APPENDIX C

Agricultural Impact Mitigation Plan

Agricultural Impact Mitigation Plan for the Benton Solar Project in 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

SWCA Environmental Consultants

AGRICULTURAL IMPACT MITIGATION PLAN FOR THE BENTON SOLAR PROJECT IN BENTON COUNTY, MINNESOTA

Prepared for

Benton Solar, LLC
700 Universe Boulevard
Juno Beach, Florida 33408

Prepared by

SWCA Environmental Consultants
201 Slate Drive, Suite 8
Bismarck, North Dakota 58503
(701) 258-6622
www.swca.com

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

August 2024

CONTENTS

Appendix

Figures

Tables

1 INTRODUCTION AND PURPOSE

Benton Solar, LLC (Benton Solar), a wholly owned, indirect subsidiary of NextEra Energy Resources, LLC, is requesting two Site Permits from the Minnesota Public Utilities Commission (Commission) for the Benton Solar Project, a 100-megawatt (MW) alternating current (AC) nameplate capacity solar energy conversion facility (Solar Facility) and a 100-MW battery energy storage system (BESS), and associated facilities to be located in Minden Township, Benton County, Minnesota (Benton Solar Project or Project) (Figure 1). The Project would produce, on average, up to approximately 201,480 megawatt hours (MWh) of solar energy annually, which is enough to power 21,500 homes. The Project will also include a 115-kilovolt (kV), 0.5-mile-long[1] transmission line to deliver energy from the Project to the electric grid. The proposed transmission line, which meets the definition of a high-voltage transmission line under Minnesota Statutes (Minn. Stat.) § 216E.01, subd. 4,[2] is presented in the Route Permit Application submitted to the Commission by Benton Solar pursuant to Minn. Stat. Chapter 216E, and Minnesota Administrative Rules (Minn. R.) Chapter 7850 (Commission Docket IP7115/TL-23-425).

The Site is the 951.4 acres for which Benton Solar has full land control. The Site encompasses the Preliminary Development Area, 631.9 acres, which is the area where development is expected to occur and encompasses all Facilities, with the exception of the operations and maintenance (O&M) building that is anticipated to be located off-site in an existing office space, and the transmission line which is addressed in the Route Permit Application (Commission Docket IP7115/TL-23-425) (Table 1-1). Facilities include all temporary and permanent features associated with the Project. Benton Solar anticipates a commercial operations date by the fourth quarter of 2027.

This agricultural impact mitigation plan (AIMP) identifies measures Benton Solar and its contractors will take to avoid, minimize, or mitigate potential adverse impacts to agriculture that may result from the construction, operation, and eventual decommissioning of the Project. Implementation of these measures is also intended to ensure that lands within the Site are available for preconstruction uses following Project decommissioning.

Table 1-1. Estimated Facility Acreages in the Preliminary Development Area

Facility	Acres*	
	Long-term Impacts	Short-term Impacts∞
Solar Facility		
Solar panels (including vegetative space between panels) †	510.8	0.0
Electrical collection system	0.0	39.7
Access roads‡	12.2	0.0
Laydown yards	0.0	5.4
Substation	5.0	0.0
Meteorological evaluation tower(s)	0.0	0.0
Power conversion units	0.1	0.0

[1] All measurements presented in this plan are approximate and have been rounded to the nearest tenth.

[2] Minn. Stat. § 216E.01, subd. 4 defines a high-voltage transmission line as "a conductor of electric energy and associated facilities designed for and capable of operation at a nominal voltage of 100 kV or more and is greater than 1,500 feet in length." The high voltage transmission line proposed by Benton Solar meets this definition because the voltage (115 kV) and length (approximately 0.5 mile) exceed the thresholds provided in the definition.

Facility	**Acres***	
	Long-term Impacts	**Short-term Impacts**∞
Stormwater basins (permanent)	6.3	0.0
Stormwater basins (temporary)	0.0	3.0
Subtotal	**534.3**	**48.1**
Battery Energy Storage Site		
Laydown yard	0.0	1.2
Battery	0.5	0.0
Future augmentation battery	0.2	0.0
Power conversion systems	0.1	0.0
Future augmentation inverter	0.0	0.0
Subtotal	**0.8**	**1.2**
Operations and Maintenance Building§	**0.0**	**0.0**
Total	**535.1**	**49.3**

* Facilities and their estimated acreages are based on the preliminary site plan. Final acreages may change pending final design. Additionally, there is some overlap between certain Facilities, which therefore may share acreage in this table.

† The Project consists of 260,208 individual panels. Each individual panel measures 7.5 × 3.75 feet. Tracker rows are generally 189.1 to 279.9 feet in length and consist of three strings of solar panels. These dimensions are preliminary and pending final design and equipment selection.

‡ The majority of access roads will be 10.0 feet wide with a 5.0-foot shoulder on either side. Access roads may be wider along internal road intersections, curves, and turnarounds. Two access roads, leading to the substation and BESS, will be 20.0 feet wide with a 2.0-foot shoulder on either side. Total length of access roads is 7.6 miles.

§ The O&M building is part of the Project but is anticipated to be contained in an existing office building located off-site. It is included here for totality of the Project description.

∞ Disturbances will be short-term, and areas will be restored as described in the Benton Solar's Joint Site Permit Application (Commission Docket Nos. IP7115/GS-23-423 and IP7115/ESS-24-283) following completion of construction.

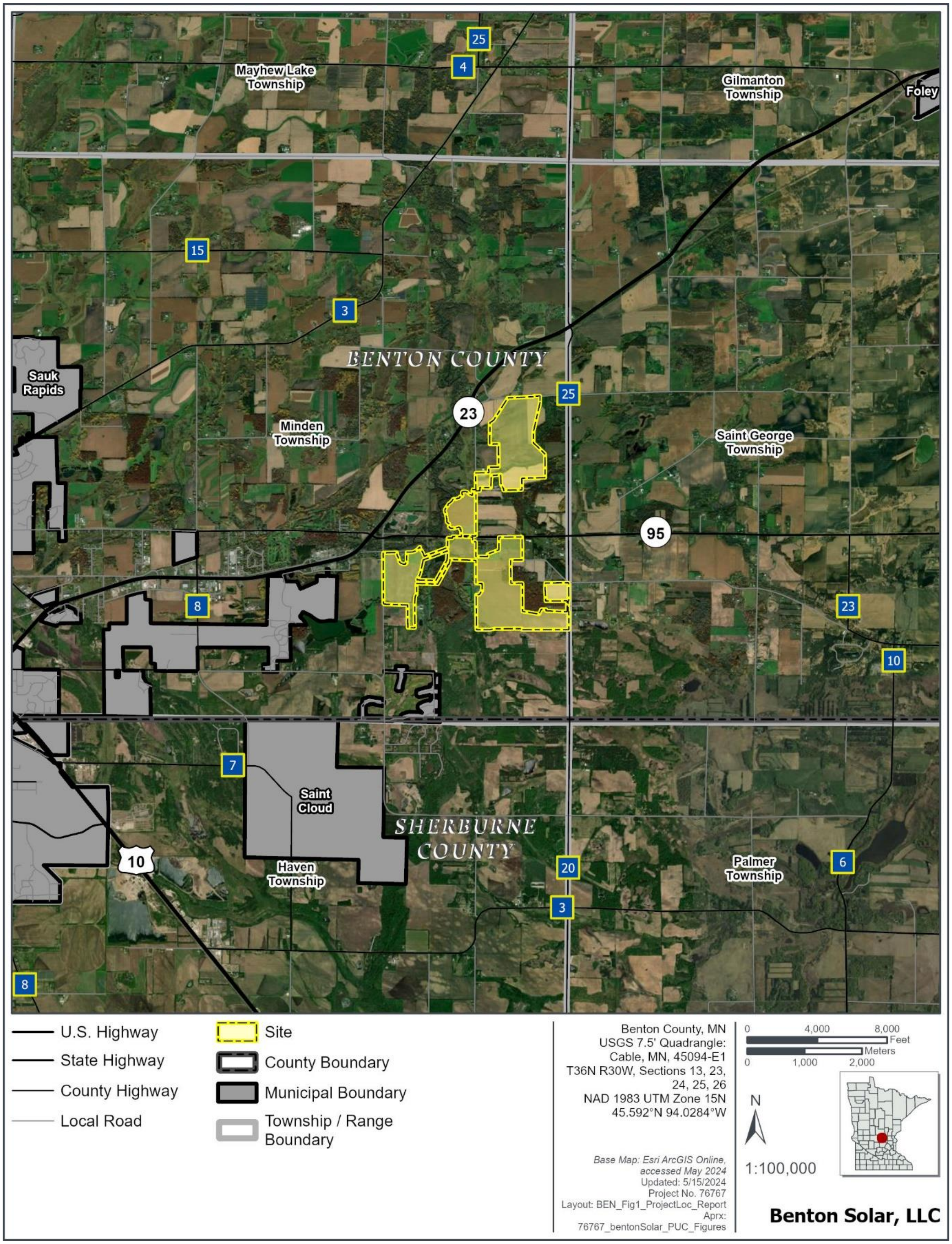

Figure 1. Project location.

2 PROJECT DESCRIPTION

All land currently within the Site is privately owned. The Site is located in Township 36 North, Range 30 West, Sections 13 and 23–26. The center point of the Site is located at 45.588434°N, -94.02556°W.

Benton Solar will own or lease all lands within the Site. Benton Solar will execute lease options or purchase land rights to acquire private property required for the Project, in accordance with state and federal land acquisition requirements. Land rights will be recorded as part of the public record. Agricultural activity will cease within the Preliminary Development Area until the Project is decommissioned. However, for lands under lease within the Site and outside the Preliminary Development Area, landowners have the option to continue agricultural practices throughout the life of the Project.

The Site, for which Benton Solar will have full Site control, is sufficient to accommodate the Facilities and setback requirements (Figure 2). The Project will be constructed, operated, and decommissioned in adherence with the applicable local, state, and federal regulations, including those related to agricultural, and specifically prime farmland, impacts.

2.1 Project Design

The Solar Facility portion of the Project will use solar panels to collect energy from the sun to produce direct current (DC) electrical power. Each row of panels will be connected in series to one another, becoming what is referred to as a string. A group of several strings will be connected and routed adjacent to the panels via DC cable that will be either aboveground in a hanging harness system or belowground in a filled trench. This DC cable will travel to a power conversion unit (PCU), which will house a DC/AC inverter and a transformer (together, a medium-voltage breaker) inside grounded, metal casing. Inverters will convert the 1,500-volt (V) DC power from the panels to 1,500-V AC power. Subsequently, the transformer will step up the power from 1,500 V to 34.5 kV (AC). A system of collection cables will then carry the generated power to the Project substation. The collection system will be located underground and will require the minimum number of splices and junction boxes needed to complete the run under the given site conditions and in consideration of cable reel limitations. Once delivered to the Project substation, the power will travel to a medium-voltage breaker, which will combine the feeds into the medium-voltage collection bus. The power will then go to the substation's step-up transformer that will convert the voltage from 34 kV to 115 kV, which is transmission voltage. From this step-up transformer, the power will travel through a high-voltage bus and additional substation electrical equipment necessary for protection and controls (in accordance with the Institute of Electrical and Electronics Engineers codes and National Electrical Safety Code) to a transmission line, which will bring the power to the transmission owner's ring bus. From here, the transmission owner will send power to the grid.

The BESS portion of the Project will store power from the Solar Facility and/or the grid, allowing power to be distributed or collected at times when it is most advantageous. Individual battery cells form the core of the BESS. Battery cells are assembled either in series or parallel in sealed battery modules. Benton Solar will install battery modules in self-supporting racks that are electrically connected either in series or parallel. Individual self-supporting racks are then connected in series or parallel and terminated at a power conversion system (PCS). From the PCS, power will flow to the substation via medium-voltage cables that will be installed underground.

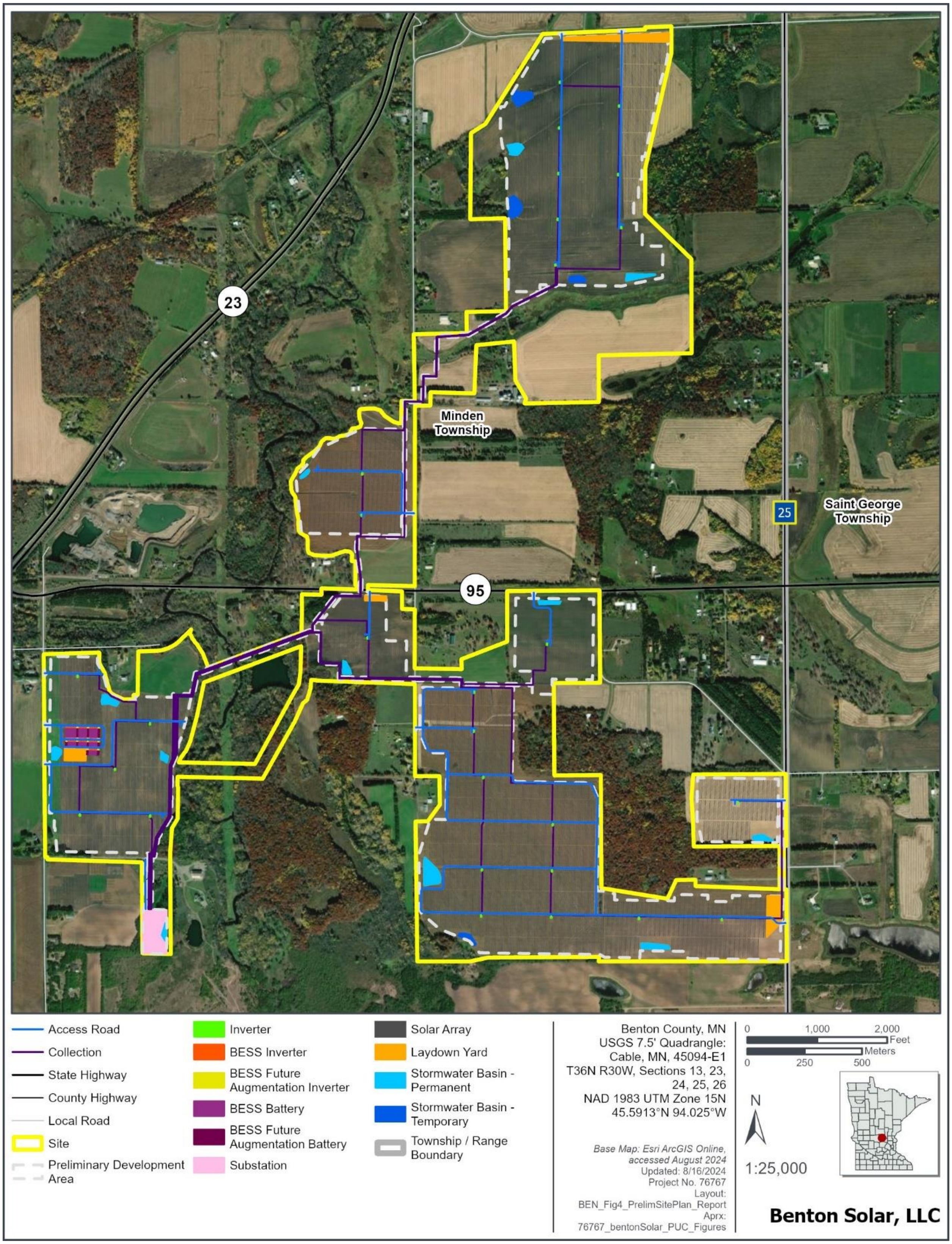

Figure 2. Benton Solar preliminary site plan.

2.1.1 Photovoltaic Arrays

2.1.1.1 PANELS

The Project's solar arrays will use multiple photovoltaic (PV) panels fastened to an efficient tracking system. Multiple PV panels will be installed on each tracking rack. Tracking angles will fall between ± 52 degrees throughout the day and have a resting angle of 52 degrees. The top edge of the PV panels on the racking system could be up to 20.0 feet in height from the ground based on topography and manufacturer specifications. Depending on the manufacturer and technology selected, the PV panels may have silicon, aluminum frame, an undermount aluminum frame or side-mount weatherized plastic backing, heat-resistant front glass, and a laminated material encapsulating the panels for weather protection. The design will involve no spinning machinery, no thermal cycle, and no water use. To limit the amount of reflection, solar panels will use light-absorbing, dark materials that are smooth with anti-reflection coating. Using current technology, panels reflect as little as 2.0% of direct sunlight assuming use of anti-reflective coatings and the optimized angle of the sun. The Project will require 3,532 PV tracking systems containing approximately 260,208 PV panels. A specific PV panel has not yet been selected for the Project.

2.1.1.2 TRACKING SYSTEM

The tracking system consists of all the components involved in fastening the PV panels to the tracker rows, plus the tracker beams, gearboxes, motors, and foundations. To the extent practicable, the tracking system foundations will be driven steel piles not requiring concrete. Under certain Site conditions, concrete foundations may be required. Based on the information known at the time of the Joint Site Permit Application, Benton Solar considers the need to install concrete foundations highly unlikely. The tracking system will move the panels incrementally throughout the day to track the sun from east to west.

2.1.1.3 POWER CONVERSION UNITS

Inverters, medium-voltage transformers, and air conditioning units will be contained within metal structures called PCUs. The PV panels will be connected to each other in series to create a string. Multiple strings will be connected and routed to the PCU via DC electrical wiring. Inverters will convert the electrical power from DC to AC in order to transport the power more efficiently to the substation. After power is converted to AC at the inverter, it will be stepped up from low voltage (1,500 V) to medium voltage (34.5 kV) by a transformer housed adjacent to the inverter.

PCUs will be located throughout the Preliminary Development Area. The PCUs will be centralized within the array areas to maximize efficiency and minimize disturbance. The number of PCUs will be dependent on inverter, transformer, air conditioning unit, and solar panel specifications and availability. PCUs will be installed on concrete slabs or elevated pile foundations. Concrete foundations will be either precast or poured on-site.

The power generated by the PV panels is transferred to the PCU via DC collector cables typically mounted underneath the panels using a hanging harness system. This system avoids unnecessary trenching and construction disturbance. Between the PCUs, and ending at the substation, the AC collection system will be located in subsurface trenches or bores. Trenching, plowing, boring, excavation, and grading activities will follow the Project AIMP and best management practices (BMPs) outlined in the Project stormwater pollution prevention plan (SWPPP) to minimize impacts to existing vegetation and topsoil.

2.1.2 Battery Energy Storage System

2.1.2.1 BATTERIES

The BESS will store power from the solar array and/or the grid, allowing power to be distributed during times when it is most advantageous. A BESS's capacity is based on its ability to provide its rated MWh capacity in a full battery charge or discharge. Benton Solar has designed a centralized, AC-coupled system (i.e., all batteries sited in one location as opposed to distributed throughout the Preliminary Development Area). The BESS will be contained on approximately 3.1 acres (Table 1-1). Compared to a distributed BESS system, a centralized system is more technologically developed; provides for more efficient access, monitoring, and maintenance; has more flexible energy and power capacity sizing; and has more flexible dispatch capabilities. The preliminary site plan incorporates a BESS with a modular layout based on currently available technology, which provides a conservative estimate of the size of the BESS.

Individual battery cells form the core of the BESS. Battery cells are assembled either in series or parallel in sealed battery modules. Benton Solar will install battery modules in self-supporting racks that are electrically connected either in series or parallel. Individual self-supporting racks are then connected in series or parallel to deliver the BESS power rating. Benton Solar has not finalized the battery type for the Project and will select the battery type based on the technology available at the time of construction.

2.1.2.2 ENERGY STORAGE SYSTEM CABINETS AND BATTERY MANAGEMENT SYSTEMS

Multiple self-contained energy storage system cabinets will house the batteries and the battery management systems (BMS). The BMSs are used in conjunction with the site-wide programmable logic controller (PLC) to monitor battery voltage, current, temperature, charge, discharge, thermal management, fault diagnosis, and more. Together, the BMS and PLC are a multi-level control system designed to provide a hierarchical system of controls for the battery modules and PCS up to the point of connection with the substation. The BMS and PLC ensure that the BESS effectively responds to grid emergency conditions and provide a secondary safety system designed to safely shut down the BESS in the event of an emergency. The self-contained energy storage system cabinets also contain the required heating, ventilation, and air conditioning (HVAC) for operation. The height of an individual cabinet will not exceed 25 feet.

This non-occupiable, containerized design provides system segmentation and spatial separation of BESS components, which greatly reduces the risk of fire propagation and prevents people from becoming trapped inside if a fire does occur. Separate containers also allow isolation of conditions in the unlikely event of an incident (e.g., overheating, fire).

2.1.2.3 FIRE DETECTION SYSTEM

The BESS design will comply with the International Fire Code 2018 (IFC), National Fire Protection Association (NFPA) Standard 855 (NFPA 855), and the National Electric Code (NFPA 70). Benton Solar will require its selected suppliers to perform the UL 9540A Large Scale Fire Test, which is a "Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems." Benton Solar will procure equipment that has demonstrated, through a third-party nationally recognized testing laboratory, containment of a thermal runaway event (i.e., that the event will not spread from one battery rack to another). Such testing will allow Benton Solar and stakeholders to understand potential hazards posed by specific batteries, and to ensure that the appropriate safety features are incorporated based upon results, as required by NFPA 855 and IFC.

Benton Solar will incorporate fire detection systems into the BESS design in accordance with NFPA safety standards and codes applicable to stationary energy storage.

2.1.2.4 POWER CONVERSION SYSTEM

The PCS will be located in the BESS and consists of an inverter, transformer, protection equipment, DC and AC circuit breakers, filter equipment, equipment terminals, and a connection cabling system. Electric energy is transferred from the solar array and/or the grid to the batteries during a battery charging cycle and from the batteries to the grid and/or solar array during a battery discharge cycle. The PCS converts electric energy from AC to DC when energy is transferred from the grid to the battery and from DC to AC when energy is transferred from the battery to the grid and/or solar array. The energy conversion is enabled by a bidirectional inverter that connects the DC battery system to the AC electrical grid. The PCS will also include a transformer that converts the AC side output of the inverter to medium AC voltage to increase the overall efficiency of the BESS and to protect the PCS in the event of system electrical faults.

2.1.2.5 HEATING, VENTILATION, AND AIR CONDITIONING

Each self-contained energy storage system cabinet will be equipped with HVAC and liquid cooling or other thermal management systems for thermal management of batteries. Power for the thermal management systems will be provided through excess capacity in the batteries when charging and discharging, or via the grid when idle.

2.1.3 Electrical Collection System

Energy from the Solar Facility and BESS will be distributed through a series of underground cables that comprise the electrical collection system, which will deliver power to the collector substation. The power will be stepped up at the Project’s collector substation from the collection line voltage of 34.5 kV to the transmission line voltage of 115 kV and will interconnect to the existing GRE Benton County Substation. The electrical collection system will meet the National Electrical Safety Code. The design work includes a load flow analysis for the Project to ensure that the Project will meet the power factor and voltage control specifications.

The electrical collection system will be direct buried cable. The underground cables will be installed via open trench or plowed, 3.0 to 4.0 feet deep. Collection cables may be installed via directional boring under certain features (e.g., roads, driveways, rivers) to minimize impacts. Figure 2 shows the electrical collection system location at the time of the Joint Site Permit Application. Benton Solar will continue to work with participants in the Site to ensure that the most ideal routes are used, taking the most direct paths practicable and reducing impacts to the surrounding area. The electrical collection system routing may change pending final design.

2.1.4 Roads

Project construction will include approximately 7.6 miles of dirt or graveled access roads. Access road length will depend on selected equipment and final engineering. The majority of access roads will be 10.0 feet wide with a 5.0-foot shoulder on either side. Access roads may be wider along internal road intersections, curves, and turnarounds. Two access roads, one leading to the substation and one to the BESS, will be 20.0 feet wide with a 2.0-foot shoulder on either side. Gated entrances to access roads will be locked.

Upgrades or other changes to public roads may be needed for construction and O&M of the Project. Benton Solar will work with Benton County to coordinate and pay for required upgrades to meet the required public standards according to applicable road use agreements. Such upgrades may include, but are not limited to, additional aggregate, road improvements, and driveway/approach changes. Road improvements may require a repair and road use agreement with Benton County and/or Minden Township. Benton Solar will coordinate with all relevant entities as the Project develops. New driveways or changes to existing driveways will require an entrance permit from Benton County, which will be acquired before construction.

2.1.5 Fencing and Security Features

Benton Solar will install approximately 58,768.1 linear feet of permanent security fencing along the perimeter of the Preliminary Development Area, excluding minor portions of some Facilities (e.g., select access roads). The fence will be made of agricultural woven wire and will stand 8.0 feet above grade. Two strands of smooth, high tensile wire will be installed for a total height of 10.0 feet (Minnesota Department of Natural Resources 2023a). This perimeter fencing will prevent large wildlife species from entering the Preliminary Development Area. The fencing around the substation will include 1.0 foot of barbed wire on top of a 6.0-foot-above-grade chain-link fence to comply with the National Electric Code. The substation fencing system is designed to prevent the public from intruding and gaining access to electrical equipment, which could lead to serious injury. The BESS fencing will include 1.0 foot of barbed wire on top of a 7.0-foot-above-grade chain-link fence.

2.1.6 Substation and Transmission Line

The substation will be a 34.5/115-kV step-up substation with metering and switching equipment. It will be designed according to regional utility practices, including the Midcontinent Independent System Operator (MISO) Standards (MISO 2023), Midwest Reliability Organization Standards (Midwest Reliability Organization 2023), National Electrical Safety Code (Institute of Electrical and Electronics Engineers 2023), and Rural Utilities Service Code (7 Code of Federal Regulations 1728). The substation footprint will be graveled to minimize vegetation growth, reduce fire risk, and contain leaks or spills. The substation will be fenced with a 6.0-foot above-grade chain-link fence topped with 1 foot of barbed wire for security and safety purposes.

Benton Solar will construct, own, and operate a 115-kV transmission line to deliver energy from the Benton Solar Project to the electric grid. The transmission line will be constructed using primarily 115-kV single-circuit monopole structures and will be 0.5 mile long. The conductor type and exact length and position of the transmission line and poles will be determined during detailed electrical design. Proposed structure heights depend on terrain, span length, structure configuration, crossings, and other constraints. The proposed pole height is not expected to exceed 110.0 feet above the ground. The average pole height will be 45.0 to 95.0 feet above ground line. The transmission line is addressed in detail in Commission Docket IP7115/TL-23-425.

2.1.7 Operations and Maintenance Building and Supervisory Control and Data Acquisition System

An O&M building or dedicated space will serve as the center for Project O&M activities, provide Project storage, and provide network access to the Supervisory Control and Data Acquisition System (SCADA) system. The O&M building may also provide office space for crews and a shop/storage area for spare parts and vehicles. Benton Solar anticipates leasing an existing office space off-site for the O&M building.

The SCADA system will collect operation and performance data and allow remote operation of the Project. The Solar Facility and the BESS will be linked to a central computer in the control house in the substation and a remote operations center by an on-site fiber-optic network and off-site cellular, telephone, microwave, or satellite communications via a lattice microwave tower, or equivalent. The SCADA fiber-optic cables will be bundled with the electrical system. The SCADA system will interface with the transmission owner's communication network to allow the utility to monitor operations and to disable Project output in case of safety or grid-operation requirements. This monitoring system shows status views of mechanical and electrical data, fault and operation status, grid station data, and meteorological evaluation tower (MET) data.

2.1.8 Meteorological Evaluation Tower(s)

One temporary MET has been installed in the southwest corner of the Preliminary Development Area. The MET is used prior to construction to obtain more accurate data for sun exposure to support net capacity factor calculations as opposed to relying on standard assumptions. The tower is 7.0 feet in height. Once the Project is installed, one or more permanent METs will replace the temporary MET and be used to monitor incoming weather to inform O&M activities (e.g., properly storing panels in case of severe storms). The permanent METs will be connected to the SCADA system to collect data for analysis and system monitoring and will be 6.0 to 7.0 feet in height.

2.1.9 Stormwater Basins

Stormwater will be managed through installation of stormwater basins (see Figure 2). Benton Solar completed a detailed stormwater management study for the Project and designed the stormwater management system in accordance with MPCA stormwater management for solar projects guidance and the National Pollution Discharge Elimination System construction stormwater permit program. Stormwater basins are strategically located to capture water without requiring additional grading to direct flow, reducing overall soil impacts. Final stormwater basin locations will be dependent on the final design.

2.1.10 Temporary Facilities

Benton Solar will construct and use several temporary laydown yards within the Preliminary Development Area, ranging in size from 0.1 to up to 2.0 acres and totaling approximately 6.6 acres. Temporary laydown yards will be used for parking, material storage, equipment storage, trailer storage, and delivery coordination during construction (see Figure 2).

2.2 Project Layout

The Project layout optimizes electrical output generation and efficiency while avoiding and minimizing impacts to environmental resources and existing infrastructure. The 631.9-acre Preliminary Development Area includes all Facilities (see Figure 2), with the exception of the O&M building that is anticipated to be located off-site. Table 1-1 provides the Facilities and their estimated acreages based on the Project's preliminary site plan. Final acreages may change pending final design. Some Facilities overlap and therefore share acreages in Table 1-1.

2.3 Setbacks

Site and route permits from the Commission supersede county requirements. However, Benton Solar will comply with the setback standard (i.e., 300.0 feet from any residential dwelling unit not located on the property) outlined in the Benton County Development Code, Section 9.20, Solar Energy Systems (Benton County 2020).

2.4 Project Construction

Benton Solar will complete several activities to carry the Project through to commercial operation. Table 2.4-1 provides a preliminary list of activities necessary to develop the Project and the estimated timeframe for each, which is subject to change.

Table 2.4-1. Development Activities and Estimated Timeframes.

Activity	Estimated Timeframe
Preconstruction	
Topographic surveys	Qtr. 4 2022–Qtr 1 2026
Hydrology surveys	Qtr. 4 2022–Qtr 1 2026
Environmental surveys	Qtr. 2 2022–Qtr 2 2024
Title and boundary surveys	Qtr. 1 2024–Qtr 3 2024
Conduct geotechnical investigations	Qtr. 4 2022–Qtr 1 2026
Design Facilities and layout	Qtr. 4 2025–Qtr 1 2026
Complete underground utility discovery	Qtr. 1 2023–Qtr 4 2025
Procure necessary Facility components (e.g., solar panels, tracking system, transformers, batteries)	Qtr. 1 2023–Qtr 2 2027
Tree Clearing	Qtr. 3 2025–Qtr. 1 2026
Construction	
Conduct Site preparation, including grading, vegetation removal, and stabilization planting, if needed	Qtr. 2 2026–Qtr. 3 2026
Install stormwater treatment Facilities	Qtr. 2 2026–Qtr. 3 2026
Construct access roads	Qtr. 2 2026–Qtr. 3 2026
Construct laydown yards and set up temporary job trailers	Qtr. 2 2026–Qtr. 2 2026
Construct and install fencing	Qtr. 4 2026–Qtr. 3 2027
Install all Facilities	Qtr. 4 2026–Qtr. 3 2027
Postconstruction	
Test Facilities	Qtr. 2 2027–Qtr. 4 2027
Begin commercial operation	Qtr. 4 2027

Select activities are described further below.

2.4.1 Geotechnical Investigations and Tree Removal

Preconstruction geotechnical studies will be completed to determine topsoil and subsoil types and the mechanical properties of the soils. Consideration of soil properties informs Project design (e.g., solar array foundation system). For example, foundations typically are steel piles driven into the ground using a hydraulic ram that moves along tracks. The piles may be installed at predefined locations throughout the array area to an embedment depth of 8.0 to 14.0 feet below grade. The exact embedment depth depends on various factors, including soil properties.

Benton Solar has designed the preliminary site plan to maximize use of lands already disturbed (e.g., cropland). Prior to construction, Benton Solar will remove up to approximately 10.1 acres of forested land cover within the Site (1.1%) to accommodate construction of the Project substation, to establish HDD boring entry points and access to those entry points, and to address shading concerns. In most areas, forest remnants have been avoided (see Figure 2).

2.4.2 Construction

Construction begins after acquiring all necessary permits, execution of the Generator Interconnection Agreement, and following Issue for Construction design drawings. Construction (i.e., the period beginning with start of earth-moving through mechanical completion) is expected to take approximately 14 months, which includes a 16-week winter window during which construction is expected to be scaled back substantially (winter break).

The majority of construction activities will take place during the summer and fall. During construction, the total number of employees on-site per day is likely to average 150 employees, which may increase to 300 employees during the peak of construction. Local workers will be used to the extent possible. Nonlocal workers may be hired when local workers are not available. Personnel will include preconstruction survey crews, utility workers for local power stations, supervisors, and engineers.

During construction, equipment and work vehicles will travel to and from the Site. The daily construction workday is anticipated to be consistent throughout the construction season when most of the access road construction, electrical, and substation work is taking place. Typical construction equipment such as scrapers, dozers, dump trucks, watering trucks, motor graders, vibratory compactors and pile drivers, pickup trucks, backhoes, concrete trucks and pumpers, boom trucks, tractor trailers, and large cranes will be used during construction. Personnel will prevent the spread of dust during operations by moistening surfaces with water and/or commercial dust suppressants as needed to reduce the risk of dust becoming a nuisance to the public and neighbors. Water will be utilized for dust mitigation within the Site. To the extent practicable, vehicular traffic will be limited to permanent and temporary access roads to minimize soil disturbance, mixing, and compaction. However, traffic may occur off roads throughout the Project during construction. Vehicles traveling overland may include small all-terrain vehicles and pickup trucks for transporting equipment and workers throughout the Site.

2.4.2.1 SITE PREPARATION

Construction will begin with Site preparation, including grading. Grading will occur only in areas where the elevation requires alteration to accommodate tracker tolerances, drainage, roads, laydown yards, and foundations. This minimal grading approach helps preserve underground root structure, topsoil nutrients, seed base, and preconstruction Site hydrology. During grading activities, topsoil will be stripped, stockpiled, and labeled, as practicable, to avoid mishandling or mixing with subsoil horizons. If needed, excavated subsoil will be windrowed adjacent to excavation in areas where topsoil has been salvaged. Grading, including erosion control and soil stabilization measures, will be performed in compliance with the Project SWPPP.

Existing vegetation will be preserved to the maximum extent possible, though all areas within the Preliminary Development Area will be mowed or grubbed as needed to prepare the Site for construction. Organic matter that remains after mowing will remain in the construction area except in trenches and under equipment foundations. If site preparation and final grading is completed in spring and allows for permanent seeding prior to June 30, Benton Solar may opt to install seed mixes in all disturbed areas prior to installation of the Facilities. If site preparation and final grading are not completed prior to June 30, or if Benton Solar opts not to install seed prior to installation of Facilities, then disturbed areas will be seeded with a temporary cover crop following final grading to stabilize soils and prevent erosion during construction. In this case, the vegetation manager would install a permanent seed mix in late fall or during the following spring (if

Facility installation is not completed prior to soil freezing in fall). For additional details on revegetation following site preparation, refer to the Project VMP.

2.4.2.2 ACCESS ROADS AND LAYDOWN YARDS

Permanent access roads and turnouts will be developed during initial construction phases. This work starts with stripping and segregating topsoil materials from the road width. Once the subgrade materials are compacted to specified requirements, the road will be installed as designed, with or without geo-fabric depending on soil type, and may be surfaced with gravel. After roads are installed and compacted to engineers' requirements, the Project drainage ditches will be shaped as identified on the final grading plan. The previously stripped and windrowed topsoil material will be respread throughout the Site.

Additionally, Benton Solar will establish several temporary laydown yards on a total of 6.6 acres. Laydown yards will be installed following the methods described above for access roads and turnouts.

2.4.2.3 PHOTOVOLTAIC ARRAYS

After grading and installation of permanent access roads and turnouts, Benton Solar will construct the PV arrays and install the electrical collection lines within the solar field. The Project will be constructed in blocks, and multiple blocks will be constructed simultaneously.

The tracking rack systems will be constructed by pre-positioning and driving piles, mounting the tracking rack system to the piles, pre-positioning panel pallets for distribution to workspaces, mounting panels to the tracking rack system, completing electrical connections, completing terminations and grounding, and installing cabling systems. Foundations are typically galvanized steel and used where high load-bearing capacity is required. In situations where soils are low strength, helical screw or auger-type foundation posts may be used. The piles will be driven using a hydraulic ram that moves along tracks and is operated by workers. The remainder of the tracking rack system, including solar panels, will be installed by construction crews using hand tools and pickup trucks or all-terrain tracked vehicles to distribute materials to work areas. Array racking will be bolted on top of foundation piling to create a "rack" to which solar panels are fastened. Installation crews will proceed in serpentine fashion along staked temporary access roads in a pre-established route to minimize off-road traffic.

2.4.2.4 SUBSTATION

Grading for the substation foundation and future access roads will be completed during Site preparation and according to the Project design.

Substation construction will include installation of substructures, electrical equipment, and concrete foundations and equipment embedments. The grounding grid and underground conduit will be installed in conjunction with foundations for the transformer, control housing, and high-voltage structures. Secondary containment areas for the transformer will be constructed as necessary, and final grading will occur around the substation.

The final activities associated with the substation construction include stringing electrical wires; installing perimeter fencing; and placing coarse, clear crushed rock throughout the fenced interior. Lighting will be installed around the substation for worker safety during construction and operation.

2.4.2.5 BATTERY ENERGY STORAGE SYSTEM

Benton Solar will construct the BESS either concurrently or subsequent to the construction of the PV arrays and substation. After grading, Benton Solar will install underground cabling, followed by applicable temporary and permanent Facilities. The BESS will include those Facilities described in Section 2.1.2.

2.4.2.6 EQUIPMENT TESTING

Project equipment inspections will follow Project requirements. During and after construction, personnel will calibrate and test systems, controls, and safety equipment before putting equipment into service. Additionally, the communication, MET, collection, and SCADA system components will be tested, inspected, and commissioned.

2.4.3 Construction Management

Benton Solar will employ a construction manager based at the Site whose responsibilities will include scheduling and coordinating the activities of engineering, procurement, and construction contractors. Individuals specializing in engineering, permitting, meteorology, environmental compliance, real estate, and geographic information systems (GIS) mapping will support the on-site construction manager. Throughout construction, the Project's development, design, and construction teams will coordinate routinely to execute work. This coordination includes safety and quality control programs, cost and schedule forecasting, Site security, and communication with local officials, citizen groups, and landowners.

2.4.4 Emergency Action Plan

Benton Solar will work with local responders to develop and implement an Emergency Action Plan (EAP) to be provided to Benton County and to all Project personnel prior to initiating construction. The EAP will establish actions to be taken by the personnel responsible for construction in the event of an emergency. The following topics will be discussed in the EAP:

- Document records
- Safety protocols
- State and federal compliance
- Emergency contacts
- Training and annual drills
- Information for first responders, including minimum approach distances for first responders and requirements for self-contained breathing apparatus or other personal protective equipment
- General emergency event procedures
- Natural disaster and severe weather
- Fire response
- Physical and cyber security
- Environmental
- Immediate or delayed site evacuation
- Designated evacuation egress routes and muster areas
- Personnel injuries and serious health conditions

Safety and training programs will also be described in the EAP because they are critical assets for managing emergency conditions. Personnel that respond to emergency events will have all required qualifications (e.g., electrical) up to date and will keep safety top of mind. Benton Solar is committed to providing a safe and healthy work environment for all employees and requires that safety should not be compromised for any other business priority.

2.4.5 Commissioning

Benton Solar will inspect equipment prior to commercial operation of the Project. Benton Solar will inspect and test each component of the solar array and associated communication, MET, collection, BESS, and SCADA systems. Testing, inspections, and commissioning will occur during and following completion of construction.

2.4.6 Restoration

Following construction, areas that will not contain permanent Facilities (e.g., areas below solar panels) will be stabilized and revegetated in accordance with the Project SWPPP and VMP. Benton Solar developed its VMP to guide Site preparation, vegetation establishment and management, undesirable species management, and erosion control. Restoration efforts in designated areas include reseeding with regionally appropriate seed mixes developed in collaboration with the Bee & Butterfly Habitat Fund (see Project VMP).

3 SOIL ASSESSMENT

Benton Solar completed a soil assessment to identify potential limitations and construction suitability issues and to identify potential adverse impacts to agricultural practices that may result from the Project. A summary of that assessment is provided below.

3.1 Soils

The Soil Survey Geographic database (SSURGO) is a digitized soil survey that provides GIS data relating soil map unit (SMU) polygons to component soil characteristics and interpretations. Benton Solar mapped the SMU polygons in the Site. A soil map is provided in Appendix A.

3.2 Limitations and Suitability Assessment

3.2.1 Select Physical Characteristics

Soil limitations and suitability vary by SMU. A soil’s physical characteristics can impact Project construction, reclamation, and restoration activities. These physical characteristics include the following:

- **Texture:** Soil texture refers to the proportion and composition of sand-, silt-, and clay-sized particles that make up the mineral fraction of the soil. Soil texture influences water-holding capacity, infiltration rate, compaction/rutting, and how workable and fertile the soil is—all of which significantly impact revegetation capabilities. Predominant soil textures in the Site consist of coarse-loamy (358.2 acres; 37.6%) and sandy or sandy-skeletal (403.6 acres; 42.4%) textures. Loamy (150.4 acres; 15.8%) and fine (4.0 acres; 0.4%) textures are also present. SSURGO does not provide textures for approximately 35.2 acres (3.7%) that consist of soil complexes and water. These complexes are composed of sand, fine sandy loam, loamy sand, and organic soils and a combination of organic matter, silt, and sand (as water-deposited young soils). The majority of soils in the Preliminary Development Area are sandy (approximately 282.9 acres; 44.8%) and coarse-loamy (261.5 acres; 41.4%).

- **Slope:** Slope represents the elevation between two different points and directly affects erosivity, soil strength (compaction/rutting), machine use, constructability, plantings, and revegetation. Most soils in the Site (757.3 acres; 79.6%) and the Preliminary Development Area (527.7 acres; 83.5%) are nearly level soils with representative slopes falling within the 0.0 to 8.0 percent slope range.
- **Drainage and moisture:** Soil drainage refers to the rate and degree at which water is removed by runoff, infiltration, and evapotranspiration. Soil moisture denotes the total water content in an unsaturated soil. Soil drainage and moisture affects machine use, constructability, compaction rates, erosion potential, and revegetation success. The majority (approximately 591.8 acres; 62.2%) of the soils are Somewhat Excessively (SE) drained (260.7 acres; 27.4%), Excessively Drained (ED) (293.9 acres; 30.9%), Moderately Well Drained (MWD) (32.5 acres; 3.4%), and Well Drained (WD) (4.7 acres; 0.5%). The remainder (approximately 359.5 acres; 37.8%) of the soils within the Site are in the Poorly (P), Very Poorly (VP), and Somewhat Poorly (SP) drained classes (265.2 acres [27.9%], 39.2 acres [4.1%], and 55.2 acres [5.8%], respectively). Most of the soils in the Preliminary Development Area are in the ED and SE drainage classes (189.0 and 198.3 acres, respectively; cumulatively 61.3%). Additionally, a substantial component of the soils in the Preliminary Development Area are P, SP, and VP drainage classes (203.8, 23.2, and 4.4 acres, respectively; cumulatively 36.6%). The remaining minority of mapped soils are in the WD and MWD drainage classes and comprise 13.2 acres (2.1%) of the Preliminary Development Area. Soils in the SP and P drainage classes are highly productive when drained and are frequently converted to agriculture by the installation of subsurface drain tiles. Aerial photograph inspection suggests that portions of the soils in the SP and P drainage classes in the Site and the Preliminary Development Area have been drained through ditching. It is also possible that subterranean drainage tiles have been installed for agricultural uses. MWD and SP drained soils are typically well suited to intensive agriculture.
- **Presence of stones, rocks, and shallow bedrock:** The presence of bedrock near the soil surface and rocks and stones in the soil profile affect constructability and revegetation. Soils in the Site and the Preliminary Development Area are not shallow to bedrock or likely to have stones at the soil surface or within the soil profile, based on this desktop assessment. Most soils in the Site are derived from glacial outwash sand parent material or accumulated organic matter in low, wet areas. Neither of these parent materials or soil-forming processes results in significant presence of stones near the soil surface.

Select physical characteristic data for the Site and the Preliminary Development Area are provided in Table 3.2-1.

Table 3.2-1. Select Soil Physical Characteristics within the Site and the Preliminary Development Area

Map Unit Symbol	Soil Map Unit	Site		Preliminary Development Area		Farmland Designation	Depth to Water Table (inches)	Water Erodibility	Wind Erodibility	Hydric Soil	Compaction Prone
		Acres	Percentage of Total	Acres	Percentage of Total						
D7A	Hubbard loamy sand, 0 to 2 percent slopes	181.2	19.1%	130.2	20.6%	Not prime farmland	>80.0	Slight	Severe	Nonhydric	No
C73C	Milaca loam, 1 to 7 percent slopes, stony	151.7	15.9%	133.3	21.1%	Farmland of statewide importance	24.0 – 43.0	Severe	Slight	Predominantly nonhydric	Yes
D7C	Hubbard loamy sand, 6 to 12 percent slopes	129.1	13.6%	93.3	14.8%	Not prime farmland	>80.0	Slight	Moderate	Nonhydric	No
C56A	Langola loamy fine sand, 0 to 2 percent slopes	96.1	10.1%	63.9	10.1%	Farmland of statewide importance	6.0	Moderate	Severe	Predominantly nonhydric	No
D6A	Verndale sandy loam, acid substratum, 0 to 2 percent slopes	91.1	9.6%	83.3	13.2%	Farmland of statewide importance	>80.0	Slight	Moderate	Nonhydric	Yes
D7B	Hubbard loamy sand, 2 to 6 percent slopes	72.7	7.6%	53.3	8.4%	Not prime farmland	>80.0	Slight	Severe	Nonhydric	No
C67B	Bushville complex, 1 to 6 percent slopes	24.2	2.5%	18.3	2.9%	Farmland of statewide importance	12.0	Moderate	Severe	Predominantly nonhydric	No
C51D	Emmert-St. Francis complex, 6 to 25 percent slopes	23.6	2.5%	8.2	1.3%	Not prime farmland	>80.0	Slight	Moderate	Nonhydric	No
C70B	St. Francis-Mahtomedi complex, 2 to 6 percent slopes	21.0	2.2%	2.8	0.4%	Farmland of statewide importance	>80.0	Slight	Moderate	Nonhydric	Yes
C36A	Nokasippi loamy fine sand, depressional, 0 to 1 percent slopes	20.1	2.1%	0.8	0.1%	Not prime farmland	0.0	Slight	Severe	Hydric	No
C53C	Pomroy loamy fine sand, 6 to 12 percent slopes	20.0	2.1%	–	–	Not prime farmland	18.0	Slight	Severe	Nonhydric	No
C72B	Langola complex, 1 to 6 percent slopes	17.0	1.8%	6.9	1.1%	Farmland of statewide importance	12.0	Moderate	Severe	Predominantly nonhydric	No
C66A	St. Francis fine sandy loam, 0 to 2 percent slopes	14.1	1.5%	13.5	2.1%	Farmland of statewide importance	>80.0	Slight	Moderate	Nonhydric	Yes
D7E	Hubbard loamy sand, 18 to 35 percent slopes	10.7	1.1%	2.0	0.3%	Not prime farmland	>80.0 in	Slight	Severe	Nonhydric	No
1011A	Fordum-Winterfield complex, 0 to 2 percent slopes, frequently flooded	10.7	1.1%	1.8	0.3%	Not prime farmland	0.0	Slight	Moderate	Predominantly hydric	No
C60A	Bushville fine sand, 0 to 2 percent slopes	10.1	1.1%	–	–	Farmland of statewide importance	6.0	Moderate	Severe	Predominantly nonhydric	No
D1C	Anoka and Zimmerman soils, terrace, 6 to 12 percent slopes	8.3	0.9%	0.7	0.1%	Not prime farmland	>80.0	Slight	Severe	Nonhydric	No
C65A	Parent loam, 0 to 2 percent slopes, stony	6.2	0.7%	4.7	0.7%	Prime farmland if drained	0.0	Moderate	Slight	Predominantly hydric	Yes
C71C	Milaca-Mora complex, 1 to 7 percent slopes, stony	6.0	0.6%	–	–	Farmland of statewide importance	24.0 – 43.0	Moderate	Slight	Predominantly nonhydric	Yes
1023A	Seelyeville and Markey soils, ponded, 0 to 1 percent slopes	5.8	0.6%	1.8	0.3%	Not prime farmland	0.0	Not rated	Slight	Hydric	No
C73A	Mora loam, 1 to 3 percent slopes, stony	4.8	0.5%	4.1	0.6%	All areas are prime farmland	6.0	Moderate	Slight	Predominantly nonhydric	Yes
D1B	Anoka and Zimmerman soils, terrace, 2 to 6 percent slopes	4.6	0.5%	0.4	0.1%	Not prime farmland	>80.0	Slight	Severe	Nonhydric	No
D61A	Glendorado loamy sand, 0 to 2 percent slopes	4.3	0.4%	1.3	0.2%	Not prime farmland	12.0	Slight	Severe	Predominantly nonhydric	No
C58A	Ogilvie loam, 0 to 2 percent slopes	4.2	0.4%	4.2	0.7%	Farmland of statewide importance	12.0	Moderate	Slight	Predominantly nonhydric	Yes
C26A	Foglake silt loam, 0 to 2 percent slopes	4.0	0.4%	–	–	Prime farmland if drained	0.0	Severe	Slight	Predominantly hydric	No
D30A	Seelyeville and Markey soils, depressional, 0 to 1 percent slopes	2.6	0.3%	–	–	Not prime farmland	0.0	Slight	Severe	Hydric	No
D17A	Duelm loamy sand, 0 to 2 percent slopes	2.5	0.3%	2.5	0.4%	Not prime farmland	30.0	Slight	Moderate	Predominantly nonhydric	No
C70C	St. Francis-Mahtomedi complex, 6 to 12 percent slopes	2.4	0.2%	–	–	Not prime farmland	>80.0	Severe	Moderate	Nonhydric	Yes
C68B	Milaca fine sandy loam, 3 to 6 percent slopes, stony	1.1	0.1%	0.3	<0.1%	Farmland of statewide importance	18.0	Slight	Moderate	Predominantly nonhydric	Yes
D21A	Isan sandy loam, depressional, 0 to 1 percent slopes	0.5	0.1%	0.2	<0.1%	Not prime farmland	0.0	Slight	Severe	Predominantly hydric	No
C69B	Milaca, stony-St. Francis complex, 3 to 8 percent slopes	0.4	<0.1%	–	–	Not prime farmland	18.0	Slight	Moderate	Nonhydric	Yes
C9B	Mora-Ronneby complex, 1 to 4 percent slopes, stony	0.2	<0.1%	–	–	Farmland of statewide importance	16.0 – 24	Moderate	Slight	Predominantly nonhydric	Yes
C126B	Balmlake-Rosy complex, 1 to 6 percent slopes	0.2	<0.1%	0.1	<0.1%	All areas are prime farmland	>80.0	Moderate	Moderate	Nonhydric	Yes
W	Water	<0.1	<0.1%	–	–	Not prime farmland	n/a	Not rated	Not rated	Not rated	Not rated
–	**Total***	**951.4**	**100.0%**	**631.9**	**100.0%**	**–**	–	**–**	**–**	**–**	**–**

Source: Soil Survey Staff (2023a).
* Totals may vary slightly due to rounding.

3.2.2 Select Classification Data

Interpretative limitations and hazards for construction and reclamation also are assessed based on soil classification data, which include the following:

- **Prime farmland status:** Prime farmland is defined as "land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion" (Natural Resources Conservation Service [NRCS] 1981). The prime farmland designation is independent of current land use. The NRCS also recognizes farmland of statewide importance, which is defined as land other than prime farmland that is used for the production of specific high-value food and fiber crops (e.g., citrus, tree nuts, olives, fruits, vegetables) (NRCS 1981). Within Benton County, approximately 1,704.7 acres (0.6%) are considered prime farmland, and 12,486.7 acres (4.7%) are considered prime farmland if drained. Approximately 131,180.6 acres (49.6%) are considered farmland of statewide importance.

  Minn. R. § 7850.4400, subp. 4, states that "no large electric power generating plant site may be permitted where the developed portion of the plant site . . . includes more than 0.5 acres of prime farmland per megawatt of net generating capacity." The exception to the rule is if there is no feasible and prudent alternative. In 2020, the Minnesota Department of Commerce issued guidance meant to "assist developers in defining feasible and prudent in relation to siting alternatives and encourage them to build a record early in the site selection process showing whether or not an exception to the prime farmland exclusion is warranted." The guidance includes a discussion of siting constraints, scoping alternatives, exemption or variance determination, and mitigations and offsetting benefits (Minnesota Department of Commerce 2020).

  Within the Site, 501.1 acres (52.6%) are not prime farmland; 435.3 acres (45.8%) are farmland of statewide importance; 9.6 acres (1.0%) are prime farmland if drained; and only 5.4 acres (0.6%) are prime farmland. Within the Preliminary Development Area, 326.2 acres (51.6%) are farmland of statewide importance; 295.2 acres (46.7%) are not prime farmland; 5.9 acre (0.9%) are prime farmland if drained; and 4.6 acres (0.7%) are prime farmland (see Table 3.2-1).

- **Hydric soil status:** Hydric soils are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper horizon (Soil Science Glossary Terms Committee 2008). The presence of hydric soil, along with hydrophytic vegetation and wetland hydrology, must be met in order for an area to be considered a wetland, and some wetlands are regulated under state and federal statutes (Minnesota Department of Natural Resources 2019; Soil Survey Staff 2023b).

  Approximately 901.5 acres (94.6%) of the soils in the Site are classified as nonhydric or predominantly nonhydric. The remainder of the soils in the Site (49.9 acres; 5.3%) are classified as hydric or predominantly hydric. No soils in the Site are classified as partially hydric.

  Approximately 622.6 acres (98.4%) of the soils in the Preliminary Development Area are classified as nonhydric or predominantly nonhydric. The remainder of the soils in the Preliminary Development Area (9.3 acres; 1.6%) are classified as hydric or predominantly hydric. No soils in the Preliminary Development Area are classified as partially hydric (see Table 3.2-1).

- **Susceptibility to water erosion:** The U.S. Department of Agriculture defines highly erodible land as any land that can erode at excessive rates (U.S. Department of Agriculture 2017). Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. K is one of six factors used in the Revised Universal Soil Loss Equation to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on the percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (K_{sat}).

Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. Soil K factors were used to group soils into slight (0.05 to 0.20), moderate (0.25 to 0.40), and severe (> 0.40) water erosion classes (Michigan State University 2022).

The potential for water erosion within the Site is slight to severe, with approximately 618.5 acres (65.1%) having a slight water erosion potential; 169.0 acres (17.7%) having moderate erosion potential; and 158.1 acres (16.5%) having severe erosion potential (see Table 3.2-1). SSURGO does not provide factor K for the remaining 5.8 acres (0.6%) of the Site. The potential for water erosion within the Preliminary Development Area is slight to severe, with approximately 394.6 acres (62.3%) having slight water erosion potential and approximately 133.3 acres (21.1%) having a severe water erosion potential. Moderate water erosion potential exists within approximately 102.2 acres (16.1%) of the Preliminary Development Area (see Table 3.2-1). SSURGO does not provide factor K for the remaining 1.8 acres (0.3%) of the Preliminary Development Area.

- **Susceptibility to Wind Erosion:** To assess the potential of soil erosion by wind, the wind erodibility group was obtained for each SMU (Soil Survey Staff 2023a). Wind erodibility groups (WEGs) consist of soils that have similar properties affecting their resistance to soil blowing in cultivated areas. Soils are grouped according to their percentage of sand, silt, and clay, calcium carbonate content, presence of surficial coarse fragments, and surface wetness conditions. Soils within the 1 and 2 WEGs are classified as having a severe limitation for wind erosion; soils in the 3, 4, and 4L WEGs are considered to have a moderate limitation for wind erosion; and soils in the 5, 6, 7, and 8 WEGs have a slight limitation for wind erosion.

  The potential for wind erosion within the Site is slight to severe. Approximately 472.3 acres (49.7%) within the Site have severe wind erosion potential; approximately 296.2 acres (31.1%) have moderate wind erosion potential; and approximately 182.9 acres (19.1%) have a slight wind erosion potential (see Table 3.2-1). SSURGO does not provide WEG data for approximately < 0.1 acre (< 0.1%) of the Site. The potential for wind erosion within the Preliminary Development Area is slight to severe. Approximately 278.0 acres (43.9%) within the Preliminary Development Area have severe wind erosion potential; approximately 205.8 acres (32.5%) have moderate wind erosion potential; and approximately 148.1 acres (23.4%) have slight wind erosion potential (see Table 3.2-1).

- **Susceptibility to compaction:** Compaction and rutting are related to the soil moisture content, depth of soil, weight of equipment/machinery, number of passes completed by machinery, and soil texture. Conditions are worse when medium- and fine-textured soils are subject to heavy equipment traffic during wet conditions. Soils prone to compaction and rutting are subject to dramatic and adverse changes to soil porosity and structure. SMUs having fine texture in the SP, P, or VP drainage classes were classified as being compaction prone.

  Based on SSURGO and compaction potential of the SMU, most of the soils in the Site (648.0 acres; 68.2%) are not susceptible to compaction. Approximately 303.4 acres (31.7%) in the Site are susceptible to compaction based on drainage class and texture (see Table 3.2-1). Approximately < 0.1 acre (< 0.1%) of Site soils are not rated for compaction. Most of the soils in the Preliminary Development Area (385.6 acres; 61.0%) are not susceptible to compaction. Approximately 246.3 acres (38.8%) in the Preliminary Development Area are susceptible to compaction based on drainage class and texture (see Table 3.2-1).

3.2.3 Summary of Primary Soil Limitations

The primary limitations for soils during Project construction, O&M, and decommissioning are presence of prime farmland; compaction and rutting that may occur, particularly when soils are trafficked when wet;

and the need and ability to reserve and store large volumes of topsoil. Each of these limitations is further described below. BMPs intended to avoid and minimize impacts to prime farmland, compaction and rutting, and impacts to topsoil are described in Section 4.

3.2.3.1 PRIME FARMLAND

Benton Solar anticipates implementing the BMPs detailed in Section 4 during all Project phases to minimize impacts to prime farmland. These BMPs may include soil segregation and decompaction, measures to implement during wet weather conditions, and erosion and sediment controls. Additionally, following Project construction, soils are expected to be stabilized as the Site is revegetated with land cover–specific seed mixes developed in coordination with the Bee & Butterfly Habitat Fund (see the Project VMP). These measures are intended to avoid and minimize impacts to soil and Site productivity such that preconstruction agricultural productivity may be returned to the Site following Project decommissioning. Due to the implementation of BMPs, Benton Solar anticipates that the only impact to prime farmland is that the lands within the Preliminary Development Area will not be farmed for the life of the Project (25–30 years).

3.2.3.2 COMPACTION AND RUTTING

Benton Solar will design and manage construction (e.g., access routes, number of passes on a given soil) to minimize potential impacts of compaction and rutting through repeated exposure. Additionally, Benton Solar will implement wet weather procedures if rutting is observed. Benton Solar does not anticipate that deep compaction will be a major concern because it will limit the number of construction equipment passes over a given soil and because much of the construction equipment is anticipated to consist of smaller, low-ground-pressure tracked vehicles (e.g., scrapers, motor graders, pickup trucks).

3.2.3.3 TOPSOIL STORAGE

Benton Solar will conserve topsoil to the extent practical by preselecting areas to receive excess topsoil from nearby areas, grading and preparing seedbeds as appropriate, and revegetating to maintain conditions suitable for plant growth. This is described further in Section 5.2.

4 BEST MANAGEMENT PRACTICES DURING CONSTRUCTION AND OPERATION

Benton Solar and its contractors are committed to implementing BMPs intended to avoid, minimize, and mitigate potential impacts to agricultural lands. Under certain weather or Site conditions, Benton Solar or its contractors may identify measures that meet the intent of, and are more efficient and safer than, measures listed in this agricultural impact mitigation plan. In such cases, Benton Solar will coordinate with the environmental monitor, the Minnesota Department of Agriculture (MDA), and/or other applicable agencies to discuss potential new approaches to the specific conditions encountered, and alternate measures may be preferred. Additionally, there may be limited instances in which landowner stipulations may require modification of BMPs described below. Benton Solar will remain flexible to these stipulations and will work with landowners to arrive at mutually agreeable measures that achieve the goals of the original BMPs described herein.

4.1 Environmental Monitor

Benton Solar will utilize a qualified third-party environmental monitor to monitor earthmoving and trenching activities, identify any construction-related issues impacting on-site and/or off-site areas, and recommend corrective actions, if any, to prevent/mitigate unanticipated on-site or off-site impacts. The qualified third-party environmental monitor will be subcontracted by Benton Solar or may be provided by an interested agency such as the Minnesota Department of Commerce, Energy Environmental Review and Analysis.

The environmental monitor's duties will be outlined in an environmental monitoring plan and may include the following:

- Perform weekly inspections (or more frequently as necessary) during the major earthmoving and trenching phase of Project construction;
- Observe construction crews and activities to ensure conformance with BMPs described in this agricultural impact mitigation plan (e.g., topsoil is segregated and managed appropriately);
- Monitor the Site for potential soil compaction (except within access roads) and make specific recommendations for decompaction and/or mitigation;
- Monitor for construction-related on-site and off-site impacts and make recommendations for corrective actions to Benton Solar's construction manager;
- Assist in determining if weather events have created "wet weather" conditions and provide recommendations to the construction manager on the ability to proceed with construction; and
- Submit a biweekly summary report of BMP implementation to Benton Solar and MDA concurrently during Project construction.

The environmental monitor will be responsible for communicating any environmental concerns and potential issues to Benton Solar's construction manager and MDA in a timely manner. The construction manager will use discretion to either implement corrective actions or to stop work pending additional coordination.

4.2 Soil Segregation and Decompaction

Monitoring soil segregation and decompaction measures will be one of the ongoing priority activities conducted during construction to minimize handling and prevent impacts to the topsoil. During grading activities, topsoil will be stripped, stockpiled, and labeled, as practicable, to avoid mishandling or mixing with subsoil horizons. If needed, excavated subsoil will be windrowed adjacent to excavation in areas where topsoil has been salvaged.

Topsoil thickness will be field tested by a Minnesota Licensed Professional Soil Scientist prior to earthwork activities within the Preliminary Development Area. Benton Solar will work with the soil scientist to label and identify the appropriate salvageable topsoil depth in that area. Benton Solar will provide this information and a recommendation on segregation methods/techniques to the environmental monitor for review and input. As an interim recommendation, Benton Solar suggests a salvageable topsoil depth of up to 12.0 inches in thickness. Topsoil greater than 12.0 inches from the soil surface would be treated similarly to the underlying subsoil, unless indicated differently by the soil scientist.

For grading activities, topsoil will be salvaged and stockpiled in preselected areas to maintain soil characteristics and prevent undesirable species from establishing. Stockpiles will be seeded with a desired seed mixture if in place for more than 14 days, or a duration specified in the erosion control or SWPPPs.

For trenching activities, or those with similar operations of temporary excavations and backfilling, the subgrade material will be backfilled first and compacted, as necessary, followed by backfilling with topsoil and grading to the approximate preconstruction contour.[3] Compaction will be avoided, to the extent possible.

Following earthwork activities where segregation of topsoils/subsoils is necessary, topsoil will be backfilled as the top layer to maintain the overall integrity and character of the pre-disturbed areas. Any excess topsoil material will be respread within the Site at pre-established locations. Topsoil stockpile volumes and locations will be documented to facilitate backfilling after decommissioning.

4.3 Wet Weather Conditions

Wet weather conditions may necessitate a temporary halt or modification of construction activities. The construction manager will be responsible for identifying these conditions and delaying or modifying activities if weather conditions pose a risk to worker safety or if conditions are such that heavy equipment would cause severe rutting or compaction. Deep compaction is not anticipated to be a significant concern as the equipment is anticipated to consist of smaller, low-ground-pressure tracked vehicles, and the number of passes over a given area is limited. Measures to avoid topsoil compaction during wet conditions may include, but not limited to, stripping and segregation of topsoil, use of temporary construction mats, or use of equipment with flotation tires that do not compact soil.

Following initial grading activities, many operations can be conducted in wet weather without the use of heavy equipment. However, the construction manager is responsible for ensuring that topsoil erosion, rutting, compaction, and damage to drain tiles (as present) are avoided or minimized to the extent possible. The construction manager will work with the soil scientist and the environmental monitor to ensure that techniques/practices are employed to decompact soils appropriately following wet weather conditions. Decompaction with chisel plows prior to disking and seeding will be a standard method of soil bed preparation for areas proposed to be seeded with regionally appropriate, perennial grasses, forbs, and pollinator species. Agricultural equipment capable of operating between panel lines when panels are oriented vertically would be used to decompact, prepare a seedbed, and plant the desired seed mixes.

4.4 Grading/Earthwork

The initial phase of Project construction will include the major cut and fill activities and will be performed by Benton Solar's contractor. During grading activities, topsoil will be stripped and stockpiled, and replaced after grading activities have been completed. Soil testing, conducted by a soil scientist prior to grading activities, will measure and verify salvageable topsoil depths. Benton Solar will provide this information and a recommendation for segregation methods to MDA for comment.

The stripped topsoil will be bladed into windrows for later use, and the subgrade materials will be removed and relocated to low spots throughout the Site. Upon completion of stripping the topsoil and subsoil in the lower areas, fill and/or subgrade material will be brought in and used as backfill and compacted, and the topsoil will be used to backfill over the top. The topsoil will be loosely compacted and/or tracked and BMPs will be implemented.

Once the topsoil has been stripped and stockpiled, grading activities may be necessary to raise or lower certain areas, but the majority of the Project's topography will be left unchanged.

[3] Benton Solar recognizes that topsoil mixing is both an aesthetic and crop-productivity issue and intends to minimize, to the extent practicable, topsoil and subsoil mixing during construction, operations, and decommissioning/reclamation. For the purpose of identifying areas where topsoil mixing is a potential issue, the environmental monitor will consider topsoil stockpiles, restored trench excavations, and post-closure restored areas with > 5.0% area of the soil surface as obvious subsoil inclusions to be out of compliance. Remediation may consist of removal of subsoil and replacement with acceptable topsoil.

4.5 Roads

Permanent access roads and turnouts will be developed during initial construction phases. In the context of Facilities, permanent describes Facilities that will be in place for the life of the Project (25–30 years), and temporary describes Facilities that will be in place only during construction and then removed.

The majority of access roads will be 10.0 feet wide with a 5.0-foot shoulder on either side. Access roads may be wider along internal road intersections, curves, and turnaround. Two access roads, one leading to the substation and one to the BESS, will be 20.0 feet wide with a 2.0-foot shoulder on either side. Construction will start by stripping and segregating the topsoil/subsoil materials from the anticipated road width. The subgrade materials will be compacted to the specified requirements provided by the civil and geotechnical engineer. Once compaction of the subgrade materials is reached and verified, the road will be built to design and will be completed with or without geo-fabric netting. Four to 12.0 inches of road surfacing material (aggregate) will be installed across the surface of the road and leveled to the existing grade to facilitate drainage and minimize ponding.

Ditches will be installed once access roads have been graded and surfaced and will be built to design as identified on the final grading plan. Any remaining windrowed topsoil will be collected and respread throughout the Site.

Topsoil removed during the construction of access roads will be collected and stockpiled at defined, suitable locations near the removal location and added to existing topsoil for storage. Stockpile locations will be identified (GPS boundary and depth) and recorded on Site maps to facilitate final reclamation after decommissioning.

4.6 Solar Array Construction

Once grading activities are complete and the topsoil has been replaced, the racking system supports will be constructed using steel piles driven into the ground by a hydraulic ram operated by two employees. In situations where soils consist of low strength, loose, or non-cohesive sand, a helical screw or auger-type foundation post(s) may be used. Soil disturbance will be minimal and restricted to the post driving locations and the equipment tracks.

During array and racking assembly, vehicular traffic will be limited to access roads to minimize soil disturbance and soil mixing and to prevent soil compaction. However, two-track roads may be created during construction to transport personnel, parts, and equipment via flatbed trucks, pickup trucks, all-terrain vehicles, forklifts, and skid steers. Access roads will be pre-established and staked to define and confine the route.

4.7 Foundations

Benton Solar's contractor will also perform foundation work for the substation and inverters. The substation will have the topsoil stripped and the pier-type foundations installed. The subgrade materials will be compacted and graded, and clean, washed rock will be installed across the surface. The stripped topsoil will be collected and relocated to designated areas to be used later. The topsoil will be either windrowed or stockpiled and tracked. Stormwater control and/or wind erosion BMPs will be installed after the topsoil has been tracked. Once substation foundation construction is complete, topsoil piles will be distributed in a thin layer adjacent to the substation.

The foundation for inverters will be constructed similarly to the substation. Foundation footprints will be dug out with a rubber-tire backhoe and then concrete with rebar will be poured and left to cure. After the concrete has cured, concrete strength will be tested and then spoils around the inverter will be compacted. After the inverter is set, topsoil will be backfilled and graded around the inverter.

After decommissioning, subsoil and topsoil will be used to bring the area back to preconstruction contours.

4.8 Trenching

The electrical collection system will be direct buried cable. The underground cables will be installed via open trench or plowed, 3.0 to 4.0 feet deep. Collection cables may be installed via directional boring under certain features (e.g., roads, driveways, rivers) to minimize impacts. Trenches will be open trenched (dug) or plowed in place. The topsoil and subgrade materials will be excavated. The bottom of each trench may be lined with clean fill to surround the cables. Benton Solar anticipates that no foreign fill will be necessary. After cables have been installed in the trench, at least 7.0 inches of screened, native backfill will be set on the cables followed by unscreened native backfill trench soil.

4.9 Temporary Erosion and Sediment Control

Benton Solar will prevent excessive soil erosion on disturbed lands by developing and implementing a SWPPP required under the National Pollutant Discharge Elimination System administered by the Minnesota Pollution Control Agency. Prior to construction, Benton Solar will work with the contractor to outline requirements and practices established in the SWPPP.

Methods to control erosion will include, but not be limited to, silt fencing to aid in controlling stormwater runoff and interim reclamation practices to stabilize soil and control erosion. Common areas for silt fence installation will include the downside of all hills, areas adjacent to waterways, and areas near drain tile inlets. Check dams and straw wattles will be used to help control run-on and runoff, and act as water velocity inhibitors. Erosion control blankets may also be used to help stabilize the soil along steep slopes; however, given the Site topography, they may not be required.

An environmental monitor will monitor daily construction activities and identify any areas where there is a potential for erosion/sediment issues.

4.10 Drain Tile Identification, Avoidance, and Repair

4.10.1 Preconstruction Mapping and Repair

Benton Solar will map the presence of drain tiles through the following:

- Conducting landowner coordination to identify known tile locations;
- Collecting and/or assessing existing infrared aerial photographs and LiDAR data; and
- Completing, if necessary, a Project-specific tile locate survey with a local agricultural drain tile contractor.

If necessary to determine the physical location of tiles, Benton Solar will use a small excavator to dig a shallow trench at varying intervals perpendicular to areas where research has indicated tiles to be present. Benton Solar will identify visible surface inlets and insert a tile probe to locate tiles and determine the direction from the inlet. If necessary, tiles may be exposed to determine size, type, flow direction, and condition.

Benton Solar will repair or replace any damaged tile encountered during the tile location process to its original size and capacity. Repairs or rerouting will be performed using a small to mid-sized excavator. Laser equipment will be used to ensure proper grading of the pipe. In the event a line of significant size and length needs to be rerouted or installed, a commercial drainage plow could be used.

The drainage plow typically utilizes a GPS unit with survey-grade accuracy to ensure pipe is installed to specified slopes. The following considerations apply:

- Tiles will be repaired with materials of the same or better quality as that which was damaged.
- Tile repairs will be conducted in a manner consistent with industry-accepted methods.
- Before completing tile repairs, tiles will be examined within the work area to check for tile that might have been damaged by construction equipment. If tiles are found to be damaged, they will be repaired to ensure they operate as well after construction as before construction began.
- Benton Solar will make efforts to complete tile repairs within a reasonable time frame, weather and soil conditions considered.

4.10.2 Project Design Considerations

Benton Solar will aggregate the results of drain tile mapping into GIS layers and computer-aided design files depicting tile locations. This information will be provided to the solar array design engineers. Engineers will design Facilities with consideration to tile locations to ensure facility placement does not damage tiles, to the extent possible. In some areas, tile rerouting may be necessary, and rerouting will take place immediately prior to or during construction and in coordination with the landowner.

4.10.3 Construction Measures

In instances where Facilities may intersect tile drains, Benton Solar will implement measures to ensure the integrity of the drainage system remains intact during and after construction. Tile lines that are in direct conflict with Facilities (i.e., collection lines) will be rerouted if necessary, to avoid compromising the drainage system. Tile lines that do not directly conflict with Facilities but that have the potential to be damaged (e.g., by construction traffic) will be bridged or otherwise reinforced to maintain integrity.

4.10.4 Operation Measures

Following completion of construction, Benton Solar will inspect the Site after significant snowmelt or rainfall events to ensure the tile systems are functioning adequately. The tile contractor will identify areas of standing water and/or localized wet areas, which could indicate tile lines are not operating properly. Tiles would be repaired following the process outlined in Section 4.10.1.

4.11 Debris Removal

Benton Solar or its contractor(s) will remove construction-related debris and unused material. Any below-grade, unusable materials will be removed and disposed of at a designated off-site location. Benton Solar or its contractor(s) will use locally sourced waste containers and removal services to regularly inspect and schedule pick-ups for full containers that will be replaced by empty ones. To the extent practicable, recyclable materials (e.g., cardboard) will be sorted and recycled at a local facility.

Debris/trash collection points and containers will be located in the laydown yards and at strategically designated locations adjacent to work areas. Benton Solar or its contractor(s) will conduct daily inspections to collect any loose debris around the Site, ensuring all trash and debris are disposed of properly. Contaminated materials are not expected to be discovered. However, if such materials are encountered during construction, specialized handling and disposal instructions will be utilized to dispose of the material in accordance with applicable laws, ordinances, regulations, and standards.

5 DECOMMISSIONING

Benton Solar will implement all decommissioning activities in accordance with the Benton County Development Code (Benton County 2020). Additionally, Benton Solar will comply with Project permits and plans, including any National Pollutant Discharge Elimination System/State Disposal System permits; a spill containment and countermeasure plan; and a SWPPP, as applicable.

5.1 Removal and Disposal of Project Components

Decommissioning includes removal of Facilities as described below. Disposal of structure and/or foundations will meet the provisions of the County Solid Waste Ordinance.

- **Solar panel array:** Solar panels will be inspected and tested prior to being disconnected and removed from racking. Operable panels will be packed and shipped to an off-site facility for reuse or resale. Nonworking panels will be packed and shipped for recycling or disposal at an appropriate facility. Benton Solar will assess resale options when the decommissioning plan is updated.
- **Racking:** Racking components will be disassembled and removed from steel foundation posts, sorted by size, and sent to a metal recycling facility.
- **Steel foundation posts:** Steel foundation posts will be pulled out to full depth, removed, processed to an appropriate size, and sent to a recycling facility.
- **Cables and lines:** Benton Solar will remove all buried cables, with the exception of select boring locations (e.g., beneath the Elk River). Cables and lines will be recycled or disposed of at an appropriate facility.
- **Inverters, transformers, and ancillary equipment:** All electrical equipment will be disconnected and disassembled, and all parts will be removed. The equipment will then be subject to one of the following actions: reconditioning and reuse, sold as scrap, recycled, or disposed of at an appropriate facility.
- **Foundation posts or piles:** Foundation posts or piles will be removed completely, with the exception of substation deep foundations that will be removed up to a depth of 4.0 feet (see below). Duct banks will be excavated to a depth sufficient to remove all materials (e.g., conduits, cables). All materials will be disconnected and disassembled, and all parts will be removed. The foundation posts or piles will then be subject to one of the following actions: reconditioning and reuse, sold as scrap, recycled, or disposed of at an appropriate facility.
- **Concrete slab foundations:** Concrete slabs used as equipment pads will be broken up and removed. Clean concrete will be crushed and disposed of off-site and/or recycled and reused on- or off-site if requested by the landowner.
- **Fences:** All fence parts, including foundations, will be disconnected and disassembled, and all parts will be removed. The fence parts will then be subject to one of the following actions: reconditioning and reuse, sold as scrap, recycled, or disposed of at an appropriate facility.

- **Access roads:** Gravel access roads will be stripped. Compacted soils may require ripping to loosen before revegetation. Foreign road materials will be removed and reused or disposed of in accordance with local regulations. Roads would be restored so that they become a part of the natural surroundings and are no longer recognizable, to the greatest extent practicable, as needed or as agreed upon in landowner lease agreements. Road gravel would be used to backfill foundation locations to within 6.0 inches of final grade. Access roads will be left in place if the landowner desires, at which time the landowner will have responsibility for the access roads. All remaining access roads will conform to applicable Benton County regulations in effect at the time of decommissioning.
- **Substation:** All framing, fencing, foundations up to a depth of 4.0 feet, and electrical equipment such as conductors, switchgear, and transformers, will be removed, disassembled, and recycled or reused off-site. The aggregate base will be removed and recycled or disposed of at a designated off-site location.
- **Stormwater treatment facilities (e.g., basins):** Benton Solar will grade stormwater water basins to match surrounding contours, decompact soils, and spread topsoil to accommodate agricultural activities.
- **O&M building:** The O&M building will be removed from the existing office space and contents will be reused or disposed of appropriately.
- **BESS:** The BESS containers will be disconnected from electric ports prior to removal. Batteries will be prepared, packaged, and transported to a recycling facility. Energy storage system cabinets will be resold, reused, or recycled. Gravel will be removed and reused or disposed of in accordance with local regulations.

During removal of Facilities, Benton Solar will evaluate and categorize components and materials into reconditioning, salvage, recycling, and disposal categories. Specific disposal of all Facilities is described in detail in the Project decommissioning plan.

5.2 Restoration/Reclamation

Benton Solar will restore the Site to approximate preconstruction conditions to the extent possible in coordination with landowners. Landowners may require the Site be returned to agricultural production or may retain restored vegetation or other land uses as agreed between the landowner and Benton Solar. As of the time of preparation of the Joint Site Permit Application, Benton Solar anticipates that the majority of the Site will be restored to a farmable condition or seeded with a seed mix approved by the local soil and water conservation district or similar agency. The goal of restoration will be to restore natural hydrology, soil conditions, and plant communities to the greatest extent practicable. The restoration effort will implement BMPs to minimize adverse impacts, which may include the following:

- Minimize new disturbance and removal of native vegetation to the greatest extent practicable.
- Remove equipment and access roads, backfill with subgrade material, and cover with suitable topsoil to allow adequate root penetration for plants, and so that subsurface structures do not substantially disrupt groundwater movements.
- Stabilize soils and return them to agricultural use if needed and according to the landowner direction.
- During and after decommissioning activities, install erosion and sediment control measures such as silt fences, bio-rolls, and ditch checks in all disturbance areas where potential for erosion and sediment transport exists, consistent with BMPs. Benton Solar may also use measures such as

leveling, terracing, and mulching to prevent soil erosion and support establishment of target vegetation.

- During decommissioning activities, remove topsoil and stockpile in a designated area separate from other excavated material, in accordance with this plan. Prior to Site restoration, topsoil will be decompacted to match characteristics of the surrounding area. Benton Solar will replace topsoil to its original depth and original surface contours to the extent practical. Benton Solar will mitigate topsoil deficiencies and settling using imported topsoil consistent with the characteristics and quality of soils in the Site, if necessary.
- Remediate any petroleum product leaks and chemical releases prior to completion of decommissioning.

5.2.1 Monitoring

The Project's National Pollutant Discharge Elimination System/State Disposal System Construction Stormwater General Permit, SWPPP, and/or other applicable permits and approvals may require post-restoration monitoring. If monitoring is required, Benton Solar will utilize a third-party environmental monitor to observe earthmoving and trenching activities, identify any decommissioning- or restoration-related issues impacting on-site and/or off-site areas, and recommend corrective actions, if any, to prevent/mitigate unanticipated on-site and/or off-site impacts. The environmental monitor will be responsible for communicating any environmental concerns and potential issues to Benton Solar, Benton Solar's contractors, affected landowners, and other relevant stakeholders in a timely manner. Benton Solar will use discretion to either implement corrective actions or stop work, pending additional coordination. Benton Solar's environmental monitor will stay in routine contact with affected landowners and will conduct on-site check-ins until the National Pollutant Discharge Elimination System/State Disposal System Construction Stormwater General Permit is closed.

6 LITERATURE CITED

Benton County. 2020. Benton County Development Code. Available at: https://www.co.benton.mn.us/209/Development-Code. Accessed June 2023.

Institute of Electrical and Electronics Engineers. 2023. National Electrical Safety Code (NESC). Available at: https://forms1.ieee.org/NESC-2023.html?LT=LG_WB_Innovate_LM_NESC_Innovate_Carousel. Accessed April 2023.

Michigan State University. 2022. RUSLE – On Line Soil Erosion Assessment Tool. Institute of Water Research, Michigan State University. Available at: http://www.iwr.msu.edu/rusle/kfactor.htm. Accessed October 2022.

Midcontinent Independent System Operator (MISO). 2023. Planning. Available at: https://www.misoenergy.org/. Accessed April 2023.

Midwest Reliability Organization. 2023. Reliability Standards. Available at: https://www.mro.net/program-areas/compliance-monitoring-enforcement/reliability-standards/. Accessed April 2023.

Minnesota Department of Commerce. 2020. Solar Energy Production and Prime Farmland Guidance for Evaluating Prudent and Feasible Alternatives. Available at: https://mn.gov/eera/web/doc/13929/. Accessed February 2023.

Minnesota Department of Natural Resources. 2019. *Wetlands Regulation in Minnesota*. Version 2.1. Available at: https://bwsr.state.mn.us/sites/default/files/2019-04/WETLAND_General_Wetlands_Regulation_in_Minnesota_v2.1_March_2019.pdf. Accessed June 2023.

Natural Resources Conservation Service (NRCS). 1981. Farmland Protection Policy Act – Subtitle I of Title XV, Section 1539-1549. Environmental Compliance Library. Available at: http://www.in.gov/ifa/srf/files/Farmland_Protection_Policy_Act.pdf. Accessed May 2024.

Soil Science Glossary Terms Committee. 2008. Glossary of Soil Science Terms. Soil Science Society of America. Available at: https://www.soils.org/publications/soils-glossary. Accessed October 2022.

Soil Survey Staff. 2023a. Gridded Soil Survey Geographic (SSURGO) Database for Minnesota. U.S. Department of Agriculture, Natural Resources Conservation Service. Available at: http://datagateway.nrcs.usda.gov/. Accessed March 2023.

———. 2023b. Web Soil Survey. U.S. Department of Agriculture, Natural Resources Conservation Service. Available at: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed January 2023.

U.S. Department of Agriculture. 2017. *Conservation Compliance Fact Sheet*. Available at: https://www.fsa.usda.gov/Assets/USDA-FSA-Public/usdafiles/FactSheets/2017/conservation_compliance_highly_erodible_land_and_wetlands_dec2017.pdf. Accessed February 2023.

APPENDIX A

Project Soils Map

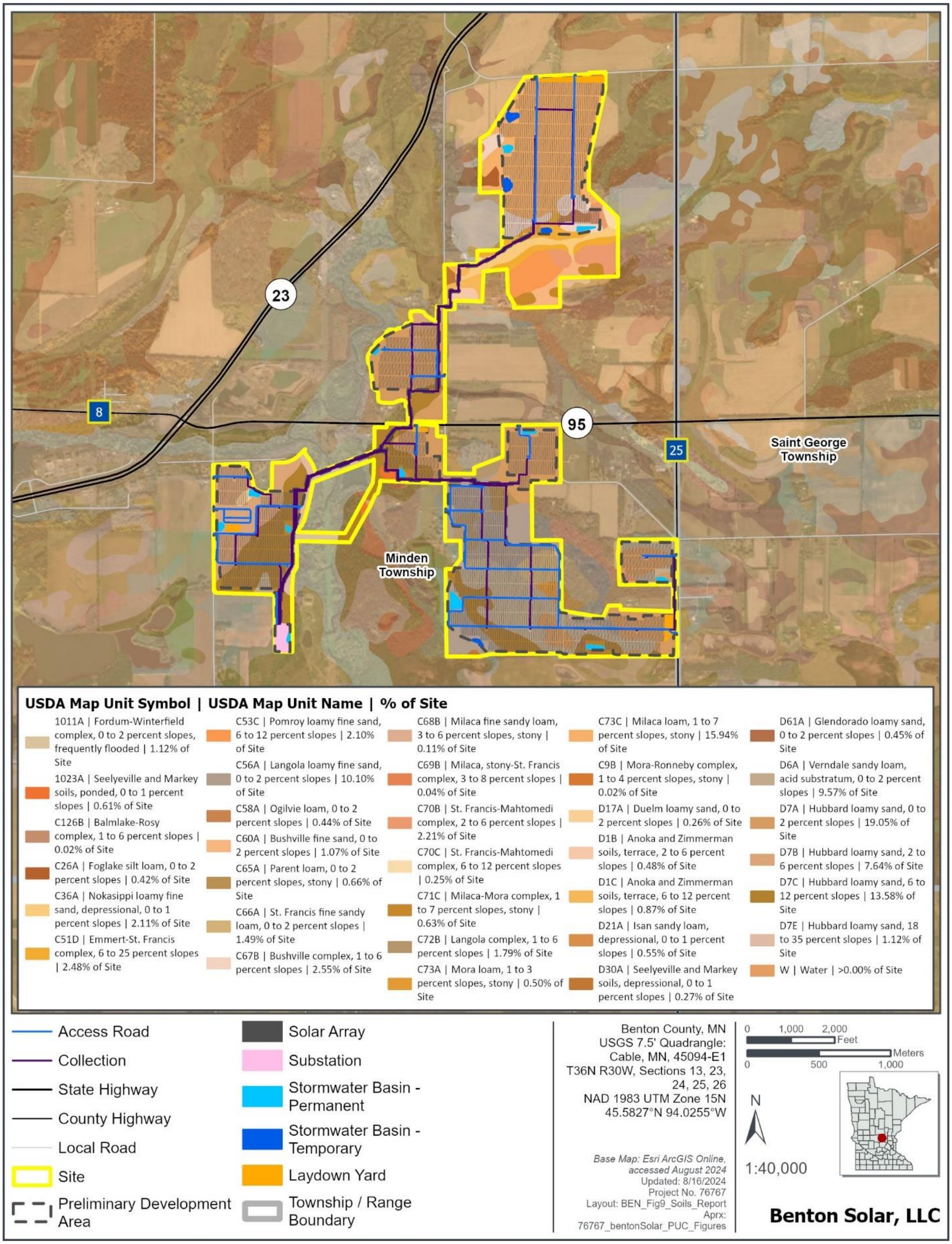

Figure A-1. Soils in the Benton Solar Project Site and Preliminary Development Area.