APPENDIX J Aquatic Resources Delineation Report

Aquatic Resources Delineation Report for the Benton Solar Project, Benton County, Minnesota

Minnesota Public Utilities Commission Docket Numbers: IP7115/GS-23-423 and IP7115/ESS-24-283

AUGUST 2024

PREPARED FOR

Benton Solar, LLC

PREPARED BY

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AQUATIC RESOURCES DELINEATION REPORT FOR THE BENTON SOLAR PROJECT, BENTON COUNTY, MINNESOTA

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August 2024

EXECUTIVE SUMMARY

SWCA Environmental Consultants (SWCA) was contracted by NextEra Energy Resources, LLC, to conduct an aquatic resources delineation for the proposed Benton Solar Project (Project) in Benton County, Minnesota. The delineation was conducted within a 951.4-acre area (Site). The Project has a proposed nameplate capacity of approximately 100 megawatts near the city of St. Cloud, Minnesota. The Project layout would feature solar arrays and associated infrastructure, including access roads and an electrical collection system, and a battery energy storage system.

The purpose of the delineation was to determine whether any aquatic resources (wetlands or waterbodies with ordinary high-water marks) within the Site could potentially qualify as waters of the United States under Section 404 of the Clean Water Act and to delineate their boundaries to determine the need for permitting in coordination with the U.S. Army Corps of Engineers (USACE). SWCA completed the aquatic resources delineation in accordance with USACE methodologies.

SWCA delineated 13 wetlands and four waterbodies, including one named river, within the Site.

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1 INTRODUCTION

NextEra Energy Resources, LLC (NEER), contracted SWCA Environmental Consultants (SWCA) to conduct an aquatic resources delineation (delineation) for the Benton Solar Project (Project) in Benton County, Minnesota (Figure A-1 in Appendix A). The delineation was conducted within a 951.4-acre area (Site). The Project has a proposed nameplate capacity of approximately 100 megawatts near the city of St. Cloud, Minnesota. The Project layout would feature solar arrays and associated infrastructure, including access roads and an electrical collection system, and a battery energy storage system.

SWCA identified and delineated aquatic resources within the Site (see Figure A-1 in Appendix A) that could qualify as waters of the United States (WOTUS) and therefore be subject to permitting by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA) if Project-related impacts are expected.

The Site is located in Township 36 North, Range 30 West, Sections 13 and 23–26. The approximate center of the Site is located at 45.588434°N, 94.025562°W. The Project overview map is provided as Figure A-1 in Appendix A.

1.1 Environmental Setting

The Site is entirely within the Wisconsin and Minnesota Sandy Outwash major land resource area (MLRA) 91 (Natural Resources Conservation Service [NRCS] 2006). This area includes portions of northwestern Wisconsin, Nebraska, and central Minnesota. MLRA 91 consists of surficial deposits from the Wisconsin Glaciation including outwash plains, dunes, lakes, and wetlands. Elevations range from 800.0 to 1,500.0 feet. Local relief is minor, and landforms are generally nearly level.

The average annual precipitation in this area is 27.0 to 35.0 inches (689.0–884.0 millimeters). Most of the precipitation in MLRA 91 occurs as high-intensity, convective thunderstorms during the growing season. Precipitation in winter occurs as snow. The average annual temperature is 40 to 46 degrees Fahrenheit (4–8 degrees Celsius). The freeze-free period averages range from 120 to 180 days (NRCS 2006).

1.2 Regulatory Background

Pursuant to Section 404 of the CWA, the USACE regulates the discharge of dredge and/or fill material into WOTUS. Section 404 requires that any entity proposing an activity that would discharge such materials into a WOTUS must obtain a permit from the USACE.

Designation as a WOTUS applies to the jurisdictional limits of USACE authority under the CWA and typically includes traditional navigable waters, interstate waters, and wetlands adjacent to streams; impoundments, tributaries, and wetlands adjacent to those waters; and territorial seas. Most rivers, creeks, streams, arroyos, lakes, special aquatic sites, and their tributaries are typically designated as WOTUS. Wetlands are the most common special aquatic site and are defined as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (USACE 1987:9). To be classified as a wetland under federal definition, an area must meet the following three criteria under normal circumstances: 1) have a predominance of hydrophytic vegetation, 2) contain soils that are characteristic of frequent saturation (i.e., hydric soils), and 3) have the presence of hydrology showing regular inundation or saturation (USACE 1987). The ordinary high-water mark (OHWM) is a defining element for identifying the lateral limits of waterbodies lacking adjacent wetlands and typically represent the outer limits of potential USACE jurisdiction.

The Minnesota Wetland Conservation Act regulates impacts to wetlands. The Act is administered by the Board of Water and Soil Resources (BWSR) and a Local Governmental Unit. The state law uses federal methods for delineating wetland boundaries but has a different statutory definition of which wetlands are jurisdictionally regulated. The Minnesota Department of Natural Resources (MDNR) regulates certain wetlands and waterbodies as the Public Waters under the Waters of the State Act. The MDNR maintains a list and geographic database of waters on the Public Waters Inventory (PWI). Limits of these bodies are defined by the OHWM.

SWCA conducted the aquatic resources delineation to assist regulatory agencies in determining jurisdiction and to support permitting of unavoidable impacts within the Site. The USACE has final and legal authority in determining the presence of jurisdictional WOTUS and the extent of their boundaries under Section 404 of the CWA. This delineation report is a complete presentation of all aquatic resources present within the Site that could be potentially jurisdictional or exempt under federal and state statutes.

2 METHODS

SWCA identified and delineated wetlands and waterbodies within the Site using a combination of desktop review and field surveys. The *Wetland Delineation Review Checklist for Minnesota* (USACE and BWSR 2015) was used to ensure all pertinent information was included with this report.

2.1 Desktop Review

Before conducting the field surveys, SWCA completed a desktop review of data for the Site. The desktop review included examining existing data from the NRCS Web Soil Survey, the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI), the U.S. Geological Survey (USGS) National Hydrography Dataset (NHD), the MDNR PWI, USGS quadrangles, the USACE's Antecedent Precipitation Tool (APT), and historical and current aerial photographs of the Site. Through the desktop review, SWCA identified locations of potential aquatic resources for investigation and confirmation during the field surveys.

Multiple years of aerial imagery was used to help identify wetland hydrology as described by the USACE and BWSR (2016). Using aerial imagery to assess wetland hydrology is important in agricultural areas because it can help define crop stress and other aerial photo signatures that will be subsequently evaluated in the field.

2.1.1 National Wetlands Inventory

The NWI is a USFWS database that identifies and categorizes wetland areas based primarily on aerial imagery interpretation (USFWS 2024).

2.1.2 National Hydrography Dataset

Maintained by the USGS, the NHD identifies surface water systems in the United States, including lakes, streams, rivers, and canals (USGS 2022a).

2.1.3 Public Waters Inventory

The PWI maps identify the lakes, wetlands, and watercourses over which the MDNR has regulatory jurisdiction (MDNR 2024a).

2.1.4 U.S. Geological Survey Quadrangles

Maintained by the USGS, the 1:24,000-scale topographic maps display land surface elevation throughout the United States. The elevation data include both natural and human-made features (USGS 2022b).

2.1.5 Natural Resources Conservation Service Soil Survey

SWCA used the NRCS Soil Survey Geographic Database (SSURGO) (Soil Survey Staff 2024) to review the soil map units mapped for the area. SSURGO data contain spatial information on soil properties and characteristics. Some soil properties that can be useful for identifying aquatic resources include hydric soil components, drainage classifications, and taxonomic class.

2.1.6 Antecedent Precipitation Tool

SWCA used the USACE's APT (USACE 2021) to help determine whether the aquatic resources delineation occurred under normal climatic conditions. The APT calculates whether antecedent precipitation is normal by comparing rainfall data from the previous 3 months to the same 3-month period over a rolling 30-year period. A location near Becker, Minnesota, was used in the APT.

2.1.7 Off-site Hydrology and Wetland Determinations

Multiple years of aerial imagery was used to help identify indicators of wetland hydrology and wetland signatures as described by USACE and BWSR (2016). Using aerial imagery to assess wetland hydrology is important in agricultural areas because it can help define crop stress and other aerial photo signatures that will be subsequently evaluated in the field. Areas with enough wetland photo signatures that were identified in the off-site hydrology review were assessed during the field survey. Where visual indicators of wetlands were observed in the field, a pair of wetland delineation data points were documented, and the boundary was delineated.

2.2 Field Survey

SWCA wetland biologists conducted pedestrian delineations for aquatic resources on October 24 through 26, 2022, June 6 through 8, 2023, July 6 through 8, 2023, and May 7, 2024. The field delineations were conducted to verify the results of the desktop review and to delineate all aquatic resources within the Site that are potential WOTUS.

SWCA conducted the delineations in accordance with the *Corps of Engineers Wetland Delineation Manual* (the Manual) (USACE 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region*, (Version 2.0) (the Supplement) (USACE 2012), and the *Guidance for Submittal of Delineation Reports to the St. Paul District Army Corps of Engineers and Wetland Conservation Act Local Governmental Units in Minnesota (Version 2.0)* (USACE and BWSR 2015). The biologists used *Regulatory Guidance Letter: Ordinary High Water Mark Identification* (USACE 2005) and the *Guidelines for Ordinary High Water Level (OHWL) Determinations* (Scherek and Yakel 1993) as a reference for delineating aquatic resources with OHWMs.

A global positioning system (GPS) unit with submeter accuracy was used in the field to map the spatial extent of features, geographically reference datapoints, and delineate boundaries during the field surveys. Geographic information systems (GIS) software was used in the office to analyze the delineated features, calculate areas, and generate report maps. All data recorded using the GPS unit and displayed in the maps

are for review purposes only and do not represent a professional civil survey; however, the recorded accuracy was less than 1 meter.

2.2.1 Wetlands

All potential wetlands encountered during the field surveys were investigated to determine whether a wetland (possessing all three characteristics; see Section 1.2) was present. If potential wetland characteristics were observed in an area, the wetland biologists recorded a datapoint(s) to determine the wetland status of the area. Additionally, the wetland biologists assessed all NWI polygons mapped for the Site to determine if any of them met USACE wetland criteria. Representative photographs and/or datapoints were also recorded in upland areas to document the presence or lack of wetland criteria and to further refine the wetland boundary.

In the areas surveyed, wetland boundaries were delineated where all three fundamental characteristics of hydrophytic vegetation, hydric soils, and wetland hydrology were present. Wetlands that satisfy all three criteria may be subject to regulation by the USACE under Section 404 of the CWA.

The plant species identified, their percent cover, and their indicator status according to the USACE (2020) were used to indicate the presence of hydrophytic vegetation. To determine whether hydric soils were present, SWCA's biologists extracted a soil profile to a sufficient depth (generally 24.0 inches) to document the presence or absence of all applicable hydric soil indicators. Inundation, saturation, and other physical indicators suggesting the presence of water were used to determine wetland hydrology at each location.

Wetlands are classified using the Circular 39 types (Shaw and Fredine 1956), Eggers and Reed system (Eggers and Reed 2015), and the Cowardin classification system (Cowardin et al. 1979). Circular 39 was originally developed to classify waterfowl habitat, but it has been adapted to classify wetlands into types. There are 20 different wetland types, but only eight occur in Minnesota (Shaw and Fredine 1956). The Eggers and Reed system is a classification system based on the *Wetland Plants and Plant Communities of Minnesota and Wisconsin* (Eggers and Reed 2015), whereby wetlands are categorized into 15 plant communities.

The Cowardin classification system consists of five principal systems: marine, estuarine, riverine, lacustrine, and palustrine. The Site features palustrine systems. The palustrine system includes all nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and all such wetlands that exist in tidal areas where salinity resulting from ocean-derived salts is below 0.5% (Cowardin et al. 1979). The palustrine system also includes wetlands lacking such vegetation but exhibiting the following four characteristics: 1) area less than 8.0 hectares (20.0 acres); 2) a lack of active wave-formed or bedrock shoreline features; 3) water depth in the deepest part of the basin less than 2.0 meters at low water; and 4) salinity from ocean-derived salts of less than 0.05%.

In certain situations, normal seasonal or annual variation in environmental conditions can lead to the development of "problem areas" in which wetland vegetation, hydric soils, or wetland hydrology may not be readily identifiable. These problem areas may require additional investigation to determine the presence or absence of wetland indicators. In other situations, recent human activities or natural events can create "atypical situations" in which positive indicators of wetland hydrology, hydric soils, and hydrophytic vegetation are absent or unreliable. As with problem areas, these situations may require additional investigation to determine if a wetland is present.

SWCA recorded data on USACE Northcentral and Northeast regional wetland determination data forms to verify the presence and extent of wetlands (Appendix B). Details recorded at each datapoint consisted

of vegetation within prescribed sampling plots, soil characteristics, and hydrology information. The biologists took overview photographs of the sample area and detailed photographs of vegetation, soils, and hydrology at each datapoint (Appendix C). Datapoints that exhibited positive indicators of hydrophytic vegetation, hydric soils, and wetland hydrology were classified as wetlands. Datapoints that did not contain wetland indicators for all three criteria were classified as uplands.

2.2.1.1 VEGETATION

At each datapoint, SWCA recorded the binomial scientific name and absolute percent ground cover of all vascular plants within prescribed plot sizes for each vegetative stratum. The Supplement (USACE 2012) defines the tree stratum as a woody-stemmed plant with a trunk diameter at breast height equal to or greater than 3.0 inches, regardless of height; the sapling and shrub stratum as consisting of woody-stemmed plants with a trunk diameter at breast height of less than 3.0 inches, regardless of height; the herbaceous stratum as including all non-woody-stemmed plants, regardless of height; and the woody vine stratum as including all woody-stemmed vines, regardless of diameter. Typical plot size is a 30.0-foot radius for the tree stratum, a 15.0-foot radius for the sapling and shrub stratum, a 5.0-foot radius for the herbaceous stratum, and a 30.0-foot radius for the woody vine stratum. However, in some instances, the biologists may have changed plot sizes to conform to the actual wetland size or shape. The wetland indicator status of each plant species was determined using the 2020 National Wetland Plant List (USACE 2020), which divides plant species into five categories that reflect the range of estimated probabilities of a species existing in a wetland versus an upland. The five categories of wetland indicator statuses are as follows:

- Obligate (OBL): Almost always occurs in wetlands
- Facultative wetland (FACW): Usually occurs in wetlands, but may occur in non-wetlands
- Facultative (FAC): Occurs in wetlands or non-wetlands
- Facultative upland (FACU): Usually occurs in non-wetlands, but may occur in wetlands
- Upland (UPL): Almost never occurs in wetlands

Any plant community with a predominance of hydrophytes (OBL, FACW, and FAC) across all strata was determined to meet the USACE criteria of a hydrophytic community. In cases where disturbance had created problematic hydrophytic vegetation, visual observations of other hydrophytic vegetation indicators and site conditions, such as livestock grazing or presence of human-made features, were evaluated to clarify wetland boundaries.

2.2.1.2 SOILS

Hydric soil determinations were made according to criteria listed in the Manual (USACE 1987), the Supplement (USACE 2012), and *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils, Version 8.2* (U.S. Department of Agriculture 2018). The wetland biologists excavated soil pits to a depth of at least 24.0 inches and described each soil profile by horizon. Each horizon was evaluated for soil color; thickness; abundance; contrast of redoximorphic features (mottles); and soil texture. Munsell soil color charts were used to determine the color of the soil matrix and redoximorphic features. The "feel" or "ribbon" test was used to determine soil texture. The soil profile was studied for the hydric soil indicators listed in the Manual (USACE 1987) and the Supplement (USACE 2012). If the soil profile displayed at least one hydric soil indicators, a positive hydric soil determination was made.

Some soils that meet the hydric soil definition may not exhibit any indicators. These problematic hydric soils may lack indicators because of the color of the parent material from which the soils develop, because site conditions may inhibit the development of redoximorphic features, or because not enough time has passed to develop hydric soil indicators (USACE 2012). For areas with problematic soils, hydric soil conditions were assumed when there was a dominant hydrophytic plant community and the area exhibited wetland hydrology indicators, as listed in the Supplement (USACE 2012).

A map showing the soil types within the Site is provided as Figures A-3 through A-13 in Appendix A.

2.2.1.3 HYDROLOGY

Wetland hydrology was primarily determined in the field using the hydrology indicators detailed in the Manual (USACE 1987) and the Supplement (USACE 2012). To determine whether wetland hydrology was present at a datapoint, the SWCA biologists considered the frequency and duration of inundation; used visual observation of saturation in the upper 12.0 inches of the soil profile; and used the presence of other primary wetland hydrology indicators, such as oxidized root channels, water-stained leaves, surface soil cracks, water marks (nonriverine), sediment deposits (nonriverine), or the presence of biotic crusts. Secondary indicators used to determine wetland hydrology consisted of drainage patterns, the presence of a dry-season water table, or saturation visible on aerial imagery. If the area contained one or more primary hydrology indicator or two or more secondary hydrology indicators, a positive hydrology determination was made.

Additionally, the determination of normal climatic/hydrological conditions was analyzed with the antecedent precipitation methodology described by the BWSR (2015) and the MDNR (2024b).

2.2.2 Waterbodies

The lateral extent of jurisdictional waterbodies (i.e., ponds, creeks, streams, lakes) was identified by the presence of an OHWM, if present. Common identifiable indicators of an OHWM include physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris; or other appropriate means that consider the characteristics of the surrounding areas. The OHWM typically represents the potential limits of USACE jurisdiction, unless there is a wetland adjacent to the waterbody (Lichvar and McColley 2008). Please note that the USACE has full discretion in determining the jurisdictional status of referenced wetlands and waterbodies.

The NHD is a digital vector dataset referred to by SWCA biologists in the field to confirm or disprove the existence of features such as lakes, ponds, streams, rivers, canals, dams, and stream gages. NHD flowlines are features that contain flow direction and form a network (USGS 2022a). In the field, SWCA can confirm or disprove NHD flowlines based on the presence of streams, OHWMs, hydrophytic vegetation, wetland hydrology, and hydric soils.

SWCA classified streams as perennial, intermittent, or ephemeral based on field observations. During a typical year, a perennial stream contains flowing water year-round and the water table is located above the streambed. Groundwater is the primary water source for stream flow, while precipitation runoff is supplemental. Additionally, the USGS topographic maps were used as reference.

An intermittent stream has flowing water for only portions of the year when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

3 RESULTS

Sections 3.1 and 3.2 present results of the desktop review and field surveys.

3.1 Desktop Review

The results of the desktop review identified locations of potential wetlands and streams within the Site. SWCA biologists referenced these results during field surveys.

3.1.1 National Hydrography Dataset and National Wetlands Inventory

According to review of existing data, several NHD-mapped waterbodies (USGS 2022a) and NWI-mapped wetlands overlap the Site (USFWS 2024) (Table 1; Figure A-2 in Appendix A).

Table 1. National Hydrography Dataset and National Wetlands Inventory Features Mapped within the Site

Aquatic Resource	Length (miles) within Site	Area (acres) within Site			
NHD Flowline					
Intermittent stream/river	1.3	_			
Perennial stream/river	0.1	_			
NWI Wetlands					
Freshwater emergent wetland	_	12.9			
Freshwater forested/shrub wetland	_	8.1			
Freshwater pond	_	1.8			
Riverine	_	1.8			

Sources: USFWS (2024); USGS (2022a).

3.1.2 Public Waters Inventory

The PWI mapping identifies two public waters, totaling 0.9 mile, within the Site. These public waters are identified as the Elk River (DNR ID: M-065) and an unnamed stream (DNR ID: M-065-020) (see Figure A-2 in Appendix A) (MDNR 2024a).

3.1.3 U.S. Geological Survey Quadrangles

Topography within the Site is generally flat. Elevation ranges between 1,003 feet to 1,100 feet above sea level (USGS 2022b).

3.1.4 Natural Resources Conservation Service Soil Survey

A total of 34 soil units are mapped within the Site (Table 2). Of those, nine soil units were identified by the NRCS (Soil Survey Staff 2024) as having predominately hydric components. The soil texture within the Site ranged from loamy sand to clay loam.

Maps showing the soil types within the Site are provided as Figures A-3 through A-8 in Appendix A.

Table 2. Soil Units in the Site

Soil Mapping Unit	Soil Name	Hydric Status	
1011A	Fordum-Winterfield complex, 0 to 2 percent slopes, frequently flooded		
1023A	23A Seelyeville and Markey soils, ponded, 0 to 1 percent slopes		
C126B	Balmlake-Rosy complex, 1 to 6 percent slopes	Non-Hydric	
C26A	Foglake silt loam, 0 to 2 percent slopes	Non-Hydric	
C36A	Nokasippi loamy fine sand, depressional, 0 to 1 percent slopes	Hydric	
C51D	Emmert-St. Francis complex, 6 to 25 percent slopes	Non-Hydric	
C53C	Pomroy loamy fine sand, 6 to 12 percent slopes	Non-Hydric	
C56A	Langola loamy fine sand, 0 to 2 percent slopes	Hydric	
C58A	Ogilvie loam, 0 to 2 percent slopes	Non-Hydric	
C60A	Bushville fine sand, 0 to 2 percent slopes	Hydric	
C65A	Parent loam, 0 to 2 percent slopes, stony	Non-Hydric	
C66A	St. Francis fine sandy loam, 0 to 2 percent slopes	Non-Hydric	
C67B	Bushville complex, 1 to 6 percent slopes	Non-Hydric	
C68B	Milaca fine sandy loam, 3 to 6 percent slopes, stony	Non-Hydric	
C69B	Milaca, stony-St. Francis complex, 3 to 8 percent slopes	Non-Hydric	
C70B	St. Francis-Mahtomedi complex, 2 to 6 percent slopes	Non-Hydric	
C70C	St. Francis-Mahtomedi complex, 6 to 12 percent slopes	Non-Hydric	
C71C	Milaca-Mora complex, 1 to 7 percent slopes, stony	Non-Hydric	
C72B	Langola complex, 1 to 6 percent slopes	Non-Hydric	
C73A	Mora loam, 1 to 3 percent slopes, stony	Hydric	
C73C	Milaca loam, 1 to 7 percent slopes, stony	Hydric	
C9B	Mora-Ronneby complex, 1 to 4 percent slopes, stony	Non-Hydric	
D17A	Duelm loamy sand, 0 to 2 percent slopes	Hydric	
D1B	Anoka and Zimmerman soils, terrace, 2 to 6 percent slopes	Non-Hydric	
D1C	Anoka and Zimmerman soils, terrace, 6 to 12 percent slopes	Non-Hydric	
D21A	1A Isan sandy loam, depressional, 0 to 1 percent slopes		
D30A	OA Seelyeville and Markey soils, depressional, 0 to 1 percent slopes		
D61A	Glendorado loamy sand, 0 to 2 percent slopes	Non-Hydric	
D6A	Verndale sandy loam, acid substratum, 0 to 2 percent slopes	Non-Hydric	
D7A	Hubbard loamy sand, 0 to 2 percent slopes	Non-Hydric	
D7B	Hubbard loamy sand, 2 to 6 percent slopes	Non-Hydric	

Soil Mapping Unit	oil Mapping Unit Soil Name	
D7C	Hubbard loamy sand, 6 to 12 percent slopes	Non-Hydric
D7E	Hubbard loamy sand, 18 to 35 percent slopes	Non-Hydric
W	Water	N/A

Source: Soil Survey Staff (2024).

3.1.5 Antecedent Precipitation Tool

The APT (USACE 2021) displays precipitation data for monthly periods. The associated report (Appendix D) shows that the October 2022 field survey dates occurred in drier than normal field conditions. The June 2023 field survey dates occurred in normal field conditions; the July 2023 field survey dates occurred in drier than normal field conditions; and the APT score for the final May 2024 field survey indicated that field conditions were wetter than normal (see Appendix D).

3.1.6 Off-site Hydrology and Wetland Determination

Eighteen potential wetland areas were identified during the off-site hydrology and wetland determination using USACE and BWSR methods (Appendix E). These areas showed signs of soil saturation or crop stress in aerial photograph review. Each of these areas was evaluated during the field delineation. If evidence of wetland hydrology, vegetation, or soils was found, the area was delineated as wetland following typical methods.

3.2 Field Survey

3.2.1 Wetlands

During the field surveys on October 24 through 26, 2022, June 6 through 8, 2023, July 6 through 8, 2023, and May 7, 2024, SWCA delineated 13 wetlands (Table 3) totaling 23.5 acres (Table 4) within the Site. SWCA recorded one upland datapoint and one wetland datapoint for each wetland. The USACE has full discretion in determining the jurisdictional status of referenced wetlands and waterbodies. The aquatic resources and datapoints are illustrated in Figures A-11 through A-26, and wetland determination datasheets are provided in Appendix B. Photographs for each wetland and waterbody are provided in Appendix C.

3.2.1.1 VEGETATION

Dominant wetland vegetation includes green ash (Fraxinus pennsylvanica), silver maple (Acer saccharinum), river birch (Betula nigra), broadleaf cattail (Typha latifolia), common spikerush (Eleocharis palustris), common threesquare (Schoenoplectus pungens), reed canarygrass (Phalaris arundinacea), wildrye (Elymus virginicus), and barnyard grass (Echinochloa crus-galli). Softstem bulrush (Schoenoplectus tabernaemontani), narrowleaf cattail (Typha angustifolia), sensitive fern (Onoclea sensibilis), switchgrass (Panicum virgatum), prairie cordgrass (Spartina pectinata), and broadleaf arrowhead (Sagittaria latifolia) are also present within wetlands. Cultivated corn (Zea mays) and soybeans (Glycine max) are also commonly found in the farmed wetlands.

The surrounding upland areas support vegetation communities dominated by common hackberry (*Celtis occidentalis*), white oak (*Quercus alba*), bur oak (*Quercus macrocarpa*), silver maple, reed canarygrass, ground ivy (*Glechoma hederacea*), goldenrod (*Solidago altissima*), green bristlegrass (*Setaria viridis*),

yellow foxtail (*Setaria pumila*), and smooth brome (*Bromus inermis*). American elm (*Ulmus americana*), Canada thistle (*Cirsium arvense*), and stinging nettle (*Urtica dioica*) are also present in upland areas.

Plant species recorded in the field are detailed in Sections 3.2.1.4 through 3.2.1.16 and in the wetland determination datasheets provided in Appendix B.

3.2.1.2 SOILS

The primary soil textures within the wetlands are sandy clay loam and clay. The hydric soil indicators include thick dark surface and redox dark surface. Soil profiles recorded in the field are detailed on the wetland determination datasheets in Appendix B.

3.2.1.3 HYDROLOGY

The primary wetland hydrology indicators observed include high water table, saturation, iron deposits, sparsely vegetated concave surface, and oxidized rhizospheres on living roots. The secondary wetland hydrology indicators observed include geomorphic position, FAC-Neutral Test, and drainage patterns. The wetland hydrology indicators recorded in the field are detailed on the wetland datapoint datasheets in Appendix B.

Table 3. Wetlands Delineated in the Site

Wetland ID [®]	Acreage	Circular 39/Cowardin Classification	Formation*	Surficial Connectivity*	Associated Datapoints	Mapbook Figure Number
WET01	1.56	Type 1/PEM	Natural	Yes	DP01, DP02	A-10, A-21, A-22
WET04	<0.01	Type 1/PEM	Natural	Yes	DP07, DP08	A-10, A-21
WET11	0.30	Type 1/PEM	Natural	Yes	DP21, DP22	A-10, A-20
WET13	0.07	Type 1/Pf	Incidental	Yes	DP25, DP26	A-10, A-19
WET14	1.05	Type 7/PFO	Natural	Yes	DP27, DP28	A-10, A-20, A-23
WET15	3.24	Type 3/PEM	Natural	Yes	DP29, DP30	A-10, A-13, A-14, A-15
WET17	2.23	Type 3/PEM	Natural	No	DP36, DP37	A-10, A-11
WET18	2.32	Type 7/PFO/PEM	Natural	No	DP40, DP41, DP44	A-10, A-24, A-25
WET19	0.40	Type 7/PFO	Natural	No	DP42, DP43	A-10, A-24
WET20	0.05	Type 3/PEM	Natural	Yes	DP45, DP48	A-10, A-20, A-23
WET21	0.12	Type 3/PEM	Natural	Yes	DP46, DP47	A-10, A-18
WET22	0.68	Type 1/Pf	Natural	No	DP38, DP39	A-10, A-26
WET23	11.52	Type 3/PEM	Natural	Yes	DP34, DP35	A-10, A-12, A-15, A-16, A-17

[∞] Wetland ID labels are not sequential.

Note: PEM = palustrine emergent wetland; Pf = palustrine farmed wetland; PFO = palustrine forested wetland.

3.2.1.4 WET01 – TEMPORARILY FLOODED BASIN (TYPE 1; PEM)

WET01 is a palustrine emergent wetland located within the floodplain of the Elk River. It is classified as a temporarily flooded basin (Type 1; PEM). The vegetation within the wetland is dominated by reed canarygrass with scattered softstem bulrush. Dominant vegetation within the wetland satisfies hydrophytic vegetation criteria.

^{*} This determination is SWCA's professional opinion.

The first 16.0 inches of soil below the surface consist of 10YR 2/1 clay loam. From 16.0 to 24.0 inches below the surface, there is a layer of 10YR 5/2 sandy clay loam with 5.0% 10YR 4/6 redoximorphic concentrations. The soils meet the Thick Dark Surface hydric soil indicator.

The Geomorphic Position and FAC-Neutral Test secondary indicators satisfy wetland hydrology criteria.

Upland vegetation is composed of reed canarygrass and Canada thistle. From the surface to 20.0 inches below, the soil consists of 10YR 2/2 loamy sand. No primary or secondary indicators of hydrology were observed at the upland sample point.

Supporting information for WET01 is provided in Figures A-10, A-21, and A-22 in Appendix A, Appendix B, and Appendix C.

3.2.1.5 WET04 – TEMPORARILY FLOODED BASIN (TYPE 1; PEM)

WET04 is a palustrine emergent wetland located within the floodplain of the Elk River. It is classified as a temporarily flooded basin (Type 1; PEM). The vegetation within the wetland is dominated by stinging nettle. The dominant vegetation with the wetland is considered problematic hydrophytic vegetation due to the location of the wetland in the Elk River floodplain and natural disturbance occurring periodically. However, the vegetation present satisfies the hydrophytic vegetation criteria.

From the surface to 20.0 inches below, the soil consists of 10YR 2/1 clay loam with 10.0% 10YR 5/6 redoximorphic concentrations. The soils meet the Redox Dark Surface hydric soil indicator.

The Sparsely Vegetative Concave Surface primary indicator and Geomorphic Position secondary indicator satisfy wetland hydrology criteria.

Upland vegetation is composed of silver maple, ground ivy, stinging nettle, and goldenrod. From the surface to 20.0 inches below, the soil consists of 10YR 2/2 loamy sand. No primary or secondary indicators of hydrology were observed at the upland sample point.

Supporting information for WET04 is provided in Figures A-10 and A-21 in Appendix A, Appendix B, and Appendix C.

3.2.1.6 WET11 – TEMPORARILY FLOODED BASIN (TYPE 1; PEM)

WET11 is a palustrine emergent wetland located within the floodplain of the Elk River. It is classified as a temporarily flooded basin (Type 1; PEM). The vegetation within the wetland is dominated by barnyard grass, broadleaf cattail, and common spikerush. Dominant vegetation within the wetland satisfies hydrophytic vegetation criteria.

The first 16.0 inches of soil below the surface consist of 10YR 2/1 clay. From 16.0 to 24.0 inches below the surface, there is a layer of 10YR 4/2 loamy sand with 2.0% 10YR 4/6 redoximorphic concentrations. The soils meet the Thick Dark Surface hydric soil indicator.

Saturation and a water table were present at the surface and iron deposits were also observed within the soil pit. The wetland satisfies the High Water Table, Saturation, and Iron Deposits primary indicators and the Drainage Patterns, Geomorphic Position, and FAC-Neutral Test secondary indicators of wetland hydrology.

Upland vegetation is composed of green bristlegrass. From the surface to 20.0 inches below, the soil consists of 10YR 2/2 loam. No primary or secondary indicators of hydrology were observed at the upland sample point.

Supporting information for WET11 is provided in Figures A-10 and A-20 in Appendix A, Appendix B, and Appendix C.

3.2.1.7 WET13 – SEASONALLY FLOODED BASIN (TYPE 1; PF)

WET13 is a farmed wetland located in the central portion of the Site on the edge of a planted field. It is classified as a seasonally flooded basin (Type 1; Pf). Vegetation is significantly disturbed as most native vegetation has been removed and replaced with cultivated soybeans. The Problematic Hydrophytic Vegetation indicator satisfies hydrophytic vegetation criteria.

From the surface to 20.0 inches below, the soil consists of 10YR 2/1 sandy clay loam with 2.0% 10YR 4/6 redoximorphic concentrations in the matrix and pore lining. The soils meet the Redox Dark Surface hydric soil indicator.

The Geomorphic Position and FAC-Neutral Test secondary indicators satisfy wetland hydrology criteria.

Upland vegetation is composed of cultivated soybeans. From the surface to 20.0 inches below, the soil consists of 10YR 2/2 loamy sand. No primary or secondary indicators of hydrology were observed at the upland sample point.

Supporting information for WET13 is provided in Figures A-10 and A-19 in Appendix A, Appendix B, and Appendix C.

3.2.1.8 WET14 – TEMPORARILY FLOODED BASIN (TYPE 7; PFO)

WET14 is a palustrine forested wetland located within the floodplain of the Elk River. It is classified as a temporarily flooded basin (Type 7; PFO). The vegetation within the wetland is dominated by silver maple, river birch, and reed canarygrass with scattered sensitive fern. Dominant vegetation within the wetland satisfies hydrophytic vegetation criteria.

From the surface to 20.0 inches below, the soil consists of 10YR 2/1 clay loam with 10.0% 10YR 5/6 redoximorphic concentrations in the matrix and pore lining. The soils meet the Redox Dark Surface hydric soil indicator.

Saturation and a water table were present at the surface, and a hydrogen sulfide odor was also observed within the soil pit. The wetland satisfies the High Water Table, Saturation, and Hydrogen Sulfide Odor primary indicators and the Geomorphic Position and FAC-Neutral Test secondary indicators of wetland hydrology.

Upland vegetation is composed of silver maple, white oak, bur oak, ground ivy, stinging nettle, and goldenrod. From the surface to 20.0 inches below, the soil consists of 10YR 2/2 loamy sand. No primary or secondary indicators of hydrology were observed at the upland sample point.

Supporting information for WET14 is provided in Figures A-10, A-20, and A-23 in Appendix A, Appendix B, and Appendix C.

3.2.1.9 WET15 – SEASONALLY FLOODED BASIN (TYPE 3; PEM)

WET15 is a palustrine emergent wetland located in the northern portion of the Site. It is classified as a seasonally flooded basin (Type 3; PEM). The vegetation within the wetland is dominated by reed canarygrass with scattered softstem bulrush. Dominant vegetation within the wetland satisfies hydrophytic vegetation criteria.

The first 1.06 inches of soil below the surface consist of 10YR 2/1 clay loam. From 16.0 to 24.0 inches below the surface, there is a layer of 10YR 5/2 loamy clay sand with 5.0% 10YR 4/6 redoximorphic concentrations. The soils meet the Thick Dark Surface hydric soil indicator.

The Geomorphic Position and FAC-Neutral Test secondary indicators satisfy wetland hydrology criteria.

Upland vegetation is composed of smooth brome and green bristlegrass. From the surface to 20.0 inches below, the soil consists of 10YR 2/2 loamy sand. No primary or secondary indicators of hydrology were observed at the upland sample point.

Supporting information for WET15 is provided in Figures A-10, A-13, A-14, and A-15 in Appendix A, Appendix B, and Appendix C.

3.2.1.10 WET17 – SEASONALLY FLOODED BASIN (TYPE 3; PEM)

WET17 is a palustrine emergent wetland located in the northern portion of the Site. It is classified as a seasonally flooded basin (Type 3; PEM). The vegetation within the wetland is dominated by common threesquare and reed canarygrass. Dominant vegetation within the wetland satisfies hydrophytic vegetation criteria.

From the surface to 20.0 inches below, the soil consists of 10YR 2/1 clay loam with 10.0% 10YR 5/6 redoximorphic concentrations in the matrix and pore lining. The soils meet the Redox Dark Surface hydric soil indicator.

Saturation was present at a depth of 12.0 inches, and oxidized rhizospheres were observed on living roots. The wetland satisfies the Saturation and Oxidized Rhizospheres on Living Roots primary indicators and the Geomorphic Position and FAC-Neutral Test secondary indicators of wetland hydrology.

Upland vegetation is composed of smooth brome, goldenrod, and yellow foxtail. From the surface to 20.0 inches below, the soil consists of 10YR 2/2 loamy sand. No primary or secondary indicators of hydrology were observed at the upland sample point.

Supporting information for WET17 is provided in Figures A-10 and A-11 in Appendix A, Appendix B, and Appendix C.

3.2.1.11 WET18 – SEASONALLY FLOODED BASIN (TYPE 7; PFO/PEM)

WET18 is a palustrine emergent wetland located in the central portion of the Site. It is classified as a seasonally flooded basin (Type 7; PFO/PEM). The vegetation within the wetland is dominated by silver maple, green ash, and reed canarygrass. Dominant vegetation within the wetland satisfies hydrophytic vegetation criteria.

Two soil pits were dug within the wetland. At DP40, the first 16.0 inches of soil below the surface consist of 10YR 2/1 clay loam. From 16.0 to 24.0 inches below the surface, there is a layer of 10YR 5/2 sandy clay loam with 5.0% 10YR 4/6 redoximorphic concentrations. The soils meet the Thick Dark Surface hydric soil indicator. At DP44, from the surface to 20.0 inches below, the soil consists of 10YR 2/1 clay loam with 10.0% 10YR 5/6 redoximorphic concentrations in the matrix and pore lining. The soils meet the Redox Dark Surface hydric soil indicator.

Within the DP40 soil pit, oxidized rhizospheres were observed on living roots. The wetland satisfies the Oxidized Rhizospheres on Living Roots primary indicator and the Geomorphic Position and FAC-Neutral

Test secondary indicators of wetland hydrology. At DP44, saturation was also observed at a depth of 12.0 inches, which satisfies the Saturation primary wetland hydrology indicator.

Upland vegetation is composed of smooth brome, goldenrod, and yellow foxtail. From the surface to 20.0 inches below, the soil consists of 10YR 2/2 loamy sand. No primary or secondary indicators of hydrology were observed at the upland sample point.

Supporting information for WET18 is provided in Figures A-10, A-24, and A-25 in Appendix A, Appendix B, and Appendix C.

3.2.1.12 WET19 – TEMPORARILY FLOODED BASIN (TYPE 7; PFO)

WET19 is a palustrine forested wetland located in the southern portion of the Site. It is classified as a temporarily flooded basin (Type 7; PFO). The vegetation within the wetland is dominated by silver maple, green ash, river birch, and reed canarygrass. Dominant vegetation within the wetland satisfies hydrophytic vegetation criteria.

From the surface to 20.0 inches below, the soil consists of 10YR 2/1 clay loam with 10.0% 10YR 5/6 redoximorphic concentrations in the matrix and pore lining. The soils meet the Redox Dark Surface hydric soil indicator.

Saturation was present at a depth of 10.0 inches. The wetland satisfies the Saturation primary indicator and the Geomorphic Position and FAC-Neutral Test secondary indicators of wetland hydrology.

Upland vegetation is composed of silver maple, white oak, bur oak, American elm, stinging nettle, and goldenrod. From the surface to 20.0 inches below, the soil consists of 10YR 2/2 loamy sand. No primary or secondary indicators of hydrology were observed at the upland sample point.

Supporting information for WET19 is provided in Figures A-10 and A-24 in Appendix A, Appendix B, and Appendix C.

3.2.1.13 WET20 – SEASONALLY FLOODED BASIN (TYPE 3; PEM)

WET20 is a palustrine emergent wetland located within the floodplain of the Elk River. It is classified as a seasonally flooded basin (Type 3; PEM). The vegetation within the wetland is dominated by reed canarygrass with scattered narrowleaf cattail. Dominant vegetation within the wetland satisfies hydrophytic vegetation criteria.

From the surface to 20.0 inches below, the soil consists of 10YR 2/1 clay loam with 10.0% 10YR 5/6 redoximorphic concentrations in the matrix and pore lining. The soils meet the Redox Dark Surface hydric soil indicator.

Saturation and a water table were present at the surface with 2.0 inches of standing surface water also present. The wetland satisfies the Saturation, High Water Table, and Surface Water primary indicators and the Geomorphic Position and FAC-Neutral Test secondary indicators of wetland hydrology.

Upland vegetation is composed of bur oak, common hackberry, silver maple, American elm, ground ivy, stinging nettle, and goldenrod. From the surface to 20.0 inches below, the soil consists of 10YR 2/2 loamy sand. No primary or secondary indicators of hydrology were observed at the upland sample point.

Supporting information for WET20 is provided in Figures A-10, A-20, and A-23 in Appendix A, Appendix B, and Appendix C.

3.2.1.14 WET21 – SEASONALLY FLOODED BASIN (TYPE 3; PEM)

WET21 is a palustrine emergent wetland associated with a recreational pond. It is classified as a seasonally flooded basin (Type 3; PEM). The vegetation within the wetland is dominated by reed canarygrass and narrowleaf cattail with scattered softstem bulrush. Dominant vegetation within the wetland satisfies hydrophytic vegetation criteria.

The first 4.0 inches of soil below the surface consist of 10YR 2/1 clay loam. From 4.0 to 24.0 inches below the surface, there is a layer of 10YR 4/2 sandy clay loam with 2.0% 10YR 4/6 redoximorphic concentrations present within the pore lining. The soil meets the Depleted Below Dark Surface and Depleted Matrix hydric soil indicators.

Saturation and a water table were present at the surface. The wetland satisfies the Saturation and High Water Table primary indicators and the Geomorphic Position and FAC-Neutral Test secondary indicators of wetland hydrology.

Upland vegetation is composed of smooth brome and green bristlegrass. From the surface to 20.0 inches below, the soil consists of 10YR 2/2 loamy sand. No primary or secondary indicators of hydrology were observed at the upland sample point.

Supporting information for WET21 is provided in Figures A-10 and A-18 in Appendix A, Appendix B, and Appendix C.

3.2.1.15 WET22 – TEMPORARILY FLOODED BASIN (TYPE 1; PF)

WET22 is a farmed wetland located in the southeastern portion of the Site on the edge of a planted field. It is classified as a temporarily flooded basin (Type 1; Pf). Vegetation is significantly disturbed as native vegetation has been removed and replaced with cultivated corn and soybeans. The natural vegetation of the wetland is problematic; however, yellow nutsedge (*Cyperus esculentus*) is present in the wetland and satisfies hydrophytic vegetation criteria.

From the surface to 20.0 inches below, the soil consists of 10YR 2/1 sandy clay loam with 2.0% 10YR 4/6 redoximorphic concentrations. The soils meet the Redox Dark Surface hydric soil indicator.

The wetland satisfies the Geomorphic Position and FAC-Neutral Test secondary indicators of wetland hydrology.

Upland vegetation is composed of cultivated corn. From the surface to 20.0 inches below, the soil consists of 10YR 2/2 loamy sand. No primary or secondary indicators of hydrology were observed at the upland sample point.

Supporting information for WET22 is provided in Figures A-10 and A-26 in Appendix A, Appendix B, and Appendix C.

3.2.1.16 WET23 – SEASONALLY FLOODED BASIN (TYPE 3; PEM)

WET23 is a palustrine emergent wetland located in the northern portion of the Site. It is classified as a seasonally flooded basin (Type 3; PEM). The vegetation within the wetland is dominated by reed canarygrass with scattered switchgrass, prairie cordgrass, and broadleaf arrowhead. Dominant vegetation within the wetland satisfies hydrophytic vegetation criteria.

The first 16.0 inches of soil below the surface consist of 10YR 2/1 clay loam. From 16.0 to 24.0 inches below the surface, there is a layer of 10YR 5/2 sandy clay loam with 5.0% 10YR 4/6 redoximorphic concentrations present within the matrix. The soils meet the Thick Dark Surface hydric soil indicators.

Saturation and a water table were present at the surface and there was approximately 4 inches of standing water in the wetland; iron deposits were also observed on the surface. The wetland satisfies the Surface Water, High Water Table, Saturation, and Iron Deposits primary indicators and the Geomorphic Position and FAC-Neutral Test secondary indicators of wetland hydrology.

Upland vegetation is composed of smooth brome and green bristlegrass. The first 6.0 inches of soil below the surface consist of 10YR 2/2 loamy sand. From 6.0 to 24.0 inches below the surface, there is a layer of 10YR 4/4 sandy loam. No primary or secondary indicators of hydrology were observed at the upland sample point.

Supporting information for WET23 is provided in Figures A-10, A-12, A-15, A-16, and A-17 in Appendix A, Appendix B, and Appendix C.

3.2.2 Waterbodies

SWCA delineated four waterbodies within the Site. The total length of waterbodies within the Site is 0.2 mile (see Table 4). This includes one named river (WB01) and three unnamed waterbodies.

Table 4. Waterbodies Delineated in the Site

Waterbody ID	Acreage	Linear Feet	Hydrologic Regime	Waterbody Name	Mapbook Figure Number
WB01	0.5	400.1	Perennial river	Elk River	A-9
WB02	0.0	104.3	Ephemeral drainage	Unnamed	A-9
WB03	0.1	520.5	Intermittent stream	Unnamed	A-9
WB04	1.1	-	Perennially flooded pond	Unnamed	A-9

4 SUMMARY

In 2022, 2023, and 2024, SWCA delineated 13 wetlands and four waterbodies within the Site.

5 LITERATURE CITED

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APPENDIX A Maps

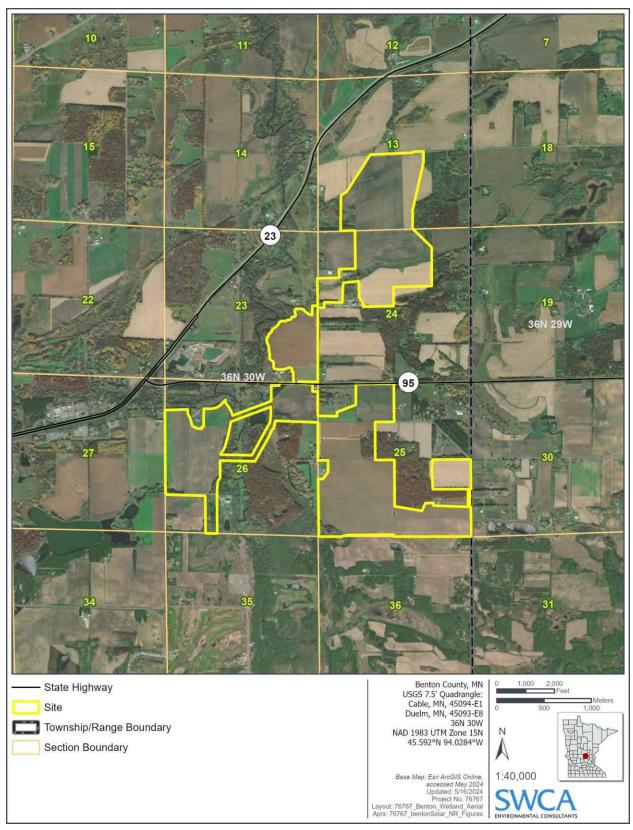


Figure A-1. Project location.

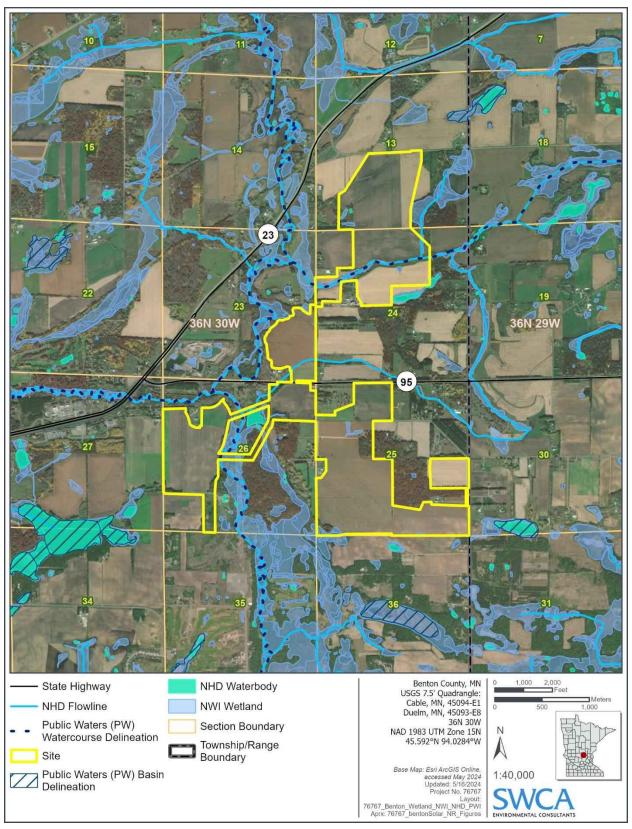


Figure A-2. National Hydrography Dataset, National Wetlands Inventory, and Public Waters Inventory data for the Site.

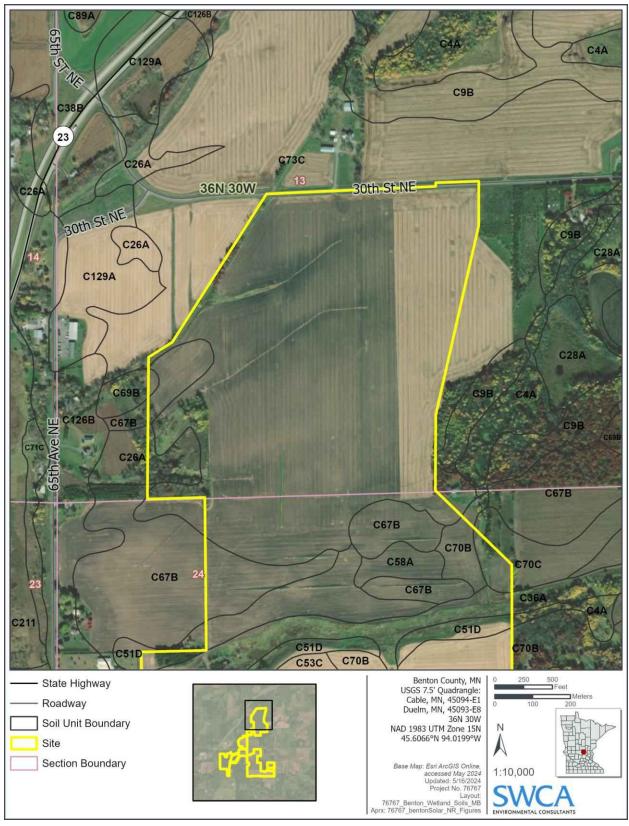


Figure A-3. Soil survey map of the Site (map 1 of 6).

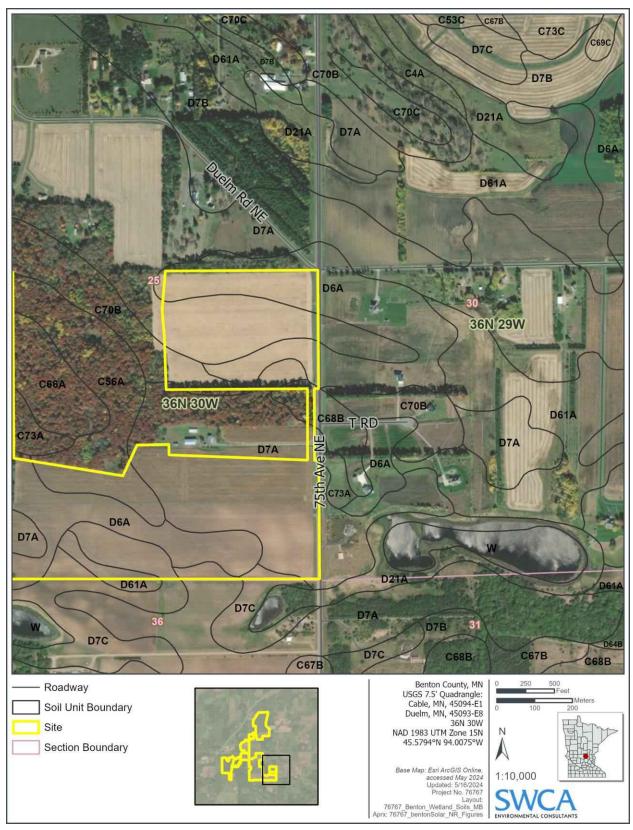


Figure A-4. Soil survey map of the Site (map 2 of 6).

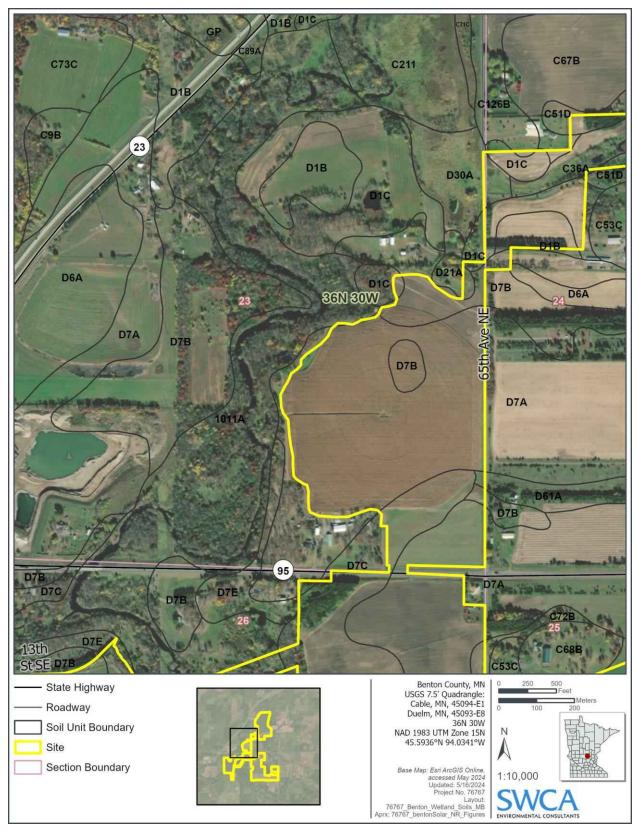


Figure A-5. Soil survey map of the Site (map 3 of 6).

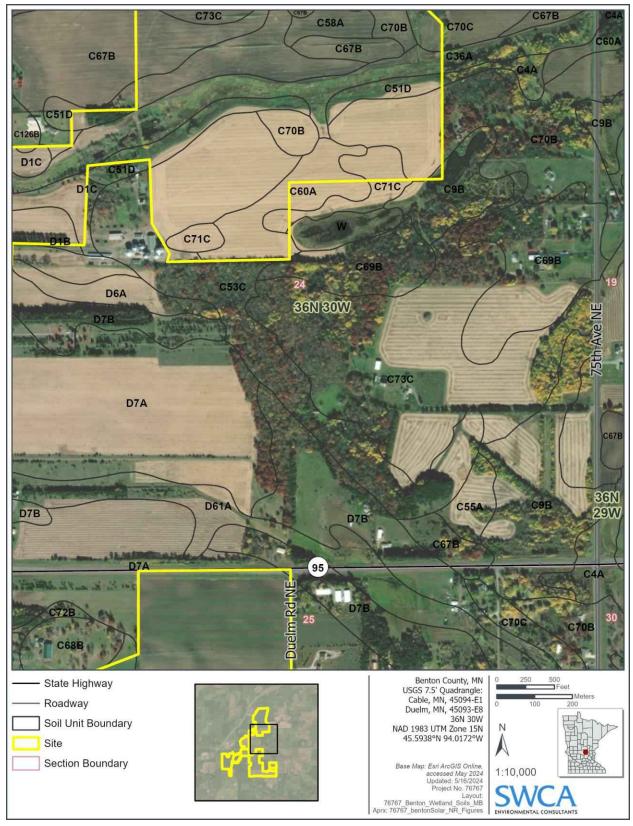


Figure A-6. Soil survey map of the Site (map 4 of 6).

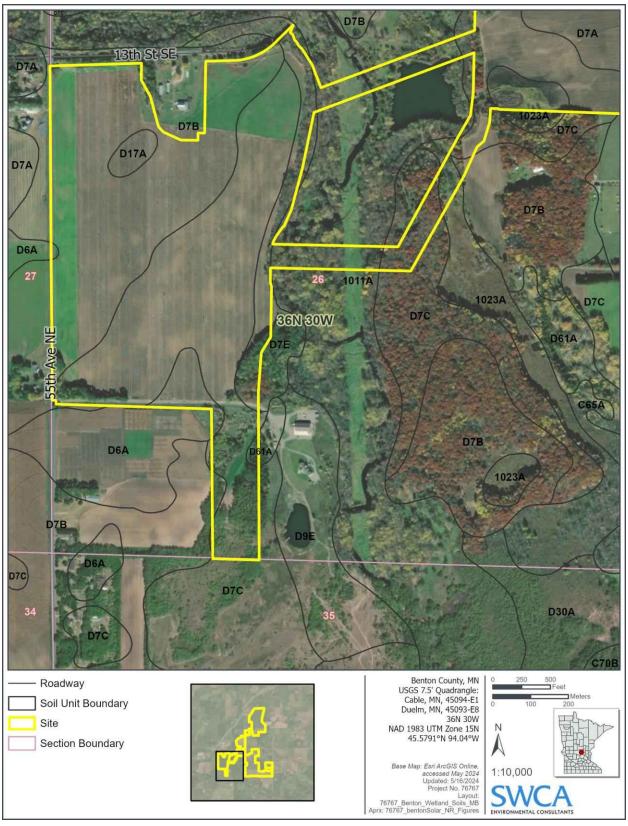


Figure A-7. Soil survey map of the Site (map 5 of 6).

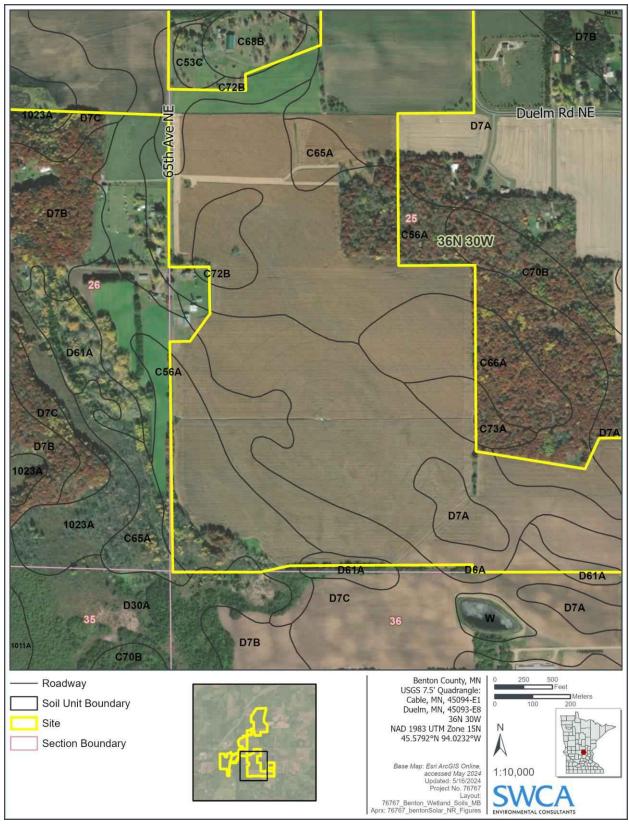


Figure A-8. Soil survey map of the Site (map 6 of 6).

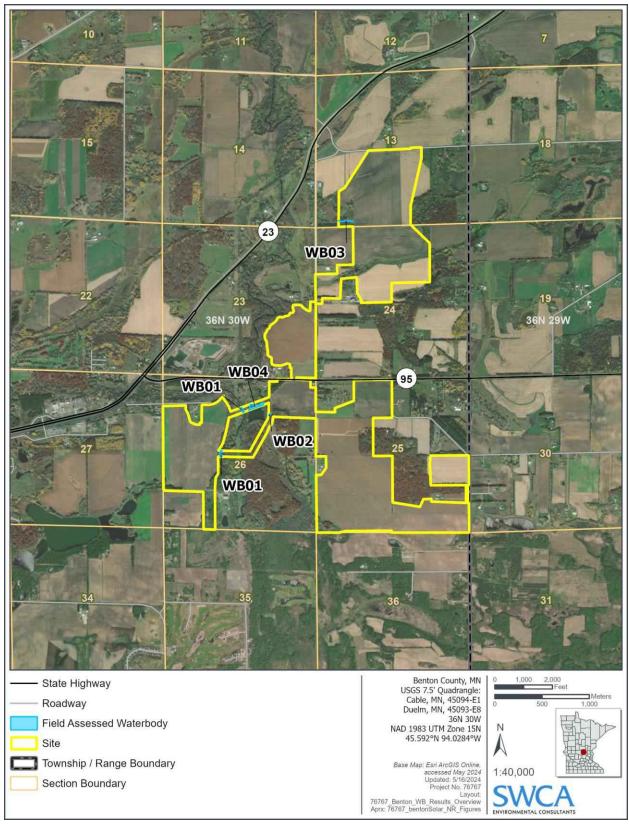


Figure A-9. Waterbodies delineated within the Site.

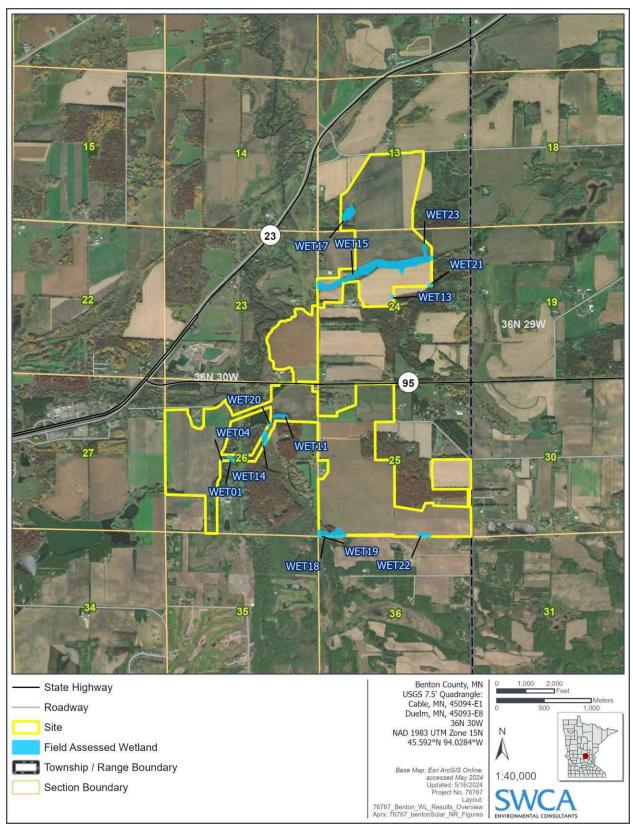


Figure A-10. Wetlands delineated within the Site.

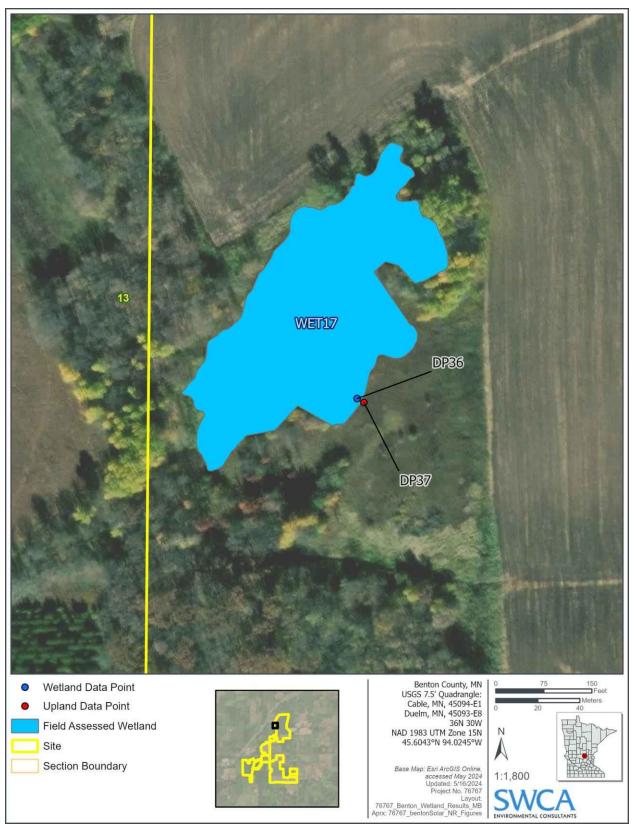


Figure A-11. Overview of delineated wetlands (map 1 of 16).

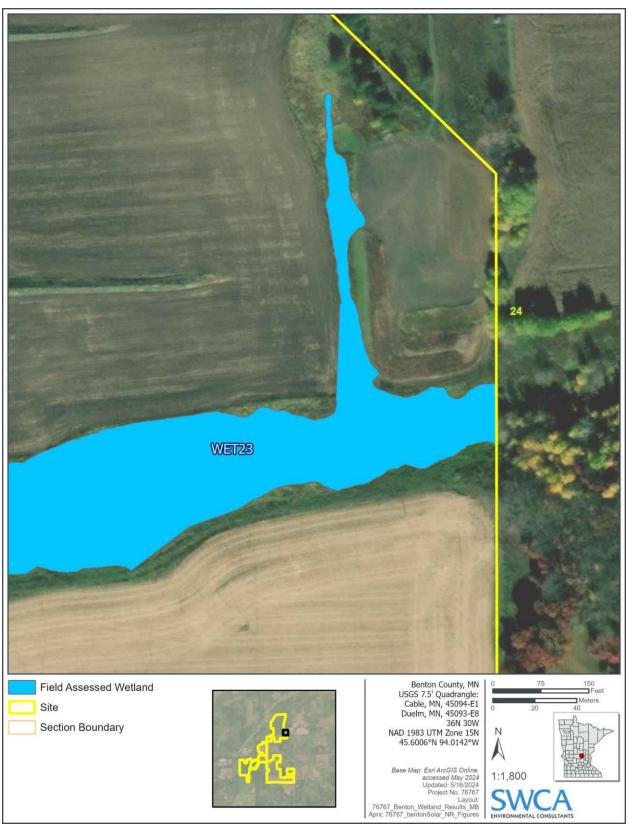


Figure A-12. Overview of delineated wetlands (map 2 of 16).



Figure A-13. Overview of delineated wetlands (map 3 of 16).

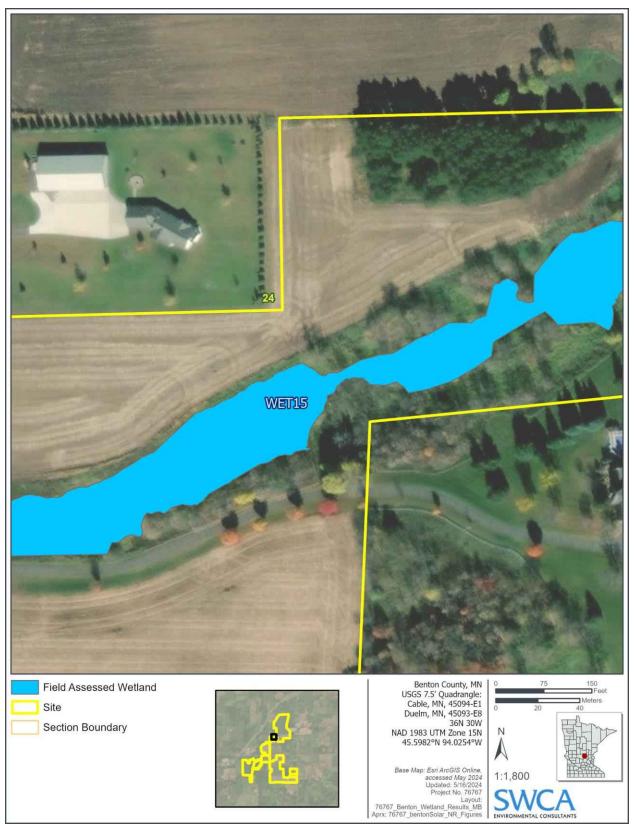


Figure A-14. Overview of delineated wetlands (map 4 of 16).

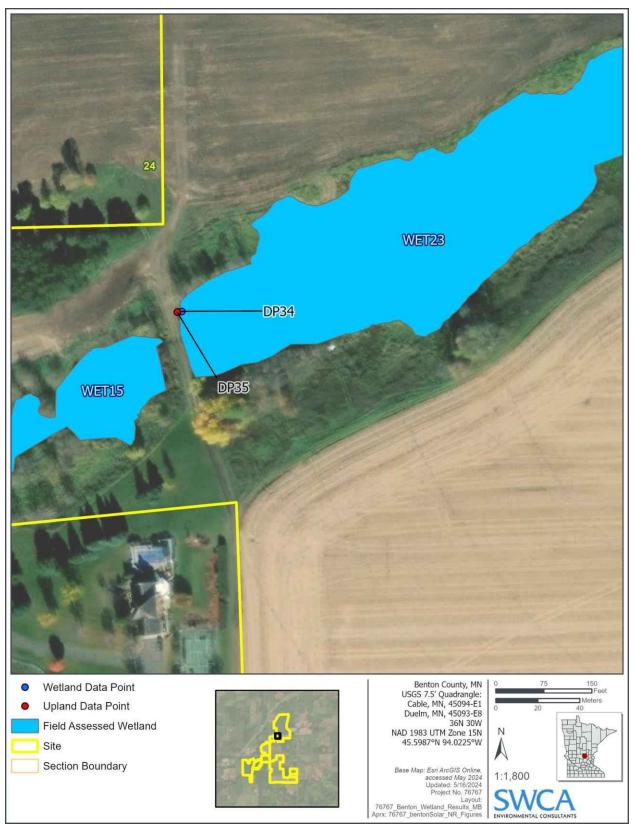


Figure A-15. Overview of delineated wetlands (map 5 of 16).

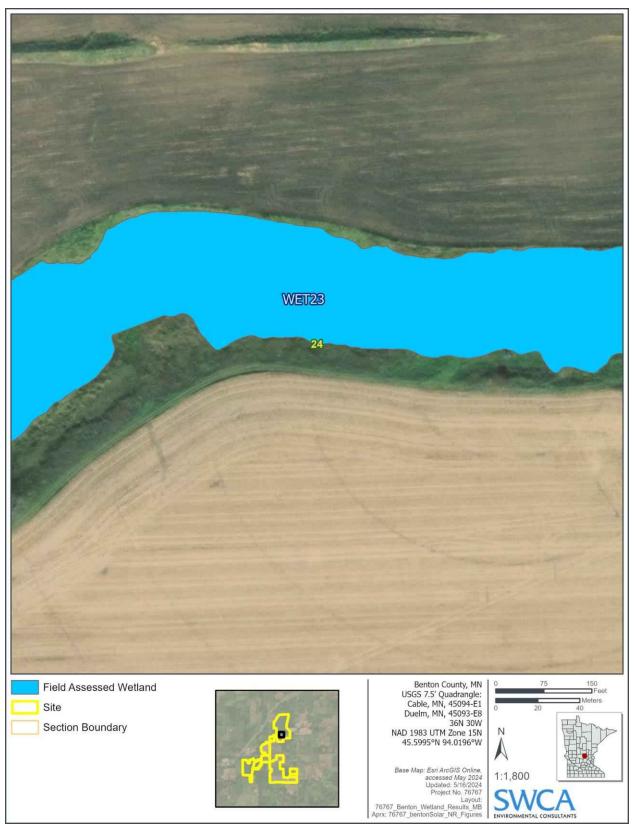


Figure A-16. Overview of delineated wetlands (map 6 of 16).

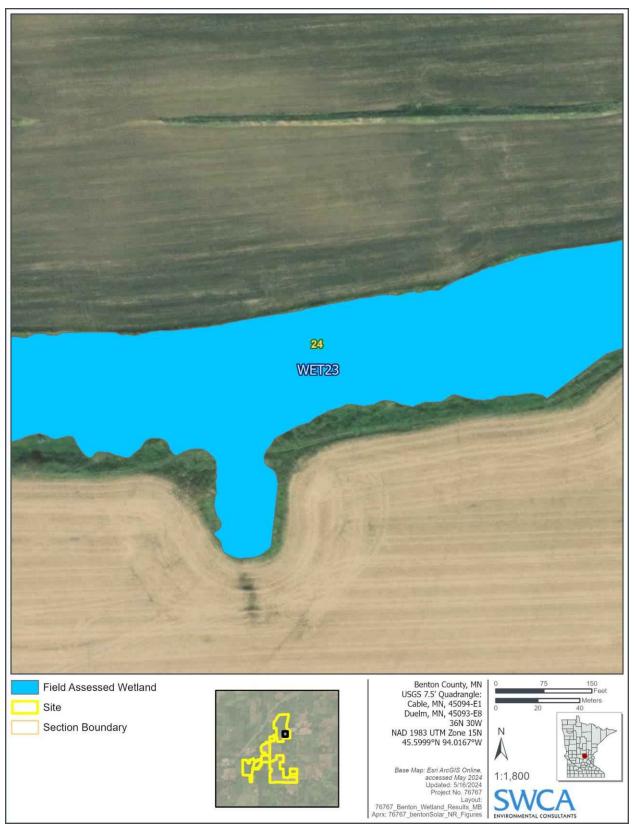


Figure A-17. Overview of delineated wetlands (map 7 of 16).

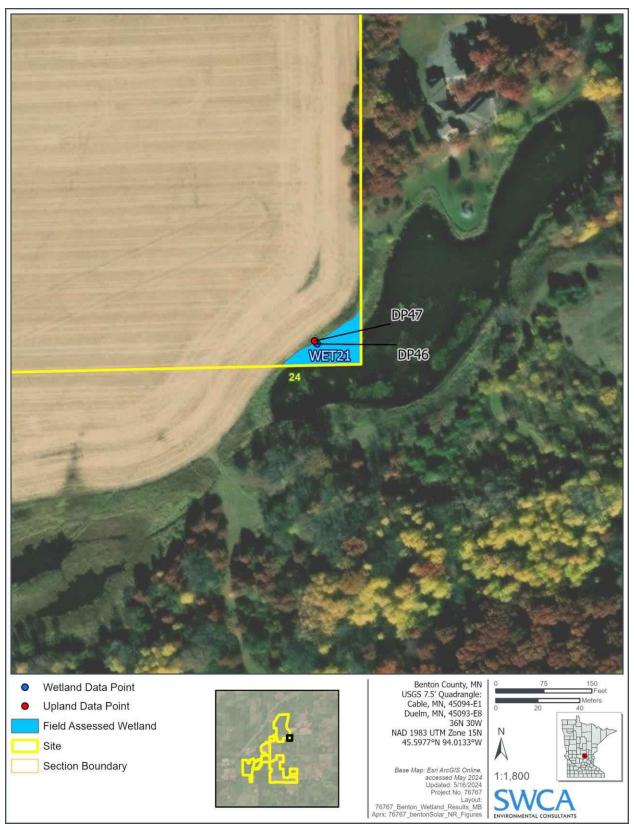


Figure A-18. Overview of delineated wetlands (map 8 of 16).

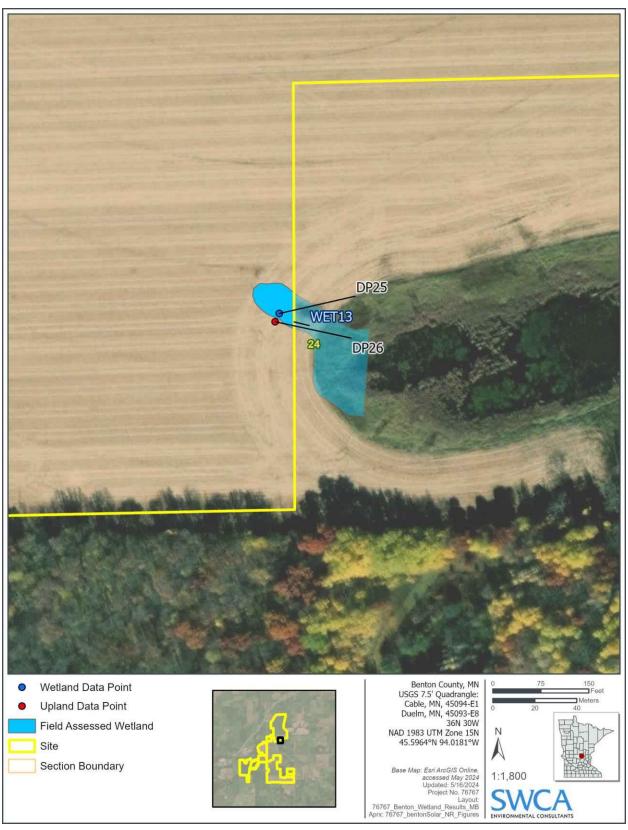


Figure A-19. Overview of delineated wetlands (map 9 of 16).



Figure A-20. Overview of delineated wetlands (map 10 of 16).

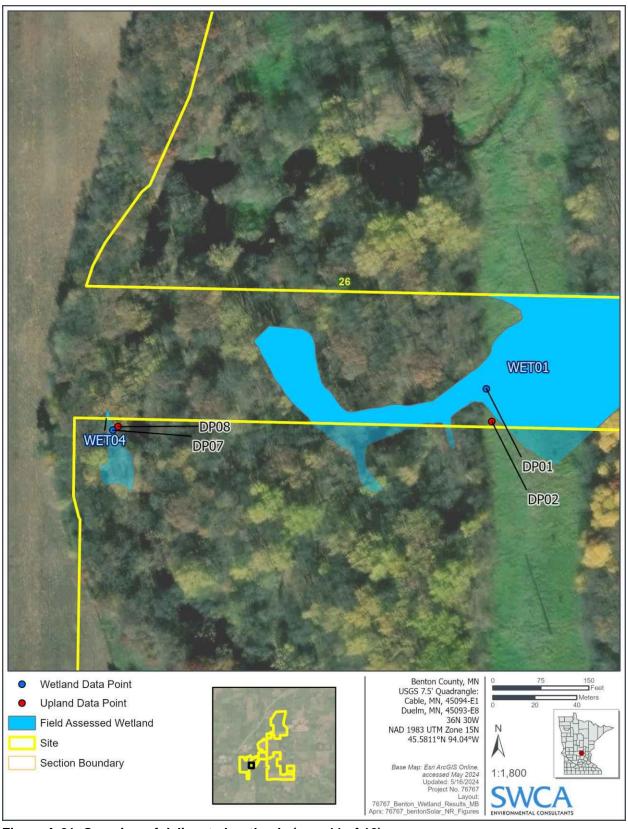


Figure A-21. Overview of delineated wetlands (map 11 of 16).

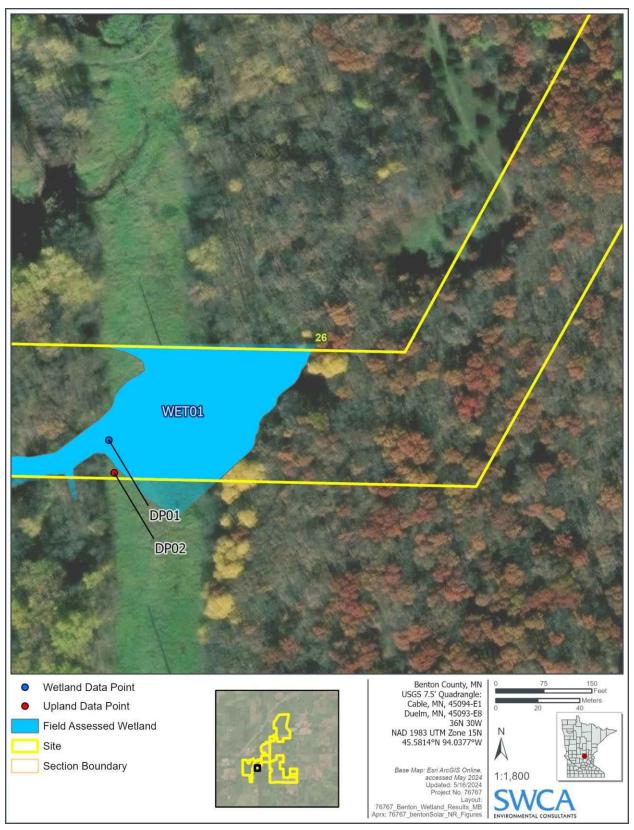


Figure A-22. Overview of delineated wetlands (map 12 of 16).

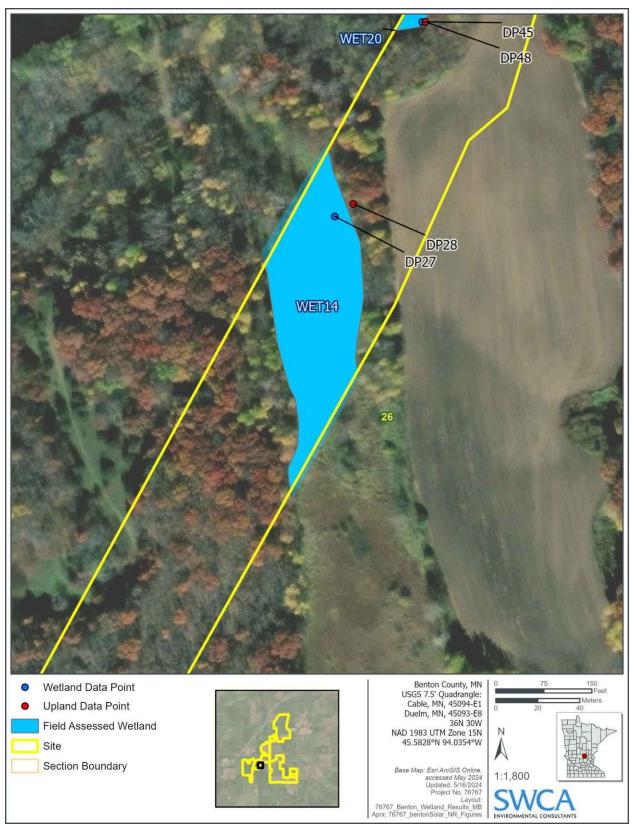


Figure A-23. Overview of delineated wetlands (map 13 of 16).

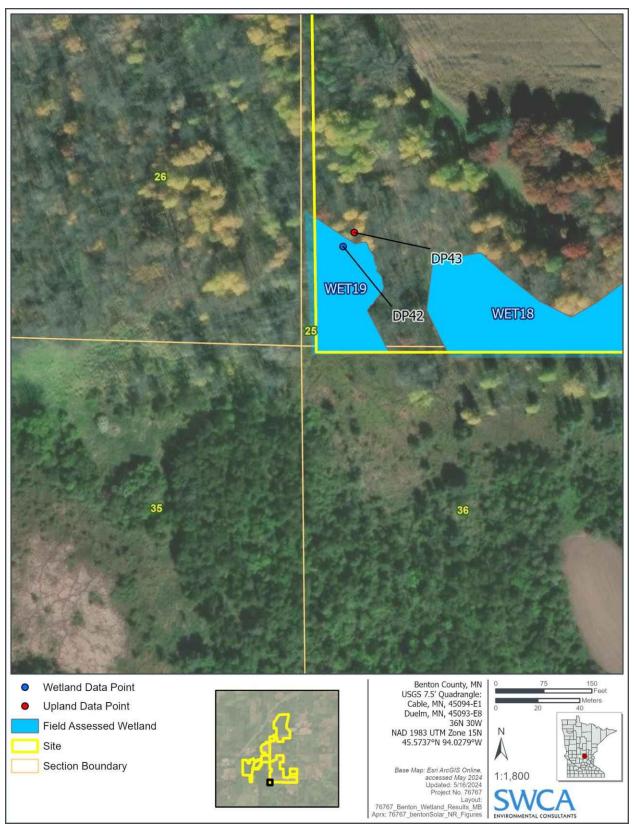


Figure A-24. Overview of delineated wetlands (map 14 of 16).

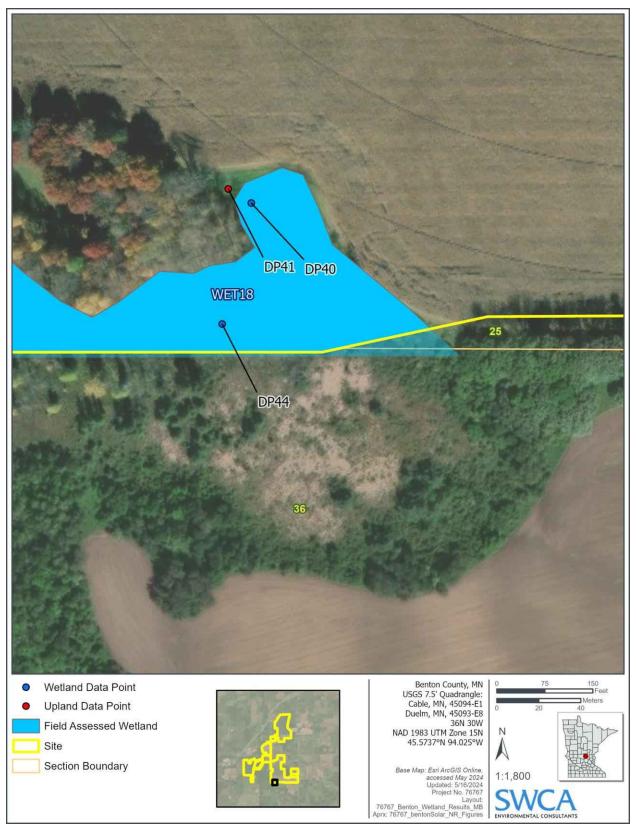


Figure A-25. Overview of delineated wetlands (map 15 of 16).



Figure A-26. Overview of delineated wetlands (map 16 of 16).

APPENDIX B Wetland Determination Data Forms

Project/Site: Benton Solar		City	/County: Benton County		Sampling Date: <u>10/24/2022</u>			
Applicant/Owner: NextEra			State: MN	Sampling Point: DP01				
Investigator(s): Cole Reagan		Se	ction, Township, Range:	Sec. 26 T36N I	R30W			
Landform (hillslope, terrace, etc.): \underline{Flo}	od Plain	Loca	I relief (concave, convex,	none): None	Slope (%): <5%			
Subregion (LRR or MLRA): MLRA 90E	3, LRR K	Lat: <u>45.5796</u>	Long:	-94.0389	Datum:			
Soil Map Unit Name: 1011A - Fordu	m-Winterfield c	complex, 0 to 2 percent slo	pes, frequently flooded	NWI classif	ication: PEM			
Are climatic / hydrologic conditions on				_(If no, explain	in Remarks.)			
Are Vegetation, Soil					ces" present? Yes X No			
Are Vegetation, Soil					nswers in Remarks.)			
SUMMARY OF FINDINGS — A	ttach site m	ap showing samplin	ng point locations, t	ransects, in	nportant features, etc.			
			Is the Sampled Area					
Hydrophytic Vegetation Present?		K No:	within a Wetland?		Yes X No			
Hydric Soil Present?		K No:						
Wetland Hydrology Present?	Yes: X	X No:	If yes, optional Wetlan	d Site ID:	WET01			
HYDROLOGY								
Wetland Hydrology Indicators:				<u>Secondary i</u>	ndicators (minimum of two required)			
Primary indicators (minimum of one r	equired: check	all that apply)		Surface	e Soil Cracks (B6)			
Surface Water (A1)		es (B9)		ge Patterns (B10)				
High Water Table (A2))		rim Lines (B16)				
Saturation (A3)		dor (C1)		ason Water Table (C2)				
Water Marks (B1) Sediment Deposits (B2)		Hydrogen Sulfide O	aor (C1) eres on Living Roots (C3)	Crayfish Burrows (C8) ing Roots (C3) Saturation Visible on Aerial Imagery (C9)				
Drift Deposits (B3)		Presence of Reduce	= : :	- · · · —				
Algal Mat or Crust (B4)			on in Tilled Soils (C6)					
Iron Deposits (B5)		Thin Muck Surface (Shallow Aquitard (D3)				
Inundation Visible on Aerial Ima	gery (B7)	Other (Explain in Re	` '	Microtopographic Relief (D4)				
Sparsely Vegetated Concave Su	ırface (B8)			X FAC-N	eutral Test (D5)			
Field Observations:		-						
Surface Water Present? Yes	No X D	Depth (inches):						
Water Table Present? Yes	No X D	Depth (inches):						
Saturation Present? Yes	No X D	Depth (inches):						
(includes capillary fringe)			Wetland Hydr	ology Present	? Yes <u>X</u> No			
Describe Recorded Data (stream gau	ige, monitoring	well, aerial photos, previo	ous inspections), if availal	ole:				
Remarks:								

<u>Tree Stratum:</u> (Plot size: <u>30</u>)		Dominant Indicator	Dominance Test worksheet:
1	% Cover	Species? Status	Number of Dominant Species
2.			That Are OBL, FACW, or FAC:1 (A)
3.			Total Number of Dominant
4			Species Across All Strata: 1 (B)
5.			Percent of Domant Species That Are OBL, FACW, or FAC: 100 (A/B)
6.			That Are OBL, FACW, or FAC: 100 (A/B)
7.			Prevalence Index worksheet:
··	0	=Total Cover	Total % Cover of: Multiply by:
		- Total Cover	OBL species 2 x 1 = 2
Sapling/Shrub Stratum: (Plot size: 15)			FACW species 95 x 2 = 190
1.			FAC species 0 x 3 = 0
2.			FACU species 0 x 4 = 0
3.			UPL species 0 x 5 = 0
4.			Column Totals: <u>97</u> (A) <u>192</u> (B)
5.			Prevalence Index = B/A= 1.98
<u>6.</u> 7.			Hydrophytic Vegetation Indicators:
<u> </u>			1 - Rapid test for Hydrophytic Vegetation X 2 - Dominance Test is >50%
	0	=Total Cover	X 3 - Prevalence Index is ≤3.0 ¹
Herb Stratum: (Plot size: 5)			4 - Morphological Adaptations ¹ (Profice supporting
1. Phalaric arundinacea	95	Y FACW	data in Remarks or on a separate sheet)
Schoenoplectus tabernaemontani	95 2	N OBL	Problematic Hydrophytic Vegetation (Explain)
		N OBL	
3.			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4.			be present, unless disturbed of problematic.
5.			Definitions of Four Vegetation Strata:
6.			Tree –Woody plants 3 in. (7.6 cm) or more in diameter
7.			at breast height (DBH), regardless of height.
8.			Sapling/Shrub – Woody plants less than 3 in. DBH
9.			and greater than or equal to 3.28 ft (1 m) tall.
10.			Herb – All herbaceous (non-woody) plants, regardless
11.			of size, and woody plants less than 3.28 ft tall.
12.			Woody vine – All woody vines greater than 3.28 ft in
	97	=Total Cover	height.
Woody Vine Stratum: (Plot size: 30)			
1.			
2.			
3.			Hydrophytic
4.			Vegetation
	0	=Total Cover	Present? Yes X No
Remarks: (Include photo numbers here or on a separate	shoot)		
Remarks. (include prioto numbers here or on a separate	Sileet.)		

Sampling Point:

Profile Desc	ription: (Describe to	the depth r	needed to document	t the indic	ator or co	nfirm the	absence of inc	dicators.)
Depth	Matrix		Red	lox Featur	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-16	10YR 2/1	100		0			Clay Loam	
16-24	10YR 5/2	95	10YR 4/6	5	С	М	Sandy Clay Loam	
		· 			· ——			
			_		·			
				-				-
¹ Type: C=Co	ncentration, D=Deplet	on, RM=Re	duced Matrix, MS=M	lasked Sa	nd Grains.		² Location: PL=	Pore Lining, M=Matrix.
Black Hi Hydroge Stratified Depleted X Thick Da Sandy M Sandy G Sandy R Dark Su	(A1) sipedon (A2) stic (A3) n Sulfide (A4) d Layers (A5) d Below Dark Surface (A12) flucky Mineral (S1) fleyed Matrix (S4) fledox (S5) Matrix (S6) frace (S7) (LRR R, ML flydrophytic vegetatio ayer (if observed):	.RA 149B)	Polyvalue MLRA 149 Thin Dark Loamy Mu Loamy Gle Pepleted N Redox Dar Pepleted E Redox Depleted E	SBB) Surface (\$ icky Miner eyed Matri Matrix (F3) rk Surface Dark Surfa pressions	S9) (LRR F al (F1) (LR x (F2)) (F6) lice (F7) (F8)	R, MLRA 1		rs for Problematic Hydric Soils ³ : In Muck (A10) (LRR K, L, MLRA 149B) Ist Prairie Redox (A16) (LRR K, L, R) In Mucky Peat or Peat (S3) (LRR K, L, R) Isk Surface (S7) (LRR K, L) In Dark Surface (S9) (LRR K, L) In Dark Surface (S9) (LRR K, L) In Manganese Masses (F12) (LRR K, L, R) Idmont Floodplain Soils (F19) (MLRA 149B) In Parent Material (F21) In Shallow Dark Surface (TF12) In Explain in Remarks) Present? Yes X No The Mark No Source (TF12) The Mark No Sourc

Project/Site: Benton Solar		City	//County: Benton County	,	Sampling Date:	10/24/2022		
Applicant/Owner: NextEra			State: MN	Sampling Point	:: DP02			
Investigator(s): Cole Reagan		Se	ection, Township, Range:	Sec. 26 T36N I	R30W			
Landform (hillslope, terrace, etc.): Flo	ood Plain	Loca	al relief (concave, convex	, none): None		Slope (%): <5%		
Subregion (LRR or MLRA): MLRA 90	B , LRR K	Lat: 45.5796	Long:	-94.039		Datum:		
Soil Map Unit Name: 1011A - Fordu	ım-Winterfield cor	mplex, 0 to 2 percent slo	opes, frequently flooded	NWI classifi	ication: <u>No</u>			
Are climatic / hydrologic conditions on	the site typical fo	or this time of year? Yes	XNo	_(If no, explain	in Remarks.)			
Are Vegetation, Soil	_, or Hydrology _	significantly distu	rbed? Are "Norm	nal Circumstand	ces" present? Y	/es <u>X</u> No		
Are Vegetation, Soil	_, or Hydrology _	naturally problem	natic? (If needed	l, explain any aı	nswers in Remar	rks.)		
SUMMARY OF FINDINGS — A	Attach site ma	p showing sampli	ng point locations, t	ransects, in	nportant feati	ures, etc.		
			Is the Sampled Area					
Hydrophytic Vegetation Present?	Yes: X	No:	Is the Sampled Area within a Wetland?		Yes	No X		
Hydric Soil Present?	Yes:	No:X	Within a Wotland.			NO <u>X</u>		
Wetland Hydrology Present?	Yes:	No: X	If yes, optional Wetlar	nd Site ID:		WET01		
HYDROLOGY								
Wetland Hydrology Indicators:				<u>Secondary i</u>	ndicators (minim	num of two required)		
Primary indicators (minimum of one	required: check al	ll that apply)		Surface	e Soil Cracks (B6	5)		
Surface Water (A1)	_	Water-Stained Leav	res (B9)	Drainaç	ge Patterns (B10))		
High Water Table (A2)	_	Aquatic Fauna (B13			rim Lines (B16)			
Saturation (A3)	_	Marl Deposits (B15)			ason Water Tabl	e (C2)		
Water Marks (B1)	_	Hydrogen Sulfide O			h Burrows (C8)			
Sediment Deposits (B2)	_		eres on Living Roots (C3)	- · · · —				
Drift Deposits (B3)	_	Presence of Reduct		· ·				
Algal Mat or Crust (B4) Iron Deposits (B5)	_		ion in Tilled Soils (C6)	· · · — · · · · · · · · · · · · · · · ·				
Inundation Visible on Aerial Ima	— agery (R7)	Thin Muck Surface Other (Explain in Re		Shallow Aquitard (D3) Microtopographic Relief (D4)				
Sparsely Vegetated Concave S	· · · · —	Other (Explain in Re	emarks)	Microtopographic Relief (D4) FAC-Neutral Test (D5)				
Field Observations:	No V Do	nth (inches):						
	No X Dep							
	No X Dep	·						
Saturation Present? Yes (includes capillary fringe)	_ No <u>X</u> Dep	ptn (incnes):	Wetland Hydr	ology Present	? Yes	No X		
Describe Recorded Data (stream ga	uge monitoring w	vell aerial photos previo	ous inspections) if availa	hlo:				
Describe Necorded Data (stream ga	age, monitoring w	ren, aeriai priotos, previd	ous mispeemons), ii avana	DIC.				
Remarks:								

<u>Tree Stratum:</u> (Plot size: <u>30</u>)		Dominant Indicator	Dominance Test worksheet:	
1	<u>% Cover</u>	Species? Status	Number of Dominant Species	
2.			That Are OBL, FACW, or FAC: 1	(A)
<u>2.</u> 3.			Total Number of Dominant	(=)
4			Species Across All Strata: 1	(B)
5.			Percent of Domant Species	(A/D)
6.			That Are OBL, FACW, or FAC: 100	(A/B)
7.			Prevalence Index worksheet:	
	0	=Total Cover	Total % Cover of: Multiply	v bv:
		- Total Cover	OBL species 0 x 1 =	0
Sapling/Shrub Stratum: (Plot size: 15)			FACW species 95 x 2 =	190
1.			FAC species 0 x 3 =	0
2.			FACU species 5 x 4 =	20
3.			UPL species 0 x 5 =	0
4.			Column Totals: 100 (A)	210 (B)
			Prevalence Index = B/A=	2.10
<u>6.</u> 7.			Hydrophytic Vegetation Indicators:	¥:
<u> </u>			1 - Rapid test for Hydrophytic VegetatX 2 - Dominance Test is >50%	ion
	0	=Total Cover	$\frac{X}{X}$ 3 - Prevalence Index is $\leq 3.0^{1}$	
Herb Stratum: (Plot size: 5)			4 - Morphological Adaptations ¹ (Profic	oo ounnorting
`	0.5		data in Remarks or on a separate she	
1. Phalaris arundinacea	95	Y FACW	Problematic Hydrophytic Vegetation (I	,
2. Cirsium arvense	5	N FACU		
3.			¹ Indicators of hydric soil and wetland hydrol be present, unless disturbed or problematic.	
4.			be present, unless disturbed of problematic.	
5.			Definitions of Four Vegetation Strata:	
6.			Tree –Woody plants 3 in. (7.6 cm) or more	in diameter
7.			at breast height (DBH), regardless of heigh	ıt.
8.			Sapling/Shrub – Woody plants less than 3	≀in. DBH
9.			and greater than or equal to 3.28 ft (1 m) ta	
10.			Herb – All herbaceous (non-woody) plants,	. regardless
<u>11.</u>			of size, and woody plants less than 3.28 ft	tall.
<u>12.</u>			Woody vine – All woody vines greater than	ก 3.28 ft in
	100	=Total Cover	height.	
Woody Vine Stratum: (Plot size: 30)				
1.				
2.				
3.			Hydrophytic	
4.			Vegetation	
	0	=Total Cover	Present? Yes X N	10
Remarks: (Include photo numbers here or on a separate	cheet)			
remarks. (include prioto numbers here or on a separate	Silect.)			

Sampling Point:

Profile Desci	ription: (Describe to	the depth n	eeded to document	the indic	ator or co	nfirm the	absence of in	dicators.)			
Depth	Matrix		Red	ox Featur	es						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks		
0-20	10YR 2/2	100		0			Loamy Sand				
				_							
				_							
									_		
									_		
¹ Type: C=Co	ncentration, D=Deplet	ion, RM=Re	duced Matrix, MS=M	asked Sa	nd Grains.		² Location: PL=	Pore Lining, M	=Matrix.		
Hydric Soil I	ndicators:						Indicato	ors for Problen	natic Hydric Soils ³ :		
Histosol	(A1)		Polyvalue	Below Su	face (S8)	(LRR R,			LRR K, L, MLRA 149B)		
	ipedon (A2)		MLRA 149	•					ox (A16) (LRR K, L, R)		
Black His	stic (A3) n Sulfide (A4)		Thin Dark : Loamy Mu					m Mucky Peat (k Surface (S7)	or Peat (S3) (LRR K, L, R)		
	I Layers (A5)		Loamy Gle			KK K, L)			Surface (S8) (LRR K, L)		
	Below Dark Surface	(A11)	Depleted N	-					(S9) (LRR K, L)		
	ark Surface (A12)			Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L, R)							
	lucky Mineral (S1) leyed Matrix (S4)			Depleted Dark Surface (F7)							
	edox (S5)		Nedox Dep	Red Parent Material (F21)							
	Matrix (S6)			Very Shallow Dark Surface (TF12)							
Dark Sui	rface (S7) (LRR R, ML	RA 149B)					Oth	er (Explain in F	Remarks)		
³ Indicators of	hydrophytic vegetatio	n and wetla	nd hydrology must h	e nresent	unless dis	turhed or	nroblematic				
	ayer (if observed):	iii ana wetta	id Hydrology mast be	c present,	unicoo dio	itarbea or	problematic.				
Type:	ayer (ii observed).						Unadaia Cail	I D	V N- V		
Depth (inche	es):						Hydric Soil	i Present?	Yes No <u>X</u>		
Remarks:											

Project/Site: Benton Solar		City	y/County: Benton County	•	Sampling Date: <u>10/24/2022</u>			
Applicant/Owner: NextEra			State: MN Sampling Point: DP07					
Investigator(s): Cole Reagan		Se	ection, Township, Range:	Sec. 26 T36N I	R30W			
Landform (hillslope, terrace, etc.): Flo	od Plain	Loca	al relief (concave, convex,	, none): None	Slope (%): <5%			
Subregion (LRR or MLRA): MLRA 901	3 , LRR K	Lat: 45.5807	Long:	-94.0412	Datum:			
Soil Map Unit Name: 1011A - Fordu	ım-Winterfield o	complex, 0 to 2 percent slo	opes, frequently flooded	NWI classif	cation: PEM			
Are climatic / hydrologic conditions on				(If no, explain	in Remarks.)			
Are Vegetation, Soil					ces" present? Yes X No			
Are Vegetation, Soil					nswers in Remarks.)			
SUMMARY OF FINDINGS — A	ttach site m	າap showing samplir	ng point locations, t	ransects, in	iportant features, etc.			
			Is the Sampled Area					
Hydrophytic Vegetation Present?		X No:	within a Wetland?		Yes X No			
Hydric Soil Present?		X No:		1.0% 10	\\(\(\tau\)			
Wetland Hydrology Present?	Yes: >	X No:	If yes, optional Wetlan	nd Site ID:	WET04			
HYDROLOGY								
Wetland Hydrology Indicators:				Secondary i	ndicators (minimum of two required)			
Primary indicators (minimum of one	required: check	all that apply)			e Soil Cracks (B6)			
Surface Water (A1)		Water-Stained Leav Aquatic Fauna (B13			ge Patterns (B10)			
High Water Table (A2)			·	rim Lines (B16)				
Saturation (A3))		ason Water Table (C2)				
Water Marks (B1)		Hydrogen Sulfide O			h Burrows (C8)			
Sediment Deposits (B2) Drift Deposits (B3)		Oxidized Rhizosphe	eres on Living Roots (C3)	·	tion Visible on Aerial Imagery (C9) d or Stressed Plants (D1)			
Algal Mat or Crust (B4)			tion in Tilled Soils (C6)					
Iron Deposits (B5)		Thin Muck Surface		Shallow Aquitard (D3)				
Inundation Visible on Aerial Ima	aery (B7)	Other (Explain in Re	` '	Microtopographic Relief (D4)				
X Sparsely Vegetated Concave S				·	eutral Test (D5)			
Field Observations:								
	No X E	Depth (inches):						
		Depth (inches):						
	No X E							
(includes capillary fringe)			Wetland Hydr	ology Present	? Yes <u>X</u> No			
Describe Recorded Data (stream gai	uge, monitoring	well, aerial photos, previo	ous inspections), if availal	ble:				
Remarks:								

Tree Stratum: (Plot size: 30)		Dominant Indicator	Dominance Test worksheet:
	% Cover	Species? Status	Number of Dominant Species
1.			That Are OBL, FACW, or FAC: 0 (A)
2.			Total Number of Dominant
3.			Species Across All Strata: 0 (B)
4.			Percent of Domant Species
5.			That Are OBL, FACW, or FAC: 0 (A/B)
6.			Prevalence Index worksheet:
7.			Total % Cover of: Multiply by:
	0	=Total Cover	OBL species 0 x 1 = 0
Sapling/Shrub Stratum: (Plot size: 15)			FACW species 0 x 2 = 0
1.			FAC species 2 x 3 = 6
2.		·	FACU species 0 x 4 = 0
			UPL species 0 x 5 = 0
4			Column Totals: 2 (A) 6 (B)
F			Prevalence Index = B/A= 3.00
<u> </u>			
6.			Hydrophytic Vegetation Indicators:
7.			1 - Rapid test for Hydrophytic Vegetation
	0	=Total Cover	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹
Herb Stratum: (Plot size: 5)			
· ———			4 - Morphological Adaptations ¹ (Profice supporting data in Remarks or on a separate sheet)
1. Urtica dioica	2	N FAC	X Problematic Hydrophytic Vegetation (Explain)
2.			
<u>3.</u>			¹ Indicators of hydric soil and wetland hydrology must
4.			be present, unless disturbed or problematic.
5.			Definitions of Four Vegetation Strata:
6.			_
7.			Tree –Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.			Conline/Chrub Woody plants loss than 2 in DRII
9.			Sapling/Shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10.			Herb – All herbaceous (non-woody) plants, regardless
11.			of size, and woody plants less than 3.28 ft tall.
12.			Woody vine – All woody vines greater than 3.28 ft in
	2	=Total Cover	height.
Woody Vine Stratum: (Plot size: 30)			
1.			
2.		·	
3.		·	Hydrophytic
4.			Vegetation
	0	=Total Cover	Present? Yes X No
Remarks: (Include photo numbers here or on a separate	e sheet.) Sparsely v	egetated concave surf	face within floodplain

Sampling Point:

Profile Desc	ription: (Describe to t	he depth ne	eded to document	the indic	ator or co	nfirm the	absence of in	dicators.)	
Depth	Matrix		Red	ox Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-20	10YR 2/1	90	10YR 5/6	10	C	MP	Clay Loam		
								-	
								-	
							-		
								-	
								•	
								-	
								-	
					·				
					·				
¹ Type: C=Co	ncentration, D=Depleti	on RM=Red	luced Matrix, MS=M	asked Sa	nd Grains		² Location: PL=	Pore Lining, M	=Matrix
			adoca maan, mo m	uonea ca	na Graino.				
Hydric Soil I			Daharah	Bolow C:	rfood (CO)	(LDD D			natic Hydric Soils ³ : (LRR K, L, MLRA 149B)
Histosol	(A1) Dipedon (A2)		Polyvalue MLRA 149		nace (S8)	LKK K,		, , ,	DX (A16) (LRR K, L, R)
Black Hi			Thin Dark	,	S9) (LRR F	R, MLRA 1			or Peat (S3) (LRR K, L, R)
	n Sulfide (A4)		Loamy Mu	-		RK, L)		k Surface (S7)	
	l Layers (A5)	(4.4.4.)	Loamy Gle						Surface (S8) (LRR K, L)
	d Below Dark Surface (ark Surface (A12)	(AII)	Depleted N X Redox Dar						(S9) (LRR K, L) Masses (F12) (LRR K, L, R)
	lucky Mineral (S1)		Depleted D						ain Soils (F19) (MLRA 149B)
	Sleyed Matrix (S4)		Redox Dep						6) (MLRA 144A, 145, 149B)
	edox (S5)							d Parent Materi	
	Matrix (S6)	DA 140B\							Surface (TF12)
Dark Su	rface (S7) (LRR R, ML	KA 149D)					Oiii	er (Explain in F	Remarks)
³ Indicators of	f hydrophytic vegetatio	n and wetlan	d hydrology must be	e present,	unless dis	turbed or	problematic.		
	ayer (if observed):								
Type:							Usalvia Cail	l DunnamtO	Vac V Na
Depth (inche	es):						Hydric Soi	i Present?	Yes <u>X</u> No
Remarks:									

Project/Site: Benton Solar		City	//County: Benton County		Sampling Date	: 10/24/2022		
Applicant/Owner: NextEra	ant/Owner: NextEra State: MN Sampling Point: DP0							
Investigator(s): Cole Reagan		Se	ction, Township, Range:	Sec. 26 T36N I	R30W			
Landform (hillslope, terrace, etc.): Flo	ood Plain	Loca	ıl relief (concave, convex,	none): None		Slope (%): <5%		
Subregion (LRR or MLRA): MLRA 908	B , LRR K	Lat: 45.5808	Long:	-94.0413		Datum:		
Soil Map Unit Name: 1011A - Fordu	um-Winterfield co	omplex, 0 to 2 percent slo	opes, frequently flooded	NWI classifi	ication: No			
Are climatic / hydrologic conditions on	the site typical for	or this time of year? Yes	XNo	_(If no, explain	in Remarks.)			
Are Vegetation, Soil	, or Hydrology	significantly distu	rbed? Are "Norm	nal Circumstanc	es" present? `	Yes X No		
Are Vegetation, Soil	_, or Hydrology	naturally problem	natic? (If needed	, explain any aı	nswers in Rema	rks.)		
SUMMARY OF FINDINGS — A	ttach site ma	ap showing samplir	ng point locations, t	ransects, in	portant feat	ures, etc.		
			T					
Hydrophytic Vegetation Present?	Yes:	No: X	Is the Sampled Area within a Wetland?		Yes	No. Y		
Hydric Soil Present?	Yes:	No: X	within a wetianu:		165 _	No <u>X</u> _		
Wetland Hydrology Present?	Yes:	No: X	If yes, optional Wetlan	d Site ID:		WET04		
Remarks: (Explain alternative proced	dures here or in s	congrate report)						
HYDROLOGY								
Wetland Hydrology Indicators:				Secondary i	ndicators (minim	num of two required)		
Primary indicators (minimum of one	required: check a	all that apply)		Surface	e Soil Cracks (B	6)		
Surface Water (A1)	-	res (B9)	Drainaç	ge Patterns (B10))			
High Water Table (A2)	-	3)		rim Lines (B16)				
Saturation (A3)	-			ason Water Tab	le (C2)			
Water Marks (B1)	-	Hydrogen Sulfide O			h Burrows (C8)	(00)		
Sediment Deposits (B2)	-		eres on Living Roots (C3)	- · · · —				
Drift Deposits (B3) Algal Mat or Crust (B4)	-	Presence of Reduct	ion in Tilled Soils (C6)					
Iron Deposits (B5)	-	Thin Muck Surface		Geomorphic Position (D2) Shallow Aquitard (D3)				
Inundation Visible on Aerial Ima	gery (B7)	Other (Explain in Re	• •					
Sparsely Vegetated Concave S	urface (B8)		•		eutral Test (D5)			
Field Observations:								
	No X De	epth (inches):						
	No X De							
<u> </u>	No X De	· · · · · · · · · · · · · · · · · · ·						
(includes capillary fringe)			Wetland Hydr	ology Present	? Yes	No <u>X</u>		
Describe Recorded Data (stream gai	uge, monitoring v	vell, aerial photos, previo	ous inspections), if availal	ole:				
Remarks:								
1								

Species Across AI Stratat: 4 (B) Species Across AI Stratat: 4 (B) Percent of Domant Species	Tree Stratum: (Plot size: 30)		Dominant Indicator	Dominance Test worksheet:
	4. Assessment and a second a second and a second a second and a second a second and			Number of Dominant Species
Total Number of Dominant Species Across All Statuta.			Y FACW	That Are OBL, FACW, or FAC: 2 (A)
Percent of Domant Species That Are OBL, FACW, or FAC: 50 (A/B)				Total Number of Dominant
Percent of Domain Species So	3.			Species Across All Strata: 4 (B)
Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0		-		
Prevalence index worksheet: Total Vover of Total Vo	5.			That Are OBL, FACW, or FAC: 50 (A/B)
Total % Cover of:	6.			
OBL species O	<u>7.</u>			•
FACW species 40		40	=Total Cover	
FAC species 20	Sanling/Shruh Stratum: (Plot size: 15)			· — — — — — — — — — — — — — — — — — — —
FACU species 60				
UPL species 0		-		.
Column Totals: 120 (A) 380 (B) Prevalence Index = B/A= 3.17	<u>2</u> .	-		
Prevalence Index = B/A = 3.17	3.			
Hydrophytic Vegetation Indicators: 1 - Rapid test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is s3.0¹ 4 - Morphological Adaptations¹ (Profice supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) 2 - Dominance Test is >50% 3 - Prevalence Index is s3.0¹ 4 - Morphological Adaptations¹ (Profice supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) 1 - Rapid test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is s3.0¹ 4 - Morphological Adaptations¹ (Profice supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain) 1 - Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 5 - Definitions of Four Vegetation Strata: Tree –Woody plants 3 in, (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? YesNo_X_	4.	<u> </u>		
Protection Pr	5.			Prevalence Index = B/A= 3.17
D Flotal Cover 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Profice supporting data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation (Explain)	6.			Hydrophytic Vegetation Indicators:
Sapling/Shrub — Woody Vine Stratum: (Plot size: 30)	7.			1 - Rapid test for Hydrophytic Vegetation
3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Profice supporting data in Remarks or on a separate sheet) 20		0	=Total Cover	2 - Dominance Test is >50%
data in Remarks or on a separate sheet) 2. Urtica dioica 2.				3 - Prevalence Index is $\leq 3.0^1$
Problematic Hydrophytic Vegetation (Explain)	<u>Herb Stratum:</u> (Plot size: <u>5</u>)			4 - Morphological Adaptations (Profice supporting
Problematic Hydrophytic Vegetation (Explain) Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree —Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum: (Plot size: 30) Woody Vine Stratum: (Plot size: 30) Hydrophytic Vegetation Problematic Hydrophytic Vegetation (Explain) Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree —Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Woody vine — All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes No X	1. Glechoma hederacea	40	Y FACU	·
Solidago altissima 20	2. Urtica dioica	20		Problematic Hydrophytic Vegetation (Explain)
be present, unless disturbed or problematic. Definitions of Four Vegetation Strata: Tree —Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub — Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine — All woody vines greater than 3.28 ft in height. Woody vine — All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes No _X_	O Calidana alticaina			1 Indicators of hydric soil and wotland hydrology must
Definitions of Four Vegetation Strata: Tree -Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine - All woody vines greater than 3.28 ft in height. Woody Vine Stratum: (Plot size: 30) L	4.			
Tree –Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Woody vine – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes No _X	5.			
Tree –Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/Shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum: (Plot size: 30) Woody Vine Stratum: (Plot size: 30) Hydrophytic Vegetation Present? Yes No _X	6.			Definitions of Four Vegetation Strata:
Sapling/Shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum: (Plot size: 30) Woody Vine Stratum: (Plot size: 30) Hydrophytic Vegetation Present? Yes No _X				
Sapling/Shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vine – All woody vines greater than 3.28 ft in height. Woody Vine Stratum: (Plot size: 30) Hydrophytic Vegetation Present? Yes No _X				at breast height (DBH), regardless of height.
Herb – All herbaceous (non-woody) plants, regardless of size, and woody vine less than 3.28 ft tall. Woody Vine Stratum: (Plot size: 30) L	0			Sapling/Shrub - Woody plants less than 3 in. DBH
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Stratum: (Plot size: 30)	10	<u> </u>		and greater than or equal to 3.28 ft (1 m) tall.
Noody Vine Stratum: (Plot size: 30)	44			Herb – All herbaceous (non-woody) plants, regardless
80		-		of size, and woody plants less than 3.28 ft tall.
Moody Vine Stratum: (Plot size: 30)	12.			
Hydrophytic Sample Sampl		80	= Iotal Cover	height.
Hydrophytic Sample Sampl	Woody Vine Stratum: (Plot size: 30)			
	 ,			
Hydrophytic Vegetation	1.	-		
Vegetation Present? Yes No _X	2.			1 hadron fratio
	3.			
	4.			·
Remarks: (Include photo numbers here or on a separate sheet.)			= Iotal Cover	100 <u>X</u>
	Remarks: (Include photo numbers here or on a separate	e sheet.)		

Sampling Point:

Profile Desci	ription: (Describe to	the depth n	eeded to document	the indic	ator or co	nfirm the	absence of in	dicators.)			
Depth	Matrix		Red	ox Featur	es						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks		
0-20	10YR 2/2	100		0			Loamy Sand				
				_							
				_							
									_		
									_		
¹ Type: C=Co	ncentration, D=Deplet	ion, RM=Re	duced Matrix, MS=M	asked Sa	nd Grains.		² Location: PL=	Pore Lining, M	=Matrix.		
Hydric Soil I	ndicators:						Indicato	ors for Problen	natic Hydric Soils ³ :		
Histosol	(A1)		Polyvalue	Below Su	face (S8)	(LRR R,			LRR K, L, MLRA 149B)		
	ipedon (A2)		MLRA 149	•					ox (A16) (LRR K, L, R)		
Black His	stic (A3) n Sulfide (A4)		Thin Dark : Loamy Mu					m Mucky Peat (k Surface (S7)	or Peat (S3) (LRR K, L, R)		
	I Layers (A5)		Loamy Gle			KK K, L)			Surface (S8) (LRR K, L)		
	Below Dark Surface	(A11)	Depleted N	-					(S9) (LRR K, L)		
	ark Surface (A12)			Redox Dark Surface (F6) Iron-Manganese Masses (F12) (LRR K, L, R)							
	lucky Mineral (S1) leyed Matrix (S4)			Depleted Dark Surface (F7)							
	edox (S5)		Nedox Dep	Red Parent Material (F21)							
	Matrix (S6)			Very Shallow Dark Surface (TF12)							
Dark Sui	rface (S7) (LRR R, ML	RA 149B)					Oth	er (Explain in F	Remarks)		
³ Indicators of	hydrophytic vegetatio	n and wetla	nd hydrology must h	e nresent	unless dis	turhed or	nroblematic				
	ayer (if observed):	iii ana wetta	id Hydrology mast be	c present,	unicoo dio	itarbea or	problematic.				
Type:	ayer (ii observed).						Unadaia Cail	I D	V N- V		
Depth (inche	es):						Hydric Soil	i Present?	Yes No <u>X</u>		
Remarks:											

Project/Site: Benton Solar		City	y/County: Benton County		Sampling Date: <u>10/24/2022</u>	
Applicant/Owner: NextEra			;	State: MN	Sampling Point: DP21	
Investigator(s): Cole Reagan		Se	ection, Township, Range: S	Sec. 26 T36N I	R30W	
Landform (hillslope, terrace, etc.): D	rainageway	Loca	al relief (concave, convex,	none): <u>Conca</u>	slope (%):	<5%
Subregion (LRR or MLRA): MLRA 90)B , LRR K	Lat: <u>45.5852</u>	Long:	-94.0335	Datum:	
Soil Map Unit Name: 1023A - Seel	yeville and Marl	key soils, ponded, 0 to 1 p	ercent slopes	NWI classif	ication: PEM	
Are climatic / hydrologic conditions o	n the site typica	I for this time of year? Yes	X No	_(If no, explain	in Remarks.)	
Are Vegetation, Soil	_, or Hydrology	significantly distu	urbed? Are "Norma	al Circumstand	es" present? Yes X	10
Are Vegetation, Soil	_, or Hydrology	naturally problen	natic? (If needed,	explain any a	nswers in Remarks.)	
SUMMARY OF FINDINGS —	Attach site n	nap showing sampli	ng point locations, tr	ansects, in	portant features, etc.	
			In the Commissi Aven			
Hydrophytic Vegetation Present?	Yes:	X No:	Is the Sampled Area within a Wetland?		Yes X No	
Hydric Soil Present?	Yes:	X No:	Within a Wedana.		103 <u>X</u> 100 _	
Wetland Hydrology Present?	Yes:	X No:	If yes, optional Wetland	d Site ID:	WET11	
HYDROLOGY						
Wetland Hydrology Indicators:	,			<u>Secondary i</u>	ndicators (minimum of two re	<u>quired)</u>
Primary indicators (minimum of one	required: check	call that apply)		Surface	e Soil Cracks (B6)	
Surface Water (A1)		Water-Stained Leav	ves (B9)	X Draina	ge Patterns (B10)	
X High Water Table (A2)		Aquatic Fauna (B13			rim Lines (B16)	
X Saturation (A3)		Marl Deposits (B15	•	Dry-Se	ason Water Table (C2)	
Water Marks (B1)		Hydrogen Sulfide C	` '		h Burrows (C8)	
Sediment Deposits (B2)			eres on Living Roots (C3)	·	ion Visible on Aerial Imagery	(C9)
Drift Deposits (B3)		Presence of Reduc	• •	·	d or Stressed Plants (D1)	
Algal Mat or Crust (B4) X Iron Deposits (B5)		Thin Muck Surface	tion in Tilled Soils (C6)		orphic Position (D2) v Aquitard (D3)	
Inundation Visible on Aerial Im	agery (B7)	Other (Explain in R			pographic Relief (D4)	
Sparsely Vegetated Concave S	. , . ,	Other (Explain III IX	emarksy	· 	eutral Test (D5)	
Field Observations:						
Surface Water Present? Yes	No _X_ [Depth (inches):				
Water Table Present? Yes	No <u>X</u> [Depth (inches): 0				
Saturation Present? Yes	No <u>X</u> [Depth (inches): 0	Neetland Under	Janus Duaganti	O Voo V No	
(includes capillary fringe)			Wetland Hydro	logy Present	? Yes <u>X</u> No _	
Describe Recorded Data (stream ga	ເuge, monitoring	g well, aerial photos, previ	ous inspections), if availab	le:		
Remarks:						

Tree Stratum: (Plot size: 30)		Dominant Indicator	Dominance Test worksheet:
	% Cover	Species? Status	Number of Dominant Species
1.			That Are OBL, FACW, or FAC:3 (A)
<u>2</u> .			Total Number of Dominant
3.			Species Across All Strata:3 (B)
4.			Percent of Domant Species
<u>5.</u>			That Are OBL, FACW, or FAC: 100 (A/B)
<u>6.</u>			
7.			Prevalence Index worksheet:
	0	=Total Cover	Total % Cover of: Multiply by:
Sapling/Shrub Stratum: (Plot size: 15)			OBL species 20 x 1 = 20 FACW species 0 x 2 = 0
			FAC species 10 x 3 = 30
1.			FACU species 0 x 4 = 0
2.			UPL species 0 x 5 = 0
3.			Column Totals: 30 (A) 50 (B)
4.			Prevalence Index = B/A= 1.67
5.			1 Totaleffee mack - B// - 1.07
6.			Hydrophytic Vegetation Indicators:
7.			1 - Rapid test for Hydrophytic Vegetation
	0	=Total Cover	X 2 - Dominance Test is >50%
Herb Stratum: (Plot size: 5)			X 3 - Prevalence Index is ≤3.0 ¹ X 4 - Morphological Adaptations (Profice supporting
4 Fahiraahlaa awa walli	10	V FAC	data in Remarks or on a separate sheet)
1. Echinochloa crus-galli	10	Y FAC	Problematic Hydrophytic Vegetation (Explain)
2. Typha latifolia	10	Y OBL	1
3. Eleocharis palustris	10	Y OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4.			be present, unless disturbed of problematic.
5.			Definitions of Four Vegetation Strata:
6.			Tree –Woody plants 3 in. (7.6 cm) or more in diameter
7.			at breast height (DBH), regardless of height.
8.			Sapling/Shrub – Woody plants less than 3 in. DBH
9.			and greater than or equal to 3.28 ft (1 m) tall.
10.			Herb – All herbaceous (non-woody) plants, regardless
11.			of size, and woody plants less than 3.28 ft tall.
12.			Woody vine – All woody vines greater than 3.28 ft in
	30	=Total Cover	height.
Woody Vine Stratum: (Plot size: 30)			
1.			
2.			
3.			Hydrophytic
4.			Vegetation
· "	0	=Total Cover	Present? Yes X No
Remarks: (Include photo numbers here or on a separate	sneet.)		

Sampling Point:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix		Red	lox Featur	es					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-16	10YR 2/1	100		0			Clay	•		
16-24	10YR 4/2	98	10YR 4/6	2	С	М	Loamy Sand	•		
				_						
				_						
				_						
									_	
¹ Type: C=Co	ncentration, D=Deplet	ion. RM=Re	educed Matrix, MS=M	lasked Sa	nd Grains.		² Location: PL=	Pore Lining, M	=Matrix	
Hydric Soil I	·	,	adosa maan, me							
			Dobarduo	Dolow Cu	rface (S8)	/L DD D			natic Hydric Soils ³ :	
Histosol	(A1) pipedon (A2)		MLRA 149		nace (So)	(LKK K,			(LRR K, L, MLRA 149B) ox (A16) (LRR K, L, R)	
Black His	. ,			,	S9) (LRR F	R, MLRA			or Peat (S3) (LRR K, L, R)	
	n Sulfide (A4)		Loamy Mu	ıcky Minei	al (F1) (LR	RK, L)		k Surface (S7)		
	Layers (A5)		Loamy Gle						Surface (S8) (LRR K, L)	
	d Below Dark Surface ark Surface (A12)	(A11)	Depleted I Redox Da						(S9) (LRR K, L) Masses (F12) (LRR K, L, R)	
	lucky Mineral (S1)		Redox Da					=	ain Soils (F19) (MLRA 149B)	
	leyed Matrix (S4)		Redox De					•	6) (MLRA 144A, 145, 149B)	
	edox (S5)						Red	Red Parent Material (F21)		
	Matrix (S6)						Very Shallow Dark Surface (TF12)			
Dark Sur	rface (S7) (LRR R, ML	.RA 149B)					Oth	er (Explain in F	Remarks)	
³ Indicators of	hydrophytic vegetation	n and wetla	and hydrology must h	e nresent	unless dis	turhed or	nrohlematic			
	ayer (if observed):	Traile Troub	a, a. o.logyaot 2	о різостії			problemation			
Type:	ayer (ii observeu).									
Depth (inche	es):						Hydric Soi	I Present?	Yes <u>X</u> No	
Remarks:	,									
Remaiks.										

Project/Site: Benton Solar		Cit	y/County: Benton C	County	Sampling Date:	10/24/2022		
Applicant/Owner: NextEra			State: MN	Sampling Point:	DP22			
Investigator(s): Cole Reagan		Se	ection, Township, Ra	ange: <u>Sec. 26 T36N I</u>	R30W			
Landform (hillslope, terrace, etc.): Dra	ıinageway	Loca	al relief (concave, co	onvex, none): Conve	ex	_Slope (%): <5%		
Subregion (LRR or MLRA): MLRA 90E	3, LRR K	Lat: 45.5852		Long: <u>-94.0336</u>		Datum:		
Soil Map Unit Name: 1023A - Seelye	eville and Marke	y soils, ponded, 0 to 1 p	ercent slopes	NWI classifi	cation: <u>No</u>			
Are climatic / hydrologic conditions on	the site typical fo	or this time of year? Yes	<u> </u>	(If no, explain	in Remarks.)			
Are Vegetation, Soil	, or Hydrology _	significantly distu	urbed? Are	"Normal Circumstand	es" present? Y	es <u>X</u> No		
Are Vegetation, Soil	, or Hydrology _	naturally problen	natic? (If n	eeded, explain any ar	nswers in Remar	ks.)		
SUMMARY OF FINDINGS — A	ttach site ma	p showing sampli	ng point locatio	ns, transects, in	portant featu	ıres, etc.		
			Ic the Sampled	Aroa				
Hydrophytic Vegetation Present?	Yes:	No: X	Is the Sampled within a Wetlan		Yes	No X		
Hydric Soil Present?	Yes:	No:X	Within a Wellan		103	NO _X_		
Wetland Hydrology Present?	Yes:	No: X	If yes, optional \	Wetland Site ID:		WET11		
HYDROLOGY								
Wetland Hydrology Indicators:				<u>Secondary i</u>	ndicators (minim	um of two required)		
Primary indicators (minimum of one r	equired: check a	ll that apply)		Surface	e Soil Cracks (B6)		
Surface Water (A1)	ves (B9)	Drainage Patterns (B10)						
High Water Table (A2)	_	Aquatic Fauna (B13 Marl Deposits (B15	-	Moss Trim Lines (B16)				
Saturation (A3)	Dry-Season Water Table (C2)							
Water Marks (B1)	_	Hydrogen Sulfide C						
Sediment Deposits (B2)	=	Oxidized Rhizosph	=	- · · · —				
Drift Deposits (B3)	-	Presence of Reduc		· · · · · · · · · · · · · · · · · · ·				
Algal Mat or Crust (B4)	-	Recent Iron Reduct	-	· · · — · · · · · · · · · · · · · · · ·				
Iron Deposits (B5)		Thin Muck Surface		Shallow Aquitard (D3)				
Inundation Visible on Aerial Imag Sparsely Vegetated Concave Su	·	Other (Explain in R	emarks)	s) Microtopographic Relief (D4) FAC-Neutral Test (D5)				
	mace (Bo)			FAC-N	editai lest (D3)			
Field Observations:	N V 5	4.6.1.						
	_ No <u>X</u> De							
-	No X De							
	No X De	pth (inches):	Wetland	Hydrology Present	? Yes	No X		
(includes capillary fringe)						 · 		
Describe Recorded Data (stream gau	ige, monitoring w	<i>l</i> eii, aeriai priotos, previ	ous inspections), if a	avallable:				
Remarks:								

<u>Tree Stratum:</u> (Plot size: <u>30</u>)	Absolute Dominant Indicator	Dominance Test worksheet:
1	% Cover Species? Status	Number of Dominant Species
2.		That Are OBL, FACW, or FAC: 0 (A)
<u>2.</u> 3.		Total Number of Dominant
		Species Across All Strata:1 (B)
		Percent of Domant Species
5.		That Are OBL, FACW, or FAC: 0 (A/B)
<u>6.</u>		Barralana Indonesialahari
<u>7.</u>		Prevalence Index worksheet: Total % Cover of: Multiply by:
	0 =Total Cover	Total % Cover of: Multiply by: OBL species 0 x 1 = 0
Sapling/Shrub Stratum: (Plot size: 15)		FACW species 0 x 2 = 0
1.		FAC species 0 x 3 = 0
0		FACU species 0 x 4 = 0
		UPL species 90 x 5 = 450
3.		Column Totals: 90 (A) 450 (B)
4.		Prevalence Index = B/A= 5.00
5.		Frevalence index – B/A- 3.00
6.		Hydrophytic Vegetation Indicators:
<u>7.</u>		1 - Rapid test for Hydrophytic Vegetation
	0 =Total Cover	2 - Dominance Test is >50%
		3 - Prevalence Index is ≤3.0 ¹
<u>Herb Stratum:</u> (Plot size: <u>5</u>)		4 - Morphological Adaptations ¹ (Profice supporting
1. Setaria viridis	90 Y UPL	data in Remarks or on a separate sheet)
2.		Problematic Hydrophytic Vegetation (Explain)
3.		¹ Indicators of hydric soil and wetland hydrology must
4.		be present, unless disturbed or problematic.
5.		Definitions of Four Vegetation Strate.
6.		Definitions of Four Vegetation Strata:
7.		Tree –Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.		at breast height (DBH), regardless of height.
9.		Sapling/Shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10		and greater than or equal to 3.28 it (1 iii) tail.
44		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.		of size, and woody plants less than 3.26 it tall.
12.	90 =Total Cover	Woody vine – All woody vines greater than 3.28 ft in
		height.
Woody Vine Stratum: (Plot size: 30)		
1.		
2.		
3.		Hydrophytic
4.		Vegetation
4.	0 =Total Cover	Present? Yes No X
Remarks: (Include photo numbers here or on a separate	e sheet.)	

Sampling Point:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix		Red	ox Featur	es					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks	
0-20	10YR 2/2	100		0			Loam			
								_		
		·								
		· _								
		· -								
¹ Type: C=Co	ncentration, D=Deplet	ion, RM=Red	duced Matrix, MS=M	asked Sa	nd Grains.		² Location: PL=	Pore Lining, M	=Matrix.	
Hydric Soil I	ndicators:						Indicato	rs for Problen	natic Hydric Soils ³ :	
Histosol	` '		Polyvalue		rface (S8)	(LRR R,			(LRR K, L, MLRA 149B)	
	ipedon (A2)		MLRA 149		20) (I DD F				ox (A16) (LRR K, L, R)	
Black His	n Sulfide (A4)		Thin Dark Loamy Mu					п миску Реат (k Surface (S7)	or Peat (S3) (LRR K, L, R)	
	Layers (A5)		Loamy Gle			, _,			Surface (S8) (LRR K, L)	
	Below Dark Surface	(A11)	Depleted N	٠,					(S9) (LRR K, L)	
	rk Surface (A12)		Redox Dar				·	-	Masses (F12) (LRR K, L, R)	
	lucky Mineral (S1) leyed Matrix (S4)		Depleted [Redox Dep					-	ain Soils (F19) (MLRA 149B) b) (MLRA 144A, 145, 149B)	
	edox (S5)		Redox Be	0100010110	(1 0)			d Parent Materi		
Stripped	Matrix (S6)						Very Shallow Dark Surface (TF12)			
Dark Sur	face (S7) (LRR R, ML	.RA 149B)					Oth	er (Explain in F	Remarks)	
³ Indicators of	hydrophytic vegetatio	n and wetlar	nd hydrology must be	e present,	unless dis	turbed or _l	problematic.			
Restrictive L	ayer (if observed):									
Type:							Hydric Soil	Present?	Yes No X	
Depth (inche	es):						,			
Remarks:										

Project/Site: Benton Solar		City	//County: Benton County		Sampling Date: <u>10/25/2022</u>		
Applicant/Owner: NextEra				State: MN	Sampling Point: DP25		
Investigator(s): Cole Reagan		Se	ection, Township, Range:	Sec. 24 T36N	R30W		
Landform (hillslope, terrace, etc.): Sw	<i>i</i> ale	Loca	al relief (concave, convex,	none): None	Slope (%): <5%		
Subregion (LRR or MLRA): MLRA 901		Lat: 45.5965		-94.0182	Datum:		
Soil Map Unit Name: C71C - Milaca							
Are climatic / hydrologic conditions on				_` '	n in Remarks.)		
Are Vegetation X, Soil					ces" present? YesNoX_		
Are Vegetation, Soil				-	nswers in Remarks.)		
SUMMARY OF FINDINGS — A	ittach site r	map showing samplir	ng point locations, ti	ransects, in	nportant features, etc.		
Libraria di Manadadia Burana 190	\/·	V No.	Is the Sampled Area				
Hydrophytic Vegetation Present? Hydric Soil Present?		X No:	within a Wetland?		Yes <u>X</u> No		
Wetland Hydrology Present?		X No:	If yes, optional Wetland	d Site ID:	WET13		
Remarks: (Explain alternative proced			1				
HYDROLOGY							
Wetland Hydrology Indicators:				Secondary i	indicators (minimum of two required)		
Primary indicators (minimum of one	required: chec	ck all that apply)		Surface	e Soil Cracks (B6)		
Surface Water (A1)		Water-Stained Leav		Drainage Patterns (B10)			
High Water Table (A2)		Aquatic Fauna (B13		Moss Trim Lines (B16)			
Saturation (A3)		Marl Deposits (B15)		Dry-Season Water Table (C2)			
Water Marks (B1) Sediment Deposits (B2)		Hydrogen Sulfide O	eres on Living Roots (C3)	Crayfish Burrows (C8)			
Sediment Deposits (B2) Drift Deposits (B3)		Oxidized Rhizosphe	=	- · · · —			
Algal Mat or Crust (B4)			ion in Tilled Soils (C6)	· ·			
Iron Deposits (B5)		Thin Muck Surface (Shallow Aquitard (D3)			
Inundation Visible on Aerial Ima	gery (B7)	Other (Explain in Re	emarks)				
Sparsely Vegetated Concave Si	urface (B8)			X FAC-N	eutral Test (D5)		
Field Observations:							
Surface Water Present? Yes	NoX	Depth (inches):					
Water Table Present? Yes	No X	Depth (inches):	<u> </u>				
Saturation Present? Yes	No X	Depth (inches):		Duccout	9 V V No		
(includes capillary fringe)			Wetland Hydro	ology Present	? Yes <u>X</u> No		
Describe Recorded Data (stream gau	uge, monitorin	ig well, aerial photos, previo	ous inspections), if availab	ile:			
Remarks:							
Nomano.							

Tree Stratum: (Plot size: 30)		Dominant Indicator	Dominance Test worksheet:
1	% Cover	Species? Status	Number of Dominant Species
<u>1.</u> 2.			That Are OBL, FACW, or FAC: 0 (A)
			Total Number of Dominant
3.		·	Species Across All Strata: 1 (B)
4.			Percent of Domant Species
5.			That Are OBL, FACW, or FAC: 0 (A/B)
6.			
7.			Prevalence Index worksheet: Total % Cover of: Multiply by:
	0	=Total Cover	OBL species 0 x 1 = 0
Sapling/Shrub Stratum: (Plot size: 15)			FACW species 0 x 2 = 0
1.			FAC species 0 x 3 = 0
2.			FACU species 0 x 4 = 0
3.			UPL species 80 x 5 = 400
4.			Column Totals:80 (A)400 (B)
_			Prevalence Index = B/A= 5.00
<u>5.</u> 6.			
-		·	Hydrophytic Vegetation Indicators:
7.			1 - Rapid test for Hydrophytic Vegetation
	0	=Total Cover	2 - Dominance Test is >50%
Harb Stratum: (Blat size: E)			3 - Prevalence Index is ≤3.0 ¹
Herb Stratum: (Plot size: 5)			4 - Morphological Adaptations ¹ (Profice supporting data in Remarks or on a separate sheet)
1. Glycine max	80	Y UPL	X Problematic Hydrophytic Vegetation (Explain)
<u>2.</u>			Toblemane rijaroprijae regendaen (zipiani)
3.			¹ Indicators of hydric soil and wetland hydrology must
4.			be present, unless disturbed or problematic.
5.			Definitions of Four Vegetation Strata:
6.			
7.			Tree –Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.			
9.			Sapling/Shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10.			
11.			Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.			
	80	=Total Cover	Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum: (Plot size: 30)			
1.			
2.			
3.			Hydrophytic
4.			Vegetation
	0	=Total Cover	Present? Yes X No
Remarks: (Include photo numbers here or on a separate	sheet.) Agricultura	ıl wetland. Vegetation i	s planted

Sampling Point:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix		Red	lox Featur	es					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks		
0-20	10YR 2/1	98	10YR 4/6	2	С	MP	Sandy Clay Loam			
				_						
		. ——— -								
	-	·		_						
					· ——					
				_						
¹Type: C=Co	oncentration, D=Deplet	ion, RM=Re	duced Matrix, MS=N	lasked Sa	nd Grains.		² Location: PL=	Pore Lining, M=Matrix.		
Hydric Soil	Indicators:						Indicato	ors for Problematic Hydric Soils ³ :		
Histosol			Polyvalue		rface (S8)	(LRR R,		m Muck (A10) (LRR K, L, MLRA 149B)		
	pipedon (A2) istic (A3)		MLRA 149 Thin Dark	-	S0) (I DD E	MIDA 1	· · · · · · · · · · · · · · · · · · ·	ast Prairie Redox (A16) (LRR K, L, R) m Mucky Peat or Peat (S3) (LRR K, L, R)		
	en Sulfide (A4)		Loamy Mu					k Surface (S7) (LRR K, L)		
	d Layers (A5)		Loamy Gle	eyed Matri	x (F2)			yvalue Below Surface (S8) (LRR K, L)		
	d Below Dark Surface	(A11)	Depleted I				· · · · · · · · · · · · · · · · · · ·	n Dark Surface (S9) (LRR K, L)		
	ark Surface (A12) Mucky Mineral (S1)		X Redox Da Depleted I					n-Manganese Masses (F12) (LRR K, L, R) dmont Floodplain Soils (F19) (MLRA 149B)		
	Gleyed Matrix (S4)		Redox De					sic Spodic (TA6) (MLRA 144A, 145, 149B)		
	Redox (S5)							d Parent Material (F21)		
	l Matrix (S6) ırface (S7) (LRR R, ML	DA 140D)					Very Shallow Dark Surface (TF12) Other (Explain in Remarks)			
Dark Su	mace (57) (LRR R, ML	.KA 149D)					001	er (Explain in Remarks)		
³ Indicators o	f hydrophytic vegetatio	n and wetla	nd hydrology must b	e present,	unless dis	turbed or	problematic.			
	Layer (if observed):									
Type: Depth (inch	oc).						Hydric Soil	Present? Yes X No		
	es)									
Remarks:										

Project/Site: Benton Solar		City	County: Benton County		Sampling Date: 1	0/25/2022	
Applicant/Owner: NextEra				State: MN	Sampling Point: [)P26	
Investigator(s): Cole Reagan		Sec	ction, Township, Range:	Sec. 24 T36N	R30W		
Landform (hillslope, terrace, etc.):		Local	relief (concave, convex,	none):	:	Slope (%): <5%	
Subregion (LRR or MLRA): MLRA 90	B , LRR K	Lat: 45.5965	Long:	-94.0183	Da	atum:	
Soil Map Unit Name: C71C - Milaci	a-Mora complex,	1 to 7 percent slopes, sto	ony	NWI classif	ication: <u>No</u>		
Are climatic / hydrologic conditions or	the site typical fo	or this time of year? Yes	X No	(If no, explain	in Remarks.)		
Are Vegetation, Soil	, or Hydrology	significantly distur	bed? Are "Norm	– al Circumstano	ces" present? Yes	x No	
Are Vegetation, Soil				explain any a	nswers in Remarks)	
SUMMARY OF FINDINGS —	Attach site ma	up showing samplin	a point locations, ti	ansects. in	nportant feature	es. etc.	
		<u> </u>	<u> </u>				
Hydrophytic Vegetation Present?	Yes:	No: X	Is the Sampled Area		V	N- V	
Hydric Soil Present?	Yes:		within a Wetland?		Yes	No <u>X</u>	
Wetland Hydrology Present?	Yes:	No: X	If yes, optional Wetland	d Site ID:	W	/ET13	
Remarks: (Explain alternative proce			, , ,		·		
HYDROLOGY							
Wetland Hydrology Indicators:				Secondary i	indicators (minimun	n of two required)	
Primary indicators (minimum of one	required: check a	all that apply)			e Soil Cracks (B6)		
Surface Water (A1)	_	Water-Stained Leave	es (B9)	Draina	ge Patterns (B10)		
High Water Table (A2)	_	Aquatic Fauna (B13))	Moss T	rim Lines (B16)		
Saturation (A3)	=		Dry-Se	ason Water Table (C2)		
Water Marks (B1)	_	Hydrogen Sulfide Od		· · · · · · · · · · · · · · · · · · ·			
Sediment Deposits (B2)	_	Oxidized Rhizosphe		- · · · —			
Drift Deposits (B3)	-	Presence of Reduce		· ·			
Algal Mat or Crust (B4)	-		on in Tilled Soils (C6)	· · · — · · · · · · · · · · · · · · · ·			
Iron Deposits (B5)	_ -	Thin Muck Surface (•	Shallow Aquitard (D3)			
Inundation Visible on Aerial Ima Sparsely Vegetated Concave S	• , , ,	Other (Explain in Re	marks)	s) Microtopographic Relief (D4) FAC-Neutral Test (D5)			
	unace (Bo)		-	FAC-N	euliai iesi (D5)		
Field Observations:							
	No <u>X</u> De						
<u> </u>	No <u>X</u> De						
	No <u>X</u> De	epth (inches):	Wetland Hydro	ology Present	? Yes	No X	
(includes capillary fringe)			-			-	
Describe Recorded Data (stream ga	.uge, monitoring w	veii, aeriai pnotos, previo	us inspections), if availab	ile:			
Remarks:							

<u>Tree Stratum:</u> (Plot size: <u>30</u>)	Absolute Dominant Indicator	Dominance Test worksheet:
1	% Cover Species? Status	Number of Dominant Species
2.		That Are OBL, FACW, or FAC: 0 (A)
<u>2.</u> 3.	· — — — — —	Total Number of Dominant
	· — — — — —	Species Across All Strata: (B)
<u>4.</u> 5.	· — — — — —	Percent of Domant Species
<u>5.</u> 6.		That Are OBL, FACW, or FAC: 0 (A/B)
	· ————————————————————————————————————	Prevalence Index worksheet:
<u>7.</u>	O Total Cover	Total % Cover of: Multiply by:
	0 =Total Cover	OBL species 0 x 1 = 0
Sapling/Shrub Stratum: (Plot size: 15)		FACW species 0 x 2 = 0
1.		FAC species 0 x 3 = 0
0		FACU species 0 x 4 = 0
_		UPL species 80 x 5 = 400
<u>3.</u> 4.	·	Column Totals: 80 (A) 400 (B)
	· ————————————————————————————————————	Prevalence Index = B/A= 5.00
6.	· — — — — —	Hydrophytic Vegetation Indicators:
7.		1 - Rapid test for Hydrophytic Vegetation
	0 =Total Cover	2 - Dominance Test is >50%
Howh Ctrotume (Diet size, 5)		3 - Prevalence Index is ≤3.0 ¹
Herb Stratum: (Plot size: <u>5</u>)		4 - Morphological Adaptations ¹ (Profice supporting data in Remarks or on a separate sheet)
1. Glycine max	80YUPL	Problematic Hydrophytic Vegetation (Explain)
2.		1 Toblematic Hydrophytic Vegetation (Explain)
3.	·	¹ Indicators of hydric soil and wetland hydrology must
4.		be present, unless disturbed or problematic.
5.		Definitions of Four Vegetation Strata:
6.		-
7.		Tree –Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.		
9.		Sapling/Shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10.		
11.		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.		
	80 =Total Cover	Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum: (Plot size: 30)		
1.		
2.	· ————————————————————————————————————	Undranhutia
3.		Hydrophytic Vegetation
4.	O Total Cover	Present? Yes No X
	0 =Total Cover	1.000
Remarks: (Include photo numbers here or on a separate	e sheet.)	

Sampling Point:

Profile Desci	ription: (Describe to	the depth n	eeded to document	the indic	ator or co	nfirm the	absence of in	dicators.)	
Depth	Matrix		Red	ox Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-20	10YR 2/2	100		0			Loamy Sand		
				_					
				_					
									_
									_
¹ Type: C=Co	ncentration, D=Deplet	ion, RM=Re	duced Matrix, MS=M	asked Sa	nd Grains.		² Location: PL=	Pore Lining, M	=Matrix.
Hydric Soil I	ndicators:						Indicato	ors for Problen	natic Hydric Soils ³ :
Histosol	(A1)		Polyvalue	Below Su	face (S8)	(LRR R,			LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149	•					ox (A16) (LRR K, L, R)
Black His	stic (A3) n Sulfide (A4)		Thin Dark : Loamy Mu					m Mucky Peat (k Surface (S7)	or Peat (S3) (LRR K, L, R)
	I Layers (A5)		Loamy Gle			KK K, L)			Surface (S8) (LRR K, L)
	Below Dark Surface	(A11)	Depleted N	-					(S9) (LRR K, L)
	ark Surface (A12)		Redox Dar					-	Masses (F12) (LRR K, L, R)
	lucky Mineral (S1) leyed Matrix (S4)		Depleted D						ain Soils (F19) (MLRA 149B) (6) (MLRA 144A, 145, 149B)
	edox (S5)		Nedox Dep	5103310113	(1 0)			d Parent Materi	
	Matrix (S6)								Surface (TF12)
Dark Sui	rface (S7) (LRR R, ML	RA 149B)					Oth	er (Explain in F	Remarks)
³ Indicators of	hydrophytic vegetatio	n and wetla	nd hydrology must h	e nresent	unless dis	turhed or	nroblematic		
	ayer (if observed):	iii ana wetta	id Hydrology mast be	c present,	unicoo dio	itarbea or	problematic.		
Type:	ayer (ii observed).						Unadaia Cail	I D	V N- V
Depth (inche	es):						Hydric Soil	i Present?	Yes No <u>X</u>
Remarks:									

Project/Site: Benton Solar	City/County: Benton County Sampling Date: 06/06/2023
Applicant/Owner: NextEra	State: MN Sampling Point: DP27
Investigator(s): Cole Reagan	Section, Township, Range: Sec. 26 T36N R30W
Landform (hillslope, terrace, etc.): Flood Plain Lo	ocal relief (concave, convex, none): None Slope (%): <5%
Subregion (LRR or MLRA): MLRA 90B , LRR K Lat: 45.583	3393 Long: -94.035347 Datum:
Soil Map Unit Name: D7B - Hubbard loamy sand, 2 to 6 percent slopes	NWI classification: PFO
Are climatic / hydrologic conditions on the site typical for this time of year? You	es X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly dis	sturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation X , Soil , or Hydrology naturally proble	ematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS — Attach site map showing samp	ling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes: X No:	Is the Sampled Area
Hydric Soil Present? Yes: X No:	– within a Wetland? Yes X No
Wetland Hydrology Present? Yes: X No:	If yes, optional Wetland Site ID: WET14
Remarks: (Explain alternative procedures here or in a separate report.) PFC to the proximity to the floodplain and resulting sparse vegetation.	OA wetland within floodplain of Elk River. Vegetation is naturally problematic due
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary indicators (minimum of two required)
Primary indicators (minimum of one required: check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Le	eaves (B9) Drainage Patterns (B10)
X High Water Table (A2) Aquatic Fauna (B	Moss Trim Lines (B16)
X Saturation (A3) — Marl Deposits (B1	15) Dry-Season Water Table (C2)
Water Marks (B1) X Hydrogen Sulfide	Odor (C1) Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized Rhizosp	pheres on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Redu	uced Iron (C4) Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4) Recent Iron Redu	uction in Tilled Soils (C6) X Geomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surfac	ce (C7) Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain in	Remarks) Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _X Depth (inches):	
Water Table Present? Yes X No Depth (inches):	0
Saturation Present? Yes X No Depth (inches):	0
(includes capillary fringe)	Wetland Hydrology Present? Yes X No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	vious inspections), if available:
Remarks:	

<u>Tree Stratum:</u> (Plot size: <u>30</u>)		Dominant Species?		Dominance Test v	worksheet:			
1. Acer saccharinum	40	Y	FACW	Number of Domina That Are OBL, FAC			3	(A)
2.								()
3.				Total Number of Dominant Species Across All Strata: 3		3	(B)	
4.				Percent of Domani	t Snacias			
5.				That Are OBL, FAC			100	(A/B)
6.								
<u>7.</u>				Prevalence Index				
	40	=Total Cov	ver	Total % Cov			ultiply by:	
Sapling/Shrub Stratum: (Plot size: 15)				OBL species	1.45	x 1 =	200	
	_			FACW species FAC species	145 0	x 2 = x 3 =	<u>290</u>	
1. Betula nigra	5	<u> </u>	FACW	FACU species	0	x 4 =	0	
2.				UPL species	0	x 5 =	0	
3.				Column Totals:	145	(A)	290	(B)
4.				Prevalence In		()	2.00	` /
5.				Frevalence in	uex – b/A–		2.00	
6.				Hydrophytic Vege	etation Indic	ators:		
7.				1 - Rapid tes		-	getation	
	5	=Total Co	ver .	X 2 - Dominan				
Herb Stratum: (Plot size: 5)				X 3 - Prevalen				
`` <u>-</u>				4 - Morpholo data in Rem				pporting
1. Phalaris arundinacea	90	Y	FACW	X Problematic		•	•	in)
2. Onoclea sensibilis	10	N	FACW	<u> </u>	, a. op . , a.o	rogota	(=/\pi	,
3.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
4.				be present, unless	disturbed or	probler	natic.	
<u>5.</u>				Definitions of Fo	ur Vegetatio	on Strat	a:	
<u>6.</u>				Tree –Woody plai	nte 3 in <i>(</i> 7.6	cm) or i	more in dis	emeter
7.				at breast height ([anietei
8.				Sapling/Shrub –	Woody nlan	te lees tl	han 3 in Γ)BH
9.				and greater than	or equal to 3	.28 ft (1	m) tall.	,511
10.				Herb – All herbac	eous (non-w	a (vboo	lants, rega	ardless
11.				of size, and wood				
12.				Woody vine – All	woody vine	s areate	r than 3.28	3 ft in
	100	=Total Cov	ver .	height.	,	J		
Woody Vine Stratum: (Plot size: 30)								
1								
2.								
3.				Hydrophytic				
4.	0	=Total Cov	· · ·	Vegetation Present?		Yes _>	(No	
		- 10tai C0	vei	i resenti		<u>, , , , , , , , , , , , , , , , , , , </u>		
Remarks: (Include photo numbers here or on a separate sheet	.) Sparsery v	egetateu c	oncave sun	асе жили пооцралт				

Sampling Point:

Profile Desci	ription: (Describe to t	he depth no	eeded to document	t the indic	ator or co	nfirm the	absence of in	dicators.)	
Depth	Matrix		Red	ox Feature	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-20	10YR 2/1	90	10YR 5/6	10	C	MP	Clay Loam	-	_
								-	
				_					
									_
								-	
									_
¹ Type: C=Co	ncentration, D=Depleti	on, RM=Red	duced Matrix, MS=M	lasked Sai	nd Grains.		² Location: PL=	Pore Lining, M	=Matrix.
Hydric Soil I	ndicators:						Indicato	ors for Problen	natic Hydric Soils ³ :
Histosol	` '		Polyvalue		face (S8) ((LRR R,			LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149	-					ox (A16) (LRR K, L, R)
Black His	stic (A3) n Sulfide (A4)		Thin Dark Loamy Mu					т миску Реат (k Surface (S7)	or Peat (S3) (LRR K, L, R)
	Layers (A5)		Loamy Gle			, _,			Surface (S8) (LRR K, L)
	l Below Dark Surface (A11)	Depleted N						(S9) (LRR K, L)
	ark Surface (A12)		X Redox Da						Masses (F12) (LRR K, L, R)
	lucky Mineral (S1) leyed Matrix (S4)		Depleted [Redox De		. ,				ain Soils (F19) (MLRA 149B) (6) (MLRA 144A, 145, 149B)
	edox (S5)		Redox De	pressions	(1-0)			d Parent Materi	
Stripped	Matrix (S6)								Surface (TF12)
Dark Sur	rface (S7) (LRR R, ML	RA 149B)					Oth	er (Explain in F	Remarks)
³ Indicators of	hydrophytic vegetatio	n and wetlar	nd hydrology must b	e present,	unless dis	turbed or	problematic.		
Restrictive L	ayer (if observed):								
Type:							Hydric Soi	I Present?	Yes X No
Depth (inche	es):						.,,		
Remarks:									

Project/Site: Benton Solar		City	/County: Benton County	/	Sampling Date: 0	06/06/2023	
Applicant/Owner: NextEra			State: MN	Sampling Point:	DP28		
Investigator(s): Cole Reagan	Se	ction, Township, Range:	Sec. 26 T36N I	R30W			
Landform (hillslope, terrace, etc.): Flo	ood Plain	Loca	relief (concave, convex	, none): None		Slope (%): <5%	
Subregion (LRR or MLRA): MLRA 90)B , LRR K	Lat: 45.58345	56 Long	: -94.035232	D	atum:	
Soil Map Unit Name: <u>D7B - Hubba</u>	rd loamy sand, 2 t	to 6 percent slopes		NWI classif	ication: No		
Are climatic / hydrologic conditions or	n the site typical fo	or this time of year? Yes	XNo	(If no, explain	in Remarks.)		
Are Vegetation, Soil	_, or Hydrology _	significantly distu	rbed? Are "Norn	nal Circumstand	ces" present? Ye	s <u>X</u> No	
Are Vegetation, Soil				d, explain any a	nswers in Remark	s.)	
SUMMARY OF FINDINGS —				transects, in	nportant featur	res, etc.	
			 T		.		
Hydrophytic Vegetation Present?	Yes:	No: X	Is the Sampled Area	ı	Voo	No. V	
Hydric Soil Present?	Yes:		within a Wetland?		Yes	No <u>X</u> _	
Wetland Hydrology Present?	Yes:	No: X	If yes, optional Wetlar	nd Site ID:	\	WET14	
Remarks: (Explain alternative proce	duras bars ar in a	concrete report)	1		<u> </u>		
HYDROLOGY							
Wetland Hydrology Indicators:				Secondary i	ndicators (minimu	m of two required)	
Primary indicators (minimum of one	required: check a	all that apply)		Surface	e Soil Cracks (B6)		
Surface Water (A1)	_	Water-Stained Leav	es (B9)	Draina	ge Patterns (B10)		
High Water Table (A2)	_	Aquatic Fauna (B13)	Moss T	rim Lines (B16)		
Saturation (A3)	-			ason Water Table	(C2)		
Water Marks (B1)	-	Hydrogen Sulfide O					
Sediment Deposits (B2)	-		res on Living Roots (C3)	- · · · 			
Drift Deposits (B3) Algal Mat or Crust (B4)	_	Presence of Reduce	on in Tilled Soils (C6)	· ·			
Iron Deposits (B5)	_	Recent from Reducti Thin Muck Surface (illed Soils (C6) Geomorphic Position (D2) Shallow Aquitard (D3)			
Inundation Visible on Aerial Ima	agery (B7)	Other (Explain in Re	· •				
Sparsely Vegetated Concave S	· · · · -		,		eutral Test (D5)	,	
Field Observations:							
	No X De	enth (inches):					
	No <u>X</u> De						
	No <u>X</u> De	· · · · · · · · · · · · · · · · · · ·					
(includes capillary fringe)	_ No <u>X</u> Be	.pur (mones).	Wetland Hydi	rology Present	? Yes _	NoX	
Describe Recorded Data (stream ga	auge, monitoring w	vell. aerial photos, previo	us inspections). if availa	.ble:			
	3, 3	, ,, ,	.,, .,,				
Remarks:							
Remarks.							

<u>Tree Stratum:</u> (Plot size: <u>30</u>)		Dominant Species?		Dominance Test worksheet:		
1. Acer saccharinum	40	Y	FACW	Number of Dominant Species		
2. Quercus alba	20	Y	FACU	That Are OBL, FACW, or FAC:	2 (A	4)
3. Quercus macrocarpa	20	Y	FACU	Total Number of Dominant		
			FACO	Species Across All Strata:	6 (E	3)
4.				Percent of Domant Species		>
5.				That Are OBL, FACW, or FAC:	33(A	VB)
6.				Duevalance Index weatherest.	-	
7.				Prevalence Index worksheet: Total % Cover of:	Multiply by:	
	80	=Total Cov	/er		Multiply by: 1 = 0	_
Sapling/Shrub Stratum: (Plot size: 15)				· —	2 = 80	_
				· —	3 = 60	_
1.				· —	4 = 400	_
2.				· —	5 = 0	_
3.				Column Totals: 160 (A		— (B)
4.						_ (=)
5.				Prevalence Index = B/A=	3.38	_
6.				Hydrophytic Vegetation Indicato	ors:	
7.				1 - Rapid test for Hydrophytic	ic Vegetation	
	0	=Total Cov	/er	2 - Dominance Test is >50%)	
				3 - Prevalence Index is ≤3.0	,1	
<u>Herb Stratum:</u> (Plot size: <u>5</u>)				4 - Morphological Adaptation	ns ¹ (Profice supp	orting
1. Glechoma hederacea	40	Υ	FACU	data in Remarks or on a sep	•	
2. Urtica dioica	20	Y	FAC	Problematic Hydrophytic Veg	getation (Explain))
3. Solidago altissima	20		FACU	¹ Indicators of hydric soil and wetla	and hydrology mu	st
4.				be present, unless disturbed or pro	oblematic.	51
5.						
6.				Definitions of Four Vegetation S	Strata:	
				Tree –Woody plants 3 in. (7.6 cm)		eter
<u>7.</u> 8.				at breast height (DBH), regardless	s of height.	
0				Sapling/Shrub – Woody plants le	ess than 3 in. DBI	Н
10				and greater than or equal to 3.28	ft (1 m) tall.	
10.				Herb – All herbaceous (non-wood	dy) plants, regard	less
11.				of size, and woody plants less tha	ın 3.28 ft tall.	
12.				Woody vine – All woody vines gro	eater than 3.28 ft	in in
	80	=Total Cov	/er	height.		
Woody Vine Stratum: (Plot size: 30)						
\						
1.						
2.						
3.				Hydrophytic		
4.				Vegetation Present? Yes	. No V	
	0	=Total Cov	/er	Present? Yes	s No <u>X</u>	-
Remarks: (Include photo numbers here or on a separate sh	neet.)					
	•					

Sampling Point:

Profile Desci	ription: (Describe to	the depth n	eeded to document	the indic	ator or co	nfirm the	absence of in	dicators.)	
Depth	Matrix		Red	ox Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-20	10YR 2/2	100		0			Loamy Sand		
				_					
				_					
									_
									_
¹ Type: C=Co	ncentration, D=Deplet	ion, RM=Re	duced Matrix, MS=M	asked Sa	nd Grains.		² Location: PL=	Pore Lining, M	=Matrix.
Hydric Soil I	ndicators:						Indicato	ors for Problen	natic Hydric Soils ³ :
Histosol	(A1)		Polyvalue	Below Su	face (S8)	(LRR R,			LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149	•					ox (A16) (LRR K, L, R)
Black His	stic (A3) n Sulfide (A4)		Thin Dark : Loamy Mu					m Mucky Peat (k Surface (S7)	or Peat (S3) (LRR K, L, R)
	I Layers (A5)		Loamy Gle			KK K, L)			Surface (S8) (LRR K, L)
	Below Dark Surface	(A11)	Depleted N	-					(S9) (LRR K, L)
	ark Surface (A12)		Redox Dar					-	Masses (F12) (LRR K, L, R)
	lucky Mineral (S1) leyed Matrix (S4)		Depleted D						ain Soils (F19) (MLRA 149B) (6) (MLRA 144A, 145, 149B)
	edox (S5)		Nedox Dep	5103310113	(1 0)			d Parent Materi	
	Matrix (S6)								Surface (TF12)
Dark Sui	rface (S7) (LRR R, ML	RA 149B)					Oth	er (Explain in F	Remarks)
³ Indicators of	hydrophytic vegetatio	n and wetla	nd hydrology must h	e nresent	unless dis	turhed or	nroblematic		
	ayer (if observed):	iii ana wetta	id Hydrology mast be	c present,	unicoo dio	itarbea or	problematic.		
Type:	ayer (ii observed).						Unadaia Cail	I D 40	V N- V
Depth (inche	es):						Hydric Soil	i Present?	Yes No <u>X</u>
Remarks:									

Investigator(s): Cole Reagan Section, Township, Range: Sec. 24 T36N R30W Landform (hillslope, terrace, etc.): Flood Plain Local relief (concave, convex, none): None Slope (%): <5% Subregion (LRR or MLRA): MLRA 90B, LRR K Lat: 45.597592 Long: -94.028008 Datum: Soil Map Unit Name: D30A - Seelyeville and Markey soils, depressional, 0 to 1 percent slopes Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.) Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes: X No: Hydric Soil Present? Yes: X No: Wettand Hydrology Present? Yes: X No: Wettand Hydrology Present? Yes: X No: Wettand Hydrology Present? Yes: X No: MET Sampled Area within a Wetland? Yes X No Hydrology Present? Yes: X No: Wetland Hydrology Present? Yes: X No: Wetland Hydrology Present? Yes: X No: MET Sampled Area within a Wetland? Yes X No Hydrology Present? Yes: X No: MET Sampled Area within a Wetland? Yes X No Hydrology Present? Yes: X No: MET Sampled Area within a Wetland? Yes X No Hydrology Present? Yes: X No: MET Sampled Area within a Wetland? Yes X No Hydrology Present? Yes: X No: MET Sampled Area within a Wetland? Yes X No Hydrology Present? Yes: X No: MET Sampled Area within a Wetland? Yes X No Hydrology Present? Yes: X No: MET Sampled Area within a Wetland? Yes X No Hydrology Present? Yes: X No: MET Sampled Area within a Wetland? Yes X No Hydrology Present? Yes: X No: MET Sampled Area within a Wetland? Yes X No Hydrology Present? Yes: X No: MET Sampled Area within a Wetland? Yes X No Hydrology Present? Yes: X No: MET Sampled Area within a Wetland? Yes X No Hydrology Present? Yes: MET Sampled Area within a Wetland? Yes X No Hydrology Present? Yes: MET Sampled Area within	Project/Site: Benton Solar City	City/County: Benton County Sampling Date: 06/06/2023						
Landform (hillslope, terrace, etc.): Flood Plain	Applicant/Owner: NextEra	State: MN	Sampling Point: DP29					
Solf Map Unit Name: D30A - Seetyeville and Markey soils, depressional, 0 to 1 percent slopes	Investigator(s): Cole Reagan Se	ection, Township, Range: Sec. 24 T36N	R30W					
Soil Map Unit Name: D30A - Seelyeville and Markey soils, depressional, 0 to 1 percent slopes Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.) Are Vegetation Soil or Hydrology significantly disturted? Are Normal Circumstances' present? Yes X No (If no, explain in Remarks.) SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes: X No: Standard Hydrology Indicators: Standard Hydrology Indicators (Explain alternative procedures here or in a separate report.) PEMC wetland HYDROLOGY Wetland Hydrology Indicators: Standard Hydrology Indicators: Standard Hydrology Indicators (Ininimum of one required: check all that apply) Standard Hydrology Indicators (Ininimum of one required: hydrology Indicators (Ininimum of one required: hydrology Indicators (Ininimum of one required) Standard Hydrology Indicators (Ininimum of one required: hydrology Explain Hydrology Indicators (Ininimum of one required) Standard Hydrology Indicators (Ininimum of one required) Standard Hydrology Indicators (Ininimum of one required) Standard Hydrology Indicators (Ininimum of one required Hydrology Indicators (Ininimum of one required Hydrology Presents (Ininimum of one required Hydrology Present? Yes X No Standard Hy	Landform (hillslope, terrace, etc.): Flood Plain Local	al relief (concave, convex, none): None	Slope (%): <5%					
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.) Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No Are Vegetation Soil or Hydrology analturally problematic? (If needed, explain any anawers in Remarks.) SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes: X No: If see Sampled Area within a Wetland? Yes: X No within a Wetland? Yes X No WET15 Wetland Hydrology Present? Yes: X No: If yes, optional Wetland Site ID: WET15 Wetland Hydrology Indicators: Secondary indicators (minimum of two required) Primary indicators (minimum of one required: check all that apply) Surface Soil Cracks (86) Surface Water (A1) Aquatic Fauna (813) Moss Trim Lines (816) Surface Water (A2) Aquatic Fauna (813) Moss Trim Lines (816) Math Deposits (815) Dry-Season Water Table (C2) Water Marks (81) Hydroposylogen Suffice Ordor (C1) Crayfish Burrows (C8) Sediment Deposits (82) Oxidized Rhizospheres on Living Roots (C3) Stunted or Stressed Plants (D1) Algal Mat or Crust (84) Recent Iron Reduction in Tilled Soils (C6) Shallow Aquitard (D3) Innudation Visible on Aerial Imagery (87) Other (Explain in Remarks) Water Table Present? Yes No X Depth (inches): Water Marks (P4) Yes No Depth (inches): Water Marks (P4) Yes No Depth (inches): Water Table Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Water Alpha Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Water	Subregion (LRR or MLRA): MLRA 90B , LRR K Lat: 45.5975	92 Long: <u>-94.028008</u>	Datum:					
Are VegetationSoilor Hydrologyaturally groblematic?	Soil Map Unit Name: D30A - Seelyeville and Markey soils, depressional, 0 to	o 1 percent slopes NWI classi	ification: PEM					
Are Vegetation, Soil, or Hydrology	Are climatic / hydrologic conditions on the site typical for this time of year? Yes	S X No (If no, explai	n in Remarks.)					
SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes: X No:	Are Vegetation, Soil, or Hydrologysignificantly distu	urbed? Are "Normal Circumstan	ices" present? Yes X No					
Hydrophytic Vegetation Present? Yes: X No:	Are Vegetation, Soil, or Hydrologynaturally problem	natic? (If needed, explain any a	answers in Remarks.)					
Hydrophytic Vegetation Present? Yes: X No: Within a Wetland? Yes X No Wetland Hydrology Present? Yes: X No: Wetland Hydrology Present? Yes: X No: If yes, optional Wetland Site ID: WET15 WET15 Remarks: (Explain alternative procedures here or in a separate report.) PEMC wetland Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)	SUMMARY OF FINDINGS — Attach site map showing sampling	ng point locations, transects, i	mportant features, etc.					
Hydrophytic Vegetation Present? Yes: X No: Within a Wetland? Yes X No Wetland Hydrology Present? Yes: X No: Wetland Hydrology Present? Yes: X No: If yes, optional Wetland Site ID: WET15 WET15 Remarks: (Explain alternative procedures here or in a separate report.) PEMC wetland Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)		Is the Sampled Area						
Hydric Soil Present? Yes: X No:	Hydrophytic Vegetation Present? Yes: X No:	•	Yes X No					
HYDROLOGY Wetland Hydrology Indicators: Primary indicators (minimum of two required: check all that apply) Surface Soil Cracks (B6) Surface Water (A1) High Water Table (A2) High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16) Sutration (A3) Moss Trim Lines (B16) Surface Soil Cracks (B6) Dry-Season Water Table (C2) Water Marks (B1) Saturation (A3) Moss Trim Lines (B16) Sutration (A3) Moss Trim Lines (B16) Surface Soil Cracks (B6) Dry-Season Water Table (C2) Crayfish Burrows (C8) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Sutration (C4) Surface Soil Cracks (B6) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation (C3) Surface Soil Cracks (B6) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation (C3) Surface Oxidized Rhizospheres on Living Roots (C3) Surface or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Hydric Soil Present? Yes: X No:		<u>—</u>					
HYDROLOGY Wetland Hydrology Indicators: Primary indicators (minimum of one required: check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Mand Deposits (B15) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Aglal Mat or Crust (B4) Agecent Iron Reduction in Tilled Soils (C6) Aglal Mat or Crust (B4) Agecent Iron Reduction in Tilled Soils (C6) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Marky (B1) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Wetland Hydrology Present? Yes: X No:	If yes, optional Wetland Site ID:	WET15					
HYDROLOGY Wetland Hydrology Indicators: Primary indicators (minimum of one required: check all that apply) Surface Water (A1) High Water Table (A2) Saturation (A3) Mand Deposits (B15) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3) Aglal Mat or Crust (B4) Agecent Iron Reduction in Tilled Soils (C6) Aglal Mat or Crust (B4) Agecent Iron Reduction in Tilled Soils (C6) Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Marky (B1) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Remarks: (Explain alternative procedures here or in a separate report.) PEMO	C wetland						
Wetland Hydrology Indicators: Secondary indicators (minimum of two required) Primary indicators (minimum of one required: check all that apply) Surface Soil Cracks (B6) Surface Water (A1) Water-Stained Leaves (B9) Drainage Patterns (B10) High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16) Saturation (A3) Marl Deposits (B15) 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 Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) X Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4) Sparsely Vegetated Concave Surface (B8) X FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes								
Primary indicators (minimum of one required: check all that apply) Surface Soil Cracks (B6) Surface Water (A1) Water-Stained Leaves (B9) Drainage Patterns (B10) High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16) Saturation (A3) Marl Deposits (B15) Dry-Season Water Table (C2) Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Drift Deposits (B3) Presence of Reduced Iron (C4) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Microtopographic Relief (D4) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	HYDROLOGY							
Surface Water (A1)	Wetland Hydrology Indicators:	<u>Secondary</u>	indicators (minimum of two required)					
High Water Table (A2)	Primary indicators (minimum of one required: check all that apply)	Surfac	ce Soil Cracks (B6)					
Saturation (A3) Marl Deposits (B15) 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 Imagery (C9) Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) Seconorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Microtopographic Relief (D4) Sparsely Vegetated Concave Surface (B8) Microtopographic Relief (D4) FAC-Neutral Test (D5) Surface Water Present? Yes No Depth (inches): Water Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches):	Surface Water (A1) Water-Stained Leav	ves (B9) Draina	age Patterns (B10)					
Water Marks (B1)	High Water Table (A2) Aquatic Fauna (B13	Moss						
Sediment Deposits (B2)		•						
Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1) Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) X Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4) Sparsely Vegetated Concave Surface (B8) X FAC-Neutral Test (D5) Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	<u> </u>	· · · — · ·	, ,					
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6)X Geomorphic Position (D2) Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4) Sparsely Vegetated Concave Surface (B8) X FAC-Neutral Test (D5) Field Observations: Surface Water Present? Yes NoX Depth (inches): Water Table Present? Yes NoX Depth (inches): Saturation Present? Yes NoX Depth (inches): Wetland Hydrology Present? Yes X No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	<u> </u>	- · · · 	- · · · —					
Iron Deposits (B5) Thin Muck Surface (C7) Shallow Aquitard (D3) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4) Sparsely Vegetated Concave Surface (B8) X FAC-Neutral Test (D5) Sparsely Vegetated Concave Surface (B8) X FAC-Neutral Test (D5) Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		· · ·	· ·					
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Microtopographic Relief (D4) Sparsely Vegetated Concave Surface (B8) X FAC-Neutral Test (D5) Sparsely Vegetated Concave Surface (B8) X FAC-Neutral Test (D5) Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	<u> </u>	· · · · —						
Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No _X _ Depth (inches): Water Table Present? Yes No _X _ Depth (inches): Saturation Present? Yes No _X _ Depth (inches): Wetland Hydrology Present? Yes X _ No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	1 — · · · · · · —	• •						
Field Observations: Surface Water Present? Yes No _X _ Depth (inches): Water Table Present? Yes No _X _ Depth (inches): Saturation Present? Yes No _X _ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		· · · · · · · · · · · · · · · · · · ·						
Surface Water Present? Yes No _X _ Depth (inches): Water Table Present? Yes No _X _ Depth (inches): Saturation Present? Yes No _X _ Depth (inches): (includes capillary fringe)	Field Observations:							
Water Table Present? Yes No X Depth (inches): Saturation Present? Yes No X Depth (inches): (includes capillary fringe) Wetland Hydrology Present? Yes X No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Saturation Present? Yes No X Depth (inches): Wetland Hydrology Present? Yes X No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
(includes capillary fringe) Wetland Hydrology Present? Yes X No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	·······/	Wetland Hydrology Presen	t? Yes <u>X</u> No					
		ous inspections), if available:						
Remarks:		,						
	Pamarks:							
	Remarks.							

<u>Tree Stratum:</u> (Plot size: <u>30</u>)		Dominant Indicator	Dominance Test worksheet:
1	% Cover	Species? Status	Number of Dominant Species
2.			That Are OBL, FACW, or FAC:1 (A)
3.			Total Number of Dominant
4			Species Across All Strata: 1 (B)
5.			Percent of Domant Species That Are OBL, FACW, or FAC: 100 (A/B)
6.			That Are OBL, FACW, or FAC: 100 (A/B)
7.			Prevalence Index worksheet:
··	0	=Total Cover	Total % Cover of: Multiply by:
		- Total Cover	OBL species 2 x 1 = 2
Sapling/Shrub Stratum: (Plot size: 15)			FACW species 95 x 2 = 190
1.			FAC species 0 x 3 = 0
2.			FACU species 0 x 4 = 0
3.			UPL species 0 x 5 = 0
4.			Column Totals: <u>97</u> (A) <u>192</u> (B)
5.			Prevalence Index = B/A= 1.98
<u>6.</u> 7.			Hydrophytic Vegetation Indicators:
<u>. </u>			1 - Rapid test for Hydrophytic Vegetation X 2 - Dominance Test is >50%
	0	=Total Cover	X 3 - Prevalence Index is ≤3.0 ¹
Herb Stratum: (Plot size: 5)			4 - Morphological Adaptations ¹ (Profice supporting
1. Phalaric arundinacea	95	Y FACW	data in Remarks or on a separate sheet)
Schoenoplectus tabernaemontani	95 2	N OBL	Problematic Hydrophytic Vegetation (Explain)
		N OBL	
3.			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
4.			be present, unless disturbed of problematic.
5.			Definitions of Four Vegetation Strata:
6.			Tree –Woody plants 3 in. (7.6 cm) or more in diameter
7.			at breast height (DBH), regardless of height.
8.			Sapling/Shrub – Woody plants less than 3 in. DBH
9.			and greater than or equal to 3.28 ft (1 m) tall.
10.			Herb – All herbaceous (non-woody) plants, regardless
11.			of size, and woody plants less than 3.28 ft tall.
12.			Woody vine – All woody vines greater than 3.28 ft in
	97	=Total Cover	height.
Woody Vine Stratum: (Plot size: 30)			
1.			
2.	<u> </u>		
3.	<u> </u>		Hydrophytic
4.			Vegetation
	0	=Total Cover	Present? Yes X No
Remarks: (Include photo numbers here or on a separate	shoot)		
Remarks. (include prioto numbers here or on a separate	Sileet.)		

Sampling Point:

Profile Desc	ription: (Describe to	the depth i	needed to documen	t the indic	cator or co	nfirm the	absence of inc	licators.)
Depth	Matrix		Red	lox Featur	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-16	10YR 2/1	100		0			Clay Loam	
16-24	10YR 5/2	95	10YR 4/6	5	С	М	Sandy Clay	
							Loam	
				_				
								
				-				
				_				
				_				
					- 			
¹ Type: C=Co	ncentration, D=Deplet	ion, RM=Re	educed Matrix, MS=M	lasked Sa	nd Grains.		² Location: PL=	Pore Lining, M=Matrix.
Black Hi Hydroge Stratified Depleted X Thick Da Sandy M Sandy G Sandy R Dark Sui	(A1) sipedon (A2) stic (A3) n Sulfide (A4) I Layers (A5) d Below Dark Surface ark Surface (A12) lucky Mineral (S1) eleyed Matrix (S4) edox (S5) Matrix (S6) rface (S7) (LRR R, ML hydrophytic vegetatic ayer (if observed):	.RA 149B)	MLRA 149 Thin Dark Loamy Mu Loamy Gle Depleted I Redox Da Depleted I Redox De	SBB) Surface (Sucky Miner Seyed Matrix Matrix (F3) Fix Surface Dark Surfa pressions) e (F6) ace (F7) (F8)	R, MLRA 1		rs for Problematic Hydric Soils ³ : In Muck (A10) (LRR K, L, MLRA 149B) In Muck (A10) (LRR K, L, MLRA 149B) In Mucky Peat or Peat (S3) (LRR K, L, R) In Mucky Peat or Peat (S3) (LRR K, L, R) In Value Below Surface (S8) (LRR K, L) In Dark Surface (S9) (LRR K, L) In Manganese Masses (F12) (LRR K, L, R) Idmont Floodplain Soils (F19) (MLRA 149B) In Dark Surface (TA6) (MLRA 144A, 145, 149B) Parent Material (F21) In Shallow Dark Surface (TF12) In Carrier (Explain in Remarks) Present? Yes X No

Project/Site: Benton Solar		City/	County: Benton County		Sampling Date:	06/06/2023		
Applicant/Owner: NextEra				State: MN	Sampling Point	: DP30		
Investigator(s): Cole Reagan		Sec	ction, Township, Range:	Sec. 24 T36N F	R30W			
Landform (hillslope, terrace, etc.): Flo	ood Plain	Local	relief (concave, convex,	none): None		_Slope (%): <5%		
Subregion (LRR or MLRA): MLRA 90	B , LRR K	Lat: 45.59769	5 Long:	-94.02791		Datum:		
Soil Map Unit Name: D30A - Seely	eville and Markey	soils, depressional, 0 to	1 percent slopes	NWI classifi	cation: No			
Are climatic / hydrologic conditions or	n the site typical fo	or this time of year? Yes	XNo	_(If no, explain	in Remarks.)			
Are Vegetation, Soil	_, or Hydrology	significantly distur	bed? Are "Norm	al Circumstanc	es" present? Y	es X No		
Are Vegetation, Soil	_, or Hydrology _	naturally problema	atic? (If needed	, explain any ar	nswers in Remar	ks.)		
SUMMARY OF FINDINGS —				ransects, im	portant featu	ıres, etc.		
			<u> </u>		•	•		
Hydrophytic Vegetation Present?	Yes:	No: X	Is the Sampled Area within a Wetland?		Voc	No. V		
Hydric Soil Present?	Yes:	No: X	within a welland?		Yes	No <u>X</u> _		
Wetland Hydrology Present?	Yes:	No: X	If yes, optional Wetlan	d Site ID:		WET15		
Remarks: (Explain alternative proced	duras bara ar in s	concrete report)						
HYDROLOGY								
Wetland Hydrology Indicators:				Secondary is	ndicators (minim	um of two required)		
Primary indicators (minimum of one	required: check a	all that apply)		Surface	Soil Cracks (B6)		
Surface Water (A1)	_	Water-Stained Leave	es (B9)	Drainag	je Patterns (B10)		
High Water Table (A2)	-	Aquatic Fauna (B13))	Moss T	rim Lines (B16)			
Saturation (A3)	-	Marl Deposits (B15)			ason Water Table	e (C2)		
Water Marks (B1)	-	Hydrogen Sulfide Oc			n Burrows (C8)			
Sediment Deposits (B2)	-		res on Living Roots (C3)	·		erial Imagery (C9)		
Drift Deposits (B3) Algal Mat or Crust (B4)	-	Presence of Reduce	a Iron (C4) on in Tilled Soils (C6)					
Iron Deposits (B5)	-	Thin Muck Surface (Filled Soils (C6) Geomorphic Position (D2) Shallow Aquitard (D3)				
Inundation Visible on Aerial Ima	agerv (B7)	Other (Explain in Re	•					
Sparsely Vegetated Concave S	• , , ,				eutral Test (D5)			
Field Observations:								
	No X De	enth (inches):						
	No <u> </u> De							
1	No <u> De</u>	· · · · · · · · · · · · · · · · · · ·						
(includes capillary fringe)	NO _X DO	pui (iliciics).	Wetland Hydro	ology Present?	? Yes _	No X		
Describe Recorded Data (stream ga		vell. aerial photos, previo	us inspections). if availab	ole:				
3	3	, ,						
Remarks:								
Remarks.								

Tree Stratum: (Plot size: 30)		Dominant Indicator	Dominance Test worksheet:	
1	<u>% Cover</u>	Species? Status	Number of Dominant Species	
2.		·	That Are OBL, FACW, or FAC:	<u>0</u> (A)
3.			Total Number of Dominant	0 (D)
4			Species Across All Strata:	2 (B)
5.			Percent of Domant Species	O (A/D)
6.			That Are OBL, FACW, or FAC:	0 (A/B)
7.			Prevalence Index worksheet:	
<u>1.</u>	0	=Total Cover		Multiply by:
		- Total Cover	OBL species 0 x 1 =	0
Sapling/Shrub Stratum: (Plot size: 15)			FACW species 0 x 2 =	0
1.			FAC species 0 x 3 =	0
<u>1.</u> 2.			FACU species 0 x 4 =	0
			UPL species 100 x 5 =	500
<u>3.</u> 4.			Column Totals: 100 (A)	500 (B)
			Prevalence Index = B/A=	5.00
6.	-		Hydrophytic Vegetation Indicators:	
7.			1 - Rapid test for Hydrophytic Vo	egetation
	0	=Total Cover	2 - Dominance Test is >50%	
Horb Stratum: (Diot ciza: E)			3 - Prevalence Index is ≤3.0 ¹	(D. f
Herb Stratum: (Plot size: 5)			4 - Morphological Adaptations ¹ data in Remarks or on a separa	
1. Bromus inermis	70	Y UPL	Problematic Hydrophytic Vegeta	•
2. Setaria viridis	30	Y UPL	resistant ryareprijat regen	(=/(p.c)
3.			¹ Indicators of hydric soil and wetland I	
<u>4.</u>			be present, unless disturbed or proble	matic.
5.			Definitions of Four Vegetation Stra	ta:
6.				
7.			Tree –Woody plants 3 in. (7.6 cm) or at breast height (DBH), regardless of	
8.	-		Canling/Churk Washingtone	than 2 in DDII
9.			Sapling/Shrub – Woody plants less and greater than or equal to 3.28 ft (1	man 3 m. DBH L m) tall.
10.			Herb – All herbaceous (non-woody) p	, alamta ragardiasa
11.			of size, and woody plants less than 3	.28 ft tall.
12.				
	100	=Total Cover	Woody vine – All woody vines greate height.	er tildii 3.26 it iii
Woody Vine Stratum: (Plot size: 30)				
1.				
2.				
3.			Hydrophytic	
4.			Vegetation	
	0	=Total Cover	Present? Yes	No X
		- 10101 00101		
Remarks: (Include photo numbers here or on a separate s	sheet.)			

Sampling Point:

Profile Desci	ription: (Describe to	the depth n	eeded to document	the indic	ator or co	nfirm the	absence of in	dicators.)	
Depth	Matrix		Red	ox Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-20	10YR 2/2	100		0			Loamy Sand		
				_					
				_					
									_
									_
¹ Type: C=Co	ncentration, D=Deplet	ion, RM=Re	duced Matrix, MS=M	asked Sa	nd Grains.		² Location: PL=	Pore Lining, M	=Matrix.
Hydric Soil I	ndicators:						Indicato	ors for Problen	natic Hydric Soils ³ :
Histosol	(A1)		Polyvalue	Below Su	face (S8)	(LRR R,			LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149	•					ox (A16) (LRR K, L, R)
Black His	stic (A3) n Sulfide (A4)		Thin Dark : Loamy Mu					m Mucky Peat (k Surface (S7)	or Peat (S3) (LRR K, L, R)
	I Layers (A5)		Loamy Gle			KK K, L)			Surface (S8) (LRR K, L)
	Below Dark Surface	(A11)	Depleted N	-					(S9) (LRR K, L)
	ark Surface (A12)		Redox Dar					-	Masses (F12) (LRR K, L, R)
	lucky Mineral (S1) leyed Matrix (S4)		Depleted D						ain Soils (F19) (MLRA 149B) (6) (MLRA 144A, 145, 149B)
	edox (S5)		Nedox Dep	5103310113	(1 0)			d Parent Materi	
	Matrix (S6)								Surface (TF12)
Dark Sui	rface (S7) (LRR R, ML	RA 149B)					Oth	er (Explain in F	Remarks)
³ Indicators of	hydrophytic vegetatio	n and wetla	nd hydrology must h	e nresent	unless dis	turhed or	nroblematic		
	ayer (if observed):	iii ana wetta	id Hydrology mast be	c present,	unicoo dio	itarbea or	problematic.		
Type:	ayer (ii observed).						Unadaia Cail	I D	V N- V
Depth (inche	es):						Hydric Soil	i Present?	Yes No <u>X</u>
Remarks:									

Project/Site: Benton Solar		Cit	ty/County: Benton County		Sampling Date: <u>07/06/2023</u>		
Applicant/Owner: NextEra				State: MN	Sampling Point: DP34		
Investigator(s): Cole Reagan		S	ection, Township, Range: S	Sec. 24 T36N I	R30W		
Landform (hillslope, terrace, etc.): Description	epression	Loc	al relief (concave, convex,	none): <u>Conc</u> a	aveSlope (%): <5%		
Subregion (LRR or MLRA): MLRA 90)B , LRR K	Lat: 45.5988	Long:	-94.023347	Datum:		
Soil Map Unit Name: C36A - Noka	sippi loamy fine	sand, depressional, 0 to	1 percent slopes	NWI classif	cation: PEM		
Are climatic / hydrologic conditions of	n the site typica	I for this time of year? Yes	s <u>X</u> No	(If no, explain	in Remarks.)		
Are Vegetation, Soil	_, or Hydrology	/significantly dist	urbed? Are "Norma	al Circumstano	es" present? Yes X No		
Are Vegetation, Soil	_, or Hydrology	/naturally probler	matic? (If needed,	explain any a	nswers in Remarks.)		
SUMMARY OF FINDINGS —	Attach site r	nap showing sampli	ng point locations, tr	ansects, in	portant features, etc.		
			Is the Sampled Area				
Hydrophytic Vegetation Present?	Yes:	X No:	within a Wetland?		Yes X No		
Hydric Soil Present?	Yes:	X No:			<u> </u>		
Wetland Hydrology Present?	Yes:	X No:	If yes, optional Wetland	d Site ID:	WET23		
HYDROLOGY							
Wetland Hydrology Indicators:				Secondary i	ndicators (minimum of two required)		
Primary indicators (minimum of one	required: chec	k all that apply)		Surface	e Soil Cracks (B6)		
X Surface Water (A1)		Water-Stained Lea	ves (B9)	Draina	ge Patterns (B10)		
X High Water Table (A2)		Aquatic Fauna (B1	3)	Moss Trim Lines (B16)			
X Saturation (A3)		Marl Deposits (B15	5)	Dry-Season Water Table (C2)			
Water Marks (B1)		Hydrogen Sulfide C	Odor (C1)	Crayfish Burrows (C8)			
Sediment Deposits (B2)		· ·	eres on Living Roots (C3)	· · —			
Drift Deposits (B3)		Presence of Reduc		Stunted or Stressed Plants (D1)			
Algal Mat or Crust (B4)			tion in Tilled Soils (C6)	X Geomorphic Position (D2)			
X Iron Deposits (B5)	ogon, (D7)	Thin Muck Surface	` '	Shallow Aquitard (D3)			
Inundation Visible on Aerial Im Sparsely Vegetated Concave S	. , , ,	Other (Explain in R	temarks)	· 	pographic Relief (D4) eutral Test (D5)		
Field Observations:							
Surface Water Present? Yes X	(_ No	Depth (inches): 4					
Water Table Present? Yes 🗡	<u> </u>	Depth (inches): 0					
Saturation Present? Yes X	(_ No	Depth (inches): 0					
(includes capillary fringe)			Wetland Hydro	logy Present	? Yes <u>X</u> No		
Describe Recorded Data (stream ga	auge, monitoring	g well, aerial photos, previ	ious inspections), if availab	le:			
Remarks:							

Tree Stratum: (Plot size: 30)	Absolute	Dominan	nt Indicator	Dominance Test worksheet:			
1	% Cover	Species?	? Status	Number of Dominant Species			
<u>1.</u> 2.				That Are OBL, FACW, or FAC:		1	(A)
<u>2.</u> 3.			 	Total Number of Dominant			
4				Species Across All Strata:		1	(B)
5.				Percent of Domant Species		400	(4 (5)
6.				That Are OBL, FACW, or FAC:		100	(A/B)
7.				Prevalence Index worksheet:			
<u>1.</u>		=Total Co	ovor.	Total % Cover of:		ıltiply by:	
		- Total Ci	uvei	OBL species 2	x 1 =	2	
Sapling/Shrub Stratum: (Plot size: 15)				FACW species 80	x 2 =	160	
1.				FAC species 10	x 3 =	30	
				FACU species 0	x 4 =	0	
3.				UPL species 0	x 5 =	0	
4.				Column Totals: 92	(A)	192	(B)
F		•		Prevalence Index = B/A=		2.09	
	<u></u>	•					
<u>6.</u> 7.		-		Hydrophytic Vegetation Indic			
1.		-		1 - Rapid test for Hydrop X 2 - Dominance Test is >5		jetation	
	0	=Total Co	over	X 3 - Prevalence Index is s			
Herb Stratum: (Plot size: 5)				4 - Morphological Adapta		Profice sui	onorting
1. Phologic crundinasco	70	Υ	FACW	data in Remarks or on a			pporting
Printains arunumacea Panicum virgatum	10	N N	FAC	Problematic Hydrophytic	Vegetation	on (Expla	in)
3. Spartina pectinata	10	N	FACW	1			
4. Sagittaria latifolia	2	N	OBL	¹ Indicators of hydric soil and w be present, unless disturbed or			nust
5.			OBL	bo processi, amose distances of	p. 00.0		
6.				Definitions of Four Vegetation	on Strata	1 :	
_				Tree –Woody plants 3 in. (7.6			meter
<u>7.</u> 8.				at breast height (DBH), regard	lless of h	eight.	
0				Sapling/Shrub – Woody plan			ВН
10				and greater than or equal to 3	.28 ft (1 n	n) tall.	
44				Herb – All herbaceous (non-w	oody) pla	ants, rega	rdless
12.				of size, and woody plants less	than 3.2	8 ft tall.	
12.	92	=Total Co	over	Woody vine – All woody vine	s greater	than 3.28	3 ft in
		- Total Ct	ovci	height.			
Woody Vine Stratum: (Plot size: 30)							
1.							
2.							
3.				Hydrophytic			
4.				Vegetation			
	0	=Total Co	over	Present?	Yes X	_ No _	_
Remarks: (Include photo numbers here or on a separat	e sheet.)						
	,						

Sampling Point:

Profile Desc	ription: (Describe to	the depth i	needed to documen	t the indic	cator or co	nfirm the	absence of inc	licators.)
Depth	Matrix		Red	lox Featur	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-16	10YR 2/1	100		0			Clay Loam	
16-24	10YR 5/2	95	10YR 4/6	5	С	М	Sandy Clay	
							Loam	
				_				
								
				-				
				_				
				_				
					- 			
¹ Type: C=Co	ncentration, D=Deplet	ion, RM=Re	educed Matrix, MS=M	lasked Sa	nd Grains.		² Location: PL=	Pore Lining, M=Matrix.
Black Hi Hydroge Stratified Depleted X Thick Da Sandy M Sandy G Sandy R Dark Sui	(A1) sipedon (A2) stic (A3) n Sulfide (A4) I Layers (A5) d Below Dark Surface ark Surface (A12) lucky Mineral (S1) eleyed Matrix (S4) edox (S5) Matrix (S6) rface (S7) (LRR R, ML hydrophytic vegetatic ayer (if observed):	.RA 149B)	MLRA 149 Thin Dark Loamy Mu Loamy Gle Depleted I Redox Da Depleted I Redox De	SBB) Surface (Sucky Miner Seyed Matrix Matrix (F3) Fix Surface Dark Surfa pressions) e (F6) ace (F7) (F8)	R, MLRA 1		rs for Problematic Hydric Soils ³ : In Muck (A10) (LRR K, L, MLRA 149B) In Muck (A10) (LRR K, L, MLRA 149B) In Mucky Peat or Peat (S3) (LRR K, L, R) In Mucky Peat or Peat (S3) (LRR K, L, R) In Value Below Surface (S8) (LRR K, L) In Dark Surface (S9) (LRR K, L) In Manganese Masses (F12) (LRR K, L, R) Idmont Floodplain Soils (F19) (MLRA 149B) In Dark Surface (TA6) (MLRA 144A, 145, 149B) Parent Material (F21) In Shallow Dark Surface (TF12) In Carrier (Explain in Remarks) Present? Yes X No

Project/Site: Benton Solar		City/	County: Benton County		Sampling Date	e: <u>07/06/2023</u>		
Applicant/Owner: NextEra				State: MN	Sampling Poir	nt: <u>DP35</u>		
Investigator(s): Cole Reagan		Sec	tion, Township, Range: S	Sec. 24 T36N	R30W			
Landform (hillslope, terrace, etc.): <u>Hi</u>	llslope	Local	relief (concave, convex, ı	none): <u>Linea</u>	r Slope	Slope (%): <5%		
Subregion (LRR or MLRA): MLRA 90	B , LRR K	Lat: 45.598853	Long:	-94.023374		Datum:		
Soil Map Unit Name: <u>C36A - Nokas</u>	sippi loamy fine s	and, depressional, 0 to 1	percent slopes	NWI classif	ication: <u>No</u>			
Are climatic / hydrologic conditions or	n the site typical f	or this time of year? Yes	XNo	(If no, explain	in Remarks.)			
Are Vegetation, Soil	_, or Hydrology	significantly disturb	oed? Are "Norma	al Circumstano	es" present?	Yes X No		
Are Vegetation, Soil	_, or Hydrology _	naturally problema	tic? (If needed,	explain any a	nswers in Rema	arks.)		
SUMMARY OF FINDINGS — A	Attach site ma	ap showing sampling	g point locations, tr	ansects, in	nportant feat	tures, etc.		
			Is the Sampled Area					
Hydrophytic Vegetation Present?	Yes:	No: X	within a Wetland?		Yes _	No X		
Hydric Soil Present?	Yes:				_			
Wetland Hydrology Present?	Yes:	No:X	If yes, optional Wetland	I Site ID:		WET23		
HYDROLOGY								
Wetland Hydrology Indicators:				Secondary i	ndicators (minir	num of two required)		
Primary indicators (minimum of one	required: check a	all that apply)			e Soil Cracks (B			
Surface Water (A1)		Water-Stained Leave	s (B9)	Draina	ge Patterns (B1	0)		
High Water Table (A2)		Aquatic Fauna (B13)		Moss T	rim Lines (B16)			
Saturation (A3)	-	Marl Deposits (B15)			ason Water Tab	le (C2)		
Water Marks (B1)	-	Hydrogen Sulfide Od			h Burrows (C8)			
Sediment Deposits (B2)	-		es on Living Roots (C3)			erial Imagery (C9)		
Drift Deposits (B3)	-	Presence of Reduced		· ·				
Algal Mat or Crust (B4)	-	Recent Iron Reductio		· · · — · · · · · · · · · · · · · · · ·				
Iron Deposits (B5)		Thin Muck Surface (C	•	Shallow Aquitard (D3)				
Inundation Visible on Aerial Ima Sparsely Vegetated Concave S	• , , ,	Other (Explain in Rer	narks)	Microtopographic Relief (D4) FAC-Neutral Test (D5)				
	nullace (Bo)			FAC-N	eutiai iest (D3)			
Field Observations:	5	4.6.1						
	No _X _ De							
	No _X _ De							
Saturation Present? Yes (includes capillary fringe)	No _X_ De	eptn (inches):	Wetland Hydro	logy Present	? Yes	No X		
Describe Recorded Data (stream ga		well porial photos proviou	us inspections) if swellah	lo:				
Describe Recorded Data (stream ga	uge, monitoring v	well, aeriai priotos, previot	is inspections), ii avaliabi	le.				
Remarks:								

Tree Stratum: (Plot size: 30)		Dominant Indicator	Dominance Test worksheet:	
1	<u>% Cover</u>	Species? Status	Number of Dominant Species	
2.		·	That Are OBL, FACW, or FAC:	<u>0</u> (A)
3.			Total Number of Dominant	0 (D)
4			Species Across All Strata:	2 (B)
5.			Percent of Domant Species	O (A/D)
6.			That Are OBL, FACW, or FAC:	0 (A/B)
7.			Prevalence Index worksheet:	
<u>1.</u>	0	=Total Cover		Multiply by:
		- Total Cover	OBL species 0 x 1 =	0
Sapling/Shrub Stratum: (Plot size: 15)			FACW species 0 x 2 =	0
1.			FAC species 0 x 3 =	0
<u>1.</u> 2.			FACU species 0 x 4 =	0
			UPL species 100 x 5 =	500
<u>3.</u> 4.			Column Totals: 100 (A)	500 (B)
			Prevalence Index = B/A=	5.00
6.	-		Hydrophytic Vegetation Indicators:	
7.			1 - Rapid test for Hydrophytic Vo	egetation
	0	=Total Cover	2 - Dominance Test is >50%	
Horb Stratum: (Diot ciza: E)			3 - Prevalence Index is ≤3.0 ¹	(D. f
Herb Stratum: (Plot size: 5)			4 - Morphological Adaptations ¹ data in Remarks or on a separa	
1. Bromus inermis	70	Y UPL	Problematic Hydrophytic Vegeta	•
2. Setaria viridis	30	Y UPL	resistant ryareprijat regen	(=/(p.c)
3.			¹ Indicators of hydric soil and wetland I	
<u>4.</u>			be present, unless disturbed or proble	matic.
5.			Definitions of Four Vegetation Stra	ta:
6.				
7.			Tree –Woody plants 3 in. (7.6 cm) or at breast height (DBH), regardless of	
8.	-		Canling/Church Weady plants lead	than 2 in DDII
9.			Sapling/Shrub – Woody plants less and greater than or equal to 3.28 ft (1	man 3 m. DBH L m) tall.
10.			Herb – All herbaceous (non-woody) p	, alamta ragardiasa
11.			of size, and woody plants less than 3	.28 ft tall.
12.				
	100	=Total Cover	Woody vine – All woody vines greate height.	er tildii 3.26 it iii
Woody Vine Stratum: (Plot size: 30)				
1.				
2.				
3.			Hydrophytic	
4.			Vegetation	
	0	=Total Cover	Present? Yes	No X
		-10101 00101		
Remarks: (Include photo numbers here or on a separate s	sheet.)			

Sampling Point:

Profile Desci	ription: (Describe to	the depth n	eeded to document	the indic	ator or co	nfirm the	absence of in	dicators.)		
Depth	Matrix		Red	ox Featur	es					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks		
0-6	10YR 2/2	100		0	NA	NA	Loamy Sand			
6-24	10YR 4/4	100		0	NA	NA	Sandy Loam			
				_						
		- -								
				_						
¹ Type: C=Co	ncentration, D=Deplet	ion, RM=Re	duced Matrix, MS=M	lasked Sa	nd Grains.		² Location: PL=	Pore Lining, M=Matrix.		
Hydric Soil I	ndicators:						Indicate	ors for Problematic Hydric Soils ³ :		
Histosol			Polyvalue	Below Su	rface (S8)	LRR R,		m Muck (A10) (LRR K, L, MLRA 149B)		
	ipedon (A2)		MLRA 149		(,	,		ast Prairie Redox (A16) (LRR K, L, R)		
Black His					S9) (LRR F			m Mucky Peat or Peat (S3) (LRR K, L, R)		
	n Sulfide (A4) I Layers (A5)		Loamy Mu			RK,L)		rk Surface (S7) (LRR K, L)		
	Below Dark Surface	(A11)	Loamy Gle					yvalue Below Surface (S8) (LRR K, L) n Dark Surface (S9) (LRR K, L)		
	ırk Surface (A12)	()	Redox Dai					n-Manganese Masses (F12) (LRR K, L, R)		
	lucky Mineral (S1)		Depleted [dmont Floodplain Soils (F19) (MLRA 149B)		
	leyed Matrix (S4)		Redox Dep	pressions	(F8)			sic Spodic (TA6) (MLRA 144A, 145, 149B)		
	edox (S5) Matrix (S6)							Red Parent Material (F21) Very Shallow Dark Surface (TF12)		
	face (S7) (LRR R, ML	RA 149B)						ner (Explain in Remarks)		
		,						,		
³ Indicators of	hydrophytic vegetation	on and wetla	nd hydrology must b	e present,	unless dis	turbed or	problematic.			
Restrictive L	ayer (if observed):									
Type:							Hydric Soi	I Present? Yes No X		
Depth (inche	es):						.,			
Remarks:										

Project/Site: Benton Solar City/Cou	unty: Benton County Sampling Date: 07/06/2023
Applicant/Owner: NextEra	State: MN Sampling Point: DP36
Investigator(s): Cole Reagan Section	n, Township, Range: Sec. 13 T36N R30W
Landform (hillslope, terrace, etc.): Depression Local relic	ief (concave, convex, none): Concave Slope (%): <5%
Subregion (LRR or MLRA): MLRA 90B , LRR K Lat: 45.604081	Long: <u>-94.024269</u> Datum:
Soil Map Unit Name: C26A - Foglake silt loam, 0 to 2 percent slopes	NWI classification: PEM
Are climatic / hydrologic conditions on the site typical for this time of year? Yes	X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly disturbed	
Are Vegetation X, Soil , or Hydrologynaturally problematic?	? (If needed, explain any answers in Remarks.)
${\color{red} {\rm SUMMARY\ OF\ FINDINGS-Attach\ site\ map\ showing\ sampling\ p}}$	point locations, transects, important features, etc.
Is	s the Sampled Area
Hydrophytic Vegetation Present? Ves: V No:	vithin a Wetland? Yes X No
Hydric Soil Present? Yes: X No:	
Wetland Hydrology Present? Yes: X No: If	yes, optional Wetland Site ID: WET17
floodplain and resulting sparse vegetation.	
HYDROLOGY	
Wetland Hydrology Indicators: Primary indicators (minimum of one required: check all that apply) Surface Water (A1) Water-Stained Leaves (B	Moss Trim Lines (B16) Dry-Season Water Table (C2) (C1) Crayfish Burrows (C8) on Living Roots (C3) Saturation Visible on Aerial Imagery (C9) on (C4) Stunted or Stressed Plants (D1) n Tilled Soils (C6) X Geomorphic Position (D2) Shallow Aquitard (D3) rks) Microtopographic Relief (D4) X FAC-Neutral Test (D5) Wetland Hydrology Present? Yes X No
Remarks:	

Tree Stratum: (Plot size: 30)	Absolute	Dominant	Indicator	Dominance Test worksheet:
·	% Cover	Species?	Status	Number of Dominant Species
1.				That Are OBL, FACW, or FAC: (A)
2.				Total Number of Dominant
3.				Species Across All Strata: 2 (B)
4.				Percent of Domant Species
5.				That Are OBL, FACW, or FAC: 100 (A/B)
6.				
7.				Prevalence Index worksheet: Total % Cover of: Multiply by:
	0	=Total Cov	er	Total % Cover of: Multiply by: OBL species 30 x 1 = 30
Sapling/Shrub Stratum: (Plot size: 15)				FACW species 70 x 2 = 140
				FAC species 0 x 3 = 0
<u>1.</u> 2.				FACU species 0 x 4 = 0
				UPL species 0 x 5 = 0
			-	Column Totals: 100 (A) 170 (B)
4.				Prevalence Index = B/A= 1.70
5.				Trevalence mack = Brit-
6.				Hydrophytic Vegetation Indicators:
7.				1 - Rapid test for Hydrophytic Vegetation
	0	=Total Cov	er	X 2 - Dominance Test is >50%
Horb Stratum: (Dlot size: E)				X 3 - Prevalence Index is ≤3.0 ¹
Herb Stratum: (Plot size: 5)				4 - Morphological Adaptations ¹ (Profice supporting data in Remarks or on a separate sheet)
1. Phalaris arundinacea		Y	FACW	X Problematic Hydrophytic Vegetation (Explain)
2. Schoenoplectus pungens	30	Y	OBL	Toblemane rijaroprijae regenalem (Zipiami)
3.				¹ Indicators of hydric soil and wetland hydrology must
4.				be present, unless disturbed or problematic.
<u>5.</u>				Definitions of Four Vegetation Strata:
<u>6.</u>				_
7.				Tree –Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.				Sapling/Shrub – Woody plants less than 3 in. DBH
9.				and greater than or equal to 3.28 ft (1 m) tall.
<u>10.</u>				Herb – All herbaceous (non-woody) plants, regardless
<u>11.</u>				of size, and woody plants less than 3.28 ft tall.
<u>12.</u>				Woody vine – All woody vines greater than 3.28 ft in
	100	=Total Cov	er	height.
Woody Vine Stratum: (Plot size: 30)				
1.			-	
2.			-	
3.				Hydrophytic
4.				Vegetation
	0	=Total Cov	er	Present? Yes X No
Remarks: (Include photo numbers here or on a separate	sheet.) Sparsely v	egetated co	oncave surf	ace within floodplain

Sampling Point:

Profile Desc	ription: (Describe to t	he depth ne	eded to document	the indic	ator or co	nfirm the	absence of in	dicators.)	
Depth	Matrix		Redo	ox Feature	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-20	10YR 2/1	90	10YR 5/6	10	C	MP	Clay Loam		
			20 0,0						
				-					
				-					
				-					
				-					
1							2		
Type: C=Co	ncentration, D=Depleti	on, RM=Red	uced Matrix, MS=Ma	asked Sai	nd Grains.		² Location: PL=	Pore Lining, M=	=Matrix.
Hydric Soil I	ndicators:								natic Hydric Soils ³ :
Histosol	` '		Polyvalue I		rface (S8) ((LRR R,			LRR K, L, MLRA 149B)
	nipedon (A2)		MLRA 149	,	20) (I DD E				x (A16) (LRR K, L, R)
Black Hi	n Sulfide (A4)		Thin Dark S Loamy Mud					k Surface (S7)	or Peat (S3) (LRR K, L, R)
	l Layers (A5)		Loamy Gle	-		, _,			urface (S8) (LRR K, L)
	d Below Dark Surface (A11)	Depleted M						(S9) (LRR K, L)
	ark Surface (A12)		X Redox Dar						asses (F12) (LRR K, L, R)
	lucky Mineral (S1)		Depleted D					-	in Soils (F19) (MLRA 149B)
	Sleyed Matrix (S4)		Redox Dep	ressions	(F 8)) (MLRA 144A, 145, 149B)
	ledox (S5) Matrix (S6)							d Parent Materia v Shallow Dark	Surface (TF12)
	rface (S7) (LRR R, ML	RA 149B)						er (Explain in R	
									•
³ Indicators of	f hydrophytic vegetation	n and wetlan	d hydrology must be	present,	unless dis	turbed or	problematic.		
Restrictive L	ayer (if observed):								
Type:							Hydric Soil	l Present?	Yes X No
Depth (inche	es):						Tryunc 3011	i i resent:	163 <u>X</u> NO
Remarks:									

<u>Tree Stratum:</u> (Plot size: <u>30</u>)		Dominant Indicator	Dominance Test worksheet:
1	<u>% Cover</u>	Species? Status	Number of Dominant Species
2.			That Are OBL, FACW, or FAC:1 (A)
<u>2.</u> 3.			Total Number of Dominant
4			Species Across All Strata: 2 (B)
5.			Percent of Domant Species That Are OBL, FACW, or FAC: 50 (A/B)
6.			That Are OBL, FACW, or FAC:50 (A/B)
7.			Prevalence Index worksheet:
<u></u>	0	=Total Cover	Total % Cover of: Multiply by:
		- Total Cover	OBL species 0 $x 1 = 0$
Sapling/Shrub Stratum: (Plot size: 15)			FACW species 0 x 2 = 0
1.			FAC species 35 x 3 = 105
2.			FACU species 50 x 4 = 200
3.			UPL species 5 x 5 = 25
4.			Column Totals: 90 (A) 330 (B)
			Prevalence Index = B/A= 3.67
<u>6.</u> 7.			Hydrophytic Vegetation Indicators:
<u>. </u>		·	1 - Rapid test for Hydrophytic Vegetation 2 - Dominance Test is >50%
	0	=Total Cover	3 - Prevalence Index is ≤3.0 ¹
Herb Stratum: (Plot size: 5)			4 - Morphological Adaptations ¹ (Profice supporting
1. Solidago altissima	50	Y FACU	data in Remarks or on a separate sheet)
2. Sotoria numila	35	Y FAC	Problematic Hydrophytic Vegetation (Explain)
3. Bromus inermis	5	N UPL	
		N OPL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>4.</u> 5.			
			Definitions of Four Vegetation Strata:
<u>6.</u> 7.			Tree –Woody plants 3 in. (7.6 cm) or more in diameter
			at breast height (DBH), regardless of height.
<u>8.</u> 9.			Sapling/Shrub – Woody plants less than 3 in. DBH
10			and greater than or equal to 3.28 ft (1 m) tall.
10.			Herb – All herbaceous (non-woody) plants, regardless
11.		·	of size, and woody plants less than 3.28 ft tall.
12.		Tatal Carran	Woody vine - All woody vines greater than 3.28 ft in
	90	=Total Cover	height.
Woody Vine Stratum: (Plot size: 30)			
1.			
2.			
3.			Hydrophytic
4.			Vegetation
	0	=Total Cover	Present? Yes No _X
Remarks: (Include photo numbers here or on a separate	sheet)		
remarks. (include prioto numbers here or on a separate	Silect.)		

Sampling Point:

Profile Desci	ription: (Describe to	the depth n	eeded to document	the indic	ator or co	nfirm the	absence of in	dicators.)	
Depth	Matrix		Red	ox Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-20	10YR 2/2	100		0			Loamy Sand		
				_					
				_					
									_
									_
¹ Type: C=Co	ncentration, D=Deplet	ion, RM=Re	duced Matrix, MS=M	asked Sa	nd Grains.		² Location: PL=	Pore Lining, M	=Matrix.
Hydric Soil I	ndicators:						Indicato	ors for Problen	natic Hydric Soils ³ :
Histosol	(A1)		Polyvalue	Below Su	face (S8)	(LRR R,			LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149	•					ox (A16) (LRR K, L, R)
Black His	stic (A3) n Sulfide (A4)		Thin Dark : Loamy Mu					m Mucky Peat (k Surface (S7)	or Peat (S3) (LRR K, L, R)
	I Layers (A5)		Loamy Gle			KK K, L)			Surface (S8) (LRR K, L)
	Below Dark Surface	(A11)	Depleted N	-					(S9) (LRR K, L)
	ark Surface (A12)		Redox Dar					-	Masses (F12) (LRR K, L, R)
	lucky Mineral (S1) leyed Matrix (S4)		Depleted D						ain Soils (F19) (MLRA 149B) (6) (MLRA 144A, 145, 149B)
	edox (S5)		Nedox Dep	5103310113	(1 0)			d Parent Materi	
	Matrix (S6)								Surface (TF12)
Dark Sui	rface (S7) (LRR R, ML	RA 149B)					Oth	er (Explain in F	Remarks)
³ Indicators of	hydrophytic vegetatio	n and wetla	nd hydrology must h	e nresent	unless dis	turhed or	nroblematic		
	ayer (if observed):	iii ana wetta	id Hydrology mast be	c present,	unicoo dio	itarbea or	problematic.		
Type:	ayer (ii observed).						Unadaia Cail	I D	V N- V
Depth (inche	es):						Hydric Soil	i Present?	Yes No <u>X</u>
Remarks:									

Project/Site: Benton Solar City/Co	ounty: Benton County	Sampling Date: <u>07/07/2023</u>		
Applicant/Owner: NextEra	State: MN	Sampling Point: DP38		
Investigator(s): Cole Reagan Section	on, Township, Range: Sec. 25 T36N	I R30W		
Landform (hillslope, terrace, etc.): Depression Local re	elief (concave, convex, none): Con	caveSlope (%): _<5%		
Subregion (LRR or MLRA): $\underline{\text{MLRA 90B}}$, $\underline{\text{LRR K}}$ $\underline{\text{Lat: }}$ $\underline{\text{45.573848}}$	Long: -94.012996	Datum:		
Soil Map Unit Name: D61A - Glendorado loamy sand, 0 to 2 percent slopes	NWI class	ification: Pf		
Are climatic / hydrologic conditions on the site typical for this time of year? Yes	X No (If no, explain	in in Remarks.)		
Are Vegetation X , Soil , or Hydrologysignificantly disturbed	ed? Are "Normal Circumstar	nces" present? YesNoX		
Are Vegetation, Soil, or Hydrologynaturally problemati	c? (If needed, explain any	answers in Remarks.)		
SUMMARY OF FINDINGS — Attach site map showing sampling	point locations, transects, i	mportant features, etc.		
	Is the Sampled Area			
Hydronhytic Vegetation Present? Vec: V No:	within a Wetland?	Yes X No		
Hydric Soil Present? Yes: X No:	within a wettand.	163 <u>X</u> 110		
Wetland Hydrology Present? Yes: X No:	If yes, optional Wetland Site ID:	WET22		
Remarks: (Explain alternative procedures here or in a separate report.) Pf wetlar	nd within cornfield. Lack of native ve	getation and cultivated crops dominate.		
HYDROLOGY				
Wetland Hydrology Indicators:	<u>Secondary</u>	vindicators (minimum of two required)		
Primary indicators (minimum of one required: check all that apply)	Surfac	ce Soil Cracks (B6)		
Surface Water (A1) Water-Stained Leaves	(B9) Draina	age Patterns (B10)		
High Water Table (A2) Aquatic Fauna (B13)	Moss	Moss Trim Lines (B16)		
Saturation (A3) Marl Deposits (B15)	Dry-S	eason Water Table (C2)		
Water Marks (B1) Hydrogen Sulfide Odor	· · · — · ·	ish Burrows (C8)		
Sediment Deposits (B2) Oxidized Rhizospheres	- · · · · · · · · · · · · · · · · · · ·	ation Visible on Aerial Imagery (C9)		
Drift Deposits (B3) Presence of Reduced		ed or Stressed Plants (D1)		
Algal Mat or Crust (B4) Recent Iron Reduction	• • • • • • • • • • • • • • • • • • • •	norphic Position (D2)		
Iron Deposits (B5) Thin Muck Surface (C7	· —	ow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7) Other (Explain in Rema	· · · · · · · · · · · · · · · · · · ·	topographic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)	<u>X</u> FAC-I	Neutral Test (D5)		
Field Observations:				
Surface Water Present? Yes No _X Depth (inches):				
Water Table Present? Yes No _X Depth (inches):				
Saturation Present? Yes No _X Depth (inches):	Wetland Hydrology Presen	nt? Yes X No		
(includes capillary fringe)		Tes X NO		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous	inspections), if available:			
Remarks:				

Tree Stratum: (Plot size: 30)		Dominant Indicator	Dominance Test worksheet:
	% Cover	Species? Status	Number of Dominant Species
1.			That Are OBL, FACW, or FAC: 0 (A)
<u>2</u> .			Total Number of Dominant
3.			Species Across All Strata:1 (B)
4.			Percent of Domant Species
<u>5.</u>			That Are OBL, FACW, or FAC: 0 (A/B)
6.			
7.			Prevalence Index worksheet:
	0	=Total Cover	Total % Cover of: Multiply by:
Sapling/Shrub Stratum: (Plot size: 15)			OBL species 0 x 1 = 0 FACW species 5
1.			FAC species 0 x 3 = 0
2.			FACU species 0 x 4 = 0
			UPL species 70 x 5 = 350
4			Column Totals: 75 (A) 360 (B)
<u>4.</u> 5.			Prevalence Index = B/A= 4.80
<u> </u>			
6.			Hydrophytic Vegetation Indicators:
7.			1 - Rapid test for Hydrophytic Vegetation 2 - Dominance Test is >50%
	0	=Total Cover	
Herb Stratum: (Plot size: 5)			3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Profice supporting
			data in Remarks or on a separate sheet)
1. Zea mays	70	Y UPL	X Problematic Hydrophytic Vegetation (Explain)
2. Cyperus esculentus	5	N FACW	
3.			¹ Indicators of hydric soil and wetland hydrology must
4.			be present, unless disturbed or problematic.
<u>5.</u>			Definitions of Four Vegetation Strata:
6.			Tree –Woody plants 3 in. (7.6 cm) or more in diameter
7.			at breast height (DBH), regardless of height.
8.			Sapling/Shrub – Woody plants less than 3 in. DBH
9.			and greater than or equal to 3.28 ft (1 m) tall.
10.			Herb – All herbaceous (non-woody) plants, regardless
<u>11.</u>			of size, and woody plants less than 3.28 ft tall.
12.			Woody vine – All woody vines greater than 3.28 ft in
	75	=Total Cover	height.
Woody Vine Stratum: (Plot size: 30)			
1.			
2.			
3.			Hydrophytic
4.			Vegetation
	0	=Total Cover	Present? Yes X No
Demander (Include whate growth are been as a constant			in planta d
Remarks: (Include photo numbers here or on a separate	e sneet.) Agricultura	ıı welland. vegetallon i	s planted

Sampling Point:

Profile Desc	ription: (Describe to	the depth ne	eded to document	the indic	ator or co	nfirm the	absence of inc	dicators.)
Depth	Matrix		Red	ox Feature	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-20	10YR 2/1	98	10YR 4/6	2	С	MP	Sandy Clay Loam	
		·						
	_							
					·			
¹ Type: C=Co	oncentration, D=Deplet	ion, RM=Red	uced Matrix, MS=M	asked Sa	nd Grains.		² Location: PL=	Pore Lining, M=Matrix.
Hydric Soil	Indicators:						Indicato	ers for Problematic Hydric Soils ³ :
Histosol	(A1)		Polyvalue	Below Su	rface (S8)	LRR R,		m Muck (A10) (LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 149	,	20) (1 22 2			ast Prairie Redox (A16) (LRR K, L, R)
	istic (A3) en Sulfide (A4)		Thin Dark Loamy Mu	•	, ,	-	· —	n Mucky Peat or Peat (S3) (LRR K, L, R) k Surface (S7) (LRR K, L)
	d Layers (A5)		Loamy Gle	-		, L)		value Below Surface (S8) (LRR K, L)
Deplete	d Below Dark Surface	(A11)	Depleted N	/latrix (F3))		Thir	n Dark Surface (S9) (LRR K, L)
	ark Surface (A12)		X Redox Dar				·	-Manganese Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1) Gleyed Matrix (S4)		Depleted [Redox Dep					dmont Floodplain Soils (F19) (MLRA 149B) sic Spodic (TA6) (MLRA 144A, 145, 149B)
	Redox (S5)		Redox Dep	JI 63310113	(1-0)			Parent Material (F21)
	Matrix (S6)							y Shallow Dark Surface (TF12)
Dark Su	rface (S7) (LRR R, ML	.RA 149B)					Oth	er (Explain in Remarks)
³ Indicators o	f hydrophytic vegetatio	n and wetlan	d hydrology must be	e present,	unless dis	turbed or p	problematic.	
Restrictive I	Layer (if observed):							
Type:	-						Hydric Soil	Present? Yes X No
Depth (inch	es):						,	
Remarks:								

Project/Site: Benton Solar		Cit	ty/County: E	Benton County		Sampling Dat	e: <u>07/07/2023</u>			
Applicant/Owner: NextEra	State: MN Sampling Point: DP39			nt: DP39						
Investigator(s): Cole Reagan	ection, Towr	nship, Range: <u>s</u>	Sec. 25 T36N F	R30W						
Landform (hillslope, terrace, etc.): Fla	al relief (cor	ncave, convex,	none): None		Slope (%): <5%					
Subregion (LRR or MLRA): MLRA 90	363	Long:	-94.012814		Datum:					
Soil Map Unit Name: <u>D7C - Hubbar</u>	rd loamy sand, 6 t	to 12 percent slopes			NWI classifi	cation: No				
Are climatic / hydrologic conditions or	ı the site typical fo	or this time of year? Yes	s <u>X</u> I	No	(If no, explain	in Remarks.)				
Are Vegetation, Soil	_, or Hydrology _	significantly dist	urbed?	Are "Norma	al Circumstanc	es" present?	Yes X No			
Are Vegetation, Soil	_, or Hydrology _	naturally problen	matic?	(If needed,	explain any ar	nswers in Rem	arks.)			
SUMMARY OF FINDINGS —	Attach site ma	p showing sampli	ng point	locations, tr	ansects, im	portant fea	tures, etc.			
			Ic the S	ampled Area						
Hydrophytic Vegetation Present?	Yes:	No: X		ampled Area a Wetland?		Yes	No X			
Hydric Soil Present?	Yes:	No:X	vvcuana.		103	NO _X_				
Wetland Hydrology Present?	Yes:	No: X	If yes, o	ptional Wetland	d Site ID:		WET22			
HYDROLOGY										
Wetland Hydrology Indicators:					Secondary i	ndicators (mini	mum of two required)			
Primary indicators (minimum of one	required: check a	ıll that apply)			Surface	e Soil Cracks (E	36)			
Surface Water (A1)		Drainag	ge Patterns (B1	١٥)						
High Water Table (A2)	High Water Table (A2) Aquatic Fauna (B13)						Moss Trim Lines (B16)			
Saturation (A3)	-		Dry-Season Water Table (C2)							
Water Marks (B1)	ater Marks (B1) Hydrogen Sulfide Odor (C1)						Crayfish Burrows (C8)			
Sediment Deposits (B2)	=	Oxidized Rhizosph		- · · · -						
Drift Deposits (B3)	-	Presence of Reduc	-	-		d or Stressed P				
Algal Mat or Crust (B4)	-	Recent Iron Reduct		Soils (C6)		rphic Position (
Iron Deposits (B5)		Thin Muck Surface				v Aquitard (D3)				
Inundation Visible on Aerial Ima Sparsely Vegetated Concave S	· · · · · -	Other (Explain in R	temarks)			pographic Reli eutral Test (D5)				
	unace (Bo)				FAC-NO	eutiai iest (D3)	!			
Field Observations:		11 C 1 N								
	No _X De									
	No _X _De	·								
	No _X _De	pth (inches):	\	Wetland Hydro	logy Present	? Yes	No X			
(includes capillary fringe)		vall agrical releases respective	ious inspect	iona) if availab	la.		<u> </u>			
Describe Recorded Data (stream ga	uge, monitoring w	veii, aeriai priotos, previ	ious inspect	ioris), ii avaliab	ie:					
Remarks:										

1. 2. 3. 4. 5. 6. 7.	Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A) Total Number of Dominant Species Across All Strata: 1 (B) Percent of Domant Species That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x1 = 0 FACW species 0 x2 = 0 FAC species 0 x3 = 0 FACU species 0 x4 = 0 UPL species 0 x4 = 0 UPL species 80 x5 = 400 Column Totals: 80 (A) 400 (B) Prevalence Index = B/A= 5.00 Hydrophytic Vegetation Indicators: 1 - Rapid test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Profice supporting data in Remarks or on a separate sheet)
3. 4. 5. 6. 7. 0 =Total Cover Sapling/Shrub Stratum: (Plot size: 15) 1. 2. 3. 4. 5. 6. 7. 0 =Total Cover Herb Stratum: (Plot size: 5) 1. Zea mays 2. 3. 4. 5. 6. 7. 0 =Total Cover	Total Number of Dominant Species Across All Strata: 1 (B) Percent of Domant Species That Are OBL, FACW, or FAC: 0 (A/B) Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x1 = 0 FACW species 0 x2 = 0 FAC species 0 x3 = 0 FACU species 0 x4 = 0 UPL species 80 x5 = 400 Column Totals: 80 (A) 400 (B) Prevalence Index = B/A= 5.00 Hydrophytic Vegetation Indicators: 1 - Rapid test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Profice supporting)
3.	Species Across All Strata:
4. 5. 6. 7. 0 =Total Cover Sapling/Shrub Stratum: (Plot size: 15) 1. 2. 3. 4. 5. 6. 7. 0 =Total Cover Herb Stratum: (Plot size: 5) 1. Zea mays 80 Y UPl 2. 3. 4. 5. 6. 7. 8. 9. 10.	Percent of Domant Species That Are OBL, FACW, or FAC: O Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species O FACW species O FAC species O FAC species O FACU species O Column Totals: 80 A) Prevalence Index = B/A= D Hydrophytic Vegetation Indicators: 1 - Rapid test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is $\leq 3.0^1$ 4 - Morphological Adaptations (Profice supporting)
5. 6. 7. 0 =Total Cover Sapling/Shrub Stratum: (Plot size: 15) 1. 2. 3. 4. 5. 6. 7. 0 =Total Cover Herb Stratum: (Plot size: 5) 1. Zea mays 80 Y UPL 2. 3. 4. 5. 6. 7. 8. 9. 10.	That Are OBL, FACW, or FAC:
6. 7. 0 =Total Cover Sapling/Shrub Stratum: (Plot size: 15) 1. 2. 3. 4. 5. 6. 7. 0 =Total Cover Herb Stratum: (Plot size: 5) 1. Zea mays 80 Y UPI 2. 3. 4. 5. 6. 7. 8. 9. 10.	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 0 x 2 = 0 FAC species 0 x 3 = 0 FACU species 0 x 4 = 0 UPL species 80 x 5 = 400 Column Totals: 80 (A) 400 (B) Prevalence Index = B/A= 5.00 Hydrophytic Vegetation Indicators: 1 - Rapid test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Profice supporting)
7.	
O	
Sapling/Shrub Stratum: (Plot size: 15) 1. 2. 3. 4. 5. 6. 7. UPI 2. 3. 4. 5. 6. 7. 8. 9. 10.	OBL species 0 x1 = 0 FACW species 0 x2 = 0 FAC species 0 x3 = 0 FACU species 0 x4 = 0 UPL species 80 x5 = 400 Column Totals: 80 (A) 400 (B) Prevalence Index = B/A= 5.00 Hydrophytic Vegetation Indicators: 1 - Rapid test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Profice supporting)
1. 2. 3. 4. 5. 6. 7.	FACW species 0 $\times 2 = 0$ FAC species 0 $\times 3 = 0$ FACU species 0 $\times 4 = 0$ UPL species 80 $\times 5 = 400$ Column Totals: 80 (A) 400 (B) Prevalence Index = B/A= 5.00 Hydrophytic Vegetation Indicators: 1 - Rapid test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is $\leq 3.0^{1}$ 4 - Morphological Adaptations (Profice supporting)
2. 3. 4. 5. 6. 7. 0 =Total Cover Herb Stratum: (Plot size: 5) 1. Zea mays 3. 4. 5. 6. 7. 8. 9. 10.	FACU species 0 $\times 4 = 0$ UPL species 80 $\times 5 = 400$ Column Totals: 80 (A) 400 (B) Prevalence Index = B/A= 5.00 Hydrophytic Vegetation Indicators: 1 - Rapid test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is $\le 3.0^1$ 4 - Morphological Adaptations (Profice supporting)
2. 3. 4. 5. 6. 7. 0 =Total Cover Herb Stratum: (Plot size: 5) 1. Zea mays 3. 4. 5. 6. 7. 8. 9. 10.	UPL species $80 \times 5 = 400$ Column Totals: $80 \times 5 = 5.00$ Prevalence Index = B/A= 5.00 Hydrophytic Vegetation Indicators: 1 - Rapid test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is $\le 3.0^1$ 4 - Morphological Adaptations ¹ (Profice supporting
3. 4. 5. 6. 7.	Column Totals: 80 (A) 400 (B) Prevalence Index = B/A= 5.00 Hydrophytic Vegetation Indicators: 1 - Rapid test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Profice supporting
4. 5. 6. 7. 0 =Total Cover Herb Stratum: (Plot size: 5) 1. Zea mays 80 Y UPI 2. 3. 4. 5. 6. 7. 8. 9. 10.	Prevalence Index = B/A= 5.00 Hydrophytic Vegetation Indicators: 1 - Rapid test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Profice supporting
5. 6. 7. 0 =Total Cover Herb Stratum: (Plot size: 5) 1. Zea mays 80 Y UPL 2. 3. 4. 5. 6. 7. 8. 9. 10.	Hydrophytic Vegetation Indicators: 1 - Rapid test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Profice supporting
6. 7. 0 =Total Cover Herb Stratum: (Plot size: 5) 1. Zea mays 80 Y UPL 2. 3. 4. 5. 6. 7. 8. 9. 10.	Hydrophytic Vegetation Indicators: 1 - Rapid test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Profice supporting
7	1 - Rapid test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Profice supporting
0	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Profice supporting
Herb Stratum: (Plot size: 5) 1. Zea mays 80 Y UPL 2. 3. 4. 5. 6. 7. 8. 9. 10.	3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Profice supporting
1. Zea mays 80 Y UPL 2. 3. 4. 5. 6. 7. 8. 9.	4 - Morphological Adaptations ¹ (Profice supporting
1. Zea mays 80 Y UPL 2. 3. 4. 5. 6. 7. 8. 9.	· · · · · · · · · · · · · · · · ·
2. 3. 4. 5. 6. 7. 8. 9. 10.	
3. 4. 5. 6. 7. 8. 9. 10.	Problematic Hydrophytic Vegetation (Explain)
4. 5. 6. 7. 8. 9. 10.	— Trobolitatio Hydrophytic Vegetation (Explain)
5. 6. 7. 8. 9. 10.	¹ Indicators of hydric soil and wetland hydrology must
6. 7. 8. 9. 10.	be present, unless disturbed or problematic.
7. 8. 9. 10.	Definitions of Four Vegetation Strata:
8. 9. 10.	-
9. 10.	Tree –Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10.	
	Sapling/Shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
11.	 Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.	
80 =Total Cover	 Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum: (Plot size: 30)	
1	
<u>1.</u>	_
3.	
	Vegetation
4 0 =Total Cover	Present? Yes No X
Remarks: (Include photo numbers here or on a separate sheet.)	

Sampling Point:

Profile Desci	ription: (Describe to	the depth n	eeded to document	the indic	ator or co	nfirm the	absence of in	dicators.)	
Depth	Matrix		Red	ox Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-20	10YR 2/2	100		0			Loamy Sand		
				_					
				_					
									_
									_
¹ Type: C=Co	ncentration, D=Deplet	ion, RM=Re	duced Matrix, MS=M	asked Sa	nd Grains.		² Location: PL=	Pore Lining, M	=Matrix.
Hydric Soil I	ndicators:						Indicato	ors for Problen	natic Hydric Soils ³ :
Histosol	(A1)		Polyvalue	Below Su	face (S8)	(LRR R,			LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149	•					ox (A16) (LRR K, L, R)
Black His	stic (A3) n Sulfide (A4)		Thin Dark : Loamy Mu					m Mucky Peat (k Surface (S7)	or Peat (S3) (LRR K, L, R)
	I Layers (A5)		Loamy Gle			KK K, L)			Surface (S8) (LRR K, L)
	Below Dark Surface	(A11)	Depleted N	-					(S9) (LRR K, L)
	ark Surface (A12)		Redox Dar					-	Masses (F12) (LRR K, L, R)
	lucky Mineral (S1) leyed Matrix (S4)		Depleted D						ain Soils (F19) (MLRA 149B) (6) (MLRA 144A, 145, 149B)
	edox (S5)		Nedox Dep	5103310113	(1 0)			d Parent Materi	
	Matrix (S6)								Surface (TF12)
Dark Sui	rface (S7) (LRR R, ML	RA 149B)					Oth	er (Explain in F	Remarks)
³ Indicators of	hydrophytic vegetatio	n and wetla	nd hydrology must h	e nresent	unless dis	turhed or	nroblematic		
	ayer (if observed):	iii ana wetta	id Hydrology mast be	c present,	unicoo dio	itarbea or	problematic.		
Type:	ayer (ii observed).						Unadaia Cail	I D	V N- V
Depth (inche	es):						Hydric Soil	i Present?	Yes No <u>X</u>
Remarks:									

Project/Site: Benton Solar		City/	County: Benton County		Sampling Dat	e: <u>07/07/2023</u>
Applicant/Owner: NextEra				State: MN	Sampling Poi	nt: <u>DP40</u>
Investigator(s): Cole Reagan		Sec	ction, Township, Range:	Sec. 25 T36N	R30W	
Landform (hillslope, terrace, etc.): Dep	pression	Local	relief (concave, convex,	none): Conca	ave	Slope (%): <5%
Subregion (LRR or MLRA): MLRA 90E	3, LRR K	Lat: 45.57432	5 Long:	-94.025448		Datum:
Soil Map Unit Name: C56A - Langol	a loamy fine sand	d, 0 to 2 percent slopes		NWI classif	ication: PFO	/PEM
Are climatic / hydrologic conditions on	the site typical fo	r this time of year? Yes	XNo	_(If no, explain	n in Remarks.)	
Are Vegetation, Soil	, or Hydrology _	significantly distur	bed? Are "Norm	al Circumstand	es" present?	Yes X No
Are Vegetation, Soil	, or Hydrology _	naturally problema	atic? (If needed	, explain any a	nswers in Rem	arks.)
SUMMARY OF FINDINGS — A	ttach site ma	p showing samplin	g point locations, t	ransects, in	nportant fea	tures, etc.
			Is the Sampled Area			
Hydrophytic Vegetation Present?	Yes: X	No:	within a Wetland?		Yes	X No
Hydric Soil Present?	Yes: X	No:	within a wettand.		103	<u> </u>
Wetland Hydrology Present?	Yes: X	No:	If yes, optional Wetlan	d Site ID:		WET18
HYDROLOGY						
Wetland Hydrology Indicators:				Secondary i	ndicators (mini	mum of two required)
Primary indicators (minimum of one r	equired: check al	l that apply)		Surface	e Soil Cracks (E	36)
Surface Water (A1)	Drainage Patterns (B10)					
High Water Table (A2)	_	Moss Trim Lines (B16)				
Saturation (A3)	_	Dry-Season Water Table (C2)				
Water Marks (B1) Sediment Deposits (B2)	-	Hydrogen Sulfide Oc	res on Living Roots (C3)	Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)		
Sediment Deposits (B2) Drift Deposits (B3)		Presence of Reduce	= ' '		d or Stressed P	
Algal Mat or Crust (B4)			on in Tilled Soils (C6)		orphic Position (
Iron Deposits (B5)	_	Thin Muck Surface (w Aquitard (D3)	
Inundation Visible on Aerial Imag	gery (B7)	Other (Explain in Re	•		ppographic Reli	
Sparsely Vegetated Concave Su	ırface (B8)			X FAC-N	eutral Test (D5))
Field Observations:						
	No X Dep	oth (inches):				
	No X Dep	-				
	No X Dep					
(includes capillary fringe)	<u> </u>	. ,	Wetland Hydro	ology Present	? Yes	X No
Describe Recorded Data (stream gau	ige, monitoring w	ell, aerial photos, previo	us inspections), if availab	ole:		
Remarks:						
Nomans.						

<u>Tree Stratum:</u> (Plot size: <u>30</u>)		Dominant Indicator	Dominance Test worksheet:
1	% Cover	Species? Status	Number of Dominant Species
2.			That Are OBL, FACW, or FAC: 1 (A)
<u>2.</u> 3.			Total Number of Dominant
4			Species Across All Strata:1 (B)
5.			Percent of Domant Species
6.			That Are OBL, FACW, or FAC:100 (A/B)
7.			Prevalence Index worksheet:
1.	0	=Total Cover	Total % Cover of: Multiply by:
		- Total Cover	OBL species $0 \times 1 = 0$
Sapling/Shrub Stratum: (Plot size: 15)			FACW species 100 x 2 = 200
1.			FAC species 0 x 3 = 0
2.			FACU species 0 x 4 = 0
3.			UPL species 0 x 5 = 0
4.			Column Totals: (A) (B)
			Prevalence Index = B/A= 2.00
<u>6.</u> 7.			Hydrophytic Vegetation Indicators:
<u>. </u>			1 - Rapid test for Hydrophytic Vegetation X 2 - Dominance Test is >50%
	0	=Total Cover	X 3 - Prevalence Index is ≤3.0 ¹
Herb Stratum: (Plot size: 5)			4 - Morphological Adaptations ¹ (Profice supporting
 -	100		data in Remarks or on a separate sheet)
1. Phalaris arundinacea	100	Y FACW	Problematic Hydrophytic Vegetation (Explain)
2.			
3.			¹ Indicators of hydric soil and wetland hydrology must
4.			be present, unless disturbed or problematic.
5.			Definitions of Four Vegetation Strata:
6.			Tree –Woody plants 3 in. (7.6 cm) or more in diameter
7.			at breast height (DBH), regardless of height.
8.			Sapling/Shrub – Woody plants less than 3 in. DBH
9.			and greater than or equal to 3.28 ft (1 m) tall.
10.			Herb – All herbaceous (non-woody) plants, regardless
<u>11.</u>			of size, and woody plants less than 3.28 ft tall.
<u>12.</u>			Woody vine – All woody vines greater than 3.28 ft in
	100	=Total Cover	height.
Woody Vine Stratum: (Plot size: 30)			
1.			
2.			
3.			Hydrophytic
4.			Vegetation
	0	=Total Cover	Present? Yes X No
Remarks: (Include photo numbers here or on a separate	- choot)		
Remarks. (include prioto numbers here or on a separate	: Sileet.)		

Sampling Point:

Profile Desc	ription: (Describe to	the depth i	needed to documen	t the indic	cator or co	nfirm the	absence of inc	licators.)
Depth	Matrix		Red	lox Featur	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-16	10YR 2/1	100		0			Clay Loam	
16-24	10YR 5/2	95	10YR 4/6	5	С	М	Sandy Clay	
							Loam	
				_				
								
				-				
				_				
				_				
					- 			
¹ Type: C=Co	ncentration, D=Deplet	ion, RM=Re	educed Matrix, MS=M	lasked Sa	nd Grains.		² Location: PL=	Pore Lining, M=Matrix.
Black Hi Hydroge Stratified Depleted X Thick Da Sandy M Sandy G Sandy R Dark Sui	(A1) sipedon (A2) stic (A3) n Sulfide (A4) I Layers (A5) d Below Dark Surface ark Surface (A12) lucky Mineral (S1) eleyed Matrix (S4) edox (S5) Matrix (S6) rface (S7) (LRR R, ML hydrophytic vegetatic ayer (if observed):	.RA 149B)	MLRA 149 Thin Dark Loamy Mu Loamy Gle Depleted I Redox Da Depleted I Redox De	SBB) Surface (Sucky Miner Seyed Matrix Matrix (F3) Fix Surface Dark Surfa pressions) e (F6) ace (F7) (F8)	R, MLRA 1		rs for Problematic Hydric Soils ³ : In Muck (A10) (LRR K, L, MLRA 149B) In Muck (A10) (LRR K, L, MLRA 149B) In Mucky Peat or Peat (S3) (LRR K, L, R) In Mucky Peat or Peat (S3) (LRR K, L, R) In Value Below Surface (S8) (LRR K, L) In Dark Surface (S9) (LRR K, L) In Manganese Masses (F12) (LRR K, L, R) Idmont Floodplain Soils (F19) (MLRA 149B) In Dark Surface (TA6) (MLRA 144A, 145, 149B) Parent Material (F21) In Shallow Dark Surface (TF12) In Carrier (Explain in Remarks) Present? Yes X No

Project/Site: Benton Solar		City	y/County: <u>Be</u>	enton County		Sampling Date	e: <u>07/07/2023</u>	
Applicant/Owner: NextEra			{	State: MN	Sampling Poir	nt: DP41		
Investigator(s): Cole Reagan		Se	ection, Towns	ship, Range: S	Sec. 25 T36N F	R30W		
Landform (hillslope, terrace, etc.): Fli	at	Loca	al relief (cond	cave, convex, r	none): None		Slope (%): <5%	
Subregion (LRR or MLRA): MLRA 90	B , LRR K	Lat: 45.57438	81	Long:	-94.025585		Datum:	
Soil Map Unit Name: C56A - Lango	ola loamy fine san	nd, 0 to 2 percent slopes	i		NWI classifi	cation: No		
Are climatic / hydrologic conditions or	n the site typical fo	or this time of year? Yes	<u> </u>	0	(If no, explain	in Remarks.)		
Are Vegetation, Soil	_, or Hydrology	significantly distu	ırbed?	Are "Norma	al Circumstanc	es" present?	Yes X No	
Are Vegetation, Soil	_, or Hydrology _	naturally problem	natic?	(If needed,	explain any ar	nswers in Rema	arks.)	
SUMMARY OF FINDINGS —	Attach site ma	ap showing samplir	ng point lo	ocations, tr	ansects, im	portant fea	tures, etc.	
			Is the Sa	ampled Area				
Hydrophytic Vegetation Present?	Yes:	No: X		Wetland?		Yes	No X	
Hydric Soil Present?	Yes:	No: X				_		
Wetland Hydrology Present?	Yes:	No: X	If yes, op	tional Wetland	Site ID:		WET18	
HYDROLOGY								
Wetland Hydrology Indicators:					Secondary in	ndicators (mini	mum of two required)	
Primary indicators (minimum of one	required: check a	all that apply)			Surface	Soil Cracks (E	36)	
Surface Water (A1)	_	Water-Stained Leav	ves (B9)		Drainag	je Patterns (B1	.0)	
High Water Table (A2)	-	Aquatic Fauna (B13	3)		Moss T	rim Lines (B16))	
Saturation (A3)	-	Marl Deposits (B15)	-		Dry-Season Water Table (C2) Crayfish Burrows (C8)			
Water Marks (B1)	-	Hydrogen Sulfide O						
Sediment Deposits (B2)	-	Oxidized Rhizosphe			·			
Drift Deposits (B3) Algal Mat or Crust (B4)	-	Presence of Reduce Recent Iron Reducti			·	or Stressed P rphic Position (
Iron Deposits (B5)	-	Thin Muck Surface (3011S (C0)	·	•		
Inundation Visible on Aerial Ima	agerv (B7)	Other (Explain in Re		Shallow Aquitard (D3) Microtopographic Relief (D4)				
Sparsely Vegetated Concave S	• , , ,		,			eutral Test (D5)		
Field Observations:								
	No X De	enth (inches):						
	No <u></u> De							
	No <u></u> De							
(includes capillary fringe)	_ NO _X_ DO	pur (menes).	— w	etland Hydro/	logy Present?	Yes	No <u>X</u>	
Describe Recorded Data (stream ga	uge, monitoring v	vell, aerial photos, previo	ous inspection	ons), if availab	le:			
Remarks:								

Tree Stratum: (Plot size: 30)		Dominant Indicator	Dominance Test worksheet:
1	% Cover	Species? Status	Number of Dominant Species
2.			That Are OBL, FACW, or FAC: 1 (A)
3.			Total Number of Dominant
4			Species Across All Strata: 2 (B)
5.			Percent of Domant Species That Are OBL, FACW, or FAC: 50 (A/B)
6.			That Are OBL, FACW, or FAC:50 (A/B)
7.			Prevalence Index worksheet:
	0	=Total Cover	Total % Cover of: Multiply by:
		- Total Cover	OBL species 0 x 1 = 0
Sapling/Shrub Stratum: (Plot size: 15)			FACW species 0 x 2 = 0
1.			FAC species 40 x 3 = 120
2.			FACU species 10 x 4 = 40
3.			UPL species x 5 =250
4.			Column Totals: (A) (B)
5.			Prevalence Index = B/A= 4.10
6.			
7.			Hydrophytic Vegetation Indicators: 1 - Rapid test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
	0	=Total Cover	3 - Prevalence Index is ≤3.0 ¹
Herb Stratum: (Plot size: 5)			4 - Morphological Adaptations ¹ (Profice supporting
1. Bromus inermis	50	Y UPL	data in Remarks or on a separate sheet)
2. Setaria pumila	40	Y FAC	Problematic Hydrophytic Vegetation (Explain)
3. Solidago altissima	10	N FACU	¹ Indicators of hydric soil and wetland hydrology must
4.			be present, unless disturbed or problematic.
5.			5 f iii
6.			Definitions of Four Vegetation Strata:
7.			Tree –Woody plants 3 in. (7.6 cm) or more in diameter
8.			at breast height (DBH), regardless of height.
0			Sapling/Shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10			and greater than or equal to 3.28 it (1 iii) tail.
11.			Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
12.			of size, and woody plants less than 3.20 it tall.
	100	=Total Cover	Woody vine – All woody vines greater than 3.28 ft in height.
Woody Vine Stratum: (Plot size: 30)			
			
1.			
2.			
3.			Hydrophytic
4.			Vegetation Present? Yes No X
	0	=Total Cover	Present? Yes No _X
Remarks: (Include photo numbers here or on a separate	sheet.)		

Sampling Point:

Profile Desci	ription: (Describe to	the depth n	eeded to document	the indic	ator or co	nfirm the	absence of in	dicators.)	
Depth	Matrix		Red	ox Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-20	10YR 2/2	100		0			Loamy Sand		
				_					
				_					
									_
									_
¹ Type: C=Co	ncentration, D=Deplet	ion, RM=Re	duced Matrix, MS=M	asked Sa	nd Grains.		² Location: PL=	Pore Lining, M	=Matrix.
Hydric Soil I	ndicators:						Indicato	ors for Problen	natic Hydric Soils ³ :
Histosol	(A1)		Polyvalue	Below Su	face (S8)	(LRR R,			LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149	•					ox (A16) (LRR K, L, R)
Black His	stic (A3) n Sulfide (A4)		Thin Dark : Loamy Mu					m Mucky Peat (k Surface (S7)	or Peat (S3) (LRR K, L, R)
	I Layers (A5)		Loamy Gle			KK K, L)			Surface (S8) (LRR K, L)
	Below Dark Surface	(A11)	Depleted N	-					(S9) (LRR K, L)
	ark Surface (A12)		Redox Dar					-	Masses (F12) (LRR K, L, R)
	lucky Mineral (S1) leyed Matrix (S4)		Depleted D						ain Soils (F19) (MLRA 149B) (6) (MLRA 144A, 145, 149B)
	edox (S5)		Nedox Dep	5103310113	(1 0)			d Parent Materi	
	Matrix (S6)								Surface (TF12)
Dark Sui	rface (S7) (LRR R, ML	RA 149B)					Oth	er (Explain in F	Remarks)
³ Indicators of	hydrophytic vegetatio	n and wetla	nd hydrology must h	e nresent	unless dis	turhed or	nroblematic		
	ayer (if observed):	iii ana wetta	id Hydrology mast be	c present,	unicoo dio	itarbea or	problematic.		
Type:	ayer (ii observed).						Unadaia Cail	I D	V N- V
Depth (inche	es):						Hydric Soil	i Present?	Yes No <u>X</u>
Remarks:									

Project/Site: Benton Solar City	/County: Benton County	Sampling Date: 07/07/2023
Applicant/Owner: NextEra	State: MN	Sampling Point: DP42
Investigator(s): Cole Reagan Sec	ction, Township, Range: Sec. 25 T3	36N R30W
Landform (hillslope, terrace, etc.): Depression Local	I relief (concave, convex, none): <u>C</u>	Concave Slope (%): <5%
Subregion (LRR or MLRA): MLRA 90B , LRR K Lat: 45.57411	L6 Long: <u>-94.0278</u>	Datum:
Soil Map Unit Name: C56A - Langola loamy fine sand, 0 to 2 percent slopes	NWI cla	assification: PFO
$\label{eq:conditions} Are climatic / hydrologic conditions on the site typical for this time of year? Yes \\$	XNo(If no, exp	plain in Remarks.)
Are Vegetation, Soil, or Hydrologysignificantly distur		stances" present? Yes X No
Are Vegetation X, Soil , or Hydrologynaturally problems		ny answers in Remarks.)
${\color{red} {\sf SUMMARY\ OF\ FINDINGS-Attach\ site\ map\ showing\ sampling}}$	g point locations, transects	, important features, etc.
	Is the Sampled Area	
Hydrophytic Vegetation Present? Yes: X No:	within a Wetland?	Yes <u>X</u> No
Hydric Soil Present? Yes: X No:		WETA
Wetland Hydrology Present? Yes: X No:	If yes, optional Wetland Site ID:	WET19
sparse vegetation.		
HYDROLOGY		
Wetland Hydrology Indicators:	Second	lary indicators (minimum of two required)
Primary indicators (minimum of one required: check all that apply)	Su	rface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leave	es (B9) Dra	ainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (B13)	Mo	oss Trim Lines (B16)
X Saturation (A3) Marl Deposits (B15)		y-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide Od	· · ·	ayfish Burrows (C8)
<u> </u>	- · · · · 	uturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduce	· · ·	unted or Stressed Plants (D1)
<u> </u>		eomorphic Position (D2)
Iron Deposits (B5) Thin Muck Surface (Inundation Visible on Aerial Imagery (B7) Other (Explain in Re	• •	allow Aquitard (D3) crotopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	· · · · · · · · · · · · · · · · · · ·	C-Neutral Test (D5)
_ ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` `	<u></u>	o reducti rest (53)
Field Observations:		
Surface Water Present? Yes No _X _ Depth (inches):		
Water Table Present? Yes No X Depth (inches):		
Saturation Present? Yes X No Depth (inches): 10 (includes capillary fringe)	Wetland Hydrology Pres	sent? Yes X No
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previo	us inequations) if available:	
Describe Recorded Data (stream gauge, monitoring well, aenai priotos, previo	us inspections), ii available.	
Remarks:		

<u>Tree Stratum:</u> (Plot size: <u>30</u>)		Dominant I		Dominance Test worksheet:		
1. Acer saccharinum	40		FACW	Number of Dominant Species	4	(4)
2. Fraxinus pennsylvanica	40		FACW	That Are OBL, FACW, or FAC:	4	(A)
3.		<u> </u>	17.011	Total Number of Dominant	4	(D)
4.				Species Across All Strata:	4	(B)
5.				Percent of Domant Species That Are OBL, FACW, or FAC:	100	(A/D)
6.				That Are OBL, FACW, or FAC:	100	(A/B)
7.				Prevalence Index worksheet:		
<u>1.</u>		-Total Cove		Total % Cover of:	Multiply by:	
	80	=Total Cove	:1		x 1 = 0	
Sapling/Shrub Stratum: (Plot size: 15)				· —	x 2 = 270	
1. Betula nigra	5	Υ	FACW	FAC species 0	x 3 =0	
2.				FACU species 0	x 4 =0	
3.				UPL species0	x 5 =0	
4.				Column Totals: 135	(A) <u>270</u>	(B)
				Prevalence Index = B/A=	2.00	
<u> </u>						
7.				Hydrophytic Vegetation Indica		
1.				1 - Rapid test for Hydrophy X 2 - Dominance Test is >50	-	
	5	=Total Cove	er			
Herb Stratum: (Plot size: 5)				X 3 - Prevalence Index is ≤3. 4 - Morphological Adaptati		ıpporting
1. Phalaris arundinacea	50	Υ	FACW	data in Remarks or on a se		9
2		<u> </u>	TACV	X Problematic Hydrophytic V	egetation (Expla	ain)
3.						
				¹ Indicators of hydric soil and wet be present, unless disturbed or p		must
4.				be present, unless disturbed of p	Jobiernatic.	
5.				Definitions of Four Vegetation	Strata:	
6.				Tree –Woody plants 3 in. (7.6 ci	m) or more in di	ameter
7.				at breast height (DBH), regardle		ameter
8.				Sapling/Shrub – Woody plants	less than 3 in T	OBH
9.				and greater than or equal to 3.2	8 ft (1 m) tall.	5511
<u>10.</u>				Herb – All herbaceous (non-woo	ody) plants reg	ardless
<u>11.</u>				of size, and woody plants less the		aruicss
<u>12.</u>				Woody vine – All woody vines	greater than 2.2	Q ft in
	50	=Total Cove	er	height.	greater than 3.2	O IC III
Woody Vine Stratum: (Plot size: 30)						
1.						
2.						
3.				Hydrophytic		
4.				Vegetation		
	0	=Total Cove	r		es X No	
Remarks: (Include photo numbers here or on a separate	sheet.) Sparsely v	egetated cor	ncave surfa	ace within floodplain		
, .	, , ,			·		

Sampling Point:

Profile Desc	ription: (Describe to t	the depth n	eeded to documen	t the indic	cator or co	nfirm the	absence of in	dicators.)	
Depth	Matrix		Red	dox Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-20	10YR 2/1	90	10YR 5/6	10	С	MP	Clay Loam		
									_
					· · · · · · · · · · · · · · · · · · ·				
						-			
									_
¹ Type: C=Co	ncentration, D=Depleti	on, RM=Re	duced Matrix, MS=N	Masked Sa	nd Grains.		² Location: PL=	Pore Lining, M	=Matrix.
Hydric Soil I	<u>.</u>								
Histosol			Polyvalue	Below Su	rface (S8)	(LRR R,			natic Hydric Soils ³ : (LRR K, L, MLRA 149B)
	pipedon (A2)		MLRA 14		,	,			ox (A16) (LRR K, L, R)
Black His					S9) (LRR F				or Peat (S3) (LRR K, L, R)
	n Sulfide (A4) d Layers (A5)		Loamy Mi Loamy Gl		al (F1) (LR ix (F2)	RKK, L)		rk Surface (S7) Ivvalue Below S	(LRR K, L) Surface (S8) (LRR K, L)
	d Below Dark Surface ((A11)	Depleted					-	(S9) (LRR K, L)
	ark Surface (A12)		X Redox Da						Masses (F12) (LRR K, L, R)
	Mucky Mineral (S1) Gleyed Matrix (S4)		Depleted Redox De		. ,				ain Soils (F19) (MLRA 149B) b) (MLRA 144A, 145, 149B)
	Redox (S5)		Redux De	pressions	(1-0)			d Parent Materi	
Stripped	Matrix (S6)								Surface (TF12)
Dark Sui	rface (S7) (LRR R, ML	.RA 149B)					Oth	ner (Explain in F	Remarks)
³ Indicators of	f hydrophytic vegetatio	n and wetla	nd hydrology must b	e present,	, unless dis	turbed or	problematic.		
Restrictive L	ayer (if observed):								
Type:							Hydric Soi	I Present?	Yes X No
Depth (inche	es):								
Remarks:									

Project/Site: Benton Solar		City	/County: Benton County		Sampling Dat	te: 07/07/2023		
Applicant/Owner: NextEra				State: MN	Sampling Poi	nt: DP43		
Investigator(s): Cole Reagan		Sec	ction, Township, Range:	Sec. 25 T36N	R30W			
Landform (hillslope, terrace, etc.): Fli	at	Local	relief (concave, convex,	none): <u>Linea</u>	r Slope	Slope (%): <5%		
Subregion (LRR or MLRA): MLRA 90	B , LRR K	Lat: <u>45.57418</u>	Long:	-94.027736		Datum:		
Soil Map Unit Name: C56A - Lango	ola loamy fine sand	d, 0 to 2 percent slopes		NWI classif	fication: No			
Are climatic / hydrologic conditions or	n the site typical fo	or this time of year? Yes	XNo	_(If no, explain	n in Remarks.)			
Are Vegetation, Soil	_, or Hydrology _	significantly distur	rbed? Are "Norm	nal Circumstand	ces" present?	Yes X No		
Are Vegetation, Soil	_, or Hydrology _	naturally problem	atic? (If needed	l, explain any a	nswers in Rema	arks.)		
SUMMARY OF FINDINGS —	Attach site ma	p showing samplin	g point locations, t	ransects, in	nportant fea	tures, etc.		
			Is the Sampled Area					
Hydrophytic Vegetation Present?	Yes:	No: X	within a Wetland?		Yes	No X		
Hydric Soil Present?	Yes:	No: X			_			
Wetland Hydrology Present?	Yes:	No: X	If yes, optional Wetlan	nd Site ID:		WET19		
HYDROLOGY								
Wetland Hydrology Indicators:				Secondary i	indicators (mini	mum of two required)		
Primary indicators (minimum of one	required: check a	ıll that apply)		Surface	e Soil Cracks (E	36)		
Surface Water (A1)	_	Water-Stained Leave	es (B9)	Draina	ge Patterns (B1	10)		
High Water Table (A2)	_	Aquatic Fauna (B13)		·	Trim Lines (B16	•		
Saturation (A3)	-	Marl Deposits (B15)		Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)				
Water Marks (B1)	_	Hydrogen Sulfide Oo						
Sediment Deposits (B2)	_		res on Living Roots (C3)	·				
Drift Deposits (B3) Algal Mat or Crust (B4)	_	Presence of Reduce		·	d or Stressed P			
Iron Deposits (B5)	_	Thin Muck Surface (lled Soils (C6) Geomorphic Position (D2) Shallow Aquitard (D3)				
Inundation Visible on Aerial Ima	agery (B7)	Other (Explain in Re	•	Siranow Adultaru (D3) Microtopographic Relief (D4)				
Sparsely Vegetated Concave S	Surface (B8)	_ ` ` '	•		eutral Test (D5)			
Field Observations:								
	No X De	epth (inches):						
	No X De							
<u> </u>	No X De	· · · · · · · · · · · · · · · · · · ·						
(includes capillary fringe)			Wetland Hydr	ology Present	? Yes	No <u>X</u>		
Describe Recorded Data (stream ga	uge, monitoring w	vell, aerial photos, previo	us inspections), if availal	ble:				
Remarks:								

Tree Stratum: (Plot size: 30)		Dominant Species?		Dominance Test worksheet:		
1 Acer coopherinum			FACW	Number of Dominant Species		
1. Acer saccharinum	30	Y		That Are OBL, FACW, or FAC:	2	(A)
2. Quercus alba	20	Y	FACU	Total Number of Dominant		
3. Quercus macrocarpa		Y	FACU	Species Across All Strata:	5	(B)
4. Ulmus americana	10	<u>N</u>	FACW	Percent of Domant Species		
5.			-	That Are OBL, FACW, or FAC:	40	(A/B)
6.						
7.				Prevalence Index worksheet:		
	80	=Total Cov	ver	Total % Cover of:	Multiply by:	
Sapling/Shrub Stratum: (Plot size: 15)					1 = 0	
Saping/Shrub Stratum. (1 lot 3/20. 15)				· ———	2 = 80	
1.					3 = <u>60</u> 4 = 240	
<u>2</u> .					4 = 240 5 = 0	
<u>3.</u>				•	A) 380	(B)
4.					-	(B)
5.				Prevalence Index = B/A=	3.17	
6.				Hydrophytic Vegetation Indicate	ors:	
7.				1 - Rapid test for Hydrophyt		
	0	=Total Cov	ver	2 - Dominance Test is >50%	%	
		-10141 00	VCI	3 - Prevalence Index is ≤3.0	0 ¹	
Herb Stratum: (Plot size: 5)				4 - Morphological Adaptatio	ons ¹ (Profice su	oporting
1. Urtica dioica	20	Υ	FAC	data in Remarks or on a se	parate sheet)	
2. Solidago altissima	20	Y	FACU	Problematic Hydrophytic Ve	egetation (Expla	in)
3.		<u> </u>	17100	1 adiabata na afilia dais a sil and condi		
4.				¹ Indicators of hydric soil and wetla be present, unless disturbed or pr		iust
				and processing assessment on pro-		
<u>5.</u>				Definitions of Four Vegetation	Strata:	
6.			-	Tree –Woody plants 3 in. (7.6 cm	n) or more in dia	meter
7.				at breast height (DBH), regardles	ss of height.	
8.				Sapling/Shrub – Woody plants I	less than 3 in. D	ВН
9.				and greater than or equal to 3.28	3 ft (1 m) tall.	
10.				Herb – All herbaceous (non-woo	ody) plants, rega	rdless
<u>11.</u>				of size, and woody plants less th	an 3.28 ft tall.	
<u>12.</u>				Woody vine – All woody vines g	reater than 3.28	ft in
	40	=Total Cov	ver	height.	,	
Woody Vine Stratum: (Plot size: 30)						
1.						
2.						
3.				Hydrophytic		
4.				Vegetation		
<u></u>	0	=Total Cov	ver	Present? Ye	s No _	<u>x</u> _
Remarks: (Include photo numbers here or on a separate s		=Total Cov	ver	Present? Ye	es No _:	<u>x</u>

Sampling Point:

Profile Desc	ription: (Describe to	the depth ne	eded to document	the indic	ator or co	nfirm the	absence of in	dicators.)
Depth	Matrix		Red	ox Featur	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc 2	Texture	Remarks
0-20	10YR 2/2	100	<u></u>	0	<u> 1960 </u>		Loamy Sand	
	10111 2/2						Louiny Cana	
		· 						
		. — — —						
		· 						
		· 						
¹ Type: C=Co	ncentration, D=Deplet	ion, RM=Red	uced Matrix, MS=M	asked Sa	nd Grains.		² Location: PL=	Pore Lining, M=Matrix.
Hydric Soil I	ndicators:						Indicato	ors for Problematic Hydric Soils ³ :
Histosol	(A1)		Polyvalue	Below Su	rface (S8) (LRR R,		m Muck (A10) (LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149	,				ast Prairie Redox (A16) (LRR K, L, R)
Black Hi			Thin Dark					m Mucky Peat or Peat (S3) (LRR K, L, R)
	n Sulfide (A4) I Layers (A5)		Loamy Mu Loamy Gle			RK,L)		rk Surface (S7) (LRR K, L) yvalue Below Surface (S8) (LRR K, L)
	Below Dark Surface	(A11)	Depleted N					n Dark Surface (S9) (LRR K, L)
	ırk Surface (A12)	,	Redox Dar					n-Manganese Masses (F12) (LRR K, L, R)
Sandy M	lucky Mineral (S1)		Depleted [Oark Surfa	ce (F7)		Pied	dmont Floodplain Soils (F19) (MLRA 149B)
	leyed Matrix (S4)		Redox De	oressions	(F8)			sic Spodic (TA6) (MLRA 144A, 145, 149B)
	edox (S5)							d Parent Material (F21)
	Matrix (S6) face (S7) (LRR R, ML	RΔ 149R)						y Shallow Dark Surface (TF12) er (Explain in Remarks)
Dark Sur	idee (57) (EITH IT, IME	.TCA 143D)					0	er (Explain in Nemarks)
³ Indicators of	hydrophytic vegetatio	n and wetlan	d hydrology must be	e present,	unless dis	turbed or	problematic.	
	ayer (if observed):							
Type:	, 0. (0.000.100.,.							
Depth (inche	es):						Hydric Soil	I Present? Yes No _X
Remarks:								
rtemano.								

Project/Site: Benton Solar City/Co	ounty: Benton County	Sampling Date: <u>07/07/2023</u>			
Applicant/Owner: NextEra	State: MN	Sampling Point: DP44			
Investigator(s): Cole Reagan Section	on, Township, Range: Sec. 25 T36N	R30W			
Landform (hillslope, terrace, etc.): Depression Local re	elief (concave, convex, none): Conc	aveSlope (%): <5%			
Subregion (LRR or MLRA): MLRA 90B , LRR K Lat: 45.573805	Long: <u>-94.025607</u>	Datum:			
Soil Map Unit Name: D30A - Seelyeville and Markey soils, depressional, 0 to 1	percent slopes NWI classif	ication: PFO/PEM			
Are climatic / hydrologic conditions on the site typical for this time of year? Yes _	X No (If no, explain	n in Remarks.)			
Are Vegetation, Soil, or Hydrologysignificantly disturbe	ed? Are "Normal Circumstand	ces" present? Yes X No			
Are Vegetation X, Soil , or Hydrologynaturally problemation	c? (If needed, explain any a	nswers in Remarks.)			
${\bf SUMMARY\ OF\ FINDINGS-Attach\ site\ map\ showing\ sampling}$	point locations, transects, in	nportant features, etc.			
	Is the Sampled Area				
Hydrophytic Vogetation Procent? Voc: V No:	within a Wetland?	Yes X No			
Hydric Soil Present? Yes: X No:	Willin a Froncia.				
Wetland Hydrology Present? Yes: X No:	If yes, optional Wetland Site ID:	WET18			
Remarks: (Explain alternative procedures here or in a separate report.) Vegetatic sparse vegetation.	III IS naturany problemane due to the	proximity to the noouplain and resulting			
HYDROLOGY					
Wetland Hydrology Indicators:	<u>Secondary i</u>	indicators (minimum of two required)			
Primary indicators (minimum of one required: check all that apply)	Surface	e Soil Cracks (B6)			
Surface Water (A1) Water-Stained Leaves	(B9) Draina	ge Patterns (B10)			
High Water Table (A2) Aquatic Fauna (B13)	Moss T	Trim Lines (B16)			
X Saturation (A3) Marl Deposits (B15)		ason Water Table (C2)			
Water Marks (B1) Hydrogen Sulfide Odor	• / _ /	th Burrows (C8)			
Sediment Deposits (B2) X Oxidized Rhizospheres Deposits (R2)	· · · · · · · · · · · · · · · · · · ·	tion Visible on Aerial Imagery (C9)			
Drift Deposits (B3) Presence of Reduced I	` '	d or Stressed Plants (D1)			
Algal Mat or Crust (B4) Recent Iron Reduction This Muck Surface (C7	• • • —	ed Soils (C6) X Geomorphic Position (D2) Shallow Aquitard (D3)			
Iron Deposits (B5) — Thin Muck Surface (C7 — Inundation Visible on Aerial Imagery (B7) — Other (Explain in Rema	<i>-</i>	Snailow Aquitard (D3) Microtopographic Relief (D4)			
Sparsely Vegetated Concave Surface (B8)	· —	eutral Test (D5)			
	<u> </u>				
Field Observations:					
Surface Water Present? Yes No _X Depth (inches):	_				
Water Table Present? Yes No X Depth (inches):	_				
Saturation Present? Yes X No Depth (inches): 12 (includes capillary fringe)	Wetland Hydrology Present	? Yes <u>X</u> No			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous	inenections) if available:				
Describe Necorded Data (Stream gauge, monitoring well, acrial photos, previous	inspections), if available.				
Demorker					
Remarks:					

Tree Stratum: (Plot size: 30)		Dominant Indicate Species? Status	
1. Acer saccharinum	40	Y FACW	Number of Dominant Species
2. Fraxinus pennsylvanica	40	Y FACW	That Are ODE, FACW, OF FAC. (A)
3.			Total Number of Dominant
4			Species Across All Strata:3 (B)
			Percent of Domant Species That Are OBL, FACW, or FAC: 100 (A/B)
			That Are OBL, FACW, or FAC:100 (A/B)
<u>6.</u> 7.			Prevalence Index worksheet:
1.	80	=Total Cover	Total % Cover of: Multiply by:
		- Iolai Covei	OBL species 0 x 1 = 0
Sapling/Shrub Stratum: (Plot size: 15)			FACW species 170 x 2 = 340
1.			FAC species 0 x 3 = 0
2.			FACU species 0 x 4 = 0
	· 		UPL species 0 x 5 = 0
<u>3.</u> 4.			Column Totals: <u>170</u> (A) <u>340</u> (B)
			Prevalence Index = B/A= 2.00
			_
			Hydrophytic Vegetation Indicators:
<u>I.</u>			1 - Rapid test for Hydrophytic Vegetation X 2 - Dominance Test is >50%
	0	=Total Cover	X 3 - Prevalence Index is ≤3.0 ¹
Herb Stratum: (Plot size: 5)			
			4 - Morphological Adaptations ¹ (Profice supporting data in Remarks or on a separate sheet)
1. Phalaris arundinacea	90	Y FACW	X Problematic Hydrophytic Vegetation (Explain)
2.			_ <u></u>
3.			 Indicators of hydric soil and wetland hydrology must
4.			be present, unless disturbed or problematic.
5.			Definitions of Four Vegetation Strata:
6.			_
<u>7.</u>			Tree –Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
8.			
9.			Sapling/Shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
10.			Herb – All herbaceous (non-woody) plants, regardless
<u>11.</u>			of size, and woody plants less than 3.28 ft tall.
12.			Woody vine – All woody vines greater than 3.28 ft in
	90	=Total Cover	height.
Manda Vina Chrotum (Diet size, 20)			
Woody Vine Stratum: (Plot size: 30)			
<u>1.</u>			_
2.			_
3.			Hydrophytic
4.			Vegetation
	0	=Total Cover	Present? Yes X No
Remarks: (Include photo numbers here or on a separate	sheet.)		
	•		

Sampling Point:

Profile Desc	ription: (Describe to t	he depth ne	eded to document	the indic	ator or co	nfirm the	absence of in	dicators.)	
Depth	Matrix		Redo	ox Feature	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-20	10YR 2/1	90	10YR 5/6	10	C	MP	Clay Loam		
			20 0,0						
				-					
				-					
				-					
				-					
1							2		
Type: C=Co	ncentration, D=Depleti	on, RM=Red	uced Matrix, MS=Ma	asked Sai	nd Grains.		² Location: PL=	Pore Lining, M=	=Matrix.
Hydric Soil I	ndicators:								natic Hydric Soils ³ :
Histosol	` '		Polyvalue I		rface (S8) ((LRR R,			LRR K, L, MLRA 149B)
	nipedon (A2)		MLRA 149	,	20) (I DD E				x (A16) (LRR K, L, R)
Black Hi	n Sulfide (A4)		Thin Dark S Loamy Mud					k Surface (S7)	or Peat (S3) (LRR K, L, R)
	l Layers (A5)		Loamy Gle	-		, _,			urface (S8) (LRR K, L)
	d Below Dark Surface (A11)	Depleted M						(S9) (LRR K, L)
	ark Surface (A12)		X Redox Dar						asses (F12) (LRR K, L, R)
	lucky Mineral (S1)		Depleted D					-	in Soils (F19) (MLRA 149B)
	Sleyed Matrix (S4)		Redox Dep	ressions	(F 8)) (MLRA 144A, 145, 149B)
	ledox (S5) Matrix (S6)							d Parent Materia v Shallow Dark	Surface (TF12)
	rface (S7) (LRR R, ML	RA 149B)						er (Explain in R	
									•
³ Indicators of	f hydrophytic vegetation	n and wetlan	d hydrology must be	present,	unless dis	turbed or	problematic.		
Restrictive L	ayer (if observed):								
Type:							Hydric Soil	l Present?	Yes X No
Depth (inche	es):						Tryunc 3011	i i resent:	163 <u>X</u> NO
Remarks:									

Project/Site: Benton Solar			_ City/County:	Benton County		Sampling Da	ate: <u>07/07/2023</u>			
Applicant/Owner: NextEra					State: MN	_ Sampling Po	oint: DP45			
Investigator(s): Cole Reagan			Section, To	wnship, Range:	Sec. 26 T36N	R30W				
Landform (hillslope, terrace, etc.): De	pression		_Local relief (c	oncave, convex,	none): Cond	ave	Slope (%): <5%			
Subregion (LRR or MLRA): MLRA 90	B , LRR K	Lat:		Long:			Datum:			
Soil Map Unit Name: <u>D7B - Hubba</u>	d loamy sand,	2 to 6 percent slopes	5		NWI classi	fication: <u>PE</u> I	M			
Are climatic / hydrologic conditions or	ı the site typica	l for this time of year	? Yes <u>X</u>	No	_(If no, explai	n in Remarks.)				
Are Vegetation, Soil	_, or Hydrology	/significantly	disturbed?	Are "Norm	al Circumstan	ces" present?	Yes X No			
Are Vegetation X, Soil	_, or Hydrology	/naturally pro	oblematic?	(If needed,	, explain any a	answers in Rer	narks.)			
SUMMARY OF FINDINGS —				t locations, t	ransects, ir	nportant fe	atures, etc.			
						•	,			
Hydrophytic Vegetation Present?	Yes:	X No:		Sampled Area n a Wetland?		Yes	V No			
Hydric Soil Present?	Yes:	X No:	WILLIII	i a wellanu:		165	X No			
Wetland Hydrology Present?	Yes:	X No:	If yes	, optional Wetlan	d Site ID:		WET20			
Remarks: (Explain alternative processparse vegetation.	Jules Here Of H	r a Separate report.)	vegetation is i	attirally problems	and due to the	proximity to the	ie nooupiam and resulting			
HYDROLOGY										
Wetland Hydrology Indicators:					<u>Secondary</u>	indicators (mir	nimum of two required)			
Primary indicators (minimum of one		e Soil Cracks	• •							
X Surface Water (A1) Water-Stained Leaves (B9)						ige Patterns (E	·			
X High Water Table (A2)	<u> </u>					Moss Trim Lines (B16) Dry-Season Water Table (C2)				
X Saturation (A3)		Marl Deposits								
, ,	_ Water Marks (B1) Hydrogen Sulfide Odor (C1) Sediment Deposits (B2) Oxidized Rhizospheres on Living Roots (C3)						Crayfish Burrows (C8)			
Sediment Deposits (B2) Drift Deposits (B3)		Oxidized Rhizi	· ·		Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1)					
Algal Mat or Crust (B4)		Recent Iron R		•	X Geomorphic Position (D2)					
Iron Deposits (B5)		Thin Muck Sui		ou ooo (oo)	Shallow Aguitard (D3)					
Inundation Visible on Aerial Ima	agery (B7)	Other (Explain			Microtopographic Relief (D4)					
Sparsely Vegetated Concave S	urface (B8)		,		·	leutral Test (D				
Field Observations:										
Surface Water Present? Yes X	No	Depth (inches):	2							
		Depth (inches):	0							
		Depth (inches):	0							
(includes capillary fringe)	_ 110	Deptit (inches).		Wetland Hydro	ology Presen	t? Yes	s <u>X</u> No			
Describe Recorded Data (stream ga	uge, monitoring	n well, aerial photos.	nrevious inspe	ections) if availab	ile.					
Describe Nessided Data (stream ga	age, monitoring	g wen, dendi priotos,	provious mope	otiono), ii availae	,,o.					
Remarks:										
Remarks:										

Tree Stratum: (Plot size: 30)		Dominant Indicator	Dominance Test worksheet:
1	% Cover	Species? Status	Number of Dominant Species
<u>1.</u> 2.	-		That Are OBL, FACW, or FAC: 1 (A)
<u>2.</u> 3.			Total Number of Dominant
4			Species Across All Strata: (B)
5.			Percent of Domant Species
6.			That Are OBL, FACW, or FAC: (A/B)
7.			Prevalence Index worksheet:
<u>r. </u>	0	=Total Cover	Total % Cover of: Multiply by:
		- Total Cover	OBL species 10 x 1 = 10
Sapling/Shrub Stratum: (Plot size: 15)			FACW species 90 x 2 = 180
1.			FAC species 0 x 3 = 0
2.			FACU species 0 x 4 = 0
3.			UPL species 0 x 5 = 0
4.			Column Totals: (A) (B)
			Prevalence Index = B/A= 1.90
<u> </u>			
<u>6.</u> 7.			Hydrophytic Vegetation Indicators:
<u>r.</u>			1 - Rapid test for Hydrophytic Vegetation X 2 - Dominance Test is >50%
	0	=Total Cover	X 3 - Prevalence Index is ≤3.0 ¹
Herb Stratum: (Plot size: 5)			4 - Morphological Adaptations ¹ (Profice supporting
1. Pholoric grundingers	90	Y FACW	data in Remarks or on a separate sheet)
2. Typha angustifolia	10	N OBL	X Problematic Hydrophytic Vegetation (Explain)
3.		IN OBL	
			¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<u>4.</u> 5.			be present, unless disturbed of problematic.
			Definitions of Four Vegetation Strata:
<u>6.</u> 7.			Tree –Woody plants 3 in. (7.6 cm) or more in diameter
			at breast height (DBH), regardless of height.
<u>8.</u> 9.			Sapling/Shrub – Woody plants less than 3 in. DBH
10			and greater than or equal to 3.28 ft (1 m) tall.
10.			Herb – All herbaceous (non-woody) plants, regardless
11.			of size, and woody plants less than 3.28 ft tall.
12.	100	-Total Cover	Woody vine – All woody vines greater than 3.28 ft in
	100	=Total Cover	height.
Woody Vine Stratum: (Plot size: 30)			
1.			
2.			
3.			Hydrophytic
4.			Vegetation
	0	=Total Cover	Present? Yes X No
Remarks: (Include photo numbers here or on a separate s	hoot)		
Remarks. (include prioto numbers here or on a separate s	neet.)		

Sampling Point:

Profile Desc	ription: (Describe to t	he depth ne	eded to document	the indic	ator or co	nfirm the	absence of in	dicators.)	
Depth	Matrix		Redo	ox Feature	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-20	10YR 2/1	90	10YR 5/6	10	C	MP	Clay Loam		
			20 0,0						
				-					
				-					
				-					
				-					
1							2		
Type: C=Co	ncentration, D=Depleti	on, RM=Red	uced Matrix, MS=Ma	asked Sai	nd Grains.		² Location: PL=	Pore Lining, M=	=Matrix.
Hydric Soil I	ndicators:								natic Hydric Soils ³ :
Histosol	` '		Polyvalue I		rface (S8) ((LRR R,			LRR K, L, MLRA 149B)
	nipedon (A2)		MLRA 149	,	20) (I DD E				x (A16) (LRR K, L, R)
Black Hi	n Sulfide (A4)		Thin Dark S Loamy Mud					k Surface (S7)	or Peat (S3) (LRR K, L, R)
	l Layers (A5)		Loamy Gle	-		, _,			urface (S8) (LRR K, L)
	d Below Dark Surface (A11)	Depleted M						(S9) (LRR K, L)
	ark Surface (A12)		X Redox Dar						asses (F12) (LRR K, L, R)
	lucky Mineral (S1)		Depleted D					-	in Soils (F19) (MLRA 149B)
	Sleyed Matrix (S4)		Redox Dep	ressions	(F 8)) (MLRA 144A, 145, 149B)
	ledox (S5) Matrix (S6)							d Parent Materia v Shallow Dark	Surface (TF12)
	rface (S7) (LRR R, ML	RA 149B)						er (Explain in R	
									•
³ Indicators of	f hydrophytic vegetation	n and wetlan	d hydrology must be	present,	unless dis	turbed or	problematic.		
Restrictive L	ayer (if observed):								
Type:							Hydric Soil	l Present?	Yes X No
Depth (inche	es):						Tryunc 301	i i resent:	163 <u>X</u> NO
Remarks:									

Project/Site: Benton Solar		City	//County: Benton County		Sampling Date: <u>07/07/2023</u>
Applicant/Owner: NextEra				State: MN	Sampling Point: DP46
Investigator(s): Cole Reagan		Se	ection, Township, Range: 5	Sec. 24 T36N	R30W
Landform (hillslope, terrace, etc.): De	pression	Loca	al relief (concave, convex,	none): Conca	aveSlope (%): <59
Subregion (LRR or MLRA): MLRA 90	B , LRR K	Lat: 45.5977	482 Long:	-94.013335	Datum:
Soil Map Unit Name: <u>C9B - Mora-R</u>	onneby comple	ex, 1 to 4 percent slopes, s	stony	NWI classif	ication: PEM
Are climatic / hydrologic conditions on	the site typica	I for this time of year? Yes	XNo	_(If no, explain	in Remarks.)
Are Vegetation, Soil	_, or Hydrology	/significantly distu	irbed? Are "Norma	al Circumstand	ces" present? Yes X No
Are Vegetation, Soil	_, or Hydrology	/naturally problem	natic? (If needed,	explain any a	nswers in Remarks.)
SUMMARY OF FINDINGS — A	uttach site r	nap showing samplir	ng point locations, tr	ansects, in	nportant features, etc.
			Is the Sampled Area		
Hydrophytic Vegetation Present?	Yes:	X No:	within a Wetland?		Yes X No
Hydric Soil Present?	Yes:	X No:	Within a Wolland		100 <u>X</u> 110
Wetland Hydrology Present?	Yes:	X No:	If yes, optional Wetland	d Site ID:	WET21
HYDROLOGY					
Wetland Hydrology Indicators:				Secondary i	ndicators (minimum of two require
Primary indicators (minimum of one	Surface	e Soil Cracks (B6)			
Surface Water (A1)		Water-Stained Leav	Draina	ge Patterns (B10)	
X High Water Table (A2)		Aquatic Fauna (B13		rim Lines (B16)	
X Saturation (A3)		Marl Deposits (B15)		ason Water Table (C2)	
Water Marks (B1)		Hydrogen Sulfide O	` ,		h Burrows (C8)
Sediment Deposits (B2)			eres on Living Roots (C3)	_	tion Visible on Aerial Imagery (C9)
Drift Deposits (B3) Algal Mat or Crust (B4)		Presence of Reduct	ion in Tilled Soils (C6)		d or Stressed Plants (D1) orphic Position (D2)
Iron Deposits (B5)		Thin Muck Surface	• •		v Aquitard (D3)
Inundation Visible on Aerial Ima	agery (B7)	Other (Explain in Re			ppographic Relief (D4)
Sparsely Vegetated Concave S			,		eutral Test (D5)
Field Observations:					
	No X	Depth (inches):			
		Depth (inches): 0			
		Depth (inches): 0			
(includes capillary fringe)	_ 110	Deptil (iliches).	Wetland Hydro	ology Present	? Yes <u>X</u> No
Describe Recorded Data (stream gar	uge, monitorino	g well, aerial photos, previo	ous inspections), if availab	le:	
Remarks:					

<u>Tree Stratum:</u> (Plot size: <u>30</u>)		Dominant Indic	
1	% Cover	Species? State	Number of Dominant Species
2.			That Are OBL, FACW, or FAC: 2 (A)
<u>2.</u> 3.			Total Number of Dominant
4			Species Across All Strata: (B)
<u>4.</u> 5.			Percent of Domant Species That Are OBL, FACW, or FAC: 100 (A/B)
6.			That Are OBL, FACW, or FAC:100 (A/B)
7.			Prevalence Index worksheet:
	0	=Total Cover	Total % Cover of: Multiply by:
		- Total Cover	OBL species 17 x 1 = 17
Sapling/Shrub Stratum: (Plot size: 15)			FACW species 30 x 2 = 60
1.			FAC species 0 x 3 = 0
2.			FACU species 0 x 4 = 0
3.			UPL species 0 x 5 = 0
4.			Column Totals: <u>47</u> (A) <u>77</u> (B)
5.			Prevalence Index = B/A= 1.64
6.			
7.			Hydrophytic Vegetation Indicators:
··			1 - Rapid test for Hydrophytic Vegetation X 2 - Dominance Test is >50%
	0	=Total Cover	X 3 - Prevalence Index is ≤3.0 ¹
Herb Stratum: (Plot size: 5)			4 - Morphological Adaptations ¹ (Profice supporting
1. Phalaris arundinacea	30	Y FA	data in Remarks or on a separate sheet)
2. Typha angustifolia	15		BL Problematic Hydrophytic Vegetation (Explain)
3. Schoenoplectus tabernaemontani	2		
4.			BL 1Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
5.			
6.			Definitions of Four Vegetation Strata:
			Tree –Woody plants 3 in. (7.6 cm) or more in diameter
<u>7.</u> 8.			at breast height (DBH), regardless of height.
0			Sapling/Shrub – Woody plants less than 3 in. DBH
10			and greater than or equal to 3.28 ft (1 m) tall.
11			Herb – All herbaceous (non-woody) plants, regardless
			of size, and woody plants less than 3.28 ft tall.
12.	47	=Total Cover	Woody vine – All woody vines greater than 3.28 ft in
		- Total Cover	height.
Woody Vine Stratum: (Plot size: 30)			
1.			
2.			
3.			Hydrophytic
4.			Vegetation
	0	=Total Cover	Present? Yes X No
Remarks: (Include photo numbers here or on a separate	sheet.)		-
(,		

Sampling Point:

Profile Desc	ription: (Describe to	the depth i	needed to document	t the indic	ator or co	nfirm the	absence of inc	dicators.)
Depth	Matrix		Red	ox Featur	es			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	10YR 2/1	100		0	NA	NA	Clay Loam	
4-24	10YR 4/2	98	10YR 4/6	2	С	PL	Sandy Clay Loam	
		. ———		_	·			
		· 						
		. ———						
				-				
¹ Type: C=Co	ncentration, D=Deplet	ion, RM=Re	educed Matrix, MS=M	lasked Sa	nd Grains.		² Location: PL=	Pore Lining, M=Matrix.
Black Hi Hydroge Stratified X Depleted Thick Da Sandy M Sandy G Sandy F Dark Su	(A1) pipedon (A2) stic (A3) n Sulfide (A4) d Layers (A5) d Below Dark Surface (A12) Mucky Mineral (S1) Bleyed Matrix (S4) Redox (S5) Matrix (S6) rface (S7) (LRR R, ML f hydrophytic vegetatio Layer (if observed):	RA 149B)	Polyvalue MLRA 149 Thin Dark Loamy Mu Loamy Gle X Depleted N Redox Dar Depleted I Redox Depleted I	Surface (Surface (Sur	S9) (LRR R al (F1) (LR x (F2)) (F6) loce (F7) (F8)	R, MLRA 1		ins for Problematic Hydric Soils ³ : In Muck (A10) (LRR K, L, MLRA 149B) Inst Prairie Redox (A16) (LRR K, L, R) In Mucky Peat or Peat (S3) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L, R) In Mucky Peat or Peat (S8) (LRR K, L) In Mucky Peat or Peat (S8) (LRR K, L) In Mucky Peat or Peat (S8) (LRR K, L) In Mucky Peat or Peat (S8) (LRR K, L) In Mucky Peat or Peat (S8) (LRR K, L) In Mucky Peat or Peat (S8) (LRR K, L) In Mucky Peat or Peat (S8) (LRR K, L) In Mucky Peat or Peat (S8) (LRR K, L) In Mucky Peat or Peat (

Project/Site: Benton Solar		City/	County: Benton County		Sampling Date	e: <u>07/07/2023</u>		
Applicant/Owner: NextEra				State: MN	Sampling Poir	nt: DP47		
Investigator(s): Cole Reagan		Sec	ction, Township, Range: §	Sec. 24 T36N F	R30W			
Landform (hillslope, terrace, etc.): Hi	illslope	Local	relief (concave, convex,	none): <u>Linear</u>	r Slope	Slope (%): <5%		
Subregion (LRR or MLRA): MLRA 90)B , LRR K	Lat: 45.59776	18 Long:	-94.0133531		Datum:		
Soil Map Unit Name: <u>C9B - Mora-F</u>	Ronneby complex,	, 1 to 4 percent slopes, st	ony	NWI classifi	ication: <u>No</u>			
Are climatic / hydrologic conditions or	n the site typical fo	or this time of year? Yes	XNo	(If no, explain	in Remarks.)			
Are Vegetation, Soil	_, or Hydrology	significantly distur	bed? Are "Norma	al Circumstanc	es" present?	Yes X No		
Are Vegetation, Soil	_, or Hydrology _	naturally problema	atic? (If needed,	explain any ar	nswers in Rema	arks.)		
SUMMARY OF FINDINGS —	Attach site ma	p showing samplin	g point locations, tr	ansects, im	portant fea	tures, etc.		
			Is the Sampled Area					
Hydrophytic Vegetation Present?	Yes:	No: X	Is the Sampled Area within a Wetland?		Yes	No X		
Hydric Soil Present?	Yes:	No:X	William a Wollana.		.00 _	NO <u>X</u>		
Wetland Hydrology Present?	Yes:	No: X	If yes, optional Wetland	d Site ID:		WET21		
HYDROLOGY								
Wetland Hydrology Indicators:				Secondary i	ndicators (mini	mum of two required)		
Primary indicators (minimum of one	required: check a	all that apply)		Surface	e Soil Cracks (E	36)		
Surface Water (A1)	-	Water-Stained Leave	es (B9)	Drainag	ge Patterns (B1	.0)		
High Water Table (A2)	-	Aquatic Fauna (B13)			rim Lines (B16)			
Saturation (A3)	-	Marl Deposits (B15)			ason Water Tal			
Water Marks (B1)	-	Hydrogen Sulfide Oc		<u> </u>				
Sediment Deposits (B2)	-		res on Living Roots (C3)	- · · · · —				
Drift Deposits (B3) Algal Mat or Crust (B4)	-	Presence of Reduce	on in Tilled Soils (C6)	· ·				
Iron Deposits (B5)	-	Thin Muck Surface (Shallow Aquitard (D3)				
Inundation Visible on Aerial Ima	agery (B7)	Other (Explain in Re	-					
Sparsely Vegetated Concave S	Surface (B8)		·		eutral Test (D5)			
Field Observations:								
	No X De	epth (inches):						
	No <u>X</u> De							
-	No <u></u> De	· · · · · · · · · · · · · · · · · · ·						
(includes capillary fringe)			Wetland Hydro	logy Present	? Yes	No X		
Describe Recorded Data (stream ga	uge, monitoring w	vell, aerial photos, previo	us inspections), if availab	le:				
Demontos								
Remarks:								

Tree Stratum: (Plot size: 30)		Dominant Indicator	Dominance Test worksheet:	
1	<u>% Cover</u>	Species? Status	Number of Dominant Species	
2.		·	That Are OBL, FACW, or FAC:	<u>0</u> (A)
3.			Total Number of Dominant	0 (D)
4			Species Across All Strata:	2 (B)
5.			Percent of Domant Species	O (A/D)
6.			That Are OBL, FACW, or FAC:	0 (A/B)
7.			Prevalence Index worksheet:	
<u>1.</u>	0	=Total Cover		Multiply by:
		- Total Cover	OBL species 0 x 1 =	0
Sapling/Shrub Stratum: (Plot size: 15)			FACW species 0 x 2 =	0
1.			FAC species 0 x 3 =	0
<u>1.</u> 2.			FACU species 0 x 4 =	0
			UPL species 100 x 5 =	500
<u>3.</u> 4.			Column Totals: 100 (A)	500 (B)
			Prevalence Index = B/A=	5.00
6.	-		Hydrophytic Vegetation Indicators:	
7.			1 - Rapid test for Hydrophytic Vo	egetation
	0	=Total Cover	2 - Dominance Test is >50%	
Horb Stratum: (Diot ciza: E)			3 - Prevalence Index is ≤3.0 ¹	(D. f
Herb Stratum: (Plot size: 5)			4 - Morphological Adaptations ¹ data in Remarks or on a separa	
1. Bromus inermis	70	Y UPL	Problematic Hydrophytic Vegeta	•
2. Setaria viridis	30	Y UPL	resistant ryareprijat regen	(=/(p.c)
3.			¹ Indicators of hydric soil and wetland I	
<u>4.</u>			be present, unless disturbed or proble	matic.
5.			Definitions of Four Vegetation Stra	ta:
6.				
7.			Tree –Woody plants 3 in. (7.6 cm) or at breast height (DBH), regardless of	
8.	-		Canling/Church Woody plants loop	than 2 in DDII
9.			Sapling/Shrub – Woody plants less and greater than or equal to 3.28 ft (1	man 3 m. DBH L m) tall.
10.			Herb – All herbaceous (non-woody) p	, alamta ragardiasa
11.			of size, and woody plants less than 3	.28 ft tall.
12.				
	100	=Total Cover	Woody vine – All woody vines greate height.	er triair 3.26 it iii
Woody Vine Stratum: (Plot size: 30)				
1.				
2.				
3.			Hydrophytic	
4.			Vegetation	
	0	=Total Cover	Present? Yes	No X
		- 10101 00101		
Remarks: (Include photo numbers here or on a separate s	sheet.)			

Sampling Point:

Profile Desci	ription: (Describe to	the depth n	eeded to document	the indic	ator or co	nfirm the	absence of in	dicators.)	
Depth	Matrix		Red	ox Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-20	10YR 2/2	100		0			Loamy Sand		
				_					
				_					
									_
									_
¹ Type: C=Co	ncentration, D=Deplet	ion, RM=Re	duced Matrix, MS=M	asked Sa	nd Grains.		² Location: PL=	Pore Lining, M	=Matrix.
Hydric Soil I	ndicators:						Indicato	ors for Problen	natic Hydric Soils ³ :
Histosol	(A1)		Polyvalue	Below Su	face (S8)	(LRR R,			LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149	•					ox (A16) (LRR K, L, R)
Black His	stic (A3) n Sulfide (A4)		Thin Dark : Loamy Mu					m Mucky Peat (k Surface (S7)	or Peat (S3) (LRR K, L, R)
	I Layers (A5)		Loamy Gle			KK K, L)			Surface (S8) (LRR K, L)
	Below Dark Surface	(A11)	Depleted N	-					(S9) (LRR K, L)
	ark Surface (A12)		Redox Dar					-	Masses (F12) (LRR K, L, R)
	lucky Mineral (S1) leyed Matrix (S4)		Depleted D						ain Soils (F19) (MLRA 149B) (6) (MLRA 144A, 145, 149B)
	edox (S5)		Nedox Dep	5103310113	(1 0)			d Parent Materi	
	Matrix (S6)								Surface (TF12)
Dark Sui	rface (S7) (LRR R, ML	RA 149B)					Oth	er (Explain in F	Remarks)
³ Indicators of	hydrophytic vegetatio	n and wetla	nd hydrology must h	e nresent	unless dis	turhed or	nroblematic		
	ayer (if observed):	iii ana wetta	id Hydrology mast be	c present,	unicoo dio	itarbea or	problematic.		
Type:	ayer (ii observed).						Unadaia Cail	I D 40	V N- V
Depth (inche	es):						Hydric Soil	i Present?	Yes No <u>X</u>
Remarks:									

Project/Site: Benton Solar		City/	County: Benton County		Sampling Date	e: <u>07/07/2023</u>		
Applicant/Owner: NextEra		State: MN Sampling Point: DP48						
Investigator(s): Cole Reagan		Sec	ction, Township, Range: 5	Sec. 26 T36N F	R30W			
Landform (hillslope, terrace, etc.): Hi	llslope	Local	relief (concave, convex,	none): <u>Linear</u>	Slope	Slope (%): <5%		
Subregion (LRR or MLRA): MLRA 90	B , LRR K	Lat: <u>45.58423</u>	79 Long:	-94.0348122		Datum:		
Soil Map Unit Name: 1011A - Ford	um-Winterfield co	mplex, 0 to 2 percent slo	pes, frequently flooded	NWI classifi	cation: No			
Are climatic / hydrologic conditions or	n the site typical fo	or this time of year? Yes	X No	_(If no, explain	in Remarks.)			
Are Vegetation, Soil	_, or Hydrology	significantly distur	bed? Are "Norma	al Circumstanc	es" present?	Yes X No		
Are Vegetation, Soil	_, or Hydrology _	naturally problema	atic? (If needed,	explain any ar	nswers in Rema	arks.)		
SUMMARY OF FINDINGS —	Attach site ma	p showing samplin	g point locations, tr	ansects, im	portant feat	tures, etc.		
			Is the Sampled Area					
Hydrophytic Vegetation Present?	Yes:	No:X	within a Wetland?		Yes	No X		
Hydric Soil Present?	Yes:	No: X			_			
Wetland Hydrology Present?	Yes:	No: X	If yes, optional Wetland	d Site ID:		WET20		
HYDROLOGY								
Wetland Hydrology Indicators:				Secondary i	ndicators (minir	num of two required)		
Primary indicators (minimum of one	required: check a	all that apply)		Surface	Soil Cracks (B	86)		
Surface Water (A1)	-	Water-Stained Leave	es (B9)	Drainag	je Patterns (B1	0)		
High Water Table (A2)	-	Aquatic Fauna (B13)	1	· · · · · · · · · · · · · · · · · · ·	rim Lines (B16)			
Saturation (A3)	-	Marl Deposits (B15)			ason Water Tab			
Water Marks (B1)	-	Hydrogen Sulfide Oc						
Sediment Deposits (B2)	-		res on Living Roots (C3)	- · · · - ·				
Drift Deposits (B3) Algal Mat or Crust (B4)	_	Presence of Reduce	on in Tilled Soils (C6)	· ·				
Iron Deposits (B5)	-	Thin Muck Surface (Shallow Aquitard (D3)				
Inundation Visible on Aerial Ima	agery (B7)	Other (Explain in Re	•					
Sparsely Vegetated Concave S	Surface (B8)		•		eutral Test (D5)			
Field Observations:								
	No X De	epth (inches):						
	No X De							
	No <u></u> De	· · · · · · · · · · · · · · · · · · ·						
(includes capillary fringe)	_ 110 _X_ Do		Wetland Hydro	ology Present?	? Yes	No <u>X</u>		
Describe Recorded Data (stream ga	uge, monitoring v	vell, aerial photos, previo	us inspections), if availab	le:				
Remarks:								

<u>Tree Stratum:</u> (Plot size: <u>30</u>)		Dominant		Dominance Test worksheet:	
1 Quaraus magracares		Species?		Number of Dominant Species	
1. Quercus macrocarpa	20	Y	FACU	That Are OBL, FACW, or FAC:	(A)
2. Celtis occidentalis	15	Y	FAC	Total Number of Dominant	
3. Acer saccharinum	10	N	FACW	Species Across All Strata:	5 (B)
4. Ulmus americana	10	N	FACW	Percent of Domant Species	
5.				That Are OBL, FACW, or FAC:	40 (A/B)
6.					
7.				Prevalence Index worksheet: Total % Cover of:	Multiply by
	55	=Total Co	ver	OBL species 0 x 1	Multiply by: L = 0
Sapling/Shrub Stratum: (Plot size: 15)				FACW species 20 x 2	
				FAC species 35 x 3	
1.				FACU species 80 x 4	
2.				UPL species 0 x 5	
3.				Column Totals: 135 (A)	
4.				Prevalence Index = B/A=	3.44
5.				Frevalence index = B/A=	3.44
6.				Hydrophytic Vegetation Indicator	
7.				1 - Rapid test for Hydrophytic	: Vegetation
	0	=Total Co	ver	2 - Dominance Test is >50%	1
				3 - Prevalence Index is ≤3.0 ¹	
Herb Stratum: (Plot size: <u>5</u>)				4 - Morphological Adaptation	
1. Glechoma hederacea	40	Y	FACU	data in Remarks or on a sepa	•
2. Urtica dioica	20	Y	FAC	r robicinatic riyaropriyiic veg	ctation (Explain)
3. Solidago altissima	20	<u>Y</u>	FACU	¹ Indicators of hydric soil and wetlar	
4.				be present, unless disturbed or pro	blematic.
5.				Definitions of Four Vegetation S	itrata:
6.				_	
7.				Tree –Woody plants 3 in. (7.6 cm) at breast height (DBH), regardless	
8.					ū
9.				Sapling/Shrub – Woody plants lead and greater than or equal to 3.28 f	ss tnan 3 in. DBH ft (1 m) tall.
10.					,
11.				Herb – All herbaceous (non-wood of size, and woody plants less that	y) piants, regardiess n 3.28 ft tall.
12.					
	80	=Total Co	ver	Woody vine – All woody vines green height.	ater than 3.28 π in
Woody Vine Stratum: (Plot size: 30)					
					
1.					
2.				Hydrophytic	
3.				Vegetation	
4.	0	=Total Co		Present? Yes	No X
		- Total Co	vei		
Remarks: (Include photo numbers here or on a separate she	eet.)				

Sampling Point:

Profile Desci	ription: (Describe to	the depth n	eeded to document	the indic	ator or co	nfirm the	absence of in	dicators.)	
Depth	Matrix		Red	ox Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Remarks
0-20	10YR 2/2	100		0			Loamy Sand		
				_					
				_					
									_
									_
¹ Type: C=Co	ncentration, D=Deplet	ion, RM=Re	duced Matrix, MS=M	asked Sa	nd Grains.		² Location: PL=	Pore Lining, M	=Matrix.
Hydric Soil I	ndicators:						Indicato	ors for Problen	natic Hydric Soils ³ :
Histosol	(A1)		Polyvalue	Below Su	face (S8)	(LRR R,			LRR K, L, MLRA 149B)
	ipedon (A2)		MLRA 149	•					ox (A16) (LRR K, L, R)
Black His	stic (A3) n Sulfide (A4)		Thin Dark : Loamy Mu					m Mucky Peat (k Surface (S7)	or Peat (S3) (LRR K, L, R)
	I Layers (A5)		Loamy Gle			KK K, L)			Surface (S8) (LRR K, L)
	Below Dark Surface	(A11)	Depleted N	-					(S9) (LRR K, L)
	ark Surface (A12)		Redox Dar					-	Masses (F12) (LRR K, L, R)
	lucky Mineral (S1) leyed Matrix (S4)		Depleted D						ain Soils (F19) (MLRA 149B) (6) (MLRA 144A, 145, 149B)
	edox (S5)		Nedox Dep	5103310113	(1 0)			d Parent Materi	
	Matrix (S6)								Surface (TF12)
Dark Sui	rface (S7) (LRR R, ML	RA 149B)					Oth	er (Explain in F	Remarks)
³ Indicators of	hydrophytic vegetatio	n and wetla	nd hydrology must h	e nresent	unless dis	turhed or	nroblematic		
	ayer (if observed):	iii ana wetta	id Hydrology mast be	c present,	unicoo dio	itarbea or	problematic.		
Type:	ayer (ii observed).						Unadaia Cail	I D 40	V N- V
Depth (inche	es):						Hydric Soil	i Present?	Yes No <u>X</u>
Remarks:									

APPENDIX C Photograph Log



Figure C-1. Overview of the palustrine emergent wetland WET01 at DP01. Photograph taken by C. Reagan on October 24, 2022.



Figure C-2. Overview of the palustrine emergent wetland WET04 at DP07. Photograph taken by C. Reagan on October 26, 2022.



Figure C-3. Overview of the palustrine emergent wetland WET11 at DP21. Photograph taken by C. Reagan on October 24, 2022.



Figure C-4. Overview of the palustrine farmed wetland WET13 at DP25. Photograph taken by C. Reagan on October 25, 2022.



Figure C-5. Overview of the palustrine forested wetland WET14 at DP27. Photograph taken by C. Reagan on June 6, 2023.



Figure C-6. Overview of the palustrine emergent wetland WET15 at DP29. Photograph taken by C. Reagan on June 6, 2023.



Figure C-7. Overview of the palustrine emergent wetland WET17 at DP36. Photograph taken by C. Reagan on July 6, 2023.



Figure C-8. Overview of the palustrine emergent wetland WET18 at DP40. Photograph taken by C. Reagan on July 7, 2023.



Figure C-9. Overview of the palustrine forested wetland WET19 at DP42. Photograph taken by C. Reagan on July 7, 2023.



Figure C-10. Overview of the palustrine emergent wetland WET20 at DP45. Photograph taken by C. Reagan on July 7, 2023.



Figure C-11. Overview of the palustrine emergent wetland WET21 at DP46. Photograph taken by C. Reagan on July 7, 2023.



Figure C-12. Overview of the farmed wetland WET22 at DP38. Photograph taken by C. Reagan on July 7, 2023.



Figure C-13. Overview of the palustrine emergent wetland WET23 at DP34. Photograph taken by C. Reagan on June 6, 2023.



Figure C-14. Overview of the perennial waterbody WB01 (Elk River) downstream. Photograph taken by C. Reagan on June 6, 2023.



Figure C-15. Overview of the perennial waterbody WB01 (Elk River) upstream. Photograph taken by C. Reagan on June 6, 2023.



Figure C-16. Overview of the unnamed intermittent stream WB02 downstream. Photograph taken by C. Reagan on June 6, 2023.



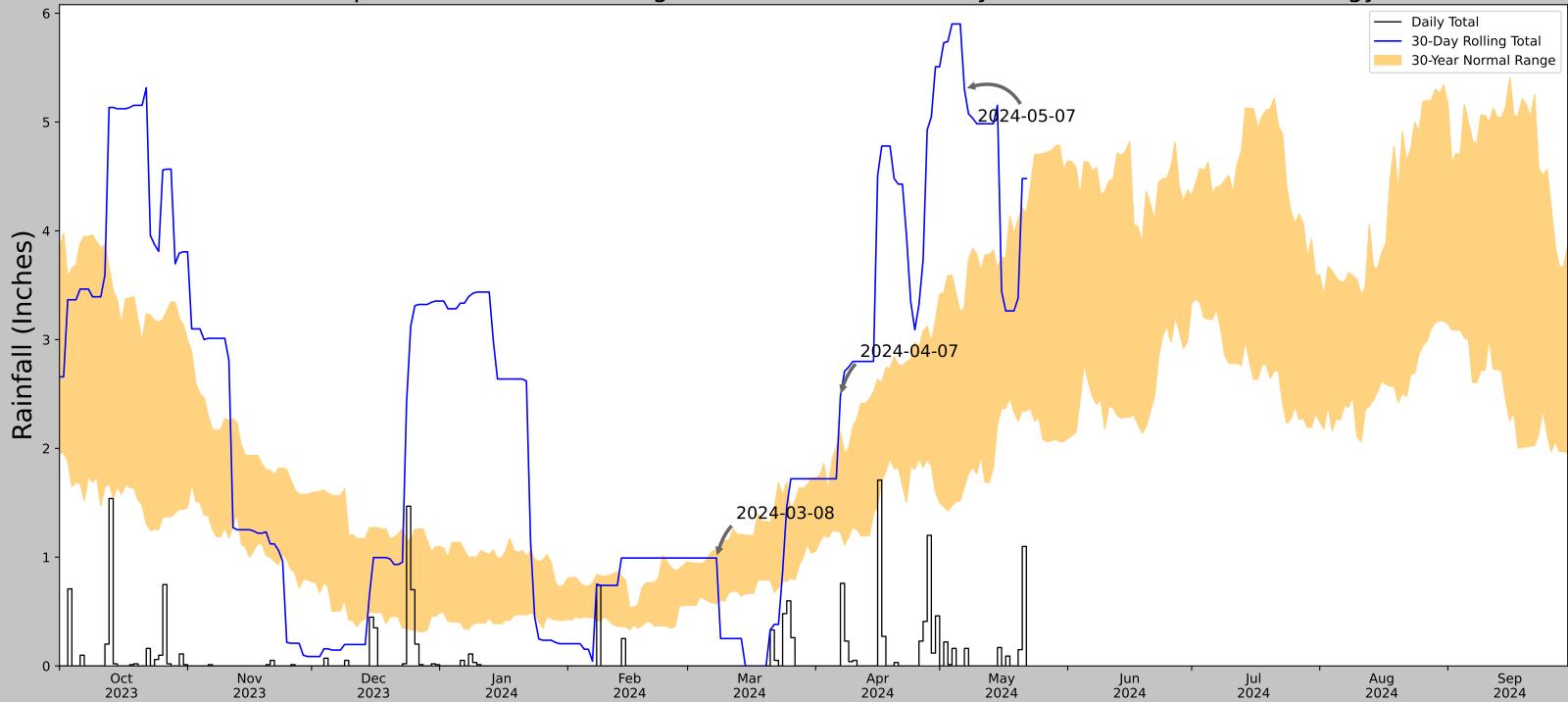
Figure C-17. Overview of the ephemeral waterbody WB03 downstream. Photograph taken by C. Reagan on July 7, 2023.



Figure C-18. Overview of the perennially flooded waterbody WB03 east. Photograph taken by C. Reagan on May 7, 2024.

APPENDIX D Antecedent Precipitation

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	45.591845, -94.025181
Observation Date	2024-05-07
Elevation (ft)	1044.047
Drought Index (PDSI)	Moderate drought (2024-04)
WebWIMP H ₂ O Balance	Wet Season

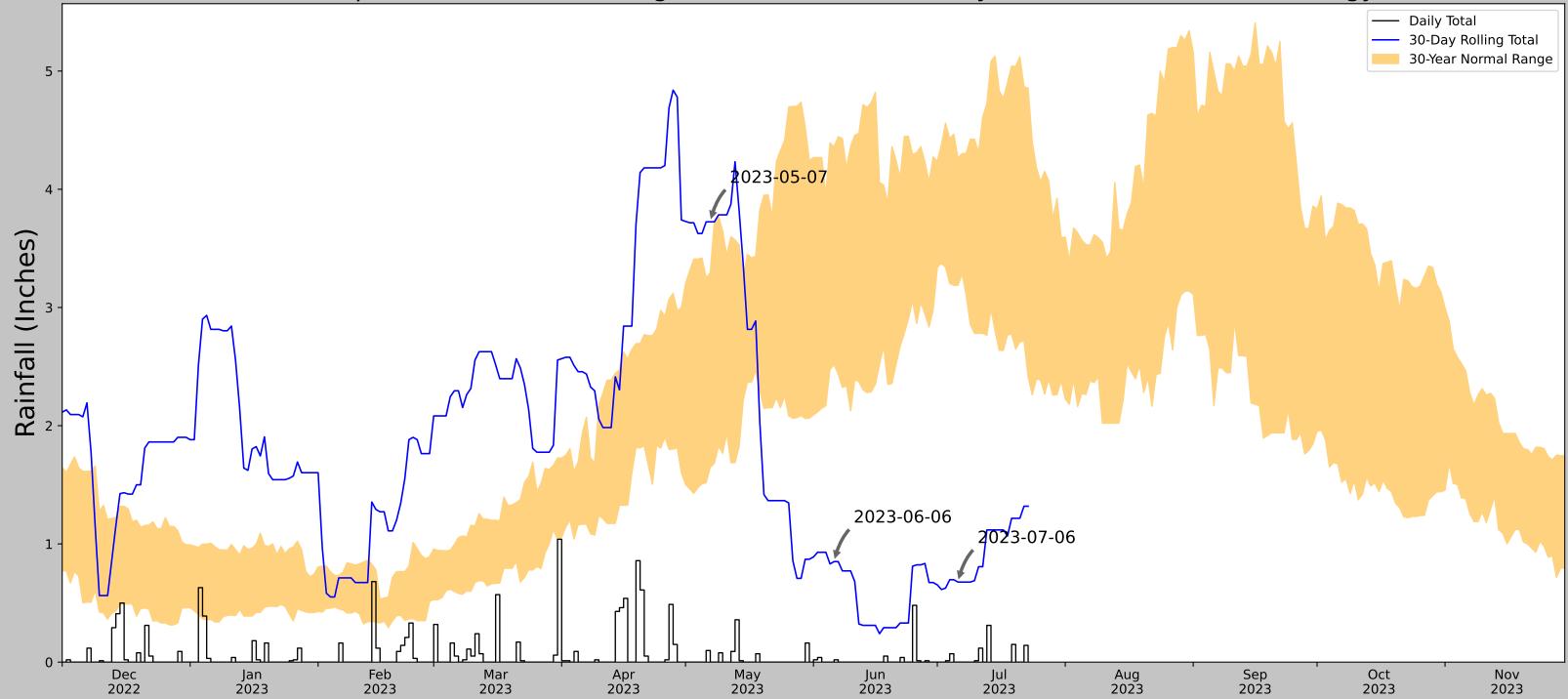
30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-05-07	1.648819	3.294488	5.30315	Wet	3	3	9
2024-04-07	1.231102	2.14685	2.480315	Wet	3	2	6
2024-03-08	0.573622	1.067717	0.992126	Normal	2	1	2
Result							Wetter than Normal - 17



Figures and tables made by the Antecedent Precipitation Tool Version 2.0

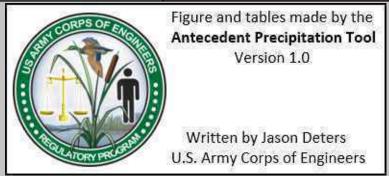
U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ST CLOUD RGNL AP	45.5442, -94.0517	1018.045	3.533	26.002	1.682	11352	90

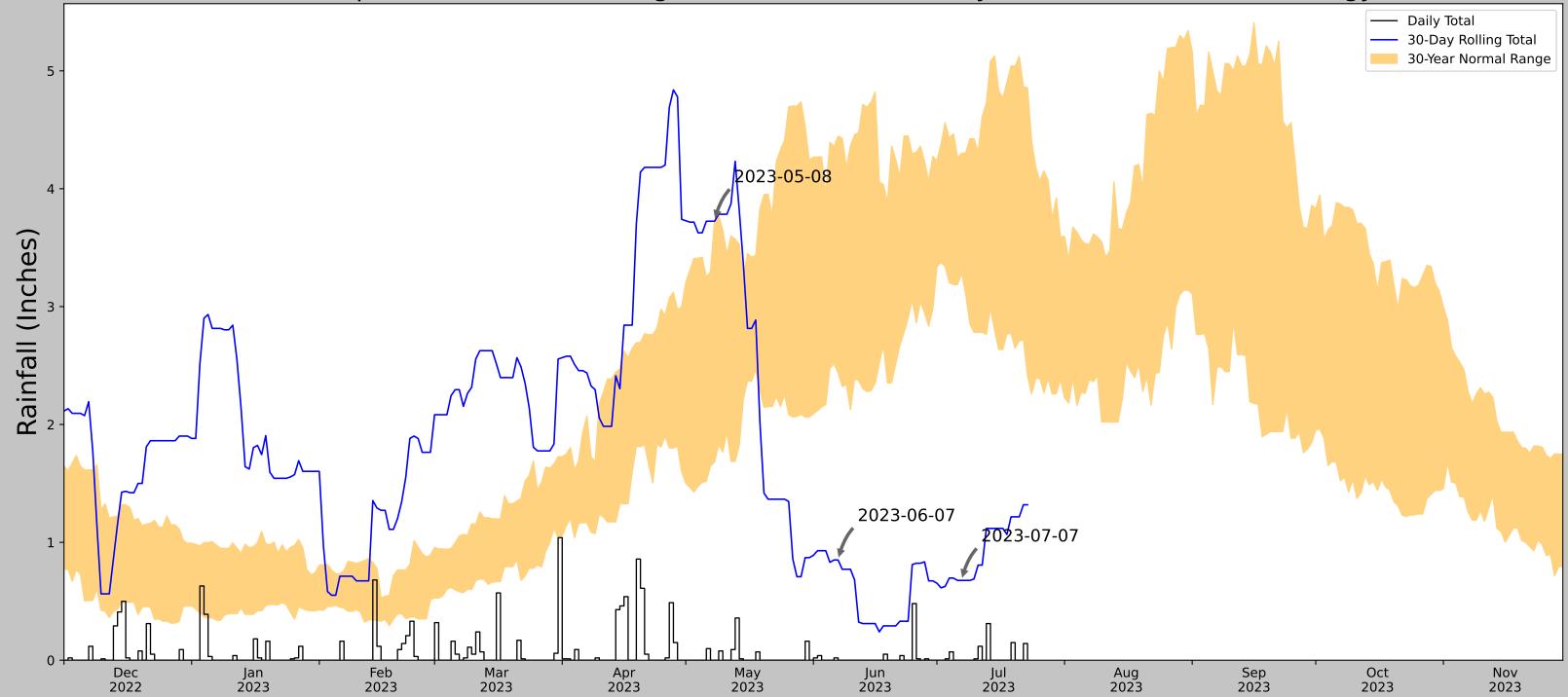


Coordinates	45.591845, -94.025181
Observation Date	2023-07-06
Elevation (ft)	1044.047
Drought Index (PDSI)	Moderate drought (2023-06)
WebWIMP H ₂ O Balance	Dry Season

					_		
30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-07-06	3.187008	4.26378	0.677165	Dry	1	3	3
2023-06-06	2.514961	4.359449	0.850394	Dry	1	2	2
2023-05-07	1.648819	3.294488	3.72441	Wet	3	1	3
Result							Drier than Normal - 8

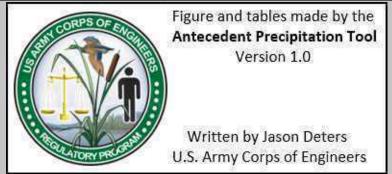


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ST CLOUD RGNL AP	45.5442, -94.0517	1018.045	3.533	26.002	1.682	11353	90

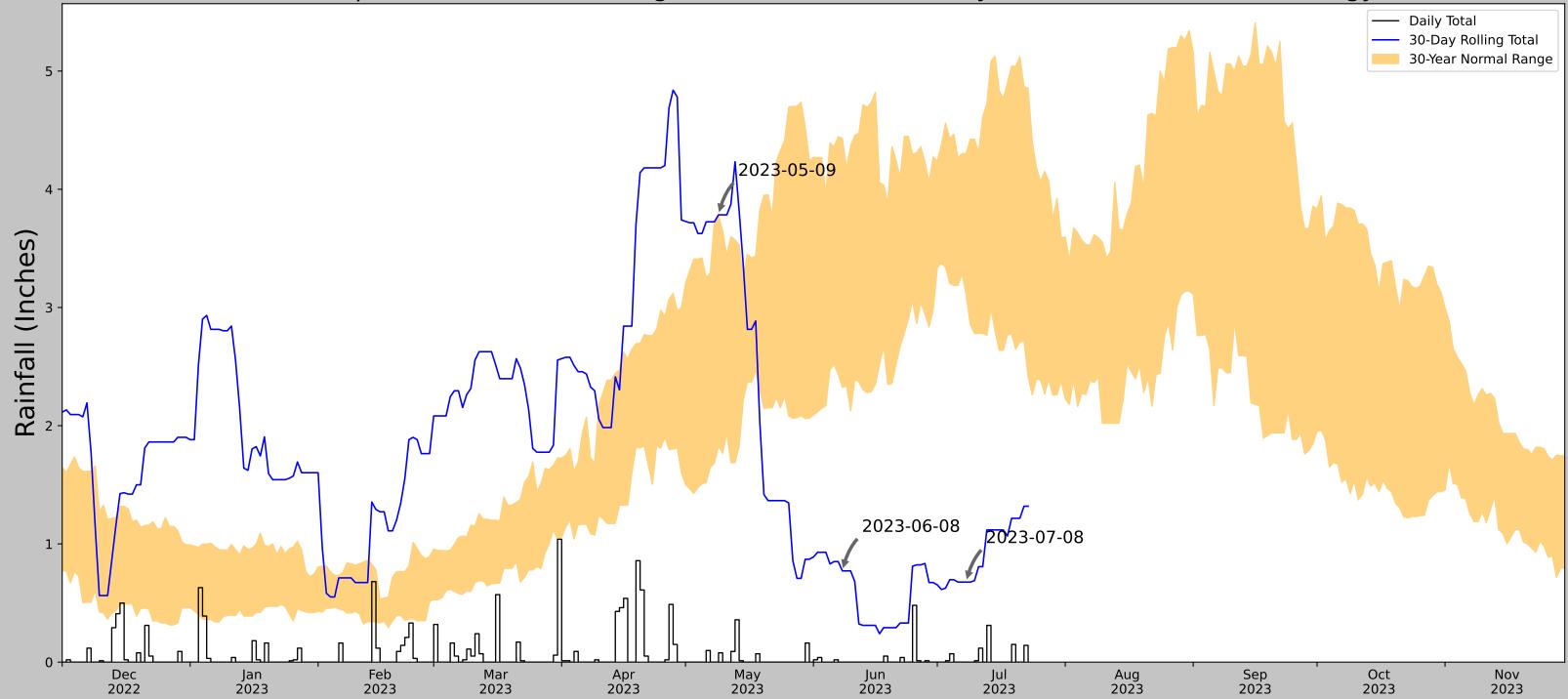


Coordinates	45.591845, -94.025181
Observation Date	2023-07-07
Elevation (ft)	1044.047
Drought Index (PDSI)	Moderate drought (2023-06)
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-07-07	3.283465	4.301181	0.677165	Dry	1	3	3
2023-06-07	2.437795	4.444882	0.850394	Dry	1	2	2
2023-05-08	1.682284	3.731496	3.72441	Normal	2	1	2
Result							Drier than Normal - 7

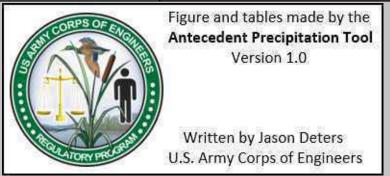


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ST CLOUD RGNL AP	45.5442, -94.0517	1018.045	3.533	26.002	1.682	11353	90

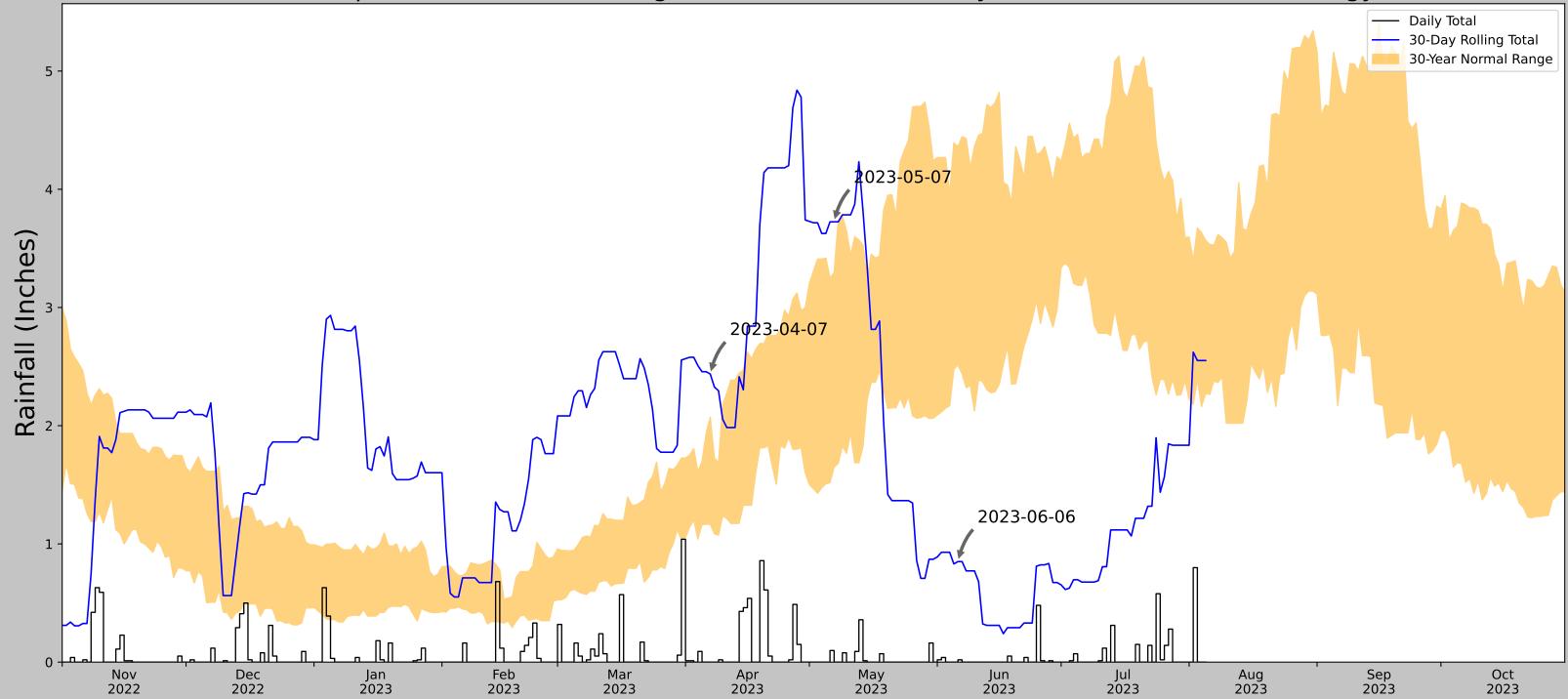


Coordinates	45.591845, -94.025181
Observation Date	2023-07-08
Elevation (ft)	1044.047
Drought Index (PDSI)	Moderate drought (2023-06)
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-07-08	3.102362	4.304725	0.677165	Dry	1	3	3
2023-06-08	2.321654	4.429134	0.771654	Dry	1	2	2
2023-05-09	1.828347	3.774016	3.783465	Wet	3	1	3
Result							Drier than Normal - 8

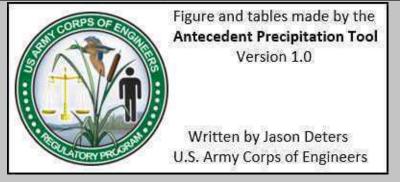


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ST CLOUD RGNL AP	45.5442, -94.0517	1018.045	3.533	26.002	1.682	11353	90

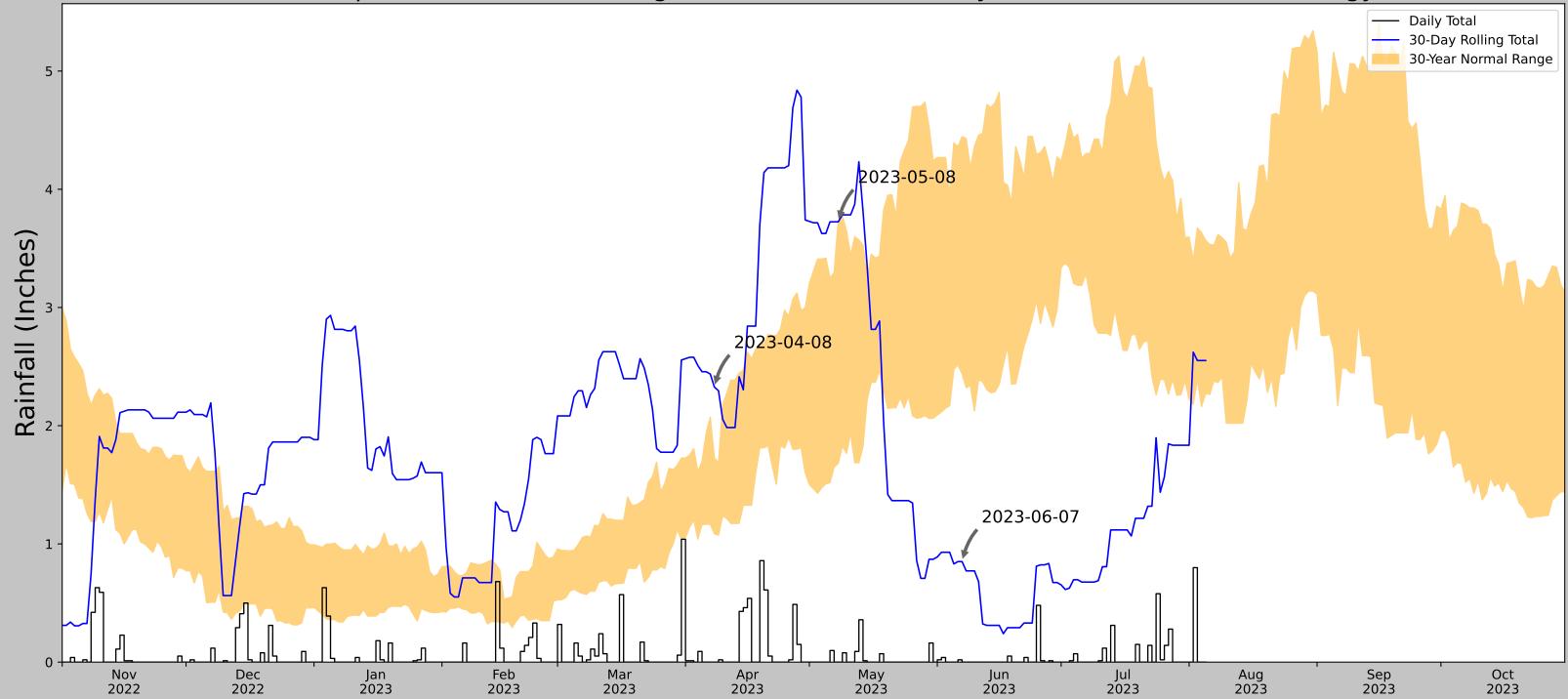


Coordinates	45.591845, -94.025181
Observation Date	2023-06-06
Elevation (ft)	1044.047
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-06-06	2.514961	4.359449	0.850394	Dry	1	3	3
2023-05-07	1.648819	3.294488	3.72441	Wet	3	2	6
2023-04-07	1.166535	2.07126	2.437008	Wet	3	1	3
Result							Normal Conditions - 12

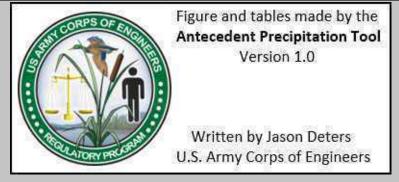


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ST CLOUD RGNL AP	45.5442, -94.0517	1018.045	3.533	26.002	1.682	11353	90

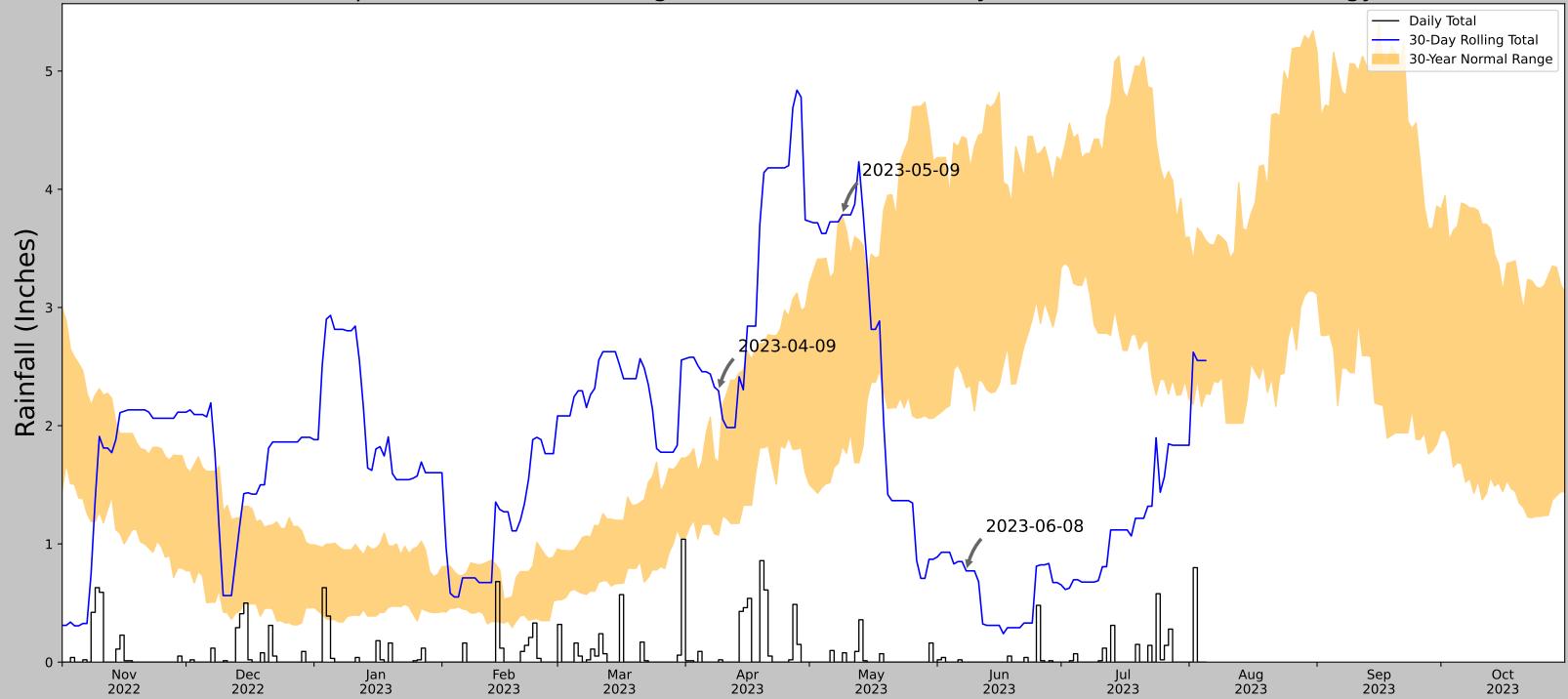


Coordinates	45.591845, -94.025181
Observation Date	2023-06-07
Elevation (ft)	1044.047
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-06-07	2.437795	4.444882	0.850394	Dry	1	3	3
2023-05-08	1.682284	3.731496	3.72441	Normal	2	2	4
2023-04-08	1.085433	1.725984	2.326772	Wet	3	1	3
Result							Normal Conditions - 10

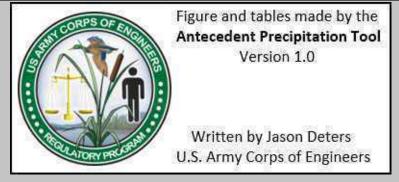


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ST CLOUD RGNL AP	45.5442, -94.0517	1018.045	3.533	26.002	1.682	11353	90

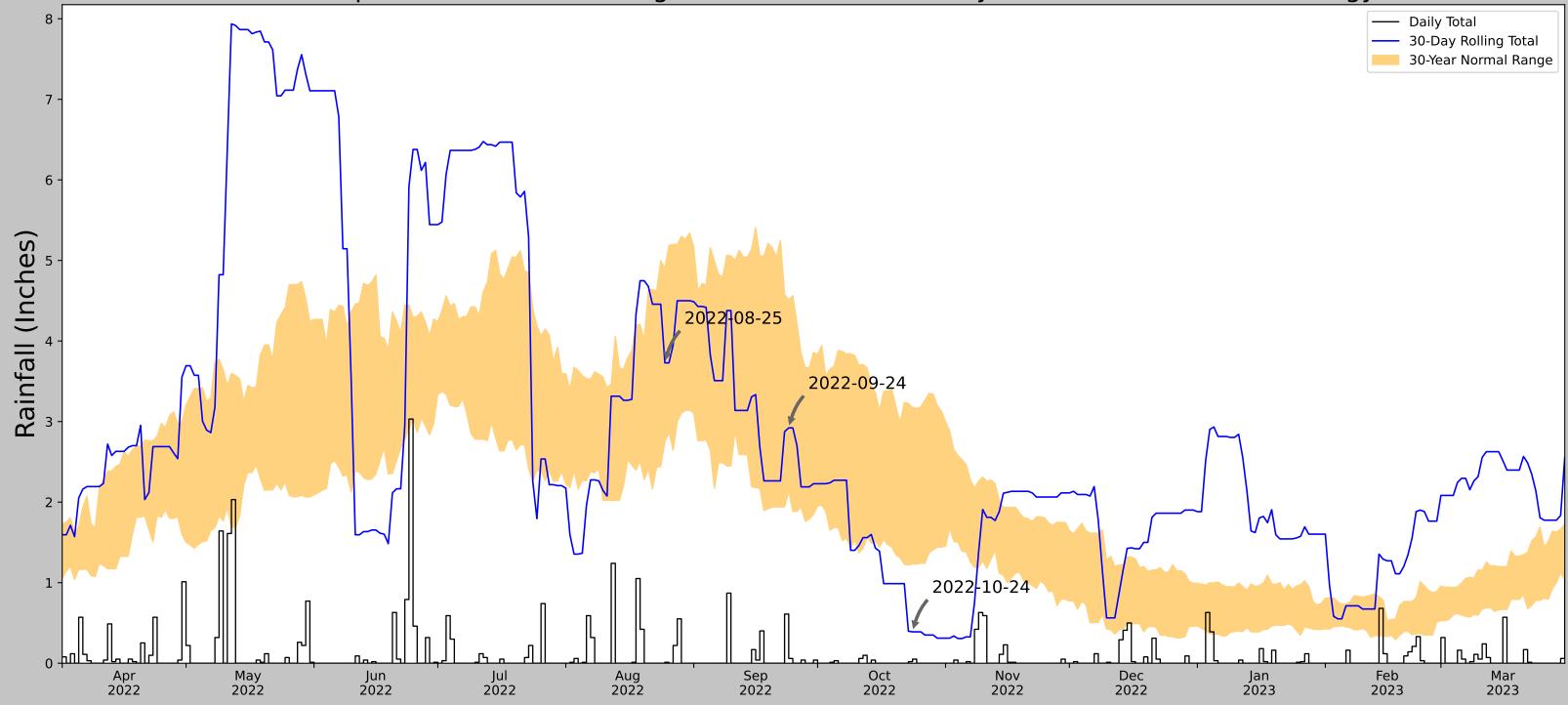


Coordinates	45.591845, -94.025181
Observation Date	2023-06-08
Elevation (ft)	1044.047
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-06-08	2.321654	4.429134	0.771654	Dry	1	3	3
2023-05-09	1.828347	3.774016	3.783465	Wet	3	2	6
2023-04-09	1.074409	1.687402	2.295276	Wet	3	1	3
Result							Normal Conditions - 12

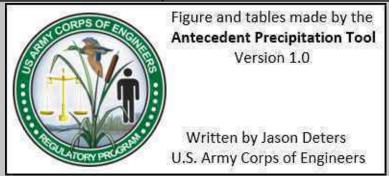


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ST CLOUD RGNL AP	45.5442, -94.0517	1018.045	3.533	26.002	1.682	11353	90



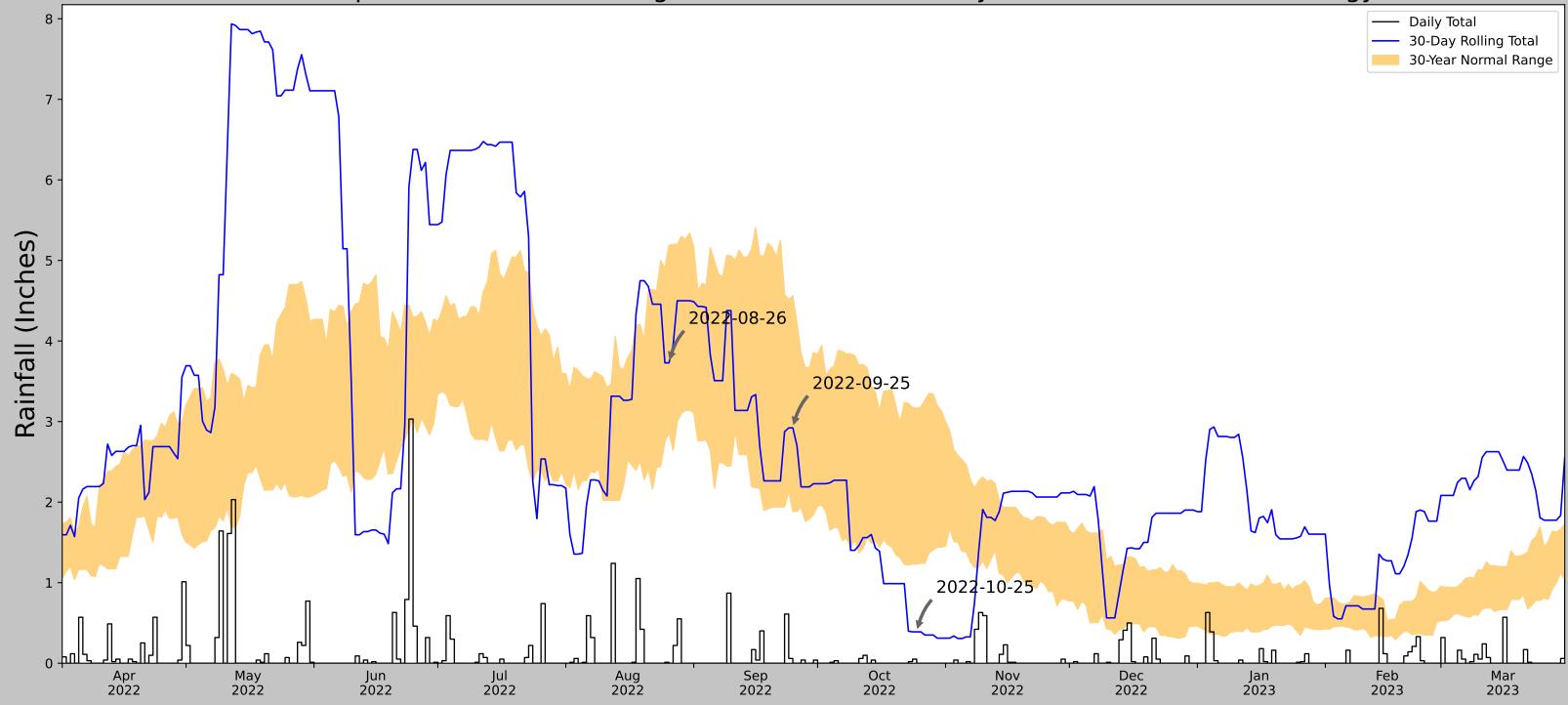
Coordinates	45.591845, -94.025181
Observation Date	2022-10-24
Elevation (ft)	1044.047
Drought Index (PDSI)	Severe drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-10-24	1.23189	3.175591	0.389764	Dry	1	3	3
2022-09-24	2.137795	4.511811	2.92126	Normal	2	2	4
2022-08-25	2.748425	4.904725	3.728347	Normal	2	1	2
Result							Drier than Normal - 9



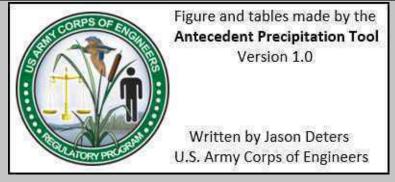
Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ST CLOUD RGNL AP	45.5442, -94.0517	1018.045	3.533	26.002	1.682	11353	90

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ST CLOUD RGNL AP	45.5442, -94.0517	1018.045	3.533	26.002	1.682	11353	90

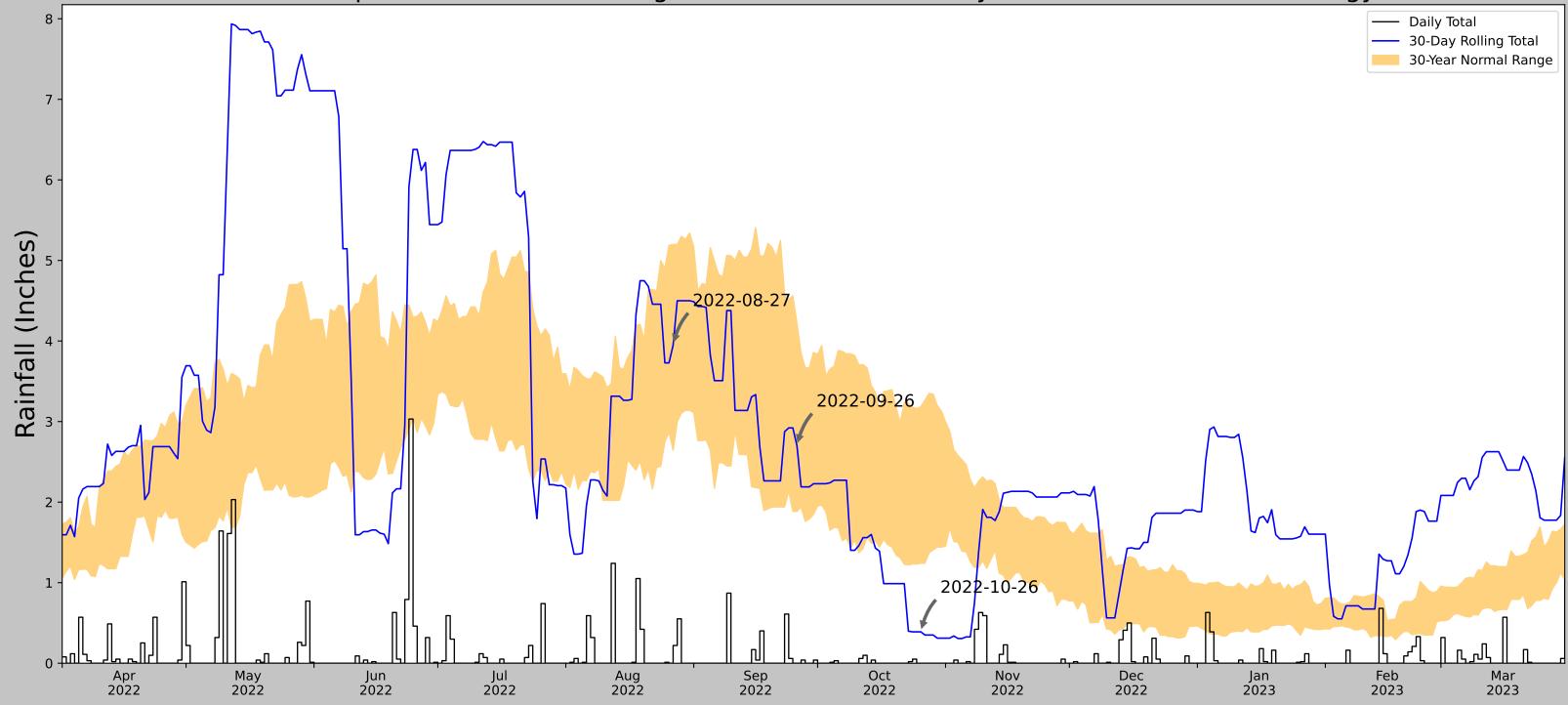


Coordinates	45.591845, -94.025181
Observation Date	2022-10-25
Elevation (ft)	1044.047
Drought Index (PDSI)	Severe drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-10-25	1.23189	3.161811	0.389764	Dry	1	3	3
2022-09-25	1.883858	4.562205	2.92126	Normal	2	2	4
2022-08-26	2.870473	5.188977	3.728347	Normal	2	1	2
Result							Drier than Normal - 9

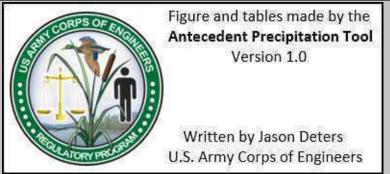


Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ST CLOUD RGNL AP	45.5442, -94.0517	1018.045	3.533	26.002	1.682	11353	90



Coordinates	45.591845, -94.025181
Observation Date	2022-10-26
Elevation (ft)	1044.047
Drought Index (PDSI)	Severe drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-10-26	1.240551	3.183071	0.389764	Dry	1	3	3
2022-09-26	1.883858	4.219291	2.700787	Normal	2	2	4
2022-08-27	2.640945	5.198425	3.948819	Normal	2	1	2
Result							Drier than Normal - 9



Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
ST CLOUD RGNL AP	45.5442, -94.0517	1018.045	3.533	26.002	1.682	11353	90

APPENDIX E Off-site Determination Results

Table 1. Imagery Source and Climate Conditions

Date Taken	Image Source	Web WIMP Season ¹	Antecedent Precipitation Condition ¹
8/1/2021	USDA NAIP	Dry Season	Drier than Normal
8/1/2019	USDA NAIP	Dry Season	Wetter than Normal
8/1/2017	USDA NAIP	Dry Season	Normal Conditions
8/1/2015	USDA NAIP	Dry Season	Wetter than Normal
8/1/2013	USDA NAIP	Dry Season	Normal Conditions
8/1/2010	USDA NAIP	Dry Season	Normal Conditions
8/1/2009	USDA NAIP	Dry Season	Normal Conditions
8/1/2008	USDA NAIP	Dry Season	Drier than Normal
8/1/2003	USGS	Dry Season	Normal Conditions
8/1/1991	USDA NAIP	Dry Season	Wetter than Normal

¹ Values were generated by using the Antecedent Precipitation Tool developed by the U.S Army Corps of Engineers (2020). Available at: https://www.epa.gov/wotus/antecedent-precipitation-tool-apt USDA NAIP- U.S Department of Agriculture National Agriculture Imagery Program,

Table 2. Aerial Imagery Wetland Determination Evaluation

Date			lma	ige Inter _l	oretation	n Areas												
Taken	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
8/1/2021	SS	WS	AP	WS	AP	NSS	NSS	NV	CS	NV	CS	WS	NV	WS	CS	NV	NV	CS
8/1/2019	DO/ AP	WS	CS	WS	AP	SS/C S	DO	DO	DO	DO/CS	DO	WS	SS	WS	DO	SW	SW	SW
8/1/2017	AP	DIS	CS	NSS	CS	CS	DO	CS	CS	CS	NV	WS	NV	WS	CS	NV	NV	NV
8/1/2015	AP/S S	DIS	CS	NSS	CS	CS	NV	CS	CS	CS	CS	WS	NV	WS	CS	NV	NV	WS
8/1/2013	CS	DIS	CS	NSS	SS	NSS	CS	CS	CS	CS	CS	WS	SS	WS	CS	CS	CS	WS
8/1/2010	CS	DIS	CS	NSS	NSS	NSS	NV	NV	CS	CS	NV	WS	NV	WS	NV	CS	CS	NV
8/1/2009	AP	DIS	SS	NSS	NSS	NSS	NV	NV	CS	CS	NV	WS	SS	WS	CS	NV	NV	CS

8/1/2008	AP	DIS	CS	NSS	SS	NSS	NV	CS	CS	DO/CS	SS	WS	SS	WS	CS	NV	NV	CS
8/1/2003	AP	DIS	CS	NSS	SS	DO	AP	AP	CS	AP	SW	SW	SS	SS	DO	CS	CS	WS
8/1/1991	SS	WS	CS	NSS	SS	CS	SS	CS	SS	SS/DO	NV	NV	SS	SS	NV	NV	NV	SW

CS - crop stress, AP - altered pattern, NSS - No soil wetness signature, NV - normal vegetative cover, DO - drowned out, DIS - Disturbed, SS - Soil wetness signature, SW - Standing Water, WS - Wetland signature.

Table 3. Aerial Imagery Wetland Determination Results

Area	lmages Available	Percent of Images with Wet Signatures	Hydric Soil Present?	Identified by NWI?	Other Hydrology Indicators Present	Wetland?
1	10	100%	Yes	Yes	No	Yes
2	10	0%	Yes	No	No	N/A
3	10	100%	Yes	No	No	N/A
4	10	0%	Yes	No	No	N/A
5	10	60%	Yes	No	No	N/A
6	10	20%	Yes	No	No	N/A
7	10	40%	Yes	No	No	N/A
8	10	60%	Yes	No	No	N/A
9	10	100%	Yes	No	No	N/A
10	10	100%	Yes	No	No	N/A
11	10	40%	Yes	No	No	N/A
12	10	100%	Yes	No	No	N/A
13	10	60%	Yes	No	No	N/A
14	10	100%	Yes	No	No	N/A
15	10	80%	Yes	No	No	N/A
16	10	40%	Yes	No	No	N/A
17	10	40%	Yes	No	No	N/A
18	10	80%	Yes	Yes	No	N/A