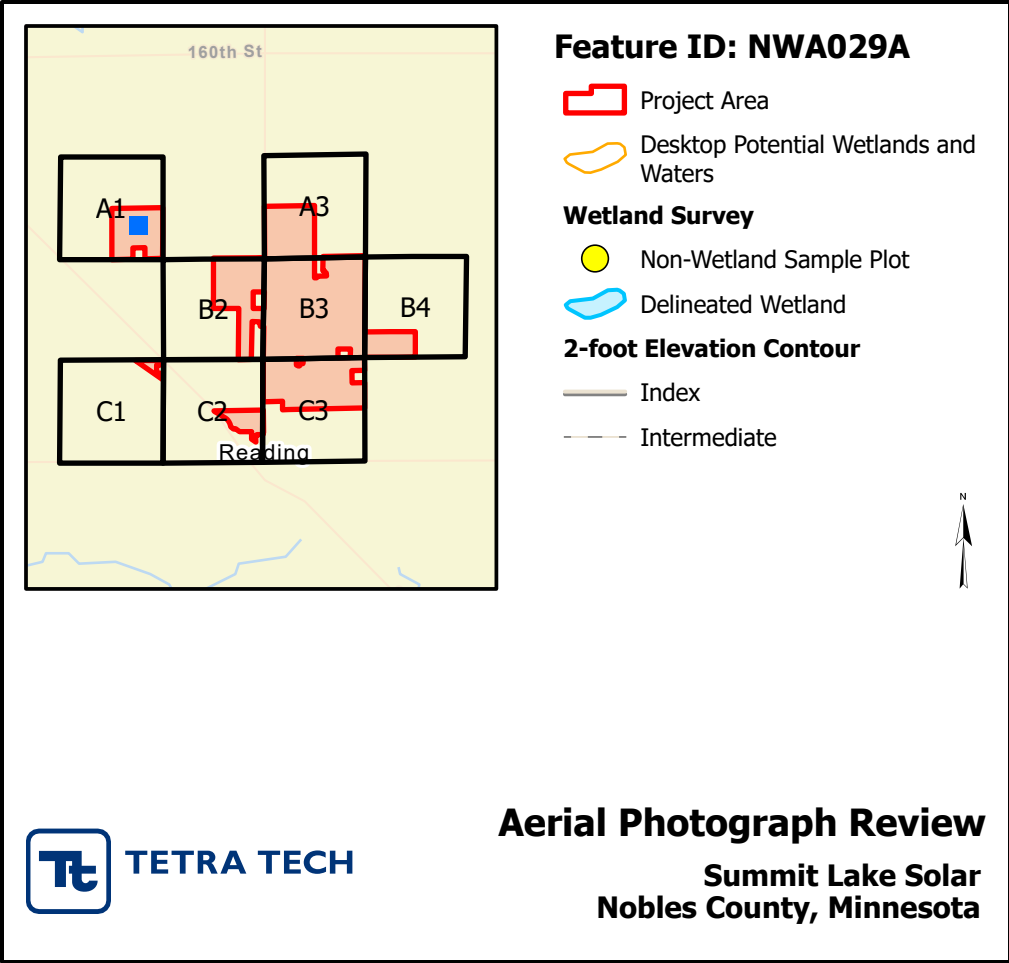
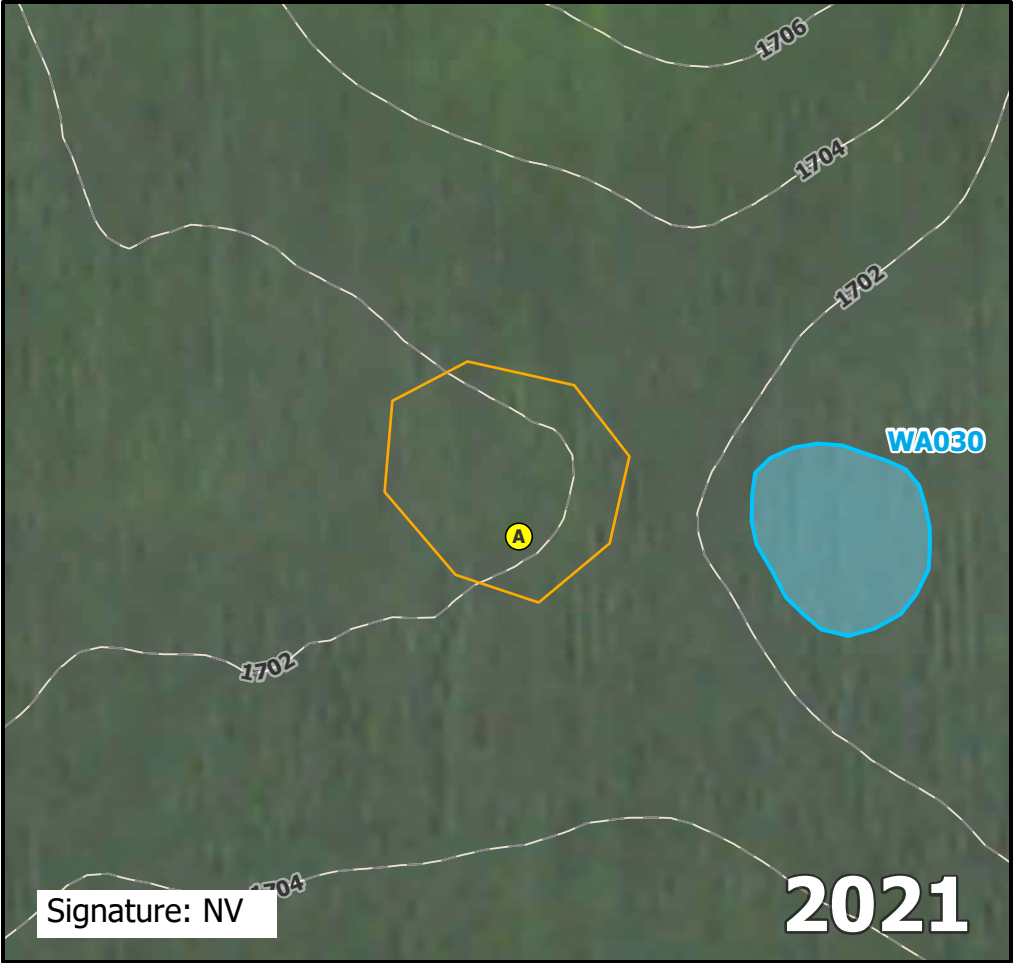
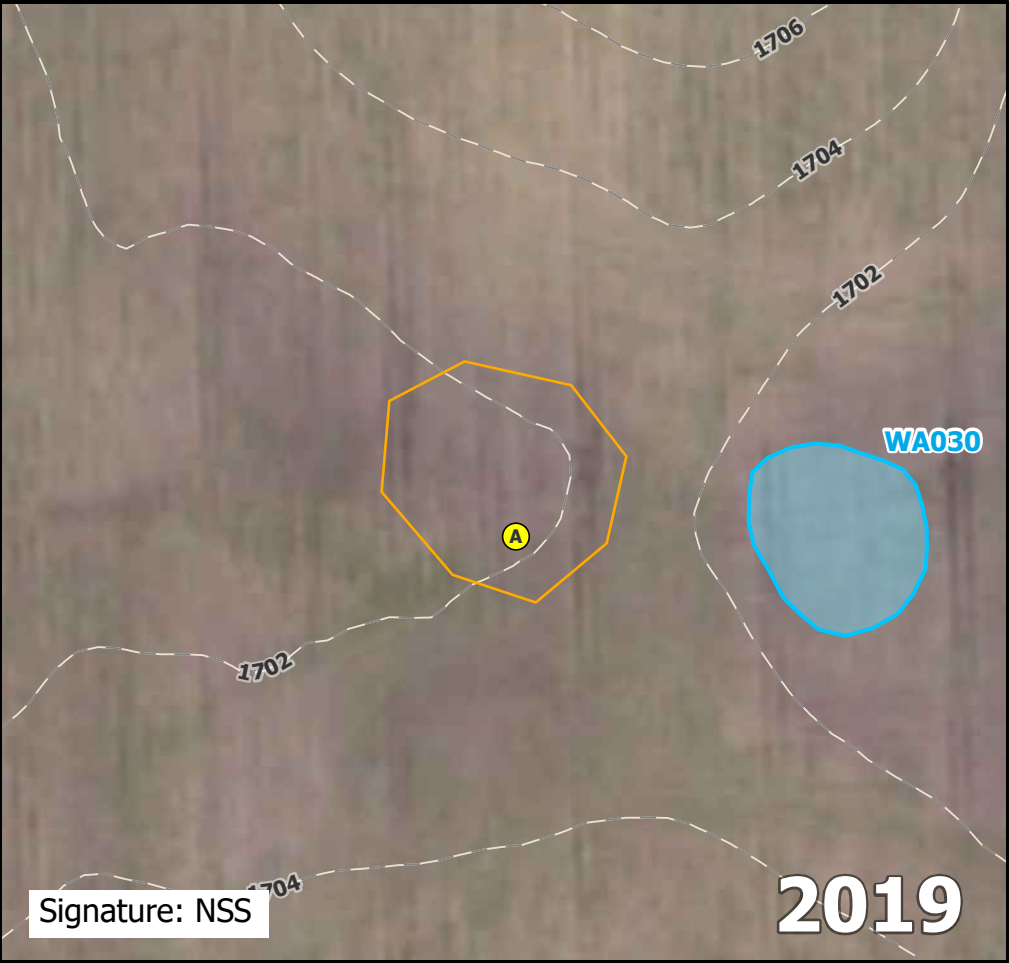
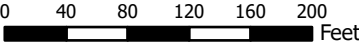
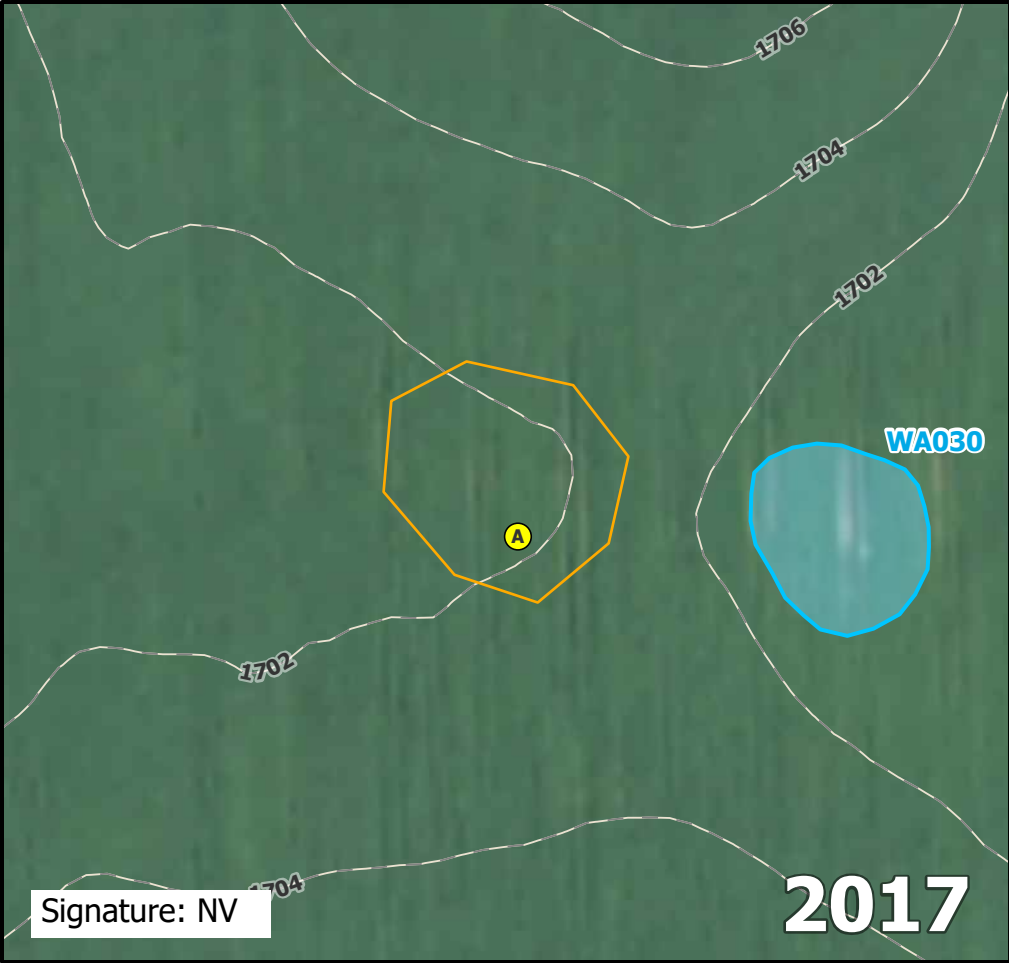
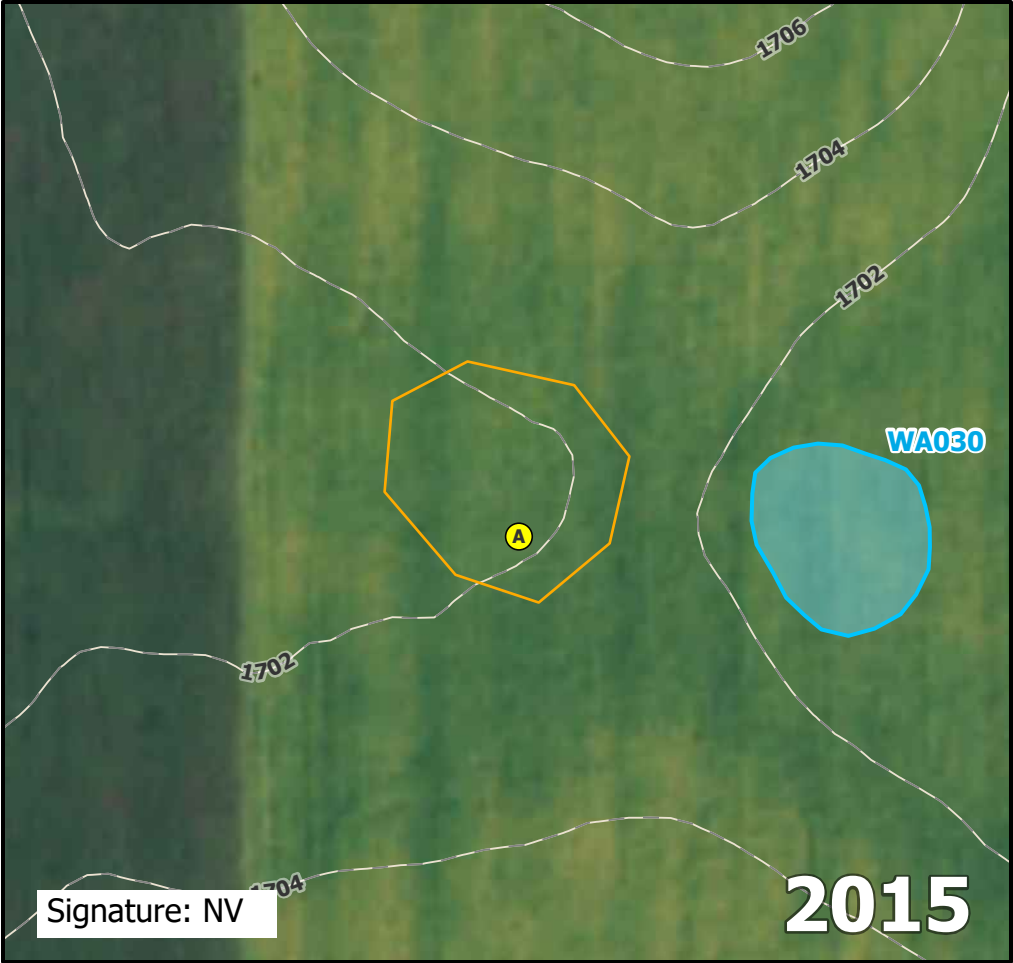
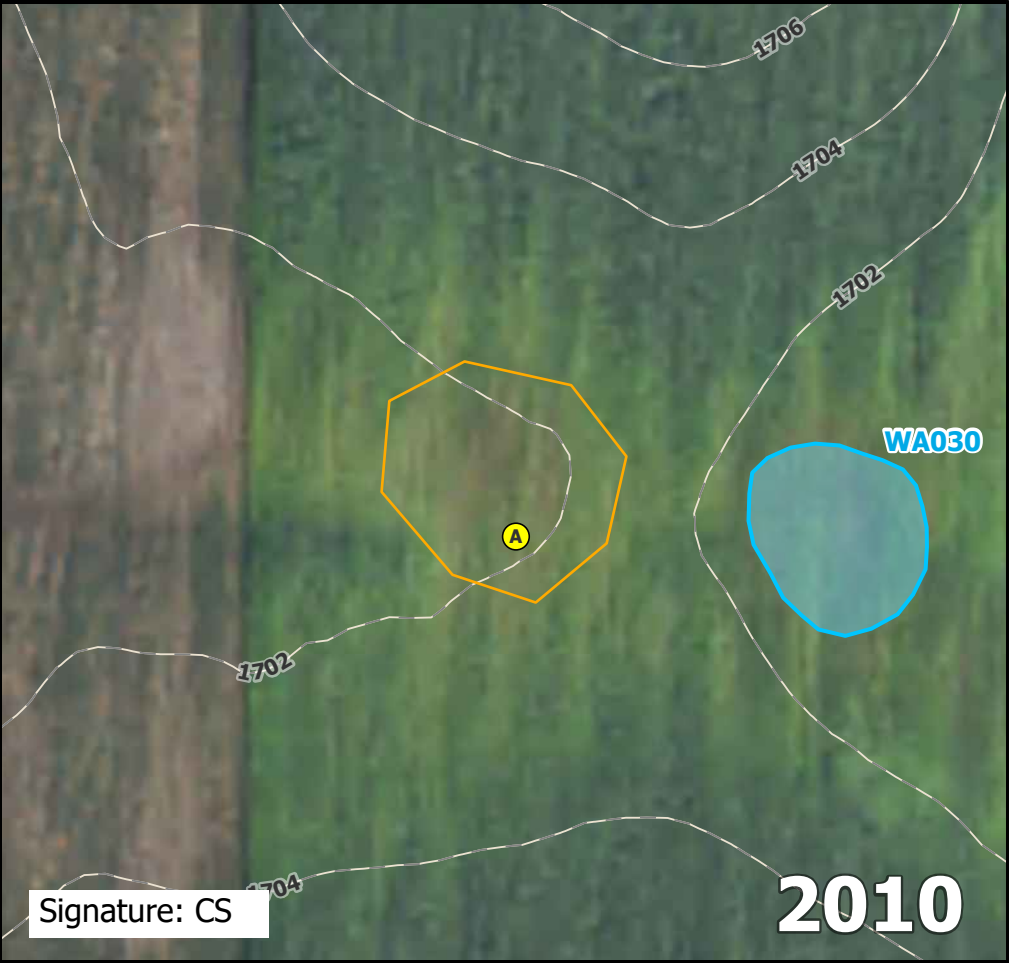
Remarks:



Overview of upland sample point NWA029A.

Direction: Northwest	Photo ID: delin_photo-20221011-214143.jpg	Date: 10/11/2022
Project Name: Summit Lake Solar	Feature ID: NWA029	

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MWGIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA031

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/12/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA031A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.24 T103N R41W		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.71225	Long:	-95.69903
		Datum:	WGS84		
Soil Map Unit Name:	Clarion loam, 2 to 6 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	
Hydric Soil Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Wetland Hydrology Present?	<u>No</u>	If yes, optional wetland site ID: _____
Remarks: Recently harvested agricultural field. Local depression on hill.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of:

- OBL species x 1 =
- FACW species x 2 =
- FAC species x 3 =
- FACU species x 4 =
- UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

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? No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA031A

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**		
0-16	10YR 2/1	100					Loam	
16-24	10YR 2/2	95	10YR 3/4	5	C	PL/M	Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

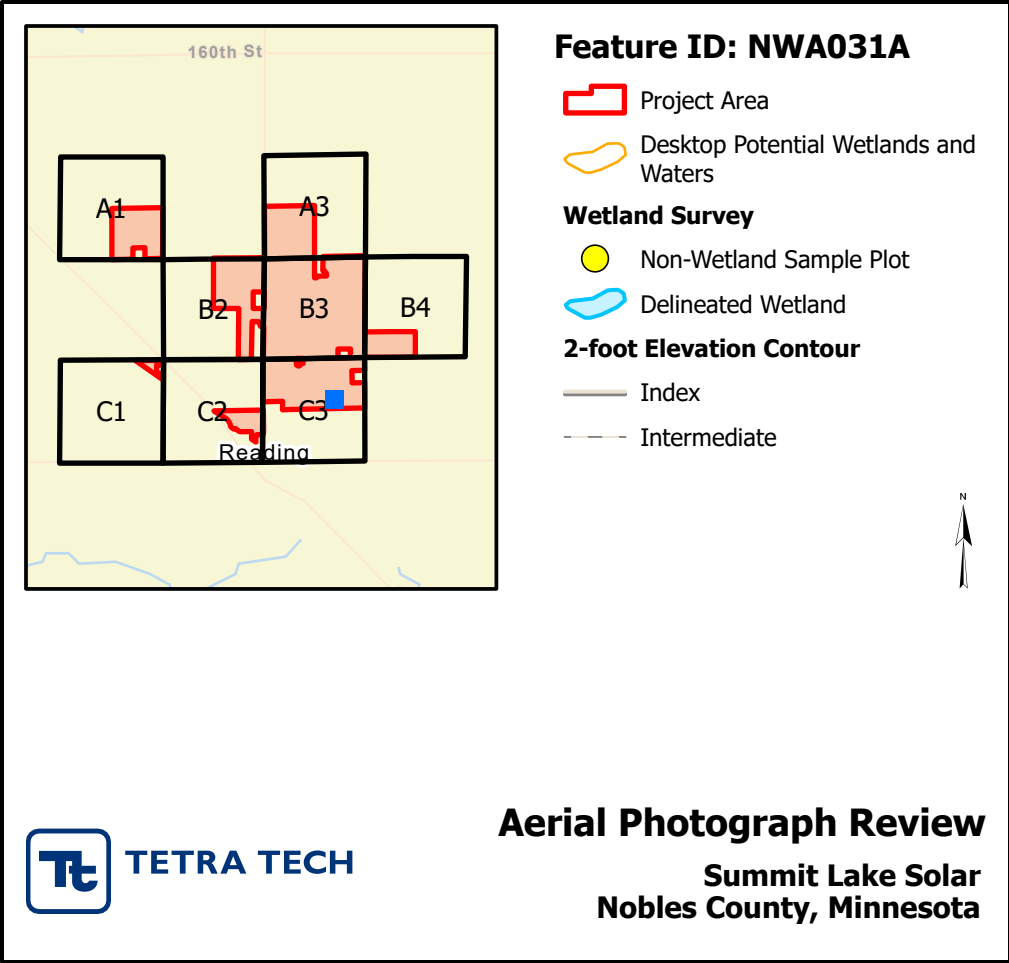
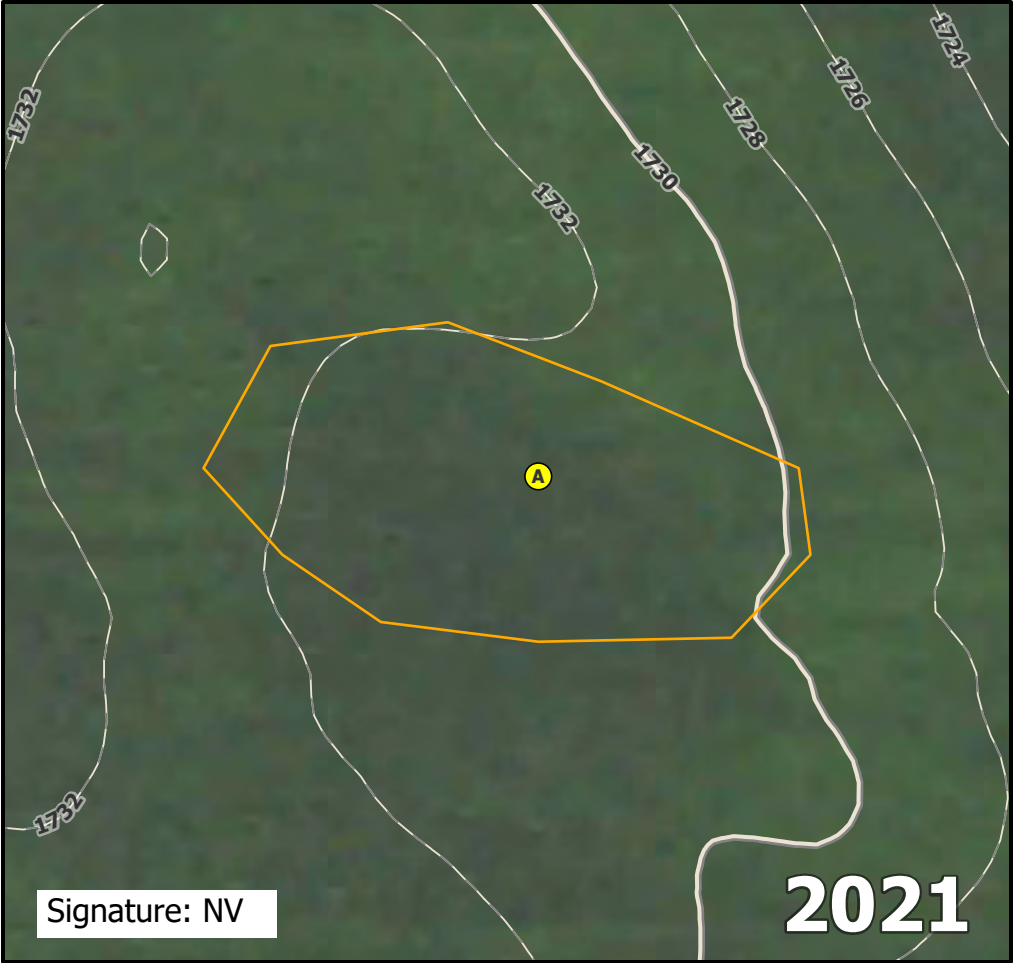
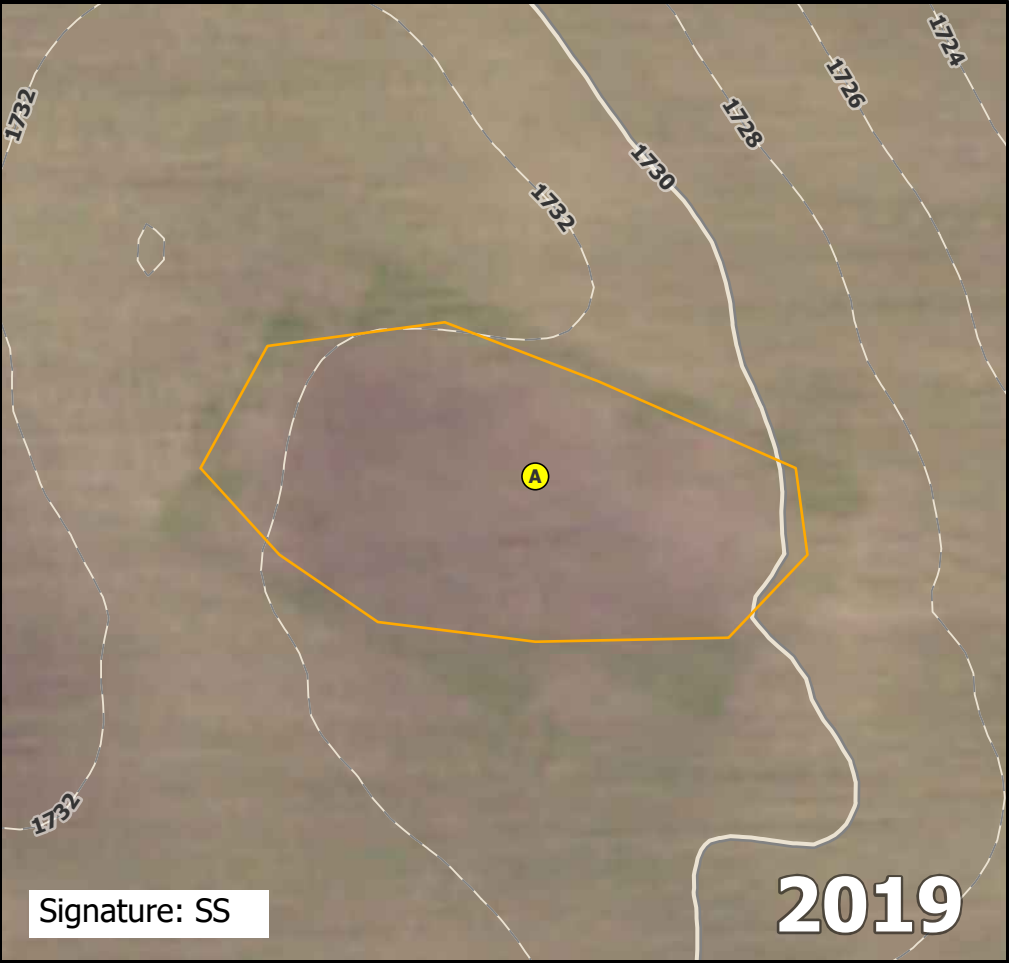
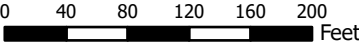
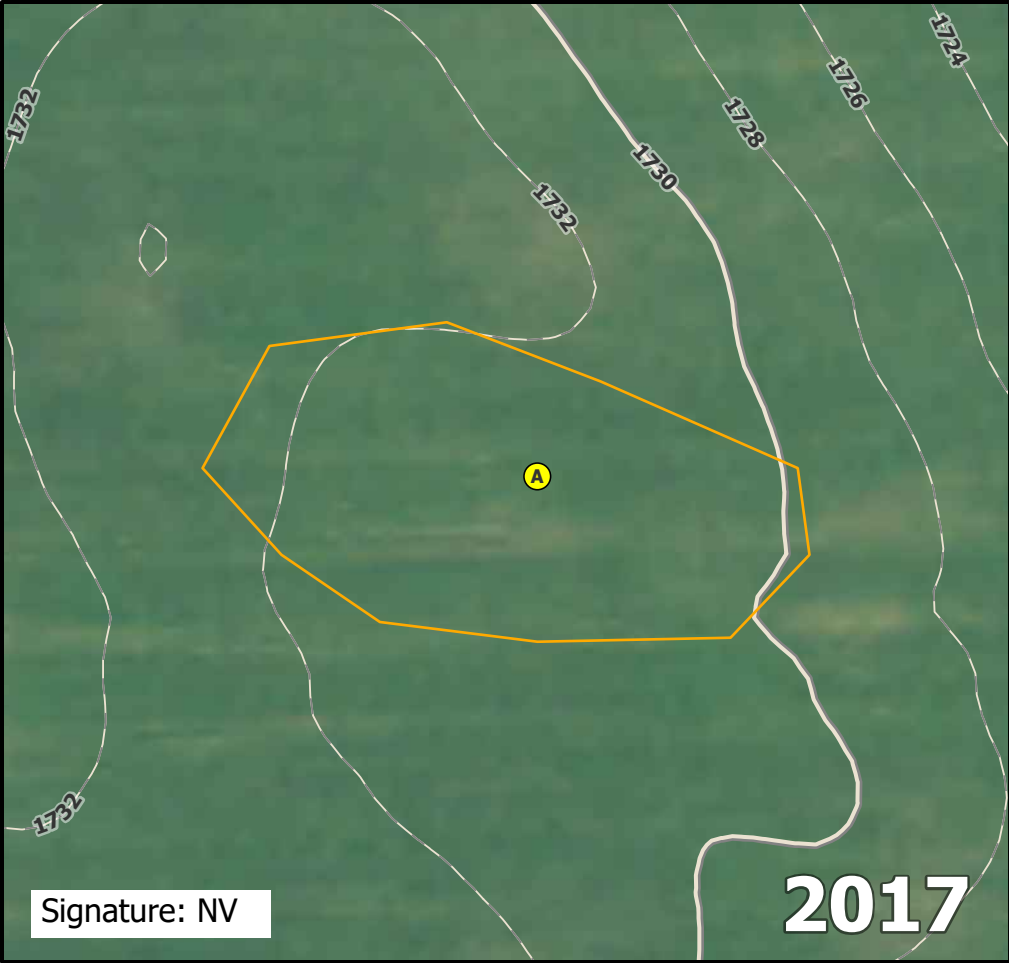
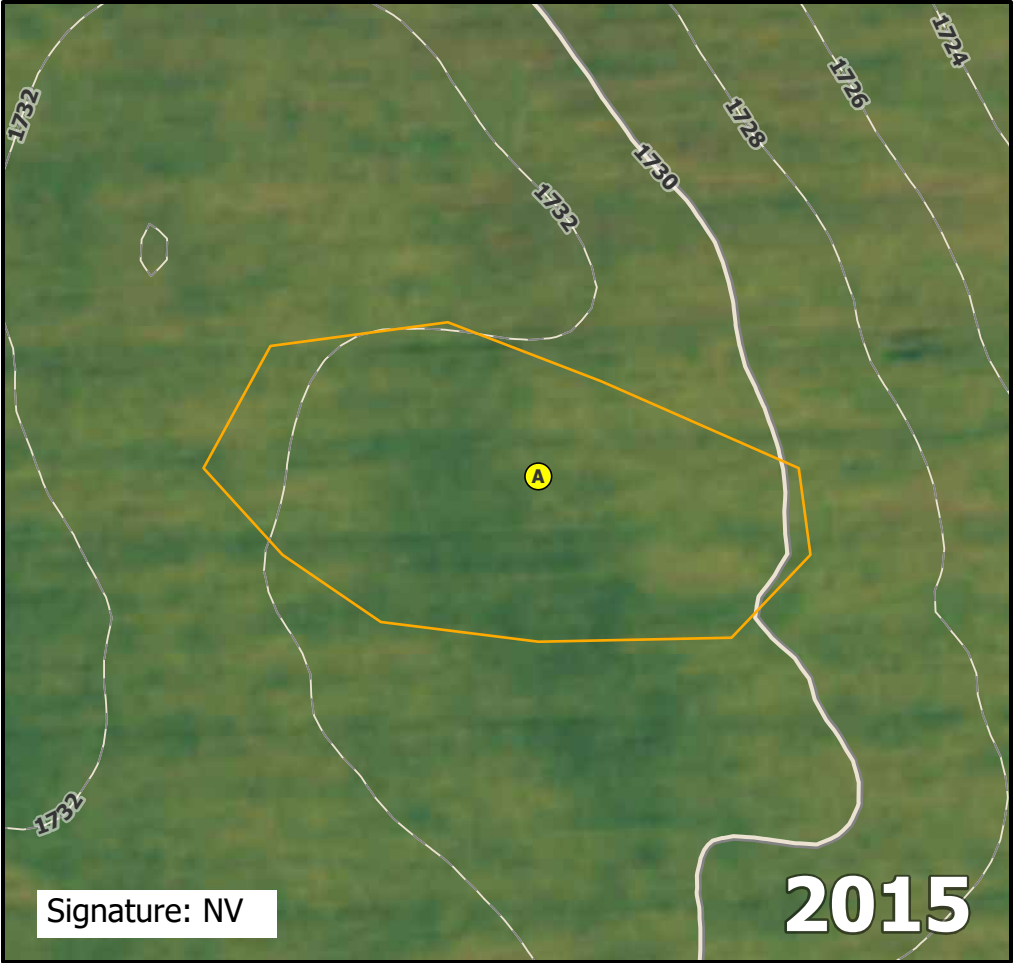
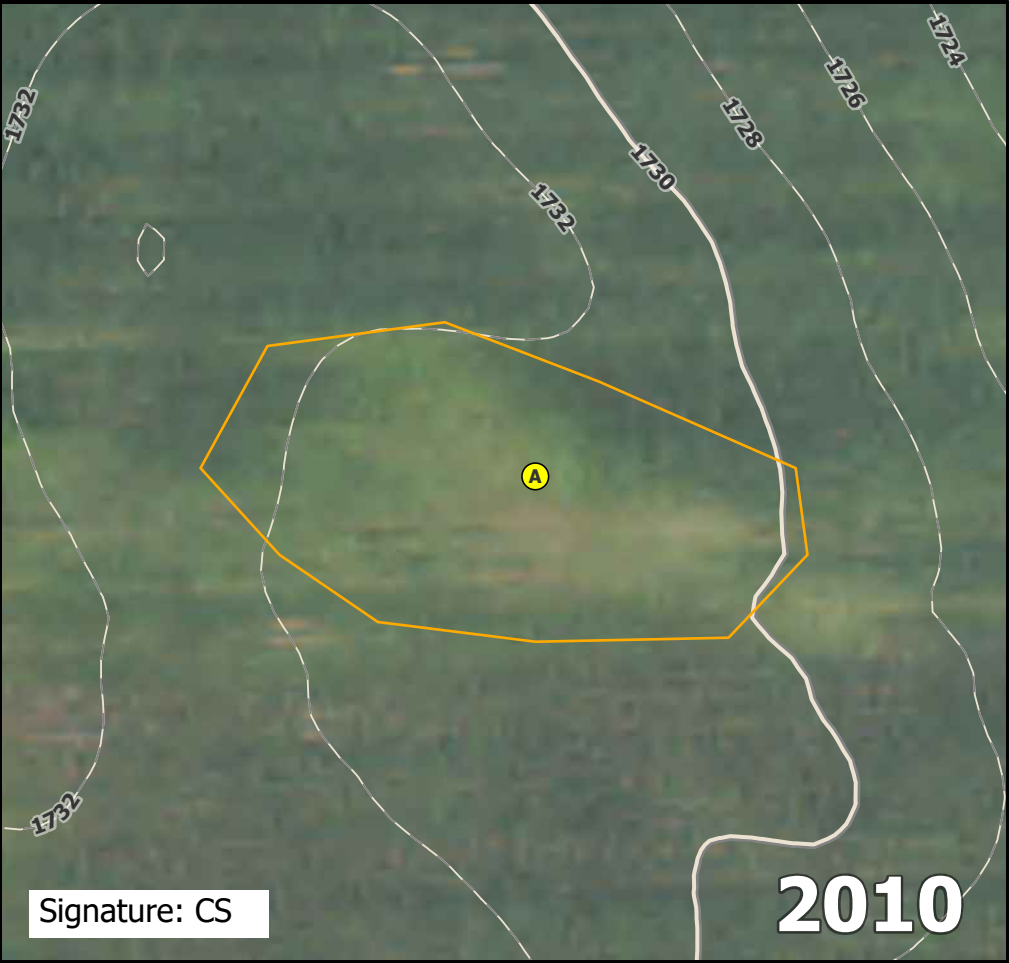
Remarks:



Overview of upland sample point NWA031A.

Direction: South	Photo ID: delin_photo-20221012-133202.jpg	Date: 10/12/2022
Project Name: Summit Lake Solar	Feature ID: NWA031	

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA032

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/12/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: NWA032A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.24 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.71204 Long: -95.70332 Datum: WGS84
 Soil Map Unit Name: Glencoe silty clay loam, 0 to 1 percent slopes NWI Classification: None

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

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u> </u>		
Remarks: Recently harvested agricultural field. Topography is very weak.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
=Total Cover					

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

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA032A

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**		
0-27	10YR 2/1	100					Clay Loam	
27-40	10YR 2/1	100					Silty Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

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

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? Yes

Remarks:

A12 assumed

HYDROLOGY**Wetland Hydrology Indicators:**

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

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ 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 ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: