PLAN OF DEVELOPMENT

Mosey Solar Project

N-101055

Prepared for:

U.S. Department of the Interior
Bureau of Land Management
Southern Nevada District Office

Prepared by:

Renew Development HoldCo LLC
c/o Clearway Energy Group LLC
100 California Street, Suite 650
San Francisco, CA 94111

Submittal Date:

February 2022, Revised January 2024

Clearway

Table of Contents

List of Tables

List of Figures

1 Project Overview and Purpose and Need

1.1 Introduction

1.1.1 Facility Overview

Renew Development HoldCo LLC, a wholly-owned indirect subsidiary of Clearway Energy Group LLC proposes to develop and construct a 500-megawatt (MW) alternating current (AC) solar photovoltaic (PV) energy generating project with up to 850 MW of battery storage, known as the Mosey Solar Project (Mosey Solar or Project) (application N-101055). The decision for the panel types and racking systems will depend on market conditions and environmental factors, including the recycling potential of the panels at the end of their useful lives.

The Project will organize "power blocks", including DC collector systems and a pre-configured AC inverter station with a medium-voltage transformer. Project facilities include an operations and maintenance (O&M) building, a Project substation, access driveways, an on-site switchyard/substation. The Project right-of-way (ROW) grant would be for approximately 3,523 acres of federal lands in unincorporated Nye and Clark Counties, NV. The Project will include a new, 3.2-mile-long, 230 kV generation tie (gen-tie) line to the new GridLiance Trout Canyon substation. The gen-tie ROW will be 150 feet wide. Figure 1 shows the Project region and Figure 2 and Figure 3 show the Project layout.

The Project will be located on federal lands managed by the U.S. Department of Interior, Bureau of Land Management (BLM), Southern Nevada District Office (SNDO). This Plan of Development (POD) has been prepared as part of the SF-299 application process for a ROW grant from BLM. The term of the ROW grant is requested for 50 years. The generating facility, access roads, and gen-tie line will be used year-round.

1.1.2 Proponent's Schedule for the Project

The BLM would be the lead federal agency for approving the Project and would issue a ROW grant (SF-299) authorizing the use of BLM-administered lands for Project construction, operation, and decommissioning. The Project site is within a "variance area" for solar power plant development, as defined in the Record of Decision (ROD) prepared for the Final Programmatic Environmental Impact Statement (EIS) for Solar Energy Development in Six Southwestern States (Solar PEIS). Preparation of an EIS is expected to be required.

Prior to any activity on the Project site, required resource management plans would be developed and approved, and regulatory and permit conditions would be integrated into the final construction compliance documents. Project construction would begin once all applicable

Figure 1 Project Location

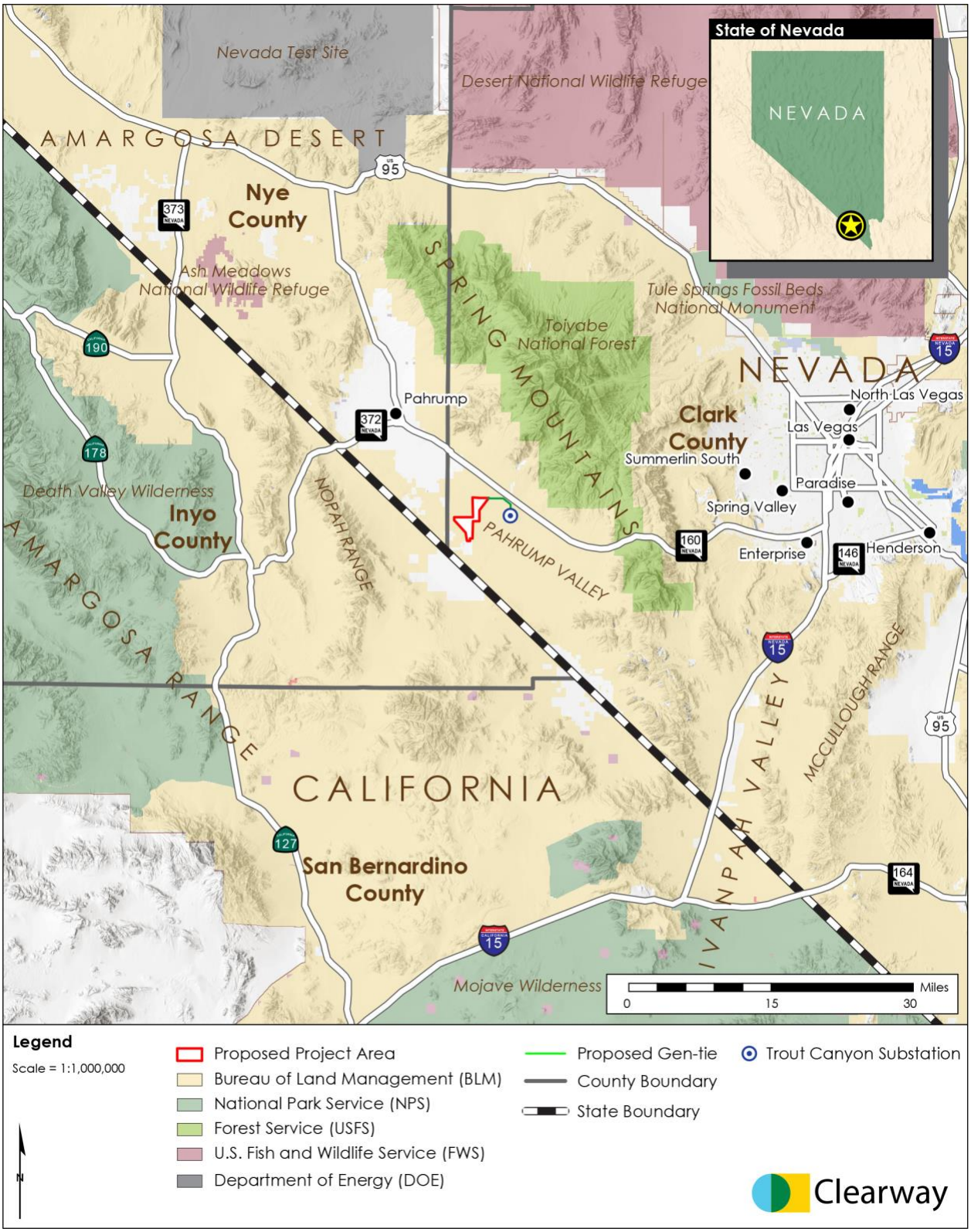


Figure 2 Project Elements (Aerial)

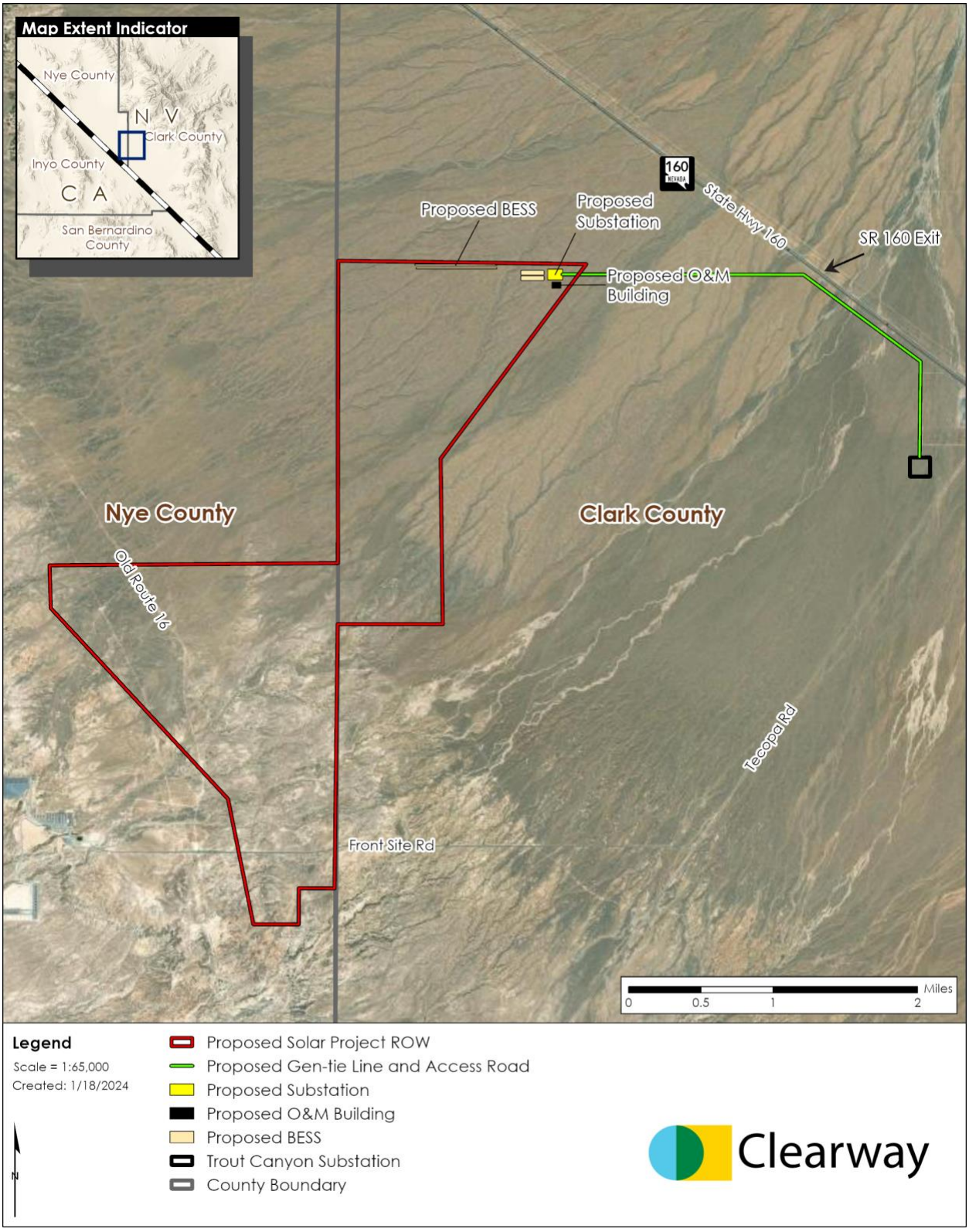
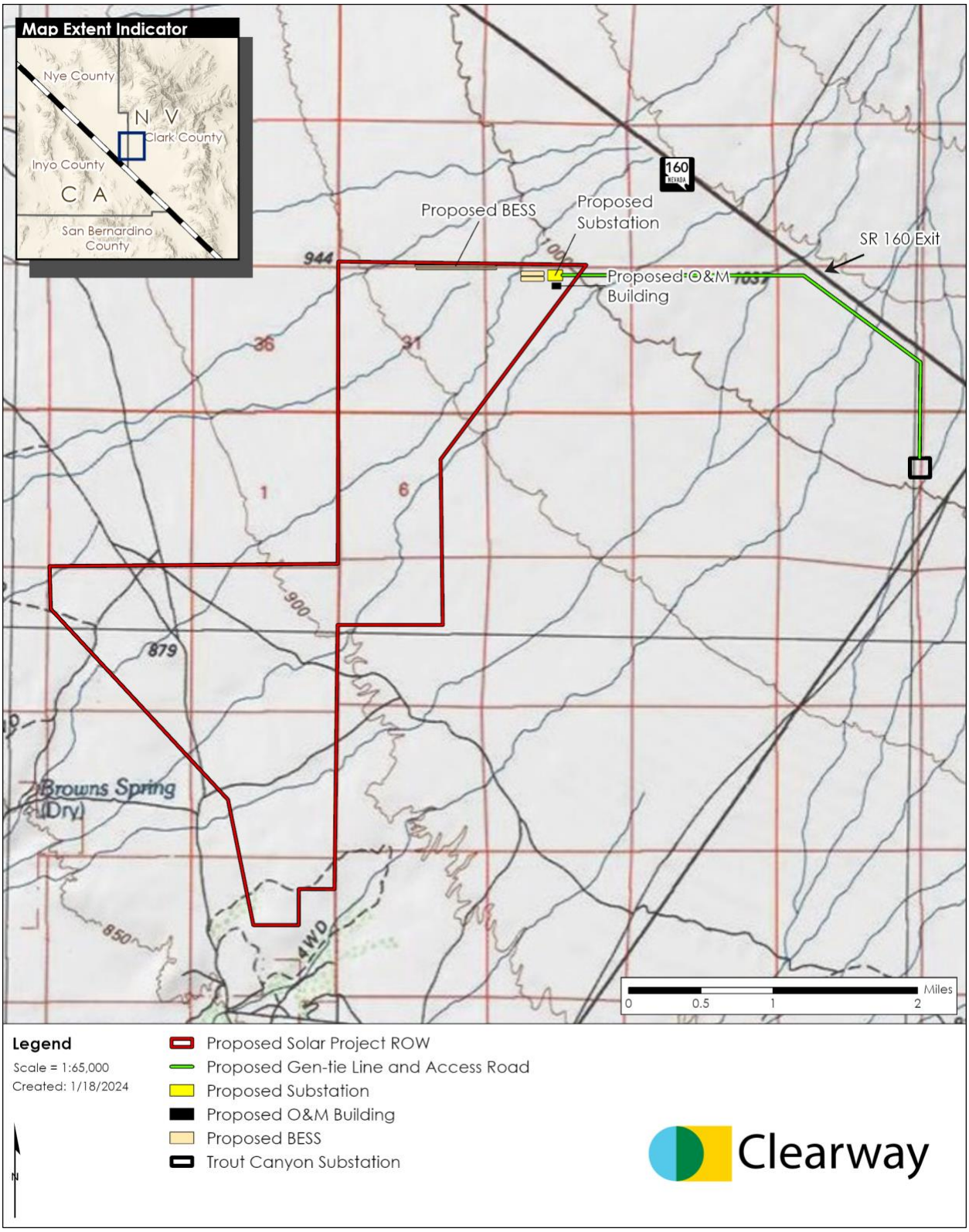


Figure 3 Project Elements (Topo)



approvals and permits have been obtained. Construction is expected to occur over an approximately 24-month period and would include the major phases of site preparation, solar facility construction, including PV array assembly, electrical collection and transmission system construction, and testing and commissioning. Construction is anticipated to commence in early 2027 and be completed by August 2029. The Project would be in operation for at least 35 years with the possibility of a subsequent repowering for additional years of operation.

Table 1 Project Schedule

Task	Date
SF 299 Application	November 2021
Cost Recovery Agreement executed	January 2023
Baseline Needs Assessment	January 2024
Variance/Data Collection	Q2-Q4 2024
Updated POD/Supplemental Information Report	Q3 2024-Q3 2025
Notice of Intent (NOI)	June 2025
Final EIS	January 2026
ROD	January 2026
ROW Grant	February 2026
Construction Start	January 2027
Commercial Operations	August 2029

1.2 Proponents Purpose and Need for the Project

The purpose of the Project is to provide a clean, renewable source of solar electricity to help meet the region's growing demand for power and fulfill national and state renewable energy and greenhouse gas emission goals. This Project could serve electricity users in Nevada and/or California. Nevada has recently updated its Renewable Portfolio Standard (RPS) to require that 25 percent of all electricity generated in Nevada be derived from renewable sources by 2025 and 50 percent by 2030. The State of California has updated its RPS to a requirement for California's electric utilities to have 50 percent of their retail sales provided by renewable energy resources by 2030. In September 2018, Senate Bill (SB) 100 further increased the overall RPS requirement from 50 percent to 60 percent by 2030. This legislation also adopted a goal of 100 percent from renewable energy and zero-carbon resources by 2045.

Specific Project objectives include:

- To establish a solar PV power-generating facility that is of sufficient size and configuration to produce 500 MWac of electricity in order to provide Nevada and California a significant new source of renewable energy to meet or exceed RPS targets.

- To produce and transmit electricity at a competitive cost and provide energy resiliency with battery storage technology.
- To locate the facility in Nye & Clark County in close proximity to other solar developments and near an available connection to the existing electrical distribution infrastructure on relatively flat terrain at sufficient scale to maximize operational efficiency.
- To use solar and battery technology that is available, proven, efficient, and easily maintained, recyclable, and environmentally sound.
- To minimize environmental effects by:
  - Avoiding Exclusion Areas identified in the Solar PEIS ROD;
  - Using existing electrical distribution facilities, rights-of-way, roads and other existing infrastructure where practicable;
  - Minimizing water use during operation; and
  - Reducing greenhouse gas emissions.
- To provide community benefits through new jobs, spending in local business, and additional sales tax revenues.

1.3 General Facility Description, Design, and Operation

1.3.1 Project Location, Land Ownership, and Jurisdiction

The Project site would be on up to approximately 3,523 acres of federal land managed by BLM in the Pahrump Valley in Nye and Clark County, Nevada. The Project is located approximately 40 miles west of Las Vegas and southeast of the Town of Pahrump. Front Site Road runs through the southern portion of the Project area. The Project would interconnect at the planned Trout Canyon Substation at the intersection of SR-160 and Tecopa Road approximately 4 miles east of the site. All Project facilities would be located on lands administered by the BLM. Figure 1 and Figure 2 illustrate the project location and its parcel boundaries.

Access would likely be along a new access road off of State Road 160 (part of the gen-tie access road) onto the Project Site. The site may also be accessed via Tecopa Road and Front Site Road. The access may be subject to the Nevada Department of Transportation (NDOT) approval for creation of the exit from within NDOT's ROW.

1.3.2 Legal Description

Solar Field Parcels

Township 21 South, Range 55 East, of the Mount Diablo Meridiam

Assessor's Parcel #	Acres	Section	Aliquot Parts
16800002023	632	31	SENE; NENE; NESE; SESE; L 1; L 2; L 3; L 4; SWSE; NWNE; NESW; SWNE; NENW; NWSE; SESW; SENW
16800002024	237	32	NWNW; NENW; NWNE; SWNE; NESW; SWNW; SWSW; NWSW SENW

Township 22 South, Range 55 East, of the Mount Diablo Meridiam

Assessor's Parcel #	Acres	Section	Aliquot Parts
17100001008	490	6	L 3; L 2; L 1; L 4; L 5; L 6; L 7; NESW; SENE; SWNE; SESW; SWSE; SENW; NWSE
17100001009	215	7	L 1; NENW; NWNE; L 2; SWNE; SENW

Township 22 South, Range 54 East, of the Mount Diablo Meridiam

Assessor's Parcel #	Acres	Section	Aliquot Parts
4710101	497	11	NENE; SESE; NESE; SENE; SENW; NWNW; NWSW; NESW; SESW; SWNW; NENW; NWSE; NWNE; SWSE; SWNE
4710101	647	12	L 2; L 1; L 3; L 4; SWSW; SENW; SWSE; NWNE; NESW; NWNW; SESW; NENW; SWNW; NWSE; NWSW; SWNE
4710101	40	14	NENE; SENE; NWNE
4710101	550	13	NWNE; L 1; NWNW; NENW; L 2; L 3; L 4; SENW; NESW; SWSE; NWSW; SWNW; NWSE; SESW; SWNE
4711104	156	24	NENW; NWNE; L 1; SWNE; SENW

Sections Crossed by Gen-Tie Route:

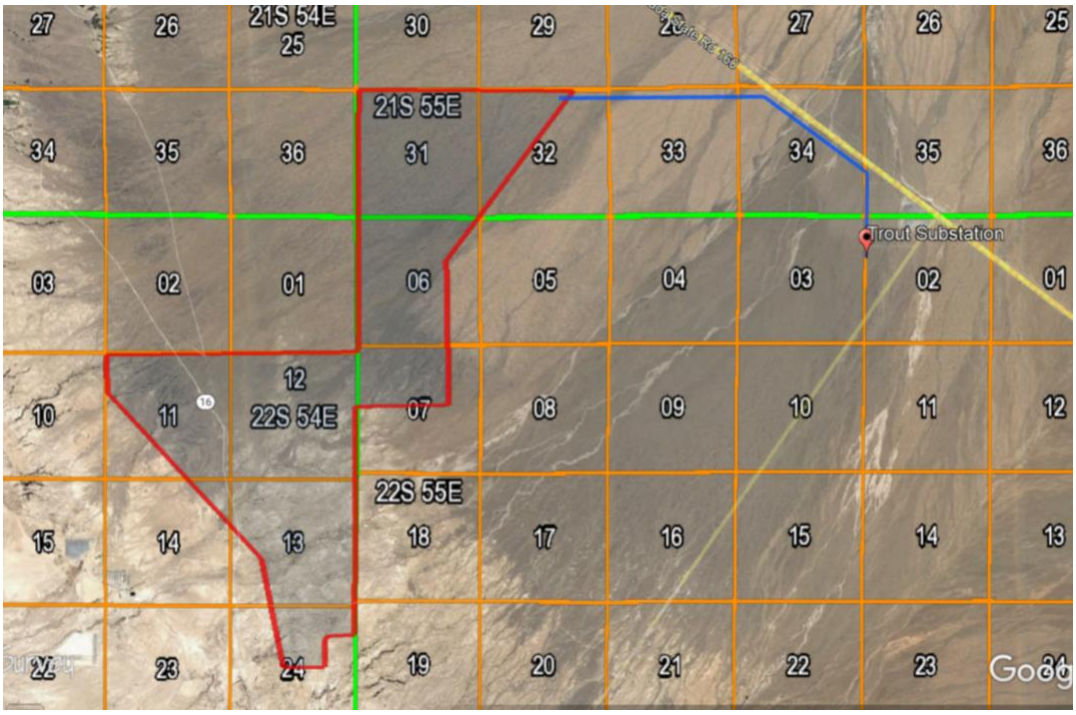
Township 21 South, Range 55 East, of the Mount Diablo Meridiam

Assessor's Parcel #	Miles	Section	Aliquot Parts
16800002024	0.4	32	NWNE; NENE
16800002025	1	33	NENE; NWNE; NENW; NWNW
16800002026	1.2	34	SWNE; NENW; NWNW; SENW; NESE; SENE
16800002026	0.3	35	NWSW; SWSW

Township 22 South, Range 55 East, of the Mount Diablo Meridiam

Assessor's Parcel #	Miles	Section	Aliquot Parts
17100001005	0.3	02	L 4; SWNW

Figure 4 Section, Township, Range Map of Application Area



1.3.3 Facilities Summary – Dimensions and Acreages

Table 2 lists Project facilities and the associated permanent and temporary range of typical disturbance acreages for the types of facilities identified. The Project site plans will be provided, and acreages revised once engineering is undertaken.

Table 2 Summary of Permanent and Temporary Disturbance and Facility Dimensions

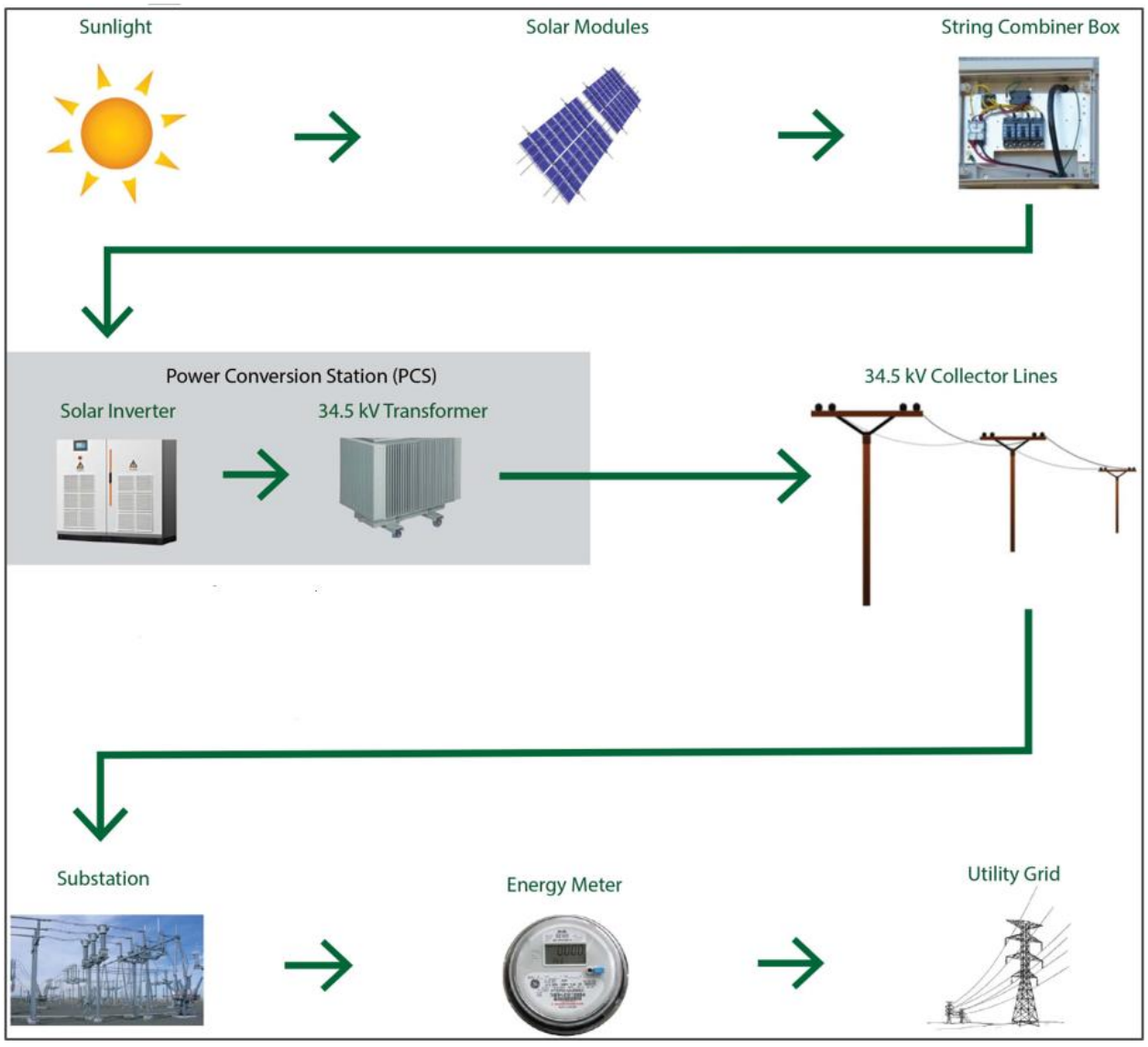
Disturbance Type	Typical or Approximate Disturbance Area	Notes
Permanent Disturbance Areas		
Solar Facility	3,465 acres	500-MWac PV solar facility. The maximum width of the solar facility is 3.6 miles. The maximum length is 4.5 miles.
Solar Arrays and Equipment	Approximately 2,218	Includes the solar PV panels, supporting tracker structures, associated wiring, and driven posts, as well as inverters and transformers within the arrays to support the 500 MWac solar facility. There are 1,162,404 modules with dimensions of 2285 mm long x 1134 mm wide.
O&M Building	Approximately 2 acres	Includes the O&M building, parking, and water tank storage, all within solar facility footprint. The O&M building would have a maximum height of approximately 35 feet and would be approximately 3,500 square feet in size (typical 50 feet long by 70 feet wide).
Battery Storage Component	Approximately 40 acres	Up to 850 MW of battery storage. Most likely located adjacent to the project substation. The battery systems will be in enclosures, similar in appearance to a shipping container. Enclosure size varies depending upon the manufacturer.
Substation/Switching Station	Approximately 5 acres	One on-site substation/switching station is needed, which typically occupy approximately 5 acres to house power transformers, containment pits, control buildings, circuitry, and other equipment. Dimensions of a substation are typically 500 feet wide by 500 feet long.
Access Roads for Solar Field and Utility Corridor	Approximately 65 to 170 acres	Roads would be graded and covered with gravel base or compacted soil. Roads typically occupy from 2 to 5 percent of the total solar facility area.
Gen-tie ROW	58.18 acres	Gen-tie is 3.2 miles long by 150-feet wide. A 150-foot ROW would be required.
Access Road along Gen-tie and Pole or Tower Foundations	8 acres	Access road is 3.2 miles long by 20-feet wide. Access road would fit within 150-foot gen-tie ROW.
Total	3,523.18 acres	The total permanent disturbance includes the 3,465 acres for the solar facility and 58.18-acre gen-tie, to be finalized by ALTA survey
Temporary Disturbance - All disturbances are expected to be within the permanent ROW for the Gen-tie line. A short-term ROW is not anticipated to be needed for the project. If temporary laydown or construction space is determined to be required in the future after survey and construction design advance a short-term ROW application will be submitted at that time.		
Gen-tie structure laydown, staging, and installation	Approximately 25 to 30 acres	Gen-tie structure laydown, staging, and installation within the permanent ROW areas for the solar facility and gen-tie.
Gen-tie line conductor stringing	Approximately 10 to 15 acres	Multiple pulling sites for gen-tie structures are anticipated that would fall within the permanent ROW areas for the solar facility and gen-tie.
Total	35 to 45 acres	

1.3.4 Project Facilities

Overview

Figure 5 shows how power is transferred from the solar array blocks to the grid. Each component of the system is described in detail in the following sections.

Figure 5 Flow Diagram of Power Generation



Source: Gemini Solar Project Plan of Development 2019

Solar Panel Arrays and Electrical Collection Systems

Solar Arrays

The Project would utilize high-efficiency commercially available solar PV modules that are Underwriters Laboratory (UL)-listed or approved by another nationally recognized testing laboratory. Commercial solar panels are typically 77 inches long by 39 inches wide but could be as long as 96 inches. Approximately 100 array blocks would be needed with each array block comprised of approximately 85 rows of panels. Materials commonly used for solar PV modules include monocrystalline silicon, polycrystalline silicon, amorphous silicon, cadmium telluride (CdTe), and copper indium selenide/sulfide. The Project would use solar PV modules mounted on single-axis, horizontal tracker mounting systems. The type of PV modules would likely be bifacial panels, which can absorb light from both sides of the panels, including energy reflected from the ground surface. Bifacial panels passively absorb light on both sides. Generally, traditional panels use polycrystalline materials, and bifacial panels use monocrystalline cells. Both types can have antireflective coating added to reduce glare. Mounted PV modules, inverters, and transformers would be combined to form array blocks.

The vertical support legs for the tracker mounting system consists of driven posts (wide flange I-beam) approximately 6 to 8 inches across and 6 to 12 feet deep. Posts in some areas of the solar array may need to be deeper based on hydrologic conditions or other soils constraints.

With a horizontal tracker mounting system, the panel arrays are arranged in north-south oriented rows and drive motors would rotate the horizontally-mounted solar panels from east to west to follow the sun (on a single axis) throughout the day. Solar array rows are typically spaced 20 feet (6 meters) apart. In this type of system, each tracker panel row could range from approximately 140 feet (43 meters) to 330 feet (101 meters) long and powered by a low-voltage solar-powered drive motor. The motors and actuator are mounted to one of the driven posts and do not require separate foundations for mounting. The top edge of the panels, when in their most vertical position, are approximately 12 to 15 feet off the ground.

Battery Storage Component

An up to 850 MW BESS will be located within the site. The BESS will consist of battery racks most likely adjacent to the on-site substation, but could be dispersed throughout the solar field, adjacent to the inverters. Battery storage will be used during periods of excess generation to store power until the customer, or the system determines release of the power to be more valuable. The battery systems will be in enclosures, similar in appearance to a shipping container and are configured as a climate-controlled enclosure for batteries. Enclosure size varies depending upon the manufacturer. The climate control system will be powered by the plant power and potentially a backup integrated system, generator, or connection to the grid. Each unit will include a fire detection and suppression system that would shut off the battery systems in case of a thermal runaway event, preventing fire propagation. Spent batteries will be sent off-site to be recycled in accordance with manufacturer recommendations. A sample image of a solar facility BESS is shown in Figure 6.

Figure 6 Typical BESS

Meteorological Stations

Up to ten meteorological stations may be installed across the solar development area and near the O&M facilities to monitor wind speed and communicate with the tracker units. Monitoring would allow for the trackers to rotate to a flat position to reduce the potential for damage during high wind activity 1. The stations are approximately 90 inches tall, 24 inches wide, and made of dulled stainless steel.

DC Collection System to AC Transformers

PV modules convert sunlight into DC electricity. One or more combiner boxes would be located in the array block to collect the DC electricity from PV modules. A PCS containing inverters and medium voltage transformers, as well as other electrical equipment would serve approximately four array blocks. The inverter converts DC generated by the solar arrays and collected at the combiner box into AC. From the inverter power is then passed through transformers to convert the low voltage output from the inverters to high voltage (34.5 kV AC) that is suitable for exporting onto the electricity distribution network. Each PCS also would contain communication equipment to communicate with the tracker units to control operation and detect anomalous conditions. All electrical equipment would be housed in protective containers typically 10 feet wide by 20 feet long, on concrete or pier mounted equipment pads. A photograph of a typical PCS is shown in Figure 7.

[1] High wind activity is defined as sustained winds of 30 miles per hour (mph) (48 kilometers per hour [kph]) for one hour and/or frequent gusts of at least 45 mph (72 kph) that are occurring or expected within the next 36 hours (NOAA 2018).

Figure 7 Photographs of a Typical Power Conversion Station/Inverter

Source : (Luminous Energy, n.d.)

Source: (Fotowatio Renewable Ventures , 2017)

34.5 kV AC Collection System

A 34.5 kV AC collection system would convey electricity from the PCSs to the on-site substation where electricity would be stepped up to 230 kV to connect to the Trout Canyon Substation.

The 34.5 kV AC collection system will comprise both underground and overhead cabling. The feeder lines will be direct buried leading to the medium-voltage collector lines that will be installed overhead on poles. Each 34.5 kV circuit will feed electricity from each array block and a PCS, which will then be aggregated at the substation. Underground feeder line 34.5 kV cables

will be installed to comply with the minimum burial depth in accordance with the National Electrical Code directly in the ground. The feeder lines will be installed in a trench or overhead along the internal roads between solar arrays. Overhead 34.5 kV collector lines will be installed as double-circuit lines on wood or steel poles with cross-arms and post insulators (typical of medium voltage installations in electric distribution systems). Poles will have a diameter of approximately 18 inches and a height of up to 75 feet tall. The collector system cables will be installed in a linear arrangement generally following the array blocks and connecting to the on-site substation.

On-Site Substation/Switching Station

One substation will be developed within the Project site within an approximately 5-acre area. The substation will be constructed based on applicable electrical safety codes. The substation will be separately fenced and grounded to provide increased security and protection around the medium and high voltage electrical equipment. The substation area will include a transformer containment area, a microwave tower, a control house, and four transformers. Containment measures for all substation equipment will be provided in accordance with Environmental Protection Agency 40 Code of Federal Regulations (CFR) Part 112 and all applicable codes required by the local, state, and federal governing authorities.

The transformer containment area will be lined with an impermeable membrane covered with gravel and will include a drain with a normally closed drain valve. Transformers will be provided with secondary oil containment equal to 110 percent of the volume of oil present in the transformer in addition to the volume of rainwater for a 25-year, 24-hour rainfall event. All other equipment in the substation will be placed on concrete foundations, or equivalent engineered substrate per engineering specifications. The remaining area within the substation fence will be covered in aggregate, road base, or other appropriate materials to minimize dust and disturbance.

Operations and Maintenance Facility

The Project may include an O&M area consisting of a permanent O&M building that would house administrative, operation, and maintenance equipment and personnel and will have an adjacent parking area, occupying approximately 2 acres. The O&M building would have a maximum height of approximately 35 feet and would be approximately 3,500 square feet in size (typical 50 feet long by 70 feet wide). Parking areas would be up to 100 feet by 100 feet in size. Additional components of the O&M area could include a laydown and storage area, a warehouse, trash containers, water storage tanks (for potable and potentially fire protection usage), and a septic field. The O&M area will be equipped with exterior lighting. The O&M building will also include communication equipment and a storage and equipment area. It will contain offices, toilets and other features necessary for habitation on a daily basis, such as janitorial/cleaning closets, a kitchen, and HVAC systems. The design and construction of this building will be consistent with applicable county building standards.

Site Security and Fencing

The solar field and support facilities perimeter will be secured with chain link metal-fabric security fencing. Controlled access gates will be located at the site's entrance. The perimeter fence will be an approximately 6- to 7-foot-high chain link fence, installed on posts, with three-strand barbed-wire at the top, with grounding, where needed. The perimeter security fence will have permanent tortoise exclusion fencing incorporated and trenched into the ground, see Figure 7. Permanent tortoise exclusion fence material will be galvanized 1-inch by 2-inch vertical wire mesh fence, extending at least 2 feet above the ground and 12 inches into the ground, as shown in 8. Design will follow the current recommendations for fence specifications established by the US Fish and Wildlife Service (USFWS). A tortoise barrier guard will be required across every access road entrance into the solar facility. Breakaway fencing may need to be used at drainages.

Figure 7 Example Tortoise and Security Fencing

Source: (Phoenix Biological Consulting, 2018b)

Site Access and Roads

Regional access to the Project site is provided from State Route 160. Project-related roads for direct access to the site include the Project access way, perimeter road, and solar field access ways. An access road would be constructed off of SR-160, as shown in Figure 2. The access road would be approximately 1.64 miles long and would parallel and also serve the gen-tie. The access road would be graded compacted earth and would be used during construction and operation. The road would be approximately 20 to 30 feet wide. If determined necessary by the Project, for dust control purposes, the access way may be upgraded to aggregate or paved surface.

A new perimeter road would be located just inside of the site's perimeter fence and within the solar field area around specific blocks of equipment. The perimeter road will be constructed to allow access by maintenance and security personnel. This road would be approximately 20 feet wide and would be composed of graded/compacted dirt or an aggregate base in some or all

areas to meet Project dust and flood control requirements. Within the solar field, new interior roads would be built to provide vehicle access to the solar equipment (PV modules, inverters, transformers) for O&M activities. These access ways would be approximately 20 feet wide and approximately every 1,320 feet across the solar field. The existing surface area would be graded and compacted using onsite materials to facilitate use by two-wheel-drive vehicles. The solar field access ways will connect to the perimeter road at each end of each access way.

Where internal access roads cross drainages, cutoff walls and fill material may be needed to stabilize the road crossings.

Water Facilities

Water would likely need to be purchased from a commercial source and trucked in, where it would need to be stored in on-site water storage tanks, or an on-site well could be constructed. Numbers and locations of wells or tanks will be finalized as design and construction plans advance. Purchase of existing water rights in the basin and associated permitting would be required in order to utilize an on-site well.

Wastewater Facilities

Wastewater generated during construction would include sanitary waste from portable toilets. The waste from portable toilets would be collected by a contracted sanitary disposal service and transported to a licensed disposal facility.

Lighting and Facility Power

Permanent lighting would be provided within the substation and at the Project entry gate. Small domestic fixtures would also be placed at other electrical equipment as required by applicable codes. Lighting for facilities and associated infrastructure would be shielded to keep light downward and within the boundaries of the Project site and the minimum amount and intensity necessary for the intended use. Night lighting would be controlled or reduced using directed lighting, sensors, shielding, and/or reduced lumen intensity. The Applicant would prepare a Lighting Plan for construction and operation of the Project which will conform to Night Skies protocol.

The O&M facility, monitoring systems, and lighting would likely be powered by solar power, with a minimum 12-hour battery storage unit (approximately 5 foot by 5 foot in size), and a 250 to 300 kVA diesel generator as backup of the same size.

1.3.5 Waste and Hazardous Materials Management

The primary wastes generated at the Project during construction, operation, and maintenance would be nonhazardous solid and liquid wastes. The types of wastes and their estimated quantities are discussed below and summarized in Table 3. The Applicant would prepare a Hazardous Materials and Waste Management Plan, as well as a Spill Prevention, Control, and Countermeasure Plan, which would address waste and hazardous materials management, including Best Management Practices (BMPs) related to storage, spill response, transportation, and handling of materials and wastes.

Limited quantities of hazardous materials would be used and stored on-site for construction and O&M activities. Table 4 lists the anticipated hazardous materials that would be stored and used on-site. Safety Data Sheets (SDSs) for each of these materials would be provided in the Spill Prevention, Control, and Countermeasure Plan.

Table 3 Wastes Potentially Generated by the Project

Waste	Origin	Composition	Estimated Quantity Construction[1]	Estimated Quantity O&M[2]	Classification	Disposal
Scrap wood, steel, glass, plastic, paper	Construction activities	Normal refuse	TBD	N/A	Nonhazardous	Recycle and/or dispose of in industrial or municipal landfill
Scrap metals	Construction activities	Parts, containers	TBD	N/A	Nonhazardous	Recycle and/or dispose of in industrial or municipal landfill; wood pallets may be returned for re-use
Empty hazardous material containers	Operation and maintenance of plant	Drums, containers, totes [3]	N/A	TBD	Hazardous and nonhazardous solids	Containers <5 gal would be disposed as normal refuse. Containers >5 gal would be returned to vendors for recycling or reconditioning.
Waste oil filters	Construction equipment and vehicles	Solids	TBD	N/A	Used Oil	Recycle at a permitted Treatment, Storage, and Disposal Facility (TSDF)
Oily rags, oil sorbent excluding lube oil flushes	Cleanup of small spills	Hydrocarbons	Unknown	TBD	Used Oil	Recycle or dispose at a permitted TSDF
Waste oil	Equipment, vehicles	Hydrocarbons	Unknown	TBD	Used Oil	Dispose at a permitted TSDF
Sanitary waste	Portable toilet holding tanks	Solids and liquids	TBD	N/A	Nonhazardous liquid	Remove by contracted sanitary service

[1] Over the entire construction period.
[2] Annually
[3] Containers include <5-gallon containers and 55-gallon drums or totes

Table 4 Hazardous Material Use

Hazardous Material	Storage Description; Capacity	Storage Practices and Special Handling Precautions
Gas and Diesel Fuel (for equipment)	Fuel is likely to be stored in and dispensed from aboveground tanks with capacities in the range of 500 to 2,000 gallons (1.9 to 7.6 cubic meters).	Would be managed in accordance with the Spill Prevention, Control, and Countermeasure Plan.
Lubricants	Amounts on-site only sufficient to maintain fluid levels and perform preventive maintenance.	Would be managed in accordance with the Spill Prevention, Control, and Countermeasure Plan.
Mineral Insulating Oil	Carbon steel transformers; total on-site inventory TBD.	Used only in transformers; secondary containment for each transformer would be managed in accordance with the Spill Prevention, Control, and Countermeasure Plan.
Propane	Generator-based emergency back-up power at each of the nine PCS shelters (or one centralized generator); tanks at PCS would be sized between 20 and 100 gallons (0.08 and 0.38 cubic meter or 1000 gallons [3.8 cubic meters] if one centralized tank).	Would be managed in accordance with the Spill Prevention, Control, and Countermeasure Plan.
Galvanized Paint	Traditional zinc based galvanized paint will be utilized to prevent metallic corrosion	All containers will be removed offsite and managed in accordance with MSDS
Herbicide; Pesticide	Brought on-site by licensed contractor; used immediately.	No mixing would occur on-site and no herbicides would be stored on-site.

1.3.6 Fire Protection

The Applicant would prepare and implement a Fire Protection and Prevention Plan. The Project's fire protection water system used during operation would be supplied from a water storage tank, as previously described. The electrical equipment enclosures that house the inverters and transformers would be either metal or concrete structures. Any fire that could occur would be contained within the enclosures, which would be designed to meet National Electric Manufacturers Association (NEMA) 1 or NEMA 3R IP44 standards for electrical enclosures (heavy duty sealed design to withstand harsh outdoor environmental conditions).

A fire protection water system would be installed at the O&M area to support emergency fire response. The fire protection water system would be supplied by either an off-site water supply line or a water tank, holding a minimum of 2-hours of full flow run-time. A piping network would be configured to supply potable and fire supply water to the O&M building. If a water tank is used, one electric and one diesel-fueled backup firewater pump would deliver water to the fire protection piping network. Sprinkler systems, if required, would be installed O&M building and fire pump enclosure as required by National Fire Protection Association (NFPA) and local fire code requirements.

The design, construction, and operation of the energy storage system would follow applicable fire and building codes for its safe design, construction, and operation. The system would be Underwriters Laboratories (UL) tested and would comply with National Fire Protection Association (NFPA) requirements. The Applicant would comply with the more stringent of local code and NFPA 855-2023 to mitigate risks of fires or rapid combustion in BESS units. NFPA 855 is the industry standard fire code and employs a practical large-scale fire test called UL9540A to demonstrate the efficacy of fire detection, suppression, and deflagration management.

The exact fire mitigation system to be used would vary by manufacturer, but any system that complies with NFPA 855 will have a fire suppression system, an NFPA 72 compliant central station fire alarming system and deflagration management complying with NFPA 68/69. Methods used in fire suppression systems include the use of dry agents (e.g., CO2, FM-200, Novec 1230), water mist, high pressure water and a passive fire containment method. The use of dry agents provides rapid fire suppression, but may not address thermal runaway events, as they can be ineffective in extinguishing fires fueled by the high heat and chemical reactions involved in battery thermal events. Water-based interventions can extinguish fires, but risk creating toxic runoff and require significant volumes of water. A code-compliant passive fire containment method primarily uses field-tested spacing between units, which allows the fire to burn while venting gases and preventing fire propagation, leaving only ash for easier cleanup, and reduced environmental impacts.

1.3.7 Health and Safety Program

The Applicant would require that all employees and contractors adhere to appropriate health and safety plans and emergency response plans. All construction and operations contractors would be required to operate under a Health and Safety Program (HASP) that meets industry standards. All site personnel would be required to go through a new hire orientation and follow a Worker Education and Awareness Plan (WEAP), which would address Project-specific safety, health, and environmental concerns.

1.3.8 Stormwater Management

Major existing Federal Emergency Management Agency (FEMA)-designated floodplains on the Project site would be avoided where feasible, except for roadway crossings, and the Project would be designed and engineered to maintain the existing hydrology. Off-site flows to the Project site come from the south. Runoff generated on-site would be conveyed as sheet flow across the site in level areas of the site, similar to existing conditions and in incised drainages through other parts of the site. On-site, incised ephemeral drainages (jurisdictional drainages) would not be filled or altered to an extent that flow patterns would be changed offsite. Post-construction flows would follow the same general drainage patterns as existing conditions. The soil is very permeable so following the natural terrain would allow for maximum infiltration thereby reducing runoff.

1.3.9 Vegetation Management

The project may maintain vegetation on-site. The Applicant would address operational and post construction vegetation management including management of native species, and control of non-native and noxious weeds as part of a BLM approved Site Restoration Plan and Integrated Weed Management Plan for the Project. The Site Restoration Plan and Integrated Weed Management Plan would be prepared in accordance with the Las Vegas Resource Management Plan (BLM 1998) and the interagency guidance Partners Against Weeds (BLM 1996) for an active weed management program. A Pesticide Use Proposal (PUP) would be prepared and approved by the BLM prior to their use.

Herbicides would be one of the methods employed to control weeds throughout the site. The PUP prepared for the Project would provide the exact specifications involved with herbicide application including the type of herbicide(s) proposed for use, method of application, and quantities of herbicide. Herbicide use would be conducted in accordance with BLM Manual 9011: Chemical Pest Control and BLM Handbook H-9011-1: Chemical Pest Control, and as covered under the RODs for the BLM's Programmatic EIS (PEIS) for Vegetation Treatments Using Aminopyralid, Fluroxypyr, and Rimsulfuron on BLM Managed Lands in 17 Western States (BLM, 2016), which is tiered from the PEIS for Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States (BLM, 2007). The Applicant's Site Restoration Plan and an Integrated Weed Management Plan would specify the procedures for managing vegetation and minimizing the spread of non-native and noxious weeds, including integrated pest management and use of herbicides. Standard Operating Procedures (SOPs) from the Vegetation Treatments PEIS (BLM, 2016), would be incorporated into the Integrated Weed Management Plan and implemented.

1.4 Alternatives Considered by Proponent

Other site options for the solar site and route options for the gen-tie were considered for the Project. Site options, constraints, and existing applications were discussed with BLM during several expression of interest (EOI) calls, for this region, in the vicinity of the point of interconnection (Trout Canyon Substation). After evaluating the environmental, topographic, geographic, and social considerations for the region, the proposed Mosely Solar Project site was selected as the optimal location. Any other potentially viable solar sites or gen-tie routes would be evaluated as part of the NEPA process for this Project.

Alternative sites were considered north of Highway 160 but were eliminated after discussions with BLM given the importance of that area for desert tortoise movement. Areas to the west in California were also investigated; however, land ownership within these areas presented challenges and would result in a longer gen-tie into Nevada. Alternative technologies, such as solar thermal, were not considered as these technologies are more visible, utilize much more water and are generally more environmentally damaging than the proposed PV solar facility. Alternative methods of construction may be considered during the NEPA process, such as minimizing grading, and keeping land contours, vegetation, and hydrology, where feasible.

1.5 Other Federal, State, and Local Agency Permit Requirements

Table 5 provides a list of federal, state, and local permits, authorizations, or inter-agency consultations that may be required for the Project.

Table 5 Federal, State, and Local Permits and Authorizations

Federal Permits, Authorizations, or Inter-Agency Consultations
United States Department of the Interior, BLM • ROW grant under Title V of the Federal Land Policy and Management Act • EIS and ROD to support issuance of ROW grant • RMPA
United States Department of the Interior, BLM and State Historic Preservation Office/Advisory Council on Historic Preservation • BLM/State Historic Preservation Office, National Historic Preservation Act Section 106 Consultation • 18 United States Code (USC) Section 841-848; 27 CFR 181
United States Department of the Interior, Fish and Wildlife Service • Endangered Species Act Section 7 Consultation and Biological Opinion/Incidental Take Statement
United States Army Corps of Engineers • Permits (Nationwide Permits 14, 33, and 57) for the discharge of dredged and/or fill material into waters of the United States under Section 404 of the Clean Water Act
State of Nevada Permits or Authorizations
Nevada State Historic Preservation Office • BLM/State Historic Preservation Office, National Historic Preservation Act Section 106 Consultation
Nevada Department of Wildlife • Implementation of terms and conditions of the Biological Opinion • Fund for the Recovery of Costs • Special Purpose Permit (for subcontractor)
Nevada Division of Environmental Protection • Prevention of Significant Deterioration Program, Major Source Permit • General Stormwater Permit for Construction Activities (Notice of Intent and General Permit) • Section 401 of the Clean Water Act Water Quality Certification • General Stormwater Discharge Permit • Working in Waters Permit • Wastewater Discharge Permits
Nevada Public Utilities Commission • Nevada Utility Environmental Protection Act Permit to Construct
Nevada Department of Motor Vehicles and Public Safety • Longer Combination Vehicle Permit
Nevada Highway Patrol • Amber Light Permit • Hazardous Material Permit
Nevada Department of Transportation • Permanent and Temporary Occupancy Permits • Over-Dimensional Vehicle Permit

Southern Nevada Permits
Southern Nevada Health Department • Permanent Commercial Holding Tank or Septic Permit
Clark and Nye County Permits
Clark County Department of Air Quality • Dust Control Permit
Clark County Regional Flood Control District • Drainage Study Review
Clark County Department of Comprehensive Planning • Special Use Permit • Development Agreement
Clark County Department of Building and Fire Prevention • Various grading, building, electrical, fencing, structural, hazardous material storage and fire-related permit
Nye County Regional Flood Control District • Flood Damage Prevention Permit/Letter • Flood Elevation Certificate (Nye County has delegated authority for FEMA) • Stormwater Discharge Permit – NOI (Nye County has delegated authority for EPA)
Nye County Development Services Department • Special Use Permit • Master Traffic Impact Analysis • Technical Drainage Study • Permitted Use, Height, and Size of Structures • Landscape and Buffer Plan • Lighting Management Plan • Decommissioning or Bonding Plan
Nye County Public Works Department • Encroachment Permit • Temporary Sign Permit • Grading and Drainage Permit • Site Structural Permit • Site Electrical Permit • Construction Trailer Permits • Substation Permit • Gen-Tie Permit • Occupancy Approval (Nye County administers for State Fire Marshall) • Emergency Response and Hazardous Materials Protocol Plan • Fire Protection Training

1.6 Financial and Technical Capability of the Proponent

Clearway Renew LLC owns 100% of Renew Development HoldCo LLC. Renew Development HoldCo LLC is technically and financially capable of completing the project described in this application.

Clearway is one of the largest renewable energy companies in the United States, with nearly 6 GW in operation across 26 states and a nationwide pipeline of over 20 GW of assets.

Clearway has over a decade of experience developing, financing, owning, operating and selling power from renewable energy projects - from clusters of small-scale community solar projects to some of the largest wind farms and solar plants across the United States. We have completed more than $11 billion in financings over the last few years to support the construction of more than 200+ projects. Clearway has proven expertise in delivering renewable power under long-term offtake contracts to corporations, governments, and investor-owned utilities to deliver clean, reliable, and cost-effective energy.

Clearway is a full-scope development and operations platform. We actively participate in every stage of the lifecycle of our projects from origination and development, through construction and financing, to commercial operations and long-term ownership. Clearway strives to create enduring relationships with our customers, counterparties, affiliates, and stakeholders.

The Clearway team offers a diverse range of experience, including longtime solar and wind industry leaders, energy engineers, project developers, investment specialists, and experts in environmental issues, permitting, interconnection, transmission and power plant operations. The Clearway team-members are equipped and able to prioritize the success of the proposed project and have extensive experience in their assigned specializations and roles on comparable projects.

2 Construction of Facilities

2.1 Overview of Construction Schedule and Sequence

Major project construction is expected to occur over approximately 24 months, including an initial phase of temporary desert tortoise fence installation and tortoise clearance, followed by full construction. Full commissioning of the Project would be in August 2029.

Construction phases will overlap. Construction will include the major activities of pre-construction work, including site surveying and staking, geotechnical investigations and desert tortoise fencing and clearance, followed by mobilization, construction grading and site preparation, installation of drainage and erosion controls, PV panel/tracker assembly, solar field construction, and then testing and commissioning. Some aspects of construction may be initiated off-site including pre-fabrication activities specific to the site along with main power transformer construction that is specific to the site. Some aspects of construction will need to be coordinated with other entities, such as the commissioning of the gen-tie into Trout Canyon Substation.

2.2 Site Surveying and Staking

A licensed professional land surveyor conducted a land survey of the Project to stake/flag the ROW boundaries, work areas (permanent and short- term use), cut and fill zones, access roads, structures, and offsets. Survey and staking will continue through the initial construction stages as the site is graded and prepared for facility installation to mark locations of foundations, piers, gen-tie structures and other site structures as necessary for construction. Staking/flagging will be maintained until final cleanup and/or reclamation is complete, after which all survey staking will be removed. Staking and flagging is typically performed using wood lathe and colored flagging.

2.3 Geotechnical Investigations

A design-level geotechnical investigation would be performed including additional subsurface evaluation and laboratory testing prior to construction. The geotechnical investigation would allow for the development of a geological profile and the characterization of soils conditions that could affect the engineering design. The geotechnical investigation provides information on rock, soil strata, bearing capacity of soils (which dictates depth of piles), compaction and swelling potential, corrosion potential, thermal and electrical resistivity, and infiltration.

Geotechnical investigations typically include a series of borings and test pits, as well as a second phase that include driving test piles. A more specific geotechnical investigation design would

be prepared after Project approval but prior to construction that identifies the locations, methods of access, and timeline for the geotechnical investigations. If geotechnical investigations are performed before desert tortoise fencing and clearance, biological monitors will need to support the effort.

2.4 Desert Tortoise Fencing and Clearance

After project staking, desert tortoise fencing will need to be installed. The fencing would be installed in accordance with a Flagging, Fencing, and Signage Plan. Fencing is typically installed prior to the desert tortoise clearance periods of either April and May or September and October. Temporary tortoise fencing will be installed by trenching in the fence, which can later be attached to the permanent security fencing. Once fencing is installed, desert tortoise clearance surveys will be performed in accordance with the Projects Biological Opinion and Translocation Plan. All tortoises found would receive health assessments according to the guidelines in the USFWS's *2016 Health Assessment Procedures for the Mojave Desert Tortoise (Gopherus agassizii): A Handbook Pertinent to Translocation* (USFWS, 2016). Tissue samples (blood and oral mucosa) would be collected and submitted for disease analysis. Radio transmitters may also need to be affixed to all tortoises over approximately 90 millimeters in length so that the animals can be easily located for future translocation.

2.5 Mobilization and Establishment of Temporary Facilities for Construction

Temporary construction workspace, laydown, and mobilization areas would be established after tortoise clearance. The Project construction contractor would develop a temporary construction mobilization and laydown area at the location of the O&M building, or other centralized location(s)that would include temporary construction trailers with administrative offices, construction worker parking, temporary water service and fire water supply holding tanks, temporary construction power services, tool sheds and containers, as well as a laydown area for construction equipment and material delivery and storage and parking. This area would be up to 5 acres (2 hectares) in addition to the O&M area and adjacent to it. Permanent access roads would be used for temporary laydown as the solar field is developed, allowing for the O&M building and facilities to be constructed. Other laydown yards may be established along roads throughout the facility. These facilities would typically be approximately 2 acres in size and up to 10 yards may be needed.

2.6 Site Preparation

2.6.1 Site Clearing, Grading, and Excavation

Environmental clearance surveys would be performed at the Project site prior to commencement of construction activities.

The level of site disturbance has not been determined for the Project. Under typical construction methods for a solar site, the Project site is cleared and grubbed of vegetation. Cactus and yucca present within the permanent Project areas would be counted and fees paid for their destruction to the BLM. If a construction method that generally leaves vegetation in place is required for the Project, only the areas of permanent disturbance such as along internal access roads, laydown yards, the substation, the O&M facilities, and equipment areas will be cleared and grubbed.

Initial site preparation involving vegetation clearing, grubbing, and grading would utilize excavators, graders, scrapers, dump trucks, back-hoes, compactors, loaders, pick-ups trucks, water pulls/trucks, and maintenance trucks. Most of the site clearing efforts would be completed within several months of commencement of construction activities. Other clearing would be ongoing throughout construction and could include excavation and backfill for foundations, underground wiring, duct banks, and other associated facilities.

Site clearing and grading would occur after the perimeter erosion and sediment control measures have been installed. Excavation activities include trenching for the installation of electrical collection systems, communication lines, and structural foundations. Clearing, grading, and excavations are required for the perimeter fencing, gates, tortoise guards, substation area preparation, and laydown yard preparation. The civil design site plan would contain details for the grading and drainage design of the overall site.

2.6.2 Gravel, Aggregate, and Concrete

Concrete will be poured in place for equipment and building foundations, fence footing, and miscellaneous small pads. BLM-approved aggregate material would be used for trench backfill. The surface of the O&M parking lot would be paved, and substation areas would be gravel. Gravel/aggregate may also be used for the road systems, where approved and needed.

2.7 Solar Facility Construction

2.7.1 PV Solar Array Assembly and Construction

Within each area designated for PV equipment, the construction sequence will follow a generally consecutive order:

1. The construction of the solar field will proceed by array. Within each array, materials for each row of PV modules will be staged next to that row. Prepare trenches for underground feeder line cable;
2. Install underground feeder line cable;
3. Backfill trenches;
4. Install steel foundation posts and tracker structures;
5. Install PV modules;
6. Install concrete footings for inverters, transformers, and substation equipment;
7. Install inverter and transformer equipment;
8. Perform electrical terminations; and

9. Inspect, test, and commission equipment.

Cable trenches will be used to provide underground connection of Project equipment. Trenches will contain electrical conductors for power generation and fiber optic cables for equipment communication. The feeder lines will be installed in a trench approximately 8 inches (20 centimeters) wide and 30 inches (76 centimeters) deep. The assembled solar equipment will be installed on steel posts to which steel tracker structures will be attached. Trucks will be used to transport the PV modules to the solar field, and skid steers (lightweight tracked vehicles) will bring the modules into the rows. A small mobile crane may be used to assist construction workers in setting the solar modules on the driven steel posts. Final solar field assembly will require skid steers, small cranes, tractors, and rubber-tired forklifts.

2.7.2 Electrical Collection System Construction

The electrical collection system within the solar facility will be comprised of a 34.5 kV system. Portions of the system may be installed underground or overhead. Underground construction would be in duct banks, as described under Section 1.3.4. For overhead installation, smaller wood or steel poles used for the overhead 34.5 kV medium voltage collector line will be spaced approximately 150 feet apart and will be embedded into the ground to a depth of at least 10 percent of the pole height. Installation of wood poles is anticipated to require auguring holes. Aggregate or high strength backfill will be compacted with a pole tamper to stabilize the installed poles. Angle points and dead-ends on the 34.5 kV collection line will be supported using down-guy anchors or may require steel poles supported by steel-reinforced poured pier concrete foundations.

Poles will be placed onto their foundations (for wood placed into their holes) using digger-derrik line trucks or truck mounted crane trucks. In some cases, a specialized crane may be used to set steel structures or long poles. The poles will be supported with the pole grabber on the digger derrik line truck or special rigging (as required), if a crane is used as necessary, during backfilling, tamping or bolting to the foundation to ensure correct pole seating.

It is anticipated that overhead conductors will be installed one phase at a time, with all equipment in the same operational place until all three-phases of the overhead circuit are strung. Ground rods will be hammered into the earth with a jackhammer or hammer device attached to a small excavator (such as a Bobcat). Typical ground rods are 8 to 12 feet (2.4 to 3.7 meters) long.

2.7.3 Substation Construction

Construction of the onsite substation would be initiated with grading, installation of grounding grid and underground conduit, backfilling, and compaction. Concrete foundations and containment systems would then be installed followed by electrical structural equipment including lightening protection. High voltage transformer(s), breakers, and other equipment enclosures would be installed on foundations. Fencing would be installed around the entire substation site. Underground and overhead cabling would be installed and terminated with inspection, testing and commissioning of equipment conducted at energization per the

Interconnection Agreement. Additional drainage systems would be constructed, as needed and approved.

2.7.4 BESS Construction

Construction of the BESS would be initiated with grading and compaction. Concrete or steel pier foundations and containment systems would then be installed followed by installation of BESS containers. The BESS equipment would likely come to the site as a complete unit. Fencing would be installed around the entire BESS site including lighting. Underground and overhead cabling would be installed and terminated with inspection, testing and commissioning of equipment. Additional drainage systems would be constructed, as needed, and approved.

2.8 Site Stabilization and Protection/Erosion Control and Stormwater Management During Construction

Appropriate water erosion and dust-control measures will be implemented to prevent an increased dust and sediment load to ephemeral washes around the construction site and will comply with Clark County dust control requirements. Dust during construction will be controlled and minimized by applying water and/or BLM-approved palliatives.

The Grant Holder will employ BMPs to protect the soil surface by covering or binding soil particles, where appropriate. The Project will incorporate erosion-control measures required by regulatory agency permits and contract documents as well as other measures selected by the contractor. Project-specific BMPs will be designed by the contractor and is included in the Project Stormwater Pollution Prevention Plan (SWPPP). Weed management guidance will be followed to prevent the additional establishment, increase, or spread of non-native or noxious weeds within and outside of the Project area as a result of Project activities.

The Site Restoration Plan, which also addresses site rehabilitation and restoration, will be implemented immediately after construction for the areas that are temporarily disturbed, such as portions of the transmission line route that involve disturbance for staging.

2.9 Construction Water Use and Dust Control

A total of approximately 500 acre-feet of water is estimated to be needed for Project construction, primarily for dust control. The construction water use estimate is based on the median water use of other solar power plant installations in the desert areas of Nevada and neighboring states. Water would either be trucked in or pumped from a new, on-site well. Pumps powered by a diesel generator may be needed to pump water through temporary aboveground pipes to various temporary storage ponds or tanks during construction. Following construction, the temporary water storage facilities would be removed.

The BLM has allowed the use of several dust palliatives on other projects within the Southern Nevada District. If dust palliatives are used in place of water for the Project, the total amount of

water needed during construction will be reduced. The Grant Holder may opt to use such palliatives, as authorized by the BLM, for the Project. The soil binder/dust palliatives that are proposed for the Project, and which the BLM previously has allowed, are:

- For roads and heavy traffic areas: Soil Sement
- For non-traffic areas on finer soils: Formulated Soil Binder (FSB) 1000
- For non-traffic areas on sandier/rockier soils: Plas-Tex
- Alternatives, as approved by the BLM

2.10 Construction Waste Management

Construction waste will be managed in accordance with applicable state and local regulations. Light trash items that can be blown away in the wind easily, and food, will be placed in closed containers with lids.

Limited quantities of hazardous wastes would be generated from construction activities, such as waste hydraulic fluids and lubricating oils from leaks and maintenance activities and the associated oil-soaked materials (i.e., rags, sorbents, and filters). Used hydraulic fluids and lubricating oils would be recycled when possible. The oil-containing solids would be managed as hazardous waste and sent to an approved offsite disposal facility in accordance with applicable policies.

The Spill Prevention and Emergency Response Plan and Hazardous Materials and Waste Management Plan will be implemented during construction of the Project. Contractor personnel will be properly trained to control and clean up any spills. Industry BMPs will be used to prevent spills; however, if spills do occur, they will be cleaned up completely, quickly, safely and reported to the appropriate authorities as required in accordance with the construction SWPPP. Fuel, oil, and hydraulic fluid used in on-site vehicles and equipment will be transferred directly from a service truck to construction equipment and will be stored onsite in accordance with the Hazardous Materials and Waste Management Plan and the Spill Prevention and Emergency Response Plan. If fueling or maintenance occurs on-site, it will be done in a designated area that includes secondary containment located away from washes or drainages. It is possible that fuel tanks would be stored onsite during construction. Each tank would contain between 500 and 1,000 gallons of fuel. These tanks would be utilized for the construction period only and removed from site once construction is complete.

Service personnel and construction contractors will follow standard operating procedures for filling and servicing construction equipment and vehicles to reduce the potential for incidents involving hazardous materials. Batteries will be used during construction in vehicles and equipment. As with any other commercial vehicle, spent batteries will be recycled and/or disposed of at an appropriate facility. All measures required in the SWPPP, Spill Prevention and Emergency Response Plan, and Hazardous Materials and Waste Management Plan will be implemented.

2.11 Workforce, Schedule, Equipment, and Materials

2.11.1 Workforce

The on-site construction workforce would consist of laborers, craftsmen, supervisory personnel, support personnel, and construction management personnel. The on-site construction workforce is anticipated to be an average of 500 to 700 construction workers including laborers, craftsmen, supervisory personnel, support personnel, construction management, and delivery drivers, with a peak of up to 600 workers at any given time. Most construction staff and workers would commute daily to the jobsite from within Clark and Nye Counties.

2.11.2 Construction Hours

Construction generally would occur during daylight hours and may occur 7 days a week. Additional hours may be necessary to make up schedule deficiencies, or to complete critical construction activities. For instance, during hot weather, it may be necessary to start work earlier (e.g., at 3:00 am) to avoid work during high ambient temperatures. Construction requirements would require some night-time activity for installation, service or electrical connection, inspection, and testing activities.

2.11.3 Equipment and Materials

Materials would be delivered to the site during construction periodically throughout the day via trucks. Once delivered to the site, construction equipment would be used on site for the construction phase and transported off site when no longer needed for construction.

2.11.4 Traffic

Typical construction traffic would consist of trucks transporting construction equipment and materials to and from the site and vehicles of management and construction employees during the construction period. Typical construction equipment is listed in Table 6. Most construction staff and workers would commute daily to the jobsite from nearby areas in Nevada. Traffic would use State Route 160 to access the Project site. Prior to the start of construction, the Applicant would prepare a Traffic and Transportation Plan to address Project-related traffic.

Table 6 Construction Equipment Anticipated to be Used on Project Site

Equipment	Use
¾-ton and 1-ton pick-up trucks	Transporting construction personnel
Air compressors	Support drilling activities
All-terrain vehicles	Rough grade access and underground cable installation
Flatbed trucks; flatbed boom trucks	Hauling and unloading materials
Backhoes	Excavating and loading
Brush hog	Clearing vegetation
Bulldozers	Excavating, grading, and reclaiming
Compactors/Rollers	Site leveling
Concrete trucks/pumps	Delivering and pouring concrete
Cranes	Loading, unloading, and lifting materials and erecting structures
Diesel Generators	For temporary power
Drum rollers	Smooth rolling graded surfaces
Dump trucks	Hauling excavated materials and importing backfill
Excavators	Excavating trenches and foundations
Forklifts	Transporting and lifting materials
Foundation drills	Drilling concrete foundations
Fuel and equipment fluid trucks	Refueling and maintaining vehicles
Graders	Grading facility and roads
Lifts	Elevating personnel and equipment
Loaders	Excavating and loading soil
Pulling/breaking equipment	Stringing and anchoring wires and conductor
Scrapers	Grading
Trench Machine	Trenching
Tractors	Earthmoving
Truck-mounted drill rig	Drilling pole foundations
Water pumps and hoses	Pump water from existing basin to water trucks for construction water
Water pulls	Moisture conditioning and dust control
Water tanks	Temporarily stage and store water
Water-tight liner	Temporarily line existing basin with impermeable liner to store construction water
Water trucks	Moisture conditioning and dust control
Welding machines	Welding structures

2.12 Construction Power

A temporary overhead line would be installed during construction to provide power to the laydown areas, if feasible. The nearest existing distribution lines are located along State Route 160. Alternatively, diesel generators may be used to provide construction power.

2.13 Site Restoration

Any areas temporarily disturbed during construction would be restored in accordance with a Site Restoration Plan, once construction is complete. After the Project's useful life, the Project would be decommissioned, and existing facilities and equipment would be removed. Decommissioning would involve removal of the solar arrays and other facilities with some buried components (such as cabling) potentially remaining in place. Following decommissioning, the solar site would be reclaimed and restored according to applicable regulations at the time. A final decommissioning plan would be prepared in coordination with the BLM and implemented at end of Project. The final plan would address future land use plans, removal of hazardous materials, impacts and mitigation associated with closure activities, schedule of closure activities, equipment to remain on the site, and conformance with applicable regulatory requirements and resource plans.

2.14 Construction Plans

The following plans would be prepared prior to Project construction and implemented during the appropriate phase of the Project.

- Health and Safety Plan
  - Emergency Action Plan
  - Fire Prevention and Safety Plan
- Lighting Management Plan
- Historic Properties Treatment Plan
- Paleontological Discovery and Mitigation and Monitoring Plan
- Traffic and Transportation Plan
- Dust Control and Air Quality Plan
- Stormwater Pollution Prevention Plan
- Stormwater Quality Monitoring Plan
- Groundwater Monitoring Plan
- Waste and Hazardous Materials Management Plan
- Flagging, Fencing and Signage Plan
- Site Restoration Plan
- Integrated Weed Management Plan
  - Note: All pesticide use must be authorized through a Pesticide Use Proposal (PUP). PUPs are subject to NEPA analysis and environmental compliance requirements for pesticide use on BLM-managed public lands.

- Bird and Bat Conservation Strategy, including Avian and Bat Mortality Monitoring Plan and Nesting Bird Management Plan
- Environmental Construction Compliance Monitoring Program
- Worker Environmental Awareness Program
- Decommissioning and Site Reclamation Plan

3 Related Facilities and Systems

3.1 Transmission System and Interconnect

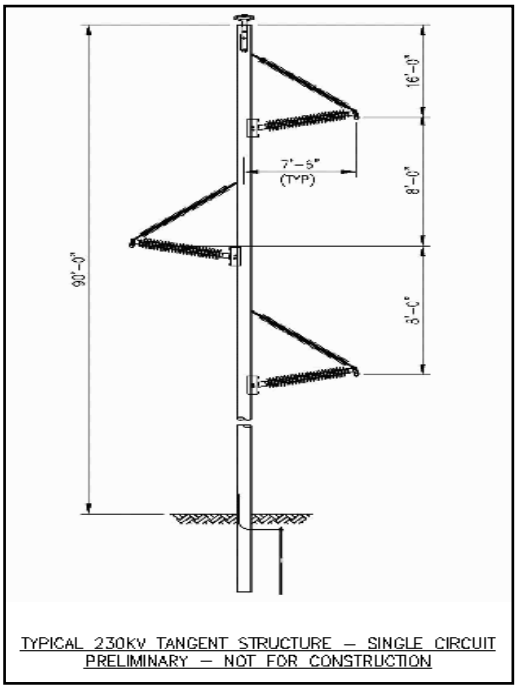
3.1.1 Transmission System Design and Standards

Gen-Tie Description

The Project will require the construction of a 230 kV circuit for interconnection to the utility transmission grid system. Conductor for the gen-tie line will be installed on light duty steel pole structures similar to those found in the area. Gen-tie support poles will not be taller than 200 feet and will be typically spaced approximately 500 to 1,000 feet apart, depending on topography and clearance requirements. The gen-tie will be approximately 3.20 miles long.

The gen-tie poles or towers will be installed on steel-reinforced poured pier concrete foundations. A typical transmission pole is shown in Figure 8. Dead-end structures will have all phases mounted on poles in a vertical configuration. A permanent 20-foot-wide gen-tie road will run the length of the gen-tie line, with approximately 1.64 miles also serving as the sites main access. The ROW width needed for the gen-tie line and access road will be 150 feet. The overhead 230 kV line will be installed per local and national electrical code requirements.

Figure 8 Typical Gen-Tie Support Structure for 230 kV Line



All overhead electrical lines will be designed and installed in accordance with the Avian Power Line Interaction Committee's (APLIC) Suggested Practices for Avian Protection on Power Lines (APLIC 2006).

The gen-tie may share existing ROWs with other solar facilities, with some potential for co-location of conductor. Detailed electrical engineering will be performed to micro-site and design the gen-tie lines and cooperative agreements may be made between the Applicant and other adjacent solar applications.

Interconnection Facilities

Interconnection facilities at the Trout Canyon Substation will be provided at a later time. Needed infrastructure could include circuit breakers, dead-end structures, isolation switches, and telecommunications systems, as well as metering systems. A point of change in ownership (POCO) will need to be established during design.

3.1.2 Transmission System Construction

Construction Methods

Standard transmission line construction techniques will be used to construct the collector and gen-tie lines. Primary stages in transmission line construction are foundation installation (e.g., concrete footings, pier foundations, or micro piles), pole installation with attached cross-arms and insulators, and conductor stringing onto the structures. Temporary laydown or staging areas as well as pulling and tensioning sites may be required at each 230 kV pole location for equipment, poles, and hardware. Grading of laydown areas will be minimized. In general, little to no grading is expected to be required for these areas. Typical equipment expected to be used for transmission line construction includes: backhoe, forklift, crane, line truck with digger-derrik and air compressor, various pickup and flatbed trucks, conductor reel and pole trailers, bucket trucks, and truck-mounted tensioner and puller.

The steel poles used for the gen-tie line will be supported by steel-reinforced poured pier concrete foundation suitable for the soils' conditions at the site. These foundations are constructed by auguring a cylindrical hole using a digger-derrik line truck. Micro piles and other foundation types may be utilized as dictated by underground conditions. Steel pole foundations will range in size from approximately 4 to 7 feet in diameter, and in depth from 12 to 30 feet.

Gen-tie Temporary Workspaces and Equipment

Laydown and staging areas for gen-tie construction will be required at each gen-tie tower location. These laydown areas are expected to fall within the 150ft gen-tie ROW. If additional laydown space outside of the ROW is deemed to be necessary in the future as construction planning advances a short term ROW application will be submitted at that time.

Grading of laydown areas would be minimized. In general, little to no grading is expected to be required for these areas, but vegetation may be removed.

Typical equipment expected to be used for transmission line construction includes: backhoe, truck-mounted tower hole auger, forklift, crane, line truck with air compressor, various pickup and flatbed trucks, conductor reel and tower trailers, bucket trucks, and truck-mounted tensioner and puller.

Schedule

Construction of the gen-tie would likely occur concurrent with the rest of the facility. It is anticipated that conductor stringing would be conducted one phase at a time, with all equipment in the same operational place until all phases are strung.

3.1.3 Status of Power Purchase Agreements

The Applicant would be seeking Power Purchase Agreements (PPAs) for offtake of electricity generated by the solar facility. The Applicant does not currently have any signed PPAs.

3.1.4 Status of Interconnection Agreements

A Large Generator Interconnection Request was submitted to the California Independent System Operator (CAISO) in April 2021 for a 500MW solar project. The Applicant is currently proceeding through CAISO's interconnection study process for the 500MW queue position. A Generator Interconnection Agreement would be signed after all study results are released.

3.2 Gas Supply System

A natural gas supply system would not be needed for the Project. Fuel for construction and emergency generators would be delivered to the site as needed.

3.3 Other Related Systems - Communication Systems

The Project would utilize a supervisory control and data acquisition (SCADA) system to manage operations. This system would require fiber optic and/or microwave communication systems to collect and control data on the site and communicate with the grid. Microwave systems would be installed on a tower within the site substation.

Redundant telecommunication systems and cables would be installed on the same structures as the gen-tie lines and would also include fiber optics and T1 internet.

4 Operations and Maintenance

The facility would operate 7 days a week using automated facility controls and monitoring systems with SCADA control systems. The Project would directly employ between 10 and 20 people during operations. This workforce would include administrative and management personnel, operators, and security and maintenance personnel. The majority of operations staff would be located off-site, with site visits occurring daily for security, maintenance, and repairs. To maintain generation performance, PV array cleaning, maintenance repairs, troubleshooting, and testing may occur up to 24 hours per day (including nighttime). Approximately two panel cleanings are anticipated per year. A solar PV project uses no process water, gas, or fuels for the power generation process. Cleaning would occur utilizing the best available technology at the time that minimizes trips and water usage. Other cleaning methods that utilize new technology can be used as long as methods do not involve the transporting of a substantial amount of water and the methods cannot result in significant runoff of water or any other substance from panel surfaces.

A plant operation and maintenance program, typical of a project this size, would be implemented, and would primarily include equipment inspections (see Table 7). During the first year of operation, the frequency of inspections would be increased to address settling and electrical termination torque values (e.g., for year one, inspections shown as semi-annually are performed quarterly, inspections shown as annual are performed semi-annually). At designated intervals, approximately every 10 to 15 years, major equipment maintenance would be performed. Operations and maintenance procedures would be consistent with industry standard practices maintaining useful life of plant components.

Approximately 20 acre-feet of water per year is estimated as needed for Project operation and maintenance. The operational water use estimate is based on the median water use of other solar power plant installations in the desert areas of Nevada and neighboring states. Actual water use varies widely at different facilities depending on weather, soil, and vegetation conditions. Operations water could be trucked to the site or accessed from an on-site well.

Operation and maintenance would require the use of vehicles and equipment, including crane trucks for minor equipment maintenance. Pick-up trucks would be in periodic use on the site. No heavy equipment beyond rubber tire water trucks would be used during normal plant operation. Vehicle traffic during operations and maintenance to the Project site would be minimal at less than 20 round-trips per day under normal operational conditions.

Table 7 Routine Maintenance Protocols

Equipment	Maintenance Interval	Task
PV Modules	Quarterly	Visually inspect panels for breakage and secure mounting Visually inspect modules for discoloration Visually inspect wiring for connections and secure mounting Visually inspect mounting structure for rust and erosion around foundations Manually clean localized debris from bird droppings, etc.
	Semi-Annually	Clean modules if determined necessary
Inverters	Semi-annually	Perform temperature checks on breakers and electrical terminations Visual inspection of all major components and wiring harnesses for discoloration or damage Measure all low voltage power supply levels Inspect/remove any dust/debris inside cabinet Inspect door seals Check proper fan operation Inspect and clean (replace if necessary) filters Check electrical termination torque Check the operation of all safety devices (e-stop, door switches, ground fault detection)
	Annually	Check all nuts, bolts, and connections for torque and heat discoloration Calibrate control board and sensors Inspect air conditioning units for proper operation
Medium voltage transformers	Semi-annually	Perform temperature check Inspect door seals Record all gauge readings Clean any dirt/debris from low voltage compartment Visual inspection of batteries for corrosion or discoloration (replace if necessary)
Substation transformers	Semi-annually	Inspect access doors/seals Inspect electronics enclosure and sensor wiring Record all gauge readings
	Annually	Inspect fans for proper operation Calibrate temperature and pressure sensors Pull oil sample for oil screening and dissolved gas analysis
Breakers and switchgear	Semi-annually	Inspect for discoloration of equipment and terminations Inspect door seals
	Annually	Check open/close operation
Overhead transmission lines	Annually (and after heavy rains)	Inspect guy wires and tower angle Visual inspection of supports/insulators Visual inspection for discoloration at terminations
Roadways	Annually (and after heavy rain)	Inspect access roads that cross drainage paths for erosion

Equipment	Maintenance Interval	Task
Vegetation	Semi-annually in all areas but would likely be an on-going activity	Non-native and noxious weed inspections would be conducted in accordance with the BLM-approved Integrated Weed Management Plan Inspect for localized vegetation control to restrict height to less than 12 inches (30.5 centimeters), within traditional development areas, to address faster growth vegetation Apply herbicides as necessary to control non-native and noxious weeds
Water Wells (if applicable)	Annually	Visual inspection Pressure test
O&M Building	Semi-annually	Check smoke detectors Apply pesticides as necessary to control rodents and insects
	Annually	Check weather stripping and door/window operation Check emergency lighting Inspect electrical service panel
BESS	Semi-annually	Inspect and clean condenser and drain Balance battery cells
	Annually	Visually inspect enclosures, cooling systems, sensors, and control systems Inspect battery performance Inspect mounting hardware; replace loose or damaged parts Calibrate sensors Test emergency stop operations
Backup Power	Annually	Visually inspect backup power system Perform functional test of backup power system
Fencing	Quarterly (and after heavy rain)	Inspect fence for vandalism and erosion at base Desert tortoise fence inspections would be conducted in accordance with the terms and conditions of the Project-specific United States Fish and Wildlife Service (USFWS) Biological Opinion

5 Environmental Considerations

5.1 Site Characteristics and Environmental Issues

5.1.1 Special Status Species

Mojave desert tortoise (*gopherus agassizii*), a federally threatened species, is the only special status species known to occur within the Project area. The Project area falls within Priority 2 connectivity habitat. The BLM has indicated that even though the land to the north of Highway 160 is not the highest priority tortoise connectivity, BLM treats it as such because it is critical for connectivity in the Trout Canyon Translocation Area.

Biological technical surveys and reports will be required to address impacts of the Project on biological resources. Consultation with biological resource personnel from the BLM, USFWS, and Nevada Department of Wildlife/Nevada Department of Forestry would be needed to identify sensitive plant and wildlife species likely to occur in the project vicinity. A Biological Assessment (BA) in accordance with Section 7 of the Endangered Species Act (ESA) would be developed in consultation with the USFWS to address the potential effects to the desert tortoise. The BA would include mitigation measures designed to minimize impacts to the desert tortoise. The USFWS would issue a Biological Opinion (BO) for the project identifying all required mitigation and conservation measures. A key measure of the assessment and BO for desert tortoise would be a Translocation Plan that would identify the details of handling and moving tortoises that would be affected. Given the number of solar facilities proposed in the Project location, a translocation area has been established, the Stump Springs Translocation area, which may or may not be available for the Project.

Migratory bird species known to occur within the analysis area are commonly found within the Mojave Desert Ecoregion. The Project would result in the loss of nesting and foraging habitat for migratory birds and nesting activities could be impacted during construction. Birds could also be electrocuted in gen-tie and collector lines. Facilities would be designed to minimize avian injuries and fatalities from collisions, and pre-construction nesting surveys would be conducted, and nests avoided.

5.1.2 Vegetation and Weeds

General vegetation in the region consists mainly of Sonora-Mojave Creosote bush-White Bursage Desert Scrub. The BLM and the State of Nevada have protections for cactus and yucca species. An inventory of cacti and yucca, using density estimates, would be undertaken as part of the Project's environmental review and prior to construction.

The BLM and State also regulate and manage invasive plant species. As part of botanical surveys, an inventory of invasive and non-native plants would be undertaken. Several weeds were found during inventories of the adjacent Yellow Pine Solar Project, including red brome (*Bromus madritensis* var. *rubens*), cheatgrass (*Bromus tectorum*), Mediterranean grass (*Schismus barbatus*), African mustard (*Malcomia africana*), Indian hedgemustard (*Sisymbrium orientale*), saltlover (*Halogeton glomeratus*), Russian thistle (*Salsola tragus*), and redstem stork's bill (*Erodium cicutarium*). The BLM would require development and implementation of a Restoration and Revegetation Plan and an Integrated Weed Management Plan to reduce potential impacts from invasive plants and noxious weed species.

5.1.3 Land Use Designations

There are no special land use designations on the Project ROW area or in the immediate vicinity that would be directly affected by the Project. There are no Areas of Critical Environmental Concern (ACECs), wilderness or wilderness study areas, wild and scenic rivers, or Special Recreation Management Areas (SRMAs) within or adjacent to the Project area. The Project is within the Southern Nevada Extensive Recreation Management Area (ERMA) as described in Section 5.1.8. As previously mentioned, the Stump Springs Translocation area and the Trout Canyon Translocation Area are located to the east of the Project.

There is a designated utility corridor through the Project site. The application area is also adjacent to several other solar ROW applications, including the Copper Rays Project, Rough Hat Clark County, and Sagittarius Solar. The Applicant may need to work with other applicants to co-locate certain facilities such as access roads and gen-tie lines and corridors.

5.1.4 Visual Resources Management Designations

The Project area is predominantly in Visual Resources Management (VRM) Class 4. The VRM Class 4 objectives allows for management activities that require major modifications of the existing landscape character, such as the prospective solar PV facility. An amendment to the 1998 Las Vegas RMP from VRM Class 3 to VRM Class 4 objective may be required for the northern section of the Project area, which is within a VRM Class 3. The objective for Class 3 lands is to partially retain the existing character of the landscape with the level of change to be moderate. The primary potential viewers of this Project would be motorists traveling on SR 160, but much of the area is currently proposed for utility and solar facilities.

Visual impacts would be addressed through a Visual Resources Technical Report that would also include visual simulations of the solar facility to demonstrate impacts. The visual assessment will need to consider the many other proposed solar and transmission facilities in the area.

5.1.5 Cultural and Historic, and Native American Tribal Concerns

Cultural resources are defined as buildings, sites, structures, or objects that have historical, architectural, archaeological, cultural, and/or scientific importance. Prehistoric resources are generally pre-European contact in age. Diagnostic prehistoric resources have been found in the

Project region. The Old Spanish Trail is found to the south and east of Tecopa Road, more than 3 miles from the Project area.

Cultural resources surveys would be required and would need to comply with the Nevada BLM's Guidelines and Standards for Archaeological Inventory and the Nevada State Historic Preservation Office. Compliance with Section 106 of the National Historic Preservation Act would be required, including Native American outreach. The BLM would conduct government-to-government consultations with Native American tribes in the region with traditional interests in the area inquiring about potential concerns about the effects of the proposed Project on historic properties or areas of traditional or cultural importance. Significant cultural resources would be avoided, or mitigation implemented to recover their data and, thus, minimize impacts.

5.1.6 Hydrology and Water Quality

The Project is within the Pahrump Valley Basin in California and Nevada. The Project's construction would include ground disturbance activities that could increase erosion and downstream sedimentation and deposition of fine-grained sediment during construction. One percent and 0.2 percent annual chance flood hazard zones are located within the 10-mile radius buffer zone. A drainage report would be required to include hydrological conditions and floodplain conditions assessments**.**

Section 404 Permit for dredge or fill to waters of the United States would likely apply because the drainages in the area cross State lines. Nationwide Permits 51 as well as 12 and 14 could apply to the project and activities. A wetland delineation and site design will be required to determine the appropriate permitting strategy.

Groundwater impacts are also of particular concern in the area, due to special considerations by the National Park Service (NPS) for the Death Valley National Monument (and Devils Hole, a detached unit of the park, as well as Ash Meadows National Wildlife Refuge).

5.1.7 Air Quality

Construction and operation of the Project would result in the generation of dust and exhaust emissions from vehicle traffic. Emissions would be quantified during the environmental review. The increase in dust emissions during construction activities would be mitigated by the application of best management practices outlined within a Fugitive Dust Plan developed to satisfy BLM and county requirements. Disturbed areas would be watered as necessary to suppress dust during construction and operation.

5.1.8 Recreation

The analysis area is located primarily within the 2,243,358-acre Southern Nevada ERMA, which includes most public lands managed by BLM in southern Nevada east and west of Las Vegas (except Red Rock Canyon National Conservation Area). The Southern Nevada ERMA is managed by the BLM for dispersed and diverse recreation opportunities that meet Recreation Opportunity Spectrum (ROS) objectives described in the Las Vegas RMP. Recreation

opportunities in the ERMA generally include hiking, camping, hunting, horseback riding, cycling, driving for pleasure, off-highway vehicle (OHV) use, and photography. Organized, permitted, and competitive uses such as model airplane and rocketry fly-ins, dog field trials, horse endurance rides, and competitive OHV events also occur. Five recreation categories within the ROS have been identified for the Southern Nevada ERMA including: Semi-Primitive Nonmotorized, Semi-Primitive Motorized, Roaded Natural, Rural, and Modern Urban (BLM 1998). Off-highway vehicle (OHV) use in this area is limited to existing roads, trails, and dry washes, and is a popular recreational activity. The Project would mostly impact some OHV trail usage. Areas could be left open, as needed to create connectivity to other OHV areas, such as into the Spring Mountains. The Project is also located approximately 1 mile from the Front Sight Firearms Training Institute.

5.1.9 Socioeconomics

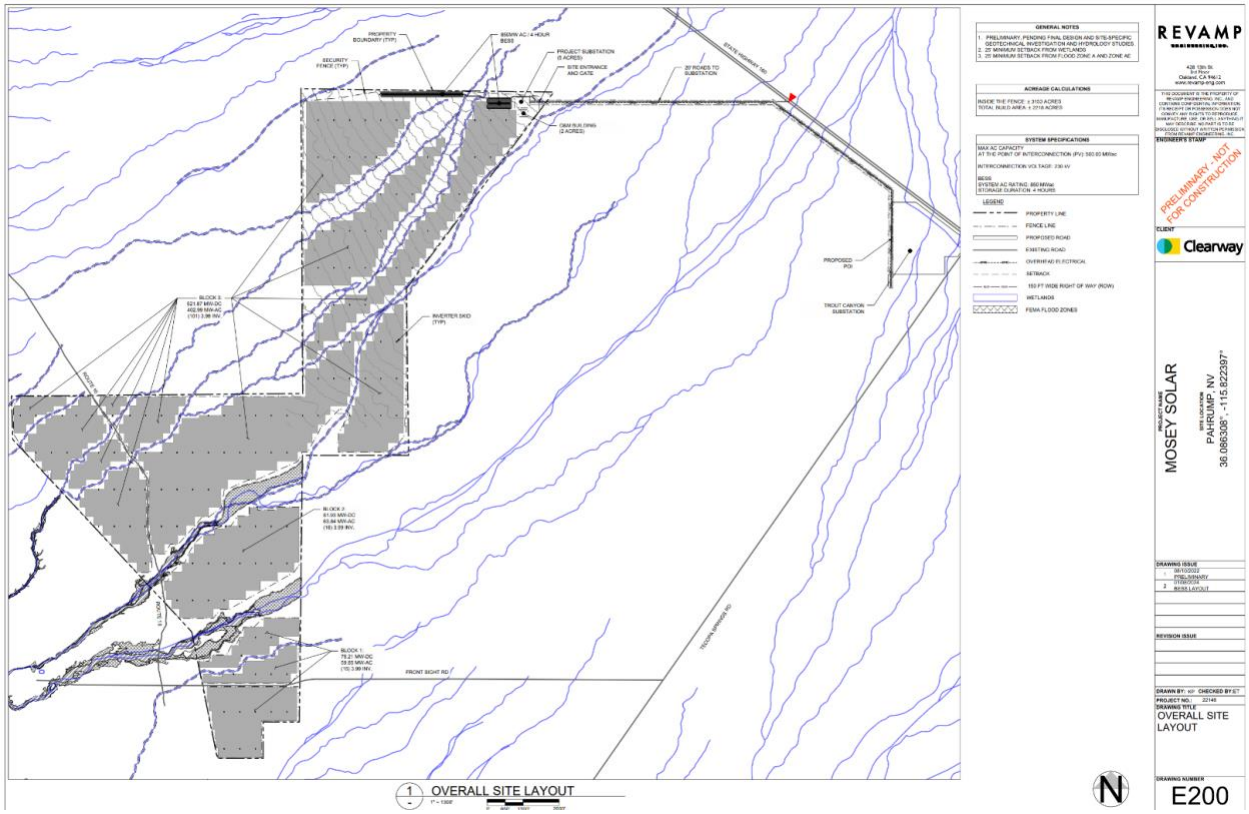
The Project would generally have positive socioeconomic impacts, by creating jobs for the local and regional population during construction and, to a lesser extent, during operation. The project would require little or no additional services from the County.

5.2 Environmental Protection Measures

Numerous environmental protection measures, mitigation plans, and conservation measures will be applicable to the Project. In addition, the programmatic design features that are required for all utility-scale solar energy projects on BLM-administered lands, as identified in the Solar PEIS would also be applicable to the Project. The environmental impacts and mitigation will be determined during the NEPA process.

6 Maps & Drawings

Figure 9 Project Design



7 References

Bureau of Land Management (BLM), 1998. Record of Decision for the Approved Las Vegas Resource Management Plan and Final Environmental Impact Statement. October 1998. [http://www.blm.gov/style/medialib/blm/nv/field_offices/las_vegas_field_office/las_vegas_resource.Par.28808.File.dat/ROD_LV_RMP.pdf].

BLM. (2007). *Vegetation Treatments Using Herbicides on Bureau of Land Management Land in 17 Western States.* Washington: U.S. Department of the Interior.

BLM. (2016). *Vegetation Treatments Using Aminopyralid, Fluroxypyr, and Rimsulfuron on Bureau of Land Management's Land in 17 Western States.* Washington: U.S. Department of the Interior.

Fotowatio Renewable Ventures . (2017, August 17). ABB Supplies Central Inverter Solutions For Two PV Power Plants In Jordan. Utilities Middle East .

Luminous Energy. (n.d.). *Inverters and Transformers*. Retrieved from http://www.luminousenergy.com.au/solar-farm-components.html

Phoenix Biological Consulting. (2018b). Field photographs taken by Senior Biologist Ryan Young.