



Developing • Renewable • Relationships

Conditional Use Permit Application for:

SV CSG Waldo Solar, LLC

A 5 MW Solar Facility



CONDITIONAL USE PERMIT APPLICATION

Town of Lyndon, Sheboygan County
W6081 CTH N, Plymouth, WI 53073
p - 920-528-7255

Fee Required: \$ **300**

- Contact Permit Agent Al Steiner at 920-838-3249
- Complete all sections of this form and return to Clerk's office or Permit Agent with fee and other required documents (see section below).

NAME	SV CSG WALDO, LLC % SUNVEST SOLAR, LLC		PHONE	847-414-0134		
MAILING ADDRESS	330 W. STATE ST. SUITE 1		CITY	GENEVA, IL	ZIP	60134
SITE ADDRESS	CLEARVIEW RD		CITY	WALDO	ZIP	53093
PARCEL #	59010126740 : 590919126710		CURRENT ZONING	A-1		

Describe the existing use of the real estate involved: AGRICULTURAL Row-CROPPING

Describe the reason for this application: DEVELOP A 5MW AC GROUND MOUNTED SOLAR PROJECT FOR WE-ENERGIES

REQUIRED DOCUMENTS FOR THIS APPLICATION

Check boxes when documents are attached.	☐	Site map of parcel including, but not limited to, size, location of existing buildings, sanitary system and well.
	☐	List of Owner names and mailing addresses within five hundred (500) feet of this parcel.
	☐	Any additional information that may be required by Permit Agent, PC or TB to assist in the recommendation and/or decision.

I certify that I have completed the above petition to the best of my ability, and that the required documentation is attached.

Petitioner Signature

Date

6/26/2024

For Town Use Only			
Date App Rec'd:	PC Mtg Date:	PC recommend to TB?	Yes No
Date notice sent to Review:		For Publication Dates of:	
Pub Hearing Date:	TB Approve?	Yes	No
Plan Commission Recommended Conditions:		Town Board Approved Conditions:	



We Energies
231 W. Michigan St.
Milwaukee, WI 53203
www.we-energies.com

Town of Lyndon

Solar Project Narrative

PROJECT SUMMARY

The [Energy for Tomorrow](#) Program is a state approved voluntary renewable energy program that enables We Energies electric customers to not only increase their use of renewable energy from sources such as wind and solar, but also to reduce greenhouse gas emissions produced by fossil fuels. Energy for Tomorrow is [Green-e](#) certified and meets the environmental and consumer protection standards set forth by the nonprofit Center for Resource Solutions.

We-Energies will own, operate and maintain the solar PV array renewable energy output through the Energy for Tomorrow program to help support their environmental goals. For this specific project, We Energies will lease a portion of the property for 25 years with a additional five year extension option. We-Energies will be responsible for all maintenance and repairs to the array, including vegetation management within the safety fence, and assets used for distribution interconnection. SunVest Solar LLC will design and construct the PV array, using several of their subcontractors for various aspects of construction.

PROPERTY PARCEL IDENTIFICATION NUMBERS

59010126740

590919126710

PROPERTY OWNER

Deborah Zimmerman and Susan Plate

N6018 Highway 32

Sheboygan Falls, WI 53085

SURROUNDING PARCEL LAND USES

North - Agricultural

South - Agricultural

East - Agricultural

West – Rail Road and Agricultural

PROJECT FEATURES

Site improvements will consist of photovoltaic solar panels installed on single axis tracking racking systems. The total system size is 5 MW of AC capacity. The estimated annual production is

approximately 1,742 MWh/yr, equivalent to offsetting the carbon emissions of over 1200 metric tonnes of CO₂, taking 260 cars off the roads or planting 20,000 trees annually. During the 30 year life of the system that number grows to well over 33,000 metric tonnes of CO₂ removed, 7200 cars, and 560,000 trees planted. The racking system is comprised of galvanized steel beams, pile driven 10' 6" into the ground. No concrete is anticipated to be used for the support system. The single axis tracking racking will move East to West with the sun on a daily schedule. The overall height of the system will be 11' at its tallest point, with a 3' ground clearance to the bottom edge of the module (See Fig 1 for a cross-section).

All electrical cables will be buried throughout the project area. The installer will be NABCEP Certified. Foundations will be certified by a qualified engineer and the access route to the solar project will have a Pavement Surface Evaluation and Rating prior to the issuance of a Building Permit. In addition, the solar project will comply with all applicable local, state, and federal regulatory codes including the State of Wisconsin electrical and plumbing codes and the National Electrical Code.

SOUND

The project inverters, substation, motors and other noise emitting equipment collectively will not exceed the Public Service Commissions mandated maximum nighttime sound levels.

SITE ACCESS

Access to the site will be from a 15' wide entrance located on the north side of the property onto Clearview Road. Off-street parking will be provided for vehicles inside of the project area.

DECOMMISSIONING PLAN

A Decommissioning Plan has been submitted with this application that outlines the method of solar removal and financial security.

IMPACT TO ADJACENT EXISTING AND FUTURE LAND USES

The solar facility is specifically designed to minimize impact to the land while complying with all required setbacks, height restrictions, and zoning ordinances for the Town of Lyndon and Sheboygan County. The solar array will have minimal to no impact to adjacent land use. This site was chosen to minimize land use that has little development potential. The chosen area is in close proximity to existing infrastructure to minimize the length of the driveway needed to access the array.

STORM WATER RUNOFF MANAGEMENT

Storm water management will be handled on-site and will comply with all of the requirements set forth. Approved DNR storm water NOI study has been submitted and the design will address all requirements as necessary. Temporary erosion control measures will be in place during construction. Both silt fencing and sediment logs for this project are detailed on the attached erosion control plan that is part of the construction drawing set. The final planting of a native grass community is a best practice and will help effectively manage the stormwater runoff. Native grasses have deep root systems that disperse the water so there is very little to no concentrated run-off.

VEGETATION MAINTENANCE

After the construction of the solar array, We-Energies will be responsible for restoring the land affected by construction. Once the native meadow / prairie vegetation is established, maintenance of the plantings will occur bi-annually and will consist of mowing and spot treating invasive weeds. The entire site will be covered with diverse, pollinator friendly, native vegetation specifically designed for this project. The vegetation will require minimal maintenance once established; creating a habitat beneficial to bees, other insects, birds and other animal species (Fig 2 & 3).

Additional seeding will be done on an "as needed" basis to help maintain optimal vegetative cover. After the end of the term, if Foxconn chooses not to purchase the solar facility for fair market value, We-Energies will decommission the array and restore the land to its previous condition as required in the Lease agreement.

IMPACT TO THE GENERAL PUBLIC'S HEALTH, SAFETY AND WELFARE

Solar facilities generally have little to no impact on surrounding properties health and safety and do not impede the welfare of the surrounding area. They are quiet, dust free, smoke and odor free. Solar modules are designed to minimize glint and glare by absorbing light to produce electrical energy while not reflecting it. The entire site will be secured by a fence that will control access to the facility and keep the general public safe. The top glass on the modules has an anti-glare coating. The electrical inverter equipment used on-site is FCC part 15 Class A certified, providing assurance that there will be no interference with radio, TV, internet, or telecommunications. All electrical equipment and construction follow the NEC2017 code requirements, the racking is designed to withstand 105 mile per hour winds and includes safety features to shut down the facility in event of a system fault. Lastly, Sunvest will also work with the local emergency responders that serve the area on a full training on system components, and additional training materials for how to safely address concerns on a solar site. We Energies has a positive track record with SunVest installing solar arrays throughout Wisconsin. Together we have installed over 23 arrays and have another three projects under construction. We have experienced no health and safety issues with the public.

FACILITY SECURITY

The facility will be surrounded by a security fence with a locked gate to prevent access from unauthorized persons. All major electrical equipment will be individually locked and warning signage is on-site to identify specific dangers.

LIGHTING AND BUILDINGS

No lighting or buildings are planned at this facility.

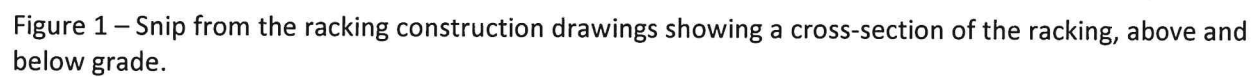




Figure 2 - Example of a solar array with an establishing pollinator habitat



Figure 3 – Photo of a fixed mounted solar project with established native vegetation

CONSTRUCTION ACTIVITIES

It is anticipated that 15 to 20 full time employees will be on site in the early stages of construction. This will taper off to a team of approximately 10 members toward the end of the construction activities. Typically, there will be a vehicle for each worker, approximately three (3) utility vehicles (UTV's) for transferring equipment around the site, and forklifts needed to perform different construction tasks.

Vehicles will be parked on the site access road that will be built to connect to the array. Hours of operation will be from 7am to 5pm. The total construction will take approximately 12-16 weeks. The first two (2) weeks will consist of pile driving with the balance of the construction timeline used for erecting the racking, panels and electrical equipment. Dust will be mitigated through the use of a water truck as needed.

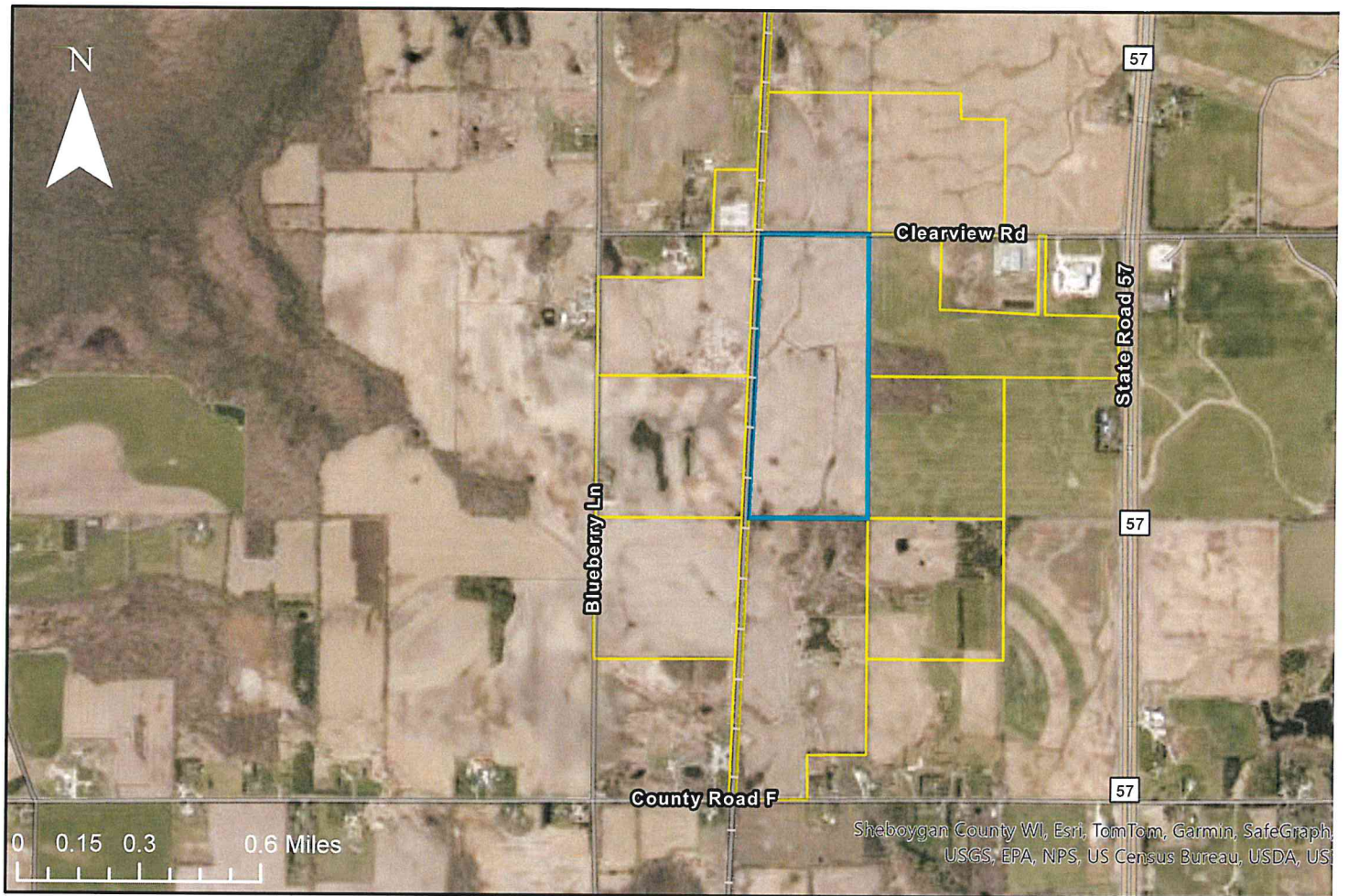


Example array construction showing pile being driven (left) and racking before module install (right)

OPERATIONS & MAINTENANCE

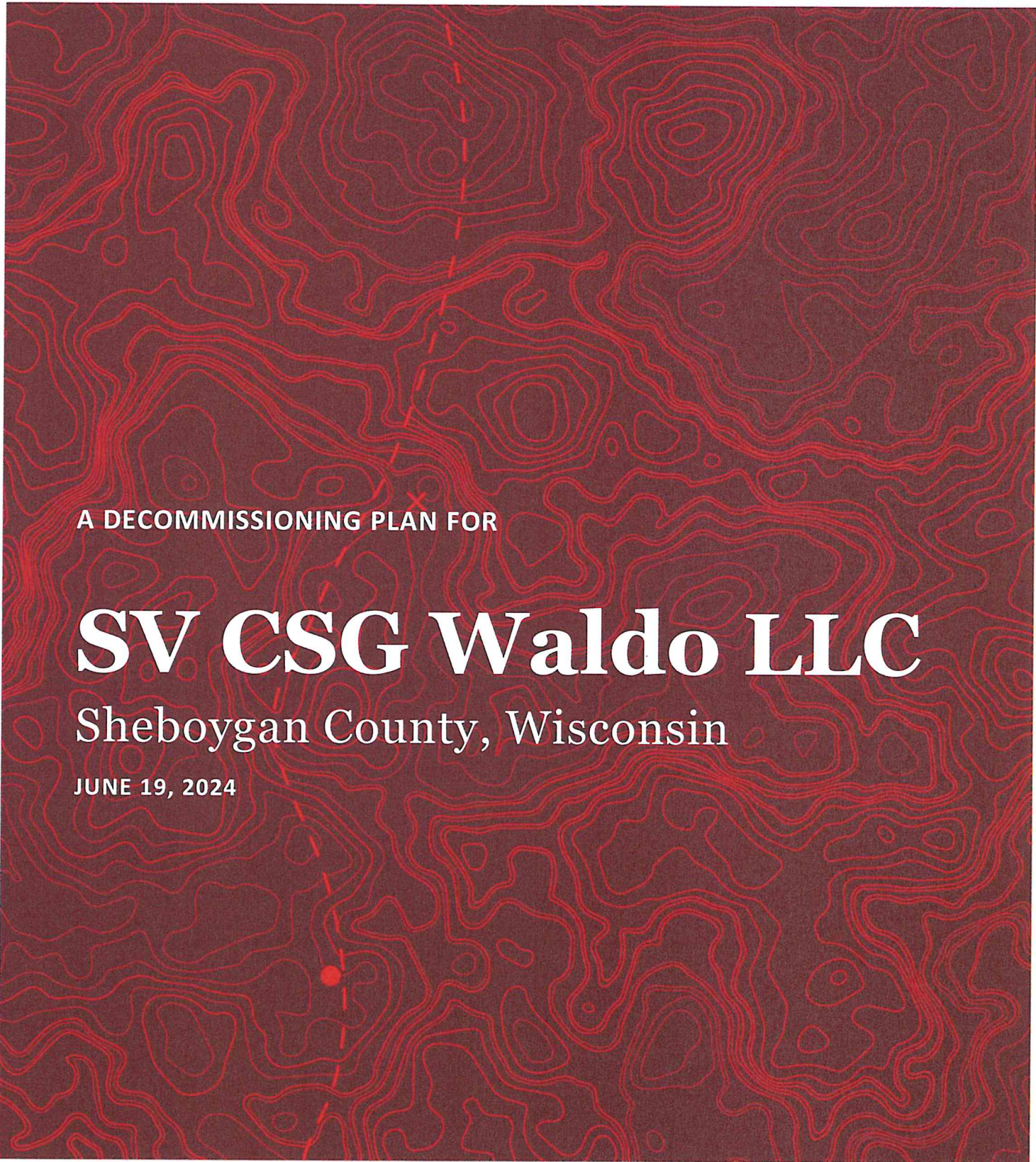
The site will be monitored remotely with 24/7 alerts via a SCADA system and wireless phone connection. Annual preventative maintenance will take place each spring to ensure the facility is operating at its full capabilities and to proactively identify issues before they arise. Landscaping will be performed on an as needed basis to keep the low growth vegetation in check. This will be limited to a crew of 1-2 electrical personnel in a passenger vehicle performing annual maintenance checks and replacing equipment as needed.

Landowner	Mailing Address	parcel ID
Deborah Zimmerman	N6018 State Road 32, Sheboygan Fls, WI, 53085-2340	59010126722
Van Ess-Born, Jennifer	W3224 State Road 28, Sheboygan Falls, WI, 53085-2704	59010126730 & 59010126760
Koller Natural Preserves Llc	1930 N Tipton Rd, Muscatine, IA, 52761-9760	59010126790
Bigler, Jon O	W5062 County Road F, Waldo, WI, 53093-1613	59010126820
Hughes Trust/Hughes Farms LLC	N3820 County Road Nn, Cascade, WI, 53011-1528	59010126680 & 59010126672
Franks, James R	637 Lake Dr, Random Lake, WI, 53075-6700	59010126120 & 59010126090
State Of Wisconsin Dept Of Transportation	Po Box 7914, Madison, WI, 53707-7914	59010126910 & 59010126091
WI Electric Power Co	Po Box 2179, Milwaukee, WI, 53201-2179	59010126050



Legend

-  Site Boundary Lines
-  Waldo Surrounding Landowners



A DECOMMISSIONING PLAN FOR

SV CSG Waldo LLC

Sheboygan County, Wisconsin

JUNE 19, 2024

PREPARED FOR:
SV CSG Waldo LLC

PREPARED BY:
Westwood

Decommissioning Plan

SV CSG Waldo LLC
Sheboygan County, Wisconsin

Prepared for:

SV CSG Waldo LLC
N27 W24025 Paul Ct Ste 100
Pewaukee, WI 53072
(262) 547-1200

Prepared by:

Westwood Professional Services
12701 Whitewater Drive, Suite 300
Minnetonka, MN 55343
(952) 937-5150

Project Number: 0046660.00

Date: June 19, 2024

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Attachment A: Decommissioning Cost Estimate

1.0 Introduction / Project Description

This Decommissioning Plan ("Plan") has been prepared for the SV CSG Waldo LLC Project in accordance with the Ordinance #2023-01, an Ordinance to Add Standards and Requirements for Solar Energy Systems to the Zoning Ordinance of the Town of Lyndon Code. The purpose of the Plan is to describe the means and methods that can be used to remove all structures, foundations, underground cables, and equipment and to reclaim and restore the land altered during the construction and operation of the solar project to its predevelopment condition to the extent feasible.

The SV CSG Waldo LLC Project ("Project") will have an aggregate nameplate capacity of up to 5.0-Megawatt (MW) alternating current ("AC"), 5.5-MW direct current ("DC"), solar power generation project proposed by SV CSG Waldo LLC ("Applicant") in Sheboygan County, Wisconsin. Upon completion, the Facility will comprise a solar array consisting of solar modules, tracking systems, inverters, transformers, underground collection lines, access roads, and fencing. The Facility will be built within a general Project Area of approximately 26.8 acres.

The useful life of solar panels is generally considered to be 35 years. At that time, the Project will either be decommissioned or repowered with newer technology. The Plan identifies components which may be removed and areas that may be restored once the Project has not operated for twelve consecutive months, or when the Project has surpassed the useful lifespan of the modules and facilities.

2.0 Proposed Future Land Use

Prior to the development of the Project, the land use of the project area was primarily agriculture. After all equipment and infrastructure is removed during decommissioning, any holes or voids created by poles, concrete pads, and other equipment will be filled in with native soil to the surrounding grade, and the site will be restored to pre-construction conditions to the extent practicable. Access roads and other areas compacted by equipment may be decompacted to a depth necessary to ensure drainage of the soil and root penetration prior to fine grading and tilling to a farmable condition. Please refer to Section 3.2 for a detailed description of reclamation activities.

3.0 Decommissioning Activities

Decommissioning of the Project will include removing the solar panels, solar panel racking, steel foundation posts and beams, inverters, transformers, overhead and underground cables and lines, equipment pads and foundations, equipment cabinets, and ancillary equipment. The civil facilities, access roads, security fence, and drainage structures and sedimentation basins are included in the scope. Standard decommissioning practices will be utilized, including dismantling and repurposing, salvaging/recycling, or disposing of the solar energy improvements.

During decommissioning, the landowners will be consulted to identify the extent and type of work to be completed. Some Facility infrastructure, such as the access roads, and fencing, may be removed at the discretion of the landowner(s). Underground utility lines, if deeper than 4 feet below ground surface elevation, may be left in place to minimize land disturbance and associated impacts to future land use.

Decommissioning will include the removal and transportation of all project components from the Project site. All dismantling, removal, recycling, and disposal of materials generated during decommissioning will comply with rules, regulations, and prevailing Federal, State, and local laws at the time decommissioning is initiated and will use approved local or regional disposal or recycling sites as available. Recyclable materials will be recycled to the furthest extent practicable. Non-recyclable materials will be disposed of in accordance with State and Federal law.

3.1 Decommissioning of Project Components

3.1.1 Solar Modules

Solar modules will be inspected for physical damage, tested for functionality, and disconnected and removed from racking. Functioning modules will be packed, palletized, and shipped to an offsite facility for reuse or resale. Non-functioning modules will be shipped to the manufacturer or a third party for recycling or disposal.

3.1.2 Racking

Racking and racking components will be disassembled and removed from the steel foundation posts, processed to appropriate size, and sent to a metal recycling facility.

3.1.3 Steel Foundation Posts

Structural foundation steel posts will be pulled out to full depth, removed, processed to appropriate size, and shipped to a recycling facility. The posts can be removed using back hoes or similar equipment. During decommissioning, the area around the foundation posts may be compacted by equipment and, if compacted, the area will be decompacted in a manner to adequately restore the topsoil and sub-grade material to a density consistent for vegetation.

3.1.4 Underground Cables and Lines

All underground cables and conduits will be removed to a depth of 4 feet. Topsoil will be segregated and stockpiled for later use prior to any excavation and the subsurface soils will be staged next to the excavation. The subgrade will be compacted per standards. Topsoil will be redistributed across the disturbed area.

3.1.5 Inverters, Transformers, and Ancillary Equipment

All electrical equipment will be disconnected and disassembled. All parts will be removed from the site and reconditioned and reused, sold as scrap, recycled, or disposed of appropriately, at the Applicant's sole discretion, consistent with applicable regulations and industry standards.

3.1.6 Equipment Foundations and Ancillary Foundations

The ancillary foundations are pile foundations for the equipment pads. As with the solar array steel foundation posts, the foundation piles will be pulled out completely. Duct banks will be excavated to full depth. All unexcavated areas compacted by equipment used in decommissioning will be decompacted in a manner to adequately restore the topsoil and sub-grade material to a density similar to the surrounding soils. All materials will be removed from the site and reconditioned and reused, sold as scrap, recycled, or disposed of appropriately, at the Applicant's sole discretion, consistent with

applicable regulations and industry standards.

3.1.7 Fence

Fence parts and foundations will be removed from the site and reconditioned and reused, sold as scrap, recycled, or disposed of appropriately, at the Applicant's sole discretion, consistent with applicable regulations and industry standards. The surrounding areas will be restored to pre-solar farm conditions to the extent feasible.

3.1.8 Access Roads

Facility access roads will be used for decommissioning purposes, after which removal of roads will be discussed with the landowner(s) and one of the following options will be pursued:

1. After final clean-up, roads may be left intact through mutual agreement of the landowner and the Applicant unless otherwise restricted by federal, state, or local regulations.
2. If a road is to be removed, aggregate will be removed and shipped from the site to be reused, sold, or disposed of appropriately, at the Applicant's sole discretion, consistent with applicable regulations and industry standards. Clean aggregate can often be used as "daily cover" at landfills for no disposal cost. Internal service roads are constructed with geotextile fabric and eight inches of aggregate over compacted subgrade. Any ditch crossing connecting access roads to public roads will be removed unless the landowner requests it remains. The subgrade will be decompacted in a manner to adequately restore the topsoil and sub-grade material to a reintroduction of farming. Topsoil that was stockpiled during the original construction will be distributed across the open area. Finally, the access road corridors will be tilled to an agricultural condition.

3.2 Reclamation

The Applicant will restore and reclaim the site to the pre-solar farm condition consistent with the site lease agreement. The Applicant assumes that most of the site will be returned to farmland and/or pasture after decommissioning through implementation of appropriate measures to facilitate such uses. If no specific use is identified, the Applicant will vegetate the site 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 and plant communities to the greatest extent practicable while minimizing new disturbance and removal of native vegetation. In addition to the reclamation activities described above for each decommissioning activity, all unexcavated areas compacted by equipment and activity during the decommissioning will be decompacted as needed to ensure proper density of topsoil consistent and compatible with the surrounding area and associated land use. All materials and debris associated with the Facility decommissioning will be removed and properly recycled or disposed of at off-site facilities.

4.0 Best Management Practices (BMPs)

4.1 Construction Stormwater Practices

During decommissioning, erosion and sediment control BMPs will be implemented to minimize potential for erosion of site soils and sedimentation of surface waters and waters of the state. Because

decommissioning will entail disturbance of more than one acre of soil, the Applicant will prepare a Stormwater Pollution Prevention Plan (SWPPP) and obtain coverage with the Wisconsin Department of Natural Resources (DNR) under the Wisconsin Pollutant Discharge Elimination System (WPDES) Permit No. WI-S067831-6. prior to initiating soil disturbing activities. Potential BMPs to be implemented during decommissioning activities are described below and will be subject to refinement in the SWPPP. The decommissioning team will review the permitting requirements at the time of decommissioning and obtain any other necessary permits, which may include a US Army Corps of Engineers (USACE) Section 404 Permit to Discharge Dredged or Fill Material.

4.1.1 Erosion Control

Erosion control measures will be refined based on the standard of practice current at the time the SWPPP is developed for decommissioning. All disturbed areas without permanent impermeable or gravel surfaces, or planned for use as crop land, will be vegetated for final stabilization. All slopes steeper than 4:1 should be protected with erosion control blankets. Restoration should include seed application prior to application of the blanket. All slopes 4:1 or flatter should be restored with seed and mulch, which will be disc anchored.

4.1.2 Sediment Control

Sediment controls, such as silt fence, fiber logs, dewatering practices, construction entrances, and sedimentation traps and/or basins will be implemented during construction to prevent the transport of sediment off-site during decommissioning activities. Street sweeping/scraping will also be implemented to mitigate potential tracking of sediment onto public roadways.

4.1.3 Controlling Stormwater Flowing Onto and Through the Project

Given the low gradient of the slopes in the project area, controlling stormwater flow that enters the project area will likely require minimal effort during decommissioning activities. Only newly disturbed areas may require new, temporary stormwater control. If necessary, water may be diverted around the project site using diversion berms.

4.2 Permitting

All decommissioning and reclamation activities will comply with Federal and State permit requirements. Decommissioning activities that will disturb more than one acre of soil will require coverage under the Wisconsin Pollutant Discharge Elimination System (WPDES) Permit No. WI-S067831-6 for construction stormwater. The permits will be applied for and received prior to decommissioning construction activities commencing. A SWPPP will be developed prior to filing for construction stormwater permit coverage.

If necessary for decommissioning activities, wetlands and waters permits will be obtained from the USACE or Wisconsin DNR. A Spill Prevention, Control, and Countermeasure (SPCC) Plan for decommissioning will likely also be required for decommissioning work.

4.3 Health and Safety Standards

Work will be conducted in strict accordance with the Applicant's health and safety plan. The construction contractor hired to perform the decommissioning will also be required to prepare a site-

specific health and safety plan. All site workers, including subcontractors, will be required to read, understand, and abide by the plans. A site safety office will be designated by the construction contractor to ensure compliance. This official will have stop-work authority over all activities on the site should unsafe conditions or lapses in the safety plan be observed.

5.0 Timeline

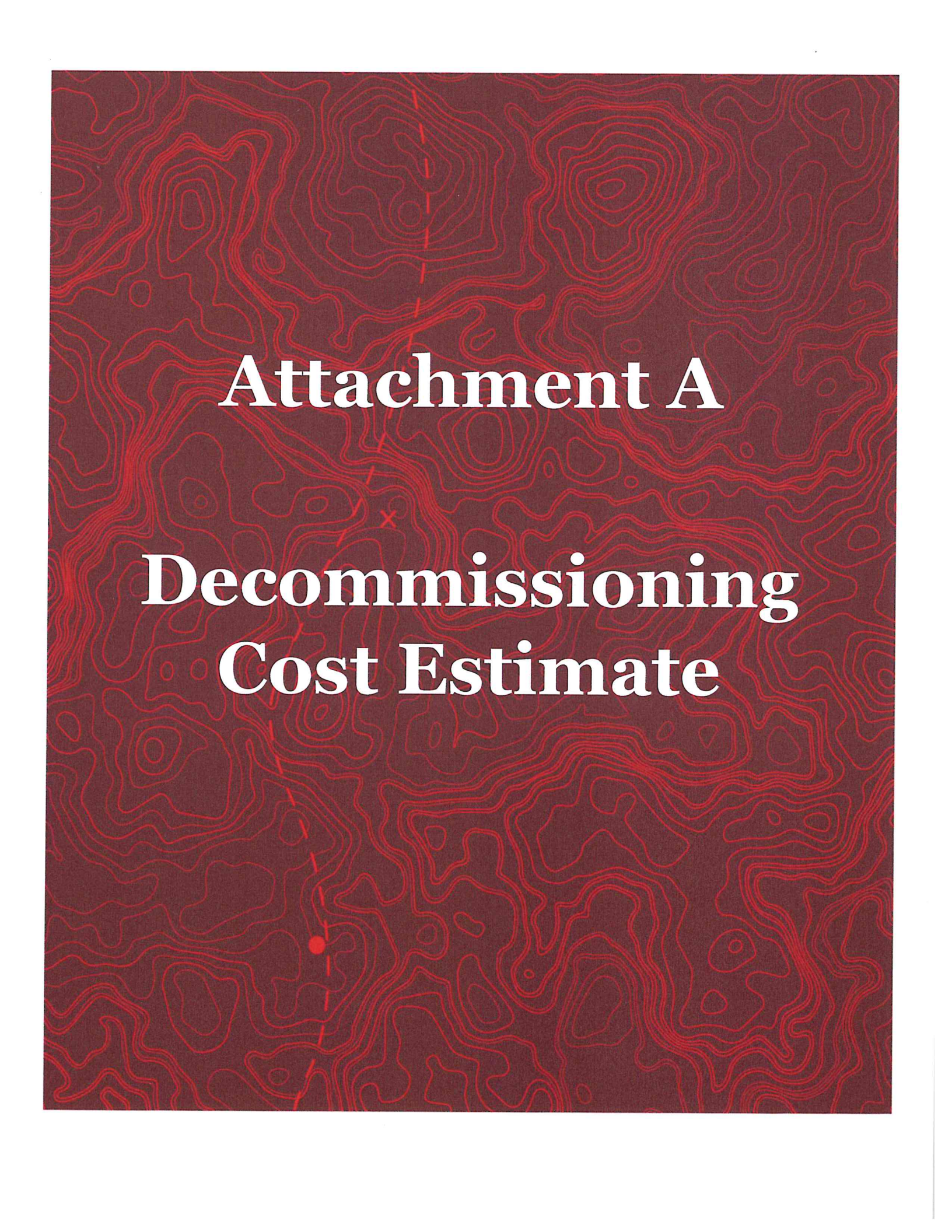
Decommissioning of the Project will be initiated at the end of the project's useful life or if the project has not produced electricity for a period of up to 12 consecutive months. Decommissioning will begin within 180 days from the end of useful life and will be completed within 9 months from the start of decommissioning activities. It is anticipated that the decommissioning activities for the project can be completed in a 12-week period. The estimated costs for decommissioning are tied to assumptions about the amount of equipment mobilized, the crew sizes, weather and climate conditions, and the productivity of the equipment and crews.

6.0 Decommissioning Costs

The decommissioning costs are calculated using current pricing. Westwood recommends that the estimate of net costs be updated periodically to recognize price trends for both decommissioning costs and the salvage and resale values of the components.

There are currently active markets for scrap steel, aluminum, and copper, used transformers and electrical equipment, and used solar panels. Scrap metal prices have been discounted from posted spot prices found on www.scrapmonster.com. Pricing for used panels has been discounted from the average price of used panels, as published in EnergyBin's 2023 "Module Price Index."

The total estimated cost of decommissioning the SV CSG Waldo LLC Project is approximately \$520,654 (\$94,510 per MW). Estimated salvage/scrap value of the modules, racking, transformers, and other materials is approximately \$746,869. The net decommissioning costs after accounting for resale and salvage values is approximately \$226,300 in surplus, or \$41,078 in surplus per MW.

The background of the entire page is a topographic map. It features a dark red base color with intricate, lighter red contour lines that create a complex, wavy pattern across the surface. The lines vary in thickness and spacing, suggesting different elevations or depths. There are also some faint, dashed red lines and small red dots scattered across the map, possibly indicating specific locations or features.

Attachment A

Decommissioning Cost Estimate

Waldo Solar Project

	Quantity	Unit	Unit Cost	Total Cost
Mobilization/Demobilization	1	Lump Sum	\$26,200.00	\$26,200
<i>Mobilization was estimated to be approximately 7% of total cost of other items.</i>				
Permitting				
County Permits	1	Lump Sum	\$10,000.00	\$10,000
State Permits	1	Lump Sum	\$20,000.00	\$20,000
Subtotal Permitting				\$30,000
<i>Decommissioning will require SWPPP and SPCC Plans. Cost is an estimate of the permit preparation cost.</i>				
Civil Infrastructure				
Remove Gravel Surfacing from Road	472	Cubic Yards (BV)	\$3.16	\$1,492
Haul Gravel Removed from Road to Landfill (Whitelaw, WI)	590	Cubic Yards (LV)	\$7.96	\$4,696
Dispose of Gravel Removed from Road (Landfill uses as Daily Cover)	765	Tons	\$0.00	\$0
Remove Geotextile Fabric from Beneath Access Roads	2,547	Square Yards	\$1.40	\$3,566
Haul Geotech Fabric to Landfill (Whitelaw, WI)	1.0	Tons	\$17.28	\$17
Dispose of Geotech Fabric	1.0	Tons	\$81.00	\$81
Remove and Load Culvert from Beneath Access Roads	1	Each	\$420.00	\$420
Haul Culvert Removed from Access Roads to Landfill (Whitelaw, WI)	0.3	Tons	\$17.28	\$5
Dispose of Culvert	0.3	Tons	\$81.00	\$24
Grade Road Corridor (Re-spread Topsoil)	955	Linear Feet	\$1.56	\$1,490
Decompact Road Area	0.5	Acres	\$222.97	\$111
Remove Chainlink Fence (Substation, BESS, O&M, etc.)	10,201	Linear Feet	\$8.02	\$81,812
Haul Chainlink Fence to Metal Recycling (Sheboygan, WI)	54.0	Tons	\$9.79	\$529
Subtotal Civil Infrastructure				\$94,243
<i>Civil removal costs are a combination of MNDOT unit costs where applicable, RSMeans cost for Milwaukee, WI, and industry standards provided to Westwood.</i>				
Structural Infrastructure				
Remove Steel Foundation Posts (Arrays)	1,534	Each	\$16.60	\$25,464
Remove Steel Foundation Posts (Equipment Skids)	16	Each	\$16.60	\$266
Haul Steel Post to Metal Recycling (Sheboygan, WI)	110	Tons	\$7.85	\$864
Remove Tracker Racking per String	326	Each	\$197.85	\$64,499
Haul Tracker Racking to Metal Recycling (Sheboygan, WI)	271	Tons	\$7.85	\$2,127
Subtotal Structural Infrastructure				\$93,220
<i>Steel removal costs were calculated by using RSMeans information for demolition of steel members. Hauling calculations are based on the locations of metals recyclers.</i>				
Electrical Collection System				
Remove PV Panels	8,476	Each	\$8.90	\$75,436
Haul PV 95% of Panels to Reseller (Louisville, KY)	336	Tons	\$113.68	\$38,196
Haul 5% of PV Panels to Landfill (Whitelaw, WI)	18	Tons	\$16.72	\$301
Dispose of PV Panels	18	Tons	\$81.00	\$1,458
Remove Combiner Boxes	40	Each	\$60.00	\$2,400
Remove Equipment Skids	2	Each	\$1,167.48	\$2,335
Remove Equipment Pad Frames and Foundations	2	Each	\$9,248.12	\$18,496
Haul Equipment to Transformer Disposal (Waukesha, WI)	2	Each	\$436.19	\$872
Remove SCADA Equipment	1	Each	\$2,000.00	\$2,000
Remove DC Collector System Cables (copper)	5.51	Per MW	\$2,000.00	\$11,020
Remove Underground (AC) Collector System Cables	1,564	Linear Feet	\$2.69	\$4,207
Load and Haul Cables for Recycling	47	Tons	\$7.85	\$369
Subtotal Electrical Collection				\$159,278
<i>Electrical removal costs of PV Panels and Combiner Boxes were based industry standard installation rates. Equipment pads, MV Equipment, and SCADA Equipment removal cost are based on removal of equipment, concrete pads, and conduits using a truck mounted crane and RSMeans information on crew production rates.</i>				
Site Restoration				
Stabilized Construction Entrance	1	Each	\$2,000.00	\$2,000
Perimeter Controls (Erosion and Sediment Control)	5,100	Linear Feet	\$4.06	\$20,706
Till to Farmable Condition on Site	27	Acres	\$177.52	\$4,755
Subtotal Site Restoration				\$27,461

Project Management				
Project Manager	12	Weeks	\$3,749.00	\$44,988
Superintendent (half-time)	12	Weeks	\$1,762.50	\$21,150
Field Engineer (half-time)	12	Weeks	\$1,634.50	\$19,614
Clerk (half-time)	12	Weeks	\$375.00	\$4,500
Subtotal Project Management				\$90,252

Standard industry weekly rates from RSMeans.

Subtotal Demolition/Removals					\$520,654
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Salvage				
Fencing (Chain Link)	54	Tons	\$244.94	\$13,227
Steel Posts	110	Tons	\$244.94	\$26,943
Module Racking	271	Tons	\$244.94	\$66,379
PV Modules	8,052	Each	\$68.25	\$549,563
Transformers and Inverters	5,986	Pounds	\$0.27	\$1,616
Transformers (Oil)	1,000	Gallons	\$0.70	\$700
DC Collection Lines (Copper)	82,107	Pounds	\$0.97	\$79,644
AC Collection Lines (Aluminum)	11,730	Pounds	\$0.75	\$8,798
Subtotal Salvage				\$746,869

Salvage values are a combination of the following factors: current market metal salvage prices, current secondary market for solar panel module

Total Demolition Minus Salvage					(\$226,300)
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Notes:

1. Prices used in analysis are estimated based on research of current average costs and salvage values.
2. Prices provided are estimates and may fluctuate over the life of the project.
3. Contractor means and methods may vary and price will be affected by these.

Cost Estimate Assumptions

To develop a cost estimate for the decommissioning of the SV CSG Waldo LLC Project, Westwood engineers made the following assumptions and used the following pricing references. Costs were estimated based on current pricing, technology, and regulatory requirements. The assumptions are listed in order from top to bottom of the estimate spreadsheet. When publicly available bid prices or State Department of Transportation bid summaries were not available for particular work items, we developed time- and material-based estimates considering composition of work crews and equipment and material required. While materials may have a salvage value at the end of the project life, the construction activity costs and the hauling/freight costs are separated from the disposal costs or salvage value to make revisions to salvage values more transparent.

1. Project quantities are based on the site plans prepared by SV CSG Waldo LLC, dated June 10, 2024. Project quantities not yet determined in the Civil Permitting Plans were extrapolated from projects of similar size.
2. A project of this size and complexity requires a full-time project manager with full-time support staff.
3. Common labor will be used for the majority of tasks, supplemented by electricians, steel workers, and equipment operators where labor rules may require. The labor rates reflect union labor rates.
4. Mobilization was estimated at approximately 7% of total cost of other items.
5. Permit applications will require the preparation of a Stormwater Pollution Prevention Plan (SWPPP) and a Spill Prevention, Control, and Countermeasure (SPCC) Plan.

6. Road gravel removal was estimated on a time and material basis. Since the material will not remain on site, a hauling cost is added to the removal cost. Clean aggregate can typically be used as "daily cover" at landfills without incurring a disposal cost. The road gravel may also be used to fortify local driveways and roads, lowering hauling costs but incurring placing and compaction costs. The hauling costs to a landfill represents an upper limit to costs for disposal of the road gravel.
7. The selected disposal facility (WM-Ridgeview RDF) is located in Whitelaw, WI, approximately 40.6 miles from the project site. Hauling costs to the landfill are estimated to be \$17.28 per ton.
8. Erosion and sediment control along road reflects the cost of silt fence on the downgradient side of the proposed roads. As such, the length of controls has been estimated to be approximately 50% of the road length.
9. Topsoil is required to be stockpiled on site during construction, so no topsoil replacement is expected to replace the road aggregate. Subsoiling cost to decompact roadway areas is estimated as \$222.97 per acre, and tilling to an agriculture-ready condition is estimated as \$177.52 per acre.
10. The selected metal recycling facility (Sadoff Iron & Metal) is located in Sheboygan, WI, approximately 19 miles from the project site. Hauling costs to the recycling facility are approximately \$0.41 per ton mile, or \$7.85 per ton.
11. Tracker foundation posts are lightweight "I" beam sections installed with a specialized piece of equipment and can be removed with a standard backhoe with an attachment for gripping the piles. We estimate crew productivity at 240 posts per day, resulting in a per post cost of approximately \$16.60. The posts weigh approximately 150 pounds each.
12. It is assumed that the racking structures weigh approximately 15 pounds per linear foot of array. Each solar panel has a width of 51.3 inches. The facility will have approximately 8,476 modules and 36,186 feet of array. The arrays are made of steel pipes; a crew with hand tools can disassemble and cut the pieces to sizes for recycling at a rate of about 1800 pounds per person per hour, or about \$238.00 per ton.
13. The solar panels for this project measure approximately 4.27 feet by 7.82 feet and weigh 83.56 pounds. They can easily be disconnected, removed, and packed by a three-person crew at a rate we estimate at 18 panels per hour.
14. The equipment skids will consist of inverter(s), a transformer, and a panel on a metal frame approximately 19 feet long by 8 feet wide by 8 feet 6 inches tall. The skids weigh approximately 15,600 pounds and can be disconnected by a crew of electricians. They must be lifted by a mobile crane for transport to the recycler. They contain copper or aluminum windings.
15. The transformers contain copper windings that have significant salvage value. They are typically oil filled, but most transformer recyclers will accept the transformers with oil. The estimated costs include removal of metal frame and conduits feeding the equipment.
16. Medium voltage (MV) equipment and SCADA equipment are mounted on the same equipment skids as the inverters and transformers, and they are enclosed in weatherproof cabinets. Their size requires light equipment to remove them. The costs for the removal of the pile foundations are included in the "Remove Steel Foundation Posts" estimate.
17. The underground collector system cables are placed in trenches with a minimum of 18 inches of cover. Several cables/circuits are placed side by side in each trench. The conduits and cables can be removed by trenching.
18. Perimeter control pricing is based on silt fence installation around downgradient sides of the project perimeter.

19. Metal salvage prices (steel, aluminum, copper) are based on June, 2024 quotes from www.scrapmonster.com for the Midwest. Posted prices are three months old. These prices are based on delivery to the recycling facility with the material prepared to meet size, thickness, cleanliness, and other specifications.
20. A reduction of 25% has been taken from all pricing obtained from www.scrapmonster.com to reflect the processing by the contractor to meet the specifications.
21. The salvage value for steel uses pricing from the Midwest United States at \$360.00 per metric ton, or \$326.59 for U.S. ton.
22. Solar module salvage values are shown in current values, assuming near-new conditions for the first few years of operations. Pricing for used panels has been discounted from the average resale price of used panels, as published in EnergyBin's 2023 "Module Price Index." Module values will decline over time as a function of loss of output and age.
23. There is an active market for reselling and recycling electrical transformers and inverters with several national companies specializing in recycling. However, we have assumed that the electrical equipment will be obsolete at the time of decommissioning, so we have based the pricing on a percentage of the weight that reflects the copper windings that can be salvaged. Pricing was used for Copper Transformer Scrap for the Midwest United States, at \$0.36 per pound.
24. The collection lines are priced assuming copper conductor wire for the direct current circuits and aluminum wire for the alternating current circuits. The prices reflect a reduced yield of copper or aluminum resulting from the stripping of insulation and other materials from the wire prior to recycling. The estimate uses the Midwest prices of #2 insulated copper wire with a 50% recovery rate (\$1.29 /pound) and E.C. Aluminum Wire (\$1.00 /pound).
25. Care to prevent damage and breakage of equipment, PV modules, inverters, capacitors, and SCADA must be exercised, but removal assumes unskilled common labor under supervision.