Attachment H

Decommissioning Plan

Decommissioning Plan

Banjo Creek Solar Project

FINAL

Prepared for: GreenGo Energy US, Inc. on behalf of Banjo Creek Solar LLC

Prepared by: HDR, Inc.

Case No. 2023-00263

Graves County, KY

September 7, 2023

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Contents

1 Introduction

Banjo Creek Solar LLC (Owner) engaged HDR Engineering, Inc. (HDR) to provide a physical plan to complete decommissioning of the planned Banjo Creek Solar Project (Project) and an estimation of the subsequent net decommissioning cost (i.e., the decommissioning cost less salvage and/or resale value). The Project is expected to consist of a 120 MWac solar photovoltaic (PV) system, a 30 MW battery energy storage system (BESS), and a project collector substation located in Graves County, Kentucky. This decommissioning plan (Plan) describes the general measures and procedures that should be developed and implemented to decommission the Project and restore the site, and safely dispose of or recycle recovered project materials.

1.1 Decommissioning Requirements

This decommissioning plan outlines a typical program for decommissioning the Project at the end of the project life cycle that satisfies State of Kentucky requirements. This Plan describes the general measures and procedures that should be developed and implemented to decommission the site. Before commencing decommissioning activities, the Project's Owner at the time of decommissioning will verify with the local, state, or federal agencies any additional requirements and submit a revised plan for approval if required.

Kentucky state law 2023 HB4 requires the solar project to file a decommissioning plan and security with local authorities. The plan shall describe how the merchant electric generating facility will be decommissioned and dismantled following the end of its useful life. The plan shall, at a minimum, include plans to:

1. Unless otherwise requested by the landowner, remove all above ground facilities.
2. Unless otherwise requested by the landowner, remove any underground components and foundations of above-ground facilities. Facilities removed under this subparagraph shall be removed to a depth of three (3) feet below the surface grade of the land in or on which the component was installed unless the landowner and the applicant otherwise agree to a different depth.
3. Return the land to a similar state as it was prior to the commencement of construction.
4. Unless otherwise requested by the landowner, leave any interconnection or other facilities in place for future use at the completion of the decommissioning process.
5. Secure a bond or other similar security for the project to assure financial performance of the decommissioning obligation.
6. Communicate with each affected landowner at the end of the merchant electric generating facility's useful life so that any requests of the landowner that are in addition to the minimum requirements set forth in this paragraph and in addition to any other requirements specified in the lease with the landowner may, in the sole discretion of the applicant or its successor or assign, be accommodated.
7. Incorporate the requirements of paragraphs 1 to 6 above into the applicants leases with landowners.

1.2 Project Description

The Project is in Graves County, Kentucky, on approximately 1,106 acres[1] and is currently under development in conceptual design phase. The Project is planned to consist of 120 MWac (156 MWdc) of single-axis tracker solar PV facility, a 30 MWac/120MWh BESS facility, and a 34.5 kV to 170 kV project collector substation. The project will interconnect to the TVA 161kV transmission line.

Major features of the Project are outlined below:

- Solar PV array consisting of 120 MWac of solar power.
- Single axis steel trackers and racking in a north-south alignment to support the PV panels that allow for east-west rotation.
- Steel piles to support panels/racks and miscellaneous equipment.
- DC Collection system (removal up to 3 feet below ground surface elevation as required by decommissioning law)
- AC Collection system (removal up to 3 feet below ground surface elevation as required by decommissioning law)
- One Hundred Sixty-Five (165) 848 kW inverters, corresponding medium voltage transformers, and associated data collection equipment for metering and monitoring.
- Interior gravel access roads
- 30 MW/120MWh BESS facility
- On-site project collector substation

Historically, the land has been used for agricultural purposes and according to the U.S. Geological Survey (USGS) National Land Cover Database (NLCD) (2021), surrounding Project land use consists of agricultural, forested, herbaceous, and low intensity development. Data indicate the Project site consists primarily of cultivated crops and hay/pasture (90.8 percent total), with scattered areas of deciduous and mixed forest (6.6 percent total), open space (1.6 percent), and developed areas, herbaceous, and open water (0.9 percent total). According to a review of historical aerial imagery and topographic quadrangle maps, land use in the Project vicinity has remained relatively unchanged since at least 1950. The project will be returned to its pre-construction condition. It is designed with a project life of up to 40 years.

1.3 Decommissioning Plan Description

This Plan has been developed to outline typical procedures and considerations for decommissioning the Project. Decommissioning may occur because the project has fulfilled its intended purpose and term, or because it has been abandoned. The costs for eventual removal of project infrastructure and site restoration, are included in this report.

[1] Banjo Creek Solar LLC controls a total of 1,270 acres of land in Graves County; however, due to development restrictions, the Project site as referenced in this CEA is 1,106 acres.

2 Decommissioning Procedures

2.1 Overview

The decommissioning process will begin with restoring the site to substantially the same physical condition that existed prior to the development of the Project. Decommissioning includes removal of project equipment and all site restoration activities noted in this section. All site activities described below will commence after the site has been de-energized and secured. Because decommissioning activities are not anticipated to occur until project end of life, and regulatory requirements may change, any applicable permitting or regulatory requirements would be reviewed with appropriate local and state agencies prior to decommissioning activities to ensure compliance.

2.2 General Environmental Protections

During decommissioning activities, general environmental protection measures and all applicable site safety procedures would be implemented as required. Many activities during decommissioning would be comparable to the construction phase, including the use of heavy equipment on site, preparing staging areas, and restoring disturbed areas around all project infrastructure. The project decommissioning activities will meet all environmental, stormwater, erosion control and permitting requirements per local, state, and federal regulations.

2.3 Pre-decommissioning Activities

Prior to engaging in decommissioning activities, the Owner will update this decommissioning plan in accordance with any appropriate requirements at the time of decommissioning. At the end of the Project's useful life, it will first be de-energized and isolated from all external electrical lines prior to initiating dismantling or ground-disturbing decommissioning work.

2.4 Decommissioning and Restoration Activities

The major components of the Project are PV modules, steel tracker system and support piles, electrical cabling, inverters, and transformers. Electrical equipment (except when left in place at a depth of three feet below grade as noted herein), will be removed from the project property upon decommissioning.

PV Module and Tracking System Removal
All modules will be disconnected, removed from the trackers, packaged, and transported to a designated location for disposal, recycling, or resale. Any modules requiring recycling and/or disposal will be performed in accordance with applicable laws and requirements. The connecting cables and the combiner boxes will be de-energized, disconnected, and removed. The steel tracking system supporting the PV modules will be unbolted and disassembled by laborers using standard hand tools, possibly assisted by small portable crane. All steel support structures will be completely removed by mechanical equipment and transported off site for salvage or reuse. Any demolition debris that is not salvageable will be transported to an approved disposal area. Other salvageable equipment and/or material will be removed from the site for resale, scrap value or disposal.

The modules and tracking systems are supported via driven steel piles. Any cabling and related equipment (e.g., combiner boxes) are also supported via steel piles. Piles will be removed and salvaged.

Electrical Equipment Removal

All decommissioning of electrical devices, equipment, and wiring/cabling will be in accordance with local, state and federal laws. Any electrical decommissioning will include obtaining required permits, and following applicable safety procedures before de-energizing, isolating, and disconnecting electrical devices, equipment, and cabling. The decommissioning contractor (Contractor) is responsible for complying with all applicable site safety and procedures. All electrical equipment will be removed from the project property upon decommissioning. The equipment will be disconnected and transported off site.

The following is the sequence for removal:

- De-energize inverters, transformers, and other energized equipment and disconnect from the project substation by means of irreversible isolation.
- De-energize each DC collection circuit by means of irreversible isolation.
- Disconnect DC and AC collection circuits.
- Dismantle and remove inverters, transformers, and combiner boxes.
- Remove and recover aboveground cables. Underground cables will be removed and recovered to 3 feet below grade.

The concrete foundations and support pads will be broken up by mechanical equipment (e.g., backhoe-hydraulic hammer/shovel, jackhammer), loaded into dump trucks and removed from the site. Smaller pre-cast concrete support pads will be removed intact by cranes and loaded onto trucks for reuse or will be broken up and hauled away by dump trucks. Prior to removal of any transformers, any oil will be pumped out into a separate industry approved disposal container and sealed to prevent any spillage during storage and/or transportation. Salvaged oil from transformers will be transported to the nearest oil recycling or disposal center. Equipment and material may be salvaged for resale or scrap value depending on the market conditions.

Project BESS

The BESS containers and associated equipment will be in the BESS facility yard (1.7 acres). They are planned to be comprised of containerized modules consisting of lithium-ion batteries and an air conditioning / HVAC system to provide cooling and heating. Lithium-ion batteries will require routine continuous maintenance and care in their use and handling. Batteries reaching end of life will be recycled and disposed of in accordance with the relevant local, state, or federal regulations (If the project is decommissioned prior to end of design life, the BESS system including containers and internal components will be sold for re-use..)

The following steps are required for BESS removal at decommissioning:

- Disconnect BESS from sectionalizing equipment, inverters, transformers, and auxiliary power.
- Remove battery racks for disposal, recycling, or resale as well as other easily non-secured components.
- Containers to be removed and remaining components disassembled after transporting to appropriate recycling facility or other location.

- Remove foundation pad and/or pile supports as previously noted.
- Remove grounding grid, perimeter fence and cables to 3 feet below grade.
- Re-grade surfaces, add topsoil and seed according to “Site Restoration” below.

Project Substation

Decommissioning of the Project substation would be expected to occur in conjunction with the decommissioning of the Project. All project collector substation equipment (transformer, circuit breakers, bus, structural posts, switchgear) and any control buildings will be removed. After that, the underground cabling, grounding grid, and foundations will be removed to a depth of 3 feet below grade and the area resurfaced and seeded with an approved vegetative cover mixture as required (or as agreed upon with landowner). Decommissioning activities would require coordination with the local utility on the interconnecting transmission line. Owner will not be responsible for decommissioning anything on the utility side of the interconnection point unless otherwise agreed upon.

Road Rehabilitation and Removal

At the time of decommissioning, the Owner will coordinate with the landowners and easement holders (if applicable) to determine if any internal access roads should remain. If any of these roads serve no future purpose (or as agreed upon by landowner agreement), they will be decommissioned and restored to preconstruction conditions. The decommissioning will involve the removal of the gravel or aggregate and filling the remaining voids with on-site surface materials by grading. Where on-site surface materials are not sufficiently available for filling the remaining voids, suitable earthen fill will be provided from an off-site source. Removed materials will be taken to an appropriate recycling area (possibly on site) where the gravel or aggregate materials can be processed for salvage value or future use. Remaining ground surfaces will be rough graded to merge with the surrounding elevations and returned to near preconstruction conditions by means of grading and discing, using a tractor and disc attachment to restore the soil structure and to aerate the soil.

Additionally, if any of the existing roads (before project development) are damaged during decommissioning, they will be repaired back to the same condition they were before decommissioning.

Site Restoration

Following decommissioning, the Project will be stabilized to prevent adverse environmental effects. The site will be restored to a clean, safe, and environmentally stable condition to substantially the same physical condition as existed prior to the development of the Project. Site restoration will commence once all above ground and below ground structures and materials have been removed and disposed of appropriately. Also, site restoration will consist of re-seeding of disturbed areas with an appropriate perennial vegetation mixture as required (or as agreed upon with landowner). The site is to be restored to preconstruction conditions or as directed by applicable local, state, federal regulations, or landowner agreement at the time of decommissioning as appropriate.

Fences and Gates

The site security fence will be dismantled, removed, and recycled offsite only after all other ground-disturbing decommissioning and site restoration work has been completed. Most line posts will be direct embedded. Line posts encased in concrete will be removed including concrete. The Project will be accessed through manually operated swing gates located at multiple permanent access points. It is anticipated that the fence, gates, wire, and hardware would be removed and recycled at decommissioning (or as agreed upon with landowner).

2.5 Waste Management Procedures

During decommissioning, debris and waste generated will be recycled to the extent feasible and as required by local, state, and federal regulations. The Contractor will facilitate recycling of all construction waste through coordination with licensed contractors, local waste haulers, and/or other facilities that recycle construction/demolition wastes. The Contractor will also be responsible for ensuring that wastes requiring special disposal (e.g., electrical equipment) are handled according to regulations that are in effect at the time of disposal. Although hazardous waste is not anticipated on the site, any hazardous waste would be removed and disposed of in accordance with applicable laws and regulations.

2.6 Emergency Response and Communications Plans

During decommissioning, the Owner and decommissioning Contractor will coordinate with local authorities, the public, and others as required to provide information about the ongoing activities. Besides regular direct/indirect communication, signs will be posted at the Project facility to inform the local public and visitors. The Owner and Contractor's project representatives' contact information (such as telephone number) will be made public for those seeking more information about the decommissioning activities and/or for reporting emergencies and complaints. All inquiries will be directed to the project representative.

In the event of an emergency, the Owner will mobilize its resources to the site to respond to the event. Personnel involved in decommissioning will be trained in the emergency response and communications procedures. Emergency response procedures will be prepared prior to decommissioning.

3 Material and Salvage Plan

This section identifies major material and equipment quantities on the Project. Any bids from decommissioning contractors will be responsible for verification of quantities (per record drawings), construction costs and salvage rates.

The salvageable material quantities were estimated for inclusion in the estimate as a credit to the project. A gross decommissioning cost is presented with the salvageable material credit and assumed equipment resale values shown resulting in the net project decommissioning cost. Salvageable material quantities are derived from the estimated makeup of the materials of the tracking system, piles, inverters, transformers, and power cabling material to be removed and the corresponding steel, aluminum, copper, etc. Copper/Aluminum salvage quantity estimates were derived from cable quantities, lengths, and approximate weights.

The following notes and assumptions are applicable regarding salvage recovery rates:

- Depending on the component, equipment, and anticipated decommissioning activity, various material recovery percentages ranging from 75% to 100% were assumed. Salvage rate accounts for imperfect removal or intentional partial removal of salvageable material.
- The current and future market is not clear on the usability or value of recently deployed solar panels after the approximate component lifecycle of 25 to 30 years. There are multiple options for PV panel end of life:

  - Solar panels may be recycled by a panel recycler at a cost of $25 per panel (about $0.50/lb.) as reported by PV Magazine[2] . This can be further impacted by transportation costs for the recycler or the Owner. Panel recycling is not currently a widespread service in the U.S., is generally considered to be in early commercial development, and as related to this Project, there are currently no local regulations that require this option.
  - Solar panels may also be disposed of at certain landfills at a cost of approximately $5 per panel (about $0.07/lb.) assuming that the panels would be categorized as hazardous waste; However, testing may be required to determine if modules contain hazardous materials noted by the National Renewable Energy Laboratory[3].
  - Solar panel salvage, recycling and reuse is likely to remain dynamic; alternatives should be evaluated for and reassessed periodically. Due to a lower overall cost and that it is early in the Project life, this Plan assumes that the panels contain a resale value of 10% of the approximate panel purchase price $0.40 per watt DC.
- The current and future market is not clear on the usability or value of recently deployed lithium-ion battery modules after the approximate component lifecycle of 15 to 20 years.
  - Battery modules are technically recyclable and disposing of them in a landfill is an option.
  - The cost of recycling of lithium-ion battery modules varied widely from $25 to $75 per kWh of storage capacity and the industry is not well established.
  - The cost of disposing of the battery modules is assumed to be equal to hazardous waste at approximately $780 per ton ($0.38/lb.) including pickup fee, transport cost, and disposal fee[4].
  - Battery module salvage/reuse is likely to remain dynamic; alternatives should be evaluated and reassessed at the next decommissioning plan update. Due to lower overall cost and that it is early in the Project life, this Plan assumes that the BESS equipment contain a resale value of 10% of the approximate purchase price of $200/kWh.
- All excess material that is not salvageable is anticipated to be removed off-site and transported to approved landfill locations.

3.1 Material Quantities

Major materials on the Project are listed in the table below based on conceptual design documents and other design information provided by Banjo Creek Solar LLC. Quantities listed below may not reflect final installed quantities and should be updated to reflect final designs. Detailed material breakdowns are listed in Appendix A and the preliminary Project layout is included in Appendix B.

[2] "PV Magazine: Aware but unprepared". https://www.pv-magazine.com/magazine-archive/aware-but-unprepared/; accessed April 20, 2021.
[3] Curtis, Taylor L., Heather Buchanan, Garvin Heath, Ligia Smith, and Stephanie Shaw. March 2021. Solar Photovoltaic Module Recycling: A Survey of U.S. Policies and Initiatives. Golden, CO: National Renewable Energy Laboratory. NREL/TP-6A20-74124.
[4] RSMeans Data Online from Gordian®. www.rsmeans.com/online. Accessed August 21, 2023.

Solar Material Quantity Summary*			
Item	**Description/Details**	**Unit**	**Estimated Quantity**
PV Modules/Panels	First Solar FS-6480-P-I (75 lbs per module)	Each	325,050
Inverters	TMEIC 848 kW	Each	165
MV Step Up Transformers	4,400 kVA	Each	33
Tracker Assembly		Each	4,199
Tracker Motors		Each	4,199
Steel Piles	Various 'W' Pile Sizes and Lengths	Each	39,288
LV Cable/Wiring	Various Copper and Aluminum wire (above grade)	LF	3,869,846
MV Cable/Wiring	Various Aluminum wire (below grade)	LF	149,225
CAB Messenger Wire	1/4" EHS Steel Wire (above grade)	LF	84,281
Interior Roads	14 ft width	LF	30,700
Fencing	7 ft height, agricultural/deer fence	LF	60,509
O&M Building	ISO Container	Sq ft.	330

*Current project design is conceptual, most quantities in table are assumed for estimating purposes

BESS Material Quantity Summary*			
Item	**Description/Details**	**Unit**	**Estimated Quantity**
Battery Site Area		Acre	1.7
Battery Container	EnerOne + CATL 4’7” x 7’8” x 4’5”	Each	295
Battery Modules	64 modules per container	Each	18,880
Inverters	PE 2.4MVA	Each	7
Auxiliary Power Transformer		Each	1
Grounding Cable	Around container, PCS, and perimeter of fencings	LF	45,595
LV Cable/Wiring	750 kcmil	LF	13,423
MV Cable/Wiring	500 kcmil 750 kcmil	LF	1,420
Fencing	8 ft height, chain link	LF	820

*Current project design is conceptual, most quantities in table are assumed for estimating purposes.

4 Decommissioning Cost Estimates

It is anticipated that there will be costs associated with the decommissioning of the Project. These current estimates of costs for the Project presented in this plan are based on design quantities and are to be updated as the project design is finalized. Table 1 shows the summary of the estimated decommissioning costs for the Project including the salvage value.

Decommissioning Cost

The estimated decommissioning costs are associated with construction costs of a contractor decommissioning the site. This includes but is not limited to activities listed in Section 2. Decommissioning costs consisting of labor, equipment, and materials are based on labor activities from RSMeans[5], a construction cost estimating database. Labor activities most closely associated with each step in the decommissioning process were selected to build up the decommissioning cost estimate. Because the PV modules and battery modules are planned to be repurposed early in the Project lifetime, a resale value[6] is included in the cost estimate. Further breakdown of these costs can be found in Appendix A.

Table 1. Summary of Estimated Decommissioning Costs

Decommissioning Activity	Amount (USD)	Solar Basis Amount ($/kWac)	BESS Basis Amount* ($/MWh)
Decommissioning Cost	**$14,833,000**	**$123.6**	**$3,800**
Solar Array	$14,245,000	$118.7	
BESS Facility	$452,000		$3,800
Substation	$136,000	$1.1	
Salvage Cost / (Value)**	**($13,057,000)**	**($108.8)**	**($21,000)**
Solar Equipment Salvage and Resale	($10,407,000)	($86.7)	
BESS Equipment Salvage and Resale	($2,523,000)		($21,000)
Substation	($127,000)	($1.1)	
Estimated Total Decommissioning Cost	**$1,776,000**	**$14.8**	**($17,200)**

*BESS basis amount is based on installed battery nameplate energy.
**Salvage and resale values are displayed in the table as a negative cost (or a benefit).

The following assumptions apply to the tabulation of quantities and costs associated with this decommissioning.

- All decommissioning costs are in 2023 dollars.
- The labor costs are based on average labor cost for the Paducah, Kentucky area for Quarter 2, 2023.
- All material quantities are tabulated via available preliminary design information and may not reflect final installed quantities.

[5] RS Means Data Online from Gordian®. www.rsmeans.com/online. Accessed August 21, 2023.
[6] Resale value will be reassessed at next decommissioning plan update.

- Cost estimates are for budgetary purposes only and do not represent guaranteed costs. The estimates are anticipated to be subject to adjustment at the time decommissioning is initiated.
- The decommissioning plan and cost estimate shall be updated every five years. As the PV modules and BESS equipment degrade over time, the resale value will decrease and eventually result in a cost rather than credit.
- The net decommissioning cost is based on gross project demolition (contractor's cost) plus disposal costs and the credit received from recoverable salvage material and resale of modules and BESS equipment.
- PV panels, battery modules, and other major equipment may have resale value on a secondary market depending on the market and the condition of the equipment. This value depends on such market at the time of decommissioning. Resale values are estimated based on an approximate percentage of new purchase and resale is assumed to occur within the first five years of project life.
- No biological, environmental monitoring or testing is included or anticipated per current requirements.
- This cost estimate does not include contingency.

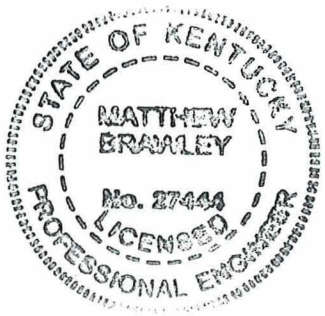
This plan and cost estimate is an accurate representation of the estimated decommissioning costs at this preliminary stage of development and was prepared in accordance with industry standards of care for engineering evaluations of this type and contains no intentional false statements or misrepresentations. The costs presented in this report are estimated based on current knowledge and prices quoted or developed from construction estimating guides and pricing references. The estimates are anticipated to be subject to adjustment per updates as required by the County, and at the time decommissioning is initiated. This plan was prepared by HDR's Michael Baldwin, reviewed by HDR's Ryan Swanson and supervised by HDR's Matthew Brawley, PE.

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer in the State of Kentucky.

Name: Matthew W Brawley, PE

Signature: _____

Date: 9-7-23 License #: 27444



APPENDIX A:
DECOMISSIONING COST BREAKDOWN

Decommissioning Cost

Solar Array

Decommissioning	Cost Basis	Estimated Quantity	Unit	Estimated Unit Cost ($/Unit)	Total Cost ($)	Remarks / Assumptions
Mobilization / Demobilization / Management	*per project*	1	project	$613,440.00	$613,000	Single mobilization and establishment of necessary services, labor & material. Percent of decommissioning total.
PV Module removal	*per module*	325,050	module	$13.33	$4,332,000	Dismantle, palletize and load on flatbed truck for disposal or resale; assume 40% of reported module installation cost
Racking/Tracking Assembly Removal	*per ton*	4,304	ton	$329.33	$1,417,000	Dismantle, load on flatbed truck for disposal or sale; assume removed to average 30 lb sizes
Tracker Motor/Drive Removal	*per motor*	4,199	each	$48.28	$203,000	Disconnect, electrical demolition, remove, incl accessories
Steel Pile Removal	*per VLF*	687,540	LF	$3.88	$2,666,000	Remove all and load on flatbed, assume 33% of the RSMeans unit cost due to smaller crew size and smaller pile size/length
Above ground Cable Removal	*per LF*	3,869,846	LF	$0.46	$1,776,000	Disconnect, remove all above ground DC cabling (total DC cable quantity less DC trenching length)
Central Inverter Removal	*per inverter*	165	each	$3,791.00	$626,000	Disconnect, electrical demolition, remove, load on truck for disposal
Combiner Box Removal	*per box*	2,970	each	$207.07	$615,000	Disconnect, electrical demolition, remove, load on truck for disposal (50% of installation cost)
Step-up Transformer Removal	*per transformer*	33	each	$1,346.70	$44,000	Assume equal to the cost of labor and equipment to install.
Road and Aggregate Removal	*per CY*	17,245	CY	$10.32	$178,000	Excavation, 50' haul to dump truck, gravel removed to local storage at 4 mile haul
Fence Removal	*per LF*	60,509	LF	$4.19	$254,000	6' height Ag/Deer Fence; 1' Barbed Parapet (5-Wire), 10' post spacing, includes gate and direct embeded posts
Corner Fence Post Removal	*per post*	637	each	$23.29	$15,000	Selective demolition, fences & gates, fence, posts, steel in concrete
Rough Grade Site (as required by disturbance)	*per acre*	127	acre	$2,938.23	$373,000	Return to smooth contours where needed; not all acres will need to be graded. Converted unit cost from $ per 100,000 sq. ft to $ per acre
Site restoration / Seeding	*per acre*	318	acre	$1,217.75	$387,000	Assume seeding only disturbed areas as percentage of developed site; Native seed mix/species and no fertilizer.
O&M Building, demolish	*per CF*	3,953	CF	$0.45	$2,000	Dismantling and haul of small building, assume wood construction.
Salvaged Material Hauling	*per CY*	18,975	CY	$39.20	$744,000	Assume 40 mile haul for all steel, recovered cable, fencing, and electical equipment are hauled to material handling location for purchase
Total Decommissioning					**$14,245,000**	

BESS

Decommissioning	Cost Basis	Estimated Quantity	Unit	Estimated Unit Cost ($/Unit)	Total Cost ($)	Remarks / Assumptions
Mobilization / Demobilization	*per project*	1	project	$19,467.00	$19,500	Single mobilization and establishment of necessary services, labor & material. 4.5% of project total.
Container Dismantling & Removal	*per container*	295	each	$333.20	$98,300	Assume each battery rack is equivalent to electrical panel board removal
BESS Container Foundation Removal	*per CY*	796	CY	$250.69	$199,600	Demolished to 4 ft below grade; Loaded & hauled to repurpose off site
Inverter/Transformer disconnection and removal	*per transformer*	7	each	$3,791.00	$26,500	Assume equivalent to disconnection and dismantling of medium size generator
Inverter/Transformer Foundation Removal	*per CY*	60	CY	$250.69	$15,000	Demolished to 4 ft below grade; Loaded & hauled to repurpose off site
Aux Power Transformer Removal	*per transformer*	1	each	$1,346.70	$1,300	Assume equal to the cost of labor and equipment to install.
Aux Power Transformer Foundation Removal	*per CY*	8.0	CY	$250.69	$2,000	Demolished to 4 ft below grade; Loaded & hauled to repurpose off site
Underground Cable Removal and Excavating	*per volume*	4,398	BCY	$9.63	$42,400	Excavate, remove all cable, and backfill
Ground Cable Removal and Excavating	*per LF*	45,595	LF	$0.31	$14,100	Demolition and removal of ground wire, bare copper or aluminum
Fence Removal	*per LF*	820	LF	$4.19	$3,400	8' chainlink; 1' Barbed Parapet (5-Wire), 10' post spacing, includes gate and posts in concrete
Site Surface Aggregate Removal	*per CY*	2,222	CY	$10.32	$22,900	Excavation, 50' haul to dump truck, gravel removed to local storage at 4 mile haul
Rough Grade Site (as required by disturbance)	*per acre*	0.9	acre	$2,938.23	$2,700	Return to smooth contours where needed; not all acres will need to be graded. Converted unit cost from $ per 100,000 sq. ft to $ per acre
Site restoration / Seeding	*per acre*	0.9	acre	$1,217.75	$1,100	Assume seeding only disturbed areas as percentage of developed site; Native seed mix/species and no fertilizer.
Salvaged Material Hauling	*per CY*	85	CY	$39.20	$3,300	Assume 40 mile haul for all steel, recovered cable, fencing, and electical equipment are hauled to material handling location
Total Decommissioning					**$452,000**	

Substation

Decommissioning	Cost Basis	Estimated Quantity	Unit	Estimated Unit Cost ($/Unit)	Total Cost ($)	Remarks / Assumptions
Mobilization/Demobilization	*per project*	1	project	$5,841.00	$5,800	Single mobilization and establishment of necessary services, labor & material. 4.5% of project total.
Large (Main Power) Transformer-Disconnect / Remove	*per transformer*	1	each	$5,468.00	$5,500	Assume equal to the cost of labor and equipment to install.
Station Power Transformer - Disconnect/Remove	*per transformer*	1	each	$1,346.70	$1,300	Assume equal to the cost of labor and equipment to install.
Underground Cable Removal and Excavating	*per volume*	593	CY	$9.63	$5,700	Excavate, remove all cable, and backfill
Grounding Cable Removal and Excavating	*per LF*	1,500	LF	$0.31	$500	Demolition and removal of ground wire, bare copper or aluminum
Circuit Breaker - Disconnect/Remove	*per circuit breaker*	5	each	$1,075.50	$5,400	Assume fabricated item, demolition by weight
Switchgear - Disconnect / Remove	*per each*	1	each	$501.90	$500	Assume fabricated item, demolition by weight
Aluminum Bus - Disconnect / Remove	*per bus*	1	each	$286.80	$300	Assume fabricated item, demolition by weight
Steel Structures - Disconnect / Remove	*per structure*	3	each	$1,076.00	$3,200	Assume structural framing item, demolition by weight
Foundations - Demolish / Remove	*per CY*	244	CY	$250.69	$61,200	Demolished to 4 ft below grade; Loaded & hauled to repurpose off site
Site Surface Aggregate Removal	*per CY*	1,977	CY	$10.32	$20,400	Excavation, 50' haul to dump truck, gravel removed to local storage at 4 mile haul
Rough Grade Site (as required by disturbance)	*per acre*	0.8	acre	$2,938.23	$2,400	Return to smooth contours where needed; not all acres will need to be graded. Converted unit cost from $ per 100,000 sq. ft to $ per acre
Site restoration / Seeding	*per acre*	0.8	acre	$1,217.75	$1,000	Assume seeding only disturbed areas as percentage of developed site; Native seed mix/species and no fertilizer.
Fence Removal	*per LF*	761	LF	$4.19	$3,200	1' Barbed Parapet (3-Wire), 10' post spacing, includes gate and posts in concrete
Disconnect; Recover Line Wire	*per LF*	1,125	LF	$0.97	$1,100	Adjusted unit cost to per linear foot instead of per hundred linear feet
Deconstruct Steel Poles and subassemblies	*per pole*	2	each	$392.99	$800	Demolition of utility poles & cross arms, utility poles, wood, 35'-45' high
Disconnect; recover Static Wire	*per LF*	700	LF	$0.18	$100	Adjusted unit cost to per linear foot instead of per hundred linear feet
Control Building, demolish	*per CF*	5,320	CF	$0.45	$2,400	Dismantling and haul of small building, assume wood construction.
Control Building, foundation removal	*per SF*	532	SF	$1.19	$600	Assume 6" concrete foundation
Salvaged Material Hauling	*per CY*	363	CY	$39.20	$14,200	Assume 40 mile haul for all steel, recovered cable, fencing, and electical equipment are hauled to material handling location for purchase
Total Decommissioning					**$136,000**	

Salvage Value / (Cost)

Solar Array

Disposal Value	Cost Basis	Potential Disposal Quantity	Unit	Disposal Quantity	Hauled Quantity (CY)	Estimated Unit Value/(Cost) ($/Unit)	Total Cost ($)	Remarks
PV Module Resale	*per weight*						$6,240,000	Assume resale of 4 cents per watt dc
Central Inverters	*per weight*	363,000	lbs	363,000.0	363.0	$0.26	$94,400	Assume scrap value in line with electronic scrap
Combiner Boxes	*per weight*	297,000	lbs	297,000.0	660.0	$0.26	$77,200	Assume scrap value in line with electronic scrap
MV Step-Up Transformers	*per weight*	561,000	lbs	561,000.0	1,122.0	$0.34	$190,700	Assume copper transformer windings scrap value for small transformers
Fence and Fence Posts	*per weight*	247	ton	234.3	937.4	$339.63	$79,600	Assume steel scrap value
Steel Tracker & Inverter support piles	*per weight*	3,094	ton	3,093.9	6,187.9	$339.63	$1,050,800	Assume steel scrap value; Pile weights and lengths vary - tonnage estimated on full removal
Tracker Motors	*per weight*	209,950	lbs	209,950.0	419.9	$0.23	$47,200	Assume electric motors scrap value
Tracker Assembly	*per weight*	4,199	ton	4,199.0	8,398.0	$339.63	$1,426,100	Assume steel scrap value
DC Grounding	*per weight*	233,406	lbs	221,735.2	443.5	$2.68	$593,100	Assume copper scrap value; Salvage rate reflects shallower depth.
LV Wire and Cabling, copper	*per weight*	215,200	lbs	193,679.7	387.4	$2.68	$518,100	Copper DC feeder Cable.
MV Wire and Cabling, aluminum	*per weight*	99,461	lbs	4,973.1	9.9	$0.57	$2,800	Aluminum AC feeder Cable.
HV Wire and Cabling, aluminum	*per weight*	641	lbs	609.2	1.2	$0.57	$300	Aluminum AC feeder Cable.
CAB Hangers / Messenger Wire	*per weight*	4	ton	3.6	14.5	$339.63	$1,200	Assume steel scrap value, lower salvage fraction due to plastic coating
Aggregate Recovery	*per weight*	17,245	CY	12,933.8		$6.34	$81,900	Aggregate, crushed bank gravel, per C.Y., includes material only (assume partial value; 50% of new gravel)
Control/Communications Equipment	*per weight*	12,000	lbs	12,000.0	26.7	$0.26	$3,100	Assume scrap value in line with electronic scrap
MET Stations	*per weight*	600	lbs	600.0	1.3	$0.26	$200	Assume scrap value in line with electronic scrap
Total Salvage							**-$10,407,000**	

BESS

Disposal Value	Cost Basis	Potential Salvage Quantity	Unit	Disposal Quantity	Hauled Quantity (CY)	Estimated Unit Cost ($/Unit)	Total Value ($)	Remarks
BESS Equipment Resale							$2,400,000	Assume $20/kWh
Aggregate Recovery	*per weight*	2,222	CY	1,777.8		$6.34	$14,078	Aggregate, crushed bank gravel, per C.Y., includes material only (assume partial value; 50% of new gravel)
Grounding Cable / Rods	*per weight*	35,266	lbs	33,503.1	67.0	$2.68	$94,338	Assume copper scrap value; Salvage rate reflects shallower depth.
Fence and fence posts	*per weight*	3.53	ton	3.4	13.4	$339.63	$1,199	Assume steel scrap value
Cable, copper	*per weight*	4,846	lbs	2,423.0	4.8	$2.68	$12,963	Copper DC feeder Cable. Assumed 50% Salvage rate due to depth.
Total Battery Disposal							**-$2,523,000**	

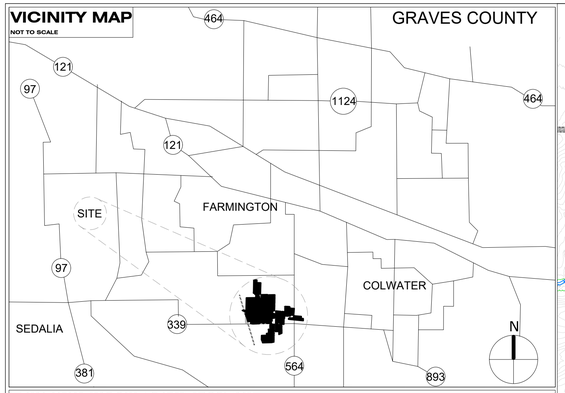
Substation

Salvage Value	Cost Basis	Potential Salvage Quantity	Unit	Salvaged Quantity	Hauled Quantity (CY)	Estimated Unit Cost ($/Unit)	Total Cost ($)	Remarks
Main Power Transformer	*per weight*	150,000.0	lbs	150,000.0	150.0	$0.48	$72,000	Assume copper material and evaluated on full weight of transformer
Station Power Transformer	*per weight*	15,000.0	lbs	15,000.0	15.0	$0.34	$5,100	Assume copper material and evaluated on full weight of transformer
Oil Recovery to recycle	*per weight*	6,500.0	gallon	4,875.0		$1.80	$8,800	Assumption; oil age and contamination will determine recyclability, 75% recovery assumed
Circuit Breaker	*per weight*	18.8	ton	16.9	67.7	$339.63	$5,700	Assume steel scrap value
Switchgear / Disconnect Switch	*per weight*	1.8	ton	1.6	6.5	$339.63	$600	Assume steel scrap value
Aluminum Bus	*per weight*	6,000.0	lbs	5,400.0	5.4	$0.57	$3,100	Assume aluminum scrap value
Structural Steel Shape and plates	*per weight*	15.0	ton	13.5	27.0	$339.63	$4,600	Assume steel scrap value
Fence; Posts & Gates	*per weight*	3.6	ton	3.6	14.4	$339.63	$1,200	Assume steel scrap value
Line Cable	*per weight*	582.8	lbs	582.75	1.2	$0.57	$300	Assume aluminum scrap value
Ground Cable	*per weight*	2,961.5	lbs	2665.35	5.3	$2.68	$7,100	Assume copper scrap value
Aggregate	*per weight*	1,977.0	CY	1,581.6		$6.34	$10,000	Aggregate, crushed bank gravel, per C.Y., includes material only (assume partial value; 50% of new gravel)
Steel Transmission Pole	*per weight*	2.0	ton	1.8	3.6	$339.63	$600	Assume steel scrap value
Control/Communications Equipment	*per weight*	30,000.0	lbs	30,000.0	66.7	$0.26	$7,800	Assume scrap value in line with electronic scrap
Total Salvage							**$127,000**	

APPENDIX B:
PRELIMINARY PROJECT LAYOUT

VICINITY MAP

NOT TO SCALE



PHOTOVOLTAIC POWER PLANT LOCATION

ADDRESS: Graves County, Kentucky, United States.

COORDINATES: 36.643432°N, -88.534700°W

1) Applicant's Information:

Banjo Creek Solar LLC, 1900 South Blvd; Suite 306, Charlotte, NC 28203.

2) Property Information:

Parcel ID: 140.00.00.022.00	Parcel ID: 141.00.00.049.01
Parcel ID: 140.00.00.021.00	Parcel ID: 156.00.00.065.00
Parcel ID: 140.00.00.018.00	Parcel ID: 141.00.00.046.00
Parcel ID: 140.00.00.019.00	Parcel ID: 156.00.00.001.00
Parcel ID: 140.00.00.011.00	Parcel ID: 141.00.00.044.01
Parcel ID: 140.00.00.021.00	Parcel ID: 141.00.00.038.00
Parcel ID: 140.00.00.016.00	Parcel ID: 141.00.00.044.00
Parcel ID: 141.00.00.051.00	Parcel ID: 141.00.00.041.00
Parcel ID: 141.00.00.050.00	Parcel ID: 141.00.00.042.00
Parcel ID: 141.00.00.049.00	Parcel ID: 141.00.00.040.00
Parcel ID: 141.00.00.040.00	Parcel ID: 141.00.00.034.00
Parcel ID: 141.00.00.039.00	Parcel ID: 141.00.00.010.00
Parcel ID: 141.00.00.038.00	Parcel ID: 141.00.00.009.00
Parcel ID: 141.00.00.035.00	

Location: Graves County, Kentucky, United States.

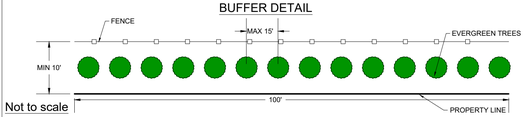
3) Notes:

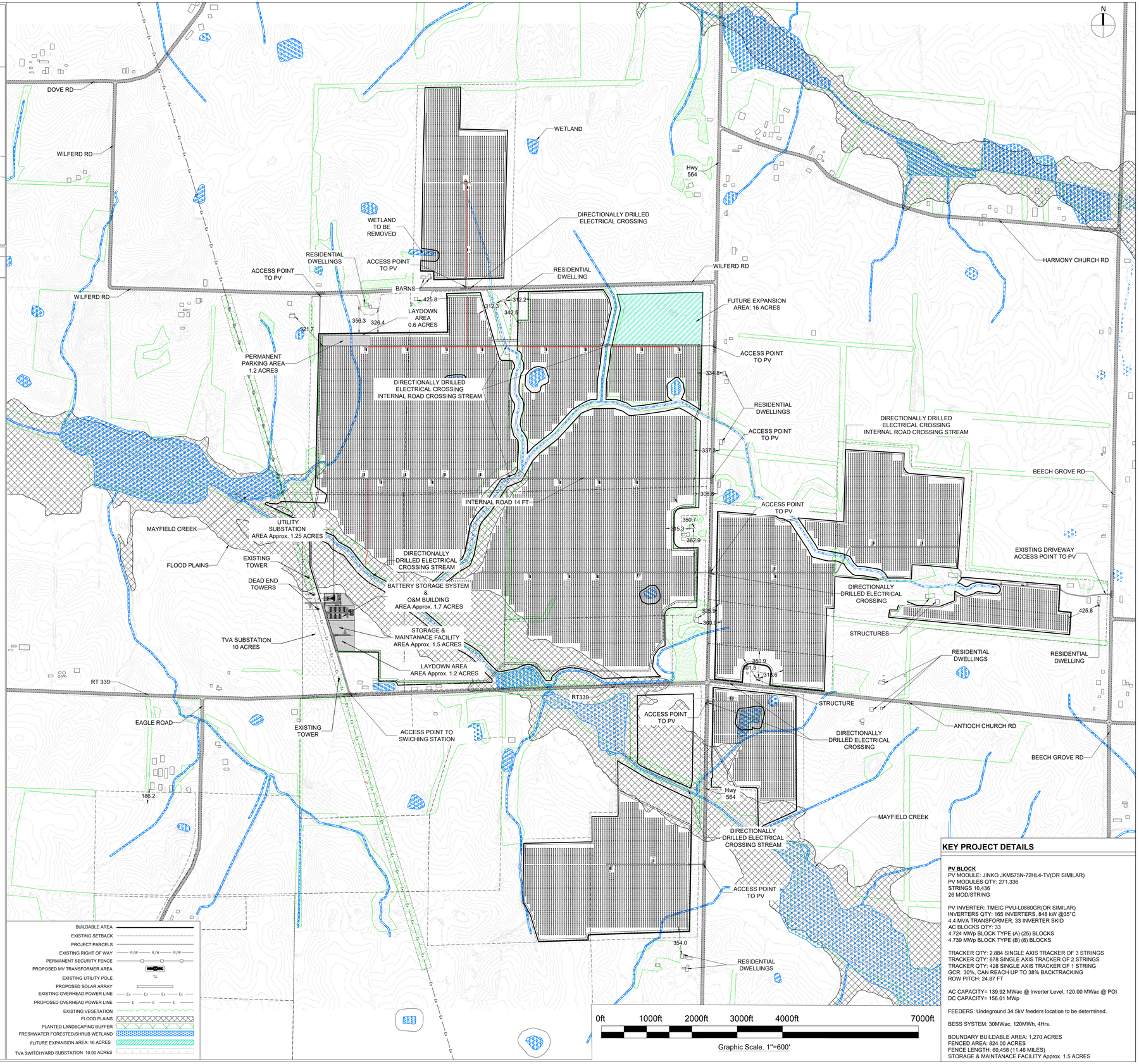
-Total Property Boundary Constructible acres: ~ 1,270 acres
-Aluminum signs ("Danger-High Voltage" and "Danger-No Trespassing") will be placed on the permanent security fencing.
-Clearing limits may change to accommodate temporary construction features, such as erosion control features.
-No proposed lighting on site or directed onto adjacent properties.
-Safety fencing. Safety fencing will be installed around the exterior of the Solar Farm. Fencing will be at six (6) feet in height and will have barbwire mounted above the six (6) feet.
-Gates and Locks. Gates will be at least six (6) feet in height.
-Setbacks. The Solar Farm will be set back at least 30 feet from non-participating parcels that do not have residences and from county roads. The Solar Farm will be set back 100 ft from non-participating parcels with residences and from state roads. The Solar Farm will be set back at least 50 feet from the banks of any navigable stream.
-Storm water controls and erosion control retention ponds to be determined.
-Location of road and stream crossings is approximate. Directionally-drilled boring will be used to cross roads and streams.
-Trees on the Solar Farm parcel(s) may be cleared or trimmed to permit direct sunlight access to the Solar Farm.

4) Buffer Details:

Vegetative Buffer. Where standing vegetation does not exist, an evergreen vegetative buffer will be planted at the perimeter of the solar farm along road frontage and between residences and perimeter fence. The vegetative buffer will be composed of evergreen trees or shrubs, planted a maximum of 15 feet apart and which have the capacity to reach 6 feet in height at maturity.

BUFFER DETAIL





KEY PROJECT DETAILS

PV BLOCK
PV MODULE: JINKO JKM575N-72HL4-TV(OR SIMILAR)
PV MODULES QTY: 271,336
STRINGS 10,436
26 MOD/STRING

PV INVERTER: TMEIC PVU-L0880GR(OR SIMILAR)
INVERTERS QTY: 165 INVERTERS, 848 kW @35°C
4.4 MVA TRANSFORMER, 33 INVERTER SKID
AC BLOCKS QTY: 33
4.724 MWp BLOCK TYPE (A) (25) BLOCKS
4.739 MWp BLOCK TYPE (B) (8) BLOCKS

TRACKER QTY: 2,884 SINGLE AXIS TRACKER OF 3 STRINGS
TRACKER QTY: 678 SINGLE AXIS TRACKER OF 2 STRINGS
TRACKER QTY: 428 SINGLE AXIS TRACKER OF 1 STRING
GGR: 30%, CAN REACH UP TO 38% BACKTRACKING
ROW PITCH: 24.87 FT

AC CAPACITY= 139.92 MWac @ Inverter Level, 120.00 MWac @ POI
DC CAPACITY= 156.01 MWp

FEEDERS: Undeground 34.5kV feeders location to be determined.

BESS SYSTEM: 30MWac, 120MWh, 4Hrs.

BOUNDARY BUILDABLE AREA: 1,270 ACRES
FENCED AREA: 824.00 ACRES
FENCE LENGTH: 60,458 (11.46 MILES)
STORAGE & MAINTANACE FACILITY Approx. 1.5 ACRES

GREENGO ENERGY US, INC.
1900 South Blvd, Suite 306
Charlotte, NC 28203
+1 (704) 390 8966

PROFESSIONAL SEAL

PHOTOVOLTAIC & BATTERY STORAGE POWER PLANT 120.00 MWac / 156.01 MWp

BANJO CREEK SOLAR LLC, KENTUCKY, UNITED STATES.
NOT FOR CONSTRUCTION

REVISIONS

#	DATE	COMMENT
B	07-26-23	Second Issue
A	09-28-22	First Issue

PROJ #	
DRWN	ED, CG
CHKD	CP, IH
SCALE	1"=600'
PAGE	01 OF 01

PRELIMINARY LAYOUT

ELE-DWG-001