Columbia Solar Projects, Camas Solar Project Initial Site Restoration Plan

MAY 2021

PREPARED FOR

TE – Columbia Solar, LLC

PREPARED BY

SWCA Environmental Consultants

COLUMBIA SOLAR PROJECTS, CAMAS SOLAR PROJECT INITIAL SITE RESTORATION PLAN

Prepared for

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1 INTRODUCTION

TE – Columbia Solar, LLC (TE – Columbia Solar), a subsidiary of TUUSSO Energy LLC, will construct, own and operate a 5-MW alternating current (AC) solar photovoltaic (PV) power generation facility and associated electrical interconnection facilities (Camas Solar Project), one of three Columbia Solar Projects. The Camas Solar Project is located on approximately 45 acres of privately owned agricultural land located in rural Kittitas County in central Washington .

The project would connect into the existing Puget Sound Energy (PSE) distribution transmission line along Tjossem Road. The Camas Solar Project will be located approximately 2.25 miles southeast of the Ellensburg city center, in Sections 18 and 19, Township 17 North, Range 19 East, Willamette Meridian (Figure 1). The project site is within the Upper Yakima subbasin and Water Resources Inventory Area (WRIA 39; Hydrologic Unit Code 17030001). The project would provide up to 5 MW of solar energy to PSE for use within its service area. Construction will begin in Spring 2021.

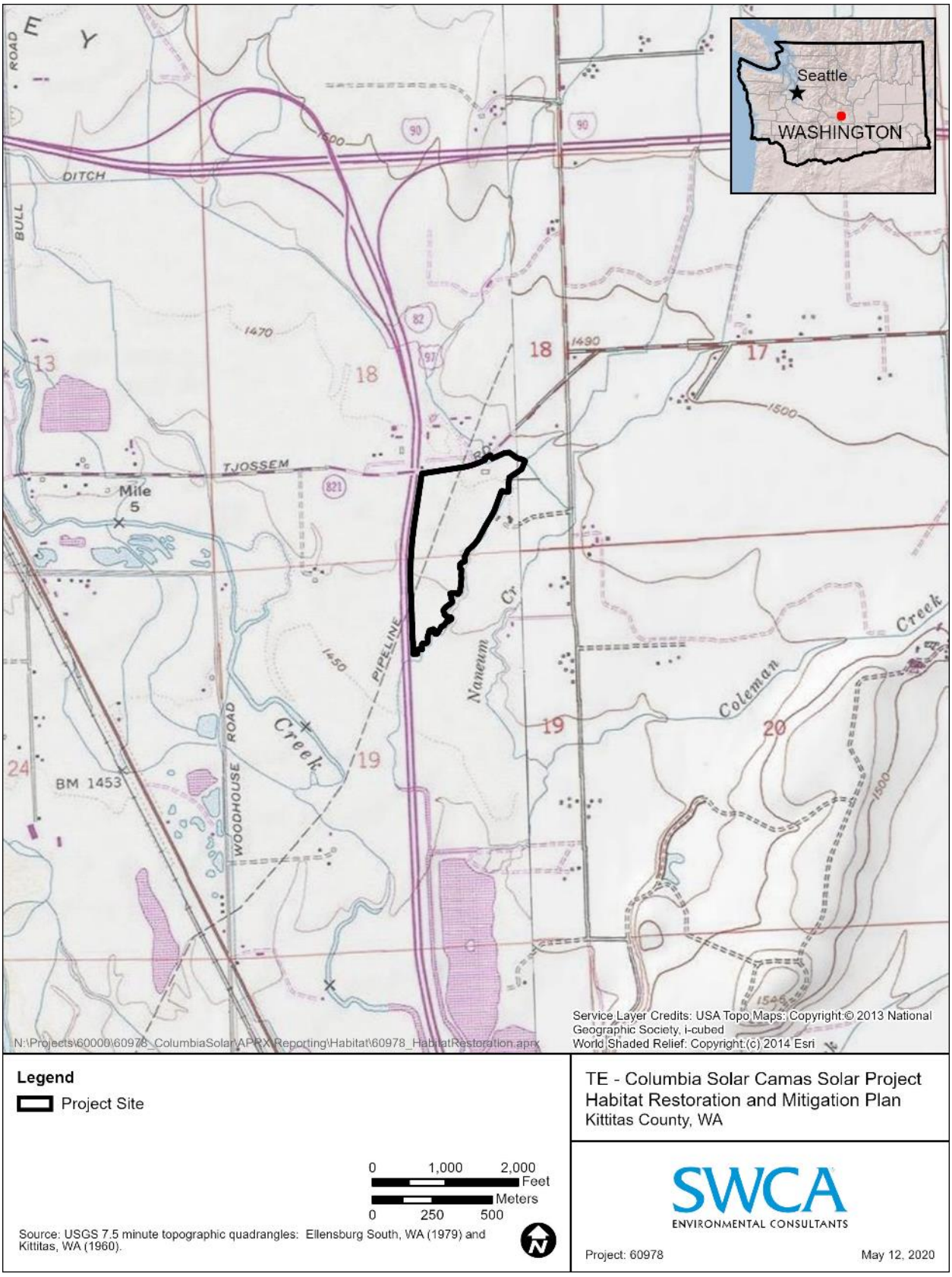

Figure 1. Camas Solar Project location.

1.1 Purpose of Plan

The purpose of this initial site restoration plan (ISRP) is to identify, evaluate, and resolve all major environmental and public health and safety issues reasonably anticipated by the TE – Columbia Solar in compliance with Article IV Part D of the Site Certification Agreement (SCA). This ISRP describes the process used to evaluate the options and select the measures that will be taken to restore or preserve the site location or otherwise protect the public against risks or danger resulting from the site. The plan includes a discussion of economic factors regarding the costs and benefits of various restoration options versus the relative public risk and addresses provisions for funding or bonding arrangements to meet the site location restoration or management costs.

2 PROJECT COMPONENTS

The project's components subject to decommissioning include the equipment summarized below. These components are discussed in detail in the Mitigated Determination of Non-Significance (MDNS) for the project. The decommissioning activities associated with these components are discussed in Section 3.0 of this ISRP.

2.1 Site Construction Preparation

Construction facilities will be located at the project site. Facilities will include the construction entrance/exit, all-weather access roads, and parking and staging areas for vehicle and equipment storage and maintenance. Laydown areas will be used for pre-assembly of components and materials storage/staging. The project site will also include areas for construction worker parking. Temporary construction offices will be installed on-site using modular trailers.

All-weather access roads will be built for access to inverter pads via new gates at the access points shown in the site plans.

Site access driveways and gates will remain in place for the operational phase of the project.

2.2 Well Water

No well water will be obtained or used for the project. Dust control water for construction, fire protection water, and water for panel washing and for watering vegetation on-site will be obtained from water trucks bringing in off-site water or through the landowners' existing water rights on the project site.

2.3 Photovoltaic Equipment

The PV equipment for the project will consist of approximately 50,000 PV panels mechanically fastened on steel support structures and driven by single axis trackers. The steel support structures will be supported on galvanized steel posts that will be driven into the ground. The tracker motors will be supported on cast-in-place foundations.

The construction methods for the preparation of the site and the installation of the panels shall be consistent with all approved SCA conditions for the project site. Should a discrepancy exist between the SCA for the project and the installation methods outlined below, the SCA shall govern.

Grading shall be limited mainly to the all-weather access roads, tanks, inverter pads, project switchyards, or other areas consistent with the approved exhibit map/grading plan. Per Article V.E.1, work within the area where the solar panels are proposed shall be conducted with minimal disturbance, and the operator shall take all necessary precautions to not use vehicles or machineries for grading or alter the existing grade in these areas.

When vehicles or machinery are deemed necessary for solar field installation work, appropriate ground-protection practices (such as construction mats, stabilizers, or established vegetation) shall be used for both dust suppression and to ensure that the vehicles or machineries are compatible with continued and future vegetation growth to the satisfaction of Energy Facility Site Evaluation Council (EFSEC). Any grading, disking, and scraping for access roads, walkways, required basins and/or berms shall be permanently stabilized with an earth-stabilizing product.

Contrary to conventional power plant design where the site has to be prepared to meet a set of pre-engineered contours, the construction approach will be to use existing contours where possible without significantly altering grades on the project site.

A light-on-land philosophy will be used for the grading and installation of the project. Several features of this philosophy are as follows:

- Preservation of property: Temporary fencing will be used to protect areas not to be disturbed.
- Existing improvements, properties, utilities, facilities, trees, and plants that are not to be removed will be protected from injury or damage. Construction materials and equipment will not be placed within the drip line of trees if any are encountered. Damaged trees, if any, will be replaced.
- Temporary staging areas will be used within the solar fields, and they will ultimately be built over with solar arrays. The areas will be seeded after construction is completed.
- Limited all-weather access roads through the solar fields will be constructed by compacting existing soil. Minimal fill will be used only when necessary.

2.4 Substation

The project will be connected to an existing substation located off-site. The project will include on-site switchgear and protection and will be connected to an existing utility distribution line.

2.5 Internal Power Collection System

The PV modules will convert sunlight into direct current (DC) electricity. The PV-generated DC power will be collected from each of the multiple rows of PV modules, from which it will be connected to multiple combiner boxes and ultimately to skids each containing multiple inverters and a distribution voltage transformer. The inverters will convert the DC power to AC power, which will then flow to the transformer that will increase the AC power voltage to 12.47 kV. Multiple transformers from multiple skids will be connected in parallel to on-site switchgear and protection equipment. The power will then be delivered to the existing aboveground PSE distribution lines.

2.6 Roads

Access to the project site will be from public rights-of-way and private access roads. Access permits will be required when connecting to a county-owned rights-of-way. Construction of those access points will be in compliance with state and/or county requirements.

2.7 Vegetation During Operations

Perimeter vegetation will be planted per the site plan and watered as required. Vegetation under the solar panels will be managed as per the SCA and other safety and operational requirements.

3 PROJECT DECOMMISSIONING AND RECYCLING

The activities involved in the facility closure will depend on the expected future use of the project site. At the time of decommissioning, in addition to this ISRP, a detailed removal work plan and schedule and a site restoration plan, shall be filed with EFSEC as a discretionary site plan review, for review and approval by EFSEC. The removal work plan and schedule will describe the proposed equipment that will be removed and an associated schedule for such removal based on expected future uses of the project site. The currently envisaged plan involves completion of the decommissioning, excluding establishment of revegetation, in a 6-month period.

In general, decommissioning will attempt to maximize the recycling of all facility components. Specific opportunities for recycling (e.g., PV solar panels) are discussed below in the context of various site components. The individual project components to be decommissioned will be recycled to the maximum extent practical.

The key project components affected by decommissioning activities are discussed below. The general decommissioning approach will be the same whether a portion, or all of the project is decommissioned.

3.1 Evaluation Process

When considering decommissioning of the project, the best option will be determined by comparing the estimated costs to refurbish or repower, the projected revenue from continued operations, and the potential risks to the public from either decommissioning, refurbishing, or repowering. While PV modules are not considered more hazardous than standard construction materials, any hazardous materials found in the components used to construct PV modules may pose a risk to humans and the environment if left in a state of disrepair or not disposed of correctly. Both refurbishing and repowering can cost almost as much as installing a new system, will require some disposal of hazardous materials, and may not be the best option if the project cannot be readily repaired or updated. If it does not make economic sense to repair or refurbish a project, decommissioning following industry best practices for correct recycling and disposal of materials could be the best option. Recycling and disposal procedures are described for each project component in Section 3.4, Decommissioning Plan.

Upon decommissioning, the Certificate Holder is required by the SCA to remove all project facilities and re-seed disturbed areas. Once facilities are removed, the decision on how to best recycle or dispose of materials will be based on which process poses the least risk to human health. Restoration activities will return the project site to a land use consistent with the surrounding land uses at the time of decommissioning.

The Certificate Holder will implement financial security instruments in the full anticipated amount of costs required to decommission the project, remove facilities and perform restoration activities. See Section 4 below and Appendix B.

3.2 Site Restoration Timing and Scope

3.2.1 *Timing*

Per Article VIII.C.1, the Certificate Holder is required to begin decommissioning of the project within 12 months following project termination. Project termination can be triggered directly by the Certificate Holder, or if the Certificate Holder is required to terminate the project according to the requirements of Article VIII.B of the SCA. This plan assumes that decommissioning and restoration activities would occur at the end of the useful life of the project, but all activities outlined herein would be the same if required prior to that time or if the site was suspended or terminated during construction, as required in Article III.B.4.

The SCA allows the period to perform the decommissioning to be extended if there is a delay caused by conditions beyond the control of the Certificate Holder including, but not limited to, inclement weather conditions, equipment failure, wildlife considerations, or the availability of cranes or equipment to support decommissioning.

3.2.2 *Scope*

As required by Article VIII.C.2 of the SCA, decommissioning the project shall involve removal of the solar panels and mounting structures; removal of foundations or other site facilities to a depth of 4 feet below grade; restoration of any disturbed soil to preconstruction condition; and removal of project access roads and overhead poles and transmission lines (except for any roads and/or overhead infrastructure that the site location landowner wishes to retain) (all of which shall comprise *site restoration*). Removing the solar panels will be the first priority of site restoration and performing the remaining elements will occur immediately thereafter. If the Certificate Holder constructs the site with solar panels incorporating hazardous materials, such as cadmium telluride, site restoration shall also include the use of appropriate precautions during decommissioning and removal of the solar panels to safely dispose of, avoid, and, if necessary, remediate any soil contamination resulting from the hazardous materials as outlined in Article IV.D.7. Prior to the initiation of project decommissioning an on-site audit will be performed to identify and determine the appropriate method for disposing of hazardous materials (if any) present on the site Location and remediation of hazardous contamination (if any) at the project location.

In the event that the Site is suspended during construction, the Applicant would plan to remove or secure all loose materials, tools, and equipment and protect any exposed soils with appropriate erosion control measures. If the Site is terminated during construction, the Applicant would decommission all in-place equipment and restore the site to pre-construction conditions in accordance with this plan. Specific Site suspension or termination measures would be developed in conjunction with the contractor in accordance with Article IV.D.9.

3.3 Site Restoration Financial Assurance

In accordance with Article VIII.D.1 of the SCA, the Certificate Holder, or any Transferee, as the case may be, will provide financial assurance sufficient, based on detailed engineering estimates, for required site restoration costs in the form of a surety bond, irrevocable letter of credit, or guaranty. The anticipated

amount of this security will be based on the detailed engineering estimate of the cost of decommissioning shown in Appendix B of this plan.

Appendix B to this plan includes a cost estimate for decommissioning. In accordance with Article VIII.D.1 of the SCA, the decommissioning costs will be reevaluated annually during the active life of the facility. The Certificate Holder or Transferee must adjust the site restoration cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument used to provide financial assurance and must increase the financial assurance amount accordingly to ensure sufficient funds for site restoration.

The Certificate Holder will choose between one of the financial security instruments listed in Article VIII.D.2 at least 30 days prior to the beginning of construction of the site and will notify EFSEC of the type of instrument chosen. No later than 30 days before the beginning of construction, the Certificate Holder will have the chosen financial security instrument in effect, and the appropriate documentation of such security will be filed with EFSEC.

3.4 Decommissioning Plan

TE – Columbia Solar shall submit a detailed Site Restoration Plan to EFSEC for approval at least 90 days prior to decommissioning in accordance with the requirements of Article VUI.A of the SCA. The following sections outline the preliminary decommissioning plan for the project.

3.4.1 *Decommissioning Preparation*

The first step in the decommissioning process will be to assess existing site conditions and prepare the project site for demolition, including preparation and submittal of the above referenced removal work plan and schedule for the components and provisions described below. Per Article IV.D.6 the initial demolition plan includes salvaging equipment to the greatest extent possible and disposing of waste materials.

Site decommissioning, excluding revegetation, can take 6 months. Establishment of revegetation on the project site will be the responsibility of the landowner for their agricultural or other approved land uses. The current land use of the project site is agricultural, and the site historically produced hay or served as pasture.

Demolition debris will be placed in a temporary on-site storage area for no more than 120 days with no more than one 120-day extension if determined necessary by EFSEC, pending final transportation and disposal/recycling according to the procedures listed below. The location of the temporary on-site storage area will be included on a site plan with the removal work plan and schedule and site restoration plan review submittal.

3.4.2 *Photovoltaic Equipment*

At the start of decommissioning, the project will be de-energized and disconnected from the distribution grid. During decommissioning, project components that are no longer needed will be removed from the site and recycled. The de-energized crystalline silicon PV panels will be unmounted from the torque tubes by sliding the panels off the mounting saddles once the rivet connectors are drilled out. The panels will then be collected into rear-loading garbage trucks and transported to a landfill facility or to a recycling center.

The torque tubes and any additional panel mounting hardware and rack supports will be removed in their entirety, to a depth of 4 feet below grade, from the site using cranes, dump trucks, and flatbed and rear-loader garbage trucks. Tracker motors and any tracker control equipment will be dismantled and recycled as per state e-waste recycling requirements. The support piers/posts will be removed by CAT excavators with attachments and recycled. Cranes will be used to remove any inverters and transformers, including the inverter skids and any foundations.

The demolition debris and removed equipment may be cut or dismantled into pieces that can be safely lifted or carried with the on-site equipment being used. The majority will be processed for transportation to an off-site recycling center. All steel, copper, and aluminum will be recycled to the maximum extent possible.

3.4.3 *Substation*

The project will be connected to an existing substation located off-site, therefore no decommissioning activities will be required. All on-site switchgear and protection equipment will be de-energized, dismantled, and removed from the project site using flatbed and rear-loader garbage trucks.

3.4.4 *Water Tanks*

Any on-site water tanks for fire protection will be drained, detached, and loaded onto flatbed trucks by cranes during the decommissioning process. The water tanks will be salvaged for scrap metals.

3.4.5 *Internal Power Collection System*

The combiner boxes that convey DC power generated from the solar arrays will be dismantled. The inverters that convert DC power to AC power and the transformers that increase the AC power voltage to 12.47 kV will also be dismantled and removed by cranes and flatbed trucks. Any insulating and cooling mineral oil and fluids from the transformers will be drained, removed from the site, and recycled or disposed of at an appropriately licensed disposal facility. The underground 12.47-kV cables and conduits that form the AC and DC collection systems, as well as any aboveground DC electrical wiring, will be removed and recycled. If any cable or conduit is left in place, the depth will be a minimum of 4 feet below grade to allow for future farming activities.

3.4.6 *Transmission Line*

Generation tie lines that have been installed on existing poles will be removed and recycled.

3.4.7 *Roads*

On-site access roads will remain in place to accomplish decommissioning at the end of the facility's life, which is assumed to be 40 years. At the time of decommissioning, if the landowner determines that some of these roads will be beneficial for future use of the site, such roads may remain after decommissioning. On-site roads will be compacted dirt roads or gravel roads. Roads that will not be re-used will be restored to preconstruction conditions. For any asphalt access driveways that will be removed, asphalt material will be broken up and removed to an appropriate disposal site. The landowners may choose to maintain the access driveways for farming purposes.

3.4.8 *Fences*

Once the site has been fully restored according to Section 3.1 above, the chain-link fences and gates surrounding the project site can be removed and recycled.

4 SITE RESTORATION

Once removal of project equipment is complete, the site will be restored to preconstruction conditions. The landowner will be responsible for the revegetation with the crop of their choice.

The restoration will be enhanced by the operational landscape revegetation and restoration plan outlined in Section 2.7, above. Fugitive dust control on remaining vacant land shall be met by preservation of the vegetation planted on-site during the operation phase.

Photographic documentation of the preconstruction vegetative conditions on the site is provided in Appendix C. At the time of decommissioning, the site will be evaluated by a qualified biologist to determine the extent of and type of vegetation existing on the site. The decommissioning will leave the existing vegetation on-site and allow the landowner to determine the revegetation of the area for farming purposes. The landowner will also determine any fertilizers to apply that are applicable to the specific crop they choose to plant.

4.1 Restoration Plan

All decommissioning shall occur in a manner where appropriate dust suppression can be achieved. Based on the site conditions, a biologist will develop a restoration plan acceptable to EFSEC at the time of decommissioning. Because of the limited disturbance to soils and site contours by the construction of the project, it is expected that restoration will largely involve reseeding by the landowner. De-compaction if required may involve disking or similar methods by the landowners. The project's land contours will be maintained similar to preconstruction conditions, as the panels will be constructed on the existing contours when possible.

4.2 Monitoring

During the first growing season following site restoration, the project's biologist will coordinate with EFSEC on site-specific monitoring of the revegetated area, with landowner approval and consent. If the landowner consents, the biologist may monitor the revegetation for 3 years for data collection on the restoration efforts. The monitoring will not interfere with the landowner's farming operations.

4.3 Criteria for Restoration

According to Article VIII.A, success criteria for site restoration will be established prior to commencement of decommissioning activities, based on the documented preconstruction conditions, experience gained with revegetation during operation, and the condition of the site at the time of decommissioning. The restoration success criteria will be established in the restoration plan submitted with the removal work plan and schedule to EFSEC in consultation with the designated biologist.

4.4 Reporting and Schedule

Acceptable levels of revegetation success and the schedule for achieving them could vary based on various factors such as soil, rainfall conditions, and farming operations. The revegetation success and scheduling of success monitoring efforts will be determined to the satisfaction of EFSEC and the designated biologist, with the cooperation of the landowner. The annual reports submitted to EFSEC of the project site will include copies of completed site review forms and a summary of monitoring data and results, and identification of site locations successfully revegetated by the landowner.

Once restoration of the project site is determined to be complete, a final report of restoration activities and results will be submitted to EFSEC, in consultation with the designated biologist, for review and approval.

5 MITIGATION MEASURES

During project decommissioning. and site restoration the Certificate Holder shall implement the mitigation measures set forth in the SCA, including, but not limited to. those presented in Section 1.10 of the Revised Application, those identified in the Final State Environmental Policy Act Environmental Checklist as commitments made by the Certificate Holder, and those presented in the Revised MDNS. Those mitigation measures are summarized in Table 1.

Table 1. Summary of Mitigation Measures for the Camas Solar Project's Potential Construction and Operational Impacts

Technical Resource	Mitigation Measures
Earth	Geology Construction: Complete several test borings to determine whether piles could be placed without damage. The purpose of this testing would be two-fold: 1) it is necessary to determine that the piles can be driven into the bearing soils to the required embedment depth without damaging the pile and 2) it is required to load test the resulting piles to determine that adequate bearing capacity is being developed. Operation: There would be no long-term operational mitigation measures for geology. Soils Construction: • Planned best management practices (BMPs) include those from stormwater management guidelines applicable to eastern Washington. • If excavated site soils are to be used as structural fill, they would be protected from moisture while stockpiled. • Stockpiled topsoil would not be mixed with structural fill, if it is planned for use in non-structural areas. • Temporary excavations like utility excavations and foundation excavations with heights in excess of 4 feet would be sloped no steeper than 1.5H:1V. If seepage is observed in these excavations, they may need to be sloped at 2H:1V to prevent sloughing due to seepage pressure. Dewatering measures may also be needed to control seepage. • Temporary construction ingress and egress would be completed prior to the start of ongoing construction traffic at the solar project site. A temporary construction entrance would be constructed of 8 to 12 inches of quarry spalls. If the soils in the entrance locations are soft, a layer of geotextile fabric would be laid down as a barrier prior to placement of quarry spalls. The quarry spalls would provide a stable entrance/exit to the site and would limit tracking of mud onto the existing public and private roads during and after wet weather. • Infiltration and temporary erosion and sedimentation control (TESC) measures would consist of installation of silt fencing as needed around the solar project site entrance, around the perimeter of the low side of the site, and at discharge points where sediment-laden surface water might enter off-site

Technical Resource	Mitigation Measures
	drainage features. Because the solar project site is flat and slopes very gently to the south, silt fencing would probably not be necessary at the southern perimeters. Operation: Planned BMPs include those from stormwater management guidelines applicable to eastern Washington. Topography, Unique Physical Features, and Seismic Activities Construction and Operation: No mitigation measures are proposed for these technical resources because there would be no significant impacts from the proposed solar project related to these resources.
Air	Construction: Dust from access roads would be controlled by applying gravel or watering, as necessary. Operation: There would be no long-term operational mitigation measures for air.
Water	Water Resources Construction: TE – Columbia Solar utilized avoidance measures during the solar project design to avoid, reduce, or eliminate impacts to water resources. At unavoidable crossings of water resources, TE – Columbia Solar would utilize the existing bridge infrastructure to the extent possible and, where bridge improvements are needed, techniques would be utilized that would not require impacting water resources below their ordinary high water marks (OHWMs), such as spanning existing bridges. Proper BMPs to reduce or eliminate runoff of contaminants would be utilized, including the proper use of silt fencing, to protect water resources from contamination and sedimentation. Operation: Once construction is completed, seeding would be conducted in accordance with the Restoration and Vegetation Management Plan to reduce erosion of bare ground. Once the solar project site has been adequately re-vegetated, the operational use of the solar project site would be limited to the installed infrastructure and would not involve any activities that could affect water resources. Surface Water Construction and Operation: The mitigation measures for Soils (above) and Runoff/Absorption (below) would also reduce the potential for significant surface water impacts. Runoff/Absorption Construction: Off-site flows have been calculated for the solar project site, and would bypass the site via the existing flow paths, which run throughout the site in poorly defined flow paths. The solar project site has been laid out to minimize the area that would encroach into the flow paths. Where limited grading would occur, the solar project site would be graded such that surface water is directed away from structures and slopes. Surface water would not be allowed to pond near the tops or toes of slopes. Stormwater discharge BMPs would be implemented to control runoff from the solar project site. Sediment-laden surface water would be treated such that water discharged from the solar project site meets all water quality standards. Stormwater would not be discharged over the project site slopes to the north of the site. Operation: The measures implemented during the operation phase would be the same as those discussed above for the construction phase of the project.

Technical Resource	Mitigation Measures
	Floodplains Construction: TE – Columbia Solar utilized avoidance measures during the solar project design to avoid, reduce, or eliminate impacts to the FEMA-mapped 100-year floodplain within the Camas Solar Project site. In areas of the FEMA-mapped 100-year floodplain that would be unavoidable, TE – Columbia Solar would limit site grading, except in areas where roads and transformers would be located, so as not to substantially alter the floodplain storage area. All transformers would be located outside of the FEMA-mapped 100-year floodplain. Footings for the solar panel modules would be installed using pile-driven H-piles, which would not result in any soil spoil piles and would minimize the overall footprint of the solar panel modules. Operation: Once construction is completed, no additional measures would need to be taken to mitigate for the operational use of the solar project site, which would be limited to the installed infrastructure and would have minimal changes in elevation or grade in FEMA-mapped 100-year floodplain areas. Groundwater Construction: Groundwater control measures would be on-site or readily available, including trash pumps, sumps, and discharge ditches. Operation: Groundwater control measures would be on-site or readily available, including trash pumps, sumps, and discharge ditches.
Habitat, Vegetation, Fish, and Wildlife	Construction: Buffers and Seasonal Timing: To ensure compliance with MBTA, vegetation clearing would ideally be undertaken from August 1 through the end of February. If construction or vegetation clearing is required between March 1 and August 1, nest surveys would be required in the proposed area of disturbance. If active migratory bird nests (including raptor nests) are encountered during the surveys, land-disturbing construction activities should be avoided while the birds are allowed to fledge. An appropriate species avoidance buffer, as determined in conjunction with WDFW and local agencies, would apply to all active nests for migratory bird species. Riparian Corridors: Avoidance buffers have been incorporated into the solar project design for streams in the vicinity of the proposed solar project. To additionally protect riparian corridors and habitats, peak construction activities would be conducted during the dry season as much as possible, to minimize erosion, sedimentation, and soil compaction. Noise: All noise-generating construction activities would be conducted between the hours of 7 a.m. and 10 p.m., in accordance with WAC 173-60-050 and local bylaws and noise ordinances, including but not limited to KCC 9.45.010, Public Disturbance Noises. These practices would avoid night-time noise disturbances to wildlife species. Design and Construction Techniques: Avoid, when possible, construction in sensitive areas such as riparian zones and wetlands. Flag sensitive habitat areas (e.g., raptor nests, wetlands, etc.) near proposed areas of construction activity, and designate such areas as off limits to all construction personnel. During the nesting season, monitor raptor nests within 0.25 mile of the site for nesting activity; coordinate construction timing and activities with WDFW to avoid impacts to nesting raptors. Minimize new road construction by improving and using existing roads and trails, instead of constructing new roads.

Technical Resource	Mitigation Measures
	Develop and implement a Fire Control Plan, in coordination with local fire districts, to minimize the risk of accidental fires during construction, and respond effectively to any fire that does occur. Designate an environmental monitor during construction to monitor construction activities and ensure compliance with mitigation measures. Implement a trenching protocol during the installation of underground electrical facilities, to allow for conservation of surface soils. Require construction personnel to avoid driving over or otherwise disturbing areas outside of the designated construction areas. Properly store and manage all wastes generated during construction. Use certified weed-free straw bales during construction to avoid introduction of noxious or invasive weeds. There would be one straight row of barbed wire, not circular barbed wire, at the top of the perimeter fences. This would avoid birds becoming trapped in circular barbed wire. For poles installed by TE – Columbia Solar, when feasible: equip overhead power lines with raptor perch guards to minimize risks to raptors and space overhead power line conductors to minimize potential for raptor electrocution. Erosion and Sediment Control: Use BMPs to minimize construction-related surface water runoff and soil erosion. Implement temporary erosion and sediment control measures, as appropriate, both during and after construction. Flag sensitive habitat areas (e.g., riparian zones, wetlands, etc.) near proposed areas of construction activity, and designate such areas as off limits to all construction personnel. Limit disturbances to the minimum necessary when working in or near waterbodies, and install stakes or flagging to restrict vehicles and equipment to designated routes and areas. Delineate construction limits within 200 feet of waterbodies, as specified in the stormwater pollution prevention plan (SWPPP), with a sediment fence, straw wattles, or similarly approved methods to eliminate sediment discharge into waterways and wetlands, minimize the size of construction disturbance areas, and minimize removal of vegetation, to the greatest extent possible. Restoration and Noxious Weed Control: Quickly revegetate habitats temporarily disturbed during construction with native species. Reseed all temporarily disturbed areas with an appropriate mix of native plant species as soon as possible after construction is completed, to accelerate the revegetation of these areas and to prevent the spread of noxious weeds. Consult with WDFW regarding the appropriate native seed mixes to include in the Vegetation Management Plan for revegetation of the solar project site. As further detailed in the Vegetation Management Plan, implement noxious weed control measures. Develop a Noxious Weed Control Plan prior to construction, and implement the plan over the life of the solar project as mitigation. Herbicide application could be a noxious weed control method used. Operation: Fire Control Plan: Implement the Fire Control Plan in coordination with local fire districts, to minimize the risk of accidental fires during operation, and respond effectively to any fire that does occur. Erosion and Sediment Control: Use BMPs to minimize operation-related surface water runoff and soil erosion. Noxious Weed Control: Implement the Noxious Weed Control Plan (as further detailed in the Vegetation Management Plan) over the life of the solar project as mitigation.
Wetlands	Construction: TE – Columbia Solar utilized avoidance measures during the solar project design to avoid, reduce, or eliminate impacts to wetlands.

Technical Resource	Mitigation Measures
	All wetlands would be avoided through the solar project design. Proper BMPs to reduce or eliminate runoff of contaminants would be utilized, including the proper use of silt fencing, to protect wetlands from contamination and sedimentation. Operation: Once construction is completed, seeding would be conducted in accordance with the Restoration and Vegetation Management Plan to reduce erosion of bare ground. Once the site has been adequately re-vegetated, the operational use of the solar project site would be limited to the installed infrastructure and would not involve any activities that could affect wetlands. Additional operational vegetation management actions would involve some minor herbicide treatments to control noxious weeds, potentially near wetland areas.
Energy and Natural Resources	Construction and Operation: Because there would be minimal or no construction or operational impacts to Energy and Natural Resources, no mitigation measures are proposed.
Environmental Health	Noise Construction: All noise-generating construction activities would take place within the hours of 7:00 a.m. to 10:00 p.m. so that it is exempt from local noise standards. Construction equipment would use noise reduction devices that are no less effective than those originally installed by the manufacturer. Stationary equipment used during construction would be located as far as practical from sensitive noise receptors. “Quiet” equipment (i.e., equipment that incorporates noise control elements into the design - compressors have “quiet” models) would be used during construction when reasonably available. Operation: Operation of the project would not exceed the Washington State Noise Maximum and no mitigation is required. Preliminary estimates of the noise levels at the Camas Solar Project property boundary exceed the Washington State Noise Maximum. Post-construction noise monitoring would be conducted and any further mitigation, such as installing a noise-mitigating barrier, would be completed to comply with the noise standard. Risk of Fire or Explosion Construction and Operation: Because there would be minimal risks and potential impacts of fire during construction or operation of the solar project site, and no risks of explosion, no mitigation measures are proposed. Spill Prevention and Control Construction and Operation: Because there would be no construction or operational impacts to Spill Prevention and Control from the solar project site, no mitigation measures are proposed. Solid Wastes Construction and Operation: Because there would be no construction or operational impacts to Solid Wastes from the solar project site, no mitigation measures are proposed.
Land and Shoreline Use	Land Use and Zoning Construction and Operation: Because there would be no construction or operational impacts to Land Use and Zoning from the solar project site, no mitigation measures are proposed. Light and Glare Construction and Operation:

Technical Resource	Mitigation Measures
	Because there would be no construction or operational impacts to light and glare from the solar project site, no mitigation measures are proposed.
	Aesthetics
	General:
	Vegetation or fencing would be used to interrupt the line of sight from nearby key observation points (KOPs) at or near the same elevation of the project.
	Camas Solar Project site – along the northeast border of the site
	Vegetation and ground disturbance would be minimized near roads, and the use of existing clearings would be maximized.
	The use of non-necessary and/or non-safety-related signs and project construction signs should be minimized; necessary signs would be made of non-glare materials and use unobtrusive colors; reverse sides of signs and mounts would be painted or coated using the most suitable color to reduce color contrasts with the existing landscape; however, placement and design of any signs required by safety regulations must conform to regulatory requirements.
	"Good housekeeping" procedures would be developed to ensure that the site is kept clean of debris, garbage, fugitive trash or waste, and graffiti; to prohibit scrap heaps and dumps; and to minimize storage yards. Design features regarding waste management would be applied.
	A lighting plan would be prepared that documents how lighting would be designed and installed to minimize night-sky impacts during facility construction and operations phases. Lighting for facilities would not exceed the minimum number of lights and brightness required for safety and security, and would not cause excessive reflected glare. Full cut-off luminaires would be used to minimize upward shining lighting. Lights would be directed downward or toward the area to be illuminated. Light fixtures would not spill light beyond the project boundary. Lights in high illumination areas not occupied on a continuous basis would have switches, timer switches, or motion detectors so that the lights operate only when the area is occupied. Where feasible, vehicle-mounted lights would be used for night maintenance activities. Wherever feasible, consistent with safety and security, lighting would be kept off when not in use. The lighting plan would include a process for promptly addressing and mitigating complaints about potential lighting impacts.
	The solar site would be adequately screened by either existing or new vegetation or through the application of perimeter fencing to reduce contrast from glint and glare for KOPs with level views.
	Construction:
	Project developers would integrate visual and aesthetics mitigation elements early in the construction, which may include treatments such as thinning and feathering vegetation along project edges, salvaging landscape materials from within construction areas, etc.
	Visual impacts would be reduced during construction by clearly delineating construction boundaries. Within areas not intended for long-term use, impacts would be reduced by minimizing areas of surface disturbance within those boundaries; preserving vegetation to the greatest extent possible; using undulating surface disturbance edges; controlling erosion; using fugitive dust suppression techniques; and restoring exposed soils to their original contour and vegetation.
	An interim reclamation plan would be in place prior to construction. Interim reclamation of the construction site would begin immediately after construction to reduce the likelihood of visual contrasts associated with erosion and invasive weed infestation and to reduce the visibility of impacted areas as quickly as possible.
	Existing rocks, vegetation, and drainage patterns would be preserved to the maximum extent practicable, particularly within temporary use areas.
	Brush-beating or mowing, or using protective surface matting rather than vegetation removal would be done where feasible.
	For interim reclamation areas, slash from vegetation removal would be mulched and spread to cover fresh soil disturbances as part of the revegetation plan. Slash piles would not be left in sensitive viewing areas.
	No paint or permanent discoloring agents would be applied to rocks or vegetation to indicate surveyor construction activity limits, except in areas defined and designated for disturbance.
	All stakes and flagging would be removed from the construction area and disposed of in an approved facility.
	Operation:
	The project developer would maintain revegetated surfaces until a self-sustaining stand of vegetation is re-established and visually adapted to the undisturbed surrounding vegetation. For new areas of disturbance (beyond the scope of this project), no new disturbance would be created during operation.

Technical Resource	Mitigation Measures
	Interim restoration would be undertaken during the operating life of the project as soon as possible after disturbances. Maintenance activities would include noxious weed control. Road maintenance activities would avoid blading existing vegetation in ditches and adjacent to roads. Painted facilities would be kept in good repair and repainted when color fades or flakes increase visual contrast. Recreation Construction and Operation: Because there would be no construction or operational impacts to Recreation from the solar project site, no mitigation measures are proposed. Cultural and Historical Preservation Construction: SWCA recommends that an Inadvertent Discovery Plan be prepared for the solar project site prior to project construction, to inform construction personnel what to do in the event that previously unidentified cultural resources are discovered during excavation. In addition, it is understood that DAHP may recommend additional mitigation measures after reviewing the reports on the cultural resource surveys conducted for the proposed solar project. Operation: Because there would be no operational impacts to Cultural and Historic Preservation, no mitigation measures are proposed. Agriculture Construction and Operation: Because there would be no construction or operational impacts to Agriculture from the solar project site, no mitigation measures are proposed.
Transportation	Vehicles Construction: Because there would be less than a 5% increase in average daily traffic volumes and, thus, no impacts to vehicle traffic for the project site, no mitigation measures are proposed. Operation: Because there would be minimal operational staff levels and vehicle trips, and no negative impacts from the solar project site, no mitigation measures are proposed. Waterborne, Rail, and Air Traffic Construction and Operation: Because there would be no construction or operational impacts to Waterborne, Rail, or Air Traffic from the solar project site, no mitigation measures are proposed. Parking Construction and Operation: Because there would be no construction or operational impacts to Parking from the solar project site, no mitigation measures are proposed.
Socioeconomics	Employment, Housing: Tax Revenues, Fire Protection, Police, Schools, Parks and Recreation, Utilities, Maintenance, Communications, Water and Stormwater, Sewer and Solid Waste, Other Governmental Services, and Local Government Revenues Construction and Operation:

Technical Resource	Mitigation Measures
	Because there would be minimal or no construction or operational impacts to these socioeconomic characteristics, public services, or public infrastructure from the solar project site, no mitigation measures are proposed.

APPENDIX A

Applicable Requirements from the Columbia Solar Project Site Certification Agreement

APPLICABLE REQUIREMENTS FROM THE COLUMBIA SOLAR PROJECT SITE CERTIFICATION AGREEMENT

Article III.H – Site Restoration

The Certificate Holder is responsible for site restoration pursuant to the Council's rules, WAC 463-72, in effect at the time of submittal of the Application. The Certificate Holder shall develop an Initial Site Restoration Plan in accordance with the requirements set out in Article JY.D of this Agreement and in consultation with WDFW, and submit it to EFSEC for approval. The Certificate Holder may not begin Site Preparation or Construction until the Council has approved the Initial Site Restoration Plan, including the posting of all necessary guarantees, securities, or funds associated therewith. The Certificate Holder shall submit a detailed Site Restoration Plan to EFSEC for approval prior to decommissioning in accordance with the requirements of Article VUI.A of this Agreement.

Article IV.D – Initial Site Restoration Plan

The Certificate Holder is responsible for Site decommissioning and restoration pursuant to Council rules. The Certificate Holder shall develop an Initial Site Restoration Plan, pursuant to the requirements of WAC 463-72-040 in effect on the date of Application, in consultation with EFSEC staff and WDFW. The Certificate Holder shall submit the Initial Site Restoration Plan to the Council for review at least ninety (90) days prior to the beginning of Site Preparation. The Certificate Holder shall not begin Site Preparation prior to obtaining approval of the Initial Site Restoration Plan from the Council. The Initial Site Restoration Plan shall be prepared in sufficient detail to identify, evaluate, and resolve all major environmental and public health and safety issues reasonably anticipated by the Certificate Holder on the date the Plan is submitted to EFSEC. The initial Site Restoration Plan shall describe the process used to evaluate the options and select the measures that will be taken to restore or preserve the Site Location or otherwise protect the public against risks or danger resulting from the Site. The Initial Site Restoration Plan shall include a discussion of economic factors regarding the costs and benefits of various restoration options versus the re lative public risk, and shall address provisions for funding or bonding arrangements to meet the Site Location restoration or management costs. The Initial Site Restoration Plan shall be prepared in detail commensurate with the time until restoration is to begin. The scope of proposed monitoring shall be addressed in the Initial Site Restoration Plan.

The objective of the Plan shall be to restore each Site Location to approximate pre-Project condition or better. The Plan shall require removal of the solar panels and rack mounting system, foundations. cables, and other facilities to a depth of four feet below grade. and restoration of any disturbed soil to the pre-construction condition.

The Plan shall include the following elements:

1. Decommissioning Timing and Scope, as required by Article V11I.C of this Agreement.

2. Decommissioning Funding and Surety, as required by Article VIIJ.D of this Agreement.

3. Mitigation measures described in the Revised Application and this Agreement.

4. A plan that addresses both the possibility that restoration will occur prior to, or at the end of. the useful life of the Site and also the possibility of the Site being suspended or terminated during construction.

5. A description of the assumptions underlying the plan. For example, the plan should explain the anticipated useful life of the Site, the anticipated time frame of restoration, and the anticipated future use of the Site Location.

6. An initial plan for demolishing facilities, salvaging equipment, and disposing of waste materials.

7. Performing an on-site audit. and preparing an initial plan for disposing of hazardous materials (if any) present on the Site Location and remediation of hazardous contamination (if any) at the Site Location. In particular, if the Certificate Holder constructs the Site with solar panels incorporating hazardous materials, such as Cadmium Telluride. then the Certificate Holder shall use appropriate precautions during decommissioning and removal of the solar pane ls to safely dispose of and to avoid. and, if necessary, remediate any soil contamination resulting from the panels' hazardous materials.

8. An initial plan for restoring the Site Location, including the removal of structures and foundations to four feet below grade and the restoration of disturbed soils.

9. Provisions for preservation or removal of Site facilities if the Site is suspended or terminated during construction.

Article VIII – PROJECT TERMINATION, DECOMMISSIONING AND SITE RESTORATION

Article VIII.A – Detailed Site Restoration Plan

The Certificate Holder shall submit a Detailed Site Restoration Plan to EFSEC for approval within ninety (90) days from the time the Council is notified of the termination of the Site. The Detailed Site Restoration Plan shall provide for restoration of the Site Location within the timeframe specified in Article VIII.C, taking into account the Initial Site Restoration Plan and the anticipated future use of the Site Location. The Detailed Site Restoration Plan shall address the elements required to be addressed by WAC 463-72-020, and the requirements of the Council approved Initial Site Restoration Plan pursuant to Article IV.D of this Agreement. The Certificate Holder shall not begin Site Restoration activities without prior approval from the Council. The Certificate Holder shall consult with WDFW, and Ecology in preparation of the Detailed Site Restoration Plan.

Article VIII.B – Site Termination

1. Termination of this Site Certification Agreement, except pursuant to its own terms, is an amendment of this Agreement.

2. The Certificate Holder shall notify EFSEC of its intent to terminate the Site, including by concluding the plant's operations, or by suspending construction and abandoning the Site.

3. The Council may terminate the SCA through the process described in WAC 463-66- 090, and the Council may initiate that process where it has objective evidence that a certificate may be abandoned or when it deems such action to be necessary, including at the conclusion of the plant's operating life. or in the event the Site is suspended or abandoned during construction or before it has completed its useful operating life.

Article VIII.C – Site Restoration Timing and Scope

Site Restoration shall be conducted in accordance with the commitments made in the draft Site Restoration Plan attached as Appendix F to the Application, and the Detailed Site Restoration Plan required by Article VIII.A (unless the Certificate Holder fails to submit such a plan), and in accordance with the following measures:

1. Timing. The Certificate Holder shall commence Site Restoration of the Site within twelve (12) months following the termination described in Article VIII.B above.

   The period to perform the Site Restoration may be extended if there is a delay caused by conditions beyond the control of the Certificate Holder including, but not limited to, inclement weather conditions, equipment failure, wildlife considerations, or the availability of cranes or equipment to support decommissioning.

2. Scope. Site Restoration shall involve removal of the solar panels and mounting structures; removal of foundations or other Site facilities to a depth of four (4) feet below grade; restoration of any disturbed soil to pre-construction condition; and removal of Project access roads and overhead poles and transmission lines (except for any roads and/or overhead infrastructure that Site Location landowner wishes to retain) (all of which shall comprise ·"Site Restoration"'). Site Restoration shall occur in the order of removing the solar panels as the first priority and performing the remaining elements immediately thereafter. If the Certificate Holder constructs the Site with solar panels incorporating hazardous material s, such as Cadmium Telluride, Site Restoration shall also include the use of appropriate precautions during decommissioning and removal of the solar panels to safely dispose of and to avoid, and, if necessary, remediate any soil contamination resulting from the panels' hazardous materials.

3. Monthly Reports. If requested by EFSEC. the Ce1tificate Holder shall provide monthly status reports until this Site Restoration work is completed.

4. Restoration Oversight. At the time of Site Restoration, the Site Location will be evaluated by a qualified biologist to determine the extent of and type of vegetation existing on the site location. Success criteria for Site Restoration will be established prior to commencement of decommissioning activities, based on the documented preconstruction conditions, experience gained with re-vegetation during operation and the condition of the Site Location at the time of Site Restoration. The restoration success criteria will be established in the Detailed Site Restoration Plan approved by EFSEC in consultation with the designated biologist. Once restoration of the Site Location is determined to be complete, a final report of restoration activities and results will be submitted.

Article VIII.D – Site Restoration Financial Assurance

1. Except as provided in Article VII I.D.3 below, the Certificate Holder or any Transferee, as the case may be, shall provide financial assurance sufficient, based on detailed engineering estimates, for required Site Restoration costs in the form of a surety bond, irrevocable letter of credit, or guaranty. The Certificate Holder shall include a detailed engineering estimate of the cost of Site Restoration in its Initial Site Restoration Plan submitted to EFSEC. The estimate must be based on the costs of the Certificate Holder or Transferee hiring a third party to carry out Site Restoration. The estimate may not be reduced for " net present value" or other adjustments. During the active life of the facility, the Certificate Holder or Transferee must adjust the Site Restoration cost estimate for inflation within sixty days prior to the anniversary date of the

establishment of the financial instrument used to provide financial assurance and must increase the financial assurance amount accordingly to ensure sufficient funds for Site Restoration.

2. The duty to provide such financial assurance shall commence thirty (30) days prior to the beginning of Construction of the Site. and shall be continuously maintained through to the completion of Site Restoration. Construction of the Site shall not commence until adequate financial assurance is provided. On or before the date on which financial assurance must be established, the Certificate Holder shall provide EFSEC with one of the following financial assurance mechanisms that is reasonably acceptable to EFSEC:

    a. *Surety Bond.* The Certificate Holder or any Transferee, as the case may be, shall provide financial security for the performance of its Site Restoration obligations through a Surety Bond issued by a surety listed as acceptable in Circular 570 of the U.S. Department of the Treasury. The Performance Bond shall be in an amount equal to the Site Restoration costs. A standby trust fund for Site Restoration shall also be established by the Certificate Holder or Transferee to receive any funds that may be paid by the surety to be used to complete Site Restoration. The surety shall become liable for the bond obligation if the Certificate Holder or Transferee fails to perform as guaranteed by the bond. The surety may not cancel the bond until at least one hundred twenty days after the Certificate Holder or Transferee and EFSEC have received notice of cancellation. If the Certificate Holder or Transferee has not provided alternate financial assurance acceptable under this SCA within ninety days of the cancellation notice, the surety shall pay the amount of the bond into the standby Site Restoration trust; or

    b. *Irrevocable Letter of Credit.* The Certificate Holder or any Transferee, as the case may be, shall provide financial security for the performance of its Site Restoration obligations through an irrevocable letter of credit payable to or at the direction of EFSEC, that is issued by an institution that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a Federal or State agency. The letter of credit shall be in an amount equal to the Site Restoration costs. A standby trust fund for Site Restoration shall also be established by Certificate Holder or Transferee to receive any funds deposited by the issuing institution resulting from a draw on the letter of credit. The letter of credit shall be irrevocable and issued for a period of at least one year, and renewed annually, unless the issuing institution notifies the Certificate Holder or Transferee and EFSEC at least one hundred twenty days before the current expiration date. If the Certificate Holder or Transferee fails to perform Site Restoration, or if the Certificate Holder or Transferee fails to provide alternate financial assurance acceptable to EFSEC within ninety days after notification that the letter of credit will not be extended, EFSEC may require that the financial institution provide the funds from the letter of cred it to be used to complete Site Restoration; or

    c. *Guaranty.* Certificate Holder or any Transferee, as the case may be, shall provide financial assurance for the performance of its Site Restoration obligations by delivering a guaranty to fund the Certificate Holder or Transferee's Site Restoration obligations hereunder from an entity that meets the following financial criteria:

        i. A current rating of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's;

        ii. Tangible net worth at least s ix times the sum of the current Site Restoration cost estimates:

iii. Tangible net worth of at least ten million dollars; and

iv. Assets in the United States amounting to at least ninety percent of its total assets or at least six times the sum of the current Site Restoration cost estimates.

The guarantor entity's chief financial officer shall provide a corporate guaranty that the corporation passes the financial test at the time the Initial Site Restoration Plan is filed. This corporate guaranty shall be reconfirmed annually ninety days after the end of the corporation's fiscal year by submitting to EFSEC a letter signed by the guaranteeing entity's chief financial officer that:

i. Provides the information necessary to document that the entity passes the financial test;

ii. Guarantees that the funds to finance required Site Restoration activities are available;

iii. Guarantees that required Site Restoration activities will be completed;

iv. Guarantees that within thirty days if written notification is received from EFSEC that the entity no longer meets the above financial criteria, the entity shall provide an alternative form of financial assurance consistent with the requirements of this section;

v. Guarantees that the entity's chief financial officer will notify in writing the Certificate Holder or Transferee and EFSEC within fifteen days any time that the entity no longer meets the above financial criteria or is named as debtor in a voluntary or in voluntary proceeding under Title 11 U.S.C. Bankruptcy;

vi. Acknowledges that the corporate guaranty is a binding obligation on the corporation and that the chief financial officer has the authority to bind the corporation to the guaranty;

vii. Attaches a copy of the independent certified public accountant's report on examination of the entity’s financial statements for the latest completed fiscal year; and

viii. Attaches a special report from the entity's independent certified public accountant (CPA) stating that the CPA has reviewed the information in the letter from the entity's chief financial officer and has determined that the information is true and accurate.

If the Certificate Holder or any Transferee fails to perform Site Restoration covered by the guaranty in accordance with the approved Initial or Final Site Restoration plan, the guarantor will be required to complete the appropriate activities. The guaranty will remain in force unless the guarantor sends notice of cancellation by certified mail to the Certificate Holder or Transferee and EFSEC. Cancellation may not occur, however, during the one hundred twenty days beginning on the date of receipt of the notice of cancellation by the Certificate Holder or Transferee and EFSEC. If the Certificate Holder or Transferee fails to provide alternate financial assurance as specified in this sect ion and obtain the written approval of such alternate assurance from EFSEC within ninety days after receipt of a notice of cancellation of the guaranty from the guarantor, the guarantor

will provide such alternative financial assurance in the name of the Certificate Holder or Transferee.

3. If the SCA is transferred after its effective date pursuant to applicable EFSEC laws and regulations, EFSEC has the right to require, cons ide r, and approve other financial security that would provide for the Certificate Holder's performance of its Site Restoration obligations pursuant to Articles VIII.C and VIII.D of this Site Certification Agreement.

APPENDIX B

Cost Estimate of Decommissioning and Site Restoration

COST ESTIMATE OF DECOMMISSIONING AND SITE RESTORATION

Cost estimates for decommissioning and site restoration for the Camas Solar site is included in Table B-1. These costs include the removal, recycling, and disposal of the system components as well as any grading and reseeding that would be required to return the site to pre-project conditions following equipment removal. Cost estimates were developed based on current prices for similar sized utility scale solar projects, the assumptions outlined below, and those listed in Tables 1-3 for each task.

Most materials from solar installations may be recycled, reused, or even sold resulting in no costs or compensation. A periodic reevaluation of decommissioning costs during the project's lifetime is recommended as costs could decrease and revenue from recyclable materials could fluctuate. The cost estimates included in Table B-1 do not account for the offsets to costs from recycling or reselling project components.

Assumptions

- Labor costs are estimated at $30 per hour and equipment costs are estimated at $150 per hour.
- System electrical equipment including inverters, transformers and switchgear to be removed from their respective concrete pads and recycled or returned to their manufacturer for processing. The project contains large amounts of copper, aluminum, and other conductive metals, which are easily recyclable.
- Chain link fencing to be removed and sold or recycled.
- Solar photovoltaic modules will be detached from the racking system, stacked for removal, and recycled or reused.
- Sections of the racking system will be cut, stacked, and recycled. Racking posts will be removed, stacked and recycled.
- The concrete pads will be lifted, secured onto flat beds, and transported off-site for processing.
- AC and DC wiring that can be disconnected and removed from equipment and earth will be consolidated for recycling. Direct buried conductors and PVC conduit that would require substantial soil disturbance for removal is excluded.
- All non-recyclable materials will be taken to the nearest approved landfill for disposal.
- On site power poles and medium voltage wiring shall be dug out and removed.
- All resulting depressions, voids, and excavation areas will be backfilled, and graded to the proper elevation. Backfilling and compaction of disturbed areas are included.
- All disturbed areas associated with the array will be re-vegetated in effort to return the landscape of the earth as close to its previous state as possible. This includes the gravel access drives within the fenced area, unless otherwise requested by the landowner. This estimate does not include any tree planting.
- The electric lines are property of the local utility and are not subject to this study.

Table B-1. Estimated Decommissioning Cost for the Camas Solar Project

Task	Unit	Quantity	Labor Cost	Equipment Cost	2021 Cost± for 5 MW project	Assumption
Remove Rack Wiring	Linear foot (l.f.)	2981	$1,739	$8,694	$10,434	*10 minutes per 10 l.f.*
Remove Panels	module	13,893	$1,158	$5,789	$6,947	*5 minutes per module*
Dismantle Racks and posts to 4 feet below grade	posts	1490	$12,878	$64,372	$77,250	*5 minutes per post*
Remove electrical equipment	MW	5	$750	$3,750	$4,500	*1 hour per MW*
Breakup/Remove Conc. Pads/ballast	pads	3	$375	$1,875	$2,250	*1.5 hour per pad*
Remove Cable and Underground Conduit	l.f.	2855	$2,380	$11,895	$14,275	*15 minutes per 10 l.f.*
Remove Fence	l.f.	6165	$1,542	$7,706	$9,248	*5 minutes per 10 l.f.*
Remove Access Roads	acre	0.54	$1,167	$5,832	$6,998	*72 hours for 0.5 acre*
Re-grading and seeding	acre	46	$690	$3,450	$4,140	*30 minutes per acre*
Truck to Recycling Center (offsite disposal)	Loads (lump sum)	3	-	-	$9,000	*Lump sum of $3,000 per trip.*
Erosion Control install and disposal	l.f.	500	-	-	$750	*Lump sum $1.50 per foot.*
Current Total					**$145,791**	
Total After 40 Years (2.5% infl.)					**$245,672**	

APPENDIX C

Pre-construction Vegetation Photographs

Photo 1. Camas Solar Project site.

Photo 2. Camas Solar Project site.

Photo 3. Camas Solar Project site.