



# TOBACCO VALLEY SOLAR

## Decommissioning Plan

June 2017

*Revised January 2019*

DWW Solar II, LLC

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# 1 Introduction

This Decommissioning Plan has been developed for the Tobacco Valley Solar Project (DWW Solar II, L.L.C.), a 26.4 MW AC photovoltaic solar energy facility (the “Project” or “Facility”). The Project will be sited on (6) parcels of land in Simsbury, Connecticut with access provided from Hoskins Road and County Road (the “Site”). The Site is generally bound by Munnisunk Brook to the north, farmland and residential developments to the east and west, and Bissell Brook to the south. Saxton Brook bisects the Site. Most of the Project development will be on farm fields, but approximately 19 acres of forest are planned to be cleared. There are wetlands associated with three brooks, two excavated farm ponds, and other parts of the Site.

This Decommissioning Plan has been prepared to fulfill the requirements of 1.r. of the Decision and Order (D&O) on the Tobacco Valley Solar Project issued by the Connecticut Siting Council (CSC) on December 21, 2017.

This Decommissioning Plan consists of three sections, the first section describes the current site conditions and proposed improvements. The second section describes the decommissioning process, including agricultural soil treatments. The third section is a site reclamation budget and financial assessment for decommissioning the project in the Site.

## 2 Current and Proposed Conditions

### 2.1 Current Conditions

The Project is situated in the watersheds of three brooks that are within or adjacent to the Site. Therefore, most of the stormwater runoff generated in the farm fields flows overland towards wetlands systems associated with one of these three brooks. Stormwater runoff from the field north of Hoskins Road passes through a culvert under the road and flows overland south to Bissell Brook.

While most of the Site occupies a nearly level to gently sloping terrace position, there are steeper slopes cut by the streams which occupy valley bottoms. Most of the Site consists of row cropped farm fields with some grass and brush around the field perimeters. Forested areas consist of uneven-aged stands of mixed hardwoods and conifers, typical of the area.

### 2.2 Proposed Conditions

The Project will consist of ground-based solar racking structures, solar modules, combiner boxes, power conditioning systems (i.e., inverters), and other balance of plant equipment. The Project will also have access roads, perimeter security fences, stormwater prevention and control features, and paths.

Under proposed conditions, Site grading has been designed to maintain as much of the existing topography and drainage patterns as practicable to preserve the Site's existing hydrologic characteristics. Stormwater best management practices (BMPs) will be implemented throughout the Site to utilize natural processes of infiltrating rainfall and filtering runoff as close to its source as possible. The plan also avoids impact to ecologically sensitive areas and preserves existing vegetation cover to the maximum extent practicable. The Project avoids the creation of any new significant effective impervious areas.

Under proposed conditions, most of the stormwater runoff generated within the Project will continue to flow overland off the Site. Vegetated buffer strips are proposed around the perimeter of the site to promote natural infiltration into the well-drained soils. A portion of the temporary sediment traps and basins will be converted to permanent water quality basins, and the ground cover change from tilled soil to grass and low plantings will reduce the curve number in terms of maintain pre- and post- peak rates and volumes of runoff.

No work is proposed within any inland wetland or watercourse. Most work in the vicinity of wetland will maintain a minimum 100-foot undisturbed buffer with the exception of work in existing disturbed farm fields that are closer to wetlands.

### 2.3 Photovoltaic Modules

The PV modules will be mounted on fixed racks and connected to inverter-transformer stations. The modules will be made of a semiconductor material covered by a tempered glass pane or otherwise sealed for long-term outdoor durability. PV modules will be dark colored, highly absorptive, and minimally reflective.

### 2.4 Panel Installation, Array Assembly, and Racking

Structures supporting the PV modules will consist of steel piers, which would be driven into the soil. A racking system will also be installed to which the modules will be mounted.

### 2.5 Electrical Collection, Inverters, Transformers, and Telecommunications

Panels would be electrically connected into panel strings using wiring attached to the panel racking system. Panel strings would be electrically connected to one another via underground wiring installed from the panel strings to combiner boxes located throughout the PV arrays. Cabling would be installed to convey the direct current (DC) electricity from the combiner boxes to inverters. The inverters convert the DC electricity to alternating current (AC) electricity. The output voltage of the inverters would be stepped up to the collection system voltage via transformers

located at the inverters. Electrical cables would be installed from the transformers to the separate Project substation accordingly. Telecommunications will also be installed throughout the site as underground and aboveground cabling.

## **2.6 Project Interconnection**

The Project's switch gear will be built in the southeastern corner of the northern array in the Project area, and a generation interconnection line will be built between the Project switch gear, buried underground, to the existing Eversource North Simsbury Substation. Costs for decommissioning of the Project's switch gear are included in the Site Reclamation Plan.

## 3 Decommissioning Procedure

### 3.1 Removal Process

Effectively, the reclamation of the Project proceeds in reverse order of the installation and will comply with the applicable sections of the Project's Development and Management Plan as approved by the Connecticut Siting Council.

1. The PV facility will be disconnected from the utility power grid.
2. PV modules will be disconnected, collected, and either shipped to another project, salvaged, or sent to a collection program.
3. PV module racking system will be removed and recycled offsite.
4. Fencing will be removed and will be recycled offsite.
5. Soil conditions will be restored in compliance with the Development and Management Plan, and as summarized herein.

### 3.2 Removal of Electrical Equipment, PV Modules, and Infrastructure

All modules will be disconnected, removed from the racks, packaged and transported to a designated location for resale, recycling, or disposal. The connecting cables and the combiner boxes will be de-energized, disconnected, and removed.

Any demolition debris that is not salvageable will be transported to an approved disposal area. Other salvageable equipment and/or material will be removed for the site for resale, scrap value/recycling or disposal.

Decommissioning will require dismantling and removal of the electrical equipment, including inverters, transformers and the switch gear electrical equipment.

### 3.3 Reuse, Recycling, and Disposal

Removal and disposal of plant components will comply with the Connecticut Department of Energy and Environmental Protection's recommendations for best practices. To the maximum extent feasible, salvageable components and equipment will be sold for reuse or recycled. It is anticipated that solar modules, inverters, and transformers may be refurbished for reuse, and that steel, concrete, glass, copper, semiconductor, and other core components will be recycled for raw materials value.

Disposal facilities will be selected based on proximity to the Project site, so that transport distance is minimized. At the time of writing this Restoration Plan, it is not possible to definitively confirm which facilities will be employed for recycling, reuse, or disposal, as it is not currently known which facilities will be operational at the time of Project decommissioning.

At the time of decommissioning, competitive bids will be obtained for reuse, recycling, and disposal services at the time of decommissioning. No soils will be removed from the Site.

### 3.4 Soil Decompaction

1. At decommissioning in agricultural fields where topsoil was stripped to install slabs or gravel access roads, the slab or road will be removed to expose the original subsoil.
2. This subsoil will then be broken up by deep tillage using a deep-ripper or heavy-duty chisel plow when penetrometer readings exceed adjacent areas.
3. After the subsoil is decompacted, all stone and rock material four inches and larger in size that are at the surface shall be collected and disposed at the edge of the field away from wetlands.
4. Upon approval of the subsoil decompaction and the stone removal by the Inspector, any topsoil that has been maintained in vegetated windrows will be applied to match adjacent grades.

5. Agricultural land restoration will be completed when soils are not excessively wet, frozen, or incapable of vegetative stabilization.

### **3.5 Soil Compaction Testing and Remedial Action**

1. After Project decommissioning is complete and during a period of relatively low soil moisture (e.g., at least 48 hours after a rainfall event during the growing season), subsoil compaction will be tested using a soil penetrometer or other soil strength/density measuring device.
2. Representative soil compaction tests will be performed for each soil map unit identified within the decommissioned arrays in the former agricultural fields. Soil compaction readings will be compared with farmland soils in the same soil map unit outside of the project limits.
3. Where representative subsoil compaction within the decommissioned array exceeds the baseline subsoil compaction, shattering of the soil profile will be performed using appropriate agricultural equipment.
4. Deep shattering will be applied during periods of relatively low soil moisture to ensure the desired mitigation and to prevent additional subsoil compaction.
5. Any oversized stone/rock material (4-inches or greater) brought to the surface by this operation will be removed.

### **3.6 Soil Testing After Decommissioning**

Soil tests for the macronutrients N, P, and K, pH and organic matter content will be taken at a rate of one sample per 20 acres.

## 4 Site Reclamation and Decommissioning Budget

DWW Solar II, LLC has prepared Attachment A, the decommissioning budget for the 26.4 MWAC Tobacco Valley Solar Project to be located in Simsbury, Connecticut. The estimated budget represents a probable cost, in present value, for the decommissioning based on the assumption that the solar modules, module support structures/racking, electrical system, interconnection facilities and other project components will be disassembled and recycled or disposed of following completion of use of the solar electric power system. The budget is built on the assumption that the cost of decommissioning will be fully or partially offset by the scrap value of the used project components, however the dollar values are presented separately.

### 4.1 Information Sources for this Review

The budget (Attachment A) is based on the civil and electrical site plans and materials information available at the time of writing in the Development and Management Plan, and through discussions with contractors familiar with this type of construction. Wage rates used in these estimates are based on hourly wages and are determined for each discipline by the city and state nearest and most indicative of the site's location. Typical disciplines utilized for decommissioning are a principal electrician, equipment operator and general laborer.

Each task lists both the total worker hours needed to complete the project as well as the breakdown for each discipline. The total cost of that task is a function of the worker's class and time, and scales with the quantity or magnitude of the task. Project specific equipment is calculated by determining the number of teams necessary to complete each task as a function of project duration.

### 4.2 Wage Determination

Worker Title	Class (If applicable)	Fully Burdened Rate (\$/hr.)	Total Rate (\$/hr.)
Electrician	Principal	\$ 74.38	\$ 74.38
General Laborer	Class 1	\$ 51.24	\$ 51.24
Equipment Operator	Class 1	\$ 62.26	\$ 62.26

Wage Source: RS Means  
County, State: Hartford Co., Conn.  
Table: "Installing Contractor Overhead & Profit"  
Tabulation Date: 1/15/2019

### 4.3 Decommissioning Scope

The decommissioning and restoration process in the plan consists of the following steps:

1. Disassembly and removal of above ground structures
2. Removal of below-ground structures
3. Restoration of project site

Above-ground structures include the solar modules, module support structures, combiner boxes, inverters, switchgear, switchboards, transformers, meteorological stations and all structures or concrete pads to support them. Below-ground structures are limited to concrete pad foundations, conduit, pull boxes and electrical conductors. For the purposes of this estimate, it is practical to assume that underground conduit under permanent concrete and asphalt surfaces will not be removed.

Following removal of all equipment and structures, the disturbed areas will be re-graded to be consistent with surrounding areas and reseeded to promote vegetation. The cost for disposal for any materials that are not scrapped is considered incidental, unless otherwise noted.



#### **4.4 Decommissioning Budget**

The decommissioning process has been divided into 7 general work items for budgeting purposes. Quantities and unit prices for these individual work items are presented and discussed detail in Attachment A.

1. Mobilization & Management
2. Module and Rack Disassembly
3. Shallow Pile Foundation Removal
4. Electrical Demolition
5. Civil Site Reclamation
6. Materials Transportation and Disposal
7. Profit & Contingency

## **Attachment A - Decommissioning Budget Summary**

**Attachment A - Decommissioning Budget Summary**

**1. Mobilization & Management**

1.1 Mobilization. The decommissioning and removal process will require an estimated 12 weeks.

A. Mobilization and demobilization of trash dumpsters, storage containers, pallets, portable toilets, etc.

\$ 76,141

B. Mobilization and demobilization of construction equipment, tools and consumables. Cost is estimated to be:

\$ 303,159

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Subtotal: \$ 379,267

1.2 Project Management. Planning and oversight is a function of system type and size estimated at: \$ 21,400

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**Total estimate for Mobilization & Management: \$ 400,700**

**2. Module and Rack Disassembly**

2.1 Removal of Solar Array:

A. Removal of the individual solar modules will require laborers, off-road forklift operators and electricians. Modules will be palletized for shipping.

Worker Title:	Workers Per Team [B]	(hr.) /person/mod. [C]	[A] x [B] x [C] x Labor
Electrician: De-energizes circuits, disconnects module, 2nd electrician certifies safe for laborer	2	0.01	\$ 140,191
General Laborer: Dismount modules, palletize and band	2	0.0075	\$ 72,433
Equipment Operator: Off road forklift, salvage truck	2	0.02	\$ 234,695
Subtotal:			\$ 447,320

(A): Module

B. Demolition of the racking structure will require laborers with pneumatic impact tools or saws for the disassembly of racking members. All structural members will be collected by an end loader for transfer to salvage truck.

Worker Title	Workers Per Team [B]	(hr.) /person/equip. [C]	[A] x [B] x [C] x Labor Rate
General Laborer: Demolition team	4	0.3	\$ 152,490
Equipment Operator: End Loader, salvage truck	2	0.15	\$ 46,321
Subtotal:			\$ 198,812

(A): Racking

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**Total estimate for Module and Rack Disassembly: \$ 646,131**

**3. Shallow Pile Foundation Removal**

3.1 Removal of Shallow Piles

Removal of piles with vibratory extractor. Each pile will be pulled and directly loaded onto salvage truck following extractor.

Worker Title	Workers Per Team [B]	(hr.) /person/pile [B]	[A] x [B] x [C] x Labor Rate
General Laborer: Demolition team	2	0.025	\$ 20,035
Equipment Operator: Vibratory Pile Extractor, Salvage Truck	2	0.025	\$ 24,344
Subtotal:			\$ 44,379

(A): Piling

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**Total estimate for Shallow Pile Foundation Removal: \$ 44,379**

**4. Electrical Demolition**

The majority of the electrical system is composed of power aggregation string wiring, combiner boxes, panels, and inverter pads. All conductors are assumed to be removed and aggregated for recycling. All subterranean conduit, conductors and inverter pad equipment, will be removed for off-site recycling.

4.1 Excavation and removal of underground conductors and communications cables

The estimated cost for excavation and removal of underground direct-buried conductors for scrap and/or disposal is based on labor costs for excavation & earthwork, conduit removal, and transportation of materials in two person teams.

Worker Title	Workers Per Team [B]	(hr.) /person/100 ft. [C]	[A] x [B] x [C] x Labor Rate
General Laborer: Wire pull operator	2	0.15	\$ 1,475
Equipment Operator: Off road forklift, excavator	1	2.5	\$ 10,729
Subtotal:			\$ 12,204

(A): Trench Feet

4.2 Removal of above ground conductors

The estimated cost for removal of above ground conductors for scrap and/or disposal is based on labor costs for conductor scrapping and transportation of materials. Pull rate is assumed to be an average of 120 ft./minute.

Worker Title	Workers Per Team [B]	(hr.) /person/100 ft. [C]	[A] x [B] x [C] x Labor
General Laborer: Decoupling, equipment and backhoe	1	0.05	\$ 19,622
Equipment Operator: Forklift driver, End loader	2	0.03	\$ 21,610
<b>Subtotal:</b>			<b>\$ 41,232</b>

4.3 Removal of step-up transformers

Removal work includes cutting and removal of cable and conduit as well as containment of transformer for recycling or disposal.

Worker Title	Workers Per Team [B]	(hr.) /person/trans. [C]	[A] x [B] x [C] x Labor
Electrician: De-energizes circuits, 2nd electrician certifies safe	2	1	\$ 1,488
General Laborer: Cutting conduit/wire, harnessing	1	6	\$ 3,074
Equipment Operator: 15 Ton Crane	2	2	\$ 2,490
<b>Subtotal:</b>			<b>\$ 7,052</b>

(A): Transformer

4.4 Removal of Inverters

Removal of inverters. Removal work includes crane removal of inverter, cable, and conduit to a three-foot depth.

Worker Title	Workers Per Team [B]	(hr.) /person/inv. [C]	[A] x [B] x [C] x Labor Rate
Electrician: De-energizes circuits, removes terminations	1	1	
General Laborer: Cutting conduit/wire, harnessing	1	6	
Equipment Operator: 15 Ton Crane	2	6	
<b>Subtotal:</b>			<b>\$ 11,300</b>

(A): Inverter

4.5 Removal of switchboards

Removal of switchboards from site with any support structures, cable, and conduit to a depth of three feet below grade.

Worker Title	Workers Per Team [B]	(hr.) /person/equip. [C]	[A] x [B] x [C] x Labor Rate
Electrician: De-energizes circuits, removes terminations	1	1	\$ 74
General Laborer: Cutting conduit/pulling wire, harnessing	1	4	\$ 205
Equipment Operator: Off road forklift	1	1	\$ 62
<b>Subtotal:</b>			<b>\$ 350</b>

(A): Switchboards

4.6 Removal of Additional Electrical Equipment

Removal of combiner/recombiner boxes, DC/AC disconnects, panel boards, and other auxiliary electrical equipment. Cost estimate accounts for equipment and labor costs for removal to a depth of three feet below grade.

Number of combiner and recombiner boxes [A]:

Number of ancillary installations at inverters [B]:

Worker Title	Workers Per Team [C]	(hr.) /person/equip. [D]	[A+B] x [C] x [D] x Labor Rate
Electrician: De-energizes circuits, removes terminations	2	0.25	\$ 3,702
General Laborer: Conduit/wire, harnessing	1	0.5	\$ 7,501
Equipment Operator: End loader, salvage truck	1	0.5	\$ 5,284
<b>Subtotal:</b>			<b>\$ 16,487</b>

Total estimate for **Electrical System Removal:**

**\$ 88,724**

**5. Civil Site Reclamation**

All developed areas will be restored to pre-construction conditions or as stated in decommissioning contract.

5.1 Concrete Equipment Pad and Fence Footing Demolition

The equipment pads contain an inverter, a transformer, and ancillary electrical equipment. This equipment has been accounted for in Removal of Inverter and Transformer Sections and will not be counted here. Concrete fence foundations will also be removed.

Total Volume of Concrete on site to be removed cubic yards [A]

Worker Title	Workers Per Team [B]	(hr.) / person / cu yd. [C]	[A] x [B] x [C] x Labor
General laborer	1	0.70	\$ 1,975
Equipment Operator: Off road forklift, salvage truck	1	0.70	\$ 2,400
<b>Subtotal:</b>			<b>\$ 4,375</b>

5.2 Fence Removal

The decommissioning plan includes removing chain link fence around the project perimeter including gates and fence posts.

Worker Title	Workers Per Team [B]	(hr.)/person/ft. [C]	[A] x [B] x [C] x Labor Rate
General Laborer: Fence detachment, aggregating	1	0.03	\$ 16,499
Equipment Operator: Backhoe-pull and load fence posts, salvage truck	1	0.02	\$ 16,038
Subtotal:			\$ 32,537

(A): fence length

5.3 Trench Remediation

The decommissioning plan includes remediation of trench where underground conduit occurs.

Worker Title	Workers Per Team [B]	(hr.)/person/ft. [C]	[A] x [B] x [C] x Labor Rate
General Laborer: Excavation	1	0.01	\$ 4,915
Subtotal:			\$ 4,915

(A): trench length

5.4 Aggregate Baserock Removal

The decommissioning plan includes removing gravel from roads in order to restore the site to pre-project conditions. The cost for removal is estimated based on a baserock depth of 3" for all access roads.

Volume of gravel on site cubic yards [A]

Worker Title	Workers Per Team [B]	(hr.)/person/cu yd.	[A] x [B] x [C] x Labor Rate
Equipment Operator: Grader, end loader, dump truck	3	0.20	\$ 23,300
Subtotal:			\$ 23,300

5.5 Re-grading of Site

The decommissioning plan includes excavation and removal of underground materials and foundations. After removal, all excavated areas will need to be filled, compacted, and re-graded to return the site to pre-project conditions. Re-grading accounts for the time needed to perform the necessary earthwork required to return the site to preconstruction conditions.

Acres of grading required [A]:

Worker Title	Workers Per Team [B]	(hr.) /person/acre [C]	[A] x [B] x [C] x Labor Rate
Equipment Operator: Maintainer-Grader	1	1.5	\$ 15,600
Subtotal:			\$ 15,600

5.6 Site Rehabilitation

The estimated cost of this restoration work accounts for all costs of mowing, disking, and hydraulic seeding of the project site. The labor costs associated with this task are lumped to include equipment as well as labor rates from an external party.

Area of site to be rehabilitated [A]:

Worker Title	Workers Per Team [B]	(hr.) /person/acre [C]	[A] x [B] x [C] x Labor Rate
Equipment Operator: Agricultural restoration	1	3	\$ 35,115
Estimated equipment rate for subsoil ripping:	NA	\$ 17	\$ 3,207
Estimated equipment rate for cutting disk:	NA	\$ 16	\$ 2,970
Estimated material rate for seeding (grass or mulch)-5% of site	NA	\$ 3,000	\$ 28,200
Subtotal:			\$ 439,400

Total estimate for **Civil Site Reclamation:**

\$ **520,127**

**6. Materials Transportation and Waste Disposal**

6.1 Disposal of Waste and Non-Salvageable Materials

The decommissioning plan includes excavation and removal of all cement, gravel, waste materials, and other miscellaneous non-salvageable items from the project site. Mobilization accounts for a portion of disposal via dumpster rental, which includes up to 3 tons of disposal per dumpster with weekly delivery and pickup, for a weekly fee of \$500. Cost of disposal for the remaining equipment waste was estimated at \$67/ton, based on \$0.5/ton/mile for a 20-mile round-trip, and \$57/ton in tipping fees. Cost of disposal for the cement, concrete, and/or gravel was estimated at \$22/ton.

Estimated weight of unsalvageable equipment:	177 tons
Estimated weight of cement, concrete, and/or gravel:	2,177 tons
Estimated weight of miscellaneous waste:	6 tons
Tons accounted for in mobilization:	36 tons
Total Net:	2,323 tons
Subtotal:	
	\$ 43,300

6.2 Transportation of Salvageable Materials

The decommissioning plan includes removal of all equipment and structures from the project site that may have a salvage value at the time of decommissioning, including: switchgear, inverters, transformers, racking, fencing, and other miscellaneous items. There is an assumed cost associated with the transportation of these items to the salvage yard, which is based on \$0.5/ton/mile for a 20-mile round-trip, the average distance traveled round trip and cost per ton of transported material.

Estimated weight of salvageable steel:	1,229 tons	
Estimated weight of salvageable aluminum:	24 tons	
Estimated weight of salvageable copper:	42 tons	
Total:	1,295 tons	
Subtotal:		\$ 9,700

6.2A Transportation of PV Modules

The decommissioning plan includes removal, palletizing and placing pallets in a standard 53' trailer to be provided by a module salvage company. All transport costs for removal of modules are assumed to be paid by the module salvage company. No payment for any inherent value the modules may have is anticipated.

Total estimate for **Materials Transportation and Waste Disposal:** \$ **50,000**

**7. Profit & Contingencies**

7.1 <u>Raw Disassembly, Transportation and Disposal Cost</u>	\$ 1,753,062
7.2 <u>Firm Profit</u> . We assume a 3% profit margin for the company	\$ 52,592
7.3 <u>Contingency</u> . Approximately 5% of the decommissioning scope is recommended:	\$ 87,653
7.4 <u>Permits &amp; Inspection</u> . Approximately 1% of the decommissioning scope is recommended:	\$ 17,531
7.5 <u>Liability &amp; Insurance</u> . Approximately 1% of the decommissioning scope is recommended:	\$ 17,531

Total estimate for **Project Management & General Conditions:** \$ **1,928,368**

<b>Disassembly &amp; Removal Summary</b>	
The total estimated disassembly and removal costs from summing the items above:	\$ 1,928,368

**Scrap Value**

The estimated scrap value is based on the following material estimates:

**1. Estimated value of scrap metal salvaged from equipment excluding conductors**

Current average price for aluminum scrap:	\$	0.48 /lb.	
Current average price for steel scrap:	\$	0.04 /lb.	
Current average price for copper scrap:	\$	2.06 /lb.	
<b>Subtotal:</b>		<b>\$</b>	<b>119,050</b>

**2. Estimated scrap value of conductors**

The conductor system is direct burial or encased in cement duct on site. Quantities of underground wire and wire sizes and lengths were based on electrical drawings forwarded, and were used as a basis for estimated scrapable metal amounts. Underground wiring consists of aluminum and copper conductors with bare copper grounds. It is assumed that the fiber optic cable is not salvageable and will be disposed.

Subtotal: \$ 175,380

**Scrap Value Summary**

The total estimate of scrap value from summing the items above: **\$ 294,430**

**Decommissioning Summary**

The total estimate of disassembly and removal costs is:

**\$ 1,928,368**

The total estimate of scrap value for the project is:

**\$ 294,430**

Please do not hesitate to contact us with any questions regarding the information contained in this review. We appreciate the opportunity to work with you on this project.

APPENDIX

Appendix A: Additional cost breakdown of compounded price structures.

Mobilization Costs:

Table A1: Office and Worker Provisions

Equipment	Weekly Rate	Delivery/ Setup and Dismantle	QTY	Weeks	Extended
Single Wide Office Trailer	\$ 75	\$ 562	1	12	\$2,024
Communications	\$ 250	\$ -	1	12	\$3,000
Furniture, Copier/scanner	\$ 250	\$ -	1	12	\$6,000
Conex-Tool Storage	\$ 37	\$ 200	1	12	\$2,044
Small Generator/Utility Connection Allowance	\$ 230	\$ -	1	12	\$2,760
Jobsite portable toilets	\$ 30	\$ 40	10	12	\$3,680
Dumpsters	\$ 500	\$ -	2	12	\$12,000
Drinking Water	\$ 25	\$ -	4	12	\$1,200
Storage container, 40'	\$ 150	\$ 400	6	12	\$11,600
Small Tool Allowance	\$ 15	\$ -	30	12	\$5,400
Worker PPE Allowance	\$ 10	\$ -	30	12	\$3,600
Worker Rest and Break Shelter/Tables/Seating	\$ 200	\$ -	2	12	\$4,800
Signage	\$ 500	\$ -	1	12	\$6,000
SWPPP Install and Maintain	\$ 1,000	\$ -	1	12	\$12,000
<b>Mobilization</b>					<b>\$76,108</b>

Table A2: Cost Summary-Specific Equipment

Equipment	Monthly Rate	Delivery	QTY	Months	Extended
34k Hydraulic Excavator-Sunbelt	\$ 5,006	\$ 250	4	0.8	\$16,018
Carry Deck Crane 15 Ton	\$ 5,360	\$ 250	1	0.8	\$4,270
2400 lb. Skidsteer Loader	\$ 2,880	\$ 250	4	3.0	\$35,560
100hp Crawler Dozer	\$ 5,465	\$ 400	2	0.8	\$8,998
Offroad Extendable Forklift-8042 Class	\$ 3,295	\$ 250	8	1.5	\$41,540
Cat Maintainer-Grader	\$ 5,000	\$ 400	2	0.8	\$8,300
UTV 4WD DOES; 4 SEAT ROPS	\$ 622	\$ 100	8	3.0	\$15,728
Pickup Truck-1 Ton	\$ 1,188	\$ 100	2	3.0	\$7,328
Backhoe-4WD-CAB 90HP	\$ 2,993	\$ 250	6	1.5	\$28,437
Dump Truck 3 Axel	\$ 2,634	\$ 250	2	3.0	\$16,304
Water Truck-Dust Control-3000 GALLON	\$ 3,955	\$ 250	2	3.0	\$24,230
Vibratory Pile Extractor	\$ 4,000	\$ 250	4	0.8	\$13,000
<b>Additional Equipment</b>					<b>\$219,713</b>

Table A3: Specific Materials and Consumables

Materials and Consumables	Unit Cost	QTY	Working Days	Extended
Gasoline-per gallon delivered-Allow 100 gallons per day	\$ 2.40	6000	60	\$14,400
Diesel Fuel-per gallon delivered Allow 200 gallons Per day (less State and Federal taxes)	\$ 2.09	12000	60	\$25,068
Pallets and Banding Material 30 Modules Per Pal.	\$ 14.00	3,141		\$43,979
<b>Material and Consumables Total:</b>				<b>\$83,447</b>