Appendix F Wetland Delineation Report

Red Rock Solar, LLC Docket No. 19-620 October 2020



161 East Aurora Road, Northfield OH, 44067

# Wetland and Watercourse Delineation Report

Red Rock Solar Cottonwood County, Minnesota

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## **Document Review**

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# List of Acronyms and Abbreviations

CWA	Clean Water Act
ECT	Environmental Consulting & Technology, Inc.
FAC	Facultative
FACU	facultative upland
FACW	facultative wetland
FEMA	Federal Emergency Management Agency
FIRM	Federal Insurance Rate Map
GPS	global positioning system
HUC	Hydrologic Unit Code
LGU	Local Government Unit
MBWSR	Minnesota Board of Water & Soil Resources
MNCWG	Minnesota Climatology Working Group
MNDNR	Minnesota Division of Natural Resources
MPCA	Minnesota Pollution Control Agency
NHD	National Hydrography Dataset
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWP	USACE Nationwide Permit
NWPR	Navigable Waters Protection Rule
OBL	obligate wetland
OHWM	ordinary high water mark
Project	Red Rock Solar Project
PWI	Public Waters Inventory
UPL	obligate upland
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WCA	Wetland Conservation Act
WQC	Water Quality Certification
WOTUS	Waters of the United States



## **Executive Summary**

Red Rock Solar, LLC contracted Environmental Consulting & Technology, Inc. (ECT), to perform a wetland and watercourse delineation for the Red Rock Solar Project (Project). The proposed Project covers an area of approximately 792 acres located in Midway Township, Cottonwood County, Minnesota. The Project is also located within the Watonwan River watershed (Hydrologic Unit Code [HUC] 07020010).

The Project is located approximately four (4) miles northwest of Butterfield, four (4) miles northeast of Mountain Lake, and 2.5 miles southwest of Darfur, Minnesota (**Site Location Map in Appendix A**). The Project primarily has land cover of active agricultural fields and rural residential and agricultural developments. ECT conducted a field reconnaissance to identify, delineate, and characterize wetlands and watercourse features and assess their regulatory status on May 11 through 13, 2020.

Under Section 404 of the 1972 Clean Water Act (CWA), Waters of the United States (WOTUS) are regulated by the U.S. Army Corps of Engineers (USACE). These can include bodies of water such as lakes, ponds, rivers, tributaries, and wetlands. WOTUS are currently defined by the 1986/1988 definition and applicable guidance, court decisions, and agency practices. However, the Navigable Waters Protection Rule (NWPR) definition of WOTUS will become effective on June 22, 2020. Only USACE has the authority to verify jurisdiction and boundaries for WOTUS within Minnesota.

In Minnesota, surface waters are additionally regulated by the Minnesota Pollution Control Agency (MPCA), which administers Section 401 of the Clean Water Act; the Minnesota Department of Natural Resources (MNDNR), which administers the Public Waters Permit Program; and the Minnesota Board of Water and Soil Resources (MBWSR) and Local Government Units (LGU), which administer the state Wetland Conservation Act. The Cottonwood County Soil and Water Conservation District serves as the LGU for all of Cottonwood County. Activities that impact federal or state regulated wetlands, inland lakes and watercourses, floodplains, or the Great Lakes must be authorized by the appropriate regulatory agencies prior to Project activities taking place.



One (1) potentially jurisdictional wetland and one (1) potentially jurisdictional watercourse were identified within the Project area. ECT evaluated on-site water resources for potential jurisdictional status per both the Navigable Waters Protection Rule and the 1986/1988 WOTUS definition and associated judicial decisions and regulatory guidance. The identification of wetland and watercourse features herein is based on the condition of the Project at the time of the investigation. All wetland and watercourse boundaries and potential jurisdictional statuses are considered preliminary until confirmed by USACE during a jurisdictional determination.



## 1.0 Introduction

Red Rock Solar, LLC contracted Environmental Consulting & Technology, Inc. (ECT), to perform a wetland and watercourse delineation for the approximately 792-acre Red Rock Solar Project (Project) located in Midway Township, Cottonwood County, Minnesota. The Project is located approximately four (4) miles northwest of Butterfield, four (4) miles northeast of Mountain Lake, and 2.5 miles southwest of Darfur, Minnesota (**Site Location Map, Appendix A: Figure 1**) and is within Watonwan River watershed (Hydrologic Unit Code [HUC] 07020010). The Project area is dominated by active agricultural fields with areas of riparian corridors and rural residential properties interspersed throughout.

Under the 1972 Clean Water Act (CWA), Waters of the United States (WOTUS) are regulated by the U.S. Army Corps of Engineers (USACE) and are considered jurisdictional. These can include bodies of water such as lakes, ponds, rivers, tributaries, and wetlands. In Minnesota, surface waters are additionally regulated by the Minnesota Pollution Control Agency (MPCA), which administers Section 401 of the Clean Water Act; the Minnesota Department of Natural Resources(MNDNR), which administers the Public Waters Permit Program; and the Minnesota Board of Water and Soil Resources (MBWSR), which administers the state Wetland Conservation Act. In Minnesota, WOTUS are currently defined by the 1986/1988 regulatory definition and applicable guidance and judicial decisions. However, the Navigable Waters Protection Rule definition of WOTUS will become effective on June 22, 2020. Activities, including dredging or filling, that impact federal- or state-regulated wetlands, watercourses, or open water areas must be authorized by the appropriate regulatory agencies prior to project activities taking place. This report summarizes the surface water features identified within the Project boundary.



# 2.0 Preliminary Desktop Review

As part of standard Minnesota delineation practice, initial desktop wetland delineations were completed by ECT to identify the potential presence of wetlands and watercourses within the Project area. The results of the desktop reviews were used to focus the field delineation, particularly in agricultural areas. Methodologies for determining potential wetland areas followed MBWSR's/USACE's *Guidance for Offsite Hydrology/Wetland Determinations* (USACE and MBWSR 2016). Desktop assessments utilized public database resources and information including aerial photographs across multiple years, U.S. Department of Agriculture-Natural Resource Conservation Service (USDA-NRCS) soil survey maps, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) Maps, MNDNR Minnesota Wetland Inventory, MNDNR Public Waters Inventory (PWI) Maps, U.S. Geological Survey (USGS) topographic maps, USGS National Hydrography Dataset (NHD), and Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs).

ECT identified nine (9) potential wetland locations and one (1) potential watercourse feature requiring field verification. **Table 1** provides a summary of the aerial imagery review results from ECT's desktop delineations. A map depicting the results of both desktop reviews is included in **Appendix A: Figure 2.** Results of the on-site visit are described further below in *Section 3.0*.



#### Table 1. Aerial Imagery Review Results

Signature ID	1992	2003	2004	2006	2008	2009	2010	2012	2015	% Years with Wetland Hydrology Signature	Hydric Soils	NWI
Wetland 1	SS	CS/NV	CS/NV	CS	CS	CS/NV	NV	CS/NV	CS/NV	56	Yes	No
Wetland 2	SS	CS/NV	NV	CS/NC	CS/NC	DO	DO	CS	NV	77	Yes	Yes
Wetland 3	SS	CS/NC	NV	CS/NC	CS/NV /NC	NV	CS /NC	CS/NC	CS	77	Yes	No
Wetland 4	SS	NV/NC	NV	NC	CS/NC	NV/NC	NV/NC	CS/NC	NV	77	Yes	No
Wetland 5	SS	NC	WS	WS	WS	WS	WS	WS	WS	100	Yes	Yes
Wetland 6	SS	NV	CS	SS	NV	SS	SS	NV	NV	55	Yes	No
Wetland 7	SS	NV	CS	SS	NV/NC	NV/NC	SS	SS	NV/NC	77	Yes	No
Wetland 8	SS	CS	NV	NV	CS	NV	NV	NV	NV	30	Yes	No
Wetland 9	SS	CS	NV	NV	CS	NV	SS	AP/SS	CS	67	Yes	No

SS- Soil Wetness Signature

NC- No Crops CS- Crop Stress DO- Drowned Out

**AP-** Altered Pattern

WS- Wetland Signature

NV- Normal Vegetation

Source: (ECT 2020, USACE and MBWSR 2016)

## 2.1 Historical Climate Data

ECT reviewed climate data for the three months prior to the date of each aerial image reviewed as part of the desktop preview to determine precipitation conditions as above or below average precipitation rates as this may alter the presence of wetland signatures. For example, years with drier conditions may have fewer identified areas of wetland signatures, while years of wetter conditions will display a greater number of areas when compared to photography taken during normal precipitation years. ECT determined precipitation amounts using Minnesota Climatology Working Group (MNCWG) data, which provides an online calculator for precipitation scores. Precipitation scores can be assigned one of three categories: scores of 6-9 are considered 'Dry', meaning that precipitation levels are below average; scores of 10-14 are considered 'Normal', meaning that precipitation levels are within range of typical amounts; and scores of 15 to 18 are considered 'Wet', meaning that precipitation levels exceed normal averages.

The climate at the time of most aerial images was considered Normal. Scoring for the data of each aerial image is provided in **Table 2** below. Copies of MNCWG Precipitation Worksheets for historic aerial images are provided in **Appendix B**.

Date of Photo	Source of Photo	MNCWG Score	Conditions
April 26, 1992	Google Earth	12	Normal
May 31, 2003	Google Earth	12	Normal
August 2, 2004	Google Earth	14	Normal
May 31, 2006	Google Earth	14	Normal
May 21. 2008	Google Earth	11	Normal
June 2, 2009	Google Earth	7	Dry
April 23, 2011	Google Earth	15	Wet
October 12, 2012	Google Earth	6	Dry
July 22, 2015	Google Earth	13	Normal

Table 2. Aerial Imagery Precipitation Scores

Source: (Minnesota State Climatology Office 2020)

## 2.2 U.S. Geological Survey Topographic Map

The USGS Comfrey, Darfur, Mountain Lake, and Butterfield 7.5-minute quadrangle maps (2019) depict the elevation within the Project area at range 1,180 to 1,226 feet above mean sea level (**USGS Topographic Map, Appendix A: Figure 3**, (USGS 2019b; 2019c; 2019d; 2019a). The USGS map depicts two (2) watercourses and one (1) open water body occurring within the Project



area. The USGS map also depicts three (3) wetland areas within northeastern and southern portions of the Project area.

#### 2.3 NWI, PWI and NHD Map

The USFWS National Wetlands Inventory (NWI) mapping database, MNDNR Minnesota Wetland Inventory, and the USGS National Hydrography Dataset (NHD) were reviewed to determine the likely presence, location, size, and type of water resources that may be in the Project area (USFWS 2020; MNDNR 2017; USGS 2020). USFWS generates NWI maps using high altitude imagery. The MNDNR generates the Minnesota Wetland Inventory through an update of the NWI using modern technology and imagery. These maps were used for preliminary analysis only, as these maps may not accurately depict the extent or existence of wetland systems in a specific area, nor do these maps always correctly identify the types of wetlands present. Similarly, the USGS has developed the NHD that depicts features such as rivers, watercourses, and lakes based on available topographic maps. However, some topographic maps may not reflect the current topography of an area. Verification of all water resources within the Project area is necessary through on-site visits.

Public waters and public wetland waters are designated on Public Waters Inventory (PWI) maps developed by MNDNR. Public waters may include such features as meandered lakes, water basins, watercourses with a drainage area greater than two square miles, waters of the state determined to be navigable by a court of competent jurisdiction, and trout streams, per Minn. Stat. § 103G.005, subd. 15. Public waters and wetlands are defined in Minn. Stat. § 103G.005, subd. 15a to include inland shallow and fresh marshes and inland fresh open waters that are 10 or more acres in unincorporated areas and 2.5 or more acres in incorporated areas.

Review of NWI and NHD data indicate that two (2) unnamed watercourses flow through the Project area in the northeastern and southwestern portions of the Project. PWI did not indicate any public waters within the Project area, although the unnamed watercourse in the northeast becomes a public water east of Un Road, adjacent to the Project area. Additionally, NWI data and the NWI Update for Minnesota indicate two (2) wetlands within the Project area. One (1) wetland is located north of 330<sup>th</sup> Street along the southeastern Project boundary. The second wetland is located south of 330<sup>th</sup> Street along the eastern Project boundary and corresponds with the open water on the USGS topographic maps. No public water wetlands are mapped within the Project area (**Appendix A: Figures 4 and 5;** (USFWS 2020; USGS 2020; MNDNR 2017; 2018).



## 2.4 USDA-NRCS Soils Map

ECT reviewed the USDA-NRCS soil data for hydric soils that may be present within the Project boundary. Hydric soils form under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil (USDA-NRCS 2017). A total of eight (8) soil map types are mapped within the Project boundary, five (5) of which are hydric soils: Mayer clay loam, depressional, 0 to 1 percent slopes; Canisteo clay loam, 0 to 2 percent slopes; Webster clay loam, 0 to 2 percent slopes; Glencoe clay loam, 0 to 1 percent slopes; and Nicollet clay loam, 1 to 3 percent slopes. **Appendix A: Figure 6**, presents a soils map showing the soil types and their boundaries within the Project area along with the total acreage of each soil type within the Project area.

## 2.5 FEMA Floodplain Map

The MBWSR regulates development in Federal Emergency Management Agency (FEMA) identified floodways and floodplains, also called special flood hazard areas, under the Flood Control Act and Floodplain Management Rule. FEMA's Federal Insurance Rate Maps (FIRM's) delineate these special flood hazard areas and the risk premium zones applicable to the community (FEMA 2002). A review of the FIRMs indicated that no floodplains or floodways occur within the Project area. (FEMA Floodplain Map, **Appendix A: Figure 7;**(FEMA 2020).



# 3.0 Field Methodology

On May 11 through 13, 2020, ECT conducted field investigations to confirm, delineate, characterize, and determine the potential regulatory states of the water resources identified during the desktop assessment. ECT additionally reviewed the entirety of the Project area for potential wetland and watercourse features that may have not been apparent during the wetland desktop reviews.

Wetlands within the Project area were delineated following the *1987 U.S. Army Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and *Regional Supplement to the Army Corps of Engineers Wetland Delineation Manual: Midwest Region* (USACE 2010) guidelines. The presence of wetlands is determined based on three parameters: the presence of hydric vegetation (hydrophytes), hydric soils, and wetland hydrology. Potentially jurisdictional wetland boundaries were mapped using a sub-meter GEO7X<sup>®</sup> series Trimble<sup>®</sup> global positioning system (GPS) unit and flagged in the field. Wetland data points and corresponding upland points were also mapped with the GEO7X<sup>®</sup> series Trimble<sup>®</sup> GPS unit. USACE regional determination forms were completed for each wetland and its corresponding upland point.

Vegetation was identified by flowers, leaves, bark, twigs, stems, reproductive structures, and/or persistent remains from the preceding growing season. The wetland indicator status for vegetation noted during the evaluation was obtained from the USACE Midwest 2016 Regional Wetland Plant List (Lichvar et al. 2016) and 2018 Update to the National Wetland Plant List (U.S. Army Corps of Engineers 2020). Soil was evaluated by digging test pits sufficient to document hydric indicators, up to 20 inches deep. Soil conditions were evaluated using criteria established by the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Field Indicators of Hydric Soils in the United States (USDA-NRCS 2018) and soil colors were evaluated using a Munsell® color chart. Hydrology was evaluated through direct observation of primary indicators (e.g., standing water and/or saturated soil) and indirectly through observation of secondary hydrology indications.

Potentially jurisdictional watercourses were identified based on the presence of morphological features such as a defined bed and banks, presence of an ordinary high water mark (OHWM), and evidence of water flow. Watercourses were separated into three flow regimes: perennial,



intermittent, and ephemeral. Perennial watercourses are classified as having regular water flow that can be seen year-round. Intermittent watercourses flow during certain times of the year; however, during dry periods they may not have any flowing surface water. Ephemeral watercourses have brief water flow typically exhibited during periods of rainfall in the immediate vicinity. Watercourses were also mapped using a sub-meter GEO7X<sup>®</sup> series Trimble<sup>®</sup> GPS unit.

## 3.1 Current Precipitation Data

Because recent precipitation events can influence wetland identification by altering the presence of hydrology in the field, precipitation conditions three months prior to the time of the field visit were compared to long term precipitation averages.

Due to missing data for 2020 within the MNCWG system, a Wetland Climate Table (WETS table) was completed following guidelines of the WETS analysis as described in *Chapter 19: Hydrology Tool for Wetland Determination of the USDA-NRCS Engineering Field Handbook* (USDA-NRCS 1997). Conditions prior to May 2020 were Normal per the WETS analysis. The completed WETS table and supporting precipitation data for the climate at the time of the field assessment are provided in **Appendix B**.



## 4.0 Results

#### 4.1 Wetlands and Watercourses

#### 4.1.1 <u>Wetlands</u>

During the site reconnaissance, one (1) wetland (WL-1) was identified within the Project area as shown on the *Wetland and Watercourse Delineation Maps* (**Appendix A: Figure 8**). The wetland corresponds to wetland area 5 as identified during the preliminary desktop delineation (**Appendix A: Figure 2**). The remaining eight (8) potential wetlands identified during the desktop review did not meet USACE criteria to be considered a wetland. USACE Midwest Region wetland/upland data sheets are provided in **Appendix C**. The potentially jurisdictional wetlands identified had a predominance of hydrophytic vegetation, soils that exhibited reducing conditions, and observed hydrological characteristics.

For the wetland identified during field delineation, sufficient reducing characteristics were observed within the upper 10 inches of soils per guidelines set forth by the USDA-NRCS Field Indicators of Hydric Soils in the United States (USDA-NRCS 2018). Soil indicators found within Wetland 1 included depleted matrix (F3) and redox dark surface (F6).

Hydrology indicators found within the identified wetland included surface water (A1), high water table (A2), saturation (A3), geomorphic position (D2), and FAC-neutral test (D5).

Typical vegetative conditions noted in wetland within the Project area are described in the following paragraphs. The scientific names and wetland indicator status of vegetation (obligate wetland, OBL; facultative wetland, FACW; facultative, FAC; facultative upland, FACU; and obligate upland, UPL) noted during the delineation follow the common name the first time each plant species is referenced. **Appendix D** presents copies of site photographs depicting conditions at the time of the site investigation. **Table 3** provides details on the identified wetland within the Project area.

WL-1 contained areas of forested and emergent vegetation communities. Forested areas were dominated by eastern cottonwood (*Populus deltoides*, FAC), shining willow (*Salix lucida*, FACW), and saltmarsh club-rush (*Schoenoplectus maritimus*, OBL). Emergent areas were dominated by saltmarsh club-rush and narrow leaf cattail (*Typha angustifolia*, OBL). WL-1 appears to be



hydrologically isolated per both the 1986/1988 definition of WOTUS and the Navigable Waters Protection Rule and is therefore unlikely to be subject to regulation under the Clean Water Act. However, this wetland likely falls under the regulation of MBWSR and the LGU per Minnesota's WCA. The LGU for Cottonwood County is the county Soil and Water Conservation District.

No wetland community identified within the Project area exhibited fen vegetation community types.



#### Table 3. Wetland Summary Data: Wetland Type and Potential Regulatory Status

Wetland ID	Lat/Long	Cowardin Classification	Circular 39 Classification	Eggers & Reed Classification	1986/1988 Potential Regulatory Status	NWPR⁵ Potential Regulatory Status	Acres
WL-1	44.004489°, -94.869896°	PEM <sup>1</sup> / PFO <sup>2</sup>	Туре 3 <sup>3</sup> / Туре 1 <sup>4</sup>	Shallow Marsh / Seasonally Flooded Basin	Non-federal Regulated by MBWSR/LGU	Non-federal Regulated by MBWSR/LGU	3.87

Source: ECT, 2020.

<sup>1</sup> Palustrine emergent <sup>2</sup> Palustrine forested

<sup>3</sup> Shallow Marsh

<sup>4</sup>Seasonally Flooded Basin or Floodplain <sup>5</sup>Navigable Waters Protection Rule

#### 4.1.2 <u>Watercourses</u>

The field reconnaissance completed by ECT confirmed the potential watercourse identified during desktop review in the southern portion of the Project area, as shown on the *Wetland and Watercourse Delineation Maps* as WC-1 (**Appendix A: Figure 8**). The potentially jurisdictional watercourse exhibited morphological features such as a defined bed and banks, OHWM, and evidence of water flow. **Appendix D** presents copies of photographs depicting the watercourse. **Table 4** provides the watercourse data. Watercourse WC-1 is an unnamed tributary that drains southeast through the Project and discharges to Butterfield Creek approximately 2.5 miles southeast of the Project area. The tributary is not a mapped MNDNR Public Waters Watercourse.

#### Table 4. Watercourse Summary Data: Flow Regime and Potential Regulatory Status

Watercourse ID	Associated Waterway	Flow Regime	1986/1988 Potential Regulatory Status	NWPR Potential Regulatory Status	Ordinary High Water Mark Width (ft)	Linear Feet
WC-1	-	Perennial	Regulated- USACE	Regulated- USACE	13	1,538

Source: ECT, 2020.

#### 4.1.3 <u>Drainage Ditches</u>

No potentially jurisdictional drainage ditches were identified during field delineation of the Project area.

## 4.2 Upland Conditions

Upland areas throughout the majority of the site were dominated by agricultural fields. Uplands in agricultural fields were planted within corn (*Zea mays*, UPL) and soy (*Glycine max*, not rated).



# 5.0 Conclusions

ECT conducted a wetland and watercourse delineation on a 792-acre site for the Red Rock Solar Project located within Cottonwood County, Minnesota. One (1) potentially jurisdictional wetland totaling 3.87 acres and one (1) potentially jurisdictional perennial watercourse totaling 1,538 linear feet were identified within the Project area. Project impacts to potentially regulated features and required permitting will be determined upon final project design.

Jurisdictional determinations are performed by the USACE. Preliminary regulatory determinations provided in this report are based on ECT's experience with wetland and watercourse permitting within Minnesota. The USACE St. Paul District Office should be contacted to perform an official jurisdictional determination for all water features identified within the Project area. Wetlands that do not fall under USACE jurisdiction are regulated by the LGU under the WCA. It is unlawful to deposit fill or dredge material, drain surface water, or construct a structure in a regulated water resource without a permit from USACE and/or the Cottonwood County Soil and Water Conservation District, which serves as the LGU and implements the WCA within Cottonwood County.

ECT's evaluation was performed in accordance with generally accepted procedures for conducting wetland and watercourse evaluations in Minnesota. ECT's conclusion reflects our professional opinion based on conditions present at the time of the evaluation.



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## **Common Wetland Definitions**

<u>Perennial Watercourse</u>: year-round streams, typically have water year-round. Water comes from upstream tributaries or headwaters as well as precipitation

<u>Intermittent Watercourse</u>: have water intermittently throughout the year when upstream waters or groundwater provide enough stream flow. May not have flowing surface water during dry times of the year

<u>100-year flood</u>: A flood with a magnitude that has a 1% chance of occurring or being exceeded in any given year.

*<u>Floodplain</u>*: The area of land adjoining a river or steam that will be inundated by a 100-year flood.

*<u>Hydric soil</u>*: Soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part (1991 National Technical Committee on Hydric Soils definition).

*<u>Hydrophytes</u>*: Plant species that grows in water or on a substrate that is at least periodically deficient in oxygen because of excessive water content; plants typically found in wet habitats.

<u>Palustrine Emergent Wetland (PEM)</u>: Vegetative classification of a wetland system based on the dominant vegetation, consisting of rooted herbaceous (non-woody) plant species that have parts extending above a water surface with at least 30% aerial coverage

<u>Palustrine Scrub-Shrub Wetland (PSS)</u>: Vegetative classification of a wetland system based on the dominant vegetation consisting of woody plants less than 3 inches in diameter but greater than 3 ft but less than 20 ft in height OR where trees and shrubs combined have an aerial coverage no greater than 30%.



<u>Palustrine Forested Wetland (PFO)</u>: Vegetative classification of a wetland system based on the dominant vegetation consisting of woody plants 3 inches in diameter or greater regardless of height with at least 30% aerial coverage.

<u>Public Waters:</u> Public waters may include such features as meandered lakes, water basins, watercourses with a drainage area greater than two square miles, waters of the state determined to be navigable by a court of competent jurisdiction, and trout streams, per Minn. Stat. § 103G.005, subd. 15. Public waters wetlands are defined in Minn. Stat. § 103G.005, subd. 15a to include inland shallow and fresh marshes and inland fresh open waters that are 10 or more acres in unincorporated areas and 2.5 or more acres in incorporated areas.

<u>*Traditional Navigable Water:*</u> water body that is presently used or has been previously used in the past for transport by interstate or foreign commerce vessels

<u>*Wetland*</u>: Defined by USACE as "...areas that are inundated or saturated by surface or ground water...at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in soil conditions."

*Wetland hydrology*: Hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season.

#### Wetland Indicator Status:

*OBL:* Obligate wetland plant that occurs almost always, 99% of the time, in wetlands under natural conditions, but which rarely occur in non-wetlands.

*FACW:* Facultative wetland plant that occurs usually, 67% to 99% of the time, in wetlands, but also occurs 1% to 33% of the time in non-wetlands.

*FAC:* Facultative plant that occurs in both wetlands and non-wetlands 33% to 67% of the time.

*FACU:* Plant that occurs sometimes, 1% to 33% of the time, in wetlands but occurs more often, 67% to 99% of the time, in non-wetlands.

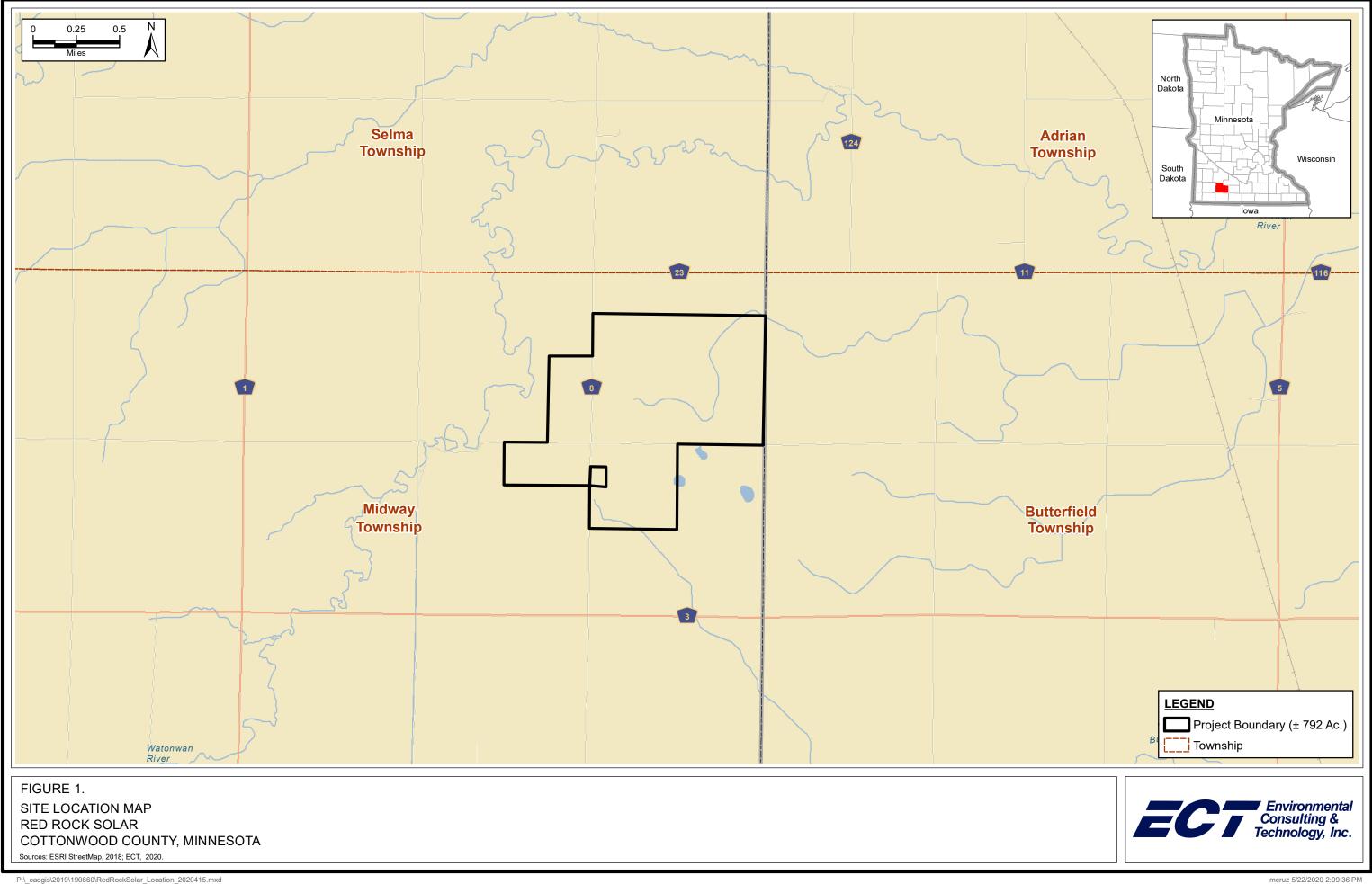
UPL: Upland plant that occurs very rarely in wetlands, less than 1% of the time



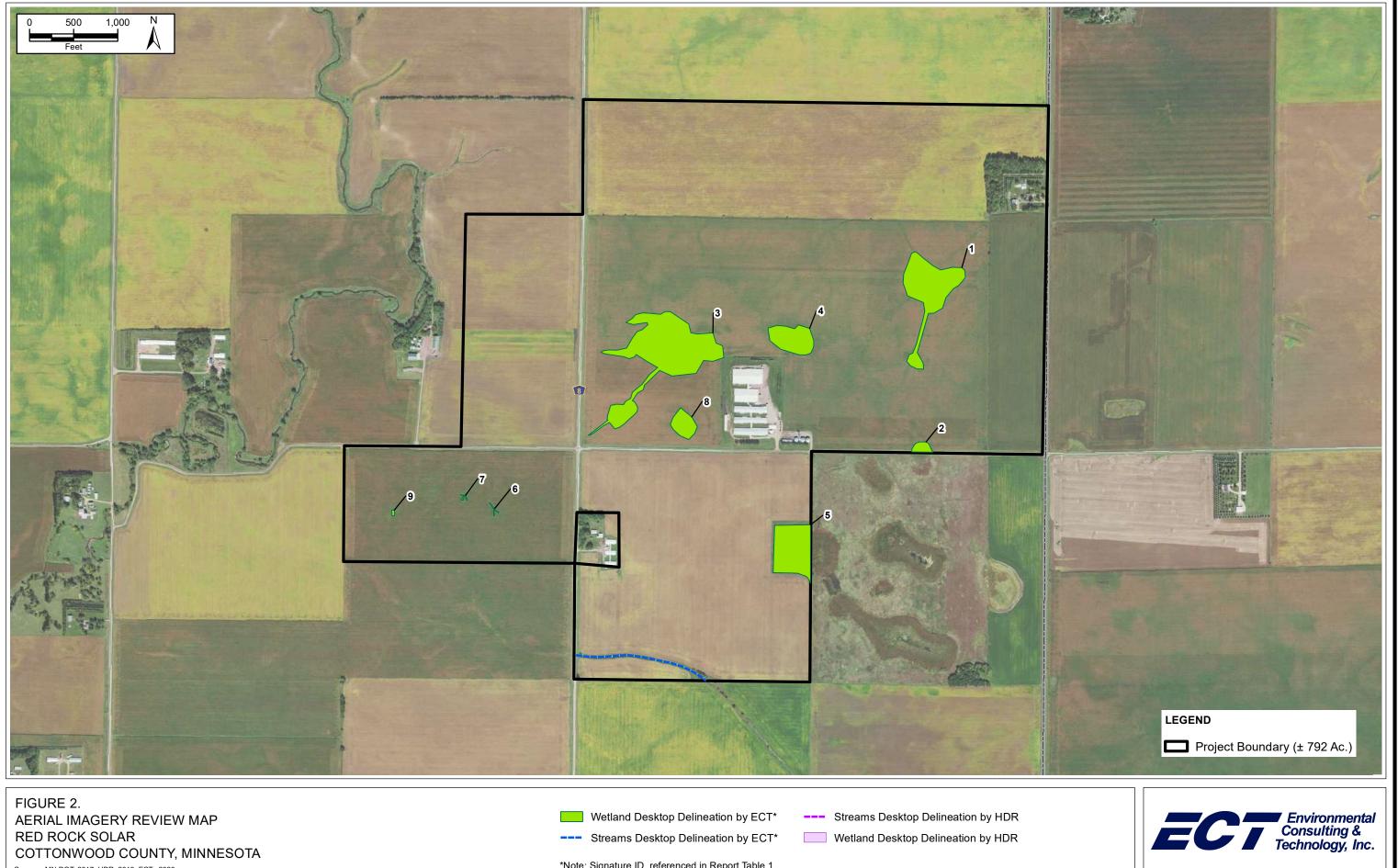
# Appendix A Background & Delineation Maps

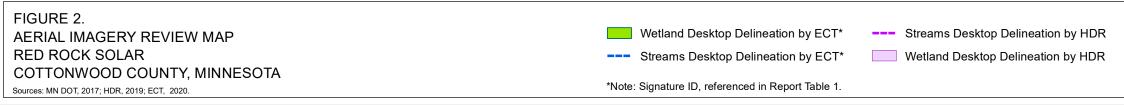
Figure 1 Site Location Map Figure 2 Aerial Imagery Review Map Figure 3 USGS Topographic Map Figure 4 PWI & NHD Features Map Figure 5 Minnesota & National Wetland Inventories Map Figure 6 NRCS Soils Map Figure 7 FEMA Floodplain Map Figure 8 Wetland and Watercourse Delineation Maps



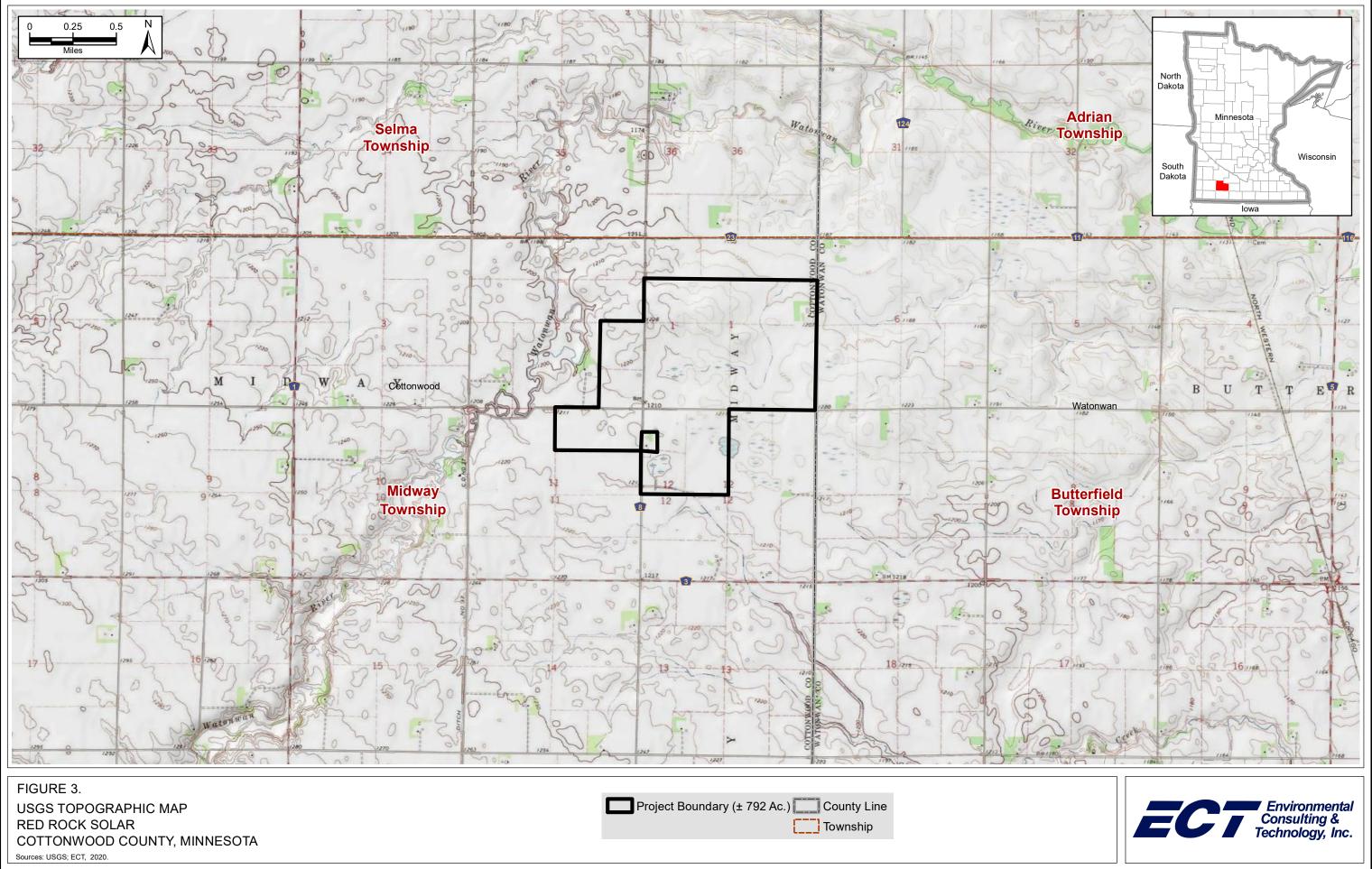


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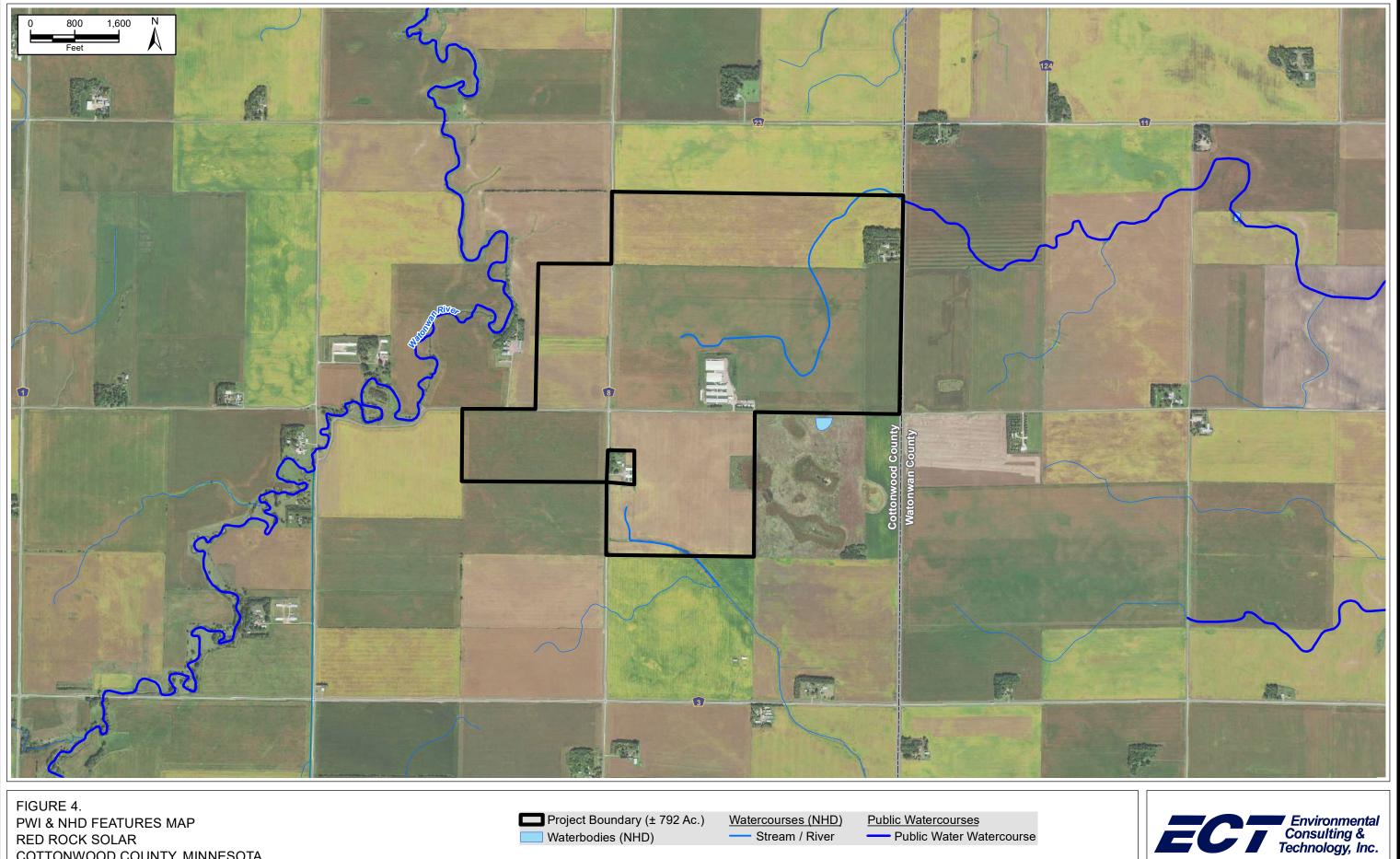




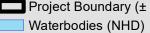
P:\\_cadgis\2019\190660\RedRockSolar\_Aerial\_Review\_20200415.mxd



P:\\_cadgis\2019\190660\RedRockSolar\_Topo\_20200415.mxd



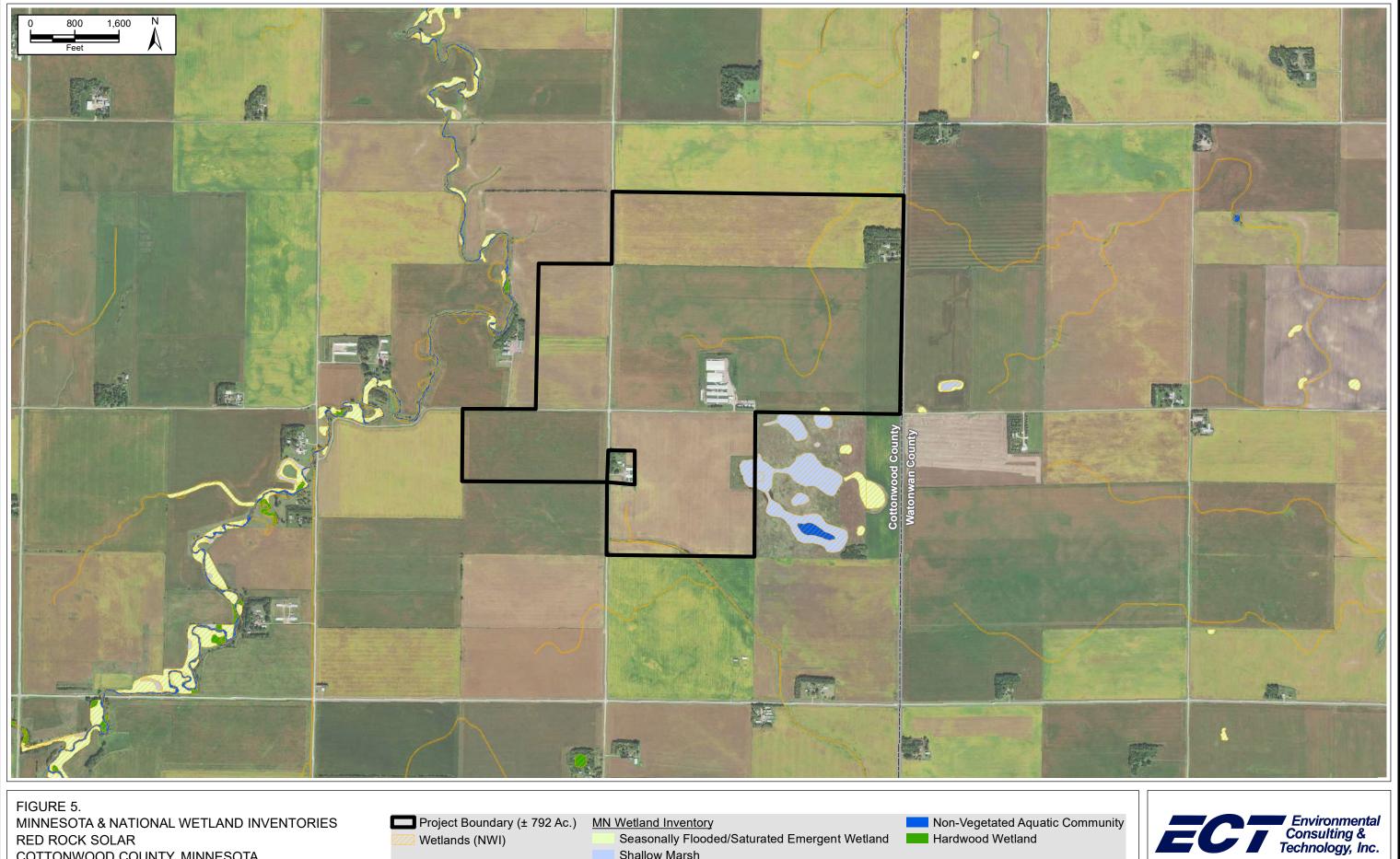
RED ROCK SOLAR COTTONWOOD COUNTY, MINNESOTA Sources: USDA 2017 Imagery; USGS, 2019; MN DNR, 2020; ECT, 2020.



----- Stream / River

---- Public Water Watercourse

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MINNESOTA & NATIONAL WETLAND INVENTORIES RED ROCK SOLAR COTTONWOOD COUNTY, MINNESOTA Sources: USDA 2017 Imagery; USFWS, 2019; MN DNR, 2020; ECT, 2020.

Wetlands (NWI)

Seasonally Flooded/Saturated Emergent Wetland Shallow Marsh

Hardwood Wetland

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mcruz 4/22/2020 3:08:39 PM

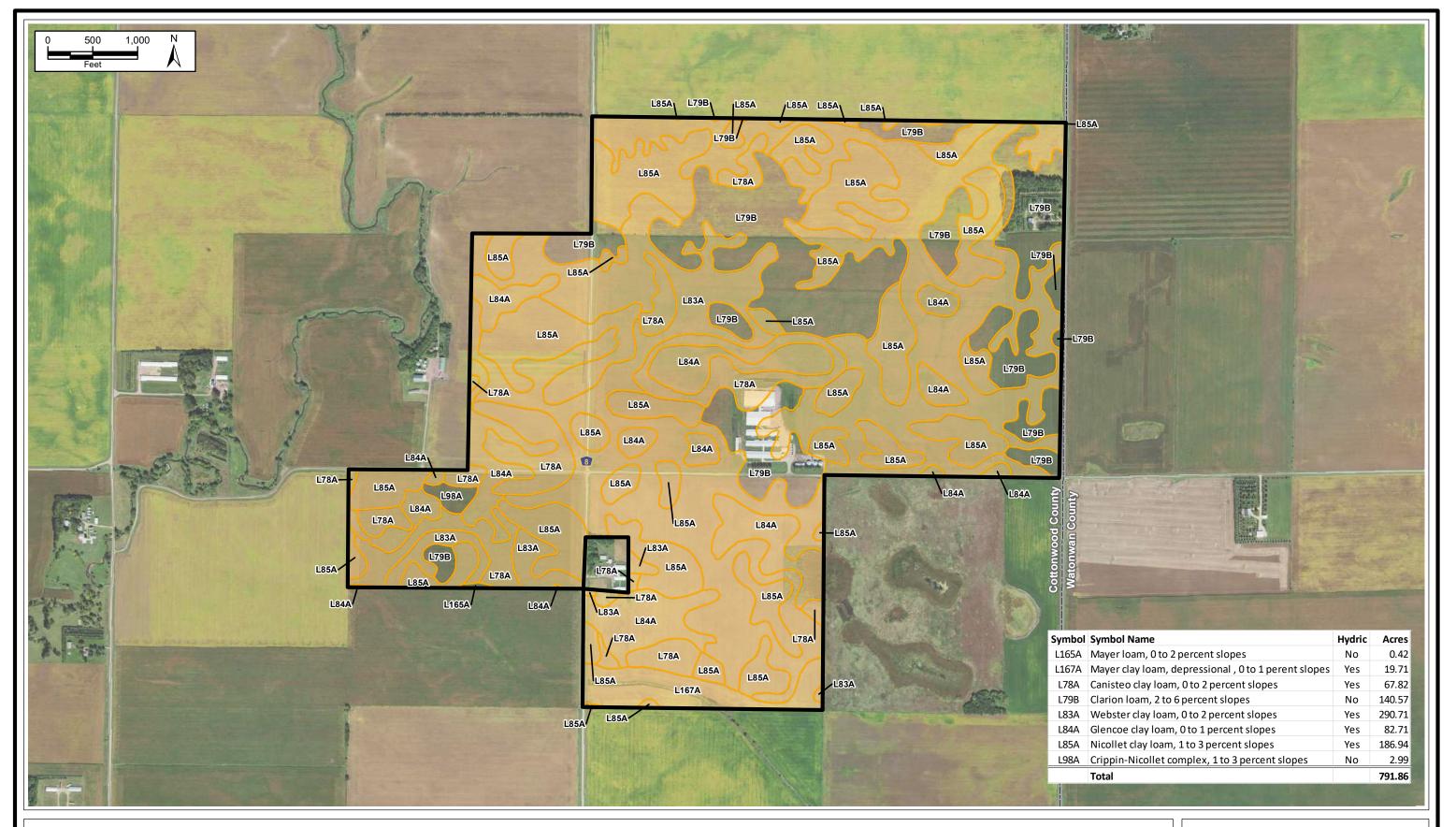


FIGURE 6. NRCS SOILS MAP RED ROCK SOLAR COTTONWOOD COUNTY, MINNESOTA Sources: USDA 2017 Imagery; MN DOT, 2017; ECT, 2020.

Project Boundary (± 792 Ac.)	
County Line	

Non-Hydric Soils
Hydric Soils

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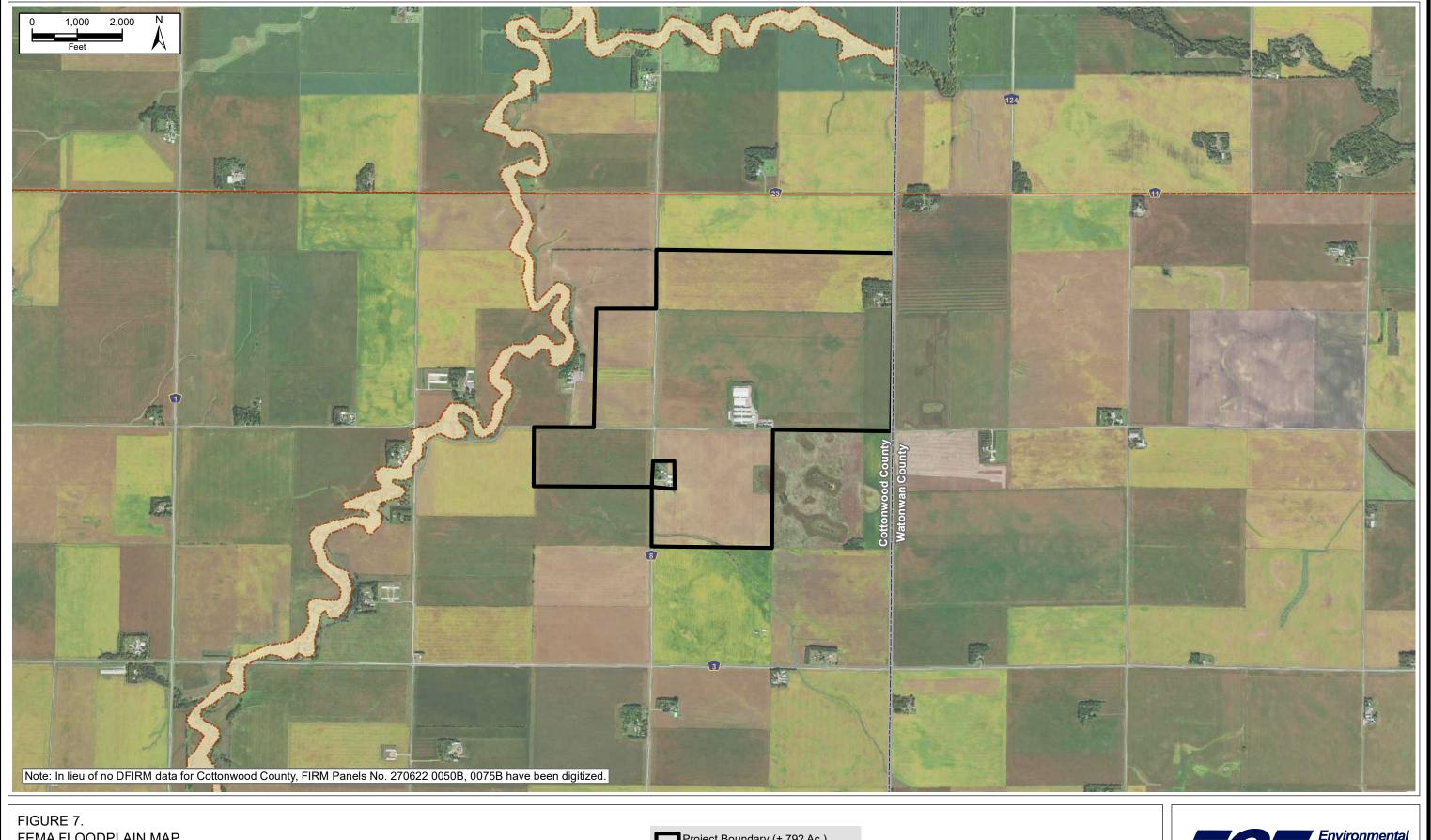
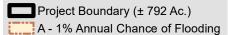
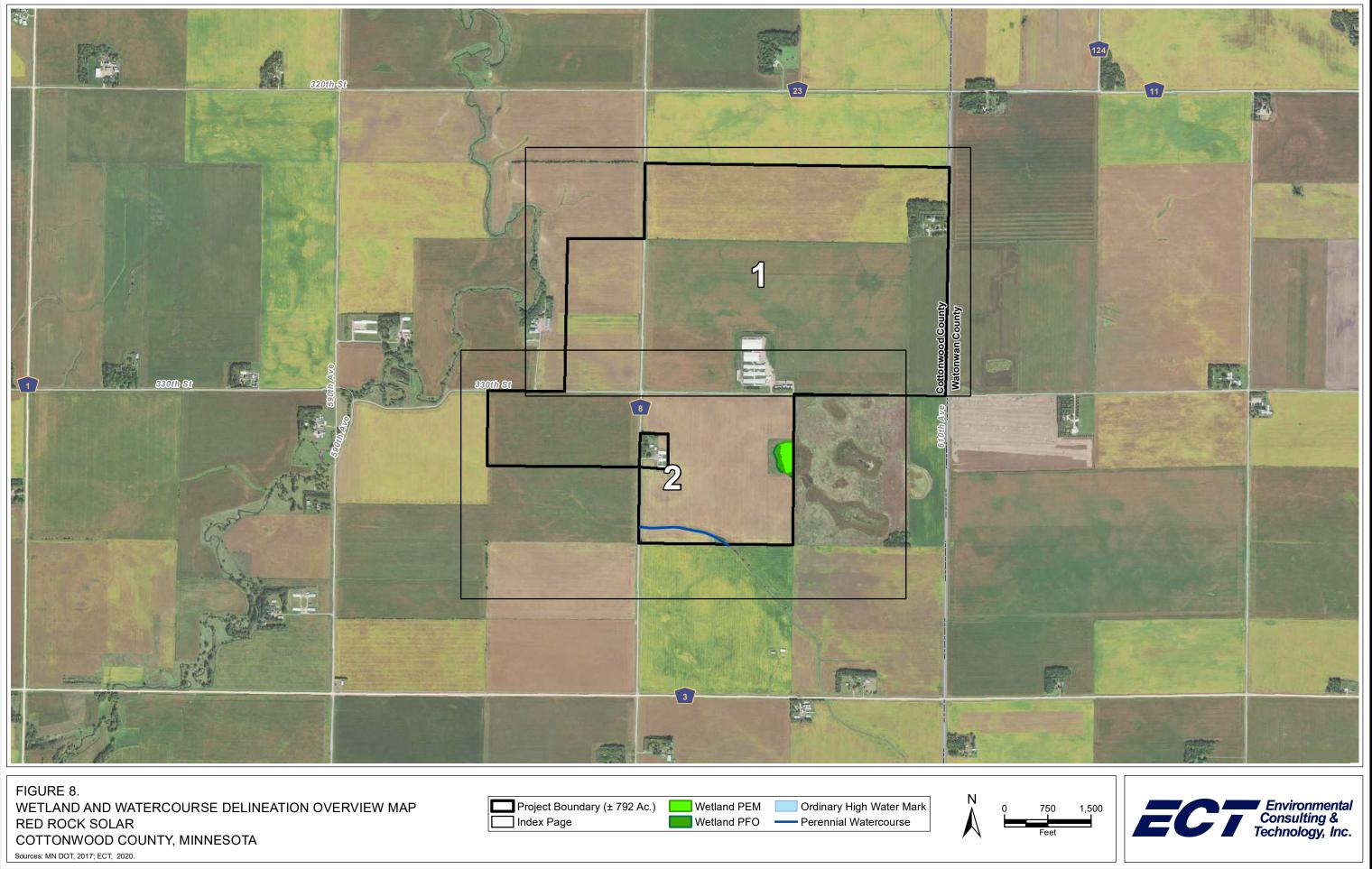


FIGURE 7. FEMA FLOODPLAIN MAP RED ROCK SOLAR COTTONWOOD COUNTY, MINNESOTA Sources: MN DOT, 2017; FEMA, 1981; ECT, 2020.

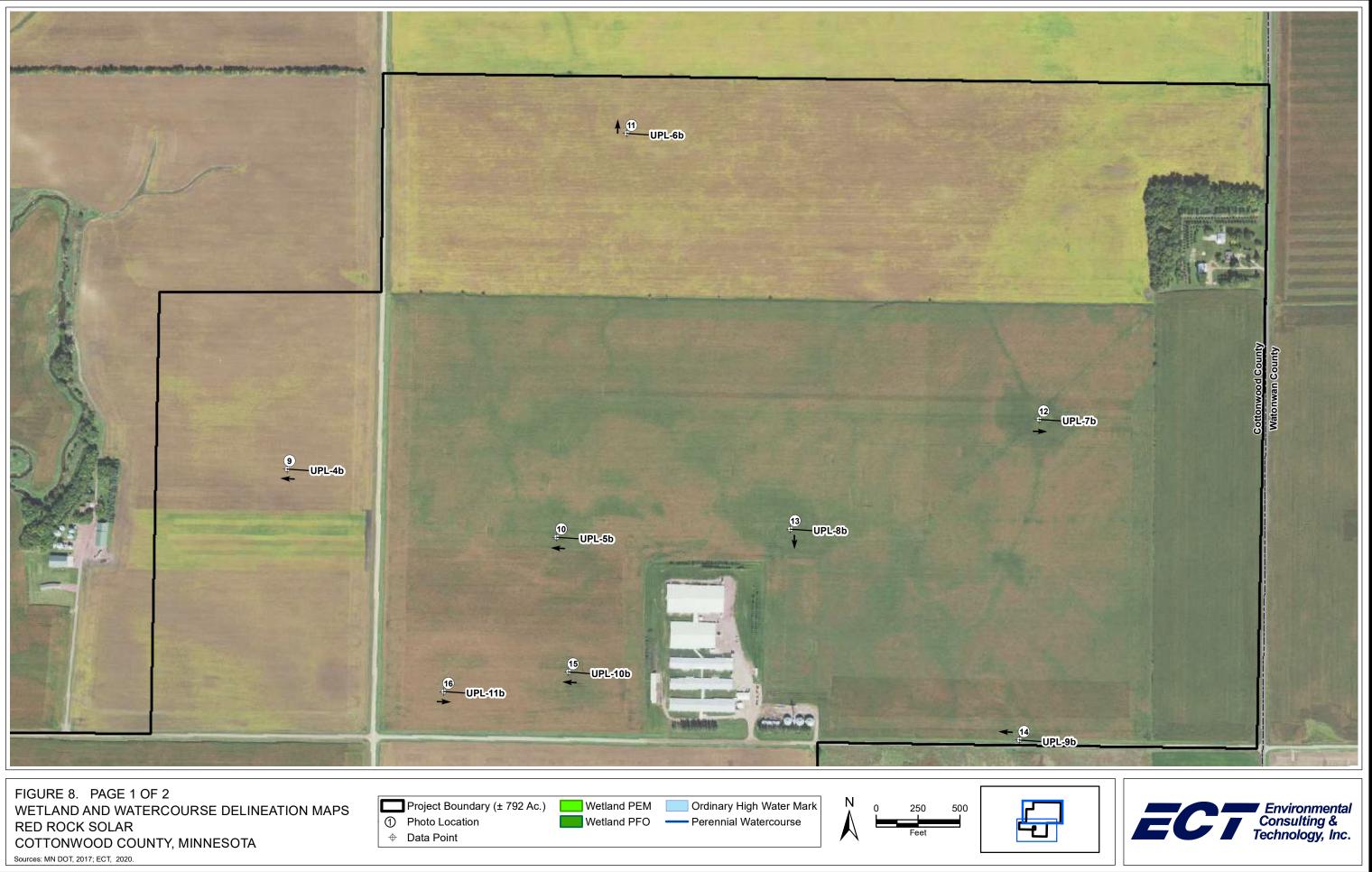


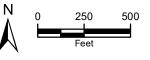
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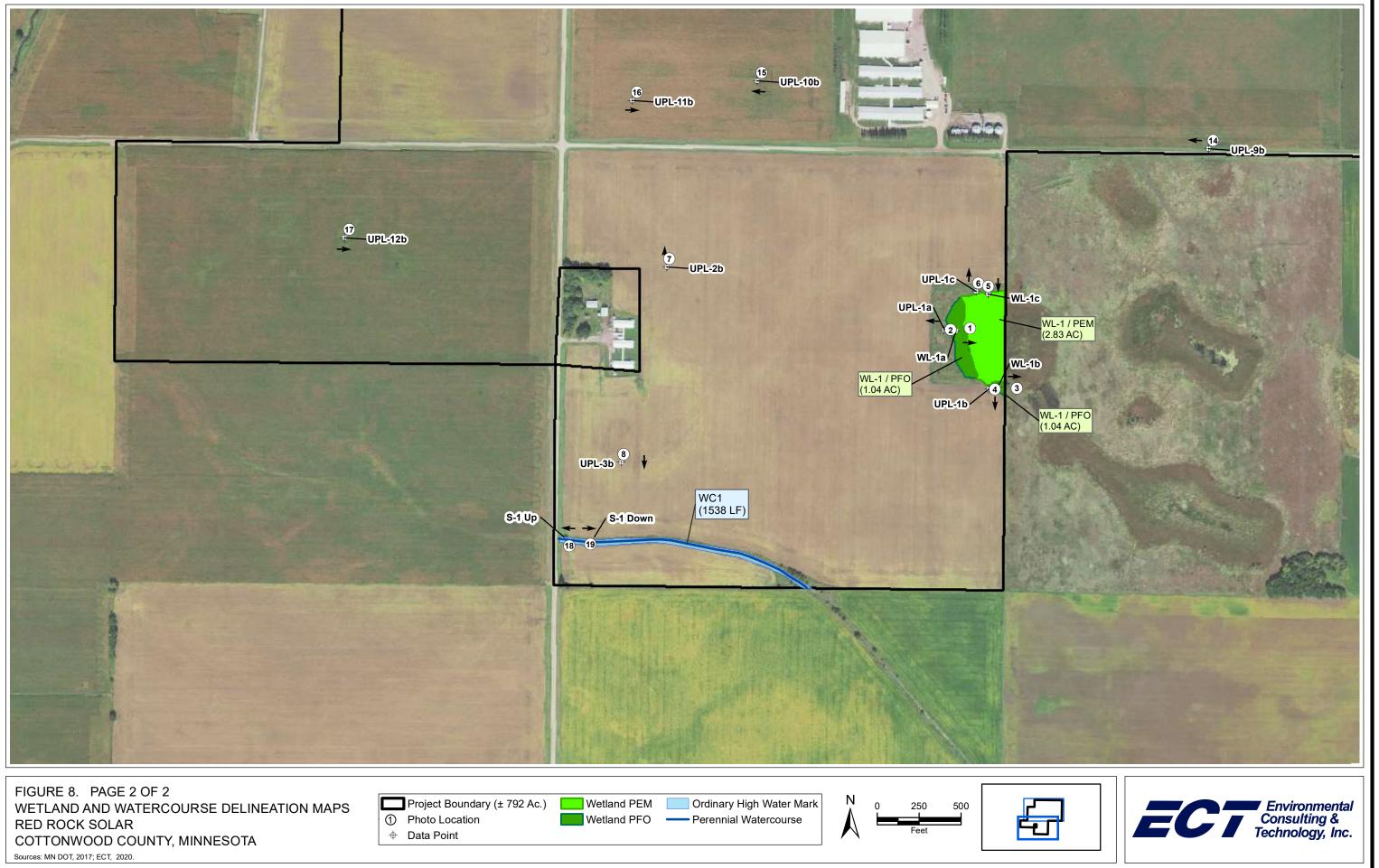


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# Appendix B Precipitation Worksheets



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# **Precipitation Worksheet Using Gridded Database**

# Precipitation data for target wetland location:

county: Cottonwood	township number: 106N
township name: Midway	range number: 34W
nearest community: Darfur	section number: 2

# Aerial photograph or site visit date: Sunday, April 26, 1992

# Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month:	second prior month:	third prior month:
	March	February	January
denved nom radar-based estimates.	1992	1992	1992
estimated precipitation total for this location:	1.84	0.75	0.94
there is a 30% chance this location will have less than:	1.28	0.31	0.42
there is a 30% chance this location will have more than:	2.26	0.90	1.11
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)		

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

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# **Precipitation Worksheet Using Gridded Database**

# Precipitation data for target wetland location:

county: Cottonwood	township number: 106N
township name: Midway	range number: <b>34W</b>
nearest community: Darfur	section number: 2

# Aerial photograph or site visit date: Saturday, May 31, 2003

# Score using 1981-2010 normal period

multi-month score:           6 to 9 (dry)         10 to 14 (normal)         15 to 18 (wet)		12 (Norma	al)
monthly score	3 * 2 = 6	2 * 2 = 4	1 * 2 = 2
type of month: dry normal wet	normal	normal	normal
there is a 30% chance this location will have more than:	3.40	2.26	0.90
there is a 30% chance this location will have less than:	1.92	1.28	0.31
estimated precipitation total for this location:	2.02	1.53	0.76
denved nom radar-based estimates.	2003	2003	2003
A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	April	March	February
values are in inches	first prior month:	second prior month:	third prior month:

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# **Precipitation Worksheet Using Gridded Database**

# Precipitation data for target wetland location:

county: Cottonwood	township number: 106N
township name: Midway	range number: 34W
nearest community: Darfur	section number: 2

# Aerial photograph or site visit date: Monday, August 2, 2004

### Score using 1981-2010 normal period

values are in inches	first prior month:	second prior month:	third prior month:
A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	July	June	May
denved nom radar-based estimates.	2004	2004	2004
estimated precipitation total for this location:	6.30	2.55	5.23
there is a 30% chance this location will have less than:	2.67	2.95	2.15
there is a 30% chance this location will have more than:	4.16	4.97	4.11
type of month: dry normal wet	wet	dry	wet
monthly score	3 * <mark>3</mark> = 9	2 * <mark>1</mark> = 2	1 * <mark>3</mark> = 3
	1		
multi-month score:           6 to 9 (dry)         10 to 14 (normal)         15 to 18 (wet)	14 (Normal)		

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# **Precipitation Worksheet Using Gridded Database**

# Precipitation data for target wetland location:

county: Cottonwood	township number: 106N
township name: Midway	range number: <b>34W</b>
nearest community: Darfur	section number: 2

# Aerial photograph or site visit date: Wednesday, May 31, 2006

# Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: April 2006	second prior month: March 2006	third prior month: February 2006
estimated precipitation total for this location:	5.42	1.86	0.30
there is a 30% chance this location will have less than:	1.92	1.28	0.31
there is a 30% chance this location will have more than:	3.40	2.26	0.90
type of month: dry normal wet	wet	normal	dry
monthly score	3 * <mark>3</mark> = 9	2 * 2 = 4	1 * <mark>1</mark> = 1
multi-month score:           6 to 9 (dry)         10 to 14 (normal)         15 to 18 (wet)		14 (Norm	al)

- retrieve daily precipitation data
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# **Precipitation Worksheet Using Gridded Database**

# Precipitation data for target wetland location:

county: Cottonwood	township number: 106N
township name: Midway	range number: <b>34W</b>
nearest community: Darfur	section number: 2

### Aerial photograph or site visit date: Wednesday, May 21, 2008

# Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: April 2008	second prior month: March 2008	third prior month: February 2008
estimated precipitation total for this location:	3.17	1.28	0.20
there is a 30% chance this location will have less than:	1.92	1.28	0.31
there is a 30% chance this location will have more than:	3.40	2.26	0.90
type of month: dry normal wet	normal	normal	dry
monthly score	3 * 2 = 6	2 * 2 = 4	1 * <b>1</b> = 1
multi-month score:           6 to 9 (dry)         10 to 14 (normal)         15 to 18 (wet)		11 (Norma	al)

- retrieve daily precipitation data
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# **Precipitation Worksheet Using Gridded Database**

# Precipitation data for target wetland location:

county: Cottonwood	township number: 106N
township name: Midway	range number: 34W
nearest community: Darfur	section number: 2

### Aerial photograph or site visit date: Tuesday, June 2, 2009

# Score using 1981-2010 normal period

values are in inches	first prior month:	second prior month:	third prior month:
A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	Мау	April	March
derived nonrradar-based estimates.	2009	2009	2009
estimated precipitation total for this location:	1.34	1.68	1.28
there is a 30% chance this location will have less than:	2.15	1.92	1.28
there is a 30% chance this location will have more than:	4.11	3.40	2.26
type of month: dry normal wet	dry	dry	normal
monthly score	3 * <b>1</b> = 3	2 * <b>1</b> = 2	1 * 2 = 2
multi-month score:           6 to 9 (dry)         10 to 14 (normal)         15 to 18 (wet)		7 (Dry)	

- retrieve daily precipitation data
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- view weekly precipitation maps
- Evaluating Antecedent Precipitation Conditions (BWSR)

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# **Precipitation Worksheet Using Gridded Database**

# Precipitation data for target wetland location:

county: Cottonwood	township number: 106N
township name: Midway	range number: 34W
nearest community: Darfur	section number: 2

# Aerial photograph or site visit date: Saturday, April 23, 2011

# Score using 1981-2010 normal period

values are in inches	first prior month:	second prior month:	third prior month:
A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	March	February	January
denved nom radar-based estimates.	2011	2011	2011
estimated precipitation total for this location:	1.39	1.50	1.25
there is a 30% chance this location will have less than:	1.28	0.31	0.42
there is a 30% chance this location will have more than:	2.26	0.90	1.11
type of month: dry normal wet	normal	wet	wet
monthly score	3 * 2 = 6	2 * <mark>3</mark> = 6	1 * <mark>3</mark> = 3
multi-month score:           6 to 9 (dry)         10 to 14 (normal)         15 to 18 (wet)		15 (Wet)	

- retrieve daily precipitation data
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# **Precipitation Worksheet Using Gridded Database**

# Precipitation data for target wetland location:

county: Cottonwood	township number: 106N
township name: Midway	range number: <b>34W</b>
nearest community: Darfur	section number: 2

# Aerial photograph or site visit date: Friday, October 12, 2012

# Score using 1981-2010 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: September 2012	second prior month: August 2012	third prior month: July 2012
estimated precipitation total for this location:	0.42	1.55	0.90
there is a 30% chance this location will have less than:	1.69	2.22	2.67
there is a 30% chance this location will have more than:	3.37	4.41	4.16
type of month: dry normal wet	dry	dry	dry
monthly score	3 * <b>1</b> = 3	2 * <mark>1</mark> = 2	1 * <mark>1</mark> = 1
multi-month score:           6 to 9 (dry)         10 to 14 (normal)         15 to 18 (wet)		6 (Dry)	

- retrieve daily precipitation data
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- view weekly precipitation maps
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# **Precipitation Worksheet Using Gridded Database**

# Precipitation data for target wetland location:

county: Cottonwood	township number: 106N
township name: Midway	range number: <b>34W</b>
nearest community: Darfur	section number: 2

### Aerial photograph or site visit date: Wednesday, July 22, 2015

### Score using 1981-2010 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 2015	second prior month: May 2015	third prior month: April 2015
estimated precipitation total for this location:	3.74	5.46	1.49
there is a 30% chance this location will have less than:	2.95	2.15	1.92
there is a 30% chance this location will have more than:	4.97	4.11	3.40
type of month: dry normal wet	normal	wet	dry
monthly score	3 * 2 = 6	2 * <mark>3</mark> = 6	1 * <mark>1</mark> = 1
multi-month score:           6 to 9 (dry)         10 to 14 (normal)         15 to 18 (wet)		13 (Normal)	

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

Date:	May 19, 2020	May 19, 2020								
Weather Station:	St. Jame's, M	St. Jame's, MN		Landowner:	Red Rock Solar					
County:	Watonwan	Watonwan		State:	Minnesota					
Soil name:	Loamy & Clay Loam soils		_	Growing Season:	4/20 - 10/14					
Photo date:	May 11, 2020	)	_							
			Long-term rainfall records						-1	
	Month		3 yrs. In 10 less than	Normal	3 yrs. In 10 more than	Rain fall	Condition dry, wet, normal	Condition value	Month weight value	Product of pervious two columns
1st	prior month*	April	2.01	2.98	3.56	1.32	Dry	1	3	3
2nd	prior month*	March	0.82	1.65	1.99	2.72	Wet	3	2	6
3rd	prior month*	February	0.3	0.7	0.81	1.26	Wet	3	1	3
	*c	ompared to photo data							Sum	12
	Note: If sum	is					Condition Value			
	6-9 Th	en prior period has been o	lrier than normal				Dry = 1			
	10-14 Th	en prior period has been r	ormal				Normal = 2			
	15-18 Th	en prior period has been v	vetter than normal				Wet = 3			
		Conclusio	n: Year is Normal							

#### WETS Station: ST. JAMES WWTP, MN

#### Requested years: 1980 - 2020

Month	Avg Max Temp	Avg Min Temp	Avg Mean Temp	Avg Precip	30% chance precip less than	30% chance precip more than	Avg number days precip 0. 10 or more	Avg Snowfall	
Jan	24.3	6.1	15.2	0.75	0.28	0.86	2	10.2	
Feb	28.5	10.1	19.3	0.70	0.30	0.81	2	8.5	
Mar	40.6	22.6	31.6	1.65	0.82	1.99	3	8.0	
Apr	56.6	34.6	45.6	2.98	2.01	3.56	6	3.5	
May	70.3	47.6	58.9	4.17	2.89	4.96	8	0.0	
Jun	79.7	57.9	68.8	4.67	2.99	5.62	8	0.0	
Jul	83.3	61.6	72.5	4.05	2.62	4.87	7	0.0	
Aug	80.4	59.2	69.8	3.94	2.37	4.78	6	0.0	
Sep	73.9	50.1	62.0	3.30	1.63	4.03	5	0.0	
Oct	59.6	36.8	48.2	2.34	1.03	2.85	4	0.3	
Nov	42.5	24.3	33.4	1.22	0.62	1.45	3	5.5	
Dec	27.7	11.3	19.5	1.15	0.55	1.38	3	9.8	
Annual:					-	-			
Average	55.6	35.2	45.4	-	-	-	-	-	
Total	-	-	-	30.90			58	45.8	

#### GROWING SEASON DATES

Years with missing data:	24 deg =	28 deg =	32 deg =
	8	7	7
Years with no occurrence:	24 deg =	28 deg =	32 deg =
	0	0	0
Data years used:	24 deg =	28 deg =	32 deg =
	33	34	34
Probability	24 F or	28 F or	32 F or
	higher	higher	higher
50 percent *	4/9 to	4/20 to	4/27 to
	10/24:	10/14:	10/3: 159
	198 days	177 days	days
70 percent *	4/6 to	4/17 to	4/24 to
	10/28:	10/18:	10/6: 165
	205 days	184 days	days

\* Percent chance of the growing season occurring between the Beginning and Ending dates.

STATS TABLE - total precipitation (inches)													
Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annl
1940					M2.03	6.50	0.71	6.45	0. 96		2.28	2.20	21. 13
1941	0.38	0.62	0.64	3.23	3.09	M7.86	2.32	1.99	4. 20	4. 19	1.40	0.70	30. 62
1942	0.40	0.18	2.65	0.85		4.94	3.26	3.31	7. 61	0. 47	0.25	0.34	24. 26
1943	2.69	1.98	1.30	0.90	5.71	5.12	4.68	6.18	3. 67	1. 70	0.65	0.00	34. 58
1944	0.74	M0.95	0.79	2.99	M8.58	4.79	M2.75	5.01	1. 77	0. 25	1.65	0.07	30. 34
1945	0.15	M1.35	1.65	2.97	3.32	5.55	4.45	1.29	5. 26		1.61	0.97	28. 57
1946	M0.53	M0.79	2.60		4.33	5.95	2.01	M2.79	7. 50	3. 44	M1. 27	0.52	31. 73
1947	0.47	1.63	M0.54	3.11	1.56	6.54	0.97	1.57	2. 44	1. 86	M2. 42	0.66	23. 77
1948	Т	1.41	0.36	3.38	1.84		2.45	3.90	2.		2.48	0.49	19.

									86				17
1949	1.34	0.08	3.22	0.72	3.58	3.42	4.86	0.54	2. 72	1. 61	0.28	0.97	23 34
1950	0.54	0.40	1.52	1.81	4.18	3.80	3.60	1.60	2. 59	1. 54	0.86	0.40	22 84
1951	0.26	1.13	3.83	1.90	3.74	5.51	1.50	4.11	4. 57	2. 05	1.02	M0. 89	30 51
1952	1.36	0.25	1.50	1.05	1.80	4.79	3.08	3.59	0. 59	0. 00	1.61	0.23	19 85
1953	0.69	1.03	1.51	4.94	7.28	8.53	4.18	2.69	0. 47	0. 37	2.11	1.30	35 10
1954	0.04	0.98	1.95	2.37	2.73	4.42	3.29	4.67	3. 06	1. 69	0.19	0.08	25 47
1955	0.20	0.76	0.24	2.32	0.89	3.27	3.50	4.97	1. 12	1. 11	0.19	0.49	19 06
1956	0.16	0.39	1.51	2.38	3.81	4.76	3.55	3.90	0. 60	0. 68	2.12	0.31	24 17
1957	т	0.28	2.03	0.79	3.53	7.47	5.26	5.23	1. 39	1. 94	1.35	0.18	29 45
1958	0.20	0.27	0.26	3.73	M1.43	1.89	4.73	1.34	0. 99	0. 41	1.02	0.05	16 32
1959	0.12	0.43	0.17	0.37	6.81	2.73	0.57	6.93	3. 87	3. 16	M0. 29	1.75	27 20
1960	0.44	0.16	0.67	4.68	5.56	3.16	5.38	5.93	5. 83	0. 31	0.94	0.41	33 47
1961	0.06	0.47	2.21	1.21	4.12	1.44	7.95	2.82		1. 23	0.62	0.53	22 66
1962	0.35	1.01	1.40		4.23	4.06	6.31	3.92	1. 85	0. 85	0.35	0.12	24 45
1963	0.32	0.44		2.37	2.16	4.02	8.92	1.96	3. 89	1. 04	0.01	0.14	25 27
1964	0.16	0.07	0.81	4.10	6.13	2.00	4.07		8. 11	0. 33	1.16	0.66	27 60
1965	0.74	1.17	1.41	4.31	5.47	3.49	1.39	1.83	5. 80	0. 73	0.76	0.75	27 85
1966	0.56	0.87	0.84	1.29	1.17	4.37	4.83	5.67	2. 49	2. 21	0.19	0.71	25 20
1967	1.01	0.51	0.51	4.79	0.50	6.03	2.34	5.65	0. 50	1. 05	0.02	0.36	23 27
1968	0.41	0.01	0.05	3.86	2.03	4.76	8.21	2.29	8. 29	5. 33	0.44	1.34	37 02
1969	1.72	1.16	1.02	2.61	3.04	4.70	4.57	1.90	0. 72	1. 59	0.24	1.77	25 04
1970	0.20	0.12	1.66	3.40	2.46	2.46	5.74	1.17	5. 26	4. 92	2.29	0.73	30 4
1971	0.46	1.93	0.77	1.12	2.89	5.52	1.02	1.23	2. 16	4. 76	2.24	0.73	24 83
1972	0.56	0.27	0.86	2.40	4.28	2.26	4.93	1.85	2. 66	2. 02	1.57	1.84	25 50
1973	0.73	0.45	1.85	2.09	3.75	1.55	3.01	1.33	4. 42	0. 96	3.33	1.03	24 50
1974	0.05	0.75	0.76	2.36	4.33	5.18	1.65	3.79	0. 95	1. 46	0.77	0.25	22 30
1975	1.33	0.34	2.93	2.73	1.73	5.70	0.75	3.60	1. 82	0. 40	4.40	0.58	26 3
1976	0.24	0.45	2.16	0.65	1.06	2.06	1.83	3.48	2. 65	0. 79	0.04	0.45	15 86
1977	0.26	0.73	4.21	2.60	4.97	5.74	3.37	2.80	5. 69	3. 80	2.39	0.98	37 54
1978	0.29	0.48	0.70	2.80	2.58	3.83	4.02	3.64	1. 40	0. 43	1.45	0.48	22 10
1979	1.57	0.79	3.45	1.63	2.99	6.26	3.03	6.35	2. 28	4. 33	1.76	0.04	34 48
1980	0.37	0.70	0.80	1.15	5.52	1.72	0.40	6.50	2. 75	0. 86	0.09	0.19	21 05
1981	0.23	1.26	0.78	3.17	1.67	8.40	6.32	4.02		2. 89	0.94	0.66	30 34
1982	1.09	0.25	1.18	1.55	4.18	0.99	4.23	4.58	4.	3.	2.24	2.44	30

									37	59			69
1983	0.29	0.40	2.45	2.31	3.56	5.10	2.02	3.31	2. 18	2. 05	2.48	0.90	27 05
1984	0.81	0.49	1.01	3.19	1.98	5.65	2.04	2.17	3. 16	3. 62	0.68	1.56	26 36
1985	0.37	0.06	4.27	3.48	3.55	2.14	2.07	5.45	5. 23	3. 19	1.41	0.82	32 04
1986	1.12	0.24	1.72	5.81	3.30	6.14	8.93		6. 06		0.94	0.09	34 35
1987	0.30	Т	0.84	0.69	3.00	1.76	5.15		1. 73	0. 25	1.76	1.49	16 97
1988	M2.66	0.26	0.39	M2.94	1.65	1.02	1.40	4.17	2. 16	0. 06	2.14	MT	18 85
1989		MT	2.92	3.39	1.62	3.27	3.73	2.81	1. 52	0. 18	0.86	0.27	20 5
1990	т	0.50	4.18	1.97	3.52	4.89	7.46	0.89	0. 81	1. 37	M0. 33	MT	25 92
1991	MT	MT	M0.10	6.43	5.58	8.68	3.75	3.16	6. 11	1. 25	M1. 60	M0. 50	37 16
1992	M0.50	M0.00	M1.96	3.45	2.81	3.65	6.22	5.03	3. 02	2. 96	M0. 42	MT	30 02
1993	M1.20	M0.00	M1.05	3.86	6.25	10.64	8.05	4.70	3. 60	M0. 35	M1. 06		40 76
1994			M0.12	M4.67	2.13	4.64	4.18	4.06	3. 40	2. 19	M1. 08		26 47
1995			M3.37	M2.92	4.91	2.26	6.74	2.78		M3. 87	M0. 71	M0. 00	27 50
1996	M1.20	0.05	M0.50	M0.67	3.54	6.96	2.43	7.97	1. 84	3. 28	M2. 64		31 08
1997	M0.54	M0.00	M1.75	M1.96	4.16	6.10	4.56	4.74	1. 99	1. 74	M0. 26	M7. 35	35 1
1998	M0.50	M0.35	M2.89	3.34	M2.49	2.86	2.88	3.82	1. 73	4. 64	M1. 15	M0. 12	26 7
1999	M0.33	MT	M0.18	M5.15	3.69	M4.95	3.40	1.63	0. 53	0. 63	1.88	M0. 01	22 38
2000	M0.00	M0.86	M1.07	M0.94	6.07	3.53	4.38	2.75	M0. 98	1. 60	M1. 86		24 04
2001	M0.25	M0.25	MT	7.15	4.68	M4.49	5.32	1.53	2. 28	0. 69	M3. 30	MT	29 94
2002	M0.00	MT	M1.02	M3.19	2.77	3.91	3.03	6.21	1. 84	M2. 48	M0. 00	M0. 16	24 6
2003	M0.11	M0.22	M2.04	M1.30	5.26	5.29	4.92	2.05	2. 32	0. 36	M0. 58	M2. 34	26 79
2004	M0.02	M0.08	1.36	1.64	5.87	2.94	4.31	2.90	8. 57	1. 00	1.13	0.21	30 03
2005	M0.01	1.05	M0.47	4.61	M2.35	4.10	5.00	M4.79	8. 37	M0. 27	M1. 45	M0. 14	32 6
2006	M0.04	M0.41	M1.97	M4.95	M1.63	M3.71	3.04	5.13	M2. 15	0. 55	1.31	2.01	26 91
2007	1.79	1.33	2.05	1.74	2.57	1.67	2.31	10.72	3. 26	M4. 53	Т	M0. 35	32 31
2008	M0.42	M0.01	M1.62	3.91	6.30	4.69	2.31	0.96	M1. 99	3. 69	M1. 50	2.68	30 01
2009	1.33	1.78	0.98	1.15	0.64	4.22	1.77	2.78	M0. 09	M7. 46	1.15	M1. 22	24 5
2010	0.95	0.73	1.60	2.81	2.07	7.24	6.14	3.01	13. 66	1. 50	0.88	2.13	42 7
2011	M0.24	1.02	2.34	3.04	4.51	4.33	4.77	0.08	1. 07	0. 26	0.07	1.03	22 7
2012	0.38	2.04	1.42	2.99	10.11	0.97	1.86	1.57	0. 37	0. 94	0.71	1.07	24 43
2013	0.98	0.91	3.39	M1.97	5.64	7.01	1.21	3.77	1. 14	2. 90	0.62	0.98	30 51
2014	0.94	0.28	M0.50	3.66	1.97	10.46	1.06	6.14	1. 64	0. 94	0.97	0.88	29 4
2015	0.42	0.53	0.36	1.84	4.60	3.48	2.88	3.88	3. 41	2. 83	4.21	2.75	3 <sup>-</sup> 1
2016	0.27	M0.66	2.80	3.60	7.69	6.07	9.12	7.16	7.	4.	1.97	1.46	52

									36	43			59
2017	0.83	0.43	1.84	2.42	5.36	2.98	2.82	3.83	2. 30	4. 95	0.08	0.59	28. 43
2018	1.08	1.18	2.87	3.36	6.17	10.66	4.97	5.50	5. 95	2. 83	1.39	2.47	48. 43
2019	1.70	1.84	3.12	4.31	7.08	2.21	4.62	3.97	4. 32	6. 02	2.49	1.10	42. 78
2020	1.85	1.26	2.72	1.32	M1.56								8.71
Notos: Data missing in any													

Notes: Data missing in any month have an "M" flag. A "T" indicates a trace of precipitation.

Data missing for all days in a month or year is blank.

Creation date: 2016-07-22

# Appendix C USACE Datasheets



Project/Site: Red Rock Solar	City/County: Cottonwood		Sampling Date: 5/11/2020
Applicant/Owner: Red Rock Solar, LLC		State: MN	Sampling Point: WL-1a
Investigator(s): R. Scott	Section, Township, Range: _	T106N R34W S1	2
Landform (hillslope, terrace, etc.): Toe slope		ave, convex, none):	
	Long: <u>-94.870433°</u>		Datum: NAD 83
Soil Map Unit Name: Glencoe clay loam, 0 to 1 percent slopes		NWI classific	ation: PFO/Type 1
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes X No	(If no, explain in Re	emarks.)
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "Norm	al Circumstances" p	oresent? Yes X No
Are Vegetation, Soil, or Hydrology naturally pro	oblematic? (If needed,	explain any answer	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point locati	ions, transects	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes X No Yes X No Yes X No	Is the Sampled Area within a Wetland?	Yes_X	. No
Remarks:				

#### VEGETATION - Use scientific names of plants.

	Absolute		Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30ft.</u> )		Species?		Number of Dominant Species
1. Populus deltoides	30	Yes	FAC	That Are OBL, FACW, or FAC: _3 (A)
2				Tatal Number of Deminent
3				Total Number of Dominant Species Across All Strata: 3 (B)
WOLC:				
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.0% (A/B)
15ft		= Total Cov	ver	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15ft. )				
1. Salix lucida	50	Yes	FACW	Total % Cover of:Multiply by:
2				OBL species x 1 =
3.				FACW species $50$ x 2 = $100$
				FAC species 30 x 3 = 90
4		-	. <del></del>	
5	·	<u> </u>	<u> </u>	FACU species x 4 =
5ft		= Total Cov	ver	UPL species x 5 =
Herb Stratum (Plot size: 5ft. )	10	V		Column Totals: <u>120</u> (A) <u>230</u> (B)
1. Schoenoplectus maritimus	40	Yes	OBL	1.00
2				Prevalence Index = B/A =
3				Hydrophytic Vegetation Indicators:
4				1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
5				$\frac{1}{2}$ 3 - Prevalence Index is $\leq 3.0^{1}$
6				
7				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
8				data in Remarks or on a separate sheet)
9				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10				
10				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)	a <u> </u>	= Total Cov	ver	be present, unless disturbed or problematic.
1				Hydrophytic
2				Vegetation Present? Yes X No
		= Total Cov	ver	
Remarks: (Include photo numbers here or on a separate	sheet.)			

Profile Desc	ription: (Descri	be to the dep	oth needed to doc	ument the	indicator	or confirm	n the absence of indicators.)	
Depth	Matrix			dox Feature	es			
(inches)	Color (moist)	97 - See 24 - 1008 - 124	Color (moist)	%	Type <sup>1</sup>	_Loc <sup>2</sup>	Texture Remarks	-
0-6	10YR 2/1	90	10YR 4/6	10	<u> </u>	PL&M		
6-12	10YR 2/1	80	10YR 4/6	20	С	M	L	
12-18	10YR 5/1	100					CL	
2. <u></u>	5.		8	1072			17	
			<u></u>		-			
	<u>&gt;</u>		2					
·	2		2	0.00			·	_
×	-		2			·· <u> </u>		
<sup>1</sup> Type: C=C	oncentration, D=D	Depletion, RM	=Reduced Matrix, I	MS=Maske	d Sand Gr	ains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.	
Hydric Soil	Indicators:		23				Indicators for Problematic Hydric Soils <sup>3</sup> :	
Histosol	(A1)		Sandy	Gleyed M	atrix (S4)		Coast Prairie Redox (A16)	
Histic Ep	pipedon (A2)		Sandy	Redox (S	5)		Dark Surface (S7)	
100 00	stic (A3)			ed Matrix (			Iron-Manganese Masses (F12)	
	en Sulfide (A4)		The second	y Mucky Mi			Very Shallow Dark Surface (TF12)	
	Layers (A5)			y Gleyed M	latrix (F2)		Other (Explain in Remarks)	
Provide a second s	ick (A10)	(A 4 4)		ted Matrix				
	d Below Dark Sur ark Surface (A12)			c Dark Surf ted Dark S	Are president and the state	<b>`</b>	<sup>3</sup> Indicators of hydrophytic vegetation and	
71222 211 22	lucky Mineral (S1			Corression Corression	A Real Property and the	)	wetland hydrology must be present,	
	icky Peat or Peat			Copression	xiio (i o)		unless disturbed or problematic.	
1.12	Layer (if observe	- N N.						
Type:	<b>*</b> (*)	23						
Depth (in	ches):						Hydric Soil Present? Yes X No	
Remarks:								
HYDROLO	GY							
pinal main and a second second	drology Indicato	rs:						
-			red; check all that	annly)			Secondary Indicators (minimum of two required	d)
0.000	Water (A1)	or one is requ	endersette annes	tained Leav	(oc (R0)		Surface Soil Cracks (B6)	<u>u</u>
	ater Table (A2)			Fauna (B13			Drainage Patterns (B10)	
X Saturatio				uatic Plants			Dry-Season Water Table (C2)	
	larks (B1)			n Sulfide C			Crayfish Burrows (C8)	
	nt Deposits (B2)					ving Roots (		
	posits (B3)			e of Reduc			Stunted or Stressed Plants (D1)	
200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200 - 200	at or Crust (B4)					d Soils (C6		
an and the second the second	oosits (B5)			ck Surface			X FAC-Neutral Test (D5)	
a the second sec	on Visible on Aeri	ial Imagery (B		r Well Data				
100 000 000 000 000 000 000 000 000 000	Vegetated Conc			xplain in R	501.80000-0.80			
Field Obser			· _ ·			1		
Surface Wat		Yes	No X Depth (	inches):				
Water Table		Yes X		inches): 6				
Saturation P			No Depth (			Woth	land Hydrology Present? Yes 🗶 No	
(includes caj		103				_   ""		77
Describe Re	corded Data (stre	am gauge, m	onitoring well, aeria	il photos, p	revious ins	spections),	if available:	
Remarks:								

Project/Site: Red Rock Solar	City/County: Cottonwood		Sampling Date: 5/11/2020
Applicant/Owner: Red Rock Solar, LLC	I DIN LIGHT	State: MN	Sampling Point: UPL-1a
Investigator(s): R. Scott	_ Section, Township, Range:	T106N R34W S1	2
Landform (hillslope, terrace, etc.): Toe slope		ave, convex, none):	
Slope (%): 2 Lat: _44.003911°	Long: -94.870631°		Datum: NAD 83
Soil Map Unit Name: Webster clay loam, 0 to 2 percent slope	8	NWI classific	ation: Upland
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes X No	_ (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significant		nal Circumstances" p	present? Yes X No
Are Vegetation, Soil, or Hydrology naturally p	oroblematic? (If needed	l, explain any answe	rs in Remarks.)

#### SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No X No X No X	Is the Sampled Area within a Wetland?	Yes	No X
Remarks:					

#### **VEGETATION** – Use scientific names of plants.

30ft	Absolute		nt Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30ft. )			? Status	Number of Dominant Species
1				That Are OBL, FACW, or FAC: _1 (A)
2				Total Number of Dominant
3				Species Across All Strata: 2 (B)
4				
5			-	Percent of Dominant Species That Are OBL_EACW_or EAC: 50.0% (A/B)
· ·		- Total C		That Are OBL, FACW, or FAC: 50.0% (A/B)
Sapling/Shrub Stratum (Plot size: 15ft. )		= 10tal Co	over	Prevalence Index worksheet:
				Total % Cover of: Multiply by:
1				
2		3 <del>1</del>		OBL species x 1 =
3				FACW species x 2 =
4		12 <del>1</del>		FAC species $70$ x 3 = $210$
5				FACU species _20 x 4 = _80
		= Total Co	over	UPL species x 5 =
Herb Stratum (Plot size: 5ft. )				Column Totals: 90 (A) 290 (B)
1. Poa pratensis	70	Yes	FAC	
2. Taraxacum officinale	20	Yes	FACU	Prevalence Index = B/A =
3. Bromus inermis	10	No	FACU	Hydrophytic Vegetation Indicators:
4	-		-	1 - Rapid Test for Hydrophytic Vegetation
				2 - Dominance Test is >50%
5				3 - Prevalence Index is ≤3.0 <sup>1</sup>
6				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
7				data in Remarks or on a separate sheet)
8		0		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
9		34		
10				4.
		= Total Co	over	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)	· · · · · · · · · · · · · · · · · · ·			be present, unless disturbed of problematic.
1				Hydrophytic
2				Vegetation
		= Total Co		Present? Yes No X
Remarks: (Include photo numbers here or on a separate	sheet.)			
	1993 1997 1977 1978 1978 1978 1978 1978 1978			

Depth (inches)	Matrix Color (moist)	%	Color (moist)	ox Features %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-10	10YR 2/1	100	Color (moist)		_Type_	LUC	SiL	Remarks
10-16	10YR 2/1	95	10YR 4/4	5	C	M	L	÷
	( <del>).</del>					S <del>. 1</del>	8	2. IT
16-24	10YR 3/1	95 	10YR 4/4	<u>5</u>	<u>с</u>	<u>M</u>		z ( <u>************************************</u>
	oncentration, D=Dep	bletion, RM=	Reduced Matrix, M	S=Masked	Sand Gr	ains.		on: PL=Pore Lining, M=Matrix.
Histosol Histic E Black H Hydroge	Indicators: I (A1) pipedon (A2) istic (A3) en Sulfide (A4) d Layers (A5) uck (A10)		Sandy Strippe Loamy Loamy	Gleyed Mar Redox (S5) d Matrix (S Mucky Min Gleyed Ma ed Matrix (F	6) eral (F1) trix (F2)		Coas Dark Iron- Very	rs for Problematic Hydric Soils <sup>3</sup> : st Prairie Redox (A16) : Surface (S7) Manganese Masses (F12) : Shallow Dark Surface (TF12) er (Explain in Remarks)
Deplete Thick Da Sandy M 5 cm Mu	d Below Dark Surfac ark Surface (A12) Mucky Mineral (S1) ucky Peat or Peat (S	3)	Redox Deplete	Dark Surfa ed Dark Sur Depressior	ce (F6) face (F7	)	wetla	ors of hydrophytic vegetation and and hydrology must be present, ss disturbed or problematic.
Restrictive	Layer (if observed)							
Type: Depth (in	ches):						Hydric So	oil Present? Yes <u>No X</u>
Type: Depth (in	5) (65) 5.						Hydric So	oil Present? Yes <u>No X</u>
Type: Depth (in Remarks:	ches):						Hydric Sc	oil Present? Yes <u>No X</u>
Type: Depth (in Remarks: YDROLO	ches):						Hydric So	oil Present? Yes <u>No X</u>
Type: Depth (in Remarks: YDROLO Wetland Hy	ches):		ed; check all that a	pply)				bil Present? Yes <u>No X</u>
Type: Depth (in Remarks: YDROLO Netland Hy Primary India	oches): DGY drology Indicators:		ee exemp	pply)			Secon	
Type: Depth (in Remarks: YDROLO Vetland Hy Primary India	IChes): IGY Idrology Indicators: cators (minimum of c		Water-Sta	Thurs.			<u>Secon</u>	dary Indicators (minimum of two required
Type: Depth (in Remarks: YDROLO Vetland Hy Primary India	Ches): DGY drology Indicators: cators (minimum of c Water (A1) ater Table (A2)		Water-Sta Aquatic F	ained Leave			<u>Secon</u> Su Dr	dary Indicators (minimum of two required urface Soil Cracks (B6)
Type: Depth (in Remarks: YDROLO Wetland Hy Primary India Surface High Wa Saturatia	Ches): DGY drology Indicators: cators (minimum of c Water (A1) ater Table (A2)		Water-Sta Aquatic F True Aqu	ained Leave auna (B13)	(B14)		<u>Secon</u> Su Du Du	dary Indicators (minimum of two required urface Soil Cracks (B6) rainage Patterns (B10)
Type: Depth (in Remarks: YDROLO Vetland Hy Primary India Surface High Wa Saturatia Saturatia Water M	DGY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3)		Water-Sta Aquatic F True Aqu Hydrogen	ained Leave auna (B13) atic Plants (	(B14) lor (C1)	ing Roots	<u>Secon</u> Si Dr Dr Dr Cr	dary Indicators (minimum of two required urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2)
Type: Depth (in Remarks: YDROLO YDROLO Primary India Saturatia Gaturatia Saturatia Water M Sedimen	DGY drology Indicators: cators (minimum of o Water (A1) ater Table (A2) on (A3) Marks (B1)		Water-Sta Aquatic F True Aqu Hydrogen Oxidized Presence	ained Leave auna (B13) atic Plants ( Sulfide Od Rhizospher of Reduce	(B14) lor (C1) es on Liv d Iron (C4	4)	<u>Secon</u> Su Dr Dr Cr (C3) St	dary Indicators (minimum of two required urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1)
Type: Depth (in Remarks: YDROLO Vetland Hy Primary India Saturatia Water M Saturatia Water M Sedimen Drift Dej Algal Ma	DGY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)		Water-Sta Aquatic F True Aqu Hydrogen Oxidized Presence	ained Leave auna (B13) atic Plants ( Sulfide Od Rhizospher	(B14) lor (C1) es on Liv d Iron (C4	4)	<u>Secon</u> Su Dr Dr Cr (C3) St 6) Gr	dary Indicators (minimum of two required urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) runted or Stressed Plants (D1) eomorphic Position (D2)
Type: Depth (in Remarks: YDROLO Wetland Hy Primary India Surface High Wa Saturatia Water M Sedimen Drift Dej Algal Ma	DGY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3)		Water-Sta Aquatic F True Aqu Hydrogen Oxidized Presence Recent In Thin Muc	ained Leave auna (B13) atic Plants ( sulfide Od Rhizospher of Reduce on Reductic k Surface ((	(B14) lor (C1) es on Liv d Iron (C- on in Tille C7)	4)	<u>Secon</u> Su Dr Dr Cr (C3) St 6) Gr	dary Indicators (minimum of two required urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1)
Type: Depth (in Remarks: YDROLO Wetland Hy Primary India Surface High Wa Saturati Saturati Saturati Sedimen Algal Ma Iron Dep Inundati	DGY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) on (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	one is require	Water-Sta Aquatic F Aquatic F Hydrogen Oxidized Recent In Recent In Gauge or	ained Leave auna (B13) atic Plants ( Sulfide Od Rhizospher of Reduced on Reductio	(B14) lor (C1) es on Liv d Iron (C- on in Tille C7)	4)	<u>Secon</u> Su Dr Dr Cr (C3) St 6) Gr	dary Indicators (minimum of two required urface Soil Cracks (B6) rainage Patterns (B10) ry-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) runted or Stressed Plants (D1) eomorphic Position (D2)

Field Observations:						
Surface Water Present?	Yes	No _X	Depth (inches):			
Water Table Present?	Yes	No _X	Depth (inches):			
Saturation Present? (includes capillary fringe)	Yes	No _X	_ Depth (inches):	Wetland Hydrology Present?	Yes	_ No <u>×</u>
Describe Recorded Data (s	tream gauge	e, monitoring v	well, aerial photos, previous	inspections), if available:		
Remarks:						

Project/Site: Red Rock Solar	City/County: Cottonwood		Sampling Date: 5/11/2020
Applicant/Owner: Red Rock Solar, LLC		State: MN	Sampling Point: WL-1b
Investigator(s): R. Scott	Section, Township, Range: T	106N R34W S12	2
Landform (hillslope, terrace, etc.): Toe slope	Local relief (conca	ve, convex, none):	Concave
	Long: <u>-94.869545°</u>		Datum: NAD 83
Soil Map Unit Name: Canisteo clay loam, 0 to 2 percent slopes		NWI classifica	ation: PFO/Type 1
Are climatic / hydrologic conditions on the site typical for this time of ye	ar? Yes X No	(If no, explain in Re	emarks.)
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "Norma	Il Circumstances" p	resent? Yes X No
Are Vegetation, Soil, or Hydrology naturally pro	oblematic? (If needed,	explain any answer	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point location	ons, transects,	, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes X No Yes X No Yes X No	Is the Sampled Area within a Wetland? Yes <u>X</u> No
Remarks:		

#### **VEGETATION** – Use scientific names of plants.

30ft	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: <u>30ft.</u> )		Species?		Number of Dominant Species
1. Populus deltoides	30	Yes	FAC	That Are OBL, FACW, or FAC: _3 (A)
2				Total Number of Dominant
3				Species Across All Strata: 3 (B)
4				
				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 100.0% (A/B)
Capiling (Charle Charles (Distaine) 15ft.		= Total Cov	/er	Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: 15ft. )	50	Vaa		
1. <u>Salix lucida</u>		Yes	FACW	Total % Cover of: Multiply by:
2				UBL Species x1=
3.				FACW species 50 x 2 = 100
4				FAC species $30$ $x_3 = 90$
- 4100 <sup></sup>				FACU species x 4 =
5			<del></del>	
Herb Stratum (Plot size: 5ft. )		= Total Cov	/er	UPL species $x 5 = $
	40	Yes	OBL	Column Totals: <u>120</u> (A) <u>230</u> (B)
				<b>1</b> 02
2			<u> </u>	Prevalence Index = B/A =
3				Hydrophytic Vegetation Indicators:
4				1 - Rapid Test for Hydrophytic Vegetation
5				Z 2 - Dominance Test is >50%
No. A				X 3 - Prevalence Index is ≤3.0 <sup>1</sup>
6				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
7			<u> </u>	data in Remarks or on a separate sheet)
8				
9				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10				8
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)		= Total Cov	/er	be present, unless disturbed or problematic.
1			in Te	Hydrophytic
2				Vegetation Present? Yes X No
		= Total Cov	/er	
Remarks: (Include photo numbers here or on a separate s	sheet.)			

Profile Desc	cription: (Describ	e to the dep	th needed to docu	ment the	indicator	or confirm	the absence of in	ndicators.)		
Depth	Matrix			ox Feature	es					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	_Loc <sup>2</sup>	Texture	Remarks		
0-6	10YR 2/1	90	10YR 4/6	10	С	PL&M	SiL			
6-12	10YR 2/1	80	10YR 4/6	20	С	М	L			
12-18	10YR 5/1	100					CL			
	5-			07			an a			
°	<u> </u>		<u>1</u>	-1002	-		1 <u>1 - 11</u> - 1 <u>1</u>			
	<u>2</u>		2				<u>a an an</u>			
	-		2				· ·	22		
×			<u></u>		<u></u>	·				
		pletion, RM	=Reduced Matrix, M	S=Maske	d Sand G	ains.		L=Pore Lining, M=Matrix.		
Hydric Soil								Problematic Hydric Soils <sup>3</sup> :		
Histosol	and the second state of th			Gleyed M				rie Redox (A16)		
	pipedon (A2)			Redox (S			Dark Surfa			
10 20	istic (A3) en Sulfide (A4)			d Matrix (	56) ineral (F1)		_	anese Masses (F12) ow Dark Surface (TF12)		
	d Layers (A5)				latrix (F2)			blain in Remarks)		
	uck (A10)		1	ed Matrix				Main in Kennarkay		
and the second s	d Below Dark Surfa	ce (A11)		Dark Surf	********					
	ark Surface (A12)				urface (F7	)	<sup>3</sup> Indicators of h	hydrophytic vegetation and		
Sandy M	Aucky Mineral (S1)		Redox	Depressio	ons (F8)		wetland hy	drology must be present,		
5 cm Mu	ucky Peat or Peat (	S3)	Ser en massereren				unless dist	urbed or problematic.		
Restrictive	Layer (if observed	):								
Type:							Hydric Soil Pre	sent? Yes X No		
Depth (in	ches):						Hydric Soli Fre			
Remarks:							τč.			
HYDROLO	GY									
Wetland Hy	drology Indicators	5:								
Primary Indi	cators (minimum of	one is requi	red; check all that a	pply)			Secondary In	ndicators (minimum of two required)		
Surface	Water (A1)	22	Water-Sta	ained Leav	ves (B9)		Surface	Soil Cracks (B6)		
	ater Table (A2)		Aquatic F	auna (B13	3)		Drainage Patterns (B10)			
X Saturati	on (A3)		True Aqu				Dry-Season Water Table (C2)			
Water M	larks (B1)		Hydroger	Sulfide C	dor (C1)		Crayfish Burrows (C8)			
	nt Deposits (B2)		Oxidized	Rhizosphe	eres on Liv	ing Roots (		on Visible on Aerial Imagery (C9)		
Drift De	posits (B3)		Presence	of Reduc	ed Iron (C	4)	Stunted	or Stressed Plants (D1)		
Algal Ma	at or Crust (B4)		Recent In	on Reduct	tion in Tille	d Soils (C6	6) X Geomor	phic Position (D2)		
Iron Dep	posits (B5)		Thin Muc	k Surface	(C7)		X FAC-Ne	utral Test (D5)		
Inundati	on Visible on Aeria	I Imagery (B	7) Gauge or	Well Data	a (D9)					
Sparsel	y Vegetated Conca	ve Surface (	B8) Other (Ex	plain in R	emarks)					
Field Obser	vations:									
Surface Wat	er Present?	Yes	No X Depth (ir	nches):						
Water Table	Present?	Yes X	No Depth (ir	nches): 6						
Saturation P (includes car	resent? pillary fringe)	Yes X	No Depth (in	nches): <u>0</u>		Wetla	and Hydrology Pr	esent? Yes X No		
		m gauge, m	onitoring well, aerial	photos, p	revious in	spections),	if available:			
Remarks:										

Project/Site: Red Rock Solar	City/County: Cottonwood		Sampling Date: 5/11/2020	
Applicant/Owner: Red Rock Solar, LLC		State: MN	Sampling Point: UPL-1b	
Investigator(s): R. Scott	Section, Township, Range:	T106N R34W S1	2	
Landform (hillslope, terrace, etc.): Toe slope	Local relief (cond	cave, convex, none):	Convex	
Slope (%): 1 Lat: 44.002948°	Long: <u>-94.869610°</u>		Datum: NAD 83	
Soil Map Unit Name: Canisteo clay loam, 0 to 2 percent slopes	8	NWI classific	cation: Upland	
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes X No	_ (If no, explain in R	(emarks.)	
Are Vegetation, Soil, or Hydrology significantly	y disturbed? Are "Norn	nal Circumstances" p	present? Yes X No	
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed	l, explain any answe	ers in Remarks.)	
		lowe two esta	in a stant factors of	

#### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	N0 X N0 X N0 X	Is the Sampled Area within a Wetland?	Yes	NoX
Remarks:					

#### **VEGETATION** – Use scientific names of plants.

30ft	Absolute	Dominant Indicator	Dominance Test workshe	eet:	
Tree Stratum         (Plot size:)           1)		Species? Status	Number of Dominant Spec That Are OBL, FACW, or F		(A)
2 3 4			Total Number of Dominant Species Across All Strata: Percent of Dominant Spec	ies	(B)
5			That Are OBL, FACW, or F	FAC:	(A/B)
Sapling/Shrub Stratum (Plot size: 15ft. )		= Total Cover	Prevalence Index worksh	neet:	
1)			Total % Cover of:	Multiply by:	(3)
2			OBL species		
3.			FACW species		
4			FAC species		
5			FACU species		_
		= Total Cover	UPL species		
Herb Stratum (Plot size: 5ft. )			Column Totals:		
1		. <u></u>			_ (-)
2			Prevalence Index =	B/A =	
3			Hydrophytic Vegetation I	ndicators:	
4			1 - Rapid Test for Hyd	rophytic Vegetation	
5			2 - Dominance Test is	>50%	
6			3 - Prevalence Index is	s ≤3.0 <sup>1</sup>	
7			4 - Morphological Ada	ptations <sup>1</sup> (Provide su on a separate sheet	pporting
8			Problematic Hydrophy		e
9		<u> </u>		tie vegetation (Expir	
10			<sup>1</sup> Indicators of hydric soil an	d watland budralagu	must
Woody Vine Stratum (Plot size:)		= Total Cover	be present, unless disturbe		must
1			Hydrophytic		
2			Vegetation		
		= Total Cover	Present? Yes _	№ <u>_X</u> _	
Remarks: (Include photo numbers here or on a separate s	sheet.)				
This data point was taken in a cultivated corn field	that was r	recently planted. 10	00% bare ground.		

(inchoo)	Matrix Color (moint)	%	Redox Features	2 Texture Remarks
(inches) )-12	Color (moist) 10YR 2/1	100	Color (moist) % Type <sup>1</sup> Loo	<u> </u>
		N/1 10 00		
12-18	10YR 2/1			L
18-24	10YR 3/2			<u>CL</u>
Type: C=0	Concentration, D=Dep	bletion, RM=Re	duced Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
ydric Soi	I Indicators:	5 - 5N.		Indicators for Problematic Hydric Soils <sup>3</sup> :
_ Histoso	ol (A1)		Sandy Gleyed Matrix (S4)	Coast Prairie Redox (A16)
Histic E	Epipedon (A2)		Sandy Redox (S5)	Dark Surface (S7)
100	Histic (A3)		Stripped Matrix (S6)	Iron-Manganese Masses (F12)
	gen Sulfide (A4)		Loamy Mucky Mineral (F1)	Very Shallow Dark Surface (TF12)
	ed Layers (A5)		Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
- /	luck (A10) ed Below Dark Surfac	0 (011)	Depleted Matrix (F3) Redox Dark Surface (F6)	
	Dark Surface (A12)	e (ATT)	Depleted Dark Surface (F7)	<sup>3</sup> Indicators of hydrophytic vegetation and
211202 211	Mucky Mineral (S1)		Redox Depressions (F8)	wetland hydrology must be present,
	lucky Peat or Peat (S	3)		unless disturbed or problematic.
Restrictive	Layer (if observed)			
Type:	R) (410 )		_	
Depth (in	nches):		-	Hydric Soil Present? Yes No
Remarks:			-8	2
YDROLO	OGY			
	ydrology Indicators:			
rimary Ind	licators (minimum of o	one is required	check all that apply)	Secondary Indicators (minimum of two require
	e Water (A1)		Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
High W	ater Table (A2)		Aquatic Fauna (B13)	Drainage Patterns (B10)
	tion (A3)		True Aquatic Plants (B14)	Dry-Season Water Table (C2)
				Crayfish Burrows (C8)
Water	Marks (B1)		Hydrogen Sulfide Odor (C1)	
_ Water I _ Sedime	ent Deposits (B2)		Oxidized Rhizospheres on Living Ro	bots (C3) Saturation Visible on Aerial Imagery (C9)
Water I Sedime Drift De	ent Deposits (B2) eposits (B3)		<ul> <li>Oxidized Rhizospheres on Living Re</li> <li>Presence of Reduced Iron (C4)</li> </ul>	bots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
Water I Sedime Drift De Algal N	ent Deposits (B2) eposits (B3) ⁄lat or Crust (B4)		Oxidized Rhizospheres on Living Re     Presence of Reduced Iron (C4)     Recent Iron Reduction in Tilled Soil:	bots (C3)       Saturation Visible on Aerial Imagery (C9)         Stunted or Stressed Plants (D1)         s (C6)       Geomorphic Position (D2)
Water I Sedime Drift De Algal N Iron De	ent Deposits (B2) eposits (B3) /lat or Crust (B4) eposits (B5)	Imagor: (BZ)	Oxidized Rhizospheres on Living Ro     Presence of Reduced Iron (C4)     Recent Iron Reduction in Tilled Soils     Thin Muck Surface (C7)	bots (C3) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)
Water I Sedime Drift De Algal M Iron De Inunda	ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion Visible on Aerial		<ul> <li>Oxidized Rhizospheres on Living Rd</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Tilled Soils</li> <li>Thin Muck Surface (C7)</li> <li>Gauge or Well Data (D9)</li> </ul>	bots (C3)       Saturation Visible on Aerial Imagery (C9)         Stunted or Stressed Plants (D1)         s (C6)       Geomorphic Position (D2)
Water   Sedime Drift De Algal M Iron De Inunda Sparse	ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion Visible on Aerial ely Vegetated Concav		<ul> <li>Oxidized Rhizospheres on Living Rd</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Tilled Soils</li> <li>Thin Muck Surface (C7)</li> <li>Gauge or Well Data (D9)</li> </ul>	bots (C3)       Saturation Visible on Aerial Imagery (C9)         Stunted or Stressed Plants (D1)         s (C6)       Geomorphic Position (D2)
Water I Sedime Drift De Algal M Iron De Inunda Sparse	ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion Visible on Aerial ely Vegetated Concav ervations:	e Surface (B8)	<ul> <li>Oxidized Rhizospheres on Living Re</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Tilled Soils</li> <li>Thin Muck Surface (C7)</li> <li>Gauge or Well Data (D9)</li> <li>Other (Explain in Remarks)</li> </ul>	bots (C3)       Saturation Visible on Aerial Imagery (C9)         Stunted or Stressed Plants (D1)         s (C6)       Geomorphic Position (D2)
Water I Sedime Drift De Algal M Iron De Inunda Sparse Field Obse	ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion Visible on Aerial ely Vegetated Concav ervations: ater Present?	e Surface (B8) ⁄es No	Oxidized Rhizospheres on Living Ro     Presence of Reduced Iron (C4)     Recent Iron Reduction in Tilled Soils     Thin Muck Surface (C7)     Gauge or Well Data (D9)     Other (Explain in Remarks)      Depth (inches):	bots (C3)       Saturation Visible on Aerial Imagery (C9)         Stunted or Stressed Plants (D1)         s (C6)       Geomorphic Position (D2)
Water I Sedime Drift De Algal M Iron De Inunda Sparse Field Obse	ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion Visible on Aerial ely Vegetated Concav ervations: ater Present?	e Surface (B8) ⁄es No	Oxidized Rhizospheres on Living Ro     Presence of Reduced Iron (C4)     Recent Iron Reduction in Tilled Soils     Thin Muck Surface (C7)     Gauge or Well Data (D9)     Other (Explain in Remarks)      X     Depth (inches):     Depth (inches):	bots (C3)       Saturation Visible on Aerial Imagery (C9)         Stunted or Stressed Plants (D1)         s (C6)       Geomorphic Position (D2)

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

Remarks:

(includes capillary fringe)

Project/Site: Red Rock Solar	City/County: Cottonwood	Sampling Date: <u>5/11/2020</u>
Applicant/Owner: Red Rock Solar, LLC	State: <u>M</u>	Sampling Point: WL-1c
Investigator(s): R. Scott	Section, Township, Range: T106N R3	4W S12
Landform (hillslope, terrace, etc.): Toe slope	Local relief (concave, convex	(, none): Concave
	Long: -94.869896°	Datum: NAD 83
Soil Map Unit Name: Glencoe clay loam, 0 to 1 percent slopes	NWI	classification: <u>PEM/Type 3</u>
Are climatic / hydrologic conditions on the site typical for this time of ye		
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "Normal Circumst	ances" present? Yes 🗶 No
Are Vegetation, Soil, or Hydrology naturally pro	oblematic? (If needed, explain an	y answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, trai	nsects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes X No Yes X No Yes X No	Is the Sampled Area within a Wetland? Yes X No
Remarks:		

#### VEGETATION - Use scientific names of plants.

30ft	Absolute		t Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30ft.</u> )	% Cover			Number of Dominant Species
1				That Are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
3				Species Across All Strata: (B)
4				
5		271		Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
		= Total Co		(AB)
Sapling/Shrub Stratum (Plot size: 15ft. )		rotar oc		Prevalence Index worksheet:
1				Total % Cover of: Multiply by:
2				OBL species _90 x 1 = _90
3.				FACW species x 2 =
4				FAC species x 3 =
- 4000 <sup>112</sup>		di.		FACU species x 4 =
5				UPL species          x 5 =
Herb Stratum (Plot size: 5ft. )		= Total Co	ver	
1. Schoenoplectus maritimus	50	Yes	OBL	Column Totals: <u>90</u> (A) <u>90</u> (B)
Typha angustifolia	50	Yes	OBL	Prevalence Index = B/A =1
				Hydrophytic Vegetation Indicators:
3				X 1 - Rapid Test for Hydrophytic Vegetation
4				$\frac{1}{2}$ 2 - Dominance Test is >50%
5		-		
6		-	<u> </u>	X 3 - Prevalence Index is ≤3.0 <sup>1</sup>
7				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
8				data in Remarks or on a separate sheet)
9				Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10				a
		= Total Co	ver	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)	53 <u></u> 2	rotar oc		be present, unless disturbed or problematic.
1				Hydrophytic
2				Vegetation
		= Total Co		Present? Yes X No
Remarks: (Include photo numbers here or on a separate	sheet.)			

Profile Desc	ription: (Describe	to the dep	oth needed to docu	ment the	indicator	or confirm	n the absence of in	ndicators.)
Depth	Matrix			x Feature				
(inches)	Color (moist)	%	Color (moist)	%_	Type <sup>1</sup>		Texture	Remarks
0-8	10YR 2/1	90	10YR 4/6	10	<u> </u>	PL&M		
8-12	10YR 2/1	80	10YR 4/6	20	С	M	L	
12-18	10YR 5/1	100					CL	
	5.			0.2			2	
·							<u> </u>	
	<u>19</u>		2	-W <u>8</u> -			<u> </u>	0
·			÷.					
* <u></u> *		- 470 m	<u></u>	0.02			<u>a ar ar a</u>	
		pletion, RM	=Reduced Matrix, M	S=Maske	d Sand Gr	ains.		=Pore Lining, M=Matrix.
Hydric Soil								Problematic Hydric Soils <sup>3</sup> :
Histosol	Share we have a second s				atrix (S4)			ie Redox (A16)
1.25	oipedon (A2) istic (A3)			Redox (S d Matrix (	1.5.1		Dark Surfac	ce (S7) inese Masses (F12)
100 000	en Sulfide (A4)				ineral (F1)			w Dark Surface (TF12)
	d Layers (A5)				latrix (F2)			lain in Remarks)
	uck (A10)		X Deplete					
Deplete	d Below Dark Surfac	ce (A11)	X Redox	Dark Surf	ace (F6)			
1000 C	ark Surface (A12)				urface (F7)	)		ydrophytic vegetation and
	Aucky Mineral (S1)	201	Redox	Depressio	ons (F8)		전 같은 것 같은	rology must be present,
12.1 I I I	ucky Peat or Peat (S Layer (if observed)	- 111					uniess disti	urbed or problematic.
Type:	F) (05)) 2							
Depth (in	choc);						Hydric Soil Pres	sent? Yes X No
1. S.	cites).							
Remarks:								
HYDROLO	CV.							
Warner and a second second								
	drology Indicators		·····				O	
		one is requ	ired: check all that a	Sec. States	(00)			dicators (minimum of two required)
Surface	water (A1) ater Table (A2)		Water-Sta					Soil Cracks (B6)
X Saturatio			Aquatic Fa					e Patterns (B10) son Water Table (C2)
	larks (B1)		Hydrogen					Burrows (C8)
	nt Deposits (B2)				eres on Liv	ing Poots		on Visible on Aerial Imagery (C9)
	posits (B3)				ed Iron (C4			or Stressed Plants (D1)
700 200	at or Crust (B4)				tion in Tille			phic Position (D2)
an and the second the second	posits (B5)		Thin Mucl					utral Test (D5)
· · · · · · · · · · · · · · · · · · ·	on Visible on Aerial	Imagery (E	and the second of the second s		1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 - 1996 -		, <del></del> 1,00000-10000	
	Vegetated Concav			plain in R	emarks)			
Field Obser	vations:							
Surface Wat	er Present?	res	No X Depth (in	ches): 1		_		
Water Table	Present?	res_X	No Depth (in	ches): 8		_		
Saturation P (includes cap	resent? ) pillary fringe)	res X	No Depth (in	ches): <u>0</u>		_ Wetl	and Hydrology Pre	esent? Yes X No
		n gauge, m	onitoring well, aerial	photos, p	revious ins	pections),	if available:	
Remarks:								
I Condi No.								

Project/Site: Red Rock Solar	City/County: Cottonwood		Sampling Date: 5/11/2020
Applicant/Owner: Red Rock Solar, LLC		State: MN	Sampling Point: UPL-1c
Investigator(s): R. Scott	Section, Township, Range:	T106N R34W S1	2
Landform (hillslope, terrace, etc.): Toe slope	Local relief (cond	ave, convex, none):	Convex
Slope (%): 1 Lat: _44.004544°	Long: <u>-94.869922°</u>		Datum: NAD 83
Soil Map Unit Name: Glencoe clay loam, 0 to 1 percent slopes		NWI classific	ation: Upland
Are climatic / hydrologic conditions on the site typical for this time of y	ear? Yes X No	_ (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significantly	y disturbed? Are "Norn	nal Circumstances" p	present? Yes X No
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed	l, explain any answe	rs in Remarks.)

#### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	N0 X N0 X N0 X	Is the Sampled Area within a Wetland?	Yes	No _X
Remarks:					

#### **VEGETATION** – Use scientific names of plants.

30ft	Absolute	Dominant Indicator	Dominance Test workshe	eet:	
Tree Stratum         (Plot size:)           1)		Species? Status	Number of Dominant Spec That Are OBL, FACW, or F		(A)
2 3 4			Total Number of Dominant Species Across All Strata: Percent of Dominant Spec	ies	(B)
5			That Are OBL, FACW, or F	FAC:	(A/B)
Sapling/Shrub Stratum (Plot size: 15ft. )		= Total Cover	Prevalence Index worksh	neet:	
1)			Total % Cover of:	Multiply by:	(3)
2			OBL species		
3.			FACW species		
4			FAC species		
5			FACU species		_
		= Total Cover	UPL species		
Herb Stratum (Plot size: 5ft. )			Column Totals:		
1		. <u></u>			_ (-)
2			Prevalence Index =	B/A =	
3			Hydrophytic Vegetation I	ndicators:	
4			1 - Rapid Test for Hyd	rophytic Vegetation	
5			2 - Dominance Test is	>50%	
6			3 - Prevalence Index is	s ≤3.0 <sup>1</sup>	
7			4 - Morphological Ada	ptations <sup>1</sup> (Provide su on a separate sheet	pporting
8			Problematic Hydrophy		e
9		<u> </u>		tie vegetation (Expir	
10			<sup>1</sup> Indicators of hydric soil an	d watland budralagu	must
Woody Vine Stratum (Plot size:)		= Total Cover	be present, unless disturbe		must
1			Hydrophytic		
2			Vegetation		
		= Total Cover	Present? Yes _	№ <u>_X</u> _	
Remarks: (Include photo numbers here or on a separate s	sheet.)				
This data point was taken in a cultivated corn field	that was r	recently planted. 10	00% bare ground.		

Depth	Matrix	Redox Features	
(inches)	Color (moist)	%Color (moist)%Type <sup>1</sup> Lo	
0-12	10YR 2/1 1	00	L
12-18	10YR 2/1 1	00	L
18-24	10YR 3/2 1	<u> </u>	CL
	oncentration, D=Depletic Indicators:	n, RM=Reduced Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils <sup>3</sup> :
Black H Hydrog Stratifie 2 cm M Deplete Thick D Sandy I 5 cm M	I (A1) pipedon (A2) listic (A3) en Sulfide (A4) d Layers (A5) uck (A10) d Below Dark Surface (A ark Surface (A12) Mucky Mineral (S1) ucky Peat or Peat (S3) Layer (if observed):	<ul> <li>Sandy Gleyed Matrix (S4)</li> <li>Sandy Redox (S5)</li> <li>Stripped Matrix (S6)</li> <li>Loamy Mucky Mineral (F1)</li> <li>Loamy Gleyed Matrix (F2)</li> <li>Depleted Matrix (F3)</li> <li>Redox Dark Surface (F6)</li> <li>Depleted Dark Surface (F7)</li> <li>Redox Depressions (F8)</li> </ul>	<ul> <li>Coast Prairie Redox (A16)</li> <li>Dark Surface (S7)</li> <li>Iron-Manganese Masses (F12)</li> <li>Very Shallow Dark Surface (TF12)</li> <li>Other (Explain in Remarks)</li> </ul> <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
Type: Depth (in	iches):		Hydric Soil Present? Yes No
Remarks:			
YDROLC			
-	drology Indicators:	manufacily all all that analy (	Consular, Indicators (minimum of two service
		required: check all that apply)	Secondary Indicators (minimum of two require
	Water (A1)	Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
	ater Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
	ion (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
	Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
	nt Deposits (B2)	Oxidized Rhizospheres on Living R	
	posits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Algal M	at or Crust (B4)	Recent Iron Reduction in Tilled Soi	· · — · · · ·
- 영양 - 소신문격	posits (B5) ion Visible on Aerial Imag	Thin Muck Surface (C7) ery (B7) Gauge or Well Data (D9)	FAC-Neutral Test (D5)

Sparsely Vegetated Co			Other (Explain in Remarks	s)	
Field Observations:					
Surface Water Present?	Yes	_ No X	_ Depth (inches):		
Water Table Present?	Yes	_ No _X	_ Depth (inches):		
Saturation Present? (includes capillary fringe)	Yes	No _X	_ Depth (inches):	Wetland Hydrology Present? Ye	es NoX
Describe Recorded Data (s	tream gauge	, monitoring	well, aerial photos, previous	s inspections), if available:	
Remarks:					

Project/Site: Red Rock Solar	City/County: Cottonwood		Sampling Date: 5/12/2020
Applicant/Owner: Red Rock Solar, LLC		State: MN	Sampling Point: UPL-2b
Investigator(s): _R. Scott	Section, Township, Range:	T106N R34W S1	2
Landform (hillslope, terrace, etc.): Midslope		ave, convex, none):	
Slope (%): 1 Lat: _44.004888°	Long: <u>-94.876923°</u>	-	Datum: NAD 83
Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes		NWI classific	ation: Upland
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes 🗶 No	_ (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significantly	v disturbed? Are "Norm	nal Circumstances" p	present? Yes X No
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed	, explain any answe	rs in Remarks.)
			in a stant fastures sta

#### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	N0 X N0 X N0 X	Is the Sampled Area within a Wetland?	Yes	No_X
Remarks:					

#### **VEGETATION** – Use scientific names of plants.

30ft	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30ft.</u> )	<u>% Cover</u> Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across All Strata: (B)
4		Percent of Dominant Species
5	- / ·	That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size: 15ft. )	= Total Cover	Prevalence Index worksheet:
		Total % Cover of: Multiply by:
1		
2		OBL species x 1 =
3		FACW species x 2 =
4		FAC species x 3 =
5		FACU species x 4 =
5ft	= Total Cover	UPL species x 5 =
Herb Stratum (Plot size: 5ft. )		Column Totals: (A) (B)
1		
2		Prevalence Index = B/A =
3		Hydrophytic Vegetation Indicators:
4	101 - 101 - H	1 - Rapid Test for Hydrophytic Vegetation
5		2 - Dominance Test is >50%
6		3 - Prevalence Index is ≤3.0 <sup>1</sup>
7		4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
8		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
9	<u>- 104 - 104 - 11</u>	
10		1
	= Total Cover	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		
1		Hydrophytic
2		Vegetation Present? Yes <u>No X</u>
	= Total Cover	Present? Yes No A
Remarks: (Include photo numbers here or on a separate	sheet.)	
This data point was taken in a cultivated corn field	that was recently planted. 10	00% bare ground.

Depth	Matrix	Redox Features	
(inches)	Color (moist)	<u>Color (moist)</u> <u>%</u> <u>Type<sup>1</sup></u> Loc <sup>2</sup>	
)-12	10YR 2/1 1	00	- <u>L</u>
12-18	10YR 2/1 1		_ <u>L</u>
18-24	10YR 3/2 1	00	CL
			·  · ·
	Concentration, D=Depletic	n, RM=Reduced Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Soils <sup>3</sup> :
Histoso Histic E Black H Hydrog Stratifie 2 cm M Deplete Thick D Sandy 5 cm M	el (A1) Epipedon (A2) listic (A3) en Sulfide (A4) ed Layers (A5) luck (A10) ed Below Dark Surface (A Dark Surface (A12) Mucky Mineral (S1) lucky Peat or Peat (S3)	<ul> <li>Sandy Gleyed Matrix (S4)</li> <li>Sandy Redox (S5)</li> <li>Stripped Matrix (S6)</li> <li>Loamy Mucky Mineral (F1)</li> <li>Loamy Gleyed Matrix (F2)</li> <li>Depleted Matrix (F3)</li> <li>Redox Dark Surface (F6)</li> <li>Depleted Dark Surface (F7)</li> <li>Redox Depressions (F8)</li> </ul>	<ul> <li>Coast Prairie Redox (A16)</li> <li>Dark Surface (S7)</li> <li>Iron-Manganese Masses (F12)</li> <li>Very Shallow Dark Surface (TF12)</li> <li>Other (Explain in Remarks)</li> <li><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</li> </ul>
Type:	Layer (if observed):		Hydric Soil Present? Yes No
(emarks:			
YDROLO	DGY		
-	drology Indicators:		
0.2.0 1:8	essentin <sup>20</sup> herein	s required; check all that apply)	Secondary Indicators (minimum of two requir
	e Water (A1)	Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
	ater Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)
	ion (A3)	True Aquatic Plants (B14)	Dry-Season Water Table (C2)
	Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
	ent Deposits (B2)	Oxidized Rhizospheres on Living Roo	
	eposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Drift De	eposits (B3) lat or Crust (B4)	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (	C6) Geomorphic Position (D2)
Drift De		—	

Inundation Visible on A	erial Imagery (B7)	Gauge or Well Data (D9)			
Sparsely Vegetated Co	ncave Surface (B8)	Other (Explain in Remarks	)		
Field Observations:					
Surface Water Present?	Yes No	Depth (inches):			
Water Table Present?	Yes No	Depth (inches):	6		
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):	Wetland Hydrology Present?	Yes	No _X
Describe Recorded Data (s	tream gauge, monit	oring well, aerial photos, previous	inspections), if available:		
Remarks:					

Project/Site: Red Rock Solar	City/County: Cottonwood		Sampling Date: 5/12/2020
Applicant/Owner: Red Rock Solar, LLC		State: MN	Sampling Point: UPL-3b
Investigator(s): R. Scott	Section, Township, Range:	T106N R34W S1	2
Landform (hillslope, terrace, etc.): Toe slope	Local relief (cond	cave, convex, none):	None
Slope (%): 1 Lat: _44.001689°	Long: <u>-94.877912°</u>		Datum: NAD 83
Soil Map Unit Name: Glencoe clay loam, 0 to 1 percent slopes		NWI classific	cation: Upland
Are climatic / hydrologic conditions on the site typical for this time of y	ear? Yes X No	_ (If no, explain in R	Remarks.)
Are Vegetation, Soil, or Hydrology significantly	y disturbed? Are "Norn	nal Circumstances" p	present? Yes X No
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed	l, explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS Attach site man showin	a compling point loost	liono trancosto	important factures ato

#### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	N0 X N0 X N0 X	Is the Sampled Area within a Wetland?	Yes	No _X
Remarks:					

#### **VEGETATION** – Use scientific names of plants.

		ninant Indicator	Dominance Test worksh	eet:	
Tree Stratum (Plot size: 30ft. )	<u>% Cover</u> Spe		Number of Dominant Spec That Are OBL, FACW, or F		(
<u>1.</u>			That Ale OBL, FACW, of I	FAC:	_ (A)
2			Total Number of Dominant	-	201402
3			Species Across All Strata:		_ (B)
4			Percent of Dominant Spec	ies	
5			That Are OBL, FACW, or F		_ (A/B)
15ft	= Tot	al Cover	Prevalence Index works		
1			Total % Cover of:		
2	- 10		OBL species		- 521
3			FACW species		
4	<u></u>		FAC species	x 3 =	
5	- ()		FACU species	x 4 =	
5ft	= Tot	al Cover	UPL species	x 5 =	
Herb Stratum (Plot size: <u>5ft.</u> )			Column Totals:	(A)	(B)
1	<u>.</u>		0-80 10 07 07 10 1		
2			Prevalence Index =	2.08.09	
3			Hydrophytic Vegetation		
4	<u></u>	201 17	1 - Rapid Test for Hyd		
5			2 - Dominance Test is		
6			3 - Prevalence Index i	s ≤3.0 <sup>1</sup>	
7			4 - Morphological Ada	ptations <sup>1</sup> (Provide su	pporting
8			5-02010-00120-01-00-0000-000-000-000-000-	r on a separate shee	×
9			Problematic Hydrophy	tic Vegetation <sup>1</sup> (Expl	ain)
10					
10	= Tot		<sup>1</sup> Indicators of hydric soil ar	nd wetland hydrology	must
Woody Vine Stratum (Plot size:)	= 100	arcover	be present, unless disturbe	ed or problematic.	
1			Hydrophytic		
2		101 <b>8</b> 74	Vegetation		
	= Tot	al Cover	Present? Yes _	№_ <u>X</u>	1
Remarks: (Include photo numbers here or on a separate			1		
This data point was taken in a cultivated corn field		ntly planted 10	10% bare ground		
		niy planted. To			

0-8         10YR 2/1         100	Depth (inches)	Matrix Color (moist)	%	<u>Redox Features</u> Color (moist) % <u>Type<sup>1</sup> Loc<sup>2</sup></u>	Texture Remarks
14-24       10YR 3/2       100       CL         Type:       C-C-Concentration, D-Depletion, RM-Reduced Matrix, MS=Masked Sand Grains.       *Location: PL=Pore Lining, M=Mati         Type:       C-C-Concentration, D-Depletion, RM-Reduced Matrix, MS=Masked Sand Grains.       *Location: PL=Pore Lining, M=Mati         Type:       C-C-Concentration, D-Depletion, RM-Reduced Matrix, MS=Masked Sand Grains.       *Location: PL=Pore Lining, M=Mati         Type:       C-C-Concentration, D-Depletion, RM-Reduced Matrix, MS=Masked Sand Grains.       *Location: PL=Pore Lining, M=Mati         Type:       C-C-Concentration, D-Depletion, RM-Reduced Matrix, MS=Masked Sand Grains.       *Location: PL=Pore Lining, M=Mati         Histolo (A1)       Sandy Redox (S5)       Dark Surface (S7)         Black Histic (A3)       Stripped Matrix (S6)       Ionr-Manganese Masses (F12)         Hydrogen Suffice (A4)       Loamy Gleyed Matrix (F2)       Other (Explain in Remarks)         2 cm Muck (A10)       Depleted Matrix (F3)       Other (Explain in Remarks)         2 cm Muck (A10)       Depleted Dark Surface (F1)       *Indicators of hydrophytic vegetation         Sandy Mucky Mineral (S1)       Redox Dark Surface (F2)       *Indicators of hydrophytic vegetation         Saturation (A2)       Redox Depressions (F8)       unless disturbed or problematic.         YDROLOGY       Water Stained Leaves (B9)       Secondary Indicato	20120-00-00-00-001 841 811		Sec. 1075 - 14 - 65		
14-24       10YR 3/2       100       CL         Type:       C2-Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Mati         Type:       C2-Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Mati         Type:       C2-Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Mati         Type:       C3-Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Mati         Type:       C3-Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Mati         Histic Epipedion (A2)       Sandy Redox (S5)       Dark Surface (S7)       Dark Surface (S7)         Black Histic (A3)       Stripped Matrix (S6)       Loamy Mucky Mineral (F1)       Very Shallow Dark Surface (F7)         Stratified Layers (A5)       Loamy Gleyed Matrix (F3)       Depleted Matrix (F3)       Depleted Matrix (F3)         Depleted Bark Surface (F1)       Depleted Matrix (F3)       Depleted Matrix (F3)       Indicators of hydrophytic vegetation wetland hydrology must be prese         Sandy Mucky Mineral (S1)       Redox Depressions (F8)       unless disturbed or problematic         Sandy Mucky Mineral (S1)       Redox Depressions (F8)       unless disturbed or problematic         Type:			100	alan da	
Hydric Soil Indicators:       Indicators for Problematic Hydric S         - Histosol (A1)					1 I <del></del>
lydric Soil Indicators:       Indicators for Problematic Hydric S					
Histosol (A1)			bletion, RM=Re	duced Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
	lydric Soil Indi	icators:			Indicators for Problematic Hydric Soils <sup>3</sup> :
Black Histic (A3)       Stripped Matrix (S6)       Iron-Manganese Masses (F12)         Hydrogen Sulfide (A4)       Loamy Mucky Mineral (F1)       Very Shallow Dark Surface (TF1)         Stratified Layers (A5)       Loamy Gleyed Matrix (F2)       Other (Explain in Remarks)         2 cm Muck (A10)       Depleted Matrix (F3)       Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)         Thick Dark Surface (A12)       Depleted Dark Surface (F7) <sup>3</sup> Indicators of hydrophytic vegetation wetland hydrology must be prese unless disturbed or problematic.         Strippe	the second second second second second	1 Summer and the second s			
Hydrogen Sulfide (A4)       Loamy Mucky Mineral (F1)       Very Shallow Dark Surface (TF1:         Stratified Layers (A5)       Loamy Gleyed Matrix (F2)       Other (Explain in Remarks)         2 cm Muck (A10)       Depleted Matrix (F3)       Other (Explain in Remarks)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)       Thick Dark Surface (A12)       Depleted Dark Surface (F7) <sup>3</sup> Indicators of hydrophytic vegetation         Sandy Mucky Mineral (S1)       Redox Depressions (F8)       wetland hydrology must be prese         5 cm Mucky Peat or Peat (S3)       unless disturbed or problematic.         testrictive Layer (if observed):       Type:					
Stratified Layers (A5)       Loamy Gleyed Matrix (F2)       Other (Explain in Remarks)         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)         s or Mucky Peat or Peat (S3)       unless disturbed or problematic.         testrictive Layer (if observed):       Type:         Type:					
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)         unless disturbed or problematic.         testrictive Layer (if observed):         Type:         Depth (inches):         Depth (inches):         temarks:           YDROLOGY            Vetland Hydrology Indicators:       trimary Indicators (minimum of one is required: check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9)         Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)         Saturation (A3)       True Aquatic Plants (B14)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)         Secondary Indicators (C3)       Saturation Visible on Aerial Im         Dry-Season Water Table (A2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Im         Dry-Season Water Table (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Im					
Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)         Thick Dark Surface (A12)       Depleted Dark Surface (F7)         Sandy Mucky Mineral (S1)       Redox Depressions (F8)         s or Mucky Peat or Peat (S3)       unless disturbed or problematic.         testrictive Layer (if observed):       Type:         Type:       Hydric Soil Present? Yes         Depth (inches):       Hydric Soil Present? Yes         Remarks:       Secondary Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of one is required; check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (A2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Im         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D	-				Other (Explain in Remarks)
		Well the states as	o (A11)		
Sandy Mucky Mineral (S1)Redox Depressions (F8) wetland hydrology must be prese s from Mucky Peat or Peat (S3) unless disturbed or problematic. testrictive Layer (if observed): 			e (ATT)	—	<sup>3</sup> Indicators of hydrophytic vegetation and
				—	
Restrictive Layer (if observed):       Type:			3)		
Type:		<u>K</u>			
Depth (inches):       Hydric Soil Present? Yes         Remarks:         YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of of a sequired; check all that apply)	tesifictive Lave				
Remarks:         YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of one is required: check all that apply)       Secondary Indicators (minimum of	- 1942 - <b>R</b>	943 22			
YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of one is required: check all that apply)       Secondary Indicators (minimum of	Type:	s):		<u></u>	Hydric Soil Present? Yes NoX
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required: check all that apply)       Secondary Indicators (minimum of         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Im         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D	Type: Depth (inches	s):		-	Hydric Soil Present? Yes No
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of	Type: Depth (inches	s):		-	Hydric Soil Present? Yes No X
Primary Indicators (minimum of one is required: check all that apply)       Secondary Indicators (minimum of one is required: check all that apply)         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Im         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D	Type: Depth (inches Remarks:			-	Hydric Soil Present? Yes NoX
Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Im         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D	Type: Depth (inches Remarks: YDROLOGY	(		-	Hydric Soil Present? Yes NoX
High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Im         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D	Type: Depth (inches Remarks: YDROLOGY Vetland Hydrol	logy Indicators:		-	
Saturation (A3)       True Aquatic Plants (B14)       Dry-Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Im         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D	Type: Depth (inches temarks: YDROLOGY Vetland Hydrol Irimary Indicato	f logy Indicators: prs (minimum of c		mean mark the weath	Secondary Indicators (minimum of two require
Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Im         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D	Type: Depth (inches Remarks: YDROLOGY Vetland Hydrol Primary Indicato Surface Wat	f logy Indicators: ors (minimum of c iter (A1)		Water-Stained Leaves (B9)	Secondary Indicators (minimum of two requires
Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Im         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D	Type: Depth (inches temarks: YDROLOGY Vetland Hydrol Irimary Indicato Surface Wat High Water	f logy Indicators: ors (minimum of c iter (A1) Table (A2)		Water-Stained Leaves (B9) Aquatic Fauna (B13)	Secondary Indicators (minimum of two require Surface Soil Cracks (B6) Drainage Patterns (B10)
Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D	Type: Depth (inches Remarks: YDROLOGY Vetland Hydrol Primary Indicatoo Surface Wat High Water Saturation (/	logy Indicators: ors (minimum of c iter (A1) Table (A2) (A3)		<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> </ul>	Secondary Indicators (minimum of two requires Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2)
	Type: Depth (inches remarks: //DROLOGY //etland Hydrol rimary Indicatoo Surface Wat High Water Saturation (/ Water Marks	logy Indicators: ors (minimum of c tter (A1) Table (A2) A3) s (B1)		<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> </ul>	Secondary Indicators (minimum of two requires Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8)
_ Alganination Gruss (D4) Recent from Reduction in Tilled Solis (Co) Geomorphic Position (D2)	Type: Depth (inches Remarks: Primary Indicator Wetland Hydrol Primary Indicator Surface Wat High Water Saturation (/ Water Marks Sediment Do	logy Indicators: ors (minimum of c iter (A1) Table (A2) (A3) s (B1) peposits (B2)		<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres on Living Roots</li> </ul>	Secondary Indicators (minimum of two require Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2) Crayfish Burrows (C8) (C3) Saturation Visible on Aerial Imagery (C9)
This Music Out of the (OT)	Type: Depth (inches Remarks: YDROLOGY Vetland Hydrol Primary Indicator Surface Wat Surface Wat High Water Saturation (/ Water Marks Sediment Do Drift Deposit	f logy Indicators: ors (minimum of c tter (A1) Table (A2) (A3) (A3) (A3) (A3) (A3) (A3) (A3) (A3		<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres on Living Roots</li> <li>Presence of Reduced Iron (C4)</li> </ul>	<ul> <li><u>Secondary Indicators (minimum of two require</u></li> <li>Surface Soil Cracks (B6)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Crayfish Burrows (C8)</li> <li>(C3) Saturation Visible on Aerial Imagery (C9)</li> <li>Stunted or Stressed Plants (D1)</li> </ul>
Iron Deposits (B5)       Thin Muck Surface (C7)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)	Type: Depth (inches Remarks: YDROLOGY YDROLOGY Vetland Hydrol Primary Indicator Surface Wat Surface	f logy Indicators: ors (minimum of c tter (A1) Table (A2) (A3) s (B1) s (B1) peposits (B2) its (B3) r Crust (B4)		<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres on Living Roots</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Tilled Soils (C</li> </ul>	<ul> <li><u>Secondary Indicators (minimum of two require</u></li> <li>Surface Soil Cracks (B6)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Crayfish Burrows (C8)</li> <li>(C3) Saturation Visible on Aerial Imagery (C9)</li> <li>Stunted or Stressed Plants (D1)</li> <li>Geomorphic Position (D2)</li> </ul>

Field Observations:				
Surface Water Present?	Yes	No X Depth (inches):		
Water Table Present?	Yes	No 🗶 Depth (inches):		
Saturation Present? (includes capillary fringe)	Yes	No X Depth (inches):	Wetland Hydrology Present? Yes	NoX
Remarks:	100.00 585.0			
Remarks:	910 <b>0</b> 595			

Project/Site: Red Rock Solar	City/County: Cottonwood		Sampling Date: 5/12/2020
Applicant/Owner: Red Rock Solar, LLC		State: MN	Sampling Point: UPL-4b
Investigator(s): _R. Scott	Section, Township, Range:	T106N R34W S2	₩y 881 475
Landform (hillslope, terrace, etc.): Midslope		ave, convex, none):	-
Slope (%): 1 Lat: 44.011217°	Long: <u>-94.881356°</u>		Datum: NAD 83
Soil Map Unit Name: Nicollet clay loam, 1 to 3 percent slopes		NWI classific	ation: Upland
Are climatic / hydrologic conditions on the site typical for this time of y	ear? Yes X No	_ (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significantly	y disturbed? Are "Norm	nal Circumstances" p	oresent? Yes X No
Are Vegetation, Soil, or Hydrology naturally pr	roblematic? (If needed	, explain any answe	rs in Remarks.)

### SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	N0 X N0 X N0 X	Is the Sampled Area within a Wetland?	Yes	No X
Remarks:					

#### VEGETATION - Use scientific names of plants.

		ninant Indicator	Dominance Test worksh	eet:	
Tree Stratum (Plot size: 30ft. )	<u>% Cover</u> Spe		Number of Dominant Spec That Are OBL, FACW, or F		(4)
<u>1.</u>			That Ale OBL, FACW, of I	FAC:	_ (A)
2			Total Number of Dominant	-	201402
3			Species Across All Strata:		_ (B)
4			Percent of Dominant Spec	ies	
5			That Are OBL, FACW, or F		(A/B)
15ft	= Tot	al Cover	Prevalence Index works		
1			Total % Cover of:		
2	- 10		OBL species		
3			FACW species		
4			FAC species	x 3 =	
5	- ()		FACU species	x 4 =	
5ft	= Tot	al Cover	UPL species	x 5 =	
Herb Stratum (Plot size: <u>5ft.</u> )			Column Totals:	(A)	(B)
1	<u>.</u>		0-80 10 07 07 10 1		1997 B. 1997
2			Prevalence Index =	2.02020 01	
3			Hydrophytic Vegetation		
4	<u></u>	201 17	1 - Rapid Test for Hyd		
5			2 - Dominance Test is	>50%	
6			3 - Prevalence Index i	s ≤3.0 <sup>1</sup>	
7			4 - Morphological Ada	ptations <sup>1</sup> (Provide su	pporting
8			5-02010-00120-01-00-0000-000-000-000-000-	r on a separate shee	×
9			Problematic Hydrophy	tic Vegetation <sup>1</sup> (Exp	lain)
10					
10.	= Tot		<sup>1</sup> Indicators of hydric soil ar	nd wetland hydrology	must
Woody Vine Stratum (Plot size:)	= 100	arcover	be present, unless disturbe	ed or problematic.	
1			Hydrophytic		
2		101 <b>2</b> 74	Vegetation		
	= Tot	al Cover	Present? Yes _	№_ <u>X</u>	2
Remarks: (Include photo numbers here or on a separate			1		
This data point was taken in a cultivated corn field		ntly planted 10	10% bare ground		
		niy planted. To	o /o bale ground.		

	Matrix Color (moist)	%	Redox Feat Color (moist) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
(inches) 0-7	10YR 2/1	100			LOC	SiL	Remarks
7-16	10YR 2/1	100	446			CL	
	14 - <del>1</del> 5					2	
16-24	10YR 3/2					<u>CL</u>	
	·	· <u> </u>	· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · ·	
<sup>1</sup> Type: C=C	Concentration, D=Dep	pletion, RM=	Reduced Matrix, MS=Mas	sked Sand Gra	ains.	<sup>2</sup> Location: PL=	Pore Lining, M=Matrix.
	Indicators:		25				roblematic Hydric Soils <sup>3</sup> :
Histosc	l (A1)		Sandy Gleyed	Matrix (S4)		Coast Prairie	e Redox (A16)
	pipedon (A2)		Sandy Redox			Dark Surface	8 D
	listic (A3)		Stripped Matri			_	nese Masses (F12)
	en Sulfide (A4)		Loamy Mucky				v Dark Surface (TF12)
	ed Layers (A5) luck (A10)		Loamy Gleyed			Other (Expla	iin in Remarks)
	ed Below Dark Surfac	e (A11)	Redox Dark S				
	ark Surface (A12)		Depleted Dark			<sup>3</sup> Indicators of hy	drophytic vegetation and
	Mucky Mineral (S1)		Redox Depres				ology must be present,
5 cm M	ucky Peat or Peat (S	3)				unless distu	rbed or problematic.
Restrictive	Layer (if observed)	:					
Type:							ent? Yes No X
Depth (ir	nches):		_			Hydric Soil Pres	ent? Yes No _X_
Remarks:							
IYDROLO	DGY						
structure states	DGY ydrology Indicators:						
Wetland Hy	drology Indicators:		d; check all that apply)			Secondary Inc	licators (minimum of two required
Wetland Hy Primary Ind	drology Indicators:		d; check all that apply)	eaves (B9)			licators (minimum of two required
Wetland Hy Primary Ind Surface	vdrology Indicators: icators (minimum of o		response and the			Surface S	a manan di ananan
Wetland Hy Primary Ind Surface High W	vdrology Indicators: icators (minimum of o Water (A1)		Water-Stained L	B13)		Surface S Drainage	oil Cracks (B6)
Wetland Hy Primary Ind Surface High W Saturat	ydrology Indicators: icators (minimum of o Water (A1) later Table (A2)		Water-Stained L Aquatic Fauna (I	B13) ints (B14)		Surface S Drainage	oil Cracks (B6) Patterns (B10) on Water Table (C2)
Wetland Hy Primary Ind Surface High W Saturat Water I	vdrology Indicators: icators (minimum of o Water (A1) 'ater Table (A2) ion (A3)		Water-Stained L Aquatic Fauna (I True Aquatic Pla	B13) ints (B14) e Odor (C1)	ing Roots	Surface S Drainage Dry-Seas Crayfish B	oil Cracks (B6) Patterns (B10) on Water Table (C2)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime	ydrology Indicators: icators (minimum of d water (A1) ater Table (A2) ion (A3) Marks (B1)		Water-Stained L     Aquatic Fauna (I     True Aquatic Pla     Hydrogen Sulfide	B13) ints (B14) e Odor (C1) pheres on Liv		Crayfish E (C3)	oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De	ydrology Indicators: icators (minimum of d e Water (A1) later Table (A2) ion (A3) Marks (B1) ent Deposits (B2)		Water-Stained L Aquatic Fauna (I True Aquatic Pla Hydrogen Sulfide Oxidized Rhizos	B13) ints (B14) e Odor (C1) pheres on Liv luced Iron (C4	+)	Crayfish E (C3) Crayfish E (C3) Sturted o	oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Algal M	ydrology Indicators: icators (minimum of o e Water (A1) later Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3)		Water-Stained L     Aquatic Fauna (I     True Aquatic Pla     Hydrogen Sulfide     Oxidized Rhizos     Presence of Rec	B13) ants (B14) e Odor (C1) pheres on Liv luced Iron (C4 uction in Tilled	+)	(C3) Sturface S Drainage Dry-Sease Crayfish B Saturation Stunted o 6) Geomorp	oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) r Stressed Plants (D1)
Primary Ind Surface High W Saturat Water I Sedime Drift De Algal M Iron De	ydrology Indicators: icators (minimum of o e Water (A1) later Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4)	one is require	Water-Stained L     Aquatic Fauna (f     True Aquatic Pla     Hydrogen Sulfide     Oxidized Rhizos     Presence of Rec     Recent Iron Red     Thin Muck Surfa	B13) ants (B14) e Odor (C1) pheres on Liv duced Iron (C4 uction in Tilled ce (C7)	+)	(C3) Sturface S Drainage Dry-Sease Crayfish B Saturation Stunted o 6) Geomorp	oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) r Stressed Plants (D1) hic Position (D2)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Algal M Inn De Innn De Innnda	ydrology Indicators: icators (minimum of o e Water (A1) later Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) iposits (B5)	one is require	Water-Stained L Aquatic Fauna (f True Aquatic Pla Hydrogen Sulfide Oxidized Rhizos Recent Iron Red Thin Muck Surfa Gauge or Well D	B13) e Odor (C1) pheres on Liv luced Iron (C4 uction in Tilled ce (C7) Pata (D9)	+)	(C3) Sturface S Drainage Dry-Sease Crayfish B Saturation Stunted o 6) Geomorp	oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) Ir Stressed Plants (D1) hic Position (D2)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Algal M Inn De Innnda	ydrology Indicators: icators (minimum of d e Water (A1) later Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) tion Visible on Aerial ly Vegetated Concav	one is require Imagery (B7) e Surface (B	Water-Stained L Aquatic Fauna (I Aquatic Fauna (I Hydrogen Sulfide Coxidized Rhizos Recent Iron Red Thin Muck Surfa Gauge or Well D Other (Explain in	B13) e Odor (C1) pheres on Liv luced Iron (C4 uction in Tilled ce (C7) Pata (D9)	+)	(C3) Sturface S Drainage Dry-Sease Crayfish B Saturation Stunted o 6) Geomorp	oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) r Stressed Plants (D1) hic Position (D2)
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Algal M Innndai Sparse Field Obse	ydrology Indicators: icators (minimum of o e Water (A1) later Table (A2) ion (A3) Marks (B1) ent Deposits (B2) eposits (B3) lat or Crust (B4) eposits (B5) lion Visible on Aerial ly Vegetated Concav rvations:	Imagery (B7) e Surface (B ′es N	Water-Stained L Aquatic Fauna (f True Aquatic Pla Hydrogen Sulfide Oxidized Rhizos Recent Iron Red Thin Muck Surfa Gauge or Well D	B13) ants (B14) e Odor (C1) pheres on Liv duced Iron (C4 uction in Tilled ce (C7) bata (D9) a Remarks)	i) d Soils (Ci	(C3) Sturface S Drainage Dry-Sease Crayfish B Saturation Stunted o 6) Geomorp	oil Cracks (B6) Patterns (B10) on Water Table (C2) Burrows (C8) In Visible on Aerial Imagery (C9) Ir Stressed Plants (D1) hic Position (D2)

Yes \_\_\_\_ No X Depth (inches): \_\_\_\_

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

Saturation Present? (includes capillary fringe)

Remarks:

Wetland Hydrology Present? Yes \_\_\_\_\_ No \_\_\_\_

Project/Site: Red Rock Solar	City/County: Cottonwood		Sampling Date: 5/12/2020
Applicant/Owner: Red Rock Solar, LLC		State: MN	Sampling Point: UPL-5b
Investigator(s): R. Scott	Section, Township, Range:		
Landform (hillslope, terrace, etc.): Mid slope		cave, convex, none):	
Slope (%): 1 Lat: _44.010149°	Long: <u>-94.875229°</u>		Datum: NAD 83
Soil Map Unit Name: Glencoe clay loam, 0 to 1 percent slopes		NWI classific	ation: Upland
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes X No	_ (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significantly	v disturbed? Are "Norn	nal Circumstances" p	oresent? Yes 🗶 No
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed	l, explain any answe	rs in Remarks.)

### SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	N0 X N0 X N0 X	Is the Sampled Area within a Wetland?	Yes	No X
Remarks:					

#### VEGETATION - Use scientific names of plants.

30ft	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30ft. )	<u>% Cover</u> <u>Species?</u> <u>Status</u>	Number of Dominant Species
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across All Strata: (B)
4		Percent of Dominant Species
5		That Are OBL, FACW, or FAC: (A/B)
   15ft	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft. )		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: 5ft. )		Column Totals: (A) (B)
1	······································	
2		Prevalence Index = B/A =
3		Hydrophytic Vegetation Indicators:
4		1 - Rapid Test for Hydrophytic Vegetation
		2 - Dominance Test is >50%
5		3 - Prevalence Index is ≤3.0 <sup>1</sup>
6		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
7		data in Remarks or on a separate sheet)
8		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
9		_ ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
10		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
	= Total Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		
1	tala talata da	Hydrophytic
2		Vegetation Present? Yes No X
	= Total Cover	
Remarks: (Include photo numbers here or on a separate	sheet.)	
This data point was taken in a cultivated soybean	field that was recently planted	d. 100% bare ground.

(inches)	Matrix		Redox Features		
200 - COLESCIENCE - 1	Color (moist)		Color (moist) % Type <sup>1</sup>	oc <sup>2</sup> Texture	Remarks
)-12	10YR 2/1	100		L	
12-18	10YR 2/1	100		L	
18-24	10YR 3/2			<u>CL</u>	
		oletion, RM=R	educed Matrix, MS=Masked Sand Grain		re Lining, M=Matrix.
ydric Soil	Indicators:			Indicators for Prot	olematic Hydric Soils <sup>3</sup> :
_ Histoso	and the second the second s		Sandy Gleyed Matrix (S4)	Coast Prairie R	
_	pipedon (A2)		Sandy Redox (S5)	Dark Surface (S	
100	listic (A3)		Stripped Matrix (S6)		e Masses (F12)
	en Sulfide (A4) d Layers (A5)		Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2)	Other (Explain	ark Surface (TF12)
	uck (A10)		Depleted Matrix (F3)		in Kenlarks)
- 102 - 10 - 10	d Below Dark Surfac	e (A11)	Redox Dark Surface (F6)		
	ark Surface (A12)		Depleted Dark Surface (F7)	<sup>3</sup> Indicators of hydro	phytic vegetation and
_ Sandy I	Mucky Mineral (S1)		Redox Depressions (F8)		gy must be present,
_ 5 cm M	ucky Peat or Peat (S	3)		unless disturbe	d or problematic.
Restrictive	Layer (if observed)	:			
Type:	-1		<u></u>		
Depth (ir	iches):		_	Hydric Soil Present	? Yes NoX
YDROLO	OGY				
	OGY drology Indicators				
Vetland Hy	drology Indicators		check all that apply)	Secondary Indica	tors (minimum of two require
Vetland Hy Primary Ind	drology Indicators		: check all that apply) Water-Stained Leaves (B9)	Surface Soil	승규는 가장 같은 것은 것을 많은 것이다.
Vetland Hy Primary Ind	drology Indicators		anactive countries that water-on-	200 B 100 B	Cracks (B6)
Vetland Hy Primary Ind Surface High W	drology Indicators		Water-Stained Leaves (B9)	Surface Soil Drainage Pa	Cracks (B6)
Vetland Hy Primary Indi Surface High W Saturat	rdrology Indicators icators (minimum of d water (A1) ater Table (A2)		Water-Stained Leaves (B9) Aquatic Fauna (B13)	Surface Soil Drainage Pa	Cracks (B6) tterns (B10) Water Table (C2)
Vetland Hy Primary Indi Surface High W Saturat	rdrology Indicators icators (minimum of d water (A1) ater Table (A2) ion (A3)		<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> </ul>	Surface Soil Drainage Pa Dry-Season Crayfish Bur	Cracks (B6) tterns (B10) Water Table (C2)
Vetland Hy Primary Indi Surface High W Saturat Water M Sedime	rdrology Indicators: icators (minimum of d water (A1) ater Table (A2) ion (A3) Marks (B1)		Water-Stained Leaves (B9)     Aquatic Fauna (B13)     True Aquatic Plants (B14)     Hydrogen Sulfide Odor (C1)	Surface Soil Drainage Pa Dry-Season Crayfish Bur Roots (C3) Saturation V	Cracks (B6) tterns (B10) Water Table (C2) rows (C8)
Vetland Hy Primary Indi Surface High W Saturat Water M Sedime Drift De	rdrology Indicators: icators (minimum of d water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2)		Water-Stained Leaves (B9)     Aquatic Fauna (B13)     True Aquatic Plants (B14)     Hydrogen Sulfide Odor (C1)     Oxidized Rhizospheres on Living	Crayfish Bur Roots (C3)	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9)
Vetland Hy Primary Indi Surface High W Saturat Water M Sedime Drift De Algal M	rdrology Indicators: cators (minimum of o Water (A1) ater Table (A2) ion (A3) Marks (B1) mt Deposits (B2) iposits (B3)		Water-Stained Leaves (B9)     Aquatic Fauna (B13)     True Aquatic Plants (B14)     Hydrogen Sulfide Odor (C1)     Oxidized Rhizospheres on Livin     Presence of Reduced Iron (C4)	Crayfish Bur Roots (C3)	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2)
Vetland Hy Primary Indi Surface High W Saturat Vater M Sedime Drift De Algal M Iron De Inundat	rdrology Indicators: icators (minimum of d water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial	one is required Imagery (B7)	<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres on Living</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Tilled</li> <li>Thin Muck Surface (C7)</li> <li>Gauge or Well Data (D9)</li> </ul>	Image: Surface Soil         Image: Drainage Pa         Image: Dry-Season         Image: Dry-Season         Image: Crayfish Bur         Roots (C3)         Image: Stunted or S         Stunted or S         Image: Stunted or S	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2)
Vetland Hy Primary Indi Surface High W Saturat Saturat Sedime Drift De Algal M Iron De Inundat Sparse	rdrology Indicators: icators (minimum of d Water (A1) ater Table (A2) ion (A3) Marks (B1) Int Deposits (B2) iposits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial ly Vegetated Concav	one is required Imagery (B7)	Water-Stained Leaves (B9)     Aquatic Fauna (B13)     True Aquatic Plants (B14)     Hydrogen Sulfide Odor (C1)     Oxidized Rhizospheres on Livin     Presence of Reduced Iron (C4)     Recent Iron Reduction in Tilled     Thin Muck Surface (C7)     Gauge or Well Data (D9)	Image: Surface Soil         Image: Drainage Pa         Image: Dry-Season         Image: Dry-Season         Image: Crayfish Bur         Roots (C3)         Image: Stunted or S         Stunted or S         Image: Stunted or S	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2)
Vetland Hy Primary Indi Surface High W Saturat Saturat Sedime Drift De Algal M Iron De Inundat Sparse	rdrology Indicators: icators (minimum of of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) iposits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial by Vegetated Concav rvations:	one is required Imagery (B7) e Surface (B8	Water-Stained Leaves (B9)     Aquatic Fauna (B13)     True Aquatic Plants (B14)     Hydrogen Sulfide Odor (C1)     Oxidized Rhizospheres on Living     Presence of Reduced Iron (C4)     Recent Iron Reduction in Tilled 3     Thin Muck Surface (C7)     Gauge or Well Data (D9)     Other (Explain in Remarks)	Image: Surface Soil         Image: Drainage Pa         Image: Dry-Season         Image: Dry-Season         Image: Crayfish Bur         Roots (C3)         Image: Stunted or S         Stunted or S         Image: Stunted or S	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2)
Primary Ind Surface High W Saturat Water M Sedime Drift De Algal M Iron De Inundat Sparse	rdrology Indicators: icators (minimum of of Water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) iposits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial by Vegetated Concav rvations:	Imagery (B7) e Surface (B8 ′es No	Water-Stained Leaves (B9)     Aquatic Fauna (B13)     True Aquatic Plants (B14)     Hydrogen Sulfide Odor (C1)     Oxidized Rhizospheres on Livin,     Presence of Reduced Iron (C4)     Recent Iron Reduction in Tilled     Thin Muck Surface (C7)     Gauge or Well Data (D9)     Other (Explain in Remarks)	Image: Surface Soil         Image: Drainage Pa         Image: Dry-Season         Image: Dry-Season         Image: Crayfish Bur         Roots (C3)         Image: Stunted or S         Stunted or S         Image: Stunted or S	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2)
Vetland Hy Primary Indi Surface High W Saturat Sedime Drift De Algal M Iron De Inundat Sparse	rdrology Indicators: <u>icators (minimum of d</u> Water (A1) ater Table (A2) ion (A3) Marks (B1) mt Deposits (B2) posits (B3) at or Crust (B4) posits (B5) ion Visible on Aerial y Vegetated Concav rvations: ter Present?	Imagery (B7) e Surface (B8 ′es No	Water-Stained Leaves (B9)         Aquatic Fauna (B13)         True Aquatic Plants (B14)         Hydrogen Sulfide Odor (C1)         Oxidized Rhizospheres on Living         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled 3         Thin Muck Surface (C7)         Gauge or Well Data (D9)         Other (Explain in Remarks)         X         Depth (inches):         X         Depth (inches):	Image: Surface Soil         Image: Drainage Pa         Image: Dry-Season         Image: Dry-Season         Image: Crayfish Bur         Roots (C3)         Image: Stunted or S         Stunted or S         Image: Stunted or S	Cracks (B6) tterns (B10) Water Table (C2) rows (C8) sible on Aerial Imagery (C9) tressed Plants (D1) Position (D2)

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

US Army Corps of Engineers

(includes capillary fringe)

Remarks:

Project/Site: Red Rock Solar	City/County: Cottonwood		Sampling Date: 5/12/2020
Applicant/Owner: Red Rock Solar, LLC		State: MN	Sampling Point: UPL-6b
Investigator(s): _R. Scott	Section, Township, Range:	T106N R34W S1	· · · · · · · · · · · · · · · · · · ·
Landform (hillslope, terrace, etc.): Midslope	Local relief (cond	cave, convex, none):	None
Slope (%): 1 Lat: _44.016767°	Long: <u>-94.873736°</u>	-	Datum: NAD 83
Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes	i	NWI classific	ation: Upland
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes X No	_ (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significantly	y disturbed? Are "Norn	nal Circumstances" p	present? Yes X No
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed	l, explain any answe	rs in Remarks.)
		tions tooseste	in a stant fastures sta

#### SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	N0 X N0 X N0 X	Is the Sampled Area within a Wetland?	Yes	No _X
Remarks:					

30ft	Absolute	Dominant Indicator	Dominance Test workshe	eet:	
Tree Stratum (Plot size: 30ft. )		Species? Status	Number of Dominant Spec		(4)
1			That Are OBL, FACW, or F	FAC:	_ (A)
2			Total Number of Dominant	l	14 D (8 P P)
3	-		Species Across All Strata:		(B)
4			Percent of Dominant Spec	ies	
5			That Are OBL, FACW, or F		(A/B)
Sapling/Shrub Stratum (Plot size: 15ft. )		= Total Cover			
			Prevalence Index worksh		
1			Total % Cover of:		_
2			OBL species	x 1 =	_
3.	201		FACW species	x 2 =	
4			FAC species	x 3 =	
5			FACU species	x 4 =	
		= Total Cover	UPL species	x 5 =	
Herb Stratum (Plot size: 5ft. )			Column Totals:		
1		<u> </u>	<i>b</i> .		
2			Prevalence Index =	B/A =	
3			Hydrophytic Vegetation I	ndicators:	
4			1 - Rapid Test for Hyd	rophytic Vegetation	
5			2 - Dominance Test is	>50%	
6			3 - Prevalence Index is	s ≤3.0 <sup>1</sup>	
			4 - Morphological Ada		pporting
7			data in Remarks or	on a separate sheet	)
8			Problematic Hydrophy	tic Vegetation <sup>1</sup> (Expla	ain)
9					025
10			<sup>1</sup> Indicators of hydric soil an	nd wetland hydrology	must
Woody Vine Stratum (Plot size: )		= Total Cover	be present, unless disturbe	ed or problematic.	0007070
1			Hydrophytic Vegetation		
2			Present? Yes	<u>N₀_X</u>	
		= Total Cover		10 000000	
Remarks: (Include photo numbers here or on a separate					
This data point was taken in a cultivated corn field	that was	recently planted. 10	00% bare ground.		

Depth	Matrix			x Features			
(inches)	Color (moist)	%	Color (moist)	<u>%</u> <u>Type</u> <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-14	10YR 2/1	100				SiL	
14-24	10YR 2/1	100					
	concentration, D=De	pletion, RM	Reduced Matrix, M	S=Masked Sand Grai	ns.		L=Pore Lining, M=Matrix. Problematic Hydric Soils <sup>3</sup> :
Histoso Histic E Black H Hydrog			Sandy Strippe Loamy	Gleyed Matrix (S4) Redox (S5) d Matrix (S6) Mucky Mineral (F1) Gleyed Matrix (F2)		Coast Prai Dark Surfa Iron-Manga Very Shallo	rie Redox (A16)
Deplete Thick D Sandy l	uck (A10) ed Below Dark Surfac lark Surface (A12) Mucky Mineral (S1) ucky Peat or Peat (S		Deplete Redox Deplete	ed Matrix (F3) Dark Surface (F6) ed Dark Surface (F7) Depressions (F8)		<sup>3</sup> Indicators of h wetland hyd	hydrophytic vegetation and drology must be present, turbed or problematic.
Restrictive	Layer (if observed)	):					
Type: Depth (ir	nches):					Hydric Soil Pre	sent? Yes <u>No X</u>
Remarks:						4	
YDROLC	OGY						
Vetland Hy	drology Indicators	:					
rimary Ind	cators (minimum of	one is requi	red: check all that a	oply)		Secondary Ir	ndicators (minimum of two require
_ Surface	Water (A1)		Water-Sta	ined Leaves (B9)		Surface	Soil Cracks (B6)
_ High W	ater Table (A2)		Aquatic Fa	auna (B13)		Drainage	e Patterns (B10)
Saturat	ion (A3)			atic Plants (B14)		Dry-Sea	son Water Table (C2)
_ Water M	Aarks (B1)			Sulfide Odor (C1)		Crayfish	Burrows (C8)
Sedime	nt Deposits (B2)		Oxidized	Rhizospheres on Livin	g Roots (	(C3) Saturatio	on Visible on Aerial Imagery (C9)

- \_\_\_ Oxidized Rhizospheres on Living Roots (C3) \_\_\_ Saturation Visible on Aerial Imagery (C9)
  - \_\_\_\_ Stunted or Stressed Plants (D1)
  - ..... .... 1.\_\_\_\_

<ul> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Inundation Visible on Aerial Imagery (B7)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> </ul>			<ul> <li>Oxidized Rifizospheres of Elving Roots (CS)</li> <li>Presence of Reduced Iron (C4)</li> <li>Stunted or Stressed Plants (D1)</li> <li>Recent Iron Reduction in Tilled Soils (C6)</li> <li>Geomorphic Position (D2)</li> <li>Thin Muck Surface (C7)</li> <li>Gauge or Well Data (D9)</li> <li>Other (Explain in Remarks)</li> </ul>				
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Yes Yes Yes	No X	_ Depth (inches): _ Depth (inches): _ Depth (inches):	Wetland Hydrology Present? Yes	s No_X		
Describe Recorded Data (si	tream gauge,	monitoring v	vell, aerial photos, previous	s inspections), if available:			
Remarks:							

Project/Site: Red Rock Solar	City/County: Cottonwood		Sampling Date: 5/13/2020
Applicant/Owner: Red Rock Solar, LLC		State: MN	Sampling Point: UPL-7b
Investigator(s): R. Scott	Section, Township, Range:		
Landform (hillslope, terrace, etc.): Midslope		ave, convex, none):	
Slope (%): 1 Lat: 44.012161°	Long: <u>-94.864325°</u>		Datum: NAD 83
Soil Map Unit Name: Glencoe clay loam, 0 to 1 percent slopes		NWI classific	ation: Upland
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes X No	_ (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significantly	v disturbed? Are "Norm	nal Circumstances" p	present? Yes X No
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed	, explain any answe	rs in Remarks.)

# SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	N0 X N0 X N0 X	Is the Sampled Area within a Wetland?	Yes	No_X
Remarks:					

30ft	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30ft.</u> )	<u>% Cover</u> <u>Species?</u> <u>Status</u>	Number of Dominant Species
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across All Strata: (B)
4		Percent of Dominant Species
5		That Are OBL, FACW, or FAC: (A/B)
   15 <del>ft</del>	= Total Cover	
		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 =
0.00	= Total Cover	UPL species x 5 =
Herb Stratum (Plot size: 5ft. )		Column Totals: (A) (B)
1		
2		Prevalence Index = B/A =
3		Hydrophytic Vegetation Indicators:
4		1 - Rapid Test for Hydrophytic Vegetation
5		2 - Dominance Test is >50%
6		3 - Prevalence Index is ≤3.0 <sup>1</sup>
7		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
144 - C		data in Remarks or on a separate sheet)
8		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
9		
10		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)	= Total Cover	be present, unless disturbed or problematic.
1		Hydrophytic Vegetation
2		Present? Yes No X
	= Total Cover	
Remarks: (Include photo numbers here or on a separate		
This data point was taken in a cultivated soybean	field that was recently planted	d. 100% bare ground.

Depth	Matrix		Redox Features	Loc <sup>2</sup>	Tartan	Demode
inches) I-12	Color (moist) 10YR 2/1	<u>%</u> 100	Color (moist) % Type <sup>1</sup>		<u>Texture</u> SiL	Remarks
		N/T 10 8				
12-18	10YR 2/1	100		74 187	L	
18-24	10YR 3/2	100			CL	
		· ·				
		letion, RM=	Reduced Matrix, MS=Masked Sand Grain	าร.		=Pore Lining, M=Matrix.
•	I Indicators:					Problematic Hydric Soils <sup>3</sup> :
_ Histoso	and the of the second se		Sandy Gleyed Matrix (S4)			ie Redox (A16)
	Epipedon (A2)		Sandy Redox (S5)		Dark Surfac	
100	Histic (A3)		Stripped Matrix (S6)			nese Masses (F12)
	gen Sulfide (A4) ed Layers (A5)		Loamy Mucky Mineral (F1) Loamy Gleyed Matrix (F2)			w Dark Surface (TF12) ain in Remarks)
	luck (A10)		Depleted Matrix (F3)			
- (Dec	ed Below Dark Surfac	e (A11)	Redox Dark Surface (F6)			
	Dark Surface (A12)	• (• • • • •	Depleted Dark Surface (F7)		<sup>3</sup> Indicators of h	ydrophytic vegetation and
747762 211	Mucky Mineral (S1)		Redox Depressions (F8)			rology must be present,
	lucky Peat or Peat (S	3)				rbed or problematic.
Restrictive	Layer (if observed)					
Restrictive Type:	e Layer (if observed)					
Type:	e Layer (if observed)				Hydric Soil Pres	ent? Yes <u>No X</u>
Type:	5 00 D				Hydric Soil Pres	ent? Yes <u>No X</u>
Type: Depth (ii	5 00 D				Hydric Soil Pres	eent? Yes <u>No X</u>
Type: Depth (ii Remarks:	nches):				Hydric Soil Pres	eent? Yes <u>No X</u>
Type: Depth (in Remarks:	nches):				Hydric Soil Pres	ent? Yes <u>No X</u>
Type: Depth (in Remarks: YDROLO	nches): DGY ydrology Indicators:		ed; check all that apply)			
Type: Depth (in Remarks: YDROLO Vetland H	nches): DGY ydrology Indicators:		ed: check all that apply) Water-Stained Leaves (B9)		_ <u>Secondary In</u>	
Type: Depth (in Remarks: YDROLO Vetland H Primary Ind Surface	nches): DGY ydrology Indicators: licators (minimum of c e Water (A1)		Water-Stained Leaves (B9)		<u>Secondary In</u> Surface S	dicators (minimum of two require Soil Cracks (B6)
Type: Depth (in Remarks: YDROLO Vetland Hy Primary Ind Surface High W	nches): DGY ydrology Indicators: dicators (minimum of c e Water (A1) /ater Table (A2)		Water-Stained Leaves (B9) Aquatic Fauna (B13)		<u>Secondary In</u> Surface \$ Drainage	dicators (minimum of two require Soil Cracks (B6) Patterns (B10)
Type: Depth (in Remarks: YDROL( Vetland Hy Primary Ind Surface High W Saturat	nches): DGY ydrology Indicators: dicators (minimum of c e Water (A1) v/ater Table (A2) tion (A3)		<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> </ul>		<u>Secondary In</u> Surface S Drainage Dry-Seas	dicators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2)
Type: Depth (in Remarks: YDROL( YUROL( Vetland Hy Primary Ind Surface High W Saturat Water	nches): DGY ydrology Indicators: dicators (minimum of c e Water (A1) /ater Table (A2)		<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> </ul>	g Roots (C	<u>Secondary In</u> Surface \$ Drainage Dry-Seas Crayfish	dicators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8)
Type: Depth (in Remarks: YDROLO YOROLO Vetland Hy Primary Ind Surface High W Saturat Saturat Water I Sedime	nches): DGY ydrology Indicators: dicators (minimum of c e Water (A1) vater Table (A2) tion (A3) Marks (B1)		<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres on Living</li> </ul>	g Roots (C	<u>Secondary In</u> Surface S Drainage Dry-Seas Crayfish 3) Saturatio	dicators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9)
Type: Depth (in Remarks: YDROLO Vetland H Primary Ind Surface High W Saturat Saturat Sedime Drift De	nches): DGY ydrology Indicators: dicators (minimum of co e Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)		<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres on Living</li> <li>Presence of Reduced Iron (C4)</li> </ul>		_ <u>Secondary In</u> Surface S Drainage Dry-Seas Crayfish 3) Saturatio Stunted o	dicators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1)
Type: Depth (in Remarks: YDROLO Vetland Hy Primary Ind Surface High W Satural Water I Sedime Drift De Algal M	nches): DGY ydrology Indicators: licators (minimum of c e Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)		<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres on Living</li> </ul>		<u>Secondary In</u> Surface S Drainage Dry-Seas Crayfish 3) Saturatio Stunted c Geomorp	dicators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9)
Type: Depth (in Remarks: YDROLO Vetland H: Primary Ind Surface High W Saturat Water I Sedime Drift De Algal M Iron De	nches): DGY ydrology Indicators: dicators (minimum of co e Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) vat or Crust (B4)	one is require	<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres on Living</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Tilled S</li> <li>Thin Muck Surface (C7)</li> </ul>		<u>Secondary In</u> Surface S Drainage Dry-Seas Crayfish 3) Saturatio Stunted c Geomorp	dicators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2)
Type: Depth (ii Remarks: YDROLO Vetland Hy Primary Ind Surface High W Saturat High W Saturat Naturat Drift De Algal M Iron De Inunda	nches): DGY ydrology Indicators: dicators (minimum of c e Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)	one is require	<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres on Living</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Tilled S</li> <li>Thin Muck Surface (C7)</li> <li>Gauge or Well Data (D9)</li> </ul>		<u>Secondary In</u> Surface S Drainage Dry-Seas Crayfish 3) Saturatio Stunted c Geomorp	dicators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2)
Type: Depth (in Remarks: YDROL( YUROL( Vetland Hy Primary Ind Surface High W Saturat Saturat Saturat Saturat Sedime Drift De Algal M Iron De Inunda Sparse	nches): ydrology Indicators: dicators (minimum of content e Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) vat or Crust (B4) eposits (B5) tion Visible on Aerial ely Vegetated Concave	one is require	<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres on Living</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Tilled S</li> <li>Thin Muck Surface (C7)</li> <li>Gauge or Well Data (D9)</li> </ul>		<u>Secondary In</u> Surface S Drainage Dry-Seas Crayfish 3) Saturatio Stunted c Geomorp	dicators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2)
Type: Depth (in Remarks: YDROLO YDROLO Wetland Hy Primary Ind Surface High W Saturat	nches): ydrology Indicators: dicators (minimum of content e Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) vat or Crust (B4) eposits (B5) tion Visible on Aerial ely Vegetated Concave ervations:	one is require Imagery (B7 e Surface (B	<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres on Living</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Tilled S</li> <li>Thin Muck Surface (C7)</li> <li>Gauge or Well Data (D9)</li> </ul>	Soils (C6)	<u>Secondary In</u> Surface S Drainage Dry-Seas Crayfish 3) Saturatio Stunted c Geomorp	dicators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2)
Type: Depth (in Remarks: YDROLO Vetland H Primary Ind Surface High W Satural Water I Sedime Drift De Algal M Iron De Inunda Sparse Field Obse	nches): DGY ydrology Indicators: dicators (minimum of co e Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) tion Visible on Aerial ely Vegetated Concave ervations: ater Present? Y	ne is require magery (B7 e Surface (E	<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres on Living</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Tilled S</li> <li>Thin Muck Surface (C7)</li> <li>Gauge or Well Data (D9)</li> <li>Other (Explain in Remarks)</li> </ul>	Soils (C6)	<u>Secondary In</u> Surface S Drainage Dry-Seas Crayfish 3) Saturatio Stunted c Geomorp	dicators (minimum of two require Soil Cracks (B6) Patterns (B10) son Water Table (C2) Burrows (C8) n Visible on Aerial Imagery (C9) or Stressed Plants (D1) ohic Position (D2)

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

Remarks:

(includes capillary fringe)

Project/Site: Red Rock Solar	City/County: Cottonwood		Sampling Date: 5/13/2020
Applicant/Owner: Red Rock Solar, LLC	E DESE	State: MN	Sampling Point: UPL-8b
Investigator(s): R. Scott	Section, Township, Range:		
Landform (hillslope, terrace, etc.): Toe slope		cave, convex, none):	
Slope (%): 1 Lat: _44.010322°	Long: <u>-94.869938°</u>	-	Datum: NAD 83
Soil Map Unit Name: Glencoe clay loam, 0 to 1 percent slopes	;	NWI classific	ation: Upland
Are climatic / hydrologic conditions on the site typical for this time of y		_ (If no, explain in R	
Are Vegetation, Soil, or Hydrology significantly	y disturbed? Are "Norn	nal Circumstances" p	present? Yes X No
Are Vegetation, Soil, or Hydrology naturally pr	roblematic? (If needed	l, explain any answe	rs in Remarks.)
		• • • • • • • • • • • • • • • • • • •	

# SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No X No X No X	Is the Sampled Area within a Wetland?	Yes	No _X
Remarks:					

30ft	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30ft.</u> )	<u>% Cover</u> Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		. Species Across All Strata: (B)
4		Percent of Dominant Species
5		That Are OBL, FACW, or FAC: (A/B)
   15 <del>ft</del>	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft. )		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 =
5 (1 ( 1 ( 1 ) ) ) ) ) ) ) ) ) ) ) ) ) )	= Total Cover	UPL species x 5 =
Herb Stratum (Plot size: 5ft. )		Column Totals: (A) (B)
1		
2		Prevalence Index = B/A =
3		Hydrophytic Vegetation Indicators:
4		1 - Rapid Test for Hydrophytic Vegetation
		2 - Dominance Test is >50%
5		3 - Prevalence Index is ≤3.0 <sup>1</sup>
6		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
7		data in Remarks or on a separate sheet)
8		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
9		
10		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
	= Total Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		
1		Hydrophytic
2		Vegetation Present? Yes No X
	= Total Cover	
Remarks: (Include photo numbers here or on a separate	sheet.)	
This data point was taken in a cultivated soybean	field that was recently plante	d. 100% bare ground.

1	Matrix	Redox Features	
(inches)		<u>% Color (moist) % Type<sup>1</sup> Loc<sup>2</sup></u>	Texture Remarks
0-8		00	
8-16	5 <del>1</del> 537	<u> </u>	L
16-24	10YR 2/1 10	00	
<sup>1</sup> Type: C=C	concentration, D=Depletio	n, RM=Reduced Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
	Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosc	I (A1)	Sandy Gleyed Matrix (S4)	Coast Prairie Redox (A16)
Histic E	pipedon (A2)	Sandy Redox (S5)	Dark Surface (S7)
100	listic (A3)	Stripped Matrix (S6)	Iron-Manganese Masses (F12)
	en Sulfide (A4)	Loamy Mucky Mineral (F1)	Very Shallow Dark Surface (TF12)
	d Layers (A5)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
1022 March 10	uck (A10) of Rolow Dork Surface (A)	Depleted Matrix (F3)	
	ed Below Dark Surface (A ark Surface (A12)	11) Redox Dark Surface (F6) Depleted Dark Surface (F7)	<sup>3</sup> Indicators of hydrophytic vegetation and
71.202 211	Mucky Mineral (S1)	Redox Depressions (F8)	wetland hydrology must be present,
	ucky Peat or Peat (S3)		unless disturbed or problematic.
	Layer (if observed):		
Type:	,,		
	iches):		Hydric Soil Present? Yes No
Remarks:			
Wetland Hy	drology Indicators:	s required: check all that apply)	Secondary Indicators (minimum of two required
Netland Hy Primary Ind	vdrology Indicators: icators (minimum of one is	s required; check all that apply) Water-Stained Leaves (B9)	
Netland Hy Primary Ind Surface	rdrology Indicators: icators (minimum of one is water (A1)	Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required</u> Surface Soil Cracks (B6) Drainage Patterns (B10)
Netland Hy Primary Ind Surface High W	rdrology Indicators: icators (minimum of one is water (A1) ater Table (A2)	Water-Stained Leaves (B9) Aquatic Fauna (B13)	Surface Soil Cracks (B6) Drainage Patterns (B10)
Netland Hy Primary Ind Surface High W Saturat	rdrology Indicators: icators (minimum of one is water (A1) ater Table (A2) ion (A3)	<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> </ul>	Surface Soil Cracks (B6) Drainage Patterns (B10) Dry-Season Water Table (C2)
Vetland Hy Primary Ind Surface High W Saturat Water I	rdrology Indicators: icators (minimum of one is water (A1) ater Table (A2) ion (A3) Marks (B1)	<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> </ul>	<ul> <li>Surface Soil Cracks (B6)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Crayfish Burrows (C8)</li> </ul>
Netland Hy Primary Ind Surface High W Saturat Water I Sedime	rdrology Indicators: icators (minimum of one is water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2)	<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres on Living Roots</li> </ul>	<ul> <li>Surface Soil Cracks (B6)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Crayfish Burrows (C8)</li> <li>s (C3)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> </ul>
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De	rdrology Indicators: icators (minimum of one is water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) iposits (B3)	<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres on Living Roots</li> <li>Presence of Reduced Iron (C4)</li> </ul>	<ul> <li>Surface Soil Cracks (B6)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Stunted or Stressed Plants (D1)</li> </ul>
Wetland Hy Primary Ind Surface High W Saturat Water I Sedime Drift De Algal M	rdrology Indicators: icators (minimum of one is water (A1) ater Table (A2) ion (A3) Marks (B1) mt Deposits (B2) oposits (B3) at or Crust (B4)	<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres on Living Roots</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Tilled Soils (C6)</li> </ul>	<ul> <li>Surface Soil Cracks (B6)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Stunted or Stressed Plants (D1)</li> <li>Geomorphic Position (D2)</li> </ul>
Primary Ind Surface High W Saturat Water I Sedime Drift De Algal M Iron De	rdrology Indicators: icators (minimum of one is water (A1) ater Table (A2) ion (A3) Marks (B1) int Deposits (B2) iposits (B3)	<ul> <li>Water-Stained Leaves (B9)</li> <li>Aquatic Fauna (B13)</li> <li>True Aquatic Plants (B14)</li> <li>Hydrogen Sulfide Odor (C1)</li> <li>Oxidized Rhizospheres on Living Roots</li> <li>Presence of Reduced Iron (C4)</li> <li>Recent Iron Reduction in Tilled Soils (C</li> <li>Thin Muck Surface (C7)</li> </ul>	<ul> <li>Surface Soil Cracks (B6)</li> <li>Drainage Patterns (B10)</li> <li>Dry-Season Water Table (C2)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Stunted or Stressed Plants (D1)</li> </ul>

Field Observations:	N.	No				
Surface Water Present?	Yes					
Water Table Present?	Yes	No	X Depth (inches):			
	102-022030-03					
22 TO	Yes	No	X Depth (inches):	Wetland Hydrology Present?	Yes	No _X
Saturation Present? (includes capillary fringe) Describe Recorded Data (st	12	5A 1/4	X Depth (inches): ing well, aerial photos, previous		Yes	No _X
(includes capillary fringe) Describe Recorded Data (st	12	5A 1/4			Yes	No _X
(includes capillary fringe) Describe Recorded Data (st	12	5A 1/4			Yes	No _X
(includes capillary fringe)	12	5A 1/4			Yes	No <u>X</u>
(includes capillary fringe) Describe Recorded Data (st	12	5A 1/4			Yes	No _X

Project/Site: Red Rock Solar	City/County: Cottonwood		Sampling Date: 5/13/2020
Applicant/Owner: Red Rock Solar, LLC	E DESE	State: MN	Sampling Point: UPL-9b
Investigator(s): R. Scott	Section, Township, Range:		
Landform (hillslope, terrace, etc.): <u>Toe slope</u>		cave, convex, none):	
Slope (%): 1 Lat: _44.006915°	Long: <u>-94.864696°</u>	-	Datum: NAD 83
Soil Map Unit Name: Glencoe clay loam, 0 to 1 percent slopes	;	NWI classific	ation: Upland
Are climatic / hydrologic conditions on the site typical for this time of y		_ (If no, explain in R	
Are Vegetation, Soil, or Hydrology significantly	y disturbed? Are "Norn	nal Circumstances" p	oresent? Yes X No
Are Vegetation, Soil, or Hydrology naturally pr	roblematic? (If needed	l, explain any answe	rs in Remarks.)
		•	

# SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No X No X No X	Is the Sampled Area within a Wetland?	Yes	No _X
Remarks:					

30ft	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30ft.</u> )	<u>% Cover</u> Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		. Species Across All Strata: (B)
4		Percent of Dominant Species
5		That Are OBL, FACW, or FAC: (A/B)
   15 <del>ft</del>	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15ft. )		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 =
5-1 ( #1)	= Total Cover	UPL species x 5 =
Herb Stratum (Plot size: 5ft. )		Column Totals: (A) (B)
1		
2		Prevalence Index = B/A =
3		Hydrophytic Vegetation Indicators:
4		1 - Rapid Test for Hydrophytic Vegetation
		2 - Dominance Test is >50%
5		3 - Prevalence Index is ≤3.0 <sup>1</sup>
6		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
7		data in Remarks or on a separate sheet)
8		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
9		
10		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
	= Total Cover	be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		
1		Hydrophytic
2		Vegetation Present? Yes No X
	= Total Cover	
Remarks: (Include photo numbers here or on a separate	sheet.)	
This data point was taken in a cultivated soybean	field that was recently plante	d. 100% bare ground.

Depth (inches)	Color (moist)	%	Color (moist)	dox Featur %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-10	10YR 2/1	100					L	
10-18	10YR 2/1	97	10YR 4/4	3	С	М	L	
18-24	10YR 3/2	100	10YR 4/4	3	<u>c</u>	M	CL	
				_				
<sup>1</sup> Type: C=C	oncentration, D=Dep	etion, RM=F	educed Matrix,	MS=Maske	ed Sand Gr	ains.	<sup>2</sup> Locatio	on: PL=Pore Lining, M=Matrix.
Hydric Soil								rs for Problematic Hydric Soils <sup>3</sup> :
Histoso	I (A1)		Sand	y Gleyed N	latrix (S4)		Coas	st Prairie Redox (A16)
Histic E	pipedon (A2)		Sand	y Redox (S	5)		Dark	Surface (S7)
	istic (A3)			bed Matrix	S ()			Manganese Masses (F12)
	en Sulfide (A4)			•	lineral (F1)			Shallow Dark Surface (TF12)
	d Layers (A5) uck (A10)			iy Gleyed Meted Matrix			Othe	r (Explain in Remarks)
	d Below Dark Surfac	e (A11)		x Dark Sur				
	ark Surface (A12)				Surface (F7	)	<sup>3</sup> Indicato	rs of hydrophytic vegetation and
	Mucky Mineral (S1)			x Depressi				nd hydrology must be present,
5 cm M	ucky Peat or Peat (S	3)					unles	ss disturbed or problematic.
D	1							
Restrictive	Layer (if observed):	• · · ·						
Type:	Layer (if observed):	92 						
Type:	Layer (If observed):	• <					Hydric So	il Present? Yes No
Type:	R 000 70		_				Hydric So	il Present? Yes No _X
Type: Depth (in	R 000 70		_				Hydric So	il Present? Yes <u>No X</u>
Type: Depth (in	R 000 70		_				Hydric So	il Present? Yes No
Type: Depth (in	R 000 70						Hydric So	il Present? Yes No _X
Type: Depth (in	R 000 70		_				Hydric So	nil Present? Yes No _X
Type: Depth (in Remarks:	iches):						Hydric So	ill Present? Yes NoX
Type: Depth (in Remarks:	iches):						Hydric So	nil Present? Yes <u>No X</u>
Type: Depth (in Remarks: IYDROLC Wetland Hy	oches):			apply)				hil Present? Yes No dary Indicators (minimum of two required)
Type: Depth (in Remarks: IYDROLC Wetland Hy Primary Indi	OGY		etertetta inte	apply)			Secon	
Type: Depth (in Remarks: IYDROLC Wetland Hy Primary Indi Surface	DGY rdrology Indicators: cators (minimum of c		Water-S	and the second			<u>Secon</u>	dary Indicators (minimum of two required)
Type: Depth (in Remarks: IYDROLC Wetland Hy Primary Indi Surface High W:	DGY drology Indicators: cators (minimum of c		Water-S Aquatic	Stained Lea	3)		<u>Secon</u>	dary Indicators (minimum of two required) urface Soil Cracks (B6)
Type: Depth (in Remarks: IYDROLC Wetland Hy Primary Indi Surface High Wi Saturati	DGY drology Indicators: cators (minimum of c Water (A1) ater Table (A2)		Water-S Aquatic True Aq	Stained Lea Fauna (B1	3) s (B14)		<u>Secon</u> Su Dr Dr	dary Indicators (minimum of two required) urface Soil Cracks (B6) rainage Patterns (B10)
Type: Depth (in Remarks: IYDROLC Wetland Hy Primary Indi Surface High Wa Saturati Saturati Water M	DGY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) ion (A3)		Water-S Aquatic True Aq Hydroge	Stained Lea Fauna (B1 Juatic Plant en Sulfide (	3) s (B14)	ing Roots	<u>Secon</u> Su Dr Dr Cr	dary Indicators (minimum of two required) Irface Soil Cracks (B6) rainage Patterns (B10) y-Season Water Table (C2)
Type: Depth (in Remarks: IYDROLC Wetland Hy Primary Indi Surface High W: Saturati Saturati Water M Sedime	DGY drology Indicators: cators (minimum of c Water (A1) ater Table (A2) ion (A3) Marks (B1)		Water-S Aquatic True Aq Hydroge Oxidized	Stained Lea Fauna (B1 Juatic Plant en Sulfide ( d Rhizosph	3) s (B14) Odor (C1)		<u>Secon</u> Su Dr Cr (C3) Sa	dary Indicators (minimum of two required) Irface Soil Cracks (B6) 'ainage Patterns (B10) 'y-Season Water Table (C2) 'ayfish Burrows (C8)
Type: Depth (in Remarks: IYDROLC Wetland Hy Primary Indi Surface High W: Saturati Saturati Saturati Sedime Drift De	DGY rdrology Indicators: cators (minimum of c Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2)		Water-S Aquatic True Aq Hydroge Oxidized Presend	Stained Lea Fauna (B1 Juatic Plant en Sulfide ( d Rhizosph ce of Reduc	3) s (B14) Odor (C1) ieres on Liv	4)	<u>Secon</u> Su Dr Dr Cr (C3) St	dary Indicators (minimum of two required) Irface Soil Cracks (B6) rainage Patterns (B10) y-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9)
Type: Depth (in Remarks: IYDROLC Wetland Hy Primary Indi Surface High Wi Saturati Saturati Sedime Drift De Algal M Iron De	DGY rdrology Indicators: cators (minimum of c Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4) posits (B5)	one is require	Water-S Aquatic True Aq Hydroge Oxidized Presend Recent Thin Mu	Stained Lea Fauna (B1 Juatic Plant en Sulfide ( d Rhizosph ce of Reduc Iron Reduc ick Surface	3) s (B14) Odor (C1) ieres on Liv ced Iron (C ttion in Tille e (C7)	4)	<u>Secon</u> Su Dr Dr Cr (C3) St 6) Ge	dary Indicators (minimum of two required) urface Soil Cracks (B6) rainage Patterns (B10) y-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1)
Type: Depth (in Remarks: IYDROLC Wetland Hy Primary Indi Surface High Wi Saturati Saturati Sedime Drift De Algal M Iron De Inundat	DGY rdrology Indicators: cators (minimum of c Water (A1) ater Table (A2) ion (A3) Marks (B1) nt Deposits (B2) posits (B3) at or Crust (B4)	one is require	Water-S Aquatic True Aq Hydroge Oxidized Presend Recent Gauge o	Stained Lea Fauna (B1 uatic Plant en Sulfide ( d Rhizosph ce of Reduc Iron Reduc	3) s (B14) Odor (C1) ueres on Liv ced Iron (C tition in Tille e (C7) a (D9)	4)	<u>Secon</u> Su Dr Dr Cr (C3) St 6) Ge	dary Indicators (minimum of two required) urface Soil Cracks (B6) rainage Patterns (B10) y-Season Water Table (C2) rayfish Burrows (C8) aturation Visible on Aerial Imagery (C9) unted or Stressed Plants (D1) eomorphic Position (D2)

_ opursely regenated of	nouve oune		. outer (Explain in Remain	5)		
Field Observations:						
Surface Water Present?	Yes	No _X				
Water Table Present?	Yes	No _X				
Saturation Present? (includes capillary fringe)	Yes	No _X	_ Depth (inches):	Wetland Hydrology Present?	Yes	No <u>×</u>
Describe Recorded Data (st	ream gauge	e, monitoring	well, aerial photos, previou	s inspections), if available:		
Remarks:						

Project/Site: Red Rock Solar	City/County: Cottonwood		Sampling Date: 5/13/2020
Applicant/Owner: Red Rock Solar, LLC		State: MN	Sampling Point: UPL-10b
Investigator(s): R. Scott	Section, Township, Range:		
Landform (hillslope, terrace, etc.): Toe slope		cave, convex, none):	
Slope (%): 1 Lat: _44.007948°	Long: <u>-94.874930°</u>	-	Datum: NAD 83
Soil Map Unit Name: Glencoe clay loam, 0 to 1 percent slopes		NWI classific	ation: Upland
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes X No	_ (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "Norn	nal Circumstances" p	present? Yes X No
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed	l, explain any answe	rs in Remarks.)

# SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	N0 X N0 X N0 X	Is the Sampled Area within a Wetland?	Yes	No _X
Remarks:					

30ft	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30ft.</u> )	<u>% Cover</u> <u>Species?</u> <u>Status</u>	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
1		
2 3		Total Number of Dominant Species Across All Strata: (B)
4		
5		Percent of Dominant Species
		That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size: 15ft. )	= Total Cover	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: 5ft. )	= Total Cover	Column Totals:         (A)         (B)
1		
2		Prevalence Index = B/A =
3.		Hydrophytic Vegetation Indicators:
4		1 - Rapid Test for Hydrophytic Vegetation
5		2 - Dominance Test is >50%
6		3 - Prevalence Index is ≤3.0 <sup>1</sup>
7		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
8		data in Remarks or on a separate sheet)
9		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size:)	= Total Cover	be present, unless disturbed or problematic.
1		Hydrophytic
2		Vegetation
	= Total Cover	Present? Yes <u>No X</u>
Remarks: (Include photo numbers here or on a separate	sheet.)	
This data point was taken in a cultivated soybean	field that was recently planted	d. 100% bare ground.

Depth	Matrix		Redox Features	
(inches)	Color (moist)	%	<u>Color (moist)</u> <u>%</u> <u>Type<sup>1</sup></u> Loc <sup>2</sup>	Texture Remarks
0-12	10YR 2/1	100		L
12-18	10YR 2/1	100		
18-24	10YR 3/2	100		CL
<sup>1</sup> Type: C=0	Concentration, D=Dep	pletion, RM	Reduced Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
	I Indicators:			Indicators for Problematic Hydric Soils <sup>3</sup> :
Histoso	bl (A1)		Sandy Gleyed Matrix (S4)	Coast Prairie Redox (A16)
Histic E	Epipedon (A2)		Sandy Redox (S5)	Dark Surface (S7)
Black H	listic (A3)		Stripped Matrix (S6)	Iron-Manganese Masses (F12)
Hydrog	en Sulfide (A4)		Loamy Mucky Mineral (F1)	Very Shallow Dark Surface (TF12)
_	ed Layers (A5)		Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
	luck (A10)		Depleted Matrix (F3)	
	ed Below Dark Surfac	ce (A11)	Redox Dark Surface (F6)	
11228 71	ark Surface (A12)		Depleted Dark Surface (F7)	<sup>3</sup> Indicators of hydrophytic vegetation and
	Mucky Mineral (S1)	2	Redox Depressions (F8)	wetland hydrology must be present,
	lucky Peat or Peat (S			unless disturbed or problematic.
Type:	Layer (if observed)			
	nches):			Hydric Soil Present? Yes No
Remarks:				
YDROLO	DGY			
Wetland Hy	ydrology Indicators	:		
Primary Ind	icators (minimum of	one is requi	red; check all that apply)	Secondary Indicators (minimum of two require
Surface	e Water (A1)		Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
High W	ater Table (A2)		Aquatic Fauna (B13)	Drainage Patterns (B10)
	tion (A3)		True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water I	Marks (B1)		Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
	ent Deposits (B2)		Oxidized Rhizospheres on Living Root	s (C3) Saturation Visible on Aerial Imagery (C9)
	eposits (B3)		Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)

Tilled Soils (C6)	Geomorphic Position (D2)
	EAC Neutral Test (DE)

\_\_\_ Iron Deposits (B5) \_\_\_\_ Thin Muck Surface (C7) \_\_\_ FAC-Neutral Test (D5) \_\_\_ Inundation Visible on Aerial Imagery (B7) \_\_\_ Gauge or Well Data (D9) \_\_\_ Sparsely Vegetated Concave Surface (B8) \_\_\_ Other (Explain in Remarks) Field Observations: Yes \_\_\_\_\_ No X Depth (inches): \_\_ Surface Water Present? Yes \_\_\_\_ No X Depth (inches): \_\_\_\_\_ Water Table Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_ Wetland Hydrology Present? Yes \_\_\_\_ No X Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:

Project/Site: Red Rock Solar	City/County: Cottonwood		Sampling Date: 5/13/2020
Applicant/Owner: Red Rock Solar, LLC		State: MN	Sampling Point: UPL-11b
Investigator(s): _R. Scott	Section, Township, Range:	T106N R34W S1	- MA 552 - 479
Landform (hillslope, terrace, etc.): Toe slope		cave, convex, none):	
Slope (%): 1 Lat: _44.007606°	Long: <u>-94.877753°</u>		Datum: NAD 83
Soil Map Unit Name: Glencoe clay loam, 0 to 1 percent slopes		NWI classific	ation: Upland
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes X No	_ (If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "Norn	nal Circumstances" p	present? Yes X No
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed	l, explain any answe	rs in Remarks.)

# SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No X No X No X	Is the Sampled Area within a Wetland?	Yes	No X
Remarks:					

30ft	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30ft.</u> )	<u>% Cover</u> Species? Status	Number of Dominant Species
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across All Strata: (B)
4	-15	Percent of Dominant Species
5	- <u> </u>	That Are OBL, FACW, or FAC: (A/B)
15ft	= Total Cover	Barrel and the bart
		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 =
5ft	= Total Cover	UPL species x 5 =
Herb Stratum (Plot size: 5ft. )		Column Totals: (A) (B)
1		
2		Prevalence Index = B/A =
3		Hydrophytic Vegetation Indicators:
4		1 - Rapid Test for Hydrophytic Vegetation
5		2 - Dominance Test is >50%
6		3 - Prevalence Index is ≤3.0 <sup>1</sup>
7		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
8		data in Remarks or on a separate sheet)
9		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10		a
25	= Total Cover	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		be present, unless disturbed of problematic.
1	- 12	Hydrophytic
2		Vegetation Present? Yes No X
	= Total Cover	Present? Yes No X
Remarks: (Include photo numbers here or on a separate	sheet.)	
This data point was taken in a cultivated soybean	field that was recently planted	d. 100% bare ground.

Depth	Matrix		Redox Features	-
(inches)	Color (moist)	%	<u>Color (moist)</u> <u>%</u> <u>Type<sup>1</sup></u> Loc <sup>2</sup>	
0-10	10YR 2/1	100		SiL
10-16	10YR 2/1	100		
16-24	10YR 3/2			CL
<sup>1</sup> Type: C=C	Concentration, D=Dep	pletion, RM	Reduced Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
	Indicators:		25 25	Indicators for Problematic Hydric Soils <sup>3</sup> :
Histoso	l (A1)		Sandy Gleyed Matrix (S4)	Coast Prairie Redox (A16)
Histic E	pipedon (A2)		Sandy Redox (S5)	Dark Surface (S7)
Black H	listic (A3)		Stripped Matrix (S6)	Iron-Manganese Masses (F12)
Hydrog	en Sulfide (A4)		Loamy Mucky Mineral (F1)	Very Shallow Dark Surface (TF12)
Stratifie	ed Layers (A5)		Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
	luck (A10)		Depleted Matrix (F3)	
Depleted Below Dark Surface (A11)		e (A11)	Redox Dark Surface (F6)	
Thick Dark Surface (A12)			Depleted Dark Surface (F7)	<sup>3</sup> Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)		20	Redox Depressions (F8)	wetland hydrology must be present,
	ucky Peat or Peat (S			unless disturbed or problematic.
	Layer (if observed)			
Type:			<u></u>	Hydric Soil Present? Yes No
Depth (ir	nches):			
Remarks:				
YDROLO	DGY			
Wetland Hy	drology Indicators			
Primary Ind	icators (minimum of	one is requi	red; check all that apply)	Secondary Indicators (minimum of two require
Surface	e Water (A1)		Water-Stained Leaves (B9)	Surface Soil Cracks (B6)
High W	ater Table (A2)		Aquatic Fauna (B13)	Drainage Patterns (B10)
Saturat	ion (A3)		True Aquatic Plants (B14)	Dry-Season Water Table (C2)
Water I	Marks (B1)		Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sedime	ent Deposits (B2)		Oxidized Rhizospheres on Living Root	s (C3) Saturation Visible on Aerial Imagery (C9)
	manita (D2)		Presence of Reduced Iron (C4)	Stunted or Stressed Plants (D1)
Drift De	eposits (B3)		Fresence of Reduced from (C4)	Stunted of Stressed Flants (DT)

- \_\_\_\_ Geomorphic Position (D2)
- \_\_\_\_ FAC-Neutral Test (D5)

\_\_\_ Iron Deposits (B5) \_\_\_\_ Thin Muck Surface (C7) \_\_\_ Inundation Visible on Aerial Imagery (B7) \_\_\_ Gauge or Well Data (D9) \_\_\_ Sparsely Vegetated Concave Surface (B8) \_\_\_ Other (Explain in Remarks) Field Observations: Yes \_\_\_\_\_ No X \_\_\_\_ Depth (inches): \_\_\_\_\_\_ Surface Water Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_\_\_\_ Water Table Present? Yes \_\_\_\_\_ No X Depth (inches): \_\_\_ Wetland Hydrology Present? Yes \_\_\_\_ No X Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks:

Project/Site: Red Rock Solar	City/County: Cottonwood		Sampling Date: 5/12/2020		
Applicant/Owner: Red Rock Solar, LLC		State: MN	Sampling Point: UPL-12b		
Investigator(s): R. Scott	Section, Township, Range:				
Landform (hillslope, terrace, etc.): Toe slope		cave, convex, none):			
Slope (%): 1 Lat: _44.005311°	Long: <u>-94.884230°</u>		Datum: NAD 83		
Soil Map Unit Name: Glencoe clay loam, 0 to 1 percent slopes		NWI classific	ation: Upland		
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes X No	_ (If no, explain in R	emarks.)		
Are Vegetation, Soil, or Hydrology significantly	v disturbed? Are "Norm	nal Circumstances" p	present? Yes X No		
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed	l, explain any answe	rs in Remarks.)		

# SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes Yes Yes	No X No X No X	Is the Sampled Area within a Wetland?	Yes	No _X
Remarks:					

30ft	Absolute Dominant Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: <u>30ft.</u> )	<u>% Cover</u> Species? Status	Number of Dominant Species That Are OBL, FACW, or FAC: (A)
1		That Are OBL, FACW, or FAC: (A)
2		Total Number of Dominant
3		Species Across All Strata: (B)
4		Percent of Dominant Species
5	<u></u>	That Are OBL, FACW, or FAC: (A/B)
Sapling/Shrub Stratum (Plot size: 15ft. )	= Total Cover	Prevalence Index worksheet:
		Total % Cover of: Multiply by:
1		
2		OBL species x 1 =
3		FACW species x 2 =
4		FAC species x 3 =
5		FACU species x 4 =
5ft	= Total Cover	UPL species x 5 =
Herb Stratum (Plot size: 5ft. )		Column Totals: (A) (B)
1		
2		Prevalence Index = B/A =
3		Hydrophytic Vegetation Indicators:
4	<u></u>	1 - Rapid Test for Hydrophytic Vegetation
5		2 - Dominance Test is >50%
6		3 - Prevalence Index is ≤3.0 <sup>1</sup>
7		4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
8		
9		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
10		3.
	= Total Cover	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size:)		be present, unless disturbed of problematic.
1		Hydrophytic
2		Vegetation
	= Total Cover	Present? Yes <u>No X</u>
Remarks: (Include photo numbers here or on a separate	sheet.)	
This data point was taken in a cultivated corn field	that was recently planted. 10	00% bare ground.

Depth	Matrix		Redo	x Features			
(inches)	Color (moist)	%	Color (moist)	<u>%</u> <u>Type</u> <sup>1</sup>	_Loc <sup>2</sup>	Texture	Remarks
0-12	10YR 2/1	100				L	
12-24	10YR 2/1	100		- 22 <del>7</del>	8	<u>CL</u>	
	Concentration, D=D	epletion, RM:	Reduced Matrix, M	S=Masked Sand G	ains.		Pore Lining, M=Matrix.
			C				
	ol (A1) Eningdon (A2)			Gleyed Matrix (S4)		Coast Prairie	NAME AND ADDRESS OF AD
	Epipedon (A2) Histic (A3)			Redox (S5) d Matrix (S6)		Dark Surface	ese Masses (F12)
	gen Sulfide (A4)			Mucky Mineral (F1)			Dark Surface (TF12)
	ed Layers (A5)		1903 MAD 101 M	Gleyed Matrix (F2)		Other (Explain	
	Auck (A10)			ed Matrix (F3)			in in recinario)
	ted Below Dark Surfa	ace (A11)		Dark Surface (F6)			
	Dark Surface (A12)			d Dark Surface (F7	)	<sup>3</sup> Indicators of hvd	rophytic vegetation and
	Mucky Mineral (S1)			Depressions (F8)	/		ology must be present,
	Mucky Peat or Peat (		the second second			전쟁 전망 집에 가지 않는 것이 있는 것이 없다.	bed or problematic.
Restrictive	e Layer (if observed	d):					
Type: _	e7. (c/3)	2.9				2000 - 100 - 100 - 1000	
Depth (	inches):					Hydric Soil Preser	nt? Yes No
Remarks:	A					Į.	
	002						
YDROL							
	lydrology Indicator					o	
1020 10	dicators (minimum o	r one is requi		and the second sec		100 C 100 C 100 C 100 C	cators (minimum of two required
	e Water (A1)		시 <del></del>	ined Leaves (B9)			il Cracks (B6)
	Vater Table (A2)			auna (B13)			Patterns (B10)
	ation (A3)			atic Plants (B14)			n Water Table (C2)
Water	Marks (B1)		Hydrogen	Sulfide Odor (C1)		Crayfish Bu	urrows (C8)

- Crayfish Burrows (C8)
- \_\_\_\_ Oxidized Rhizospheres on Living Roots (C3) \_\_\_\_ Saturation Visible on Aerial Imagery (C9)
  - \_\_\_\_ Stunted or Stressed Plants (D1)

Algal Mat or Crust (B4)			Recent Iron Reduction in Till	led Soils (C6)	Geomorphic Position (D2)			
Iron Deposits (B5)			Thin Muck Surface (C7)		FAC-Neutral Test (D5)			
Inundation Visible on A	erial Imager	y (B7)	Gauge or Well Data (D9)					
Sparsely Vegetated Co	ncave Surfa	ice (B8)	Other (Explain in Remarks)					
Field Observations:								
Surface Water Present?	Yes	No	Markov Depth (inches):					
Water Table Present?	Yes	No	C Depth (inches):					
Saturation Present? (includes capillary fringe)	Yes	No	Lepth (inches):	Wetland H	lydrology Present?	Yes	No_	×
Describe Recorded Data (s	tream gauge	e, monitori	ng well, aerial photos, previous ir	nspections), if avai	ilable:			
Remarks:								

\_\_\_\_ Presence of Reduced Iron (C4)

\_ Sediment Deposits (B2)

\_\_\_ Drift Deposits (B3)

\_

# Appendix D Photographic Log

