Special Use Permit Application

UES
6995 Sierra Center Parkway
Reno, NV 89511

MEMORANDUM

To: Courtney Weiche, Washoe County Planning & Building Division | Community Services Department

From: UES, on behalf of Shreem Brzee Solar, LLC

Subject: Special Use Permit (SUP) Application Package for the Sunseeker, Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project

Date: February 10, 2025

Dear Ms. Weiche,

Enclosed is the Special Use Permit (SUP) Application Package for the Sunseeker Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project in Washoe County, Nevada. Table 1, Development Application Submittal Requirements, has been provided to demonstrate applicability of SUP submittal requirements and current submittal status.

Table 1
Development Application Submittal Requirements

#	*Submittal Requirements*	*Applicable (Y/N)*	*Status*
1	**Fees:** See Master Fee Schedule.	Y	A check in the amount of $3,122.92 made payable to Washoe County is enclosed per the Master Fee Schedule (to be verified at planning counter)
2	**Development Application:** A completed Washoe County Development Application form.	Y	Enclosed
3	**Owner Affidavit:** The Owner Affidavit must be signed and notarized by all owners of the property subject to the application request.	Y	Enclosed: Attachment A
4	**Proof of Property Tax Payment:** The applicant must provide a written statement from the Washoe County Treasurer's Office indicating all property taxes for the current quarter of the fiscal year on the land have been paid.	Y	Enclosed: Attachment B
5	**Application Materials:** The completed Special Use Permit Application materials.	Y	Enclosed
6	**Proposed Site Plan Specifications (Special Use Permit and Stables):** a. Lot size with dimensions drawn using standard engineering scales (e.g. scale 1" = 100', 1" =	Y	Enclosed: Attachment C Preliminary site plan enclosed. Final site

	200',or 1" = 500') showing all streets and ingress/egress to the property. b. Show the location and configuration of all existing and proposed buildings (with distances from the property lines and from each other), all existing buildings that will remain (with distances from the property lines and from each other), all existing buildings that will be removed, and site improvements on a base map with existing and proposed topography expressed in intervals of no more than five (5) feet. c. Show the location and configuration of wells and well houses, septic systems and leach fields, overhead utilities, water and sewer lines, and all existing and proposed easements. d. Show locations of parking, landscaping, signage and lighting. e. The cross sections of all rights-of-way, streets, alleys or private access ways within the proposed development, proposed name and approximate grade of each, and approximate radius of all curves and diameter of each cul-de-sac. f. Property boundary lines, distances and bearings. g. Contours at five (5) foot intervals or two (2) foot intervals where, in the opinion of the County Engineer, topography is a major factor in the development. h. Indication of prominent landmarks, rock outcroppings, and natural foliage which will be deciding considerations in the design of the development. i. If any portion of the land within the boundary of the development is subject to inundation or stormwater overflow, as shown on the adopted Federal Emergency Management Agency's Flood Boundary and Floodway Maps, that fact and the land so affected shall be clearly shown on the map by a prominent note on each sheet, as well as width and direction of flow of each watercourse within the boundaries of the development. j. Existing and proposed roads, trails or rights-of-way within the development shall be designated on the map. Topography and existing developments within three hundred (300) feet must also be shown on the map.		plan will be prepared at a future date when an EPC contractor is selected to design/build the proposed project.

	k. Vicinity map showing the proposed development in relation to Interstate 80, Highway 395, I-580,or a major arterial. The vicinity map shall also include a north arrow. l. Date, scale, and number of each sheet in relation to the total number of sheets, and the name of the person preparing the plans. m. Location of snow storage areas sufficient to handle snow removed from public and private street, if above 5,500 feet. n. All known areas of potential hazard (and the basis for delineation) shall be clearly designated on the map. Additionally, active fault lines (post-Holocene) shall be delineated on the map. o. Location of areas with slopes greater than fifteen percent (15%) and thirty percent (30%). p . Boundary of any wetland areas and/or floodplains within the project site. q. Note by the project engineer or design professional indicating compliance with all applicable provisions of the Washoe County Development Code. r. Significant Hydrological Resources. Indicate the critical and sensitive buffer zones according to Article 418 of the Washoe County Development Code.		
7	**Site Plan Specifications for Grading:** a. Location and limits of all work to be done. b. Existing contours and proposed contours. c. Location of any structures on adjacent parcels that are within fifteen (15) feet of the work site's parcel boundary. d. Existing draining (natural and man-made) and proposed drainage patterns. e. Sufficient elevation data to show the drainage will work as proposed. f. Quantities of excavation fill and disturbed surface area shall be calculated and shown on the site plan. Areas under buildings and pavement need not be included in these calculations. g. Quantities of material proposed to be removed from the site must be shown. The proposed disposal area and the disposition of fill must be noted on the plan. h. Limiting dimensions of cut and fill.	Y	Enclosed: Attachment C

	i. Proposed BMPs (Best Management Practices) for controlling water and wind erosion if a disturbed area is left undeveloped for more than thirty (30) days. j. Cut and fill slopes setback from the property boundary. k. Structure setbacks from a slope.		
8	**Grading:** In accordance with the grading provisions of Washoe County Code, Article 438, if the thresholds for a grading permit are met or exceeded, the grading plans shall indicate the existing and proposed grades, slope treatments (i.e. rip rap, erosion control, etc.) and drainage channels and the direction of flow. Cross sections must be provided at a minimum of two key locations.	Y	Enclosed: Attachment C
9	**Traffic Impact Report (Special Use Permit and Stables):** Traffic impact reports are required whenever the proposed development project will generate 80 or more weekday peak hour trips as determined using the latest edition Institute of Transportation Engineers (ITE) trip generation rates or other such sources as may be accepted by Washoe County Engineering. Projects with less than 200peak hour trips may not need to perform an impact analysis for future years. Traffic consultants are encouraged to contact Washoe County Engineering and Capital Projects staff prior to preparing a traffic impact report.	N	Not applicable. A Traffic Impact Report is not required for a solar facility.
10	**Landscaping:** Landscape plans may be required, for stables. Landscape plans may include: a soils evaluation; color and type of building material, such as fencing material; type of plant material; location of plant material and proposed maintenance schedule; size of plant material at planting and size of plant material at full maturation; type and amount of mulch material; and an irrigation plan. a. Planting Plan Specifications: The planting plan must include all necessary information to satisfy Washoe County Code Section 110.412.60, Planting Standards. Proposed Tree Locations. Individual trees shall be graphically depicted in the proposed locations; trees shall be identified as either evergreen or deciduous; trees shall be individually labeled or coded and cross	N	Not Applicable. Landscaping not required for a solar facility.

	referenced to the proposed plant species in the plant legend. • Proposed Plant Material. The preliminary plan must identify where, and a square footage amount for, one or all of the following items: trees, mulch (rock, DG or bark), seeded areas, etc. • Existing On-Site Vegetation. In the case of large strands of trees and shrubs, individual locations may be identified with a revision cloud symbol. Smaller numbers or strands of trees(six (6) inch caliper and greater) shall be identified individually. Shrub areas and other forms of vegetation such as grasses shall be identified with a revision cloud symbol. • Plant Legend. Legend shall include all proposed plant material, including the following: common name, botanical name, size at planting, spacing and quantity (of trees only). • Landscape Area Legend. A summary of proposed areas and their square footages shall include: lawn, existing and or proposed paving, existing trees to be preserved, existing trees to be removed and the amount of proposed shrubs. b. Irrigation Plan Specifications: The irrigation plan must include all necessary information to satisfy Washoe County Code Section 110.412.65, Irrigation Standards. • Location, size, and specifications of water source(s), water mains, meter(s), valves, and the controller. • Temporary or permanent water irrigation systems. • Specifications of irrigation equipment identified by manufacturer's name and equipment identification number. • An approved backflow prevention device is required on all landscape irrigation systems.		
11	**Signage Plan:** The signage plans shall include sign elevations and delineate location, height, style, dimensions, intensity of sign lighting and finish of any proposed signage:	N	A signage plan will be prepared at a future date when an EPC contractor is

			selected to design/build the proposed project.
12	**Lighting Plan:** Show the location and configuration of all proposed exterior lighting including a detail of the parking lot light fixtures, pole heights, security lighting, and wall mounted illumination fixtures. Parking lot areas shall be depicted showing lumen isolines demonstrating compliance with the provisions of the Washoe County Development Code.	N	A lighting plan will be prepared at a future date when an EPC contractor is selected to design/build the proposed project.
13	**Building Elevations:** All buildings and structures including fences, walls, poles and monument signs proposed for construction within the project shall be clearly depicted in vertical architectural drawings provided in accurate architectural scale. All architectural elevations from all building faces shall be presented.	N	Per County Staff instructions, we request to waive Table 11.406.05.1 part 1-5 for structures under 30 ft.
14	**Submission Packets:** Two (2) packets and a flash drive. One (1) packet must be labeled "Original" and contain a signed and notarized Owner Affidavit. Any digital documents need to have a resolution of 300 dpi. If materials are unreadable, you will be asked to provide a higher quality copy. The packet shall include one (1) 8.5" x 11" reduction of any applicable site plan, development plan, and/or application map. Labeling on these reproductions should be no smaller than 8 point on the 8.5" x 11" display. Large format sheets should be included in a slide pocket(s). Any specialized reports identified above shall be included as attachments or appendices and be annotated as such.	Y	Enclosed

Notes:

(i) Application and map submittals must comply with all specific criteria as established in the Washoe County Development Code and/or the Nevada Revised Statutes.

(ii) Appropriate map engineering and building architectural scales are subject to the approval of Planning and Building and/or Engineering and Capital Projects.

(iii) All oversized maps and plans must be folded to a 9" x 12" size.

(iv) Labels: The applicant is required to submit three (3) sets of mailing labels for every tenant residing in a mobile home park that is within five hundred (500) feet of the proposed project (or within seven hundred fifty (750) feet of the proposed project if the proposed project is a project of regional significance).

(v) Based on the specific nature of the development request, Washoe County reserves the right to specify additional submittal packets, additional information and/or specialized studies to clarify the potential impacts and potential conditions of development to minimize or mitigate impacts resulting from the project. No application shall be processed until the information necessary to review and evaluate the proposed project is deemed complete by the Director of Planning and Building.

(vi)	Please be advised that the Washoe County Director of Planning and Building or their designee, Washoe County Board of Adjustment, and/or Washoe County Planning Commission have the ability to determine an application incomplete if they cannot ascertain what the applicant is requesting, or if there is insufficient information to determine a favorable outcome.

Please contact Brent Moore at (916) 712-9707 with questions related to this submittal.

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Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

Project Information	**Staff Assigned Case No.:**

Project Name: Sunseeker Solar

Project Description: The proposed Sunseeker Solar Project includes up to 250 MWs of photovoltaic energy production and up to 200 MWs of battery energy storage to be connected to the grid via the Rainbow Way 345 kV generation tie line to the Ft. Sage substation. The facility will include associated solar arrays, inverters, power transmission lines, onsite energy storage, operations and maintenance facilities, on-site substation and switchgear, fencing, internal access and perimeter roads, and other supporting infrastructure (see Attachment: Project Description).

Project Address: n/a

Project Area (acres or square feet): 1108.103 acres

Project Location (with point of reference to major cross streets **AND** area locator):

Approximately 4 miles north of Fish Springs Road on Rainbow Way (40°09'10.07" N 119°58'43.55" W)

Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
See Attached			

Indicate any previous Washoe County approvals associated with this application:

Case No.(s). Special Use Permit Case Number WSUP23-0003 345 kV Gen Tie Line

Applicant Information (attach additional sheets if necessary)

Property Owner:		**Professional Consultant:**	
Name: See Attached		Name: UES	
Address:		Address: 6995 Sierra Center Pkwy	
	Zip:	Reno, NV	Zip: 89511
Phone:	Fax:	Phone: (775) 829-2245	Fax:
Email:		Email: bmoore1@teamues.com	
Cell:	Other:	Cell: (916) 712-9707	Other:
Contact Person:		Contact Person: Brent Moore	
Applicant/Developer:		**Other Persons to be Contacted:**	
Name: Shreem Brzee Solar, LLC		Name:	
Address: 740 Broadway		Address:	
Chico, CA	Zip: 95928		Zip:
Phone: (530) 521-4925	Fax:	Phone:	Fax:
Email: jpillai108@gmail.com		Email:	
Cell:	Other:	Cell:	Other:
Contact Person: Josephine Pillai		Contact Person:	

For Office Use Only

Date Received:	Initial:	Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

Special Use Permit Application
Supplemental Information

(All required information may be separately attached)

1. What is the project being requested?

The proposed Sunseeker Solar project calls for the construction of 250 MWs of photovoltaic energy production, up to 200 MWs of battery energy storage, a 345 kV project substation , and a 345 kV generation tie line (running along Rainbow Way to the NV Energy Fort Sage substation).

2. Provide a site plan with all existing and proposed structures (e.g. new structures, roadway improvements, utilities, sanitation, water supply, drainage, parking, signs, etc.)

See Attachment C

3. What is the intended phasing schedule for the construction and completion of the project?

The following construction phases are expected to last up to seven months commencing in the spring following the issuance of an interconnection agreement (anticipated 2026/2027). Phase 1: Site Preparation and Grubing, Phase 2: Generating Facility, Phase 3: Project Substation and Battery Energy Storage System, Phase 4: Generation Tie Line. For more detailed information, please refer to PUCN docket #24-06015 attached.

4. What physical characteristics of your location and/or premises are especially suited to deal with the impacts and the intensity of your proposed use?

The subject property is undeveloped except for rural roads, agricultural uses, electrical transmission lines, and high presssure gas pipelines and Union Pacific Railroad. The proposed solar facility would connect to existing high voltage transmission lines via NV Energy's existing Fort Sage Substation, which is four miles south of the solar project site proposed for solar development under the special use permit.

5. What are the anticipated beneficial aspects or affects your project will have on adjacent properties and the community?

The Sunseeker Project will provide a reliable local and regional source of power, producing around 750,000 megawatt-hours of clean, emissions-free power each year at max buildout. Compared to Nevada's current average power emissions, this project will allow for the reduction of around 765,000 tons of carbon dioxide annually. The proposed Sunseeker Project would require minimal off-site infrastructure since it would be constructed near to the existing Fort Sage Substation which would facilitate connection of the Sunseeker Project into the existing 345 kV Alturas transmission line.The proposed project will provide an opportunity for construction jobs as at the peak construction, close to 400 workers; average workforce of approximately 250 construction workers. The project would also provide approximately 10 full time jobs. The project will also provide substantially more property tax revenue to Washoe County due to the millions in land improvements associated with the Sunseeker Project.

6. What are the anticipated negative impacts or affect your project will have on adjacent properties? How will you mitigate these impacts?

Surrounding lands include vacant or sparsely developed private lands and public lands administered by the BLM. All lands surrounding the study area are designated General Rural (GR) by Washoe County. The construction of solar generation facilities is considered consistent with existing land use and zoning and not anticipated to have any adverse impacts on neighboring properties. The project will implement a spill prevention and control program and a construction traffic haul route to minimize potential impacts. The project has prepared a Nevada Utility Environmental Protection Act Environmental Statement and have mitigated all indentified impacts to a less than significant level.

7. Provide specific information on landscaping, parking, type of signs and lighting, and all other code requirements pertinent to the type of use being purposed. Show and indicate these requirements on submitted drawings with the application.

See Attachment C

8. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that apply to the area subject to the special use permit request? (If so, please attach a copy.)

❑ Yes	■ No

9. Utilities:

a. Sewer Service	n/a No Services Available
b. Electrical Service	NV Energy
c. Telephone Service	n/a No Services Available
d. LPG or Natural Gas Service	n/a No Services Available
e. Solid Waste Disposal Service	Washoe County Solid Waste Management
f. Cable Television Service	n/a No Services Available
g. Water Service	n/a No Services Available

For most uses, Washoe County Code, Chapter 110, Article 422, Water and Sewer Resource Requirements, requires the dedication of water rights to Washoe County. Please indicate the type and quantity of water rights you have available should dedication be required.

h. Permit #		acre-feet per year	
i. Certificate #		acre-feet per year	
j. Surface Claim #		acre-feet per year	
k. Other #		acre-feet per year	

Title of those rights (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources).

10. Community Services (provided and nearest facility):

a. Fire Station	Doyle Fire Protection District 747-150 E Main Street, Doyle, CA 96109
b. Health Care Facility	Eastern Plumas Medical Care; 500 1st Ave, Portola, CA 96122
c. Elementary School	Long Valley Elementary School; 436-965 Susan Dr, Doyle, CA 96109
d. Middle School	Fort Sage Middle School; Doyle, CA 96109
e. High School	Herlong High School; 100 Tamarack St, Doyle, CA 96109
f. Parks	Rancho San Rafael Regional Park; 1595 N Sierra St, Reno, NV 89503
g. Library	North Valleys Library; 1075 N Hills Blvd, Reno, NV 89506
h. Citifare Bus Stop	Milford Store Bus Stop; Milford, CA 96121

Special Use Permit Application
for Grading
Supplemental Information

(All required information may be separately attached)

1. What is the purpose of the grading?

Due to relatively flat topography on the project site, and low impact development only minor grading is expected.However, grading would occur throughout the site, primarily for the construction of roads and inverter pads. This would be accomplished with scrapers, motor graders, water trucks, dozers, and compaction equipment.

2. How many cubic yards of material are you proposing to excavate on site?

See Attachment C

3. How many square feet of surface of the property are you disturbing?

Approximately 1,108 acres will have some minor disturbance due to pilings installed

4. How many cubic yards of material are you exporting or importing? If none, how are you managing to balance the work on-site?

No export or import of material is anticipated with the proposed project.

5. Is it possible to develop your property without surpassing the grading thresholds requiring a Special Use Permit? (Explain fully your answer.)

A Special Use Permit is required for the following: Grading projects excavating over 1,000 cubic yards; Importing more than 5,000 cubic yards of fill; Disturbing more than 25,000 square feet; Placing more than 1,000 cubic yards of fill in a flood hazard area; Grading required for the project would exceed 25,000 square feet and would require excavation in excess of 1,000 cubic yards of material. The project could not be modified to remain under these thresholds for a grading special use permit.

6. Has any portion of the grading shown on the plan been done previously? (If yes, explain the circumstances, the year the work was done, and who completed the work.)

All areas of the site have been historically disturbed by agricultural and grazing operations including roads, ditches, berms, and cleared areas. Previous owners have conducted agricultural, recreational, residential, and some industrial operations on the project site over many years.

7. Have you shown all areas on your site plan that are proposed to be disturbed by grading? (If no, explain your answer.)

Yes. Vegetation a detailed grading plan will be developed as Vegetation on the site would be modified only where necessary. Vegetation would be removed where gravel roads would be constructed, where fill would be placed from grading operations, where buildings are to be constructed, and where transmission pole and tracker foundations would be installed (if necessary). At locations where transmission pole and tracker foundations would be installed, minor cuts may be required where the foundations would be driven. Minor earth work would also occur to install aggregate base access roads and transmission line maintenance roads. The surface of the roads would be at-grade to allow any water to sheet flow across the site as it currently does. Throughout the remainder of the developed area on the solar and energy storage site, the vegetation root mass would generally be left in place to help maintain existing drainage patterns on a micro level, and to assist in erosion control. During construction of the solar and energy storage facility, it is expected that most of the vegetation would be cut, trimmed, or flattened as necessary, but otherwise undisturbed so that reestablishment is possible.

8. Can the disturbed area be seen from off-site? If yes, from which directions and which properties or roadways?

Yes, some portions of the site can be viewed from off-site areas. The UEPA ES has provided a viewshed map identifies areas off-site that would have potential views of the project site (Attachment: UEPA ES). As seen in the viewshed map, the project site will be visible from mountains west, south, and east of the project site. The surrounding area is sparsely populated; the closest town to the project site is Doyle, California, which would not have views of the project site due to intervening topography.

9. Could neighboring properties also be served by the proposed access/grading requested (i.e. if you are creating a driveway, would it be used for access to additional neighboring properties)?

Access to the project site is readily available from a number of roads around the proposed development area. No new access driveways are proposed that would result in new access to additional neighboring properties.

10. What is the slope (horizontal/vertical) of the cut and fill areas proposed to be? What methods will be used to prevent erosion until the revegetation is established?

Cut and fill areas are not anticipated to exceed 3:1 ratio. A stormwater pollution prevention plan (SWPPP) will be prepared to address stormwater quality during construction-related activities, and a design-level Stormwater Quality Management Plan will be submitted to Washoe County at a later date as part of final grading permit approvals, in compliance with Article 421 of the Washoe County Development Code (Storm Water Discharge Program).

11. Are you planning any berms?

Yes	No NO	If yes, how tall is the berm at its highest? NO Berms

12. If your property slopes and you are leveling a pad for a building, are retaining walls going to be required? If so, how high will the walls be and what is their construction (i.e. rockery, concrete, timber, manufactured block)?

No retaining walls are proposed for the project.

13. What are you proposing for visual mitigation of the work?

Due to the proposed use, zoning, and existing terrain, no visual mitigation has been proposed.

14. Will the grading proposed require removal of any trees? If so, what species, how many and of what size?

Site improvements will not require the removal of any trees.

15. What type of revegetation seed mix are you planning to use and how many pounds per acre do you intend to broadcast? Will you use mulch and, if so, what type?

A revegetation plan is being prepared for review. All construction roads and unpaved roads will be stabilized with nontoxic soil binder or soil weighting agent for dust control.

16. How are you providing temporary irrigation to the disturbed area?

No landscaping is proposed. Water for revegetation and dust control would be sourced from offsite wells or transported to the site and applied from a truck as necessary. Storage tanks may also be used to temporarily store water on-site during construction or provide water for revegetation purposes.

17. Have you reviewed the revegetation plan with the Washoe Storey Conservation District? If yes, have you incorporated their suggestions?

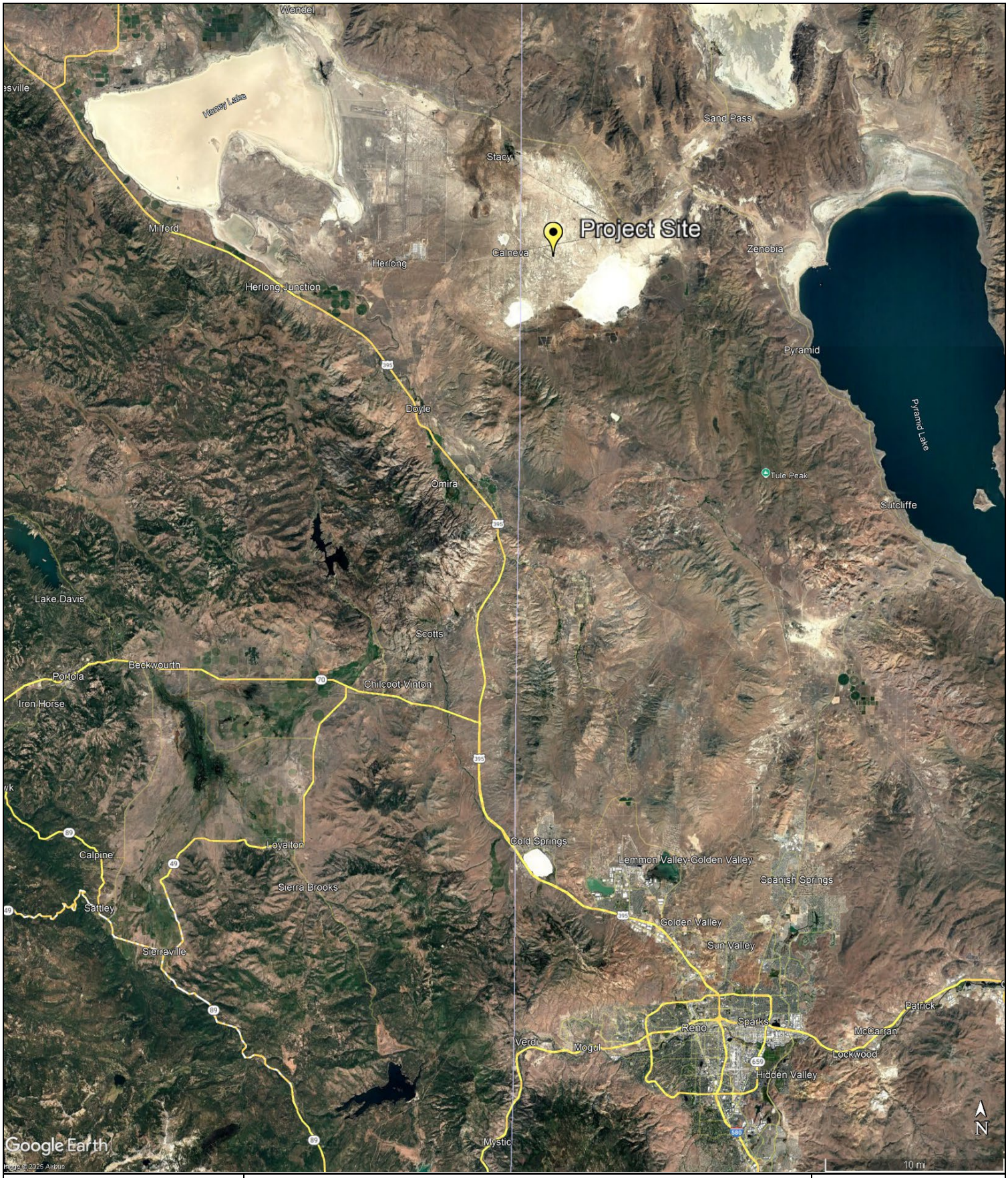
A revegetation plan and associated seed mix is being prepared for review.

18. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that may prohibit the requested grading?

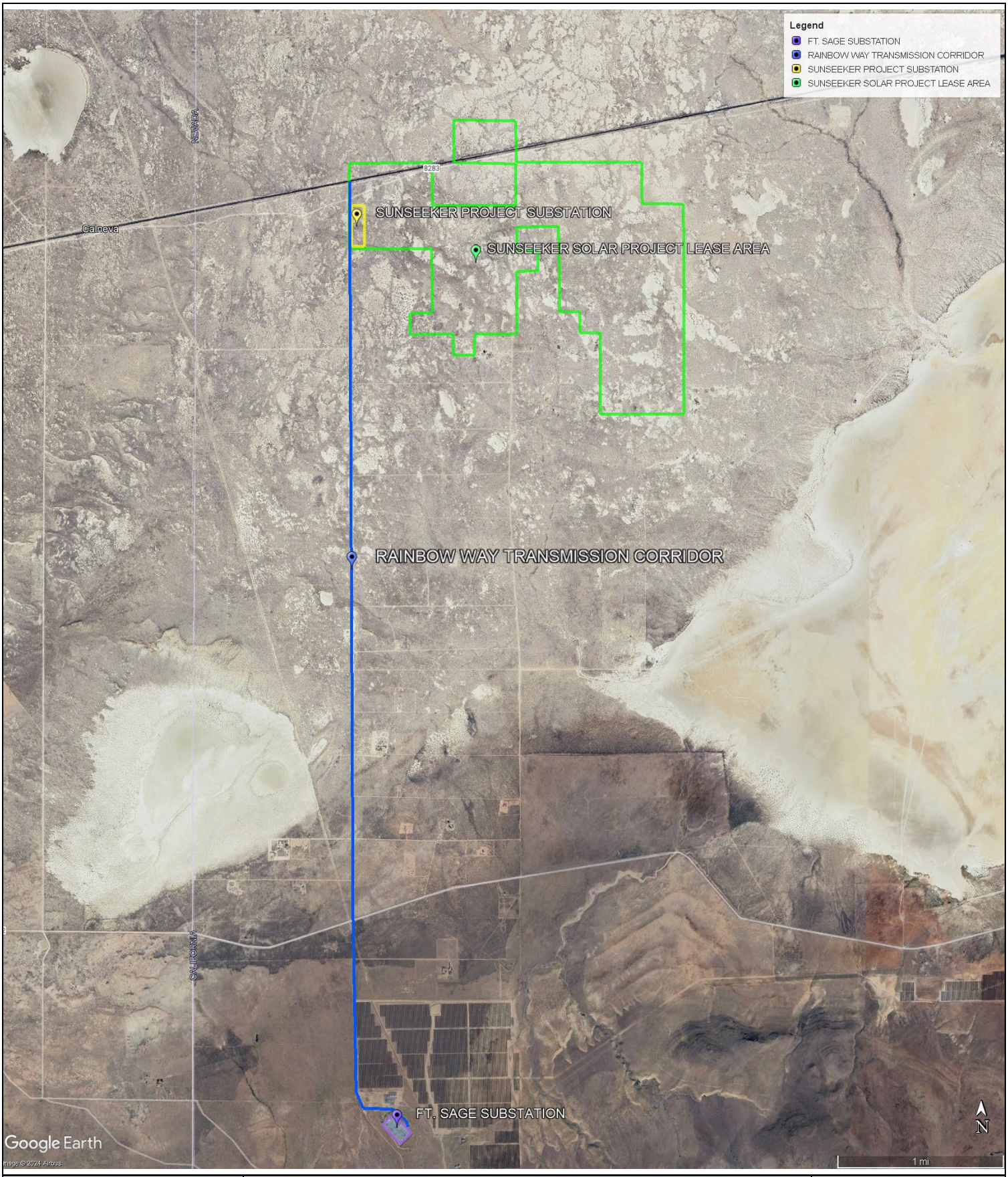
Yes	No NO	If yes, please attach a copy. NONE

Assessor's Parcel No.(s):	Parcel Acreage:
074-161-14	47.624
074-162-06	8.831
074-431-08	10.000
074-432-01	160.000
074-461-02	241.050
074-461-03	10.000
074-461-04	10.000
074-461-07	10.000
074-461-11	10.000
074-461-13	40.000
074-461-15	60.000
074-461-17	40.000
074-461-18	30.000
074-461-24	20.000
074-462-02	20.838
074-462-03	139.760
074-462-05	80.000
074-462-14	10.000
074-462-15	80.000
074-462-18	40.000
074-462-19	40.000
Total acreage:	1108.103

Attachment C: Site Plan



UES™	**Regional Setting Map** SUNSEEKER SOLAR PROJECT Washoe County, Nevada	**Date:** February 2025 **Scale:** As Shown

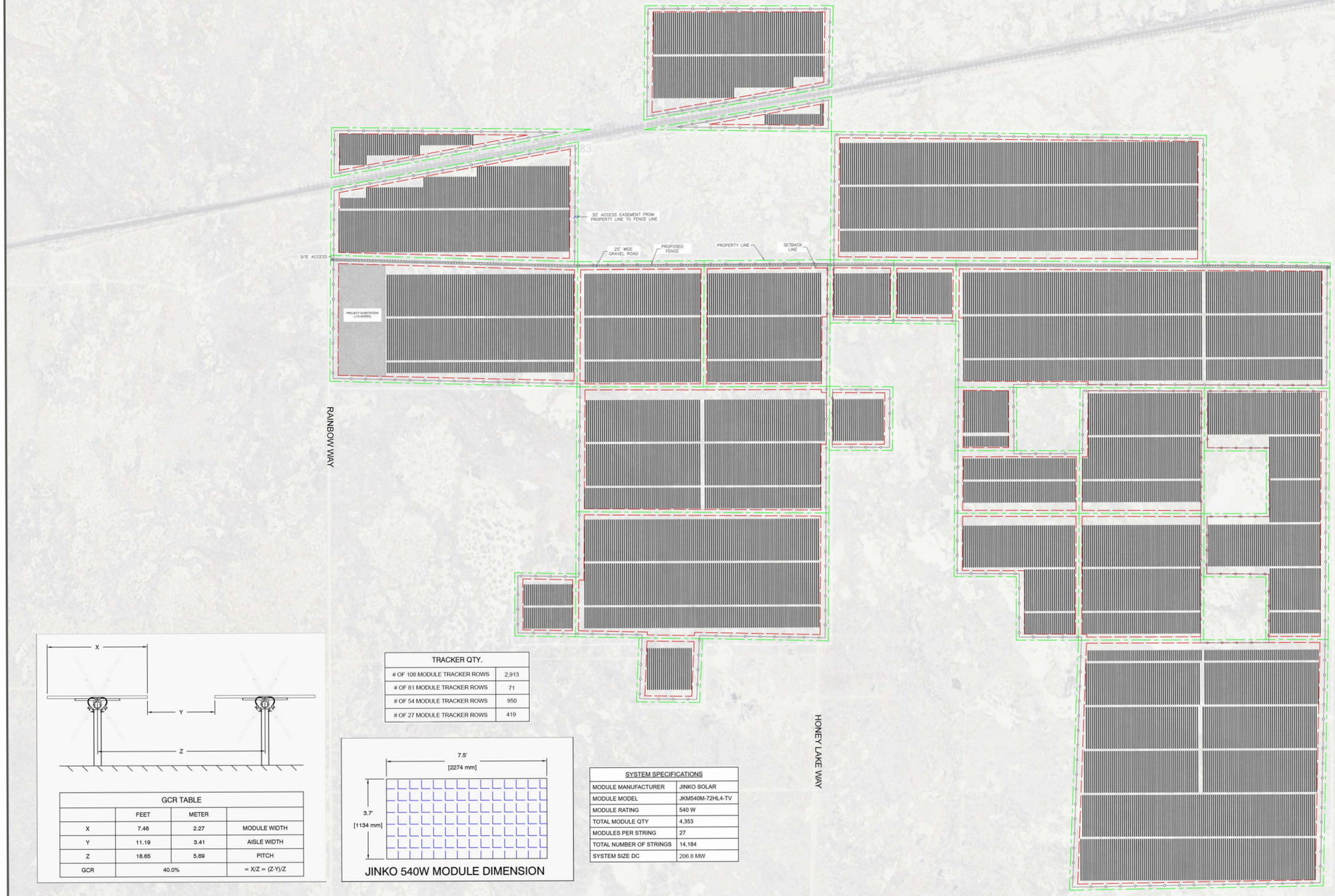


UES™

Project Vicinity Map
SUNSEEKER SOLAR PROJECT
Washoe County, Nevada

Date:
February 2025

Scale:
As Shown



GCR TABLE			
	FEET	METER	
X	7.46	2.27	MODULE WIDTH
Y	11.19	3.41	AISLE WIDTH
Z	18.65	5.69	PITCH
GCR	40.0%		= X/Z = (Z-Y)/Z

TRACKER QTY.	
# OF 108 MODULE TRACKER ROWS	2,913
# OF 81 MODULE TRACKER ROWS	71
# OF 54 MODULE TRACKER ROWS	950
# OF 27 MODULE TRACKER ROWS	419

JINKO 540W MODULE DIMENSION

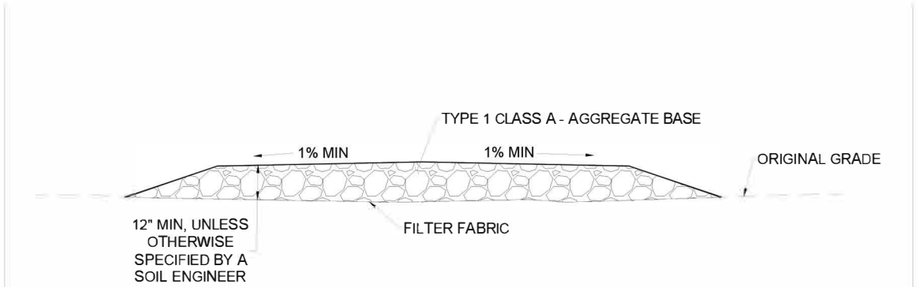
SYSTEM SPECIFICATIONS	
MODULE MANUFACTURER	JINKO SOLAR
MODULE MODEL	JKM540M-72HL4-TV
MODULE RATING	540 W
TOTAL MODULE QTY	4,353
MODULES PER STRING	27
TOTAL NUMBER OF STRINGS	14,184
SYSTEM SIZE DC	206.8 MW

PRELIMINARY
NOT FOR
CONSTRUCTION

UES

Site Layout
SUNSEEKER SOLAR PROJECT
Washoe County, Nevada

Date: June 2024
1":1000'



TYPICAL ROAD CROSS-SECTION

NTS

NOTES:

1.1. GENERAL

PROJECT SITE IS VERY LEVEL. NO CUTS AND FILLS ARE REQUIRED. MAJOR GRADING ACTIVITIES ARE NOT ANTICIPATED FOR THE PROJECT SITE. THE MAJORITY OF GRADING THROUGHOUT SHOWN IS TO REMOVE THE VEGETATION AND TO CREATE A UNIFORM SURFACE AREA. FINAL ACCESS ROAD ELEVATIONS AND GRADES ARE INTENDED TO MATCH THE SURROUNDING EXISTING CONDITIONS TO MATCH THE DRAINAGE PATTERNS. PRESENTED BELOW ARE SPECIFICATIONS FOR THE FOLLOWING PROJECT FEATURES:

- ACCESS ROADS
- PUBLIC ROAD IMPROVEMENTS
- SUBSTATION
- TEMPORARY ROADS

1.1. SITE DEMOLITION, CLEARING AND PREPARATION

1.2.1 SITE STRIPPING

THE SITE SHOULD BE STRIPPED OF ALL SURFACE VEGETATION. WHEN PLOWING, SURFACE VEGETATION SHOULD BE STRIPPED TO A SUFFICIENT DEPTH TO REMOVE ORGANIC CONTENT WITHOUT DIGGING INTO THE NATIVE GROUND.

1.2.2 TREE AND SHRUB REMOVAL

THERE ARE NO TREES ON SITE. HOWEVER, THERE ARE SEVERAL SHRUBS. SHRUBS SHOULD HAVE THE ROOT BALLS AND ANY ROOTS GREATER THAN ½-INCH DIAMETER REMOVED COMPLETELY THROUGH PLOWING. GRADE DEPRESSIONS SHOULD NOT RESULT FROM ROOT BALL REMOVAL.

1.2. SUBGRADE PREPARATION

FOLLOWING PLOWING, THE SUBGRADE SHOULD BE PROOF ROLLED WITHOUT SCARIFICATION OR GROUND DISTURBANCE. NATIVE ORIGINAL GRADE SURFACE SHOULD BE MOISTURE CONDITIONED AND COMPACTED IN STRICT ACCORDANCE WITH "COMPACTION REQUIREMENTS" SECTION BELOW. ALL FINAL SUBGRADES MUST BE INSPECTED AND CERTIFIED BY QUALIFIED SOILS INSPECTOR WORKING UNDER DIRECT SUPERVISION OF THE GEOTECHNICAL ENGINEER OF RECORD (GEOR). IF FINAL SUBGRADE CANNOT BE PREPARED THROUGH PROOF ROLLING AND MOISTURE CONDITIONING, STABILIZATION

MEASURES MAY BE REQUIRED. THESE MAY INCLUDE, BUT NOT LIMITED TO GEOSYNTHETIC (GEOGRID OR FABRIC) PLACEMENT AND CRUSHED ROCK PLACEMENT. UNDER NO CIRCUMSTANCES SHALL THERE BE OVER-EXCAVATION OR NATIVE SOILS. NO GROUND DISTURBANCE IS ALLOWED. THE MOST APPROPRIATE STABILIZATION MEASURE WOULD BE SELECTED BY THE GEOR ON A CASE-BY-CASE BASIS.

1.3. MATERIAL FOR ROAD BASE

FOR THE CONSTRUCTION OF THE ACCESS ROADS AND OTHER PROJECT FEATURES LISTED IN SECTION 1.1. WE RECOMMEND THE FOLLOWING AGGREGATE BASE MATERIAL MEETING THE SPECIFICATIONS OF THE NEVADA DEPARTMENT OF TRANSPORTATION.

704.03.02 Type 1 Class A Aggregate Base. This aggregate shall conform to the following requirements:

Sieve Size	Percent Passing by Mass
37.5 mm (1 1/2 in.)	100
25 mm (1 in.)	80-100
4.75 mm (No. 4)	30-65
1.18 mm (No. 16)	15-40
75 µm (No. 200)	2-12

Project Control Tests	Test Method	Requirements
Sieve Analysis	Nev. T206	Above
Sampling Aggregate	Nev. T200	—
Fractured Faces	Nev. T230	35% Min.
Plasticity Index	Nev. T212	Table I
Liquid Limit	Nev. T210	35 Max.

Source Requirement Tests	Test Method	Requirements
Resistance (R Value)	Nev. T115	70 Min.
Percentage of Wear (500 Rev.)	AASHTO T96	45% Max.

1.4. COMPACTION REQUIREMENTS

AGGREGATE BASE SHOULD BE COMPACTED IN LOOSE LIFTS NOT EXCEEDING 6 INCHES. SUBGRADE SHOULD BE NON-YIELDING AND ALL COMPACTED LIFTS MUST BE INSPECTED AND CERTIFIED BY A QUALIFIED SOILS INSPECTOR WORKING UNDER DIRECT SUPERVISION OF GEOR. TABLE 1 PRESENTS THE MINIMUM COMPACTION CRITERIA.

TABLE 1: MINIMUM COMPACTION REQUIREMENTS

LOCATION	PER THE MODIFIED PROCTOR TEST (ASTM D 1557)		
	MINIMUM COMPACTION REQUIREMENT (%)	RANGE OF MOISTURE CONTENTS FOR COMPACTION ABOVE OPTIMUM	
		MINIMUM	MAXIMUM
PAVEMENT SUBGRADE	95%	0%	+2%
GEOR APPROVED PAVEMENT MATERIALS:			
AGGREGATE BASE	95%	0%	+2%

- RELATIVE COMPACTION BASED ON MAXIMUM DENSITY DETERMINED BY ASTM D1557 (LATEST VERSION)
- MOISTURE CONTENT BASED ON OPTIMUM MOISTURE CONTENT DETERMINED BY ASTM D1557 (LATEST VERSION)
- COMPACTION SHOULD BE DETERMINED BY ASTM D1557 (LATEST VERSION)

1.5. SITE DRAINAGE

THE FOLLOWING CRITERIA WILL BE FOLLOWED FOR SITE DRAINAGE.

- PONDING SHOULD NOT BE ALLOWED ON OR ADJACENT TO ROADS.
- SURFACE DRAINAGE SHOULD FOLLOW THE NATURAL DRAINAGE PATTERN OF THE SITE UNIMPEDED BY ROADS.
- ROCK LINED V-DITCHES (NO EXCAVATION) SHOULD BE SIZED BY THE CIVIL ENGINEER OF RECORD TO ACCOMMODATE THE DESIGN STORM EVENTS, IF NECESSARY.
- HEAVY COMPACTION EQUIPMENT SHOULD NOT BE ALLOWED AROUND FORMED DITCHES.
- STORM WATER POLLUTION PREVENTION PLANS (SWPPPS) SHOULD BE PREPARED FOR THE PROJECT-SPECIFIC REQUIREMENTS.
- FINAL GRADING PLANS SHOULD BE REVIEWED BY GEOR FOR COMPLIANCE WITH THESE SPECIFICATIONS.

APPROXIMATE VOLUME OF GRAVEL MATERIALS TO BE ADDED TO THE PROJECT - 40,000 CU YDS

NOT TO SCALE

Substation Grading Specifications and Details

Objective

The objective of site work design for the substation yard is to provide an easily accessible, dry, maintenance-free area for the installation and operation of electrical substation equipment and structures. Praana Energy will take advantage of the natural drainage and topographical features in the design consistent with the electrical layout since coordination of the two is essential. The substation yard will be graded basically flat for the layout and operational function of the substation.

Substation Drainage

Substation yard will be designed to have zero discharge from the yard. The yard will be finished with a gently sloping (0.25 percent to 0.50 percent) ground surface so that the water drains to the edge of the yard. The yard surface drainage will be coordinated with the location of cable trenches and roads within the yard.

Substation Yard Earthwork Consideration and Design

Clearing and grubbing of the substation yard (approximately 10 acres) is required, and all vegetation will be removed and properly disposed of. The topsoil in the substation yard area will be uniformly mixed with the underlying soil.

Adequate compaction during placement of the aggregate base is necessary to develop the required soil bearing capacity and lateral resistance for the foundation designs. It is necessary also to prevent settlement due to consolidation of the yard area, which may result in ponding, broken ducts, conduits, cable trenches, etc. Upon completion of the substation yard work, all soil spoils not used in backfilling will be leveled off or shaped to present a neat appearance and not obstruct any drainage.

Substation Yard Surfacing Materials

The Substation Yard will have 4 to 6 inches of crushed stone or rock (approximately 5,000 cubic yards to 8,000 cubic yards) cover the entire substation yard to the substation fence. The yard surface material helps reduce the danger of potentially hazardous mesh and touch potentials; minimizes weed growth; provides a clean, reasonably dry walking surface during wet periods; dissipates erosion effect from rain; and contributes to better access drives for light vehicles within the yard.

The size of stone for yard surfacing material should generally vary between 3/8 to 1 inch with the percentage finer than 3/8 inch limited to 5 to 10 percent. All faces of yard surface material will be crushed. The material selected for yard surfacing may be affected by the final electrical grounding design. Because of electrical fault currents, surfacing material may need to be specified differently than would otherwise be the case. It may be desirable to have a 4 to 6-inch layer of crushed rock as coarse as can reasonably be walked on with as few fines as practical or nominally available.

Before the yard surfacing material is installed, the yard surface will be brought to its proposed elevations and rolled to a reasonably firm condition. A soil sterilizer will be applied to prevent the growth of grass and weeds at this time. The yard stone will then be spread as evenly as practical but need not be rolled. This work will not begin until all substation work is essentially completed.

Substation Security Fence

A seven-foot high chain link fence with one foot of barb wire topping will be installed as soon as practicable after the substation site work is completed.

Dean R. Stanphill, PE Nevada No. 13546



Attachment D: Vegetation Management Plan

VEGETATION MANAGEMNT PLAN

SUNSEEKER SOLAR PROJECT
BATTERY ENERGY STORAGE SYSTEM (BESS)
PHOTOVOLTAIC SOLAR ENERGY SYSTEM (PSES
Washoe County, NV

Prepared for:
Shreem Brzee Solar, LLC (SBS)
740 Broadway Street
Chico, California 95928

Prepared By:
UES
6995 Sierra Center Parkway
Reno, NV 89511

February 5, 2025
Project No. 4140.2300007.0000

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FIGURES

Figure 1 Project Vicinity Map
Figure 2 Project Site Plan

1.0 INTRODUCTION

Shreem Brzee Solar, LLC ("SBS"), plans to construct a photovoltaic solar energy system (PSES) with up to 250 MW of power generation from the installation of up to approximately 439,000 solar PV modules on a single axis tracking system and an up to 200 MW battery electrical storage system (BESS) (the "Sunseeker Solar Project", the "Project" or "Sunseeker") on 1,128 acres of privately owned land (the "Property" or "Project Lease Area"), comprised of twenty-three (23) parcels known as Washoe County Assessor's Parcel Numbers (APNs) (APNs 074-461-11, 074-461-04, 074-162-06, 074-161-14, 074-461-13, 074-461-02, 074-432-01, 074-461-17, 074-461-18, 074-462-18, 074-461-24, 074-461-03, 074-461-07, 074-461-15, 074-462-02, 074-462-03, 074-462-19, 074-462-14, 074-462-05, 074-431-08, 074-462-15, 074-461-14, 074-461-16) of undeveloped, vacant rangeland located in Washoe County, Nevada, approximately 43 miles north of Reno in the Honey Lake Valley. **See Figure 1: Project Site Vicinity Map**

In addition, Project area will be utilized as workspace areas necessary for laydown of materials, maneuvering of construction vehicles, and access to and from the utility easements for generation tie line battery storage area, and substation yard. It is not anticipated that direct or indirect effects resulting from project construction or operation will extend beyond this action area.

1.1 PROJECT DESCRIPTIONS

The Project is situated approximately eleven (11) miles northeast of Doyle, California and US Highway 395 on the California and Nevada Border in Washoe County and five (5) miles north of NV Energy's Fort Sage Substation via Rainbow Way (Private Roadway). **See Figure 1: Project Vicinity Map** The Project Site Control Boundary (1,128 acres within Washoe County Assessor's Parcel Numbers (APNs) (APNs 074-461-11, 074-461-04, 074-162-06, 074-161-14, 074-461-13, 074-461-02, 074-432-01, 074-461-17, 074-461-18, 074-462-18, 074-461-24, 074-461-03, 074-461-07, 074-461-15, 074-462-02, 074-462-03, 074-462-19, 074-462-14, 074-462-05, 074-431-08, 074-462-15, 074-461-14, 074-461-16) is defined as the total of the solar leased areas and easements for the Project. Within the Project Site Control Boundary, a defined area for biological, cultural, geotechnical/soils and physical resource surveys were conducted which provides a basis for this Vegetation Management Plan. The Maximum Project Extent (MPE) is defined as the area that contains the Project Footprint and additional construction areas. The larger extent of the MPE will allow for the shifting of project components, known as micro-siting, based on a final approved project design.

The Project will use solar photovoltaic panels organized in arrays and aggregated to an injection capacity limited to 250 megawatts of alternating current solar capacity at the point of interconnection to the electric power grid. It will interconnect through a 345 kV gen-tie line to the NV Energy's Fort Sage Substation via Rainbow Way private utility easement which is five (5) miles south of the Project. A security fence will be installed within 20 feet of the final approved locations of the panel arrays. The exact fence line location will be micro-sited based on the final approved design for the Project and final survey of the project lease area boundaries.

A Battery Energy Storage System (BESS) is required for the Project. The BESS system will store energy from the Project, which will be supplied to the electrical grid when needed. The BESS on the Project will be located within the eight (8) acre area of the substation on the western side of the Project lease area.

2.0 PURPOSE

The Vegetation Management Plan (VMP) has been prepared to avoid or mitigate impacts to vegetation resources and reduce fire hazards in the Project Disturbance Area (**Figure 2: Project Site Plan**) anticipated to result from construction and operation of the Project. The VMP provides best management practices (BMPs) and objectives for the construction and operation activities. The VMP also includes noxious weed control methods to be implemented to comply with Nevada Revised Statutes (NRS) 555.170 and NRS 555.180.

This VMP is developed to guide site preparation, vegetation installation, and long-term management of overall vegetation on the Project solar lease areas, both within and outside of the development boundaries. The success of the VMP will be achieved by including proper initial installation, management of invasive species and noxious weeds, and the control of erosion and sedimentation. The VMP is developed to ensure establishment and maintenance of stable vegetative cover that facilitates efficient Project operation, provides ecological benefits, and complies with all Washoe County, Nevada, and Federal regulations and required permits. The VMP is a dynamic document that will be evaluated and updated in response to changing environmental conditions.

3.0 EXISTING PROJECT CONDITIONS

3.1 SURROUNDING LAND USES

Adjacent to the Project lease area, are the following properties and associated land uses:

- North: Small parcels of privately owned land with vacant parcel sizes ranging from 10 acres to 140 acres. The Union Pacific Railroad runs through the northern portion of the Project solar lease area.
- South: Is vacant open rangeland with all privately owned parcels that abut the southern boundary of the proposed project lease area. Private parcels south range in size between 10 acres and 160 acres. Approximately 500 feet from the southern boundary is a mobile home on APN 074-431-11 with junk cars and no vegetation.
- West: Rainbow Way right-of-way is the western border of the project lease area and then vacant range land approximately six (6) miles to Herlong and the military installation Sierra Army Depot. Numerous privately owned parcels border Rainbow Way and the the western half of the project lease area.
- East: The project lease area is bordered by large private tracts of land of several 640 acre section parcels of rangeland.

The Union Pacific railroad bisects the entire Project lease area. The terrain is primarily flat (0-2 percent slopes) throughout the entire proposed Project lease area with an approximate elevation above sea level (asl) on the northwest corner of the Project lease area at 4006 feet and then experiencing a very slight slope to the east/southeast toward the Rainbow Way border where the elevation is approximately 4,000 feet asl on the Project's southeastern boundary. The railroad tracks have an elevation of approximately 4012 feet asl.

3.2 Project Area Soils

UES reviewed the United States Department of Agriculture (USDA) Natural Resources Conservation Service Web Soil Survey to identify soil map units within the project lease area. The survey revealed that the project lease area soils lie within the Gitakup-Tresed-Ragtown association, Chuckles-playas complex, and Chuckles-Ragtown-playas complex units. These units are generally comprised of silt (ML) and silty clay (CL).

The alkali basin/flat/playas on the project lease area do not qualify as jurisdictional wetlands because of the lack of hydrophytic vegetation, wetland hydrology or hydric soils. Wetland hydrology is not present due to low average annual precipitation and low frequency of rainfall during the growing season, and the alkali basins/flats/playas abilities to dry rapidly following a rainfall event. There are no known hydric soils in the project lease area. A detailed report on soils in the Projects area can be found in UEPA Environmental Statement.

4.0 VEGETATION MANAGEMENT

4.1 Construction

Actions will be taken to minimize impacts during construction including implementing best management practices (BMPs) and erosion control measures. Grading will be restricted to access roads (as needed), concrete pads, and facility footprints. Vegetation will be grubbed prior to surface grading operations. Erosion control measures will be implemented to avoid, minimize, or mitigate effects from surface-disturbing activities. Once surface disturbance activities have been completed, permanent stabilization measures will be initiated. To the extent feasible, construction will maintain existing topography, natural drainage patterns and infiltration across the Project Disturbance Area. Any areas temporarily disturbed due to construction activities, not included in final development plan, will be reclaimed. Where applicable, disturbed areas will be re-seeded with a native seed mix developed in consultation with Nevada Department of Agriculture and Nevada Department of Wildlife. Timing of reseeding will be dependent on the seed mix, site conditions, and weather. Additional reclamation measures will be determined at the end of construction and will be dependent on-site conditions.

4.2 Operations and Maintenance

Vegetation management during Project implementation and Operations and Maintenance (O&M) will be minimal and will predominantly consist of vegetation clearing. Vegetation clearing including mowing or stripping will be conducted in areas of permanent disturbance including the access roads, concrete pads for facility foundations, structures, and other elements of infrastructure. Vegetation clearing timing will be determined by the weather, season, and site conditions and will seek to eliminate shading or contact between vegetation and structures to limit fire risk around electrical elements and sustain native vegetation communities as feasible. O&M staff will routinely monitor the vegetation on site and determine the clearing schedule, noxious weed management timing, and vegetation restoration success. To additionally minimize fire risks, the following BMPs will be implemented:

1) Exposed electrical wires will run on overhead towers with appropriate clearance from the ground for safety, and

2) Gravel will be placed around the concrete pads under the substation equipment and transformers.

Additional fire minimization BMPs will be identified in consultation with the Washoe County Fire Marshal. Noxious weed species will be controlled as described in Section 3.4 Noxious Weed Management.

4.3 NOXIOUS WEED MANAGEMENT

An integrated approach to noxious weed management is critically important to the effective control of noxious weeds. Tract will use an integrated noxious weed management strategy, using a combination of cultural, mechanical, and chemical controls throughout all phases of Project implementation, as applicable. Focus will be preventing the spread of noxious weeds as this most effective measure in controlling weed infestations. Appropriate species and site-specific treatments will be implemented in accordance with Nevada Department of Agriculture (NDA) Noxious Weed Program, and landowner agreements. The following preventive measures will be implemented during construction to minimize the spread and establishment of noxious weeds:

1) Project construction personnel will undergo training on the identification of common noxious weeds in the region, weed management measures, and the importance of prevention prior to beginning work on the Projects.
2) Noxious weed locations will be marked prior to the start of Projects vegetation clearing activities.
3) Cleared vegetation will not be placed or stored within known noxious weed locations.
4) Stabilization and/or reclamation of disturbed ground will be implemented immediately after construction, or as soon as practicable during construction.
5) Chemical or mechanical weed control measures may be implemented prior to construction, during construction, following surface disturbance, or during operation based on the noxious weed species and its associated growth habit and phenology.
6) Appropriate species- and site-specific treatments will be implemented in accordance with Nevada Department of Agriculture Noxious Weed Program requirements and recommendations and landowner agreements.

4.4 CULTURAL WEED CONTROLS

Cultural weed controls refer to any technique that involves maintaining field conditions such that noxious weeds are less likely to become established or spread. Cultural controls include soil stabilization, maintaining good soil fertility, selection of native seed mixes appropriate for various site conditions (including selection of well-adapted competitive forage species), over-seeding of desirable species, avoiding over-grazing to the extent practicable, and quarantines for identified noxious weed locations.

4.5 MECHANICAL WEED CONTROLS

Mechanical weed controls refer to physical measures to remove noxious weeds, including mowing, chopping, and discing. These are effective as short-term measures for controlling noxious weeds and are especially effective when used repeatedly and in concert with other measures. Implementing mechanical controls early in the growing season may prevent certain species from going to seed and spreading. Areas treated with mechanical controls may be subsequently treated with herbicide to ensure the species does not recolonize before native species can become established.

4.6 Chemical Weed Controls

Chemical weed controls refer to herbicide application. There are many types of herbicides and no one herbicide treatment is effective for all weed species. Selection of the appropriate chemical treatment methods must take the species life cycle and timing of treatment into account. In general, herbicide treatments tailored for specific species are most effective for controlling noxious weeds, especially when integrated with other weed control methods. Tract or NV Energy will select herbicides and treatment strategies that will be most effective against noxious weeds and least detrimental to desirable species. The herbicides used will follow recommendations and guidance from the U.S. Environmental Protection Agency, Nevada Department of Agriculture, and the Storey County. The following BMPs will be implemented for herbicide application.

1) Herbicide application will be conducted by a certified pesticide applicator.
2) Herbicide application will not occur during precipitation or when a precipitation event is forecasted within 24 hours.
3) No herbicide spraying will occur when winds are greater than 15 miles an hour.
4) Tract or NV Energy will consider impacts of herbicide application on sensitive areas, such as those containing suitable habitat for special status species and may elect to use mechanical control methods in these areas to provide additional short term weed control and limit the establishment of noxious weed populations.

Monitoring of noxious weeds will also be conducted as part of ongoing operation inspections. Operations personnel will be trained in noxious weed identification and will document observations of noxious weeds during normal operations and maintenance inspections. Monitoring will be conducted at least every three months. Identified noxious weed populations will be treated consistently with those measures applied post-construction.

5.0 REFERENCES

_____. 2024. Consulted Nevada Division of Natural Heritage, NDNH Current Tracking List website, https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communitiesin July 2024.

_____. 2024. Consulted Nevada Division of Natural Heritage, NDNH Current Watch List website, https://heritage.nv.gov/documents/ndnh-current-watch-list in July 2024.

_____. 2024. Consulted Nevada Division of Natural Heritage, NDNH Explore Species Tool website, http://species.heritage.nv.gov/ in July 2024.

_____. 2024. Consulted Nevada Native Plant Society, Photo Gallery website,

https://nvnps.org/photos in July 2024.

_____. 2024. Consulted Nevada Department of Agriculture, Nevada Noxious Weed List website, https://agri.nv.gov/Plant/Noxious_Weeds/Noxious_Weed_List

_____. 2024. Consulted United States Department of Agriculture, Federal Noxious Weed List website, https://www.aphis.usda.gov/plant_health/plant_pest_info/weeds/downloads/weedlist.pdf

Nevada Revised Statutes, Section 555.130, Designation of Noxious Weeds, [Part 1:174:1929; NCL 414] (NRS A 1997, 479)

Nevada Revised Statutes, Section 555.150, Eradication of Noxious Weeds by Owner or Occupant of Land, [Part 1:174:1929; NCL 414](NRS A 1961, 524; 1987,1728; 1997, 480)

Nevada Revised Statutes, Section 555.160, State Quarantine Officer to investigate noxious weeds; notice to owner or occupant of land where noxious weeds are found, [3:174:1929; NCL 416](NRS A 1961, 524; 1993, 1711;1997, 480; 1999, 3642)

Nevada Revised Statutes, Section 555.170, Neglect of owner or occupant to eradicate weeds after notice; action by county commissioners; payment of costs by county, [4:174:1929; NCL 417](NRS A 1961, 524)

Nevada Revised Statutes, Section 555.180, County treasurer to mail itemized statement of costs to owner or occupant; objections and hearing; costs constitute lien on land, [5:174:1929; NCL 418](NRS A 1961, 525)

Nevada Revised Statues, Chapter 586, Nevada Pesticides Act, [1:269:1955]—(NRS A 1971, 1133; 1975, 187; 2015, 3631)

Nevada Revised Statues, Chapter 588, Commercial Fertilizers and Agricultural Minerals, [Part 2:203:1951] — (NRS A 1975, 359; 1977, 187; 1993, 1791; 1999, 3733; 2003, 413)

7 United States Code, 7702, Section 403 (10) Federal Noxious Weed Definition.

6.0 CLOSING

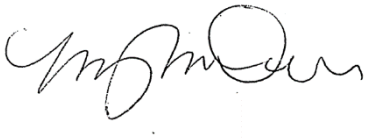
UES trusts the information provided herein satisfies the requirements of UEPA, Shreem Brzee Solar, Washoe County, and NV Energy at this time. Should you have any questions regarding this report please contact Ben Klink at (923) 814-3847 or bklink@teamues.com.

Respectfully submitted,

UES, Inc.

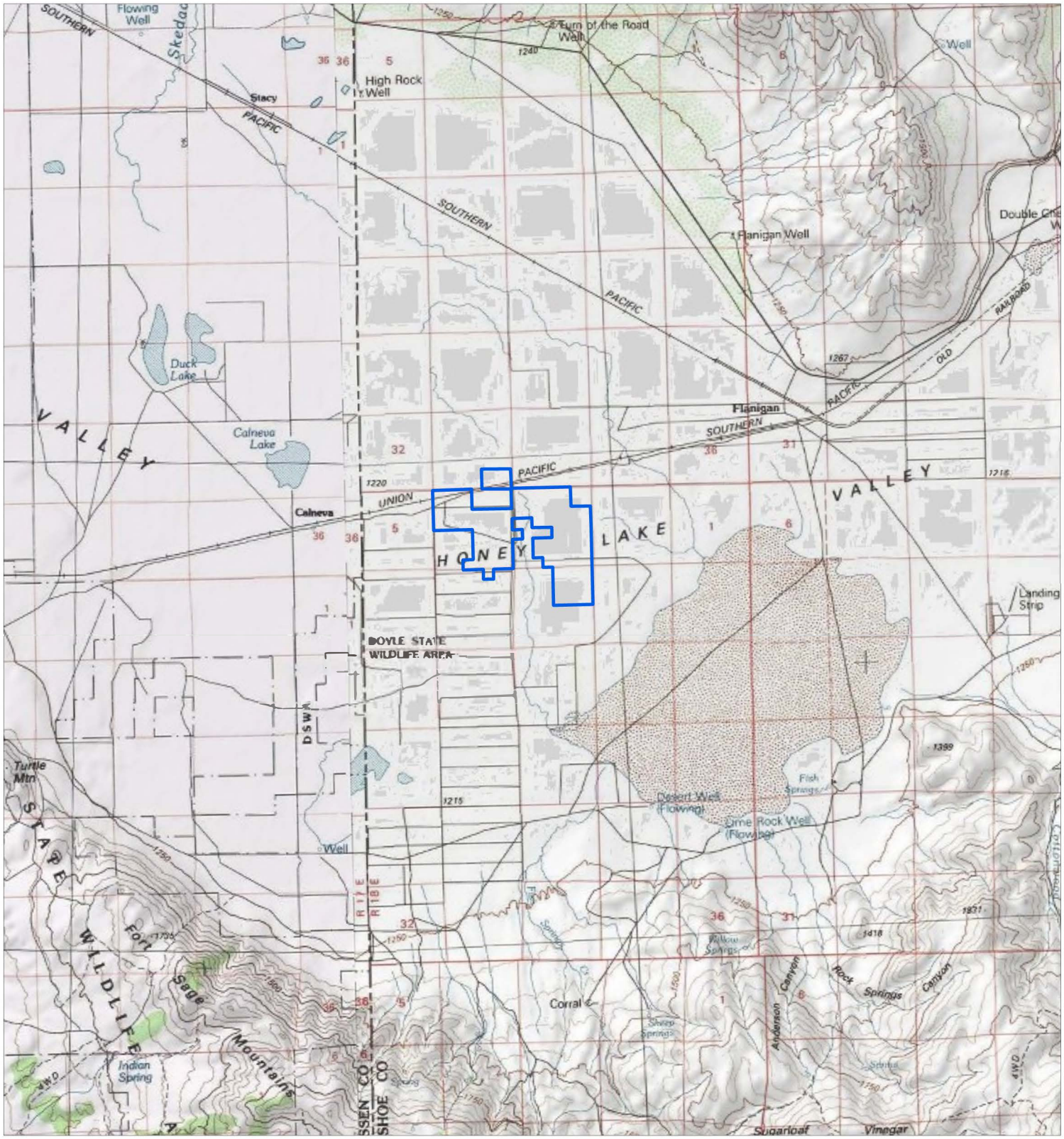


Ben Klink, BS
Biology Program Manager



Meaghan Davis, BS
Staff Biologist

FIGURES



UES

PROJECT VICINITY MAP

SUNSEEKER SOLAR PROJECT

Washoe County, Nevada

FIGURE	1
DRAWN BY	JMB
CHECKED BY	BLM
PROJECT MGR	BLM
DATE	02/2024
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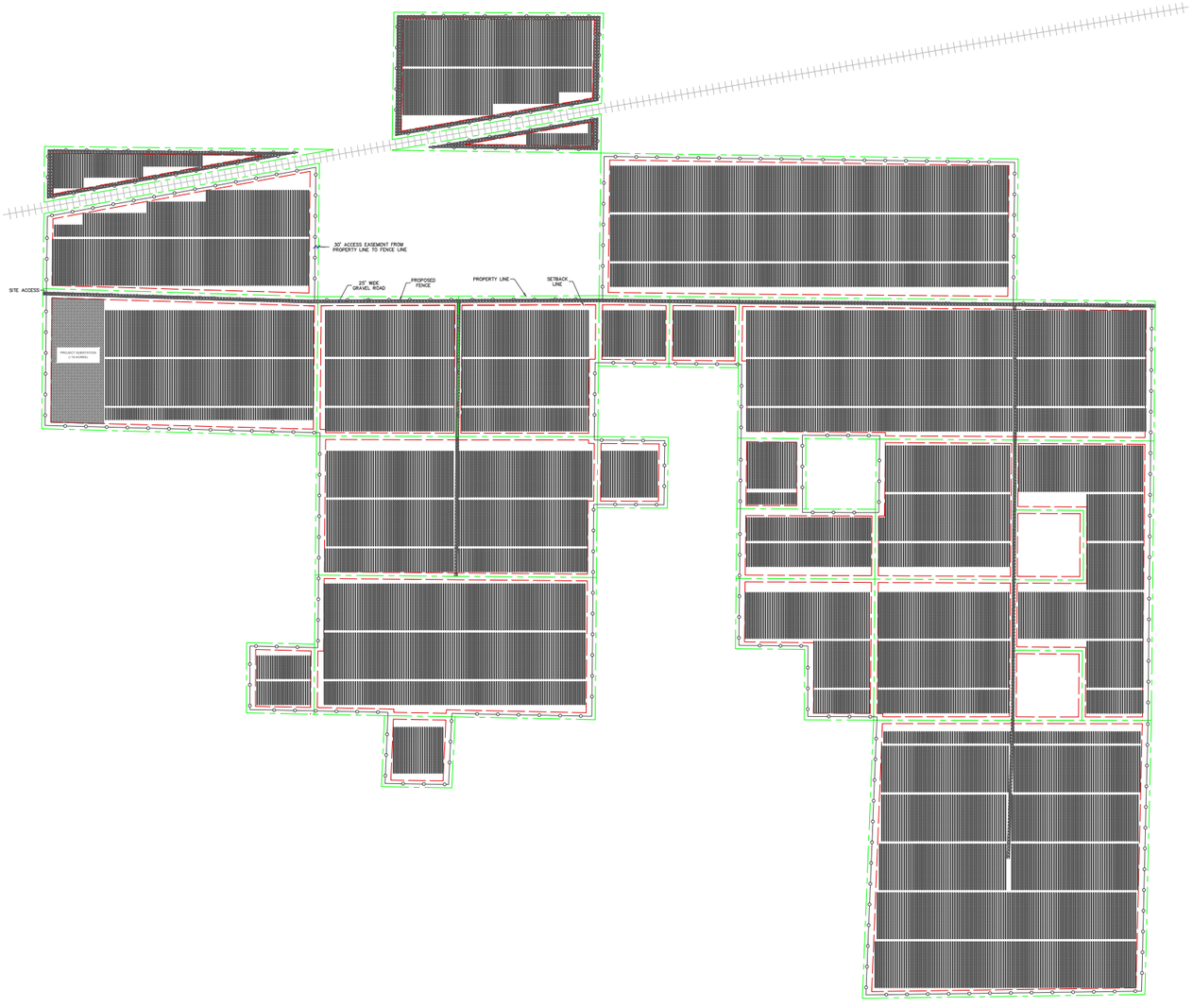


FIGURE 2 - SITE LAYOUT
SUNSEEKER SOLAR PROJECT
Washoe County, Nevada

Attachment E: Fire Management Plan

Sunseeker Solar Project
Battery Energy Storage System (BESS)
Photovoltaic Solar Energy System (PSES)
Project

Fire Management Plan

For Building of the Gen-Tie Line on Rainbow Way PUE
Located 7.5 miles N/E of Doyle, Lassen County, CA

Prepared For
Shreem Brzee Solar, LLC (SBS)
740 Broadway Street
Chico, California 95928
Phone: (916) 917-6673

Prepared by

Blue Mountain Limited LLC
6630 Arabian Circle, Granite Bay, CA 95746
Steven Bowman, Owner and Wildfire Consultant
Roy D. Pike, Fire Management Mitigation Consultant

July 30, 2023

Fire Management Plan

Introductory Template for the Sunseeker Solar Project Gen-Tie Line

This template provides the minimum requirements for said Project Fire Management Plan. It outlines the channels of responsibility for fire prevention and suppression activities and sets up an attack procedure in the event of a fire within the project area and generation tie line corridor.

The project area is on the California/Nevada border and is defined as the area within the BLM, Truckee Meadows Fire Protection District, Skedaddle Creek Fireshed, or on the California side of the border it is defined as California State Wildfire Protection Areas (SRA) in the jurisdiction of CALFIRE and within private land access and public utility easement “unpaved” “Unmaintained” private road (Rainbow Way) used for construction purposes and regional transmission line easement.

Contractor shall, both independently and in cooperation with the agency of fire jurisdiction of Washoe County and California State Wildfire Protection Areas by CALFIRE (SRA), shall take all reasonable and practicable actions to prevent and suppress fires resulting from Contractor’s Operations and to the best tactics to suppress any forest brush or grass fire started in the project area.

Contractor’s independent initial fire suppression action on such fires shall be immediate and shall include the use of all necessary personnel and equipment at Contractor’s disposal on site.

Requirements to Operate on “general operating days” include:

A. Tools and Equipment

1.Tools: (a) The contractor shall furnish and maintain in a serviceable condition: One shovel or Pulaski for each of his/her employees, to be used only for suppressing forest fires. These tools will be kept in sealed boxes and available within the immediate working areas. For each piece of equipment and each personal vehicle, he/she shall furnish one shovel, (Long Handle Round Point (LHRP) size 0 or larger) and one ax / Pulaski (two pound or larger).

For each welder, he/she shall furnish one shovel (LHRP size 0 or larger) and one backpack pump (five-gallon capacity). For each gasoline powered tool (power saw, soil auger, etc.), one shovel (LHRP size 0 or larger), and one eight-ounce chemical pressurized fire extinguisher. Contractor shall also furnish, if applicable, any other tools called for elsewhere in the agreement.

2. Equipment: Upon request the contractor shall furnish a list of equipment used on the project.

3. Manpower:

A. Upon request the contractor shall furnish a list of supervisory personnel and amount of total personnel available and working on the project.

B. General Provisions

1. Fire Prevention

(a) Spark Arrestors. All diesel or gasoline operated engines, except those machines equipped with exhaust driven turbo chargers, and all flues used on the project and in construction camps shall be equipped with adequate, serviceable arresting devices that meet Forest Service Standard 5100-1, Spark Arrestors for Internal Combustion Engines. Information in this standard will be furnished upon request.
(b) Smoking. The contractor may permit smoking by his/her employees but only in safe places such as: along roads, in truck cabs, or where all inflammable material has been cleared away from an area at least three feet in diameter. During periods of high fire danger, smoking may be restricted dependent on the stage of Fire Restrictions. Under no circumstances will smoking be permitted while operating tractors or other open-type vehicles in areas not cleared to mineral soil, or while walking or working in such areas.
(c) Gas and oil will be carried only in metal safety cans.
(d) Storage and Parking Areas.
Equipment service areas, parking areas, gas and oil drum storage areas, and explosive storage areas will be cleared of all inflammable material for a distance of 50 feet. Small stationary engine sites shall be cleared of all inflammable material for a distance of 15 feet.
Inflammable and explosive storage areas will be labeled as such, and "No Smoking" signs erected.
(e) Oil Filters, Cartridges, Oily Rags. Will be disposed of properly in trash containers and hauled to a proper waste management area. Glass jugs or bottles will not be used for gas, oil, or water.

C. Requirements imposed during Red Flag Day warnings:

1. Smoking, except within an enclosed vehicle or building, a developed recreation site, or while stopped in an area at least three (3) feet in diameter that is barren or cleared of all flammable material. (36 C.F.R. § 261.52(d))

2. Campfires are only allowed in designated campgrounds.

D. Requirements imposed during Red Flag Warnings:

1. All personnel must smoke in a vehicle with the doors closed and windows up.

2. No campfires are allowed on BLM or USFS or Skedaddle Fireshed Area, California State Wildfire Protection Areas (SRA) CALFIRE Lands under any Stage II or III restriction orders.

3. A serviced, and functioning fire extinguisher will be located in each vehicle.

4. When working on activities which generate flame, spark or flammable material, a skid mount 1000-gallon water tank and pump with fire hose, operated by a Basic

Wildland Firefighter trained person must be on site. The surrounding area must be soaked with water before starting the activity. A fire guard will continue to monitor the project for up to one hour after activities have ended.

5. A water tender with operator, water pump and hoses will be in place during operations.

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5.3.3 The constructor, with the aid of the Project Fire Safety Officer shall incorporate THE STANDARDS OF CARE with BEST

MANAGEMENT PRACTICES implement same to
prevent starting any fire

5.3.4 The constructor, with the aid of the Project Fire Safety Officer incorporate BEST MANAGEMENT PRACTICES prior to operating large equipment

5.3.5 EXCEPTION: A spark arrestor not required if a turbocharger is installed on exhaust system

The Fire Safety Plan

1.0 Responsibilities:

It is the responsibility of any person, business or firm that is working in or around flammable vegetation with equipment or working activities that can reasonably cause a fire of any type, particularly a wildland fire, to follow all rules, statutes, ordinances and Best Practices in order to prevent a fire before it starts and/or escapes control and burns into another person's property.

There are three components that are required by all persons who own and operate equipment and construct transmission towers and other structures and their appurtenances to adhere to in order to avoid civil and criminal liabilities involving all things and practices, especially the threat of fires that can reasonably expected when working in and adjacent to highly flammable vegetation. The three components are: (1) a Duty of Care (2) a Standard of Care and (3) Damages to property of others from a wildfire. All three components must be performed in strict compliance of what is written in this document. Failure to do so and should a fire that originates from said construction of a transmission line can be reasonably proven in a court of law, the owners, contractors and sub-contractors involved in said construction will be charged with the torts of negligence, and commission of misdemeanor crimes found in the Nevada Revised Statutes relating to required spark arrestors, fire extinguishers, and other due diligence sections of said code.

1.0.1 A Duty of Care:

Furthermore, for any fire started on a person's property said person has a *Duty of Care* to protect the property and safety of others by taking all reasonable and prudent action to (1) prevent wildfires in the first place and (2) keep said fires from spreading to other's property.

Mandate: The owners, and their contractors and sub-contractors and their employees, must agree to follow the long-established fact that wildfires are a serious threat to the public and must be prevented from occurring to property of others including entire communities and the lives of people within them. Therefore, it is an un-written understanding by law enforcement that a Duty of Care is

established whenever transmission line construction occurs in areas within highly flammable vegetation such as thousands of acres of Sagebrush and Cheatgrass, in this specific location.

1.0.2 A Standard of Care:

In addition to a Duty of Care, a carefully written list of applicable Fire Prevention and Fire Suppression activities must also be written and enforced by the owners and their contractors and sub-contractors and their supervisors to further protect the public from wildfire in the surrounding vegetative environment, structures and the people that work and live in them.

Mandate: The owners, and their contractors and sub-contractors must precisely follow the items of Fire Prevention and Fire Suppression listed in this document. These items make up the Standards of Care for the prevention and suppression of fires.

1.0.3. The Tort of Negligence:

It is critically important for the owner(s) and their contractors /sub-contractors to fully understand that should a fire occur and spread to property of others it is a strong probability that their Duty of Care (to prevent and suppress wildfires) would be considered a tort and they would face severe civil liabilities for negligence.

1.0.4 Fire Suppression Costs:

Should a wildfire occur and spread to property of others that can reasonably be proven to be caused by the failure to follow the standards of care listed herein, or commission of a misdemeanor crime, all public firefighting entities who were needed to put out said fire could/would issue a Letter of Demand to recover their costs of fighting the fire due to your negligence.

Special Note: Responsibility of Maintaining the Standards of Care

In order to provide the most modern and Best Practices of fire prevention and fire suppression standards, a ***Project Manager***/***Project Fire Safety Officer*** empowered with the responsibility to secure, provide tools, train, inspect and mitigate all matters dealing with fire prevention and fire suppression and maintain the Fire Safety Standards listed in this Fire Plan is a critical person in the entire

Transmission Line Construction Effort. To properly accomplish ***the Fire Safety Standards of Care*** a person with the following experience should be found to staff the Project Fire Safety Officer position:

Requirements:

- At least 10 years of full- time wildland firefighting and fire prevention experience at a rank of at least fire captain with an acknowledged wildland firefighting agency or an agency with dual wildland firefighting and structure firefighting responsibilities.
- Preferred Experience would include wildland fire inspection experience and fire training experience.
- The ability to drive a pick-up truck with a skid mount tank and pump in the back of said pick-up. With a valid Class C Driver's License.
- Able to pass a thorough background check.
- Able to pick up to 50 pounds of weight, unassisted.
- Corrected Hearing
- Corrected Vision
- Ability work well with people and outside fire agencies.

1.1 Pre-inspection of Equipment

1.1.1 Hydraulic Equipment Inspections

High Pressure Hydraulic equipment inside the operational platform should be checked once at the start of each shift and at the end of each shift. Leaks must be immediately brought to the attention of the lead diesel mechanic, must not be operated until the leak has been corrected.

1.1.2 Gas Powered Small Equipment Spark Arrestor

This equipment usually has a screen style of spark arrestor, and it must be checked at least weekly. During very hot days with low humidity, a single piece of microscopic carbon ejected out of an exhaust pipe on a vehicle has been known to cause major fires. Occasionally, operators of small equipment take the screen out of the spark

arrestor without approval on small internal combustion engines to (allegedly) increase the power of piece of small equipment and some say increase power. This activity must be stopped immediately because it is against the law and perpetrators can be fired and /or jailed for such an action.

1.2 **Safety Tailgate Meeting to Include at least the Following Fire Protocols:**

At least once daily, an informal five to seven-minute safety review must be conducted by the supervisor of the construction crews. Subjects covered must be:

- Near misses that happened in the previous shift.
- Review the cause and mitigation of the near miss.
- Causes of accidental fires and their mitigation
- Discussion special fire safety issues not being followed.

1.2.1 At the beginning of each construction project a full, all hands Safety Meeting must be made to cover wildfires and their mitigation. Minimum subjects to be covered must be supported with instructor Demonstrations and resultant student Demonstrations of manual dexterity. Demonstration of how to properly use the following fire tools to put out a fire:

- The McCleod Tool
- The Long Handle Shovel to throw dirt
- The Back Pump
- How to make a fire hose connection and manipulate a fire hose nozzle
- Fire Weather indicators of High to Extreme
- Predictions of upcoming changes in weather
- Construction personnel without the required training and fire protection gear must never attempt an attack of the fire that has flame lengths of more than a few feet high without full

safety nomex pants and shirt, goggles, fire gloves, lugged high top leather boots.

1.3 **Scope of Work to Obtain a set of Standards of Care with Fire:**
Powerline Contractor shall furnish all supervision, labor, tools, equipment and material necessary to prevent starting of any fire, control spread of fire if started, and provide assistance for extinguishing fires started as a result of transmission line construction activities and other construction activities appurtenant to maintaining a fire safe work site as shown herein, the Project Specification, and Fire Management Specification that includes a designated and trained Project Fire Safety Officer that is assigned the authority and responsibility of eliminating any fire hazards, acting as a lookout for detecting and reporting smoke or flames within or immediately adjacent to the project area and sending personnel and equipment necessary to contain any fire within the transmission line construction zone.

1.4 Emergency Notifications of Appurtenant Firefighting Agencies:
The local fire district, federal and state firefighting agencies with jurisdiction of the location of the fire must be immediately notified of the fire.

Doyle Fire District Phone Number	(530) 827-2681
Nearest USFS Ranger Station Phone Number	(530) 257-2151
Nearest BLM Ranger Station Phone Number	(775) 885-6000
Sierra Army Depot Fire Department	(530) 827-4323
CALFIRE Lassen-Modoc Unit	(530) 257-3778
Truckee Meadows Fire Protection District Station 42 Cold Springs	(775) 326-6000

[Note: To be accomplished by PM/Project Fire Safety Officer]

1.5 Daily Wildfire Condition Updates
Assign the responsibility to obtain the daily wildfire briefing from the fire agency of jurisdiction of the local fire district, federal and state firefighting agencies. This information must be included in the morning Safety Briefings by PM/Project Fire Safety Officer
The local fire agencies

CALFIRE (Lassen Unit-Susanville Phone	(530)257-3778
BLM Carson Fire	(775) 885-6000

2.0 Fire Prevention

2.1 Notification to Local Fire (see 1.4 above)

2.2 Require Necessary Permits and Requests:
From local fire jurisdiction of authority:

- Burn Permits
- Request for a Fire Prevention Inspection
- Fire Prevention related questions
- [PM/Project Fire Safety Officer responsibility]

2.3 Equipment Fueling Area
Use of gasoline, diesel, propane requires fueling only in the designated fueling area.
(See attached addendum attached)
[PM/Project Fire Safety Officer responsibility to Supervise and Enforce]

2.4 Clearing Vegetation (see attached addendum) to be done in early morning hours with higher Rh reading. If fire danger conditions require more safety, use a water truck to spray down the area prior to clearing and have necessary fire equipment at ready

2.4.1 Staging Areas
These are the areas where heavy equipment and firefighting vehicles are to be parked during non-use periods
[Project Fire Safety Officer responsibility]

2.4.2 Layout Areas
These are areas that are laid out and marked for work that requires more pace to than the roadway to perform pre-construction activity such as vehicle repairs and maintenance., welding, grinding, acetylene cutting of metals, and all other activity that could reasonably create sparks and cause a fire. This area should be fenced by a 6' hurricane fencing to keep out unauthorized personnel.
[Project Fire Safety Officer responsibility]

2.4.3 Pole Site Storage Areas
To be used to store poles, work on attaching this to poles and other transmission line construction storage.

2.4.4 Removal of Brush from Pole Sites:
This must be done in concert with the creation of cut-off sagebrush and cheatgrass so that an accumulation of dead vegetation is not left within the Right of Way. All vegetation in this condition must be taken to either an approved refuse dump site or a temporary cleared area devoid of flammable vegetation of at least 200' in circumference and not more than 10 feet tall. To be approved by Washoe BESS/PSES contractor. [PM/Project Fire Safety Officer responsibility to make daily hourly inspections for cut sagebrush and cheatgrass and enforcement of standards of care.]

2.4.4 Clear all vegetation around Stationary Engine and other portable equipment, i.e., generator, water pump, hydraulic pump to 10 ft from the engine. Have fire extinguisher.

2.5 Fire Water Source Locations – **(Possible Sources)**

2.5.1 Doyle Fire Protection District
747-150 E Main Street, Doyle, CA 96109
Phone: (530) 827-2681

2.5.2 Doyle Interagency Fire Station (USFS and BLM)
S/W Corner of Doyle Grade Rd and Doyle Dr (Rd 361), Doyle
434-695 Doyle Loop Road in Doyle, California
Phone: (530) 827-2681

2.5.3 US Army Herlong Fire Department
447-855 Plumas Ave, Herlong, CA 96113
Phone: (530) 827-3150

2.6 Smoking and Vaping Protocol

2.6.1 Smoking cigars, cigarettes, pipes and Vaping will not be on the construction project, except in an approved smoking/ vaping area as noted below per Project Manager:

3.0 Fire Suppression Equipment and Specs.

3.1 Proper Fire Extinguishing Equipment

3.1.1 Water Truck Specifications

- Larger than 1,000 gallons and less than 3,999 gallons cap.
- an internal combustion powered pump or PTO
- at least 200 gpm at 50 psi
- two 2.5" NH M discharge valves

- one 2 ½" 20 ft. suction hose
- hydrant wrench and spanner,
- three, 1 1/2" x 100 ft. fire hose
- two 1 ½" shut off spray nozzles,
- one hydrant fill-hose 2.5"x 25'NH.
- one 10# ABC fire extinguisher,
- one long-handed shovel,
- one Pulaski,
- anti-back-flow device on tank fill line,
- spray bar front and read for dust abatement road work
- equipment per DOT

3.1.2 Buffalo Tank (Fire Trailer)

- a 500-gallon tank,
- plumbed in fire pump of at least 119 GPM and 60psi,
- a 1.5" intake, one (1) 1.5" discharge,
- adapted to 1.5"NH M,
- one (1) 1.5" NH gated Y,
- Two (2) 100'x1.5" wildland fire hose,
- two (2) 1.5" NH shut-off spray nozzles,
- One (1) long handled shovel on the trailer,
- one (1) 5# ABC fire extinguisher,
- must meet DOT highway specs.

3.1.3 Designated Fire Pumper Vehicle (3/4-ton 4x4 Diesel Pick-up)

- a 200-gallon steel tank and pump for immediate use.
- a two-way radio and cell phone
- one (1) 5 gallon back pumps and
- two (2) 100' x 1"npsh fire hose coupled and read
- two (2) shut-off spray nozzles
- a 25' of 1 ½" hose for nursing from a water tender
- two (2) long handle shovels
- one (1) Mcleod tool
- one (1) Pulaski tool

3.1.4 Compressed Air Foam System (CAFS) on each piece of heavy equipment with hi-pressure Hydraulic Activation rams and other moving part of said piece of equipment. To be used on large construction equipment with high pressure hoses to

hydraulic rams and other items requiring a hydraulic operated system.
See sites for CAFS units available. Tri-Max or like.
http://www.trimax.us/compressed-air-foam-products/tri-max-3-mini-caf/

3.1.5 Proper Dry Chemical Extinguishers, all company pick-up trucks, flatbed trucks, bulldozers, transports, 10-wheeler and 18-wheel belly dump and truck trailers will carry a dry chemical A, B, C rated fire extinguisher of the size (5# to 10#) recommended by the fire agency of jurisdiction.

4.0 Inspections of Fire Suppression Equipment

4.1 All fire suppression equipment will be inspected by the PM / PFSO whose responsibility is to list it in Fire Plan Daily Safety Records

4.2 Individuals Operators of each truck or equipment shall inspect their fire suppression apparatus daily during the equipment check.

5.0 Fire Suppression Methods for Construction / Linemen/Equip Operators

5.1 Hydraulic Fire Inside Engine Compartment - Quick Reaction Needed!

5.1.1 On heavy high pressure hydraulic equipment, hydraulic oil will heat of and if there's a weak area on a hydraulic hose of fitting, and hot oil sprays onto the hot engine or exhaust system, there's a great possibility of a dangerous fire breaking quickly and causing an extreme fire. To suppress this type of fire requires very quick reaction with the right suppressant. Dry fire extinguishers work great, however in tight areas of engine compartments, the dry chemical may not completely suppress the fire. Therefore, it is of great importance to have a CAFS unit on or next to the equipment. CAFS will reach 30 to 40 feet and must be sprayed into the compartments through any opening. The foam will work it way throughout the compartment. Work from both sides of the equipment if necessary.

5.2 Gas and Oil Fire in Fueling Area

Using a CAFS is the preferred extinguisher for hydrocarbon type fuels. However the standard ABC dry chem fire extinguisher in the 5# to 10# rated will work in a quick response. Also stay up-winds and test the extinguisher before moving in closer. Spray the powder at the base of the fire and work across.

5.3 Wildfire Suppression

Construction personnel without proper training (NWCG S-190 and S-130) and without wildfire PPE, must only be involved in fire suppression at the earliest stages of the fire. Without professional FF training and PPE, it is very dangerous to take on more than it's safe to handle. With the proper suppression equipment, it is possible to continue with suppression by moving back from the heat and staying up wind while using the proper CAFS unit with 35' to 40' reach or a high-pressure water system with proper fire nozzle when you can achieve 50' to 60' reach. There is an additive called Class A Fire Foam that will help with a safer tactic and quicker suppression. Even if you can't suppress the fire completely, you may be keeping the spread down to a minimum as the professional firefighters are heading to the Site. If you feel safe and making progress, continue suppression. Others can help with the hose and by using tools and a back pump to suppress hot areas near you. The best hand tools for "Hot Spotting" are the Back pump and shovel. For the shovel, find a soft soil, scope up and throw at the bottom of the fire to reduce the heat. Even though you don't have Wildfire PPE, a heavy cotton or wool long sleeve shirt and good thick work pants made of cotton or wool will help hold back some heat. Couple that with good heavy work boots, work gloves and your hard hat, bandana and goggles, you will be in pretty good shape dealing with safety, however staying back from the flames and turn up the water pressure by increasing the throttle on the pump motor if possible. Always stay up wind from the fire. Move the fire suppression equipment (water truck, trailer and small pumper when possible. Do not drive into the fuels stay on the road or cleared areas. If the fire continues to move further away and you have extra hose, extend your range however again stay out of the fire and on the road or cleared areas. If possible and safe, hold the fire from spreading and allow the professional FF to take over. Use your remaining suppression agent to support the professional FF. Use your skills to clearing vehicle and equipment from the area in a safe manner.

5.4 Make Sure Fire is DEAD OUT

One the firefighters have taken over the fire, use your line personnel to mop-up around the fire start area and make sure there're no hot spots. Try your best to protect the origin of

the fire. If you have waters remaining in your water truck or tanks, notify the firefighter about the water and other suppression equipment on Site.

6.0 Emergency Fire Communications on Site

6.1 On Site Emergency Fire Notification

Unless or until a radio notification system is in place, the following emergency notification will be used by the Project Fire Safety Officer and/or the construction team person who first noticed the fire an alert will be started by said person by utilize the horn of a vehicle and gives three long blasts of the horn using the following cadence one long (at least 10 seconds) blast of the horn followed by a 5 second pause followed by another 10 second blast and a 5 second pause followed by the last 10 second blast. Repeat this cadence sequence at least three times and then utilize a cell phone to call the Project Fire Safety Officer via cell phone and notify him/her of the location and size of the fire.

6.1.1 A Two-Way Radio system will be needed that will cover the 4-mile project area. Check and make sure the wattage are sufficient to cover that distance. Note: a higher than 1 Watt system may be needed. Check for use of a frequency for that area from Doyle Fire. A Rented Bendix King may be the best.

6.1.2 Two-Way Radios is a must with a 4 miles long project inadequate or spotty cell service, use a Bendix-King 5 with and held Fire radio which can be rented from Radio Companies. Have the Lassen Emergency Command and Doyly Fire programmed in with the correct frequencies (Tx and Rx) along with correct Tone for that area. This radio can be used for other emergencies.

6.1.3 <u>Radio use must be official emergency use only with pre-authorization from ECC in Washoe County and Doyle FPD Fire Chief.</u>

6.2 Company/Personnel List with Phone Numbers

6.2.1 Sunseeker BESS/PSES

- Josephine Pillai, Property Lease Holder 530-521-4925

6.2.2 Blue Mountain Limited

- Steve Bowman, Wildfire Consultant 916-715-6571

- Roy Pike, Fire Mngt Mitigation Consultant 707-696-3025

7.0 SAFEGUARDS AND CONTROL OF FIRES - PM/PFSO's Duty and Responsibility to maintain:

7.1 SAFEGUARDS AND CONTROL OF FIRES:

Responsibility:

It is the Project Fire Safety Officer that is assigned the authority and responsibility of eliminating any fire hazards, acting as a lookout for detecting and reporting smoke or flames within or immediately adjacent to the project area and sending personnel and equipment necessary to contain any fire within the transmission line construction zone.

7.1.1 The Contractor shall appoint a PM/PFSO to ensure reasonable inspecting duties and immediate correcting of any fire hazard as observed by him/her or reported by others on a work crew. The Motto: **"Fire Safety is Everyone's Business"** should be posted on signage with black lettering at least 6" high with a ¾ stroke with a safety yellow background.

7.1.2 The Contractor, with the aid of the PM/PFSO shall incorporate THE STANDARDS OF CARE with BEST MANAGEMENT PRACTICES implement same to prevent starting any fire, including but not limited to forbidding:

(1) open warming or cooking fires

(2) smoking in non-approved areas or while working on an open and moving piece of equipment

(3) operating small engine equipment such as, chain saws, ATV's, air compressors, welders, handheld air blowers, etc., without first ensuring that an approved spark arrestor is properly installed and maintained.

7.1.3 The Contractor, with the aid of the PM/PFSO to incorporate BEST MANAGEMENT PRACTICES prior to operating large equipment such as bulldozers, cranes, excavators, wheel tractors, back hoes, and other similar equipment without first ensuring that a USFS approved spark arrestor is installed on said equipment.

7.1.4 EXCEPTION: A spark arrestor will not be required on the above large equipment providing the engines in said equipment have an approved and correctly performing turbocharger in its exhaust system.

Attachment F: UEPA Authority Construct Permit and Application Materials

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

Application of Shreem Brzee Solar LLC, under the provisions of the Utility Environmental Protection Act, for a permit to construct the Sunseeker Solar Project consisting of a 250 MW photovoltaic solar electric generating facility, an up to 200 MW battery energy storage system, an approximately 5 mile long 345 kV generation-tie line, a 345 kV substation, and associated facilities to be located on approximately 1,140 acres of private land in Washoe County, Nevada.	)	Docket No. 24-06015

At a general session of the Public Utilities Commission of Nevada, held at its offices on September 24, 2024.

PRESENT: Chair Hayley Williamson
Commissioner Tammy Cordova
Commissioner Randy J. Brown
Assistant Commission Secretary Trisha Osborne

ORDER

The Public Utilities Commission of Nevada ("Commission") makes the following findings of fact and conclusions of law:

I. INTRODUCTION

Shreem Brzee Solar LLC ("Shreem Brzee Solar") filed with the Commission an application, designated as Docket No. 24-06015 ("Application"), under the provisions of the Utility Environmental Protection Act ("UEPA"), for a permit to construct ("Permit to Construct") the Sunseeker Solar Project consisting of a 250 megawatt ("MW") photovoltaic solar electric generating facility, an up to 200 MW battery energy storage system ("BESS"), an approximately 5 mile long 345 kilovolt ("kV") generation-tie line, a 345 kV substation, and associated facilities to be located on approximately 1,140 acres of private land in Washoe County, Nevada (the "Project").

II. SUMMARY

The Commission grants the Application, as amended, subject to the satisfaction of the compliances delineated in this Order.
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III. PROCEDURAL HISTORY

• On June 11, 2024, Shreem Brzee Solar filed with the Commission its Application. Shreem Brzee Solar filed the Application pursuant to the Nevada Revised Statutes ("NRS") and Nevada Administrative Code ("NAC") Chapters 703 and 704, including, but not limited to, NRS 704.820 through 704.900 and NAC 703.415 through 703.427.

• The Regulatory Operations Staff ("Staff") of the Commission participates as a matter of right pursuant to NRS 703.301.

• On June 17, 2024, the Commission issued a Notice of Application for Utility Environmental Protection Act Permit to Construct a Utility Facility.

• On July 11, 2024, Shreem Brzee Solar filed amended Exhibit Nos. 1, 2, and 3.

• On September 23, 2024, Staff filed a briefing memorandum ("Staff's Briefing Memorandum").

• On September 24, 2024, the Commission voted to adopt the recommendations contained in Staff's Briefing Memorandum.

IV. UEPA PERMIT TO CONSTRUCT

Shreem Brzee Solar's Request

1. Shreem Brzee Solar seeks a UEPA Permit to Construct the Project in four phases. (Application at 33.)

Staff's Recommendations

2. Staff states that Shreem Brzee Solar's Environmental Statement ("ES") of the Project identifies the nature of the probable effect of the Project on the environment and the required mitigation measures. (Staff's Briefing Memorandum at 6.) Staff states that Shreem Brzee Solar is in the process of obtaining all permits and approvals required by state and local authorities for the Project. (*Id.*) Staff recommends that the Commission issue a UEPA Permit to Construct the Project, as defined in Staff's Briefing Memorandum, contingent upon Shreem Brzee Solar obtaining and filing with the Commission, as compliance items, if not already included in the filing, the following outstanding permits, licenses, and approvals:

Phase I: Site Grading and Temporary Construction Facilities:

a. Washoe County, Nevada ("Washoe County") – Special Use Permit and Major Grading Approvals.

b. Washoe County – Dust Permit.

c. Nevada Department of Environmental Protection ("NDEP") – Fugitive Dust Permit.

d. NDEP – Water Discharge Permit.

Phase II: Generating Facility and Access Roads:

a. Washoe County – Special Use Permit and Major Grading Approvals.

b. Washoe County – Dust Permit.

c. NDEP – Fugitive Dust Permit.

d. NDEP – Water Discharge Permit.

e. Washoe County – Building and Grading Permit.

Phase III: Project Substation and BESS:

a. Washoe County – Special Use Permit and Major Grading Approvals.

b. Washoe County – Dust Permit.

c. NDEP – Fugitive Dust Permit.

d. NDEP – Water Discharge Permit.

e. Washoe County – Building and Grading Permit.

Phase IV: Generation Tie Line:

a. Washoe County – Special Use Permit Approvals.

b. Washoe County – Dust Permit.

c. NDEP – Fugitive Dust Permit.

(*Id.*)

3. Staff recommends that once Shreem Brzee Solar has obtained and filed with the Commission a copy of the outstanding permits needed for the Project, the Commission issue to Shreem Brzee Solar a UEPA Permit to Construct that sets forth a description of the Project. (*Id.* at 7.) Staff recommends that this Order contain the following provision: "if Shreem Brzee Solar does not file with the Commission all the compliances listed above within five years of the effective date of this Order, this Order will be deemed vacated without further action by or order of the Commission." (*Id.*) Staff also requests that the Commission include an ordering paragraph in its Order that states: "No construction may commence on any utility facilities that are subject of this Application for a UEPA Permit to Construct until after the Commission has issued the Permit to Construct for the applicable phase of the Project." (*Id.*)

4. Staff further recommends that the Commission's Order granting the Application, as amended, to include the following findings and conclusions:

a. Accept and incorporate the findings and conclusions in Shreem Brzee Solar's ES for the Project.

b. Shreem Brzee Solar determined the nature of the probable effect of the Project on the environment in its ES for the Project.

c. The need for the Project balances any adverse effect on the environment.

d. The Project represents the minimum adverse effect on the environment, considering the state of available technology and the nature and economics of the various alternatives.

e. Shreem Brzee Solar is in the process of obtaining all federal, state, and local permits, licenses, and approvals for the Project.

f. The Project will serve the public interest.

(*Id.*)

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Commission Discussion and Findings

5. The Commission adopts the analysis and recommendations contained in Staff's Briefing Memorandum. Accordingly, consistent with Staff's recommendations, the Commission grants the Application, as amended, subject to the satisfaction of the compliances ordered herein.

6. Pursuant to NRS 704.890, the Commission further finds, incorporates, and/or concludes the following:

a. Accepts and incorporates the findings and conclusions in Shreem Brzee Solar's ES for the Project.

b. Shreem Brzee Solar determined the nature of the probable effect of the Project on the environment in its ES for the Project.

c. The need for the Project balances any adverse effect on the environment.

d. The Project represents the minimum adverse effect on the environment, considering the state of available technology and the nature and economics of the various alternatives.

e. Shreem Brzee Solar has obtained or is in the process of obtaining all other permits, licenses and approvals required by federal, state, and local statutes, regulations, and ordinances.

f. The Project will serve the public interest.

7. The Commission finds that Shreem Brzee Solar must file with the Commission, as compliance items, the following required outstanding permits, licenses, and approvals:

Phase I: Site Grading and Temporary Construction Facilities:

a. Washoe County – Special Use Permit and Major Grading Approvals.

b. Washoe County – Dust Permit.

c. NDEP – Fugitive Dust Permit.

d. NDEP – Water Discharge Permit.

Phase II: Generating Facility and Access Roads:

a. Washoe County – Special Use Permit and Major Grading Approvals.

b. Washoe County – Dust Permit.

c. NDEP – Fugitive Dust Permit.

d. NDEP – Water Discharge Permit.

e. Washoe County – Building and Grading Permit.

Phase III: Project Substation and BESS:

a. Washoe County – Special Use Permit and Major Grading Approvals.

b. Washoe County – Dust Permit.

c. NDEP – Fugitive Dust Permit.

d. NDEP – Water Discharge Permit.

e. Washoe County – Building and Grading Permit.

Phase IV: Generation Tie Line:

a. Washoe County – Special Use Permit Approvals.

b. Washoe County – Dust Permit.

c. NDEP – Fugitive Dust Permit.

8. The Commission finds that if Shreem Brzee Solar does not file with the Commission all the compliances listed above within five years of the effective date of this Order, this Order will be deemed vacated without further action by or order of the Commission.

Therefore, it is ordered:

1. The Application of Shreem Brzee Solar LLC, designated as Docket No. 24-06015, is granted, as amended, as provided by and consistent with this Order.

2. No construction may commence on the utility facility that is the subject of this Application for a Utility Environmental Protection Act permit to construct until after the Public

Utilities Commission of Nevada issues the permit to construct for the applicable phase of the Project.

3. The requested Utility Environmental Protection Act permit to construct the Sunseeker Solar Project consisting of a 250-megawatt photovoltaic solar electric generating facility, an up to 200-megawatt battery energy storage system, an approximately 5-mile long 345 kilovolt generation-tie line, a 345 kilovolt substation, and associated facilities to be located on approximately 1,140 acres of private land in Washoe County, Nevada, is granted, as amended, subject to the satisfaction of the compliances ordered herein.

Compliances

4. Prior to the issuance of a Utility Environmental Protection Act permit to construct Phase I: Site Grading and Temporary Construction Facilities, Shreem Brzee Solar LLC must file the following with the Public Utilities Commission of Nevada:

a. Washoe County, Nevada – Special Use Permit and Major Grading Approvals.

b. Washoe County, Nevada – Dust Permit.

c. Nevada Department of Environmental Protection – Fugitive Dust Permit.

d. Nevada Department of Environmental Protection – Water Discharge Permit.

5. Upon the Regulatory Operations Staff of the Public Utilities Commission of Nevada's verification of the completion of the compliance items set forth above, the Assistant Secretary of the Public Utilities Commission of Nevada must issue to Shreem Brzee Solar LLC, a Utility Environmental Protection Act permit to construct Phase I: Site Grading and Temporary Construction Facilities.

6. Prior to the issuance of a Utility Environmental Protection Act permit to construct Phase II: Generating Facility and Access Roads, Shreem Brzee Solar LLC must file the following with the Public Utilities Commission of Nevada:

a. Washoe County, Nevada – Special Use Permit and Major Grading Approvals.

b. Washoe County, Nevada – Dust Permit.

c. Nevada Department of Environmental Protection – Fugitive Dust Permit.

d. Nevada Department of Environmental Protection – Water Discharge Permit.

e. Washoe County, Nevada – Building and Grading Permit.

7. Upon the Regulatory Operations Staff of the Public Utilities Commission of Nevada's verification of the completion of the compliance items set forth above, the Assistant Secretary of the Public Utilities Commission of Nevada must issue to Shreem Brzee Solar LLC, a Utility Environmental Protection Act permit to construct Phase II: Generating Facility and Access Roads.

8. Prior to the issuance of a Utility Environmental Protection Act permit to construct Phase III: Project Substation and Battery Energy Storage System, Shreem Brzee Solar LLC must file the following with the Public Utilities Commission of Nevada:

a. Washoe County, Nevada – Special Use Permit and Major Grading Approvals.

b. Washoe County, Nevada – Dust Permit.

c. Nevada Department of Environmental Protection – Fugitive Dust Permit.

d. Nevada Department of Environmental Protection – Water Discharge Permit.

e. Washoe County, Nevada – Building and Grading Permit.

9. Upon the Regulatory Operations Staff of the Public Utilities Commission of Nevada's verification of the completion of the compliance items set forth above, the Assistant Secretary of the Public Utilities Commission of Nevada must issue to Shreem Brzee Solar LLC, a Utility Environmental Protection Act permit to construct Phase III: Project Substation and Battery Energy Storage System.

10. Prior to the issuance of a Utility Environmental Protection Act permit to construct Phase IV: Generation Tie Line, Shreem Brzee Solar LLC must file the following with the Public Utilities Commission of Nevada:

a. Washoe County, Nevada – Special Use Permit Approvals.

b. Washoe County, Nevada – Dust Permit.

c. Nevada Department of Environmental Protection – Fugitive Dust Permit.

11. Upon the Regulatory Operations Staff of the Public Utilities Commission of Nevada's verification of the completion of the compliance items set forth above, the Assistant Secretary of the Public Utilities Commission of Nevada must issue to Shreem Brzee Solar LLC, a Utility Environmental Protection Act permit to construct Phase IV: Generation Tie Line.

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12. If Shreem Brzee Solar LLC does not file with the Public Utilities Commission of Nevada all the requisite compliance items within five years of the effective date of this Order, this Order will be vacated without further action by the Public Utilities Commission of Nevada.

By the Commission,

Trisha Osborne

TRISHA OSBORNE,
Assistant Commission Secretary on behalf of
the Commissioners

Dated: Carson City, Nevada
10/3/24

(SEAL)

PUBLIC UTILITIES COMMISSION OF NEVADA
PUC

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA
IN THE MATTER OF:

Application of Shreem Brzee Solar, LLC, for a permit to construct a 250 MW Solar Energy Generating Facility, 345 kV Project Substation, 345 kV Generation-Tie Line, and associated facilities, including an energy storage system to be located in Washoe County, Nevada, pursuant to the Utility Environmental Protection Act	Docket No. 24-_____

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SHREEM BRZEE SOLAR, LLC

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Holland & Hart

Bryce C. Alstead, P.C.
Partner
Phone 775.327.3067
balstead@hollandhart.com

June 10, 2024

VIA ELECTRONIC FILING

Ms. Trisha Osborne
Assistant Commission Secretary
Public Utilities Commission of Nevada
1150 E. William Street
Carson City, Nevada 89701-3109

Re: Docket No. 24-_____: Application of Shreem Brzee Solar, LLC for a permit to construct a 250 MW Solar Energy Generating Facility, 345 kV Project Substation, 345 kV Generation-Tie Line, and associated facilities, including an energy storage system, to be located in Washoe County, Nevada, pursuant to the Utility Environmental Protection Act

Dear Ms. Osborne:

Please accept for filing with the Public Utilities Commission of Nevada the attached Application of Shreem Brzee Solar, LLC for a permit to construct a 250 MW solar energy generating facility, 345 kV project substation, 345 kV generation-tie line, and associated facilities, including an energy storage system, to be located in Washoe County, Nevada, pursuant to the Utility Environmental Protection Act. The entire Application is contained in two volumes, which are numbered sequentially. Volume 1 consists of Shreem Brzee Solar, LLC's Application, along with Exhibits A through G to the Application. Volume 2 contains the appendices of Exhibit G through Exhibit L to the Application.

An ACH payment in the amount of $200.00 has been submitted electronically for payment of the filing fee.

Should you have any questions, or require additional information, please advise.

Best Regards,

/s/ Bryce C. Alstead
Bryce C. Alstead, Esq.
Erica K. Nannini, Esq.
Holland & Hart LLP
Attorneys for Shreem Brzee Solar, LLC

Location
5470 Kietzke Lane, Suite 100
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CERTIFICATE OF SERVICE

I hereby certify that I am an employee of Holland & Hart LLP and on June 10, 2024, I caused to be served a true and correct copy of the foregoing document to the following:

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Nevada State Clearinghouse
Department of Conservation & Natural Resources,
Division of State Lands
901 S. Stewart Street, Ste. 5003
Carson City, NV 89701
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U.S. MAIL TRANSMITTAL:

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/s/Cecilia Martin
Cecilia Martin, Legal Secretary
an employee of Holland & Hart LLP

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BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA
IN THE MATTER OF:

Application of Shreem Brzee Solar, LLC, for a permit to construct a 250 MW Solar Energy Generating Facility, 345 kV Project Substation, 345 kV Generation-Tie Line, and associated facilities, including an energy storage system to be located in Washoe County, Nevada, pursuant to the Utility Environmental Protection Act	Docket No. 24-_____

APPLICATION OF SHREEM BRZEE SOLAR, LLC, FOR A PERMIT TO CONSTRUCT A 250 MW SOLAR ENERGY GENERATING FACILITY, 345 KV PROJECT SUBSTATION, 345 KV GENERATION-TIE LINE, AND ASSOCIATED FACILITIES, INCDLUDING AN ENERGY STORAGE SYSTEM, TO BE LOCATED IN WASHOE COUNTY, NEVADA, PURSUANT TO THE UTILITY ENVIRONMENTAL PROTECTION ACT.

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Exhibit L Draft Notice

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I. INTRODUCTION

Pursuant to NRS 704.870(1) and NAC 703.423, SHREEM BRZEE SOLAR, LLC ("SBS" or the "Applicant") hereby files with the Public Utilities Commission of Nevada (the "Commission") an Application ("Application") for a Permit to Construct ("PTC") a photovoltaic ("PV") solar energy system, which will consist of the following: a 250 megawatt ("MW") solar PV generating facility ("Generating Facility"); a 345 kilovolt ("kV") substation ("Project Substation"); an approximately 5-mile-long, 345 kV overhead generation-tie line ("Gen-Tie"); and associated facilities, including a battery energy storage system with a capacity of up to 200 MW ("BESS"), in Washoe County, Nevada (the "Sunseeker Solar Project" or the "Project") pursuant to the requirements of the Utility Environmental Protection Act, NRS 704.820 *et seq.* ("UEPA"). The Project will provide renewable energy to the electrical transmission grid via the existing Fort Sage Substation, which is owned and operated by Sierra Pacific Power Company d/b/a NV Energy ("SPPCo"). Project construction is expected to take place over the course of approximately 7 months,[1] with construction to proceed in four phases as described in Section IV of this Application. The Project will be located on approximately 1,140 acres of private land, including a 1,128-acre lease area (the "Project Lease Area") and an approximately 12-acre portion of existing access and utility easements located along Rainbow Way, a designated Truckee Meadows Regional Planning Agency Regional Utility Corridor, in Washoe County, Nevada, about 43 miles north of the City of Reno.

The Project falls within the definition of a "utility facility" as set forth in NRS 704.860 for three reasons. First, the Project's primary component will be a renewable energy generating plant which will have a nameplate capacity of greater than 70 MW, making it a utility facility under NRS 704.860(1). Second, pursuant to NRS 704.860(2), the Project's Gen-Tie will be an electric transmission line designed to operate at more than 200 kV, which is not required by local ordinance to be placed underground, and which will be constructed outside of an incorporated

[1] The construction period may be extended depending on several factors, including the timing of a potential Large Generator Interconnection Agreement, discovery of sensitive environmental and/or cultural resources during construction, weather, availability of equipment and materials, etc.

city. Third, pursuant to NRS 704.860(2), the Project Substation will be designed to operate at 200 kV or more, is not required by local ordinance to be placed underground, and will be constructed outside of an incorporated city.

This Application provides the information required under NRS Chapter 704 and NAC Chapter 703, including a discussion of the Environmental Statement ("ES") prepared by Universal Engineering Sciences, Inc. ("UES") for the Project and the exhibits to the Application. The Applicant respectfully requests the Commission's approval of the Application and, following the subsequent filing of all requisite permits and approvals, the issuance of four PTCs for the Project which correspond to the four phases of construction proposed in this Application.

II. INFORMATION REGARDING THE APPLICANT

1. The Applicant develops, constructs, owns, and operates utility-scale, renewable energy assets.

2. SBS is a California limited liability company authorized to conduct business in the State of Nevada.

3. The Applicant's principal place of business, mailing address, and telephone number are as follows:

Shreem Brzee Solar, LLC
740 Broadway Street
Chico, CA 95928
Phone: (530) 521-4925

4. Communications concerning this application should be directed to:

Bryce C. Alstead
Erica K. Nannini
Holland & Hart LLP
5470 Kietzke Lane, Suite 100
Reno, Nevada 89511
Phone: (775) 327-3000
balstead@hollandhart.com
eknannini@hollandhart.com

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With copies to the following persons:

Brent Moore, CEP UES 6995 Sierra Center Parkway Reno, NV 89511 Phone: (916) 712-9707 Bmoore1@teamues.com	Manju Pillai Shreem Brzee Solar, LLC 740 Broadway St. Chico, CA 95928 Phone: (530) 521-4925 Jpillai108@gmail.com

III. RESPONSES TO REQUIRED DISCLOSURES

The information required by NRS 704.870 and NAC 703.423 is provided in the following sections, to the extent that such information is currently available.

DESCRIPTION OF LOCATION

1. A description of the location of the proposed utility facility as required by NRS 704.870(1)(A), including:

(a) A general description of the location of the proposed utility facility, including a regional map that identifies the location of the proposed utility facility. (NAC 703.423(1)(a)).

The 1,140-acre Project area is located in Washoe County, within the sparsely populated Honey Lake Valley. The site is one mile east of the Nevada/California state line, approximately 43 miles north of the City of Reno, and approximately 7.5 miles east of the community of Herlong, California. The Project site consists of the following: (1) a Project Lease Area, which is a series of 23 adjoining parcels totaling approximately 1,128 acres – known as Washoe County Assessor's Parcel Numbers 074-461-11, 074-461-04, 074-162-06, 074-161-14, 074-461-13, 074-461-02, 074-432-01, 074-461-17, 074-461-18, 074-462-18, 074-461-24, 074-461-03, 074-461-07, 074-461-15, 074-462-02, 074-462-03, 074-462-19, 074-462-14, 074-462-05, 074-431-08, 074-462-15, 074-461-14, and 074-461-16; and (2) 5.5 linear miles (approximately 12 acres) of private access and utility easement extending south from the Project Lease Area along the Truckee Meadows Regional Planning Agency's designated Rainbow Way 345 kV Regional Utility Corridor to the Fort Sage Substation (the "Rainbow Way Corridor").[2] SBS has executed private

[2] The private access and utility easement along the Rainbow Way Corridor described in this Application may facilitate potential future development.

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lease agreements with the owners of the Project Lease Area, and holds a non-exclusive easement for the remaining land, as further described in the ES. *See* ES, at 2-1.

The Project Substation, Generating Facility, and BESS will be constructed within the Project Lease Area, and the Project will require additional disturbance for the installation of utility poles for the Gen-Tie along the Rainbow Way Corridor – for a total estimated Project disturbance of approximately 1,140 acres of private land. The Project Lease Area is comprised entirely of privately-owned vacant rangeland, and is intersected by the Union Pacific railroad corridor which runs predominantly east to west.[3]

Access to the Project would be from Rainbow Way and Fish Springs Road, both of which are public roads, with Rainbow Way forming the western boundary of Project Lease Area. Access to main highways would be via Fish Springs Road, which becomes Fort Sage Road (Lassen County Road 32) as it enters California, which connects to Hackstaff Road and eventually US Highway 395 near Doyle, CA.

A map depicting the location of the Project is attached hereto as **Exhibit "A."**

(b) A legal description of the site of the proposed utility facility, with the exception of electric lines, gas transmission lines, and water and wastewater lines, for which only a detailed description of the site is required. (NAC 703.423(1)(b)).

A legal description of the properties which comprise the Project Lease Area is attached hereto as **Exhibit "B."** The Gen-Tie will start at the Project Substation and will be routed approximately 5 miles south to the Fort Sage Substation along a non-exclusive easement. A map depicting a detailed description of the location of the Gen-Tie is attached hereto as **Exhibit "C."**

(c) Appropriately scaled site plan drawings of the proposed utility facility, vicinity maps, and routing maps. (NAC 703.423(1)(c)).

Appropriately scaled site plan drawings, vicinity maps, and routing maps are attached hereto as **Exhibit "D."**

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[3] While the Commission previously issued a compliance order approving the construction of solar facilities located directly adjacent to the Project Lease Area in Docket Number 22-08029, the Applicant understands based on communication from both SPPCo and the relevant landowner that the project developer has abandoned development at this time.

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DESCRIPTION OF THE PROPOSED FACILITY

2. A description of the proposed utility facility, including:

(a) The size and nature of the proposed utility facility. (NAC 703.423(2)(a)).

The Project consists primarily of a 250 MW alternating current ("AC") Generating Facility; a 345 kV Project Substation; an approximately 5-mile-long, 345 kV overhead Gen-Tie; and an up to 200 MW capacity BESS. Additionally, the Project will require civil infrastructure including access roads, security fencing, and communications infrastructure including a microwave or fiber optic cable. The Project would be monitored through several mechanisms, including a supervisory control and data acquisition ("SCADA") system and a plant control system ("PCS") from an off-site regional control center. O&M activities will be conducted through an off-site regional operations center ("ROC"). The Gen-Tie would also provide a communication path via an optical ground wire ("OPGW") fiber optic cable.

The Project Substation will connect to SPPCo's existing Fort Sage Substation approximately five miles south of the Project Substation via the Gen-Tie, thus providing renewable energy to the electrical transmission grid.

The Project components are discussed further below:

Generating Facility

The Project includes a 250 MW AC Generating Facility, which will capture solar energy through an array of PV panels – specifically, 439,000 PV modules mounted on single axis tracking steel structures – and convert the sun's light energy directly into direct current ("DC") electrical energy. The key components of the Generating Facility include commercially-proven PV modules, a single-axis tracking module racking system, DC combiner boxes, inverter skid assemblies (including DC to AC inverters and medium-voltage transformers), and a PCS. Inverter and transformer manufacturers and capacities would be selected based on cost, efficiency, reliability, and market availability.

An array of high-efficiency PV panels mounted to a single-axis tracking system will convert incoming sunlight to DC electrical energy. The tracking system will rotate throughout

the day to optimize production, and will be supported, when practical, by driven piers (piles) directly embedded into the ground. The PV panels will be up to 15 feet high and arranged in series to increase the DC system voltage to approximately 1,500 volts. These series of panels are called "strings" in industry terms and provide the basic building block of power conversion in the solar array. The strings are combined in the solar field through an above- or below-ground DC collection system and then further grouped together at the inverter stations, where the energy is converted to AC and then stepped up to an intermediate voltage, typically 34.5 kV. The chosen PV panel will be either crystalline silicon or thin film and would be well-suited for the desert environment due to their durability and reliability.

Project Substation

The Project Substation will serve as a central hub for the 34.5 kV collector circuits from the PV arrays and increase the electricity voltage from 34.5 kV to 345 kV. It will be located along the western boundary of the Project site. The Project Substation will consist of components up to 100 feet in height, and overhead lines constructed with up to 95-foot-tall poles. A communications microwave at the Project Substation may be placed on a pole up to 150 feet in height. If necessary, the Applicant will complete the Truckee Meadows Regional Plan Amendment process to establish the Project Substation as a regional utility site prior to operation.

The Project Substation will include the following components:

- 34.5 kV bus and associated switching devices;
- 345 kV bus and associated switching devices;
- 34.5/345 kV transformers;
- 34.5 kV circuit breakers;
- 345 kV circuit breakers;
- 34.5 kV capacitors (as required);
- Grounding grid; and
- Perimeter security fence.

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Gen-Tie

The Project includes a 345 kV Gen-Tie, which will be located within a private access and utility easement extending south from the Project Lease Area along the Rainbow Way Corridor.[4] The Gen-Tie will travel roughly 5 miles south from the Project Substation to the existing SPPCo Fort Sage Substation. The Gen-Tie structures will consist of towers up to 100 feet high, with the span between supporting structures ranging between 200 and 700 feet. Access for construction and maintenance of the Gen-Tie will be via the existing Rainbow Way public right-of-way and utility/access easement which spans the length of the proposed Gen-Tie route. The design characteristics of the Gen-Tie are listed in Table 1, below.

Table 1. Typical Design Characteristics for a 345 kV Gen-Tie

Feature	345 kV Characteristics
Type of structure	Per SPPCo Design Specifications
Structure Height	Up to 100 feet
Span Length	Between 200-700 feet
Anticipated number of structures	50 to 70
Voltage	345 kV
Conductor size	2 per Phase Bundle up to 795 kcmil ACSR-1.06" dia
Ground clearance of conductor	Minimum 30 feet
Pole foundation depth	19 to 24 feet
ADSS fiber optic cable	None
OPGW	Strung above the 345 kV conductors

[4] The Commission previously granted permission to construct a similar generation-tie line which would also be located within the Rainbow Way Corridor to Praana Renewables Energy, LLC ("Praana") in January 2023 (Docket Number 22-08029). The Commission subsequently approved Praana's motion to transfer the January 2023 compliance order to Rainbow Way 1, LLC ("RW1"). However, the Applicant understands based on communication from both SPPCo and the relevant landowner that RW1 has abandoned development at this time. Prior to abandonment, the Applicant and RW1 were considering various options for mutually developing a shared generation-time line within the Rainbow Way Corridor, and the Applicant would be open to revisiting that discussion in the event RW1 decides to pursue development of the generation-tie line approved in Docket Number 22-08029. The Applicant will seek the Commission's approval as necessary should the need for changes to the Project arise.

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Gen-Tie Interconnection/Point of Change of Ownership Structure

The Project Substation will connect to SPPCo's existing Fort Sage Substation approximately five miles south of the Project Substation via the Gen-Tie. The Project point of change of ownership pole will be located at the Fort Sage Substation and will be designed consistent with SPPCo specifications. The Gen-Tie will provide a communication path via OPGW fiber optic cable, and the Project will include a redundant communication path as well strung above the 345 kV conductor. The Project may require network upgrades at the Fort Sage Substation, depending on the results of a System Impact Study and Large Generator Interconnection Agreement process. Potential upgrades may include a new 345 kV terminal, two breakers, three switches, five CCVTs, three lighting arresters, and structures and associated bus work.

BESS

The Project includes construction of a BESS consisting of either large format lithium-ion batteries or alternative battery technologies (such as flow batteries) with a capacity of 200 MW, which will be connected using either an AC-coupled or a DC-coupled system. A battery supplier will be selected prior to Project construction, subject to an industry standard pre-qualification process. Regardless of the technology and supplier selected, the BESS will be enclosed in structures that conform with applicable fire standards and will include a temperature control system. The BESS will be un-staffed and will have remote operational control along with periodic inspections or maintenance performed, as necessary.

An AC-coupled system would be connected to a bi-directional inverter to convert DC energy to AC energy, allowing for energy to flow in or out of the batteries to provide charge and discharge. An AC-coupled system would be located adjacent to the Project Substation and coupled to the PV array at the inverter, AC collection system, or 34.5 kV substation bus. Power switches and relays would protect the system. The system would consist of several housing units similar to shipping containers or buildings. The containers or buildings would occupy approximately up to 6 acres, depending on the size of the system contracted and technology selected. The equipment enclosures would be located next to the Project Substation.

A DC-coupled system would consist of battery units located in containers adjacent to the solar inverters distributed throughout the solar arrays. The solar DC collection and the DC battery connection would connect on a common DC bus at the inverter. The containers would be similar in size (20-40 feet long) to the solar inverter skids. In some cases, depending upon the battery capacity, multiple containers may be located adjacent to a single inverter. The charge and discharge of the DC-coupled batteries would be controlled by the battery management system. DC-DC converters would be installed between the inverter and the batteries to control the DC voltage at the battery terminal. As is typical for the industry, inverters would be controlled by a central control system. The protections to the batteries would be internal to the battery management systems and control boxes located within the containers and inverters.

Access Roads and Fencing

Access to the Project Lease Area will be via Fish Springs Road and Rainbow Way, both of which are either hard-packed gravel or hard-packed dirt roads that also provide access to the Fort Sage Substation. Unpaved access roads will be constructed within the solar facility and around the perimeter of the Project Lease Area. The perimeter of the Project Lease Area will be enclosed by a 7-foot-high chain link fence that may be topped with a one-foot barbed wire section. Access to the Project Lease Area will be controlled (authorized personnel only) by employing swinging or rolling chain link gates. Additionally, because the Project Lease Area surrounds several private parcels, the Applicant will provide appropriate access to those parcels for the respective landowners. Select gates will be automated to facilitate emergency access for fire department vehicles.

Plant Auxiliary Systems

The Project will include plant auxiliary systems – including lighting and fire protection systems – designed to control, protect, and support the Project during its operational phase. The Project will provide lighting at the Project Substation and Project Lease Area entrances to provide personnel with illumination for Project Substation O&M under normal conditions and means of ingress/egress under emergency conditions. Lighting will be designed to provide the minimum illumination needed to achieve safety and security objectives and would be downward-facing and

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shielded to focus illumination on the desired areas only. There will be no lighting in the solar field (with the option to bring in portable lighting as needed), thereby minimizing light trespass on the surrounding properties.

The Project will include a microprocessor-based PCS, which will provide off-site control, monitoring, alarm, and data storage functions for plant systems as well as communication with the SCADA system. Redundant capability will be provided for critical PCS components so that no single component failure would cause a plant outage. All field instruments and controls will be hard-wired to local electrical panels, and local panels will be hard-wired to the plant PCS system.

The Project will be monitored and controlled from an ROC located off-site (no on-site permanent O&M building will be constructed). Communications between the Project facilities and the ROC will be by either microwave or fiber optic connection. Underground metal structures installed as part of the Project would have cathodic protection, as necessary, based on soil conditions, to avoid corrosion of metal surfaces.

All Project components, including the Generating Facility, Project Substation, Gen-Tie, and BESS, are subject to local fire prevention and suppression standards and are subject to review and approval by the Washoe County Fire Marshal. Accordingly, the following measures will be incorporated into the Project design:

- Compliance with all current building and fire code requirements based on occupancy classification.
- A 30-foot defensible space will be maintained around the perimeter of the Project, in which non-fire-resistive vegetation will be removed.
- Undergrounding of cable runs between modules.
- A 26-foot-wide fire access road to reach Project facilities.
- Roads will consist of native material and gravel, compacted to a minimum of 85 percent.

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- Address sign on the main gate along Rainbow Way, provide a Knoxbox™ or switch at the main access gates, and provide a secondary emergency egress gate with Knoxbox™.
- Fire response access to the Project Site will be available via Rainbow Way.
- All battery, electrical, and instrumentation enclosures and structures will be provided with an integral (built-in) fire suppression system appropriate for the type of equipment.

Finally, the Project's electrical generation will provide power for plant auxiliaries during daylight hours. During non-daylight hours, the BESS will provide power to energize transformers, and for plant lighting and security.

(b) The natural resources that will be used during the construction and operation of the proposed utility facilities. (NAC 703.423(2)(b)).

No significant impacts to natural resources are anticipated from the construction or operation of the proposed utility facilities. Natural resources anticipated for construction and operation include typical materials used for the construction of utility-scale solar PV generating facilities, such as steel for supports, structures, reinforcing rod, and fencing; silicon, copper, and other metals used in the manufacturing of the PV modules; cable and electronic equipment; cement and aggregate for concrete for foundations; gravel and aggregate for roadways; and mineral oil for transformers. In addition, the primary natural resources anticipated for construction and operation are summarized below.

Water

Water necessary for construction and operation of the Project will be transported from an off-site location to the Project site by truck. During construction, the primary use of water will be for compaction and dust control. Water consumption during construction is anticipated to be approximately 100 acre-feet annually ("AFA") for dust suppression and earthwork over the 7-month construction period.

During Project operations, water use will be limited to panel washing and the potential for periodic dust control and maintenance applications. Panel rinsing is expected to be conducted

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once a year, depending on site conditions and rainfall. The Applicant estimates that the amount of water required for panel washing will be 1 AFA. Existing off-site water rights and existing water supply facilities will likely be sufficient for all construction and operations activities.

Petroleum

Heavy-duty construction equipment associated with construction activities will rely on diesel fuel, as will haul trucks involved in removing the materials from demolition and excavation. Construction workers will travel to and from the Project Lease Area throughout the duration of construction. The Applicant assumes that most construction workers will travel to and from the site in gasoline-powered passenger vehicles. Heavy-duty construction equipment of various types will be used during construction. Once operational, the Project will not use petroleum except as necessary for backup generators and maintenance vehicles.

(c) Layout diagrams of the structures at the proposed utility facility and its associated equipment. (NAC 703.423(2)(c)).

Layout diagrams are provided in **Exhibit "E."**

(d) Scaled diagrams of the structures of the proposed utility facility. (NAC 703.423(2)(d)).

Scaled diagrams are provided in **Exhibit "F."**

(e) A statement concerning whether the proposed utility facility is an electric generating plant or the associated facilities of an electric generating plant that uses renewable energy as its primary source of energy to generate electricity. (NAC 703.423(2)(e)).

The proposed utility facilities are the associated facilities of an electric generating plant that uses renewable energy (solar) as its primary source of energy to generate electricity.

SUMMARY OF ENVIRONMENTAL IMPACT STUDIES

3. A copy and summary of any studies which have been made of the environmental impact of the proposed utility facility as required by Subsection 1 of NRS 704.870. (NAC 703.423(3)).

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UES prepared an ES for the Project in February 2024. The ES is attached hereto as **Exhibit "G."** The ES describes the existing environment of the Project site and analyzes both the environmental impacts of the Project and proposed mitigation measures for particular resources. *See* ES (Exhibit "G"), at Section 3. The ES identified minimal environmental impacts that would occur during construction, operation, and maintenance of the Project, and any material impacts identified will be mitigated as described in the ES. *Id.*

The following is a summary of the analyses described in the ES, including impacts and mitigation measures:

- Geology, Soils, and Paleontology

The ES describes the existing geological setting of the Project site in the Honey Lake Basin, including soil texture and potential for both wind and soil erosion. *Id.* at Section 3.1.1. The ES concludes that the erosion susceptibility of the soil at the Project site is low, though some potential for soil erosion exists due to the planned soil disturbance and removal of vegetation. *Id.* at Section 3.1.2. However, the Project will adhere to best management practices ("BMPs") for soil protection, thereby minimizing the contribution to cumulative impacts. *Id.* In addition, a fugitive dust plan will be developed with mitigation measures to reduce the potential for fugitive dust. *Id.*

Potential impacts related to fault lines near the Project are minor. *Id.* Regarding paleontological resources, geologic units in the area have been known to yield an extensive catalog of Blancan and Rancholabrean-aged vertebrate remains. *Id.* However, Project construction plans do not call for excavation or grading to depths that would disturb these units. *Id.* Adherence to BMPs will minimize potential impacts from erosion and grading. *Id.* at Section 3.1.3. The Project will be constructed to meet the safety standards listed in the Uniform Building code. *Id.* Further, a detailed geotechnical survey will be completed, and grading, soil compaction, and structural design will be implemented in accordance with the recommendations of the geotechnical report during the final design phase of the Project. *Id.*

- Water Resources

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The ES describes the existing groundwater and surface water at the Project site, concluding that "Waters of the United States" as defined in 33 C.F.R. 328.3(a) are not present and that the Project site is not a potential wetland habitat. *Id.* at Section 3.2.1. While the ES indicates that a U.S. Army Corps of Engineers ("USACE") permit is likely not required for the Project, a Jurisdictional Determination report was submitted in November 2023 for an official determination. The ES concludes that activities associated with construction and operation of the Project will not impact or intercept groundwater. *Id.* at Section 3.2.2. As described above, water for construction activities and for operation of the Project will be provided from offsite.

With regard to surface water, sheet flows are expected to be negligibly altered from existing conditions during operations and are expected to percolate into the ground as they have historically. *Id.* While increased soil disturbance during construction could result in increased levels of erosion and sedimentation, potential impacts will be minimized using BMPs and mitigation measures. *Id.* For example, the Project will implement standard stormwater BMPs during construction – including erosion controls, soil barriers, sedimentation basins, and site contouring – to minimize runoff of soils and associated contaminants; will adhere to a Stormwater Pollution Prevention Plan; and will implement measures designed to prevent spills or other discharges. *Id.* at Section 3.2.3. Overall, the ES concludes that the Project will have "less than significant" impacts on water quality. *Id.*

- Air Quality and Climate

The ES analyzes existing air quality in the Honey Lake Valley. *Id.* at Section 3.3.1. Air emissions associated with the Project will occur primarily during construction and will be chiefly associated with fugitive dust during construction from ground-disturbing activities, include grading, pad construction, and installation of the Gen-Tie, as well as proportionally smaller amounts of emissions associated with engine exhaust. *Id.* at Section 3.3.2. Once operational, the Project will generate relatively small contributions to air emissions from on-road travel of vehicles associated with worker commutes for maintenance activities or potential use of an emergency diesel generator in the event of a power outage. *Id.* Accordingly, the ES concludes that air quality impacts associated with both construction and operations will be de minimis with

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no potential to significantly impact regional air quality. *Id.* Nonetheless, the Project will adhere to mitigation measures, including BMPs for fugitive dust and wind control erosion. *Id.* at Section 3.3.3.

- Biological Resources

The ES outlines the general biological resources (vegetation and wildlife, including special status species) observed or anticipated to occur at and near the Project site. *Id.* at Section 3.4.1. As for vegetation, the Project will result in temporary disturbance to install pilings, conduct road surface maintenance, and install utility poles for the Gen-Tie. *Id.* at Section 3.4.2. Potential impacts to wildlife could include loss of foraging and/or nesting habitat, decreased habitat value, disturbance of nesting sites, or habitat fragmentation – the majority of which would be temporary and restored after construction. *Id.* Permanent impacts that may result from Project construction are only anticipated where Project improvements will permanently alter existing habitat. *Id.*

However, Project impacts to vegetation and wildlife will be minimized through adherence to BMPs and mitigation measures which include restricting vehicle movement at the Project site; ensuring proper storage of hazardous materials; and minimizing soil compaction, erosion, and vegetation loss to preserve habitat. *Id.* at Section 3.4.3.

Regarding special status wildlife species, migratory birds may be potentially impacted by the Project. *Id.* at Section 3.4.2. However, the Alkali Desert Scrub and Alkali Basins/Flat/Playas habitats which comprise the vast majority of the Project Area are not considered prime habitat for these species. *Id.* The Project will adhere to mitigation measures to ensure that other migratory birds will not be adversely impacted. *Id.* BMPs and mitigation measures planned to accommodate special status species include requiring a biologist to survey for nests prior to construction and establishing construction buffer zones, creating screening devices, or other measures to accommodate active nest activity as needed. *Id.* at Section 3.4.3.

- Cultural Resources

Extensive analysis, records searches, and a cultural survey were conducted to assess the cultural resources in the Project vicinity and analyze the Project's impacts. *Id.* at Section 3.5.1.

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While new archaeological sites were identified in the Project vicinity during the survey, none are eligible for listing on the National Register of Historic Places, meaning that Project impacts to these resources will be "considered acceptable and less than significant." *Id.* at Section 3.5.1-3.5.2. Likewise, a previously-recorded large prehistoric artifact scatter is located within the vicinity of the Gen-Tie will not be affected. *Id.*

The ES outlines mitigation measures, including appropriate spacing of Gen-Tie poles and confining construction activities to established roadways and staging areas, to further ensure that the Project will not negatively impact cultural resources. *Id.* at Section 3.5.3. If potential resources are discovered during Project construction, work would halt immediately and the Applicant would take appropriate steps to evaluate the resource and determine further mitigation measures as needed. *Id.*

- Land Use

The Project site is located in the High Desert Planning Area in Washoe County, a sparsely populated area which consists primarily of vacant rangeland that has been dedicated to agricultural uses for nearly a century and is therefore considered previously disturbed. *Id.* at Section 3.6.1. The Project site's zoning classification is "General Rural," which allows for renewable energy production subject to permitting requirements according to the Washoe County Development Code. *Id.*

Land use consequences as a result of the Project would be minimal and consistent with the existing and planned future development for the vicinity. *Id.* at Section 3.6.2. Namely, similar solar energy generation facilities are planned in the area surrounding the Project site, and development of the Project will not conflict with any current or known authorized land uses. *Id.* Because the Project would have no adverse effect on current or known future land use activities in the area, mitigation measures are not warranted. *Id.* at Section 3.6.3.

- Transportation and Traffic

During construction, the Project will temporarily increase traffic in the area, though no impacts to level of service are anticipated. *Id.* at Section 3.7.2. Traffic is also expected to increase minimally as a result of maintenance operations. *Id.* Overall, the ES concludes that the Project

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would not result in substantive impacts to traffic conditions, and therefore mitigation measures are not warranted. *Id.* at Section 3.7.3.

- Visual Resources

Project construction would impact the existing local landscape. *Id.* at Section 3.8.2. However, due to the remote nature of the Project site and the presence of existing development in the vicinity – including military installations, the Union Pacific railroad, the Alturas Interconnection Transmission line, the Tuscarora gas line, and existing nearby solar facilities – the Project will minimally impact the viewshed. *Id.* at Section 3.8.1-3.8.2. Project visibility from the nearest residential, industrial, institutional, or commercial properties will be low due to either distance or terrain. *Id.* at Section 3.8.2. Because potential impacts to visual character are consistent with the existing setting, the ES concludes that mitigation is not warranted. *Id.* at Section 3.8.3.

- Noise

The Project is located in a rural area with the Union Pacific railroad, which runs through a portion of the Project Lease Area, contributing to the noise environment. *Id.* at Section 3.9.1. Project construction would result in temporary and intermittent increases in ambient noise levels for approximately 7 months, with timeframes for heavy equipment activities to occur at small intervals over the Project construction timeframe, primarily during the first few weeks of site preparation and earthwork. *Id.* at Section 3.9.2. However, because the nearest residential area is over 7 miles from the Project site, noise levels would remain within an acceptable range to the nearest sensitive receptors, and visual obstruction would provide additional noise-reducing barriers. *Id.* Therefore, construction noise impacts would be temporary and less than significant. *Id.* During operations, noise impacts associated with air conditioning units for the BESS would similarly be limited due to the distance to the closest sensitive noise receptors and visual obstruction efforts, along with the use of storage enclosures to contain these units. *Id.* The adherence to a typical construction schedule would serve to mitigate the minimal impacts associated with the construction phase. *Id.* at Section 3.9.3.

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- Waste Management and Hazardous Materials

UES conducted a Phase I Environmental Site Assessment of the Project Lease Area in July 2023, which revealed no evidence of recognized environmental conditions on either the Project Lease Area or surrounding vicinity. *Id.* at Section 3.10.1. During construction, the Project would generate solid waste in the form of soil and brush from clearing and grubbing, as well as materials from installation of the PV panels, Gen-Tie, BESS, Project Substation components, access roads, etc. *Id.* at Section 3.10.2. Likewise, Project operations would generate limited amounts of solid waste associated with maintenance activities. *Id.* All waste generated during both construction and operations would be disposed of at a licensed waste management facility. *Id.*

During construction, the Project may require minimal volumes of vehicle fuels, lubricating oils, paints, adhesives, and sealants, though the ordinary use of these materials would not generate hazardous wastes. *Id.* Further, as construction contractors would be required to comply with environmental and workplace safety laws and procedures, no substantive risks to public health and safety are expected. *Id.* Thus, the construction and operation of the Project is not expected to require the transportation, use, or generation of hazardous materials or hazardous wastes that could create a potential hazard to the public or environment. *Id.* Finally, the implementation of BMPs and mitigation measures as outlined in the ES would prevent and reduce potential impacts associated with hazardous wastes. *Id.* at Section 3.10.3.

- Socioeconomics

During the 7 months of construction, the Project would generate temporary employment primarily for local residents, with approximately 200 workers anticipated during peak activity. *Id.* at Section 3.11.2. Additionally, a small amount of the workforce is expected to require specialty skills and would either relocate to the region temporarily or permanently, thereby contributing to the local economy and supporting other businesses in the area. *Id.* This is expected to have a very minor impact on population and temporary housing in the region. *Id.* Sales and property taxes associated with the successful construction and operation of the Project will benefit both the state of Nevada and Washoe County. *Id.*

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Due to the limited number of nearby residents, no environmental justice populations would be unduly affected by the Project. *Id.* Because Project construction and operations will not result in long-term or adverse health or environmental impacts, there will be no disproportionate or adverse effects to these residents. *Id.* Finally, because potential impacts to socioeconomic conditions will likely be beneficial, no mitigation measures are required. *Id.* at Section 3.11.3.

DESCRIPTION OF ALTERNATE LOCATIONS

4. Description of reasonable alternate locations for the proposed utility facility, a description of the comparative merits of the detriments of each location submitted, and a statement of the reasons why the location is best suited for the proposed facility, as required by Subsection 1 of NRS 704.870. (NAC 703.423(4)).

The selected location is best suited for the Project. *See id.* at Section 2.5. The Applicant's primary objectives were to locate the Project in an area of Northern Nevada, within an area with established utility easements/rights-of-way ("ROWs") that would allow interconnection to the electrical grid in a direct path to minimize Gen-Tie losses and costs and avoid a protracted ROW acquisition process. *Id.* at 2.5.1-2.5.2. The Applicant considered the following additional criteria in evaluating appropriate sites for the Project:

- Adequate solar irradiation;
- Close proximity to a high-capacity substation with access to the SPPCo grid;
- Adequate transmission capacity to convey the electrical output of the Project;
- Minimal environmental concerns;
- Relatively flat site to minimize the need for site grading;
- Existing access to accommodate construction workforce needs;
- Land parcel large enough to accommodate a utility-scale solar facility; and
- Access to nearby workforce to support Project construction.

Id. at Section 2.5.1.

The Applicant performed a regional evaluation of available sites and found that the proposed Project site best fits all the criteria necessary for the Project and meets all of the Project's

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siting objectives. The Project is located in Northern Nevada and poses minimal environmental concerns, as described in Section III(3) of this Application. The Project Lease Area is located approximately five miles north of the existing Fort Sage Substation, minimizing the length of the Gen-Tie to be constructed. *Id.* at Section 2.5.3.1. Additionally, the remote location of the Project with respect to population centers minimizes the potential for impacts affecting the local population. *Id.* at Section 2.5.1. Noise, visual, and traffic impacts are all minimized by the Project's remote location. *Id.* Therefore, no reasonable cost-effective alternate locations for the Project exist outside of proposed Project site.

PROOF OF PUBLIC NOTICE

5. A copy of the public notice of the application or amended application and proof of the publication of the public notice, as required by Subsection 4 of NRS 704.870. (NAC 703.423(5)).

A copy of the public notice of this Application is attached as **Exhibit "H,"** and an affidavit demonstrating proof of publication of the public notice of this Application in the Reno Gazette Journal is attached as **Exhibit "I."**

PROOF OF SUBMITTAL TO THE NEVADA STATE CLEARINGHOUSE

6. Proof that a copy of the application or amended application has been submitted to the Nevada State Clearinghouse within the Department of Administration to enable energy review and comment. (NAC 703.423(6)).

Proof of submission of this Application to the Nevada State Clearinghouse to enable agency review and comment, and proof of service on local governments in the area in which the facilities are to be located, is attached as **Exhibit "J."**

PROBABLE EFFECT ON ENVIRONMENT

7. An explanation of the nature of the probable effect on the environment including:

(a) A reference to any studies described in Subsection 3, if applicable; (NAC 703.423(7)(a)) and

UES's analysis of the proposed Project is contained in the ES (Exhibit "G").

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(b) An environmental statement that includes:

(1) The name, qualifications, professions and contact information of each person with primary responsibility for the preparation of the environmental statement; (NAC 703.423(7)(b)(l))

A list of preparers and reviewers of the ES, and their respective qualifications, professions, and contact information is available at Section 4 of the ES (Exhibit "G").

(2) The name, qualifications, professions and contact information of each person who has provided comments or input in the preparation of the environmental statement; (NAC 703.423(7)(b)(2))

A list of each person who provided comments or input on the preparation of the ES, and their respective qualifications, professions, and contact information is available at Section 4 of the ES (Exhibit "G").

(3) A bibliography of materials used in the preparation of the environmental statement; (NAC 703.423(7)(b)(3)) and

A list of references used in preparation of the ES is available at Section 5 of the ES (Exhibit "G").

(4) A description of: (NAC 703.423(7)(b)(4))

(I) The environmental characteristics of the project area existing at the time the application or amended application is filed with the Commission;

The Project site (comprised of both the Project Lease Area and the Rainbow Way Corridor) is located within the sparsely populated Honey Lake Valley, approximately 43 miles north of the City of Reno. The Project is located near the Nevada/California state line, approximately 7.5 miles east of the community of Herlong, CA. The site is currently vacant rangeland. The site is bordered on the west by Rainbow Way and on the east, north, and south by vacant land. A Union Pacific railway bisects the Project Lease Area. Access to the Project Lease Area will be from Rainbow Way and Fish Springs Road.

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The Project site lies within the High Desert Planning Area in Washoe County and is zoned as "General Rural." *See* ES (Exhibit "G"), at Section 3.6.1. The Project will be located on vacant land that has been at least partially previously disturbed by agricultural resources and construction of existing infrastructure including a rail line, an electric transmission line, and gas pipelines. *Id.* As described above, the Fort Sage Substation is located approximately five miles south of the western limit of the Project Lease Area. Section 3 of the ES (Exhibit "G") further describes the existing setting and environmental characteristics with respect to each of the resources studied.

(II) The environmental impacts that the construction and operation of the proposed utility facility will have on the project area before mitigation; and

The Project will result in the disturbance of approximately 1,140 acres of land in total, and construction will last up to approximately 7 months. The ES analyzed potential impacts on a variety of resources, and it identified minimal environmental impacts that will occur during Project construction and operations. *Id.* at Section 3. As more thoroughly described in Section III(3) of this Application, the ES concludes that the impacts of the Project will not substantively impact the environment, and that Project-specific mitigation measures will otherwise serve to mitigate any material adverse impacts on the environment. *See id.*

Additionally, because Project disturbance will be limited to private land, the Project is exempt from Nevada law requiring coordination and mitigation with the Sagebrush Ecosystem Technical Team ("SETT") within the Nevada Department of Conservation and Natural Resources. *See* NAC 232.470; NAC 232.475. Nonetheless, the Applicant reached out to the SETT, and the SETT Program Manager confirmed via email on July 27, 2023 that the Project falls under an exemption process.

(III) The environmental impacts that the construction and operation of the proposed utility facility will have on the project area after mitigation.

Analyses of the environmental impacts of the Project are included in Section 3 of the ES (Exhibit "G").

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NEED TO ENSURE RELIABLE SERVICE

8. An explanation of the extent to which the proposed utility facility is needed to ensure reliable utility service to customers in this State. (NAC 703.423(8)).

The Project is exempt from this requirement pursuant to NRS 704.890(1)(b). NRS 704.890(1)(b) provides that the Commission must find that a utility facility is needed to ensure reliable utility service to customers in Nevada *only* if (i) the utility facility emits greenhouse gases and (ii) does not use renewable energy as its primary source of energy to generate electricity. Here, because the Project uses renewable energy as its primary source of energy, NRS 704.890(1)(b)'s finding does not need to be made, and thus the Project is exempt from NAC 703.423(8)'s requirement to explain why the Project is needed to ensure reliable utility service to customers in Nevada. With that said, the Applicant provides responses to the following subsections of NAC 703.423(8)(b) as background information.

(a) A description of the extent to which the proposed utility facility will provide utility service to customers in this state. (NAC 703.423(8)(b)(1)).

The Project will provide renewable energy to the electrical transmission grid via the Fort Sage Substation. Additionally, the Project will generate electrical energy and store energy to reduce emissions of CO_2, a greenhouse gas, by displacing the use of electrical energy from natural gas, coal-burning, and thermal power plants.

(b) A description of the extent to which the proposed utility facility will enhance the reliability of the utility service in this state. (NAC 703.423(8)(b)(2)).

The Project will assist the State of Nevada in developing reliable renewable resources of energy and displacing conventional thermal power generation by supporting the construction of a solar electric generating facility. The Project will provide a reliable local and regional source of power, producing up to approximately 636,938 megawatt-hours ("MWh") of clean, emissions-free power each year. In doing so, the Project will fulfill a need for reliable and affordable clean energy in Nevada pursuant to Nevada's Renewable Portfolio Standard (NRS 704.7801-.7828, *inclusive*, collectively, the "RPS"). The Project also includes an energy storage component that will facilitate grid reliability in providing energy delivery during peak demand periods.

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(c) A description of the extent to which the proposed utility facility will achieve interstate benefits by the proposed construction or modification of transmission facility in the state, if applicable. (NAC 703.423(8)(b)(3)).

NAC 703.423(8)(b)(3) is not applicable. All transmission infrastructure associated with the Project is located within the State of Nevada.

NEED VERSUS ENVIRONMENTAL EFFECT

9. An explanation of how the need for the proposed utility facility as described in Subsection 8 balances any adverse effects on the environment as described in Subsection 7. (NAC 703.423(9)).

The need for the Project outweighs the minor environmental impacts of the Project. The Project will provide a reliable local and regional source of power, producing approximately 636,938 MWh of clean, emissions-free power each year, which is helpful to fulfill an environmental need for reliable and affordable clean energy in Nevada. In the last several years, the Nevada Legislature has adopted increased RPS requirements to be phased in through 2030, ultimately requiring that 50 percent of the electricity sold by an electric utility to retail customers in Nevada must come from renewable sources by 2030. If the Applicant enters into a power purchase agreement with an entity subject to the RPS, the Project will help Nevada achieve its renewable energy goals. The Project includes an energy storage component that will fulfill a need for renewable energy storage and facilitate grid reliability by providing energy delivery during peak demand periods. The Project will also allow for the reduction of approximately 400,000 tons of CO_2 annually.

Additionally, the Project will generate up to approximately $1,000,000.00 in annual property taxes to Washoe County during the first 20 years of operation assuming the Project receives a Nevada Governor's Office of Energy Renewable Energy Tax Abatement ("RETA"), and approximately $2,000,000.00 annually thereafter (subject to changes in the assessed value of the Project over its operational life), along with approximately $15 million in sales and use tax receipts payable to the State of Nevada. Finally, the Project will further benefit the economy by generating up to approximately 200 jobs at peak construction, with an average workforce of

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approximately 150 construction workers. The Project will also employ approximately 5 permanent employees during operations.

In contrast, with the implementation of the recommended mitigation measures, the Project will result in only minor impacts to the natural environment. *See* ES (Exhibit "G"), at Section 3. Thus, by reducing annual carbon emissions in the State of Nevada and providing a reliable energy source for the power grid, the Project's benefits outweigh its minimal environmental effects.

MINIMUM ADVERSE IMPACT ON THE ENVIRONMENT

10. An explanation of how the proposed utility facility represents the minimum adverse effect on the environment, including: (NAC 703.423(10))

(a) The state of available technology; (NAC 703.423(10)(a))

The Project will use the latest and best commercially available materials for the generation of electricity from a renewable resource. Through implementation of identified mitigation measures and BMPs, the Project will represent the minimum adverse effect on the environment.

(b) The nature of various alternatives; and (NAC 703.423(10)(b))

No reasonable alternative locations meeting the Applicant's criteria for the Project were identified outside of the Project site. *See* Section III(4), *supra*. The proposed Project site allows for minimal environmental impacts as described in the ES (Exhibit "G"), and existing facilities adjacent to the Project Lease Area provide interconnection with a relatively short Gen-Tie, minimizing construction and surface disturbance needs as compared with other potential sites.

Further, the Project is designed to utilize crystalline silicon or thin-film PV technology, which was selected as the preferred technology given its low water requirements and reliable, proven technology. *Id.* at Section 2.5.3. Other solar technologies that the Applicant considered for the Project included concentrating PV and solar thermal technologies, both of which were determined to have a greater potential for adverse environmental impact due to long-term water requirements, and concentrating solar would also have greater impacts on visual and biological resources. *Id.* Therefore, these options were eliminated from further consideration. For the foregoing reasons, the Project design proposed herein represents the minimum adverse effect on the environment.

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(c) The economics of various alternatives. (NAC 703.423(10)(c))

The proposed Project site is the most cost-effective option for the Project because it will allow the Project to utilize existing transmission infrastructure to minimize the length of the Gen-Tie to the electrical grid, which minimizes line losses and costs. *See* Section III(4), *supra*.

AGENCY APPROVAL LIST AND DESCRIPTION OF REQUIRED PERMITS

11. An explanation of how the location of the proposed utility facility conforms to applicable state and local laws and regulations, including a list of all permits, licenses, and approvals required by federal, state and local statutes, regulations and ordinances. The explanation must include a list that indicates: (NAC 703.423(11))

(a) All permits, licenses, and approvals the applicant has obtained, including copies thereof; (NAC 703.423(11)(a)) and

A list of all permits, licenses, and approvals the Applicant or its contractors either have obtained or are in the process of obtaining in order to commence construction, and an estimated timeline for obtaining these permits, is provided in **Exhibit "K."**

(b) All permits, licenses and approvals the applicant is in the process of obtaining to commence construction of the proposed utility facility. The applicant must provide an estimated timeline for obtaining these permits, licenses and approvals. (NAC 703.423(11)(b)).

A list of all permits, licenses, and approvals the Applicant or its contractors either have obtained or are in the process of obtaining in order to commence construction, and an estimated timeline for obtaining these permits, is provided in Exhibit "K."

SERVING THE PUBLIC INTEREST

12. An explanation of how the proposed utility facility will serve the public interest, including: (NAC 703.423(12))

(a) The economic benefits that the proposed utility facility will bring to the applicant and this State; (NAC 703.423(12)(a))

The Project will have a direct beneficial impact on the local and regional economy during the construction period, which is expected to last approximately 7 months in total. The Project

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will provide an opportunity for construction jobs because at peak construction, approximately 200 workers are anticipated, with an average anticipated workforce of approximately 150 construction workers. The Project will also provide up to 5 full-time jobs once operational. In addition, the Project will contribute approximately $1,000,000.00 in annual property taxes to Washoe County during the first 20 years of operation assuming the Nevada RETA applies and approximately $2,000,000.00 annually thereafter (subject to changes in the assessed value of the Project over its operational life). The Project will also generate approximately $15 million in sales and use tax receipts payable to the State of Nevada.

Further, the Project will provide a reliable source of electricity for the grid, which will benefit the economy in the long term by ensuring that electricity is continuously provided by sources within the state. By providing a diverse source of electricity, the Project will help bring stability to the markets that serve consumers. For these reasons, solar energy projects are beneficial to the Nevada economy as a whole.

(b) The nature of the probable effect on the environment in this State if the proposed utility facility is constructed; (NAC 703.423(12)(b))

The ES contains a full analysis of the minimal probable environmental effects of the Project. *See* ES (Exhibit "G"), at Section 3. Moreover, once operational, the Project will have a positive effect on the environment. The Project will provide a reliable and consistent source of electricity, while reducing CO_2 emissions in the state by approximately 400,000 tons annually.

(c) The nature of the probable effect on the public health, safety, and welfare of the residents of this State if the proposed utility facility is constructed; (NAC 703.423(12)(c)) and

The Project will provide a clean, renewable source of energy and will not emit material quantities of pollutants or greenhouse gases that could have an adverse impact on the public health, safety, and welfare of Nevada residents. In fact, the Project's production of solar energy will displace energy production using fossil fuels such as coal and natural gas. As stated previously, the State of Nevada will benefit from the creation of jobs during construction and operation, income from the Project, and the reduction of CO_2 emissions by approximately 400,000

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tons annually. Diversification of electricity sources is known to bring stability to the markets that serve consumers; thus, the 636,938 MWh of clean, emissions-free power generated by the Project each year will benefit the residents of Nevada. In addition, construction and operation procedures will adhere to mitigation measures and design features intended to reduce the risk of exposure to hazardous materials, excessive noise, and other harmful conditions.

(d) The interstate benefits expected to be achieved by the proposed electric transmission facility in this State, if applicable. (NAC 703.423(12)(d)).

Construction of the Gen-Tie will likely not increase interstate deliverability options for renewable energy generated at the Project, as the Project will interconnect to SPPCo's Fort Sage Substation.

IV. CONSTRUCTION IN MULTIPLE PHASES

Should the Commission grant this Application subject to the Applicant's submission of outstanding compliance items, the Applicant requests that the Commission's compliance order allow for the issuance of four PTCs for four phases of construction. The Applicant proposes that the phases may be constructed either simultaneously or independent of one another with some overlap in time, but no construction of any utility facility necessary to the Project will occur until the Applicant has satisfied the Commission that all necessary permits have been obtained for construction of that particular facility, consistent with the intent of UEPA. The phases of construction, along with information about the outstanding state and local permits that must be obtained for each phase prior to issuance of a PTC, are outlined below.

Phase 1: This phase of construction will include grading of the site for the Generating Facility and Project Substation. During this phase, temporary construction facilities such as laydown areas and installation of construction trailers will be established. Phase 1 permits that will be acquired prior to commencing construction of this phase are listed below.

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PHASE 1: SITE GRADING & TEMPORARY CONSTRUCTION FACILITIES		
REQUIRED PERMIT	**ISSUING AGENCY**	**ESTIMATED APPROVAL DATE**
Special Use Permit and Major Grading approvals	Washoe County	Q2 2024
Dust Permit	Washoe County	Q2 2024
Fugitive Dust Permit	Nevada Department of Environmental Protection	Q3 2024
Water Discharge Permit	Nevada Department of Environmental Protection	Q3 2024

Phase 2: This phase will include construction of the Generating Facility (which will include installation of structural poles and trackers, panels, electrical system, and inverters) and access roads. Phase 2 permits that will be acquired prior to commencing construction of this phase are listed below.

PHASE 2: GENERATING FACILITY & ACCESS ROADS		
REQUIRED PERMIT	**ISSUING AGENCY**	**ESTIMATED APPROVAL DATE**
Special Use Permit and Major Grading approvals	Washoe County	Q2 2024
Dust Permit	Washoe County	Q2 2024
Fugitive Dust Permit	Nevada Department of Environmental Protection	Q3 2024
Water Discharge Permit	Nevada Department of Environmental Protection	Q3 2024
Building and Grading Permit	Washoe County	Q4 2024

Phase 3: This phase will include construction of the Project Substation and BESS. Activities will include installation of the Project Substation grounding facilities, the main transformer, metering equipment, and other Project Substation electrical equipment. Phase 3 permits that will be acquired prior to commencing construction of this phase are listed below.

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PHASE 3: PROJECT SUBSTATION & BESS		
REQUIRED PERMIT	**ISSUING AGENCY**	**ESTIMATED APPROVAL DATE**
Special Use Permit and Major Grading approvals	Washoe County	Q2 2024
Dust Permit	Washoe County	Q2 2024
Fugitive Dust Permit	Nevada Department of Environmental Protection	Q3 2024
Water Discharge Permit	Nevada Department of Environmental Protection	Q3 2024
Building and Grading Permit	Washoe County	Q4 2024

Phase 4: This phase will include construction of the Gen-Tie, which will connect the Project Substation to SPPCo's existing Fort Sage Substation. If necessary, network upgrades to the Fort Sage Substation may be constructed as part of this phase. The Applicant anticipates that the construction schedule may be independent of Phases 1 through 3 depending on the EPC contractor's scheduling needs. Phase 4 permits that will be acquired prior to commencing construction of this phase are listed below.

PHASE 4: GEN-TIE		
REQUIRED PERMIT	**ISSUING AGENCY**	**ESTIMATED APPROVAL DATE**
Special Use Permit approvals	Washoe County	Q2 2024
Dust Permit	Washoe County	Q2 2024
Fugitive Dust Permit	Nevada Department of Environmental Protection	Q3 2024

V. CONCLUSION AND REQUEST FOR RELIEF

The Applicant respectfully requests that the Commission:

1. approve this Application and issue a UEPA Permit to Construct for the Project, subject to the Applicant's submission of the permits described herein to the Commission; and

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2. issue a compliance order authorizing the construction of the utility facilities in four phases as described herein by authorizing four Permits to Construct, with each Permit to Construct specifying the utility facility or facilities in that phase.

The Applicant reserves the right to amend and supplement this Application as permitted and contemplated pursuant to NRS 704.820 to 704.900 and NAC 703.415 to 703.427.

Dated and respectfully submitted this 10th day of June, 2024.

HOLLAND & HART LLP

/s/ Bryce C. Alstead

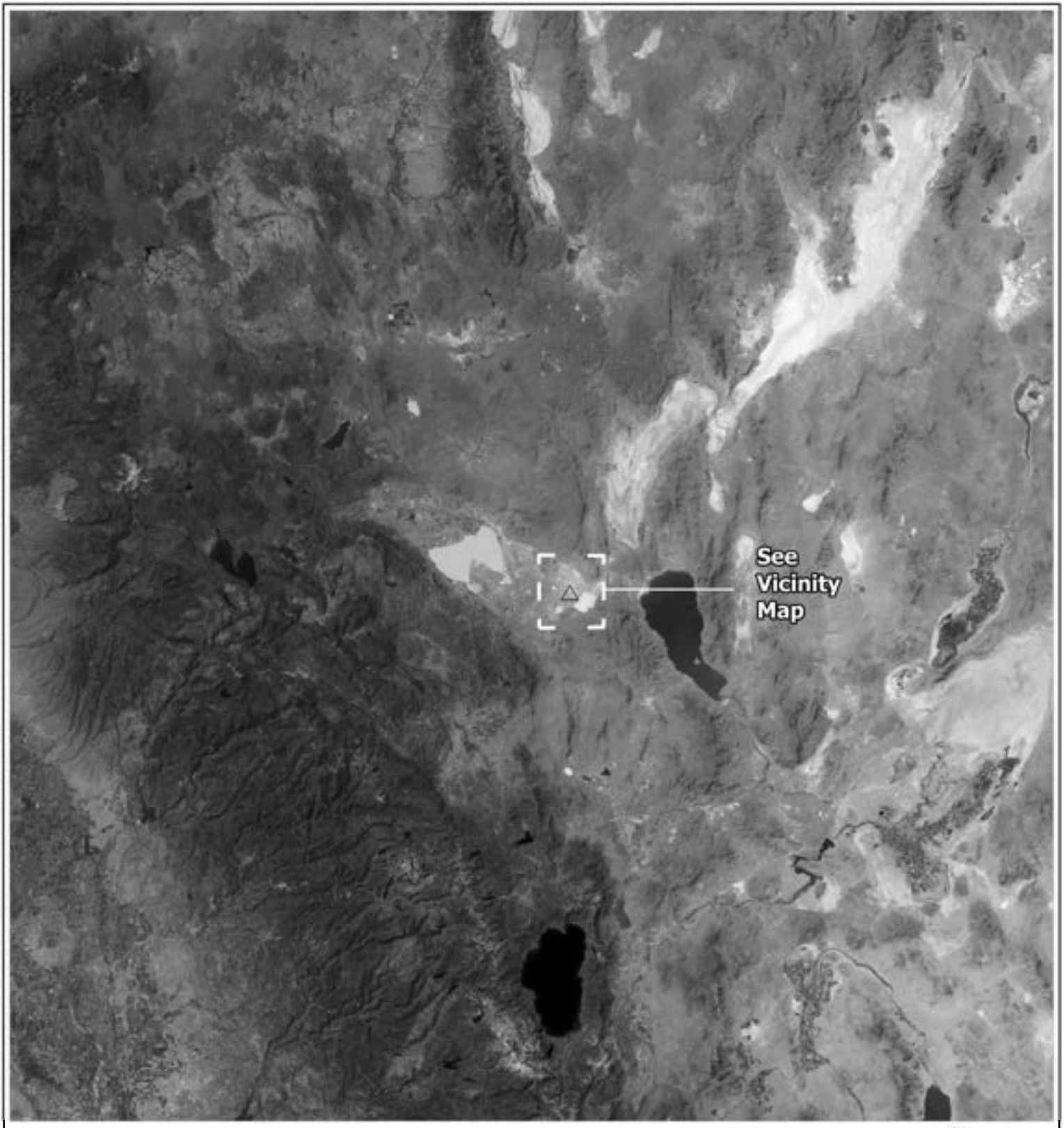
Bryce C. Alstead (NBN 9554)
Erica K. Nannini (NBN 13922)
5470 Kietzke Lane, Suite 100
Reno, Nevada 89511
Telephone: (775) 327-3000
Facsimile: (775) 786-6179
BAlstead@hollandhart.com
EKNannini@hollandhart.com

Attorneys for Shreem Brzee Solar, LLC

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RENO, NV 89511-2094

EXHIBIT A

Project Location Map



△ Project Location

N

0 60,000 120,000

Feet

Aerial imagery provided by Esri.
Projection: NAD 1983 2011 StatePlane California II FIPS 0402 Ft US

UES

PROJECT LOCATION MAP

SUNSEEKER SOLAR PROJECT

Washoe County, Nevada

EXHIBIT	A
DRAWN BY	JMB
CHECKED BY	BLM
PROJECT MGR	BLM
DATE	02/2024

Shreem Energy LLC | 4640-23000053.0000

EXHIBIT B

Legal Description of the Project

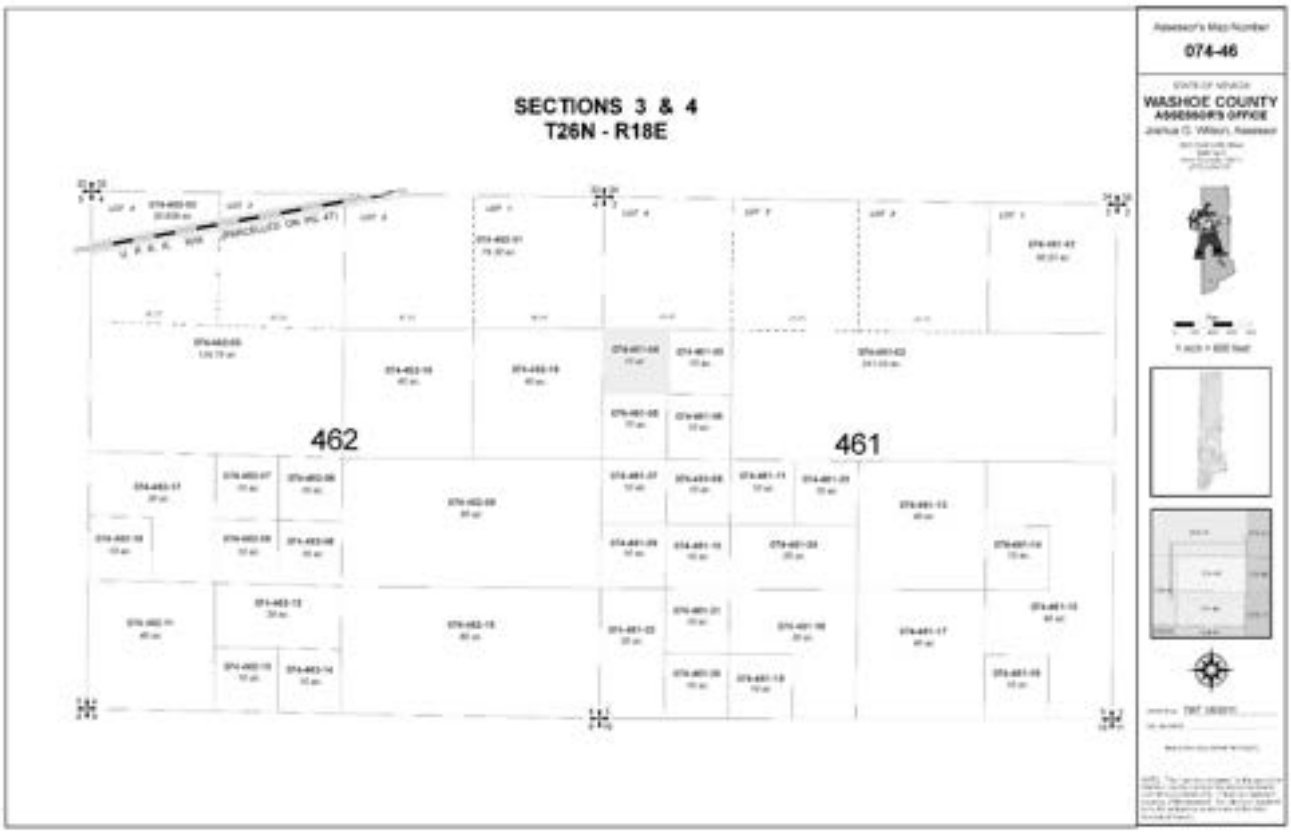
LEGAL DESCRIPTION

The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-461-04 (*10 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *The Northwest quarter (NW1/4), of the Southwest quarter (SW1/4) of the Northwest quarter (NW1/4), of Section 3; Township 26 North, Range 18 East, 10 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*
>
> *EXCEPTING THEREFROM all crude oil, petroleum, gas asphaltum and all kindred substances and other minerals under and in said land below a depth of 500 feet, but without right of surface entry.*

APN: 074-461-04
The property is generally described in the figure below.



Latitude: 40.15404 North
Longitude: 119.95908 West

LEGAL DESCRIPTION

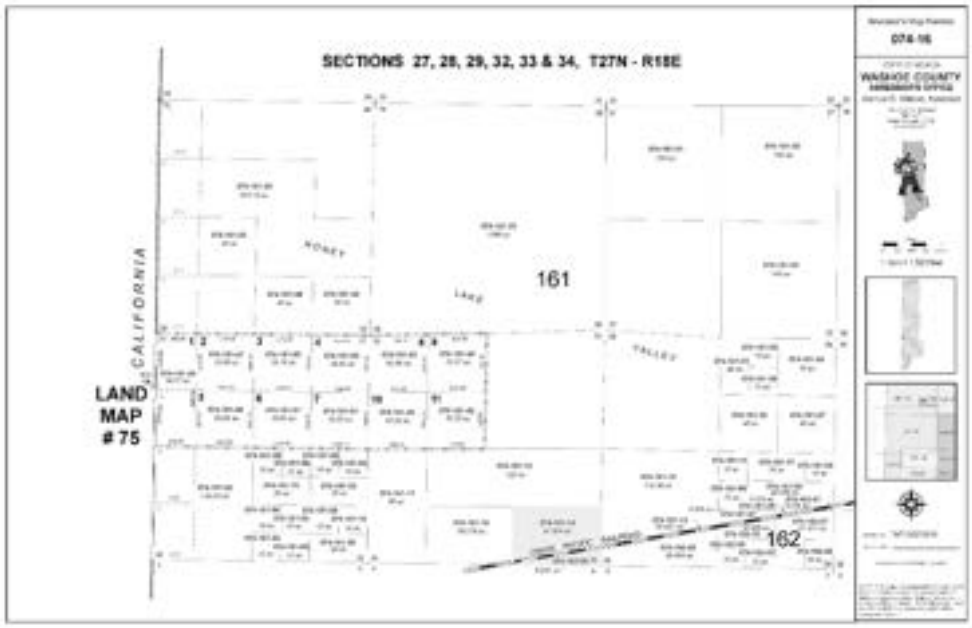
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-161-14 (*47.624 +/- acres*) and (APN) 074-162-06 (*8.831 +/- acres*) for a total of 56.455 acres. The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *Assessor's Parcel Number 074-161-14: That portion of the following description lying North of Western Pacific Railroad, Southeast quarter (SE1/4) of Southeast quarter (SE1/4) of Section 33; Township 27 North; Range 18 East; East Half (E1/2) of Southwest quarter (SW1/4) of Southeast quarter (SE 1/4), Section 33: Township 27 North; and Range 18 East, 47.624 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*

> *Assessor's Parcel Number 074-162-06: That portion of the following description lying South of Western Pacific Railroad, Southeast quarter (SE1/4) of the Southeast quarter (SE1/4) of Section 33; Township 27 North; Range 18 East, Half (1/2) of the Southwest quarter (SW1/4) of the Southeast quarter (SE1/4) of Section 33; Township 27 North; and Range 18 East, 8.831 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*

APNS: 074-161-14 and 074-162-06
The property is generally described in the figure below.



Latitude: 40.15996 North
Longitude: 119.96371 West

LEGAL DESCRIPTION

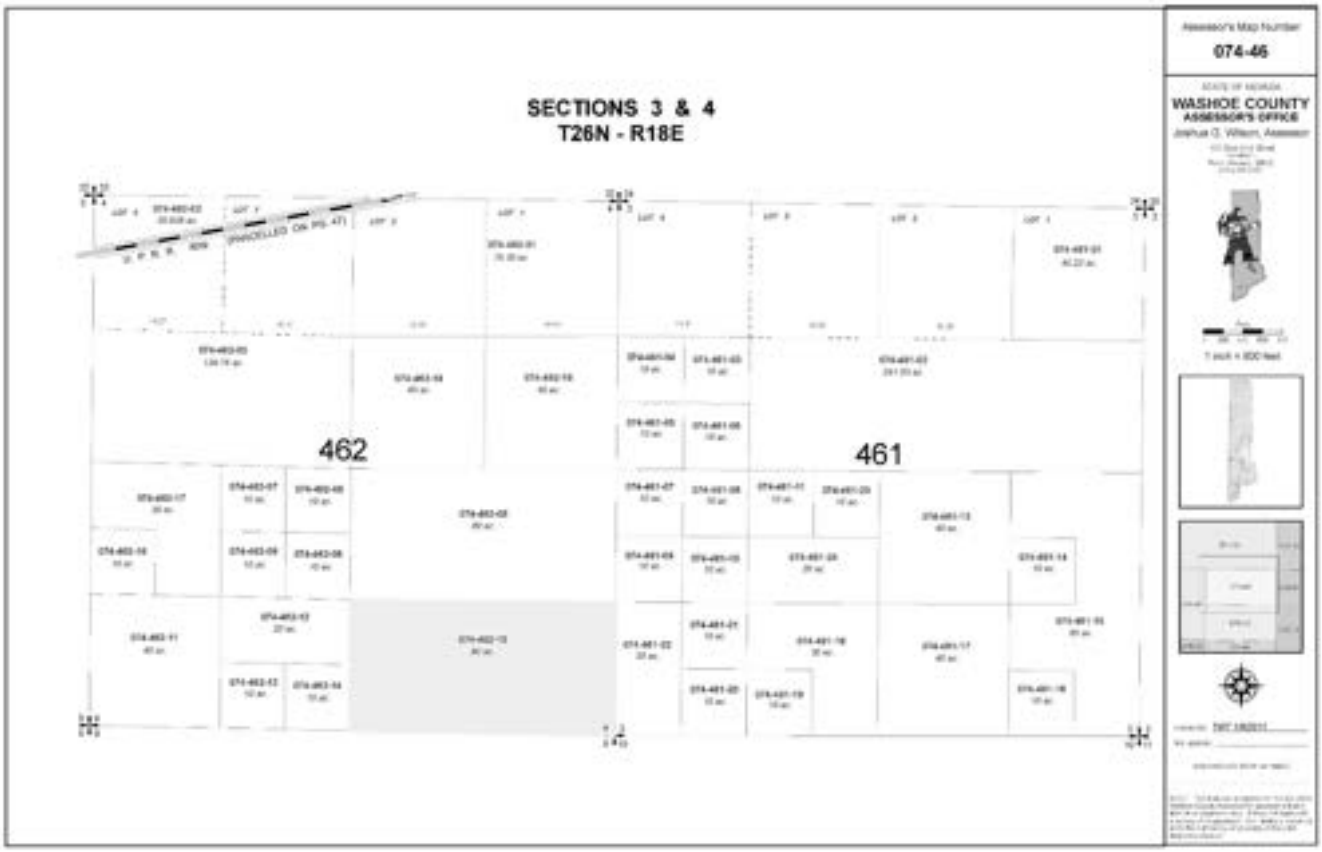
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-462-15 (*80 acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *The South half (S1/2) of the Southeast quarter (SE1/4) of Section 4, Township 26 North, Range 18 East, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*
>
> *Together with all oil, mineral, and hydrocarbon rights.*
>
> *Together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining.*

APN: 074-462-15

The property is generally described in the figure below.



Latitude: 40.14561 North
Longitude: 119.96541 West

LEGAL DESCRIPTION

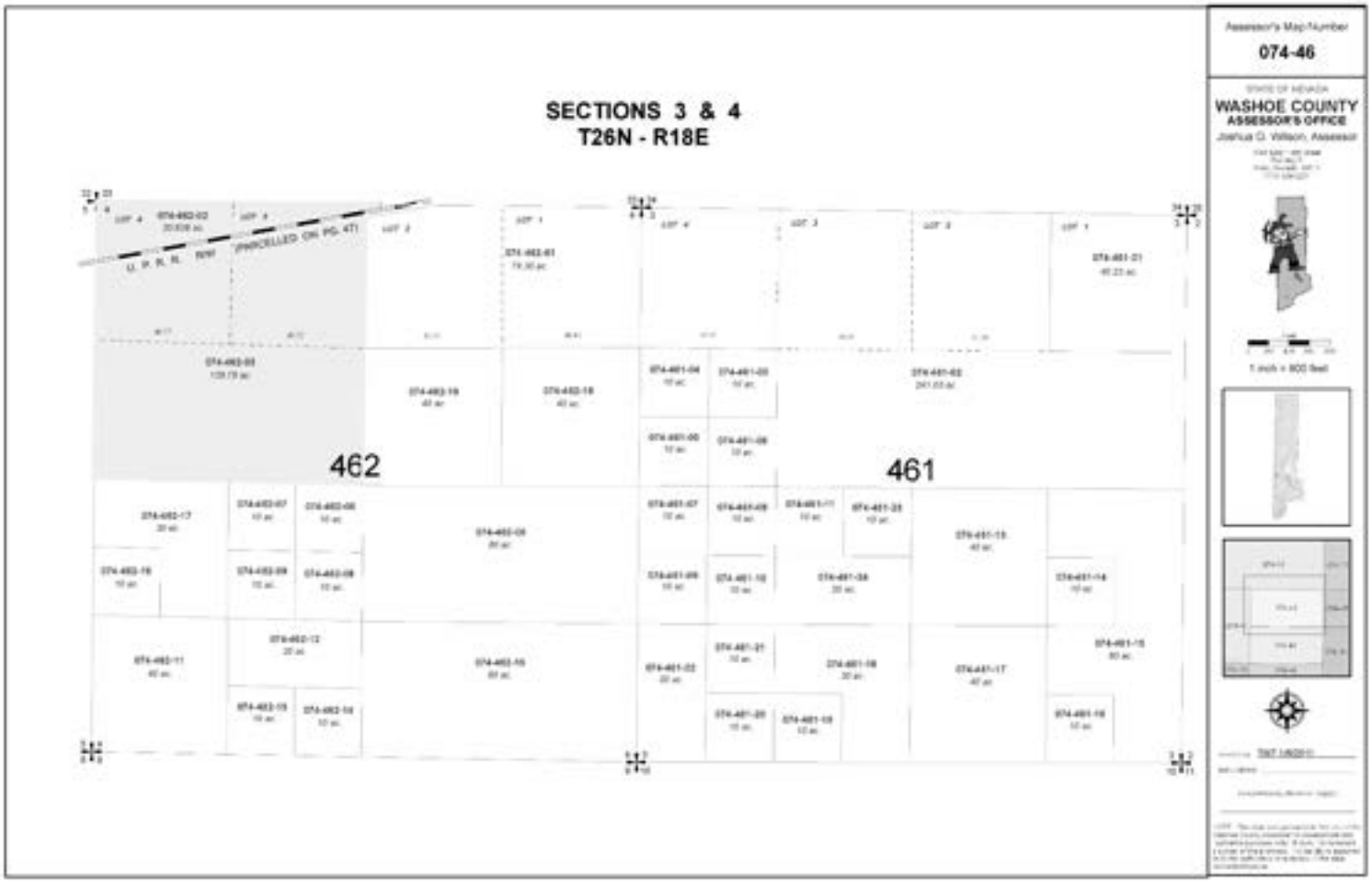
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-462-02 (*20.838 acres*) and 074-462-03 (*139.76. acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

Northwest quarter (1/4) of Section 4, Township 26 North, Range 18, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.

Excepting Therefrom, and portion lying within the boundaries of the Western Pacific Railroad right of way.

The property is generally described in the figure below.



Latitude: 40.09'00" North
Longitude: 119.58'10" West

LEGAL DESCRIPTION

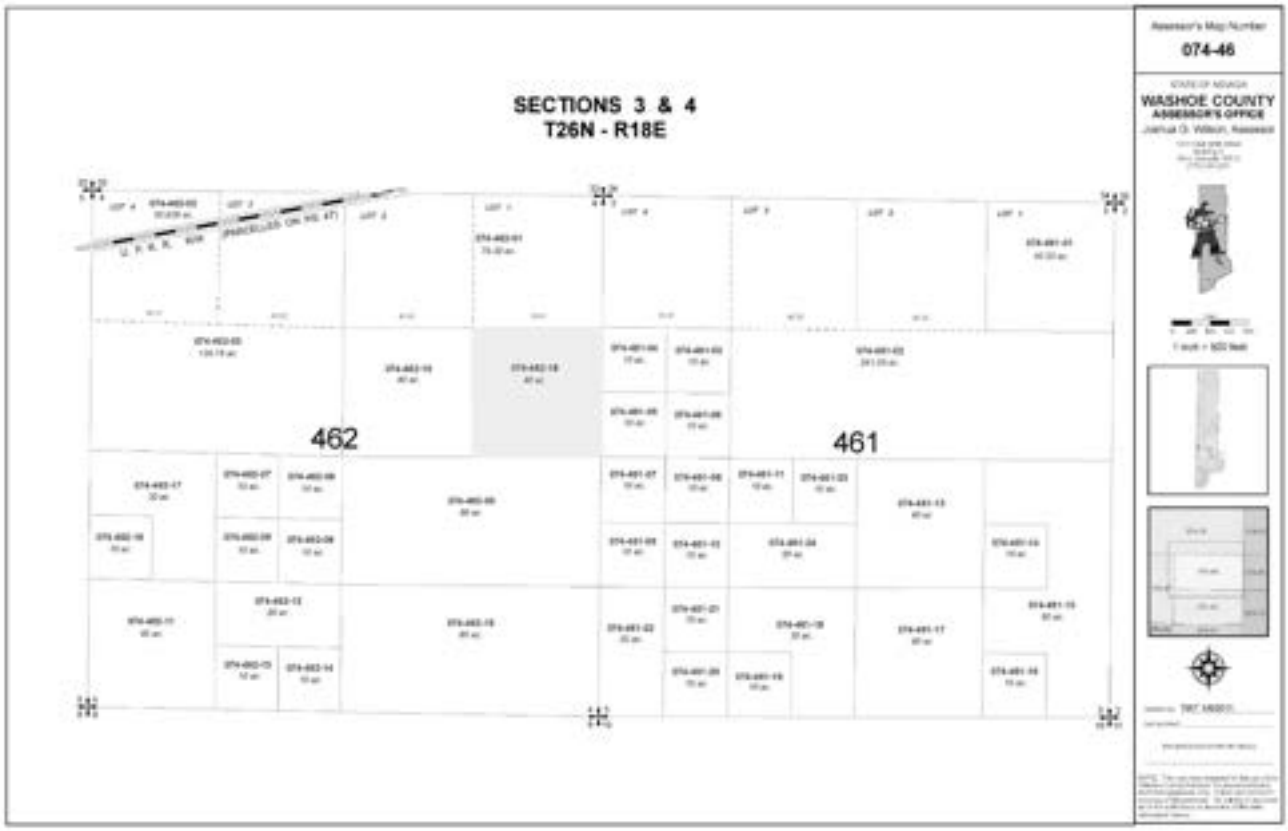
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-462-17 (*40 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *Southeast quarter (1/4) of the Northeast quarter (1/4), Section 4; Township 26 North, Range 18 East, 40 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*
>
> *Reserving a 15-foot-wide easement for ingress, egress, and utilities around property and on any existing roads or pipelines. Except all oil, coal, and mineral rights. Subject to liens of record.*

APN: 074-462-18

The property is generally described in the figure below.



Latitude: 40.15300 North
Longitude: 119.96254 West

LEGAL DESCRIPTION

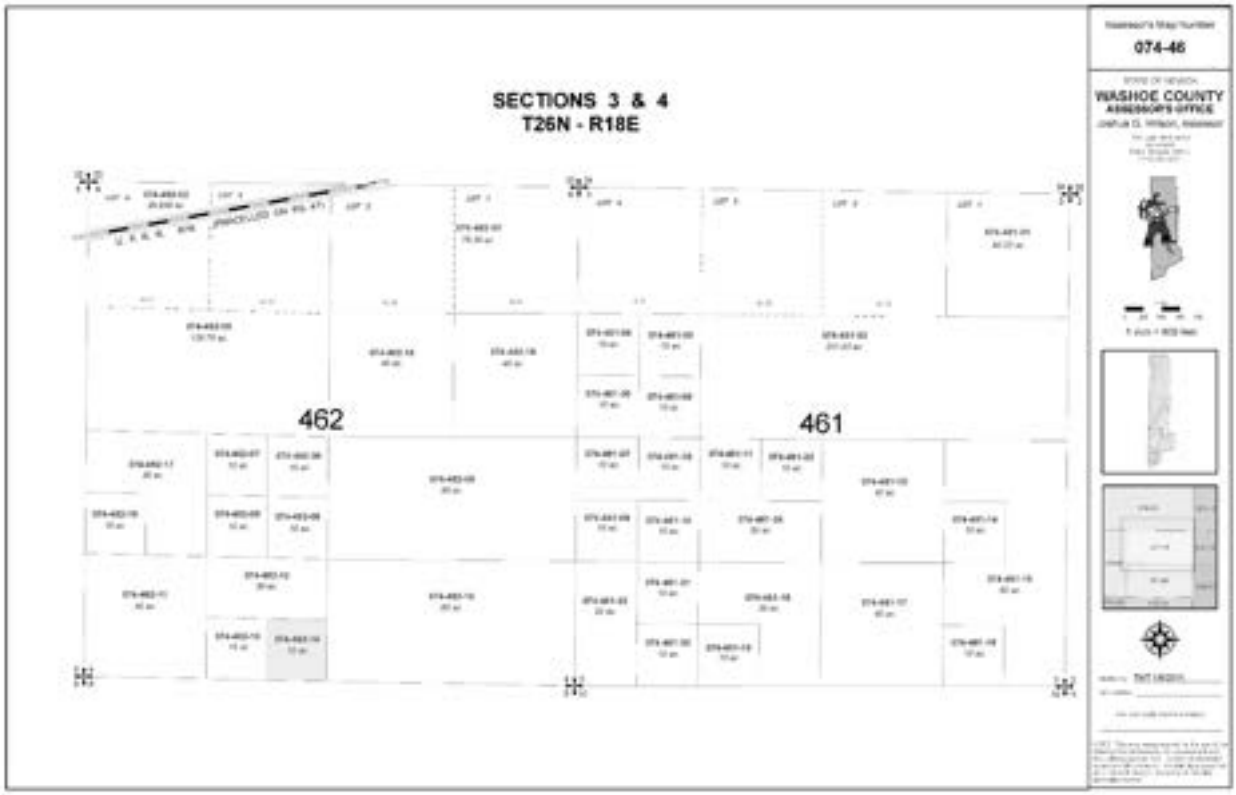
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-462-14 (*10 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *Southeast quarter (1/4) of the Southeast quarter (1/4) of the Southwest quarter (1/4) of Section 4, Township 26 North, Range 18 East, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*
>
> *Reserving a 15-foot-wide easement for ingress, egress, utilities and pipelines around the property and over any existing roads or pipelines. The easement is for the use of all owners in Township 26 North, Range 18 East of Washoe County, Nevada.*

APN: 074-462-14

The property is generally described in the figure below.



Latitude: 40.14464 North
Longitude: 119.97104 West

LEGAL DESCRIPTION

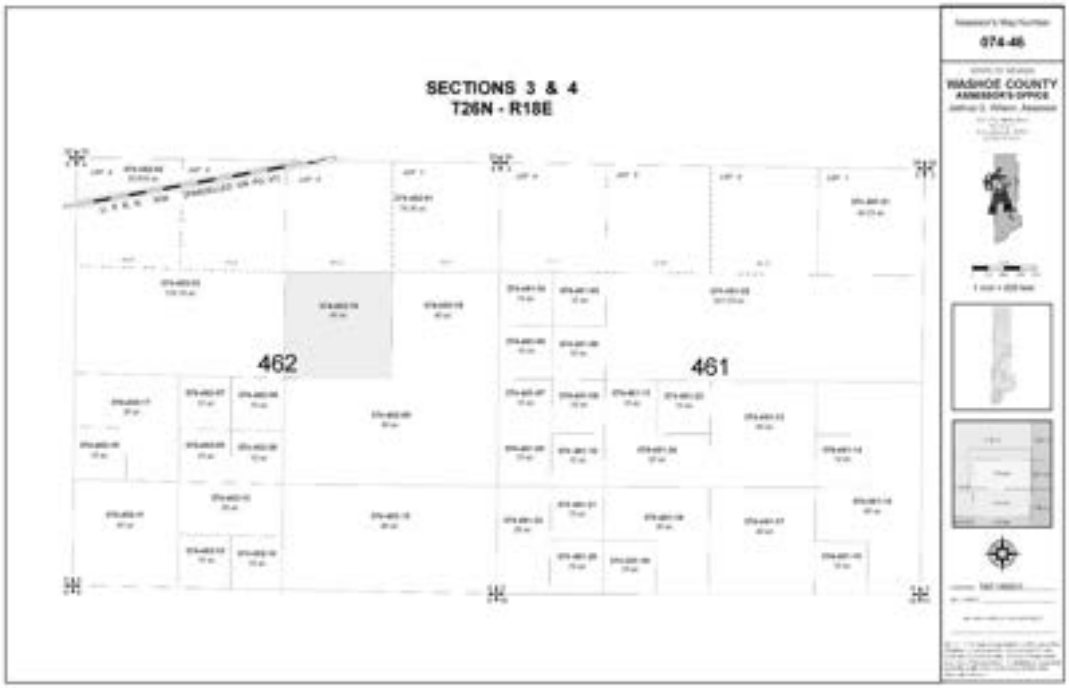
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-462-19 (*40 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *Southwest quarter (1/4) of the Northeast half (1/2) of Section 4, Township 26 North, Range 18 East, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*
>
> *Reserving a 30-foot-wide easement for ingress, egress, utilities and pipelines around the property and over any existing roads or pipelines. The easement is for the use of all owners in Washoe County, Nevada.*
>
> *Save and except, therefrom, all of the oil, gas, and sulpher, and other liquid hydrocarbon-type minerals, and also coal, in and under and that may be produced from the about described land, together with the usual and customary right of ingress and egress at all times for all purposes related to such mineral reservation, which have been reserved by prior grantors.*

APN: 074-462-19

The property is generally described in the figure below.



Latitude: 40.15290 North
Longitude: 119.96746 West

LEGAL DESCRIPTION

The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-431-08 (*10 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

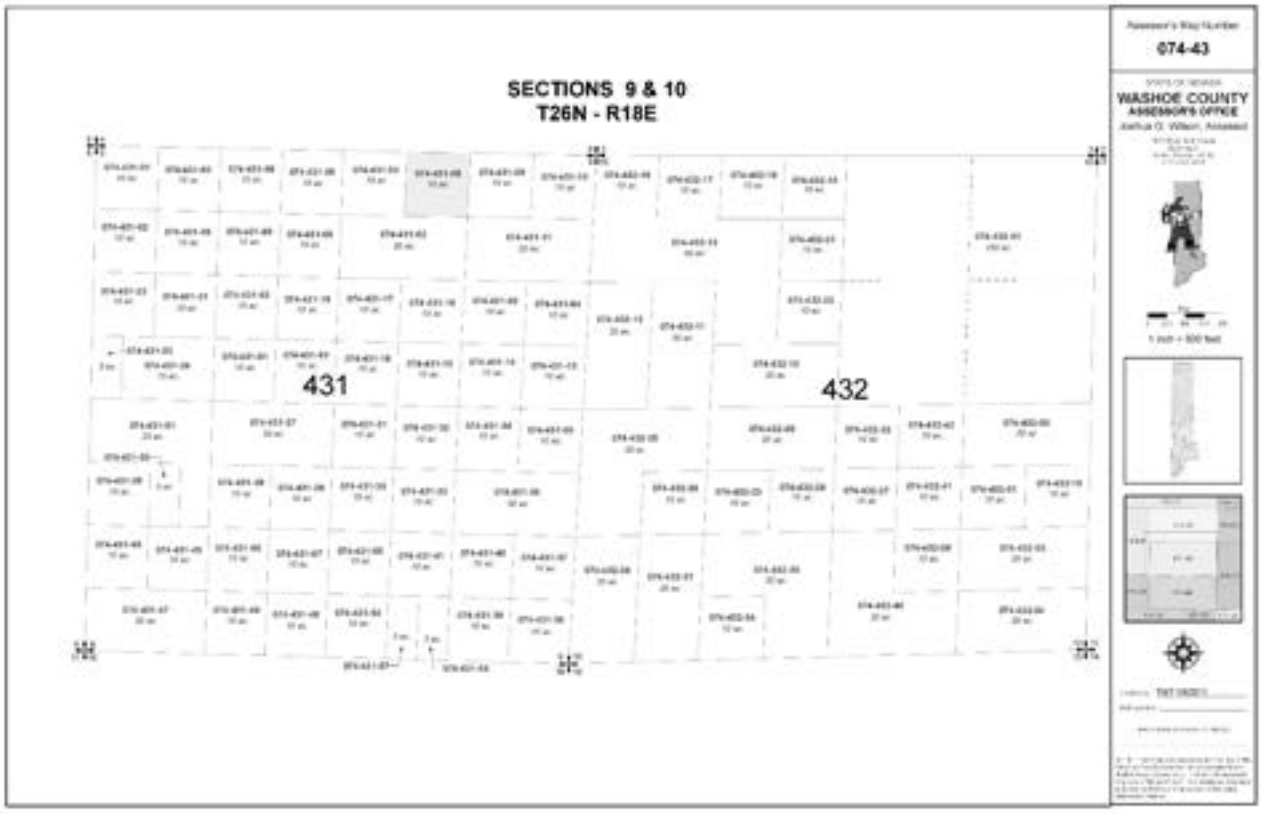
THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

The Northeast quarter (NE1/4), of the Northwest quarter (NW1/4) of the Northeast quarter (NE1/4), of Section 9; Township 26 North, Range 18 East, 10 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.

Reserving a 30-foot-wide easement for ingress, egress, and utilities around property and on any existing roads.

The above legal description appeared previously in that certain Document recorded June 14, 2018, as Document No. 4823204, of Official Records, pursuant to Nevada Revised Statutes Section 6, Nevada Revised Statutes 111.312.

APN: 074-431-08



Latitude: 40.14286 North
Longitude: 119.96638 West

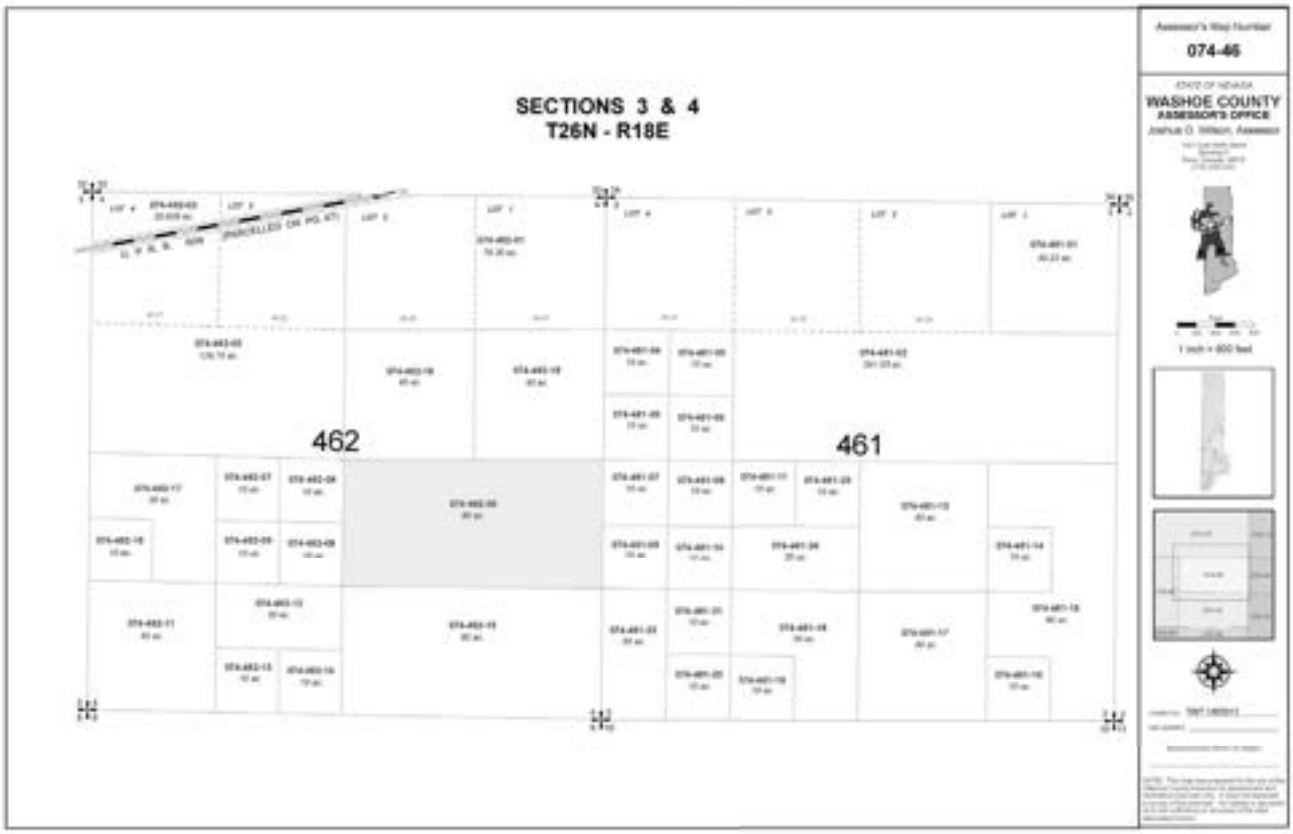
LEGAL DESCRIPTION

The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-462-05 (*80 acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:
THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *North (N) half (1/2) of the Southeast (SE)quarter (1/4) of Section 4, Township 26 North, Range 18 East, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*

APN: 074-462-05

The property is generally described in the figure below.



Latitude: 40.14956 North
Longitude: 119.96545 West

LEGAL DESCRIPTION

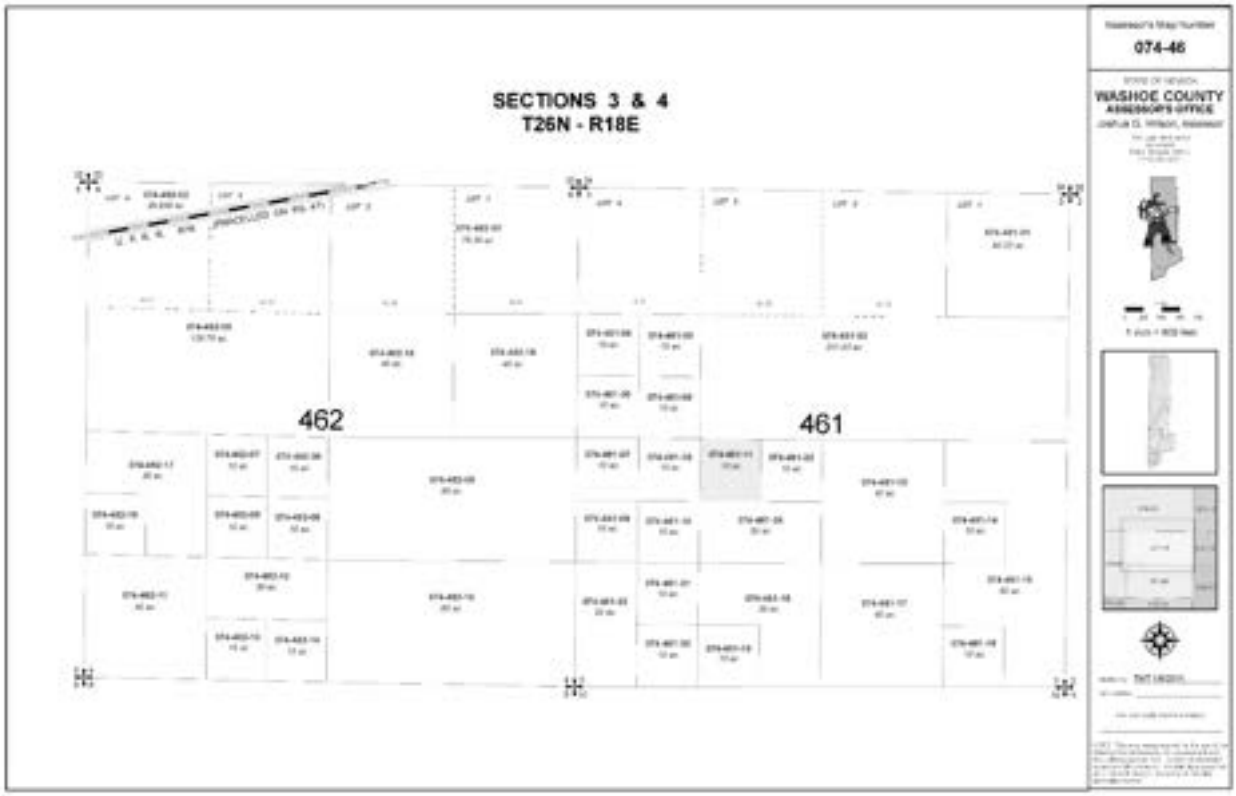
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-461-11 (*10 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *Northwest quarter (1/4) of the Northeast quarter (1/4) of the Southwest quarter (1/4) of Section 3, Township 26 North, Range 18 East, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*
>
> *Reserving a 30-foot-wide easement for ingress, egress, utilities and pipelines around the property and over any existing roads or pipelines. The easement is for the use of all owners in Township 26 North, Range 18 East of Washoe County, Nevada.*

APN: 074-461-11

The property is generally described in the figure below.



Latitude: 40.15037 North
Longitude: 119.95415 West

LEGAL DESCRIPTION

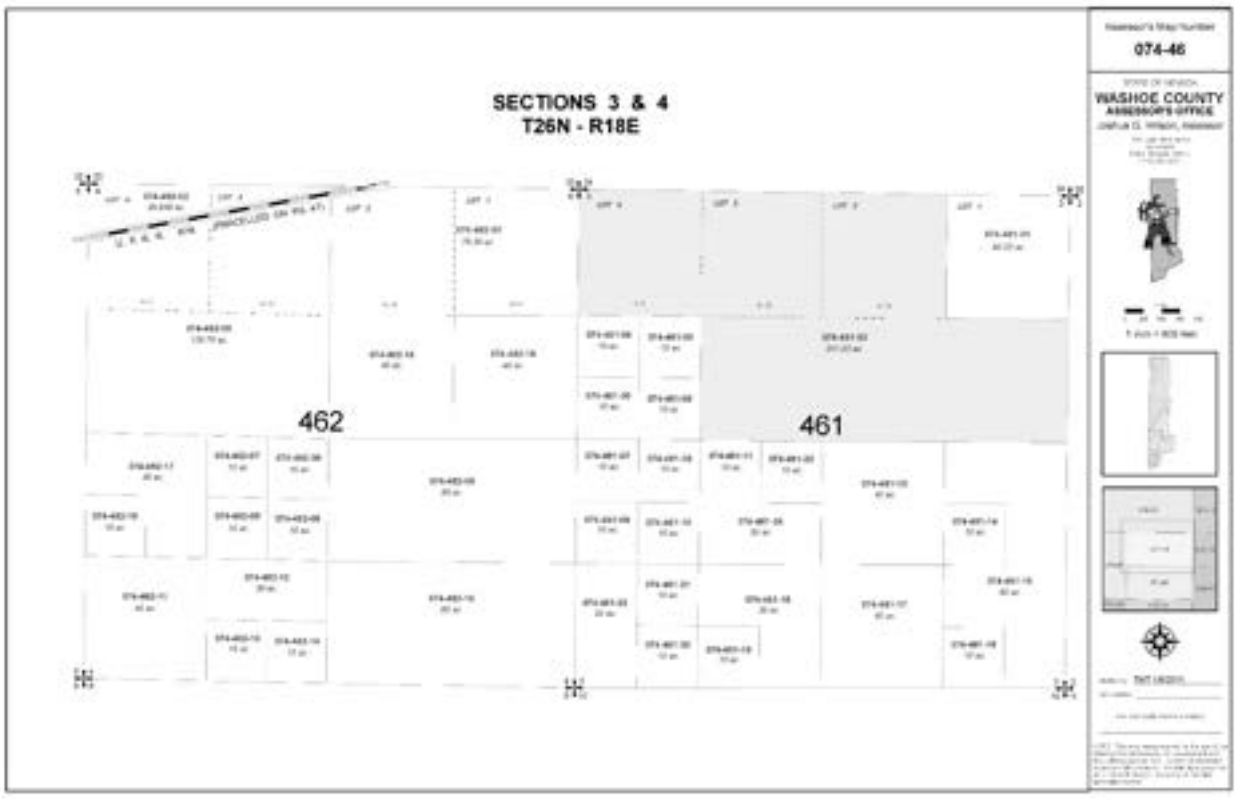
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-461-02 (*241.05 +/- acres*) and APN 074-432-01 (*160 +/- acres*) for a total solar lease area of seventy (*401.05 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

APN: 074-461-02

Northwest quarter (1/4) of the Southwest quarter (1/4), the Northeast quarter (1/4) of the Northwest quarter (1/4), the Southeast quarter (1/4) of the Northwest quarter (1/4), the Northwest quarter (1/4) of the Northeast quarter (1/4), the Southwest quarter (1/4) of the Northeast quarter (1/4), and the Southeast quarter (1/4) of the Northeast quarter (1/4), all that certain property situate in Section 3; Township 26 North, Range 18 East, 241.05 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.

The property is generally described in the figure below.

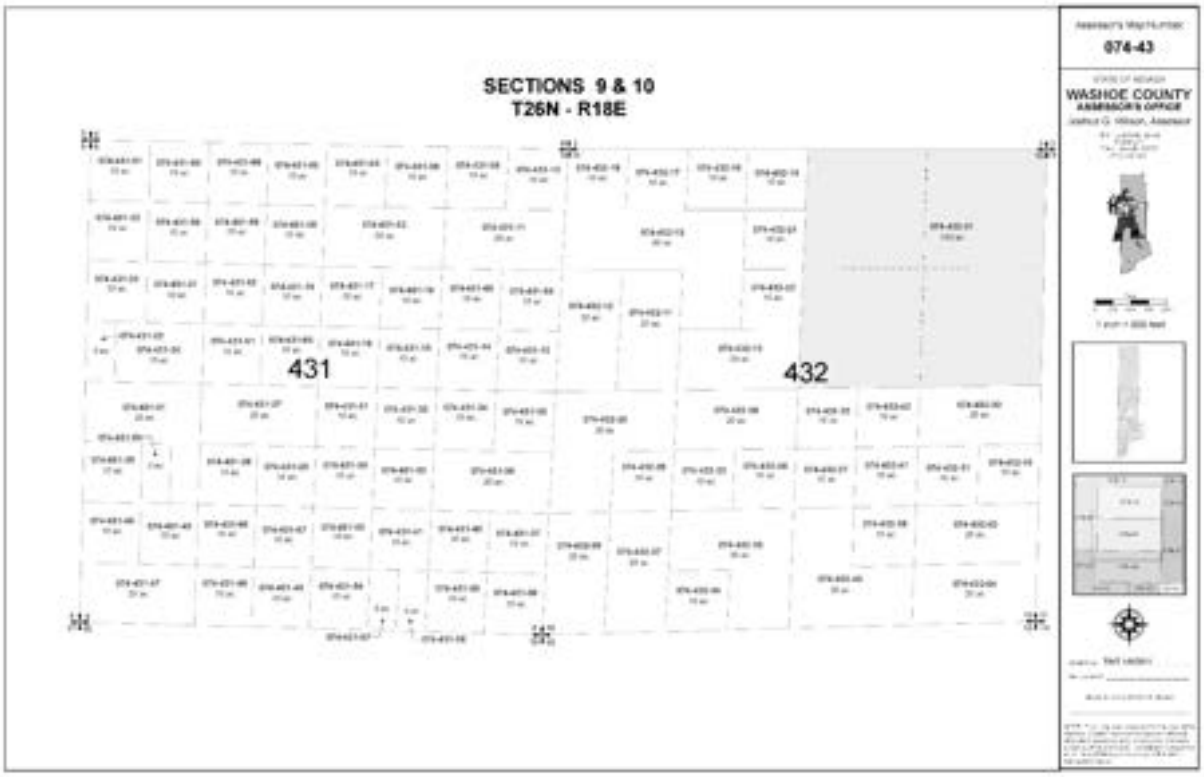


Latitude: 40.15492 North
Longitude: 119.95025 West

APN: 074-432-01

Northeast quarter (1/4) of Section 10; Township 26 North, Range 18 East, 160 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.

The property is generally described in the figure below.



Latitude: 40.14002 North
Longitude: 119.94591 West

LEGAL DESCRIPTION

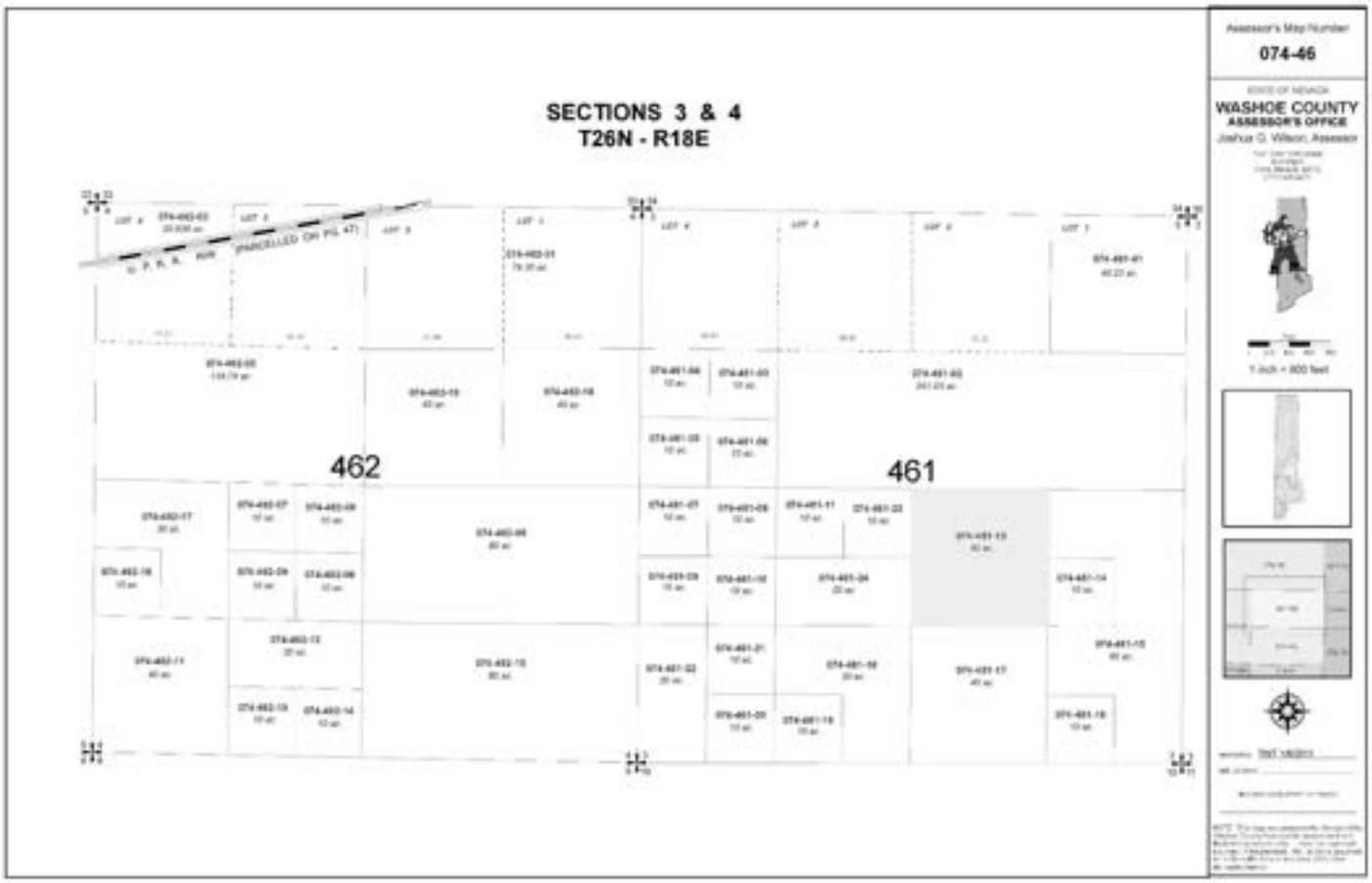
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-461-13 (*40 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *Northwest quarter (NW1/4) of the Southeast quarter (SE1/4), Section 3; Township 26 North, Range 18 East, 40 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada. Prior Document Number 1380634 Washoe County Clerk Recorder Office.*

APN: 074-461-13

The property is generally described in the figure below.



Latitude: 40.14936 North
Longitude: 119.94830 West

LEGAL DESCRIPTION

The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-461-17 (*40 +/- acres*) and APN 074-461-18 (*30 +/- acres*) for a total solar lease area of seventy (*70 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

APN: 074-461-17

Southwest quarter (1/4) of the Southeast quarter (1/4), Section 3; Township 26 North, Range 18 East, 40 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.

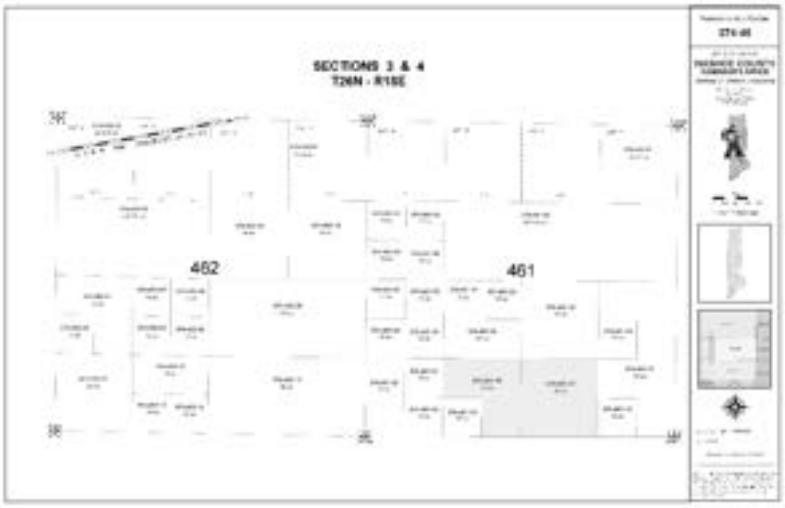
Reserving a 15-foot-wide easement for ingress, egress, and utilities around property and on any existing roads or pipelines. This easement is for the use of all owners in Township 26 North. Except all oil, coal, and mineral rights. Subject to liens of record.

APN: 074-461-18

North half (1/2) of the Southeast quarter (1/4), of the Southwest quarter (1/4), and the Southeast quarter (1/4) of the Southeast quarter (1/4) of the Southwest quarter (1/4) of Section 3; Township 26 North, Range 18 East, 30 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.

Reserving a 15-foot-wide easement for ingress, egress, and utilities around property and on any existing roads or pipelines. This easement is for the use of all owners in Township 26 North. Except all oil, coal, and mineral rights. Subject to liens of record.

The property is generally described in the figure below.



Latitude: 40.14572 North
Longitude: 119.95062 West

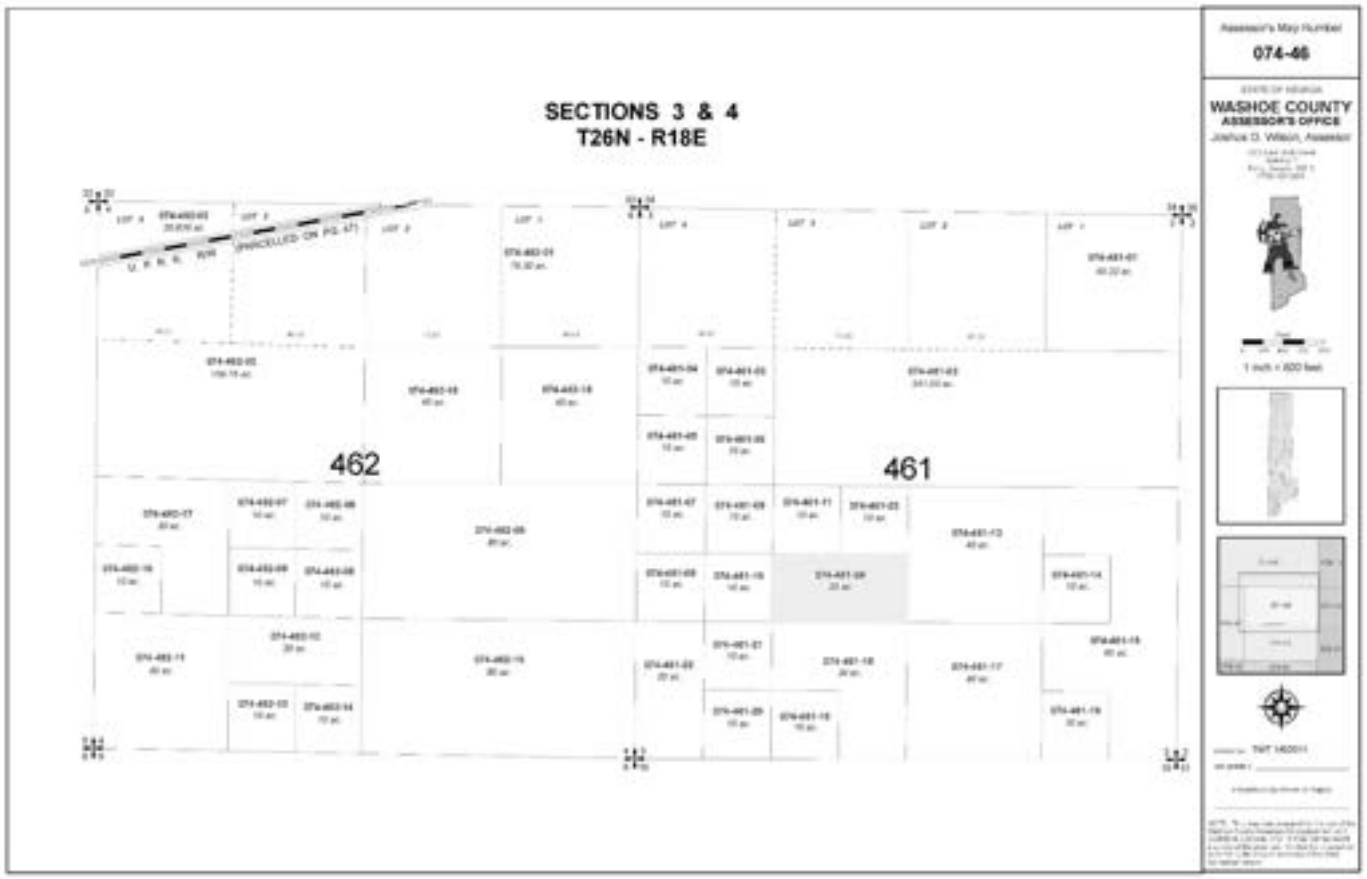
LEGAL DESCRIPTION

The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-461-24 (*20 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *The South half (S1/2) of the Northeast quarter (NE1/4), of the Southwest quarter (SW1/4), of Section 3; Township 26 North, Range 18 East, 20 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*
>
> *Reserving a 15-foot-wide easement for ingress, egress, and utilities around property and on any existing roads or pipelines. Except all oil, coal, and mineral rights. Subject to liens of record.*

APN: 074-461-24
The property is generally described in the figure below.



Latitude: 40.14843 North
Longitude: 119.95224 West

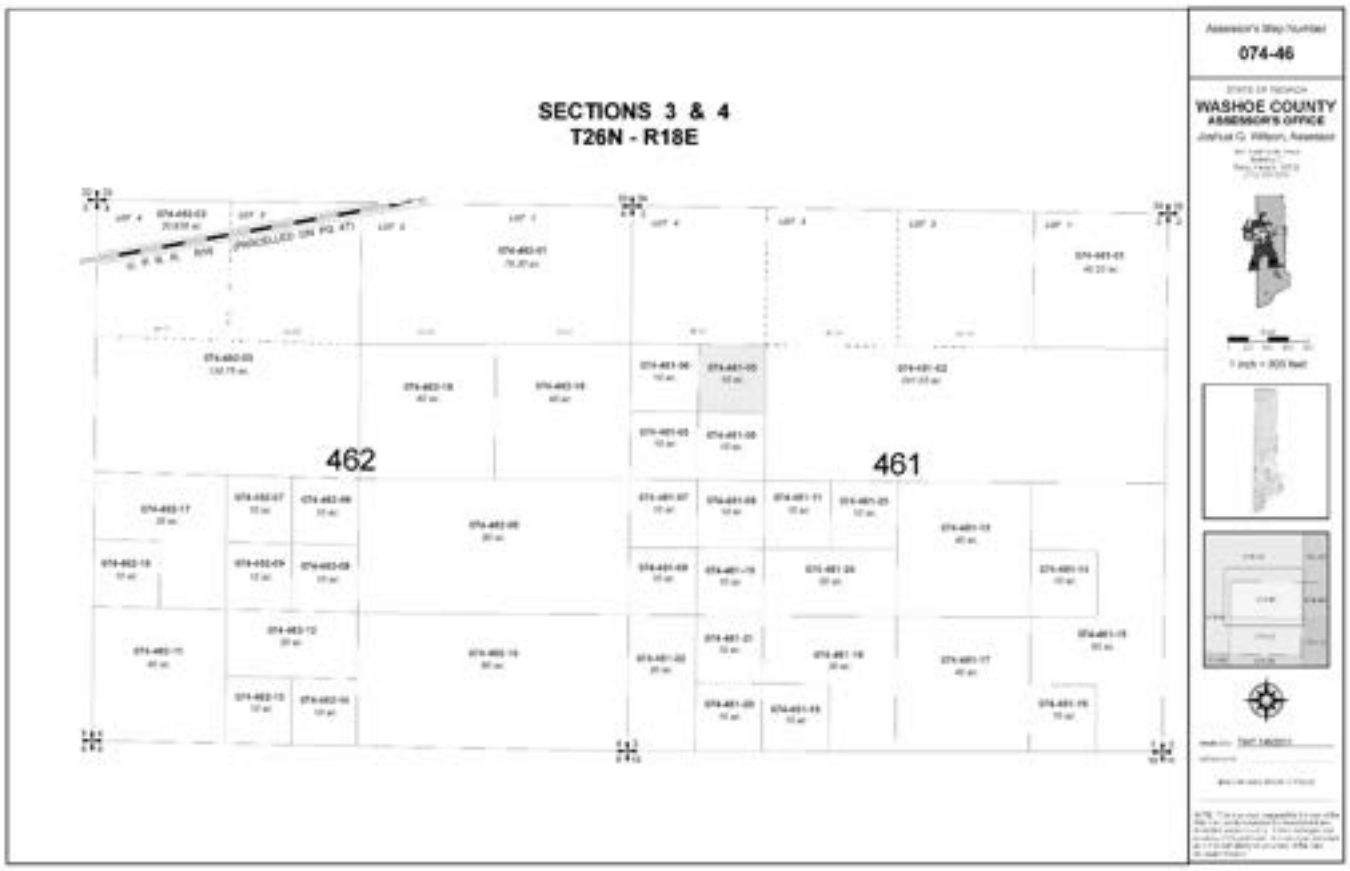
LEGAL DESCRIPTION

The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-461-03 (*10 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *The Northeast quarter (NE1/4), of the Southwest quarter (SW1/4), of the Northwest quarter (NW1/4) of Section 3; Township 26 North, Range 18 East, 10 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*
>
> *Together with all and singular tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining.*

APN: 074-461-03
The property is generally described in the figure below.



Latitude: 40.15397 North
Longitude: 119.95670 West

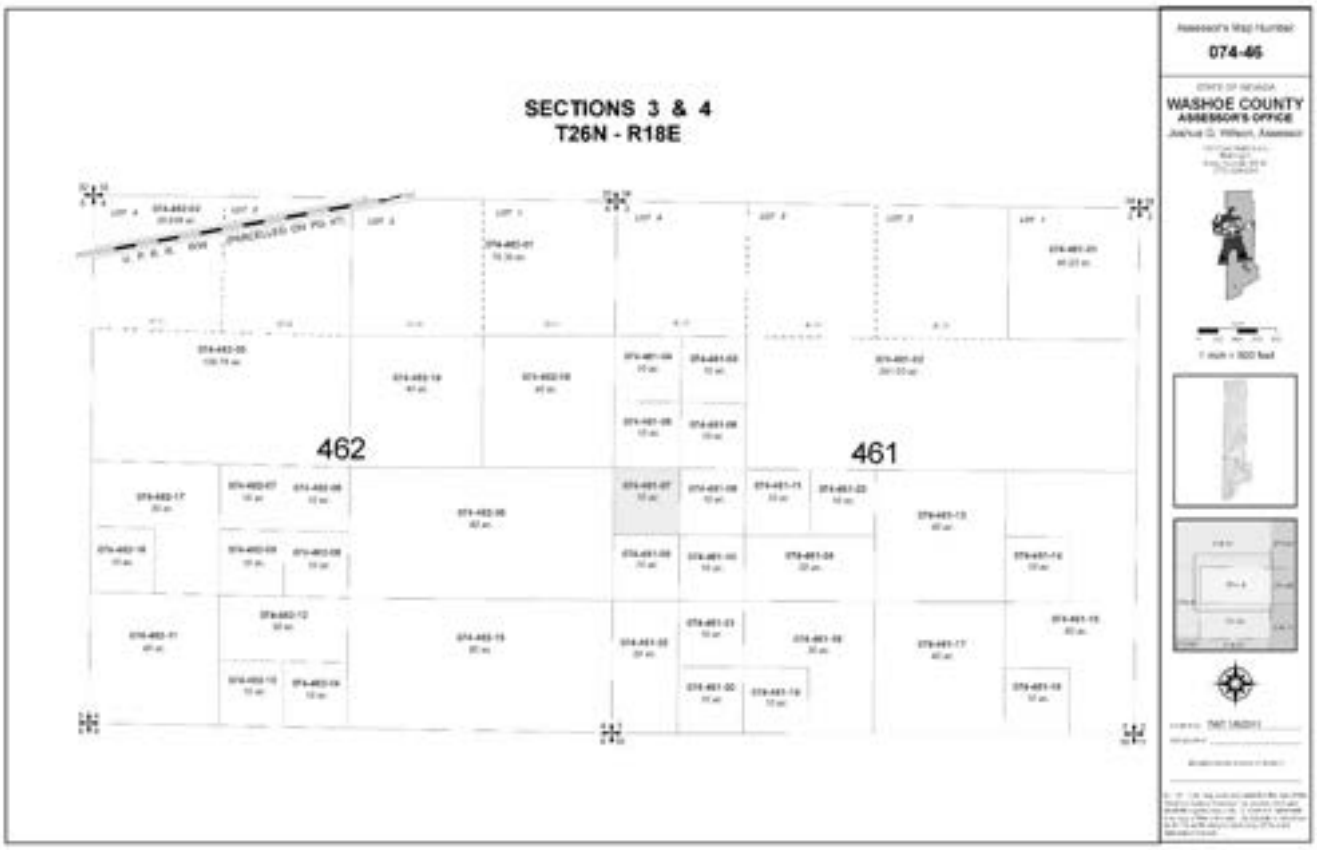
LEGAL DESCRIPTION

The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-461-07 (*10 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *The Northwest quarter (NW1/4), of the Northwest quarter (NW1/4), of the Southwest quarter (SW1/4) of Section 3; Township 26 North, Range 18 East, 10 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*
>
> *Reserving a 30-foot easement for ingress, egress, and utilities around property and on any existing roads. This easement is for the use of all owners in Township 26 North, Range 18 East, Washoe County, Nevada.*

APN: 074-461-07
The property is generally described in the figure below.



Latitude: 40.15026 North
Longitude: 119.95914 West

EXHIBIT C

Detailed Description of the Location of the Gen-Tie



Exhibit C – Detail of Gen-tie line location
SUNSEEKER SOLAR PROJECT
Washoe County, Nevada

Date: Feb 2024

Job No: 4640.2300053.0000

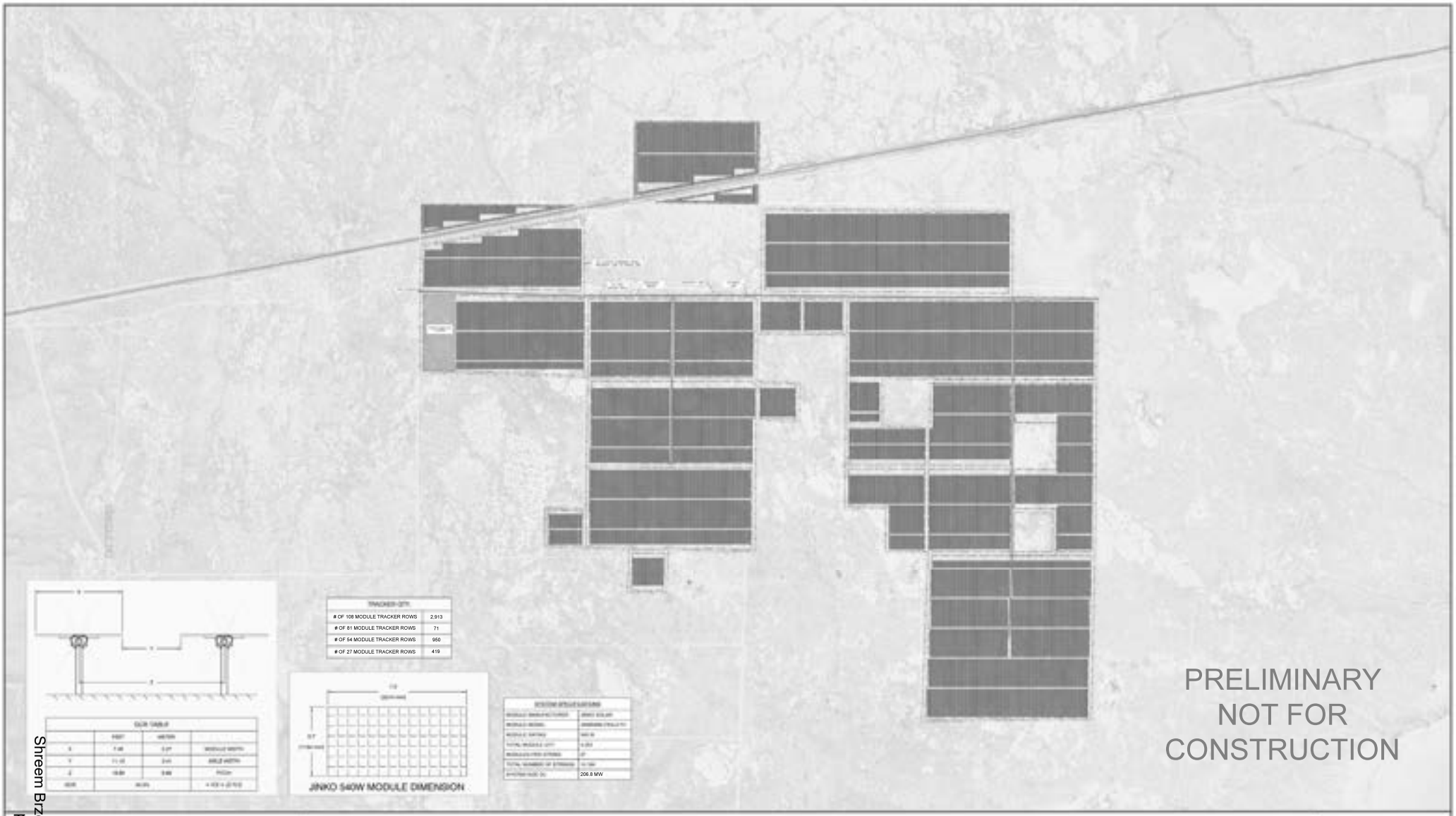
Exhibit C

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pg 059 of 217

EXHIBIT D

Site Plan Drawings, Vicinity Maps,

& Routing Maps



# OF 108 MODULE TRACKER ROWS	2,913
# OF 81 MODULE TRACKER ROWS	71
# OF 54 MODULE TRACKER ROWS	950
# OF 27 MODULE TRACKER ROWS	419

JINKO 540W MODULE DIMENSION

	206.8 MW

PRELIMINARY
NOT FOR
CONSTRUCTION

UES

Site Layout
SUNSEEKER SOLAR PROJECT
Washoe County, Nevada

Date: June 2024
1/128″=1′

Shreem Brzee App. Vol 1
pg 061 of 217



UES

ROUTING MAP
SUNSEEKER SOLAR PROJECT
Washoe County, Nevada

Date:
May 2024

Scale:
As Shown

Exhibit D



Topographic Basemap Adapted from the USGS 7.5' Digital Map Series
Projection: NAD 1983 2011 StatePlane California II FIPS 0402 Ft US

UES

PROJECT VICINITY MAP

SHREEM BRZEE SOLAR, LLC – SUNSEEKER SOLAR PROJECT

Washoe County, California

Exhibit	D
DRAWN BY	JMB
CHECKED BY	BLM
PROJECT MGR	BLM
DATE	02/2024
[illegible]053.0000	



Project Area

N

0 4,000 8,000

Feet

Aerial imagery provided by Esri.
Projection: NAD 1983 2011 StatePlane California II FIPS 0402 Ft US

UES

PROJECT BOUNDARY MAP

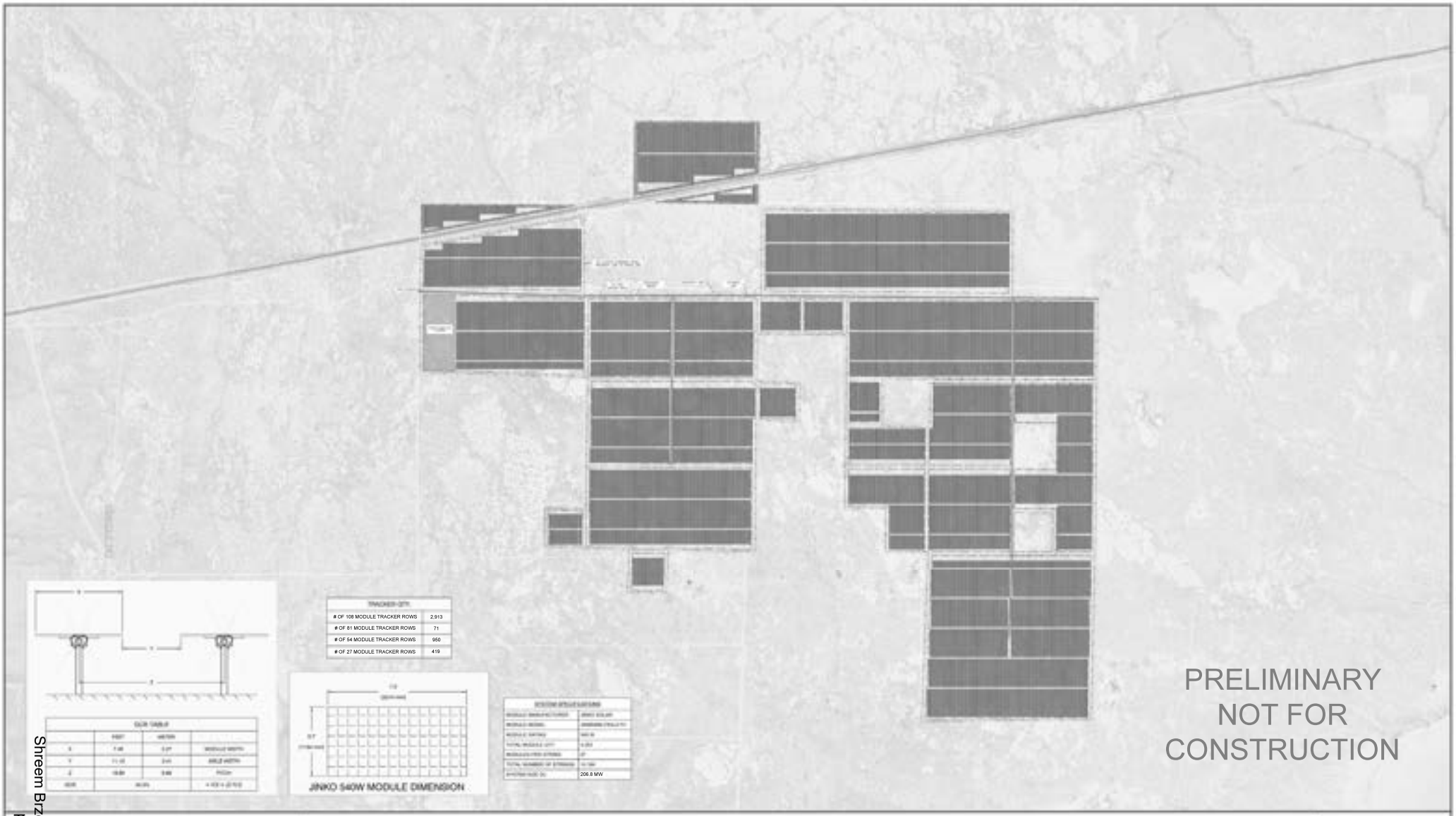
SHREEM BREZEE SOLAR, LLC - WASHOE SOLAR PROJECT

Washoe County, California

FIGURE	3
DRAWN BY	JMB
CHECKED BY	BLM
PROJECT MGR	BLM
DATE	02/2024

EXHIBIT E

Layout Diagram



# OF 108 MODULE TRACKER ROWS	2,913
# OF 81 MODULE TRACKER ROWS	71
# OF 54 MODULE TRACKER ROWS	950
# OF 27 MODULE TRACKER ROWS	419

JINKO 540W MODULE DIMENSION

	206.8 MW

PRELIMINARY
NOT FOR
CONSTRUCTION

UES

Site Layout
SUNSEEKER SOLAR PROJECT
Washoe County, Nevada

Date: June 2024
1/128″=1′

EXHIBIT F

Scaled Diagrams of Utility Structures

BATTERY ENERGY STORAGE SYSTEM

PowinEnergy



POWIN 40FT BATTERY ENCLOSURE

40FT BATTERY ENCLOSURE

Powin Energy's cost effective 40ft enclosure is a scalable, purpose-built battery solution that includes all of the balance of system (BOS) equipment that can be modified to meet the AHJ's requirements. The thermal management of this enclosure has been meticulously designed through air ducting and HVAC, providing an optimal temperature controlled environment for the battery enabling deployment in many different geographical climate types.

FULLY INTEGRATED

- Up to 16 Stack140s or 14 Stack225s per enclosure in parallel
- Powin's patented bp-OS Battery Management System
- Energy Management System (EMS)
- HVAC and forced air with ducting that directly targets the stacks
- AC breaker panel for coms and aux loads
- Fire suppression system that also provides detection and monitoring
- DC Collection, cable and tray
- IP 54 rated
- Insulation options for hot and cold climates
- Isolation, and over current and fault protection
- Minimal on site installation requirements

COMMUNICATION CABINET

- Full state of awareness monitoring for fire suppression/ HVAC/inverter and transformer status/E stop/UPS aux
- Switch
- Router
- UPS – Control
- Linux computer
- HMI
- Controls interface can connect to any SCADA system

CONTACT US powinenergy.com sales@powinenergy.com

POWIN ENERGY 40FT TECHNICAL SPECIFICATIONS

Powin Energy

ELECTRICAL CHARACTERISTICS		
MODEL	**Block2.2**	**Block3.1**
Intended Use	Power Applications	Energy Applications
Battery Chemistry	Lithium Iron Phosphate [LFP]	Lithium Iron Phosphate [LFP]
BMS	Powin bp-OS	Powin bp-OS
Usable Energy Capacity (kWh)	2,240	3,150
Rated Power (kW)	2,240	2,800
DC Voltage Range (VDC)	762-993	739-963
Max Current [Charge / Discharge]* (A)	3,840 / 3,840	3,024 / 3,794
Depth of Discharge (%)	100	100
DC Round Trip Efficiency [2 hr rating] (%)	95	95
Performance Guarantee	80% SOH after 3,650 cycles Or after 10 yrs	80% SOH after 3,650 cycles Or 70% SOH after 15 yrs
* Lower currents available		

PHYSICAL CHARACTERISTICS		
MODEL	**Block2.2**	**Block3.1**
Weight (lbs. / kg)	72,000 / 32,659	90,000 / 40,823
Dimensions (ft.)	40' L x 8' W x 6'6" H	40' L x 8' W x 6'6" H
Enclosure Type / Rating	HIGH CUBE / IP 54	HIGH CUBE / IP 54
Ambient Temperature Range	-30 TO +50 °C	-30 TO +50 °C
Number of Stacks (fully populated)	16	14
**Energy per Area (kWh / ft^2) ** **	7.00	9.84
Fire Suppression	StatX (aerosol)	StatX (aerosol)
Cooling	FORCED AIR & HVAC	FORCED AIR & HVAC
Codes & Standards Compliance	UL 1642, UL 1973, IEC 62619	UL 1642, UL 1973, IEC 62619
** Does not include setbacks, PCS or BOP		

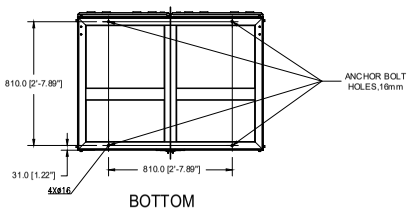
ABOUT POWIN ENERGY

Powin Energy is creating the next wave of safe and scalable battery energy storage that is purpose-built for the demands of utility-scale, commercial and industrial, and microgrid applications. With an unrivaled team of experts from across the energy industry, almost three decades of supply chain management expertise, extensive battery management software proficiency, a modular architecture, and a streamlined installation processes, Powin is making energy storage highly cost-effective and relatively pain free.

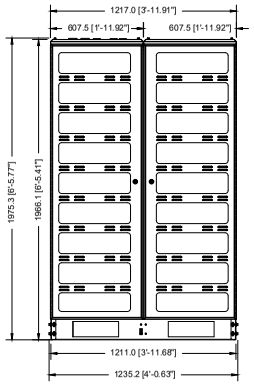
CONTACT US powinenergy.com sales@powinenergy.com

GENERAL NOTES

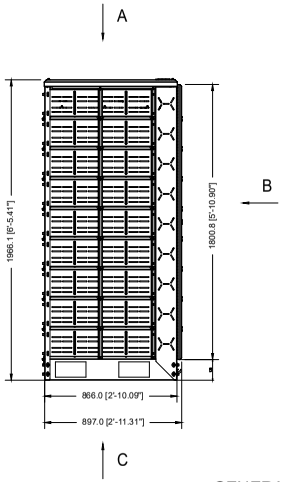
ALL UNITS - mm / [inch]



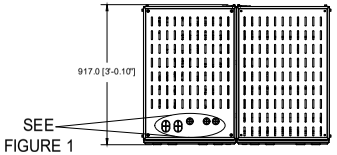
BOTTOM
VIEW C



FRONT
VIEW B

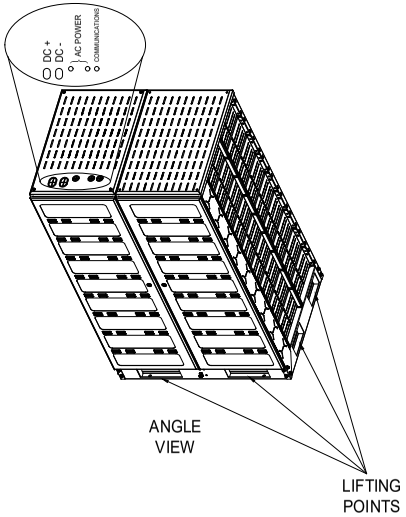


SIDE
VIEW D



TOP
VIEW A

FIGURE 1 - CABLE ENTRY



GENERAL NOTES

- STACK WEIGHT IS 1700 Kg.
- MOVING OF STACK NEEDS TO BE DONE USING A FORKLIFT OR HEAVY-DUTY PALLET JACK.
- SEE POWIN ENERGY 'STACK 140 INSTALLATION MANUAL' FOR HANDLING INSTRUCTIONS.

Powin Energy

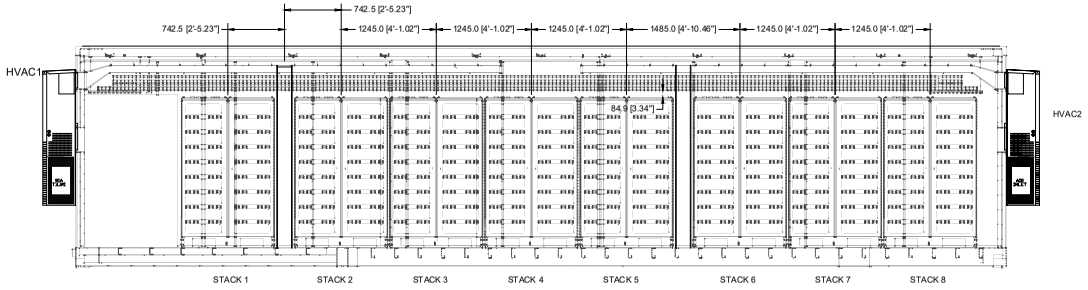
NO.	DATE	REVISION	DR	BY	APVD

DESIGNED BY:	DATE: 03/15/19
REVIEWED BY:	DRAWING NO.:
APPROVED BY:	PROJECT NO.:
	REVISION NO.: A

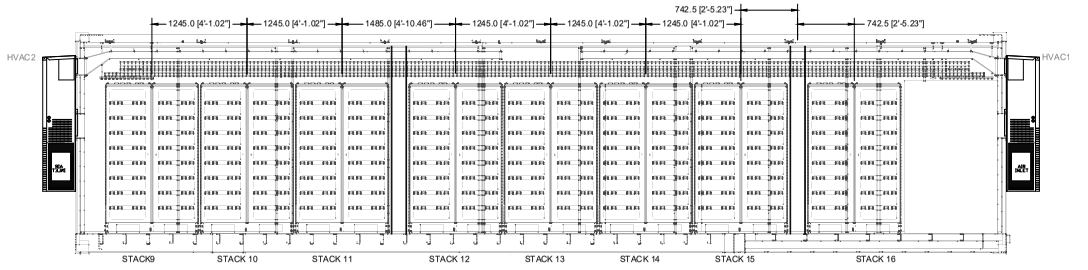
NOT FOR CONSTRUCTION

POWIN BESS ENCLOSURE ELECTRICAL
POWIN STACK140 LAYOUT

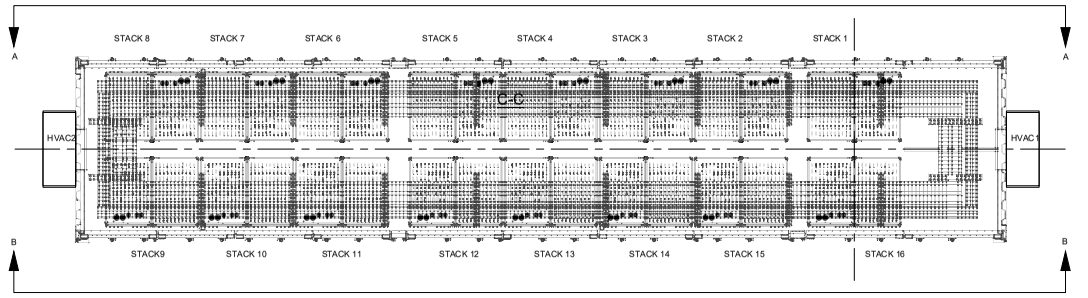
SHEET NO.
E.21



A-A FRONT VIEW WITH DOOR OPEN



B-B FRONT VIEW WITH DOOR OPEN



TOP VIEW INTERIOR

GENERAL NOTES

1. REFER TO DWG S2, S3, ENCLOSURE LAYOUT FOR SPECIFIC BATTERY STACK PLACEMENT IN THE INDIVIDUAL ENCLOSURES.
2. REFER TO DWG E25,E26,E26,E28, FOR DC COMBINER CABINET, AC PANELBOARD FIRE SUPPRESSION AND COMMUNICATION PANEL DETAILS.

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Powin Energy

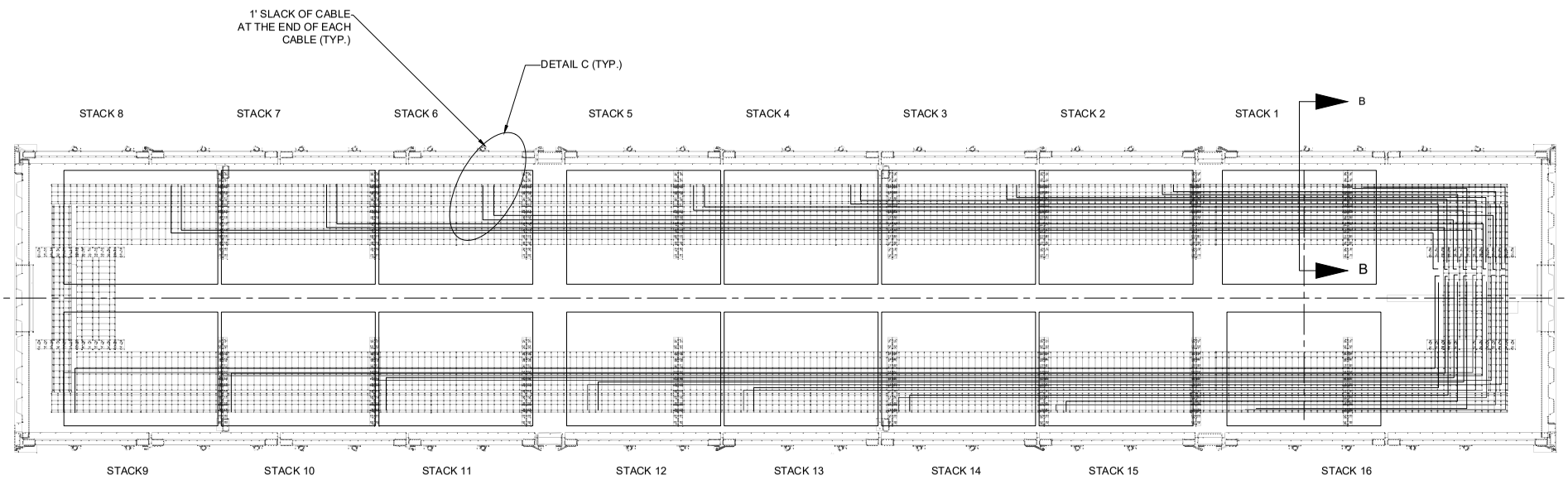
NO.	DATE	REVISION	DR	BY	APVD

DESIGNED BY:	DATE: 03/15/19
REVIEWED BY:	DRAWING NO.:
APPROVED BY:	PROJECT NO.:
	REVISION NO.: A

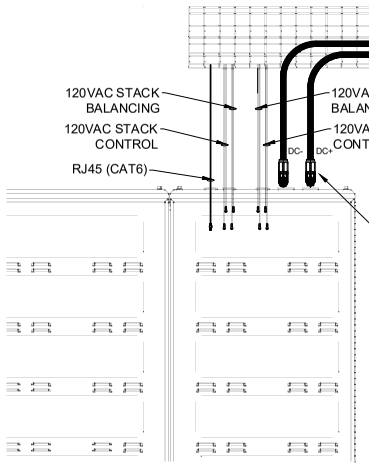
NOT FOR CONSTRUCTION

POWIN BESS ENCLOSURE ELECTRICAL
STACK PLACEMENT LAYOUT – IN ENCLOSURE

SHEET NO.
E22



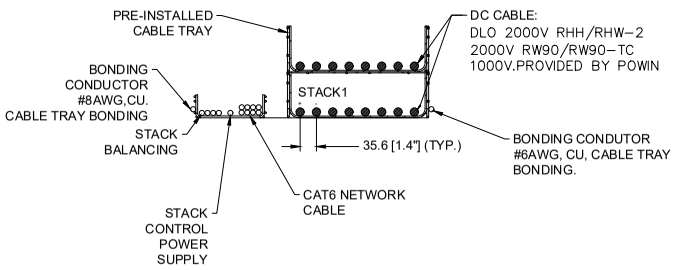
A-A TOP VIEW INTERIOR



NOTE:
1. PROVIDE 1' SLACK CABLE BELOW THE CABLE TRAY FOR ALL AC, DC AND COMM. CABLE.
2. TERMINATE THE DC CABLE USING THE PROVIDED AMPHANOL CONNECTORS FOLLOWING THE MANUFACTURE'S RECOMMENDED METHODOLOGY. AND LABEL ACCORDINGLY.
3. CRIMP THE END OF AC CABLE WITH RING LUG WITH M6 HOLE. AND LABEL
4. TERMINATE THE CAT6 CABLE WITH RJ45 CONNECTOR, AND LABEL



C / E004 CABLE TERMINATION N.T.S.



B-B: CABLE TRAY CROSS SECTION VIEW

Powin Energy

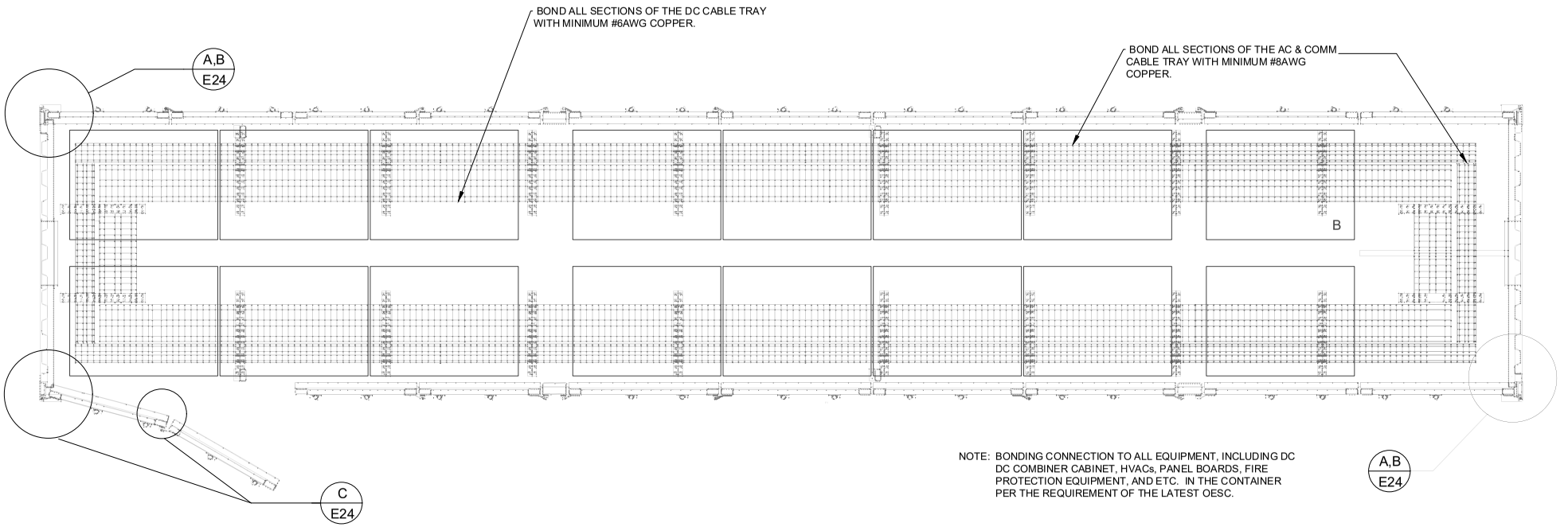
NO.	DATE	REVISION	DR	BY	APVD

DESIGNED BY:	DATE: 03/15/19
REVIEWED BY:	DRAWING NO.:
APPROVED BY:	PROJECT NO.:
	REVISION NO.: A

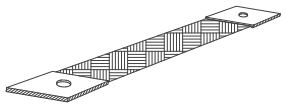
NOT FOR CONSTRUCTION

POWIN BESS ENCLOSURE ELECTRICAL CABLE ARRANGEMENT

SHEET NO. E.23

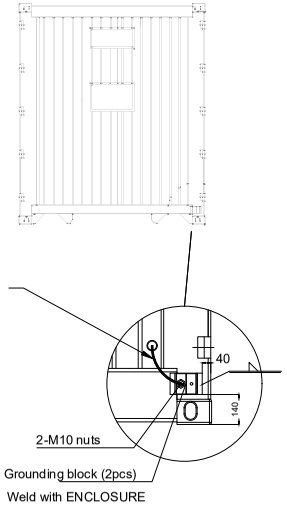


NOTE: BONDING CONNECTION TO ALL EQUIPMENT, INCLUDING DC DC COMBINER CABINET, HVACs, PANEL BOARDS, FIRE PROTECTION EQUIPMENT, AND ETC. IN THE CONTAINER PER THE REQUIREMENT OF THE LATEST OESC.



NOTE: BONDING OF ALL SWING DOORS, AND HINGES, WITH COPPER BRAID, 1 " WIDTH MINIMUM.

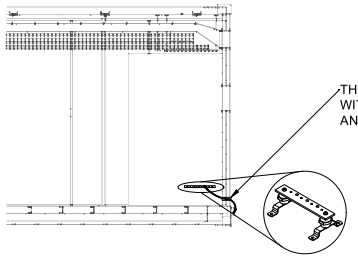
C E24 COPPER BRAID FOR DOOR BONDING
N.T.S.



NOTE: GROUNDING BLOCKS WELD TO THE TWO OPPOSITE BOTTOM CORNERS OF THE ENCLOSURE.

INTERIOR EQUIPMENT BONDING AND ENCLOSURE GROUNDING POINT TO BE CONNECTED WITH #4/0 COPPER WIRE

A E24 ENCLOSURE GROUNDING
N.T.S.



NOTE: COPPER GROUNDING BUSBAR FOR INTERIOR EQUIPMENT BONDING. 1"x18"X$\frac{1}{2}$" BOLTED TO METAL FLOOR.

THE EQUIPMENT BONDING BUSBAR TIED CONNECTED EXTERIOR ENCLOSURE GROUNDING (DETAIL A) WITH #4/0 CU CONDUCTOR.

THROUGH ENCLOSURE WALL WITH PROTECTIVE FITTINGS AND SEALED.

B E24 EQUIPMENT BONDING POINT AT TWO OPPOSITE CORNERS

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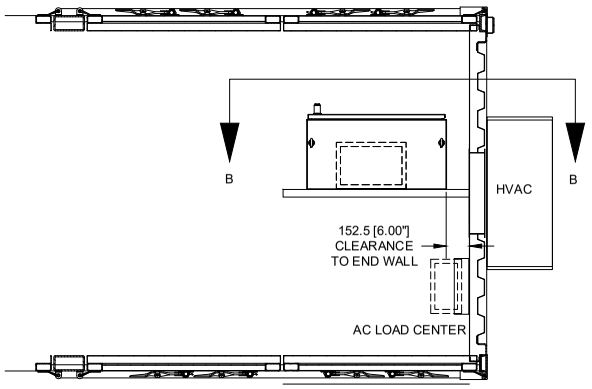
NO.	DATE	REVISION	DR	BY	APVD

DESIGNED BY:	DATE: 03/15/19
REVIEWED BY:	DRAWING NO.:
APPROVED BY:	PROJECT NO.:
	REVISION NO.: A

NOT FOR CONSTRUCTION

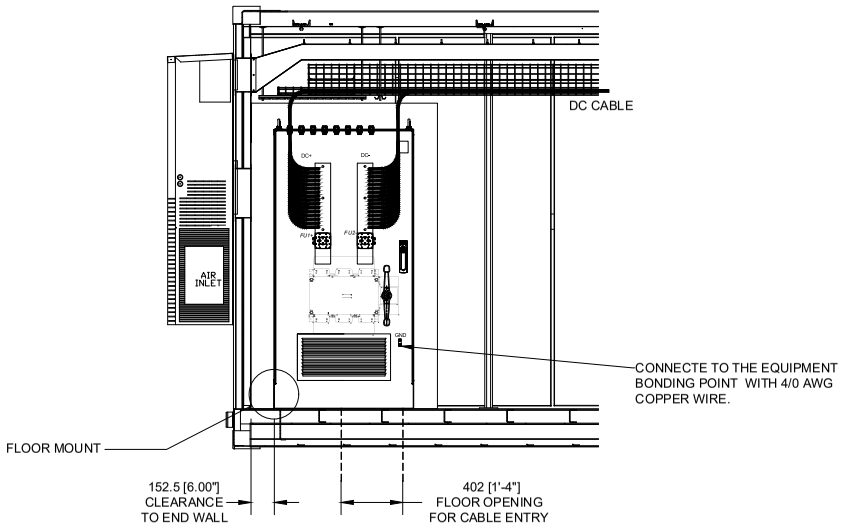
POWIN BESS ENCLOSURE ELECTRICAL BONDING AND GROUNDING

SHEET NO. E.24



A-A TOP VIEW INTERIOR

TYPE 1 ENCLOSURE



B-B FRONT VIEW DC COMBINER CABINET

TYPE 1 ENCLOSURE

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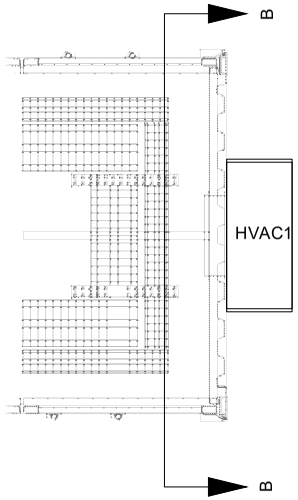
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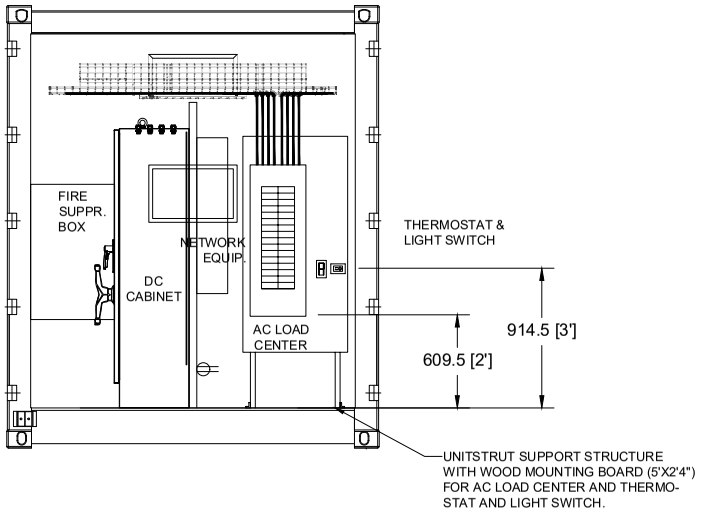
POWIN BESS ENCLOSURE ELECTRICAL
TYPE 1 ENCLOSURE
1500A DC COMBINER CABINET DETAILS

SHEET NO.
E.25



A-A TOP VIEW INTERIOR

END WALL



B-B FRONT VIEW INTERIOR

END WALL DETAILS

Powin Energy

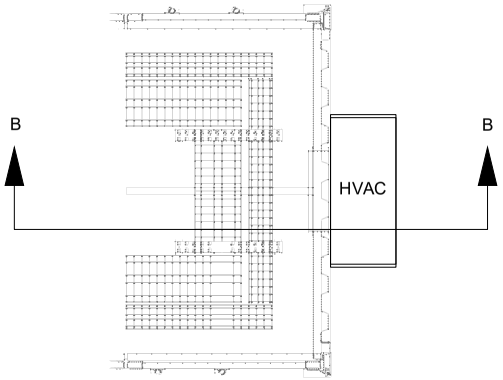
NO.	DATE	REVISION	DR	BY	APVD

DESIGNED BY:	DATE: 03/15/19
REVIEWED BY:	DRAWING NO.:
APPROVED BY:	PROJECT NO.: C
	REVISION NO.: A

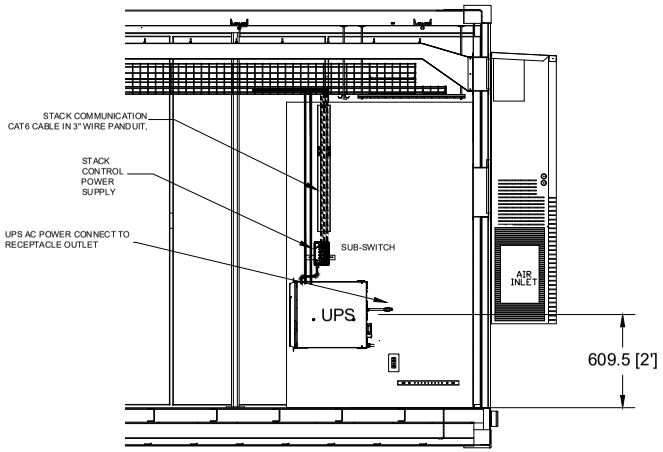
NOT FOR CONSTRUCTION

POWIN BESS ENCLOSURE ELECTRICAL
END WALL DETAIL

SHEET NO.
E.27

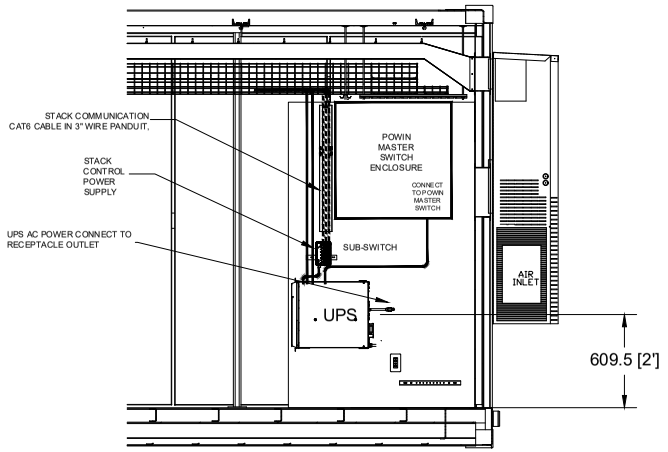


A-A TOP VIEW INTERIOR



B.1-B.1 FRONT VIEW - SLAVE

COMMUNICATION WALL DETAILS
ENCLOSURE A,B,D,E



B.2-B.2 FRONT VIEW - MASTER (ENCLOSURE C)

COMMUNICATION WALL DETAILS

Powin Energy

NO.	DATE	REVISION	DR	BY	APVD

DESIGNED BY:	DATE: 03/15/19
REVIEWED BY:	DRAWING NO.:
APPROVED BY:	PROJECT NO.:
	REVISION NO.: A

NOT FOR CONSTRUCTION

POWIN BESS ENCLOSURE ELECTRICAL
COMMUNICATION WALL DETAILS

SHEET NO.
E.28

GENERAL NOTES:

1. IMPORTANT THIS DESIGN IS NOT SITE SPECIFIC AND IS ONLY INTENDED TO PROVIDE GUIDANCE FOR A FOUNDATION DESIGN FOR THE PROPOSED SHIPPING CONTAINERS. A LICENSED ENGINEER AND/OR GEOTECHNICAL ENGINEER SHALL PROVIDE SITE SPECIFIC DESIGN.
2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS BEFORE STARTING WORK AND SHALL NOTIFY AOstructures, INC - STRUCTURAL ENGINEERS, (AOstructures, INC) OF ANY DISCREPANCIES.
3. ALL OMISSIONS AND CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/ OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF POWERIN BEFORE PROCEEDING WITH WORK SO INVOLVED.
3. RESOLVE ANY CONFLICTS ON THE DRAWINGS WITH POWERIN BEFORE PROCEEDING WITH CONSTRUCTION.
4. ALL MATERIAL AND WORK SHALL CONFORM TO THE REQUIREMENTS OF THE 2015 IBC.
5. NEITHER THE OWNER NOR POWERIN WILL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL DESIGN, CONSTRUCT, AND MAINTAIN ALL SAFETY DEVICES INCLUDING SHORING AND BRACING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS. THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE METHODS, PROCEDURES OR SEQUENCE OF CONSTRUCTION. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO MAINTAIN AND INSURE THE INTEGRITY OF THE STRUCTURE DURING CONSTRUCTION. IF A LAWSUIT IS FILED BY ONE OF THE CONTRACTOR'S OR SUBCONTRACTOR'S EMPLOYEES, OR ANY ONE ELSE, THE CONTRACTOR WILL INDEMNIFY, DEFEND AND HOLD THE OWNER AND POWERIN HARMLESS OF ANY AND ALL SUCH CLAIMS.
6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ASSURE THAT ALL STRUCTURAL ELEMENTS AND MEMBERS (I.E. ROOF, SLAB, COLUMNS ETC.) ARE ADEQUATELY BRACED DURING CONSTRUCTION. BRACING OF SUCH ELEMENTS AND MEMBERS SHALL REMAIN IN PLACE UNTIL THEY ARE PROPERLY SECURED.
7. CONSTRUCTION MATERIAL SHALL BE EVENLY DISTRIBUTED IF PLACED ON FRAMED FLOORS OR ROOFS. LOADS SHALL NOT EXCEED THE ALLOWABLE LOADING FOR THE SUPPORTING MEMBERS AND THEIR CONNECTIONS.
8. SPECIFIC DETAILS OR NOTES ON OTHER SHEETS SHALL PREVAIL OVER STANDARD NOTES ON THIS SHEET. WHERE CONSTRUCTION DETAILS ARE NOT SHOWN OR NOTED FOR ANY PART OF THE WORK, SUCH DETAILS SHALL BE THE SAME AS FOR SIMILAR WORK SHOWN ON THE DRAWINGS.
9. THE CONTRACTOR SHALL DETERMINE THE LOCATION OF THE UTILITY SERVICE IN THE AREA TO BE EXCAVATED PRIOR TO BEGINNING EXCAVATION.
10. NO PIPES, DUCTS, SLEEVES, CHASE ETC., SHALL BE PLACED IN SLABS, BEAMS, COLUMNS, WALLS, ETC., UNLESS SPECIFICALLY SHOWN OR NOTED. NOR SHALL ANY STRUCTURAL MEMBER BE CUT FOR PIPES, DUCTS, ETC., UNLESS SPECIFICALLY SHOWN. OBTAIN PRIOR WRITTEN APPROVAL FOR INSTALLATION OF ANY ADDITIONAL PIPES, DUCTS, ETC.

REINFORCED CONCRETE NOTES:

1. CEMENT SHALL CONFORM TO ASTM C-150, TYPE II.
2. AGGREGATES SHALL CONFORM TO ASTM C-33 FOR NORMAL WEIGHT CONCRETE AND ASTM C-330 FOR LIGHT WEIGHT CONCRETE.
3. ANCHOR BOLTS SHALL CONFORM TO ASTM ASTM F1554 GRADE 36.
4. ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS AND OTHER INSERTS SHALL BE SECURED IN POSITION AND INSPECTED BY THE LOCAL BUILDING DEPARTMENT INSPECTOR PRIOR TO THE POURING OF ANY CONCRETE.
5. FINISHED SURFACES OF FLOOR SLABS SHALL NOT DEVIATE MORE THAN 1/8" FROM THE LOWER EDGE OF A 10 FOOT STRAIGHT EDGE.
6. CONCRETE SHALL MEET THE FOLLOWING DESIGN CRITERIA:

LOCATION	MIN 28 DAY COMP STRENGTH	MIN CEMENT	MAX AGGREGATE	MAX SLUMP
FOUNDATION	2500 psi	5.5 SACKS/ YD	1"	4"
NONSTRUCTURAL SLAB ON GRADE	2500 psi	5.0 SACKS/ YD SLAB ON GRADE	1"	4"

7. CONCRETE MIX TESTING AND DESIGN SHALL MEET THE REQUIREMENTS OF CHAPTER 3 OF ACI 318-11 AND SECTION 1904 OF THE 2013 CBC RESPECTIVELY, AND THESE SPECIFICATIONS.
8. ADMIXTURES SHALL BE REVIEWED BY AOstructure, INC. CALCIUM CHLORIDE OR ADDED CHLORIDES ARE NOT PERMITTED.
9. DRY PACK SHALL BE 1 PART CEMENT AND 2 PARTS SAND BY VOLUME.
10. PROVIDE A 3/4 INCH CHAMFER ON EXPOSED CORNERS.
11. CONSTRUCTION JOINTS SHALL BE ROUGHENED TO 1/4" AMPLITUDE MINIMUM OR KEYED JOINTS PER PLAN. WAIT 48 HOURS BETWEEN POURS.
12. THE LOCATION OF ALL SLAB ON GRADE CONSTRUCTION, CONTROL, AND WEAKENED PLANE JOINTS NOT SPECIFICALLY INDICATED ON THE DRAWINGS SHALL BE REVIEWED AND APPROVED BY AOstructure, INC PRIOR TO THE PLACING OF REINFORCEMENT.
13. CONCRETE CURING SHALL BE PER THE PROVISIONS OF THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE OF THE AMERICAN CONCRETE INSTITUTE.
14. ALL CONCRETE SHALL BE CONSOLIDATED WITH MECHANICAL VIBRATORS.

REINFORCING STEEL NOTES:

1. BAR REINFORCING SHALL CONFORM TO ASTM A615, GRADE 40.
2. REINFORCING DETAILING, FABRICATION AND PLACING SHALL CONFORM TO THE PROVISIONS OF THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE OF THE AMERICAN CONCRETE INSTITUTE.
3. ALL REINFORCING STEEL, ANCHOR BOLTS, HOLD DOWN ANCHORS, DOWELS AND INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE OR GROUT.
4. REINFORCING STEEL SHALL BE PROVIDED WITH THE FOLLOWING AMOUNTS OF CONCRETE COVER UNLESS OTHERWISE NOTED:
   CONCRETE CAST AGAINST EARTH.....3"
   FORMED CONCRETE EXPOSED TO EARTH OR WEATHER:
   NO. 5 OR SMALL BARS.....1-1/2"
5. SPLICES:
   SPLICES IN NO. 8 OR SMALLER BARS SHALL BE 45 DIAMETERS. SPLICES IN ADJACENT BARS SHALL BE STAGGERED 5'-0".

DESIGN CRITERIA:

40'-0" LONG CONTAINER DESIGN WEIGHT:	72.8k
53'-6" LONG CONTAINER DESIGN WEIGHT:	115k
ROOF LIVE LOAD:	20 PSF
ASSUMED SOIL BRG:	1,500 PSF
ASSUMED SKIN FRICTION:	150 PSF
ASSUMED LATERAL PASSIVE PRES:	150 PSF/FT
MAX DESIGN SDS:	1.0g

SCOPE OF WORK:

PROVIDE DESIGN GUIDANCE FOR FOUNDATION SYSTEM TO SUPPORT PRE-MANUFACTURED SHIPPING CONTAINERS.

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REVISIONS

STAMP

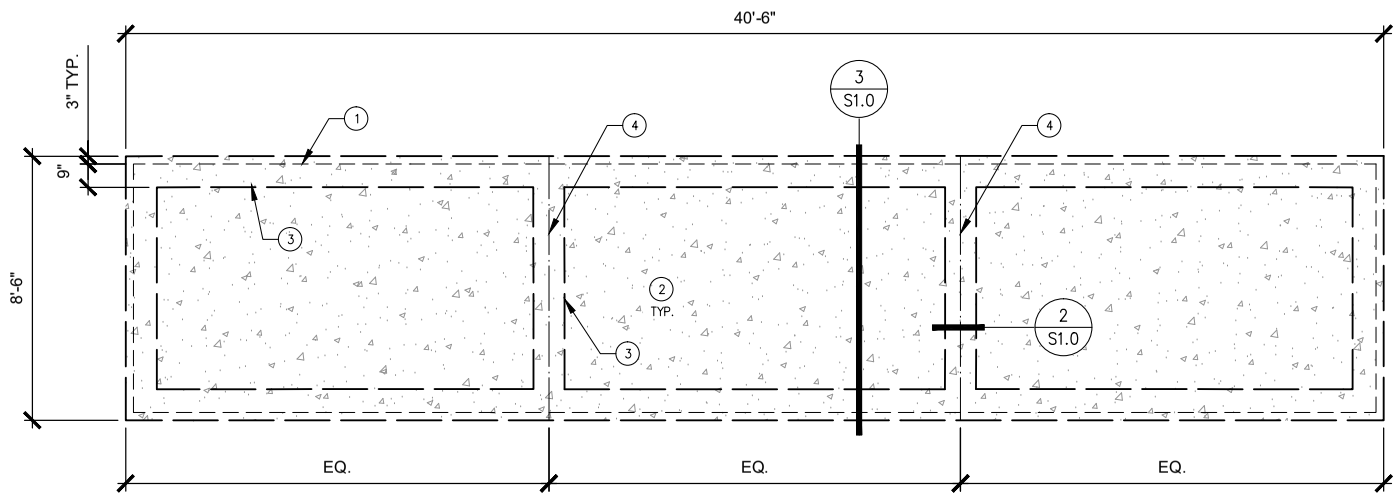
DATE: 12/14/18

PROJECT:

FOUNDATION DESIGN
SHIPPING CONTAINER
SUPPORT SYSTEM

SHEET TITLE:
GENERAL NOTES

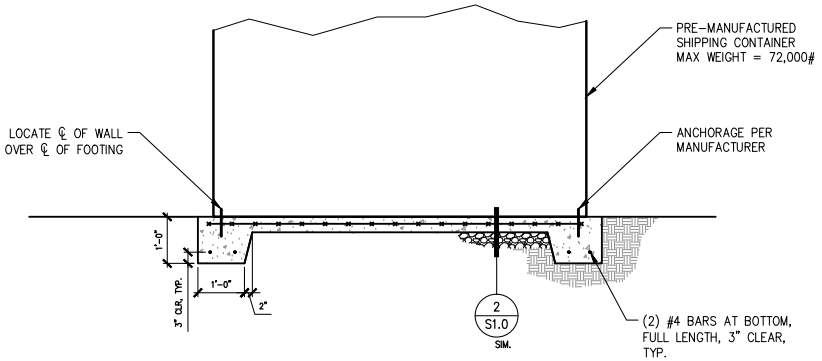
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S0



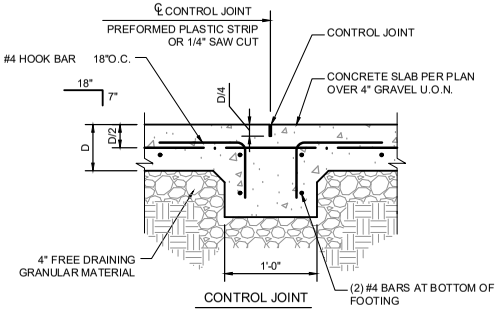
FOUNDATION NOTES:

1. OUTLINE OF SHIPPING CONTAINER STRUCTURE ABOVE, BY OTHERS.
2. 6" THICK CONCRETE SLAB w/ #4 BARS AT 18"O.C. BOTH WAY.
3. EDGE OF THICKENED SLAB EDGE, 12" FROM PERIMETER.
4. CONTROL JOINT, SEE DETAIL 2/S1.0

1 8'-0" x 40'-0" CONTAINER FOUNDATION PLAN
SCALE: 1/4" 1'-0"



3 FOOTING SECTION
SCALE: 3/8" 1'-0"



NOTES:
1. CONTROL JOINTS SHALL BE PROVIDED IN A CHECKERBOARD PATTERN AT NO MORE THAN 12'-0" ON CENTER EACH WAY, U.O.N

2 CONTROL JOINT
SCALE: NTS

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REVISIONS

STAMP

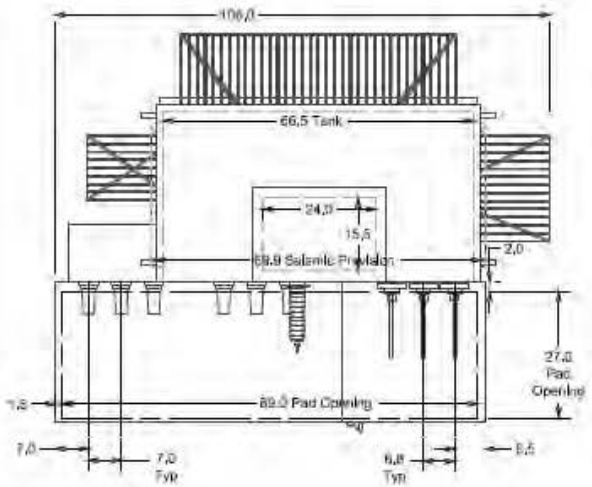
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PROJECT:
FOUNDATION DESIGN
SHIPPING CONTAINER
SUPPORT SYSTEM

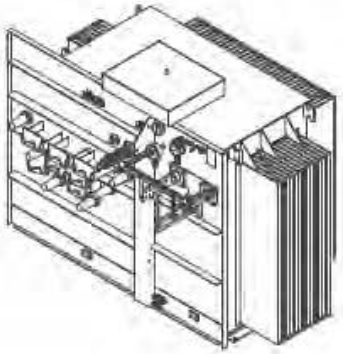
SHEET TITLE:
8' x 40'
SLAB PLAN

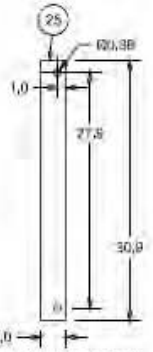
SHEET NUMBER:
S1.0

ITE	DESCRIPTION
1	Welded Cover w/ Handhole
2	Cooling Corrugate
3	Cooper Bayonet Fusing w/ Drilponiate
4	Current Limiting Backup Fuses (Internal)
5	Drain Valve with Sampler
6	Ground Pad ,5/8-13 Tap
7	Ground Pad ,5/8-13 Tap
8	H0 Bushing
9	High Security Cabinet w/ Pentahead Door Bolts
10	35kV 200 Amp Loadbreak HV Bushing
11	LV Bushing Support
12	Lifting Lug
13	Liquid Temperature Gauge w/ Alarm Contacts
14	1.2kV LV Bushing w/10 Hole Spade Supported
15	Magnetic Oil Level Gauge w/ Alarm Contacts
16	Nameplate
17	One Inch Upper Press. Drain, and Fill Plug
18	Four Position T-Blade Loadbreak Switch
19	Parking Stand
20	Pressure Relief Device w/ Alarm Contacts
21	Pressure Relief Valve
22	Pressure Switch w/ Alarm Contacts
23	Pressure Vacuum Gauge
24	Schrader Valve
25	Seismic Anchor Provisions
26	Tank Base w/ Jacking and Rolling Facilities
27	5-Position Tap Changer
28	Vacuum Switch w/ Alarm Contacts
29	27.0kV (22.0kV MCOV) Arrester (Internal)

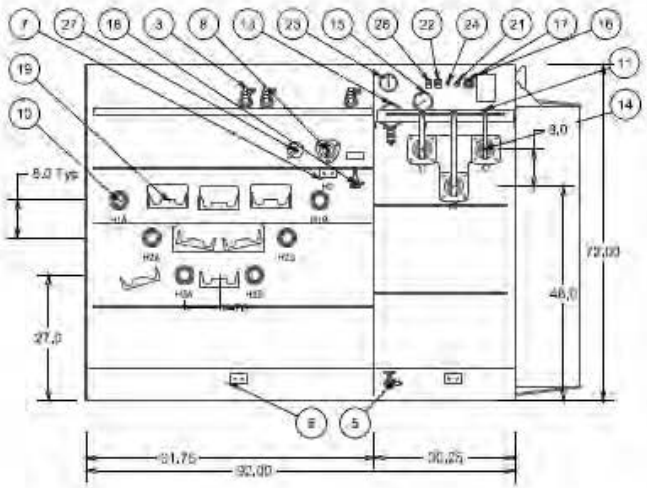


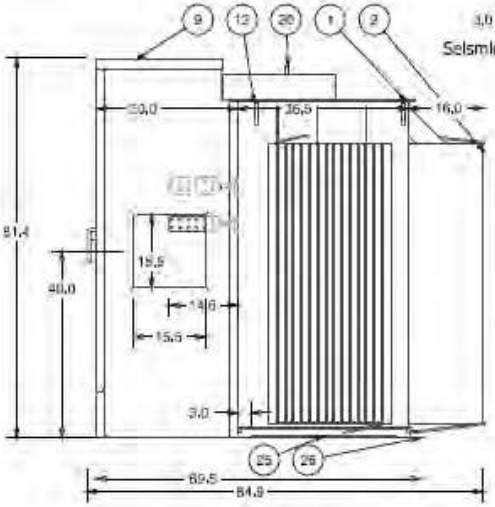
Cabinet Removed





Seismic Provision Detail





3PH Padmount Transformer 60Hz
2237,0 kVA ONAN 65 AWR Mineral Oil
HV 34500Y/19920 150 kV BIL
LV 480D 30 kV BIL
5,75 %IZ

ANSI 70 Gray Topcoat
Mild Steel Construction

Customer: DYNAPOWER CORPORATION
Project: DYNAPOWER

MATERIAL:	EATON Powering Business Worldwide
ALL DIMENSIONS ARE IN INCHES [MM]	title: Distribution Transformer Outline Drawing
THE INFORMATION ON THIS DOCUMENT WAS CREATED BY EATON. IT WAS DISCLOSED IN CONFIDENCE AND IS ONLY TO BE USED FOR THE PURPOSE IN WHICH IT WAS SUPPLIED.	desc: COOPER POWER SERIES THREE-PHASE PAD-MOUNTED COMPARTMENTAL TYPE
THIS DRAWING HAS BEEN GENERATED FROM A 3D MODEL.	DWG: PTP | DATE: 3/19/2018 | REF: P3D V22R09M00 | SHEET #: 1 OF 1 | SCALE: | REV: 00
	0002BA66KMAA

0002BA66KMAA
REVISIONS

EATON **COOPER POWER** SERIES

3φ DISTRIBUTION TRANSFORMER ASSEMBLED IN WAUKESHA, WI U.S.A

KVA SIZE	2232	65°C	60Hz
MAN SER	CP	CAT 0002BA66KMAA	
HV	34500Y/19920	ONAN	
LV	480	5.75 %IZ @85°C	MFG DATE

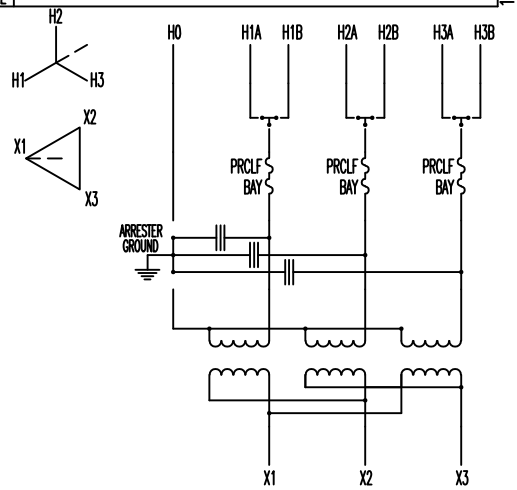
HV KV BIL	150
HV NEUTRAL KV BIL	150
LV KV BIL	30
HV/LV CONDUCTOR	AL / AL

PCB CONTENT LESS THAN 1 PPM AT TIME OF MANUFACTURE
CAUTION - READ INSTRUCTION MANUAL MN202001EN

1189610A8156-00

APPROX. WEIGHT IN LBS.	
CORE & COIL UNTANKING	5359
TANK & FIT	4437
FLUID: OIL GALLONS: 620	4619
TOTAL	14415

TAP	VOLTAGE	MAX AMPS
A	36230	35.6
B	35360	36.4
C	34500	37.4
D	33640	38.3
E	32780	39.3



MAX AMPS AT 2232 KVA
%IZ AT BASE KVA AND RATED VOLTAGE
STEP-UP DISTRIBUTION TRANSFORMER

PRCLF = CBUC38140D100
BAY = 4000380C14CB

NOTES: **1) ACTUAL PLATE IS A NEGATIVE OF THE ABOVE DRAWING.**
2) ACTUAL %IZ TO BE STAMPED IN AFTER TESTING.

NAMEPLATE MATERIAL: ALUMINUM

213223568,60

1189610A8156 REVISIONS

MATERIAL:

ALL DIMENSIONS ARE IN INCHES [MM]

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EATON Powering Business Worldwide

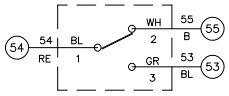
TITLE: LASER NAMEPLATE
DESC: **COOPER POWER SERIES** 0002BA66KMAA

DWG:	DATE:	REF:	SHEET #:	SCALE:	REV:
PTP	3/19/2018		1 of 1	1=1	00

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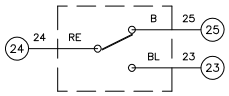
VS - 1 *



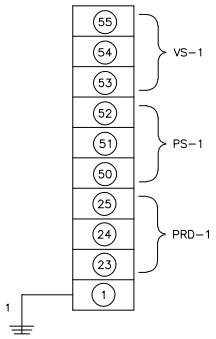
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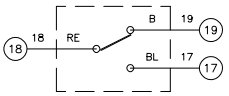
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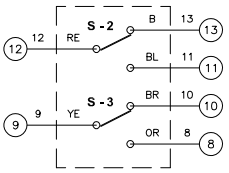
TB - 2



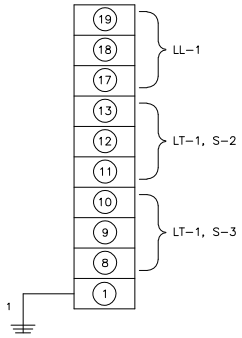
LL - 1



LT - 1



TB - 1



GAGE SWITCH SETTINGS						
DEVICE	LT 55°C AWR	LT 65°C, 55/65 AWR	LT 75°C, 55/75, 65/75 AWR	WTI 55°C AWR	WTI 65°C, 55/65 AWR	WTI 75°C, 55/75, 65/75 AWR
S-1 (FANS)	60°C	70°C	80°C	70°C	80°C	90°C
S-2 (ALARM)	80°C	90°C	100°C	110°C	120°C	130°C
S-3 (TRIP)	105°C FIXED	105°C FIXED	120°C FIXED	120°C FIXED	130°C FIXED	140°C FIXED

PS-1 PRESSURE SWITCH, GEMS PS-E (63PV)
ACTIVATES AT +6.0±0.5 PSIG (+41±3 kPa) RISING
VS-1 VACUUM SWITCH, GEMS PS-EV (63PV)
ACTIVATES AT -2.5±0.5 PSIG (-17±3 kPa) FALLING
PRD-1 PRESSURE RELIEF DEVICE (63PR)
ACTIVATES AT 10±1 PSIG (69±7 kPa) RISING
LL-1 LIQUID LEVEL GAGE (71Q)
S-1 ACTIVATES LOW LEVEL ALARM CIRCUIT
LT-1 LIQUID TEMPERATURE GAGE (26Q)
TB-(1-2) TERMINAL BLOCK, 600V, 35A

- USE COOPER CONDUCTORS ONLY, #22 - 10 AWG
- TB-(1-2) SCREW TIGHTENING TORQUE 18-20.0 IN-LB

WH - WHITE
GR - GREEN
BL - BLACK
B - BLUE
OR - ORANGE
RE - RED
BR - BROWN
YE - YELLOW

GAGE SWITCH RATINGS (AMPS)				
DEVICE	120/240VAC	48VDC	125VDC	250VDC
LT/LL/ PRD/RRR	15	1.3	.50	.25
SPC	10	2.0	.50	.25
PS/VS	5	1.0	.40	.20
WTI	15	1.3	.50	.25
TPG	1	--	--	--
LCP	3	--	--	--
U	5	2.0	2.0	N/A

NOTE: AC LOADS = INDUCTIVE P.F. 75%
DC LOADS = NON-INDUCTIVE

LEGEND

- INDICATES PREWIRED DEVICE
- INDICATES REMOTE DEVICE
- 26 — INDICATES WIRE HEAT SHRINK NUMBER LABEL
- (26) OR [26] — INDICATES TERMINAL BLOCK CONNECTION
- 26 — INDICATES INTRINSICALLY SAFE TERM BLOCK CONN
- 12 — INDICATES RELAY TERM AND #
- INDICATES SPLICE
- INDICATES NORMALLY CLOSED CONTACT (NC)
- INDICATES NORMALLY OPEN CONTACT (NO)
- INDICATES CUSTOMER CONNECTION
- POLARITY MARK
- ^ INDICATES CT SHORTING PINS - TO BE REMOVED WHEN LOAD IS CONNECTED TO CT
- * WIRE COLORS APPLICABLE ONLY WHEN USING CORD CONNECTORS TO SWITCHES

MATERIAL:

ALL DIMENSIONS ARE IN INCHES [MM]

THE INFORMATION ON THIS DOCUMENT WAS CREATED BY EATON. IT WAS DISCLOSED IN CONFIDENCE AND IS ONLY TO BE USED FOR THE PURPOSE IN WHICH IT WAS SUPPLIED.

EATON
Powering Business Worldwide

TITLE: SCHEMATIC LT,LL,PRD,PV
DESC: **COOPER POWER SERIES** 3PH PAD

DWG:	DATE:	APP:	SHEET #:	SCALE:	REV:
PTP	04/13/15		1 of 1	1=1	00

SC-2200-10 / SC-2475-10 / SC-2500-EV-10 / SC-2750-EV-10 / SC-3000-EV-10



Efficient

- Up to 4 inverters can be transported in one standard shipping container
- Overdimensioning up to 225% is possible
- Full power at ambient temperatures of up to 35 °C

Robust

- Intelligent air cooling system OptiCool for efficient cooling
- Suitable for outdoor use in all climatic ambient conditions worldwide

Flexible

- Conforms to all known grid requirements worldwide
- Q on demand
- Available as a single device or turnkey solution, including medium-voltage block

Easy to Use

- Improved DC connection area
- Connection area for customer equipment
- Integrated voltage support for internal and external loads

SUNNY CENTRAL 2200 / 2475 / 2500-EV / 2750-EV / 3000-EV

The new Sunny Central: more power per cubic meter

With an output of up to 3000 kVA and system voltages of 1100 V DC or 1500 V DC, the SMA central inverter allows for more efficient system design and a reduction in specific costs for PV power plants. A separate voltage supply and additional space are available for the installation of customer equipment. True 1500 V technology and the intelligent cooling system OptiCool ensure smooth operation even in extreme ambient temperature as well as a long service life of 25 years.

SUNNY CENTRAL 1000 V

Technical Data	Sunny Central 2200	Sunny Central 2475*
Input (DC)		
MPP voltage range V_{DC} (at 25 °C / at 35 °C / at 50 °C)	570 to 950 V / 800 V / 800 V	638 V to 950 V / 800 V / 800 V
Min. input voltage $V_{DC, min}$ / Start voltage $V_{DC, Start}$	545 V / 645 V	614 V / 714 V
Max. input voltage $V_{DC, max}$	1100 V	1100 V
Max. input current $I_{DC, max}$ (at 35°C / at 50°C)	3960 A / 3600 A	3960 A / 3600 A
Max. short-circuit current $I_{DC, sc}$	6400 A	6400 A
Number of DC inputs	24 double pole fused (32 single pole fused)	
Max. number of DC cables per DC input (for each polarity)	2 x 800 kcmil, 2 x 400 mm²	
Integrated zone monitoring	○	
Available DC fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A	
Output (AC)		
Nominal AC power at cos φ =1 (at 35°C / at 50°C)	2200 kVA / 2000 kVA	2475 kVA / 2250 kVA
Nominal AC power at cos φ =0.8 (at 35°C / at 50°C)	1760 kW / 1600 kW	1980 kW / 1800 kW
Nominal AC current $I_{AC, nom}$ = Max. output current $I_{AC, max}$	3300 A	3300 A
Max. total harmonic distortion	< 3% at nominal power	< 3% at nominal power
Nominal AC voltage / nominal AC voltage range[1] [8]	385 V / 308 V to 462 V	434 V / 347 V to 521 V
AC power frequency / range	50 Hz / 47 Hz to 53 Hz 60 Hz / 57 Hz to 63 Hz	
Min. short-circuit ratio at the AC terminals[9]	> 2	
Power factor at rated power / displacement power factor adjustable[8] [10]	● 1 / 0.8 overexcited to 0.8 underexcited ○ 1 / 0.0 overexcited to 0.0 underexcited	
Efficiency		
Max. efficiency[2] / European efficiency[2] / CEC efficiency[3]	98.6% / 98.4% / 98.0%	98.6% / 98.4% / 98.0%
Protective Devices		
Input-side disconnection point	DC load break switch	
Output-side disconnection point	AC circuit breaker	
DC overvoltage protection	Surge arrester, type I	
AC overvoltage protection (optional)	Surge arrester, class I	
Lightning protection (according to IEC 62305-1)	Lightning Protection Level III	
Ground-fault monitoring / remote ground-fault monitoring	○ / ○	
Insulation monitoring	○	
Degree of protection: electronics / air duct / connection area (as per IEC 60529)	IP65 / IP34 / IP34	
General Data		
Dimensions (W / H / D)	2780 / 2318 / 1588 mm (109.4 / 91.3 / 62.5 inch)	
Weight	< 3400 kg / < 7496 lb	
Self-consumption (max.[4] / partial load[5] / average[6])	< 8100 W / < 1800 W / < 2000 W	
Self-consumption (standby)	< 300 W	
Internal auxiliary power supply	Integrated 8.4 kVA transformer	
Operating temperature range[8]	–25°C to 60°C / –13°F to 140°F	
Noise emission[7]	67.0 dB(A)	
Temperature range (standby)	–40°C to 60°C / –40°F to 140°F	
Temperature range (storage)	–40°C to 70°C / –40°F to 158°F	
Max. permissible value for relative humidity (condensing / non-condensing)	95% to 100% (2 month/year) / 0% to 95%	
Maximum operating altitude above MSL[8] 1000 m / 2000 m / 3000 m / 4000 m	● / ○ / ○ / ○ (earlier temperature-dependent derating)	
Fresh air consumption	6500 m³/h	
Features		
DC connection	Terminal lug on each input (without fuse)	
AC connection	With busbar system (three busbars, one per line conductor)	
Communication	Ethernet, Modbus Master, Modbus Slave	
Communication with SMA string monitor (transmission medium)	Modbus TCP / Ethernet (FO MM, Cat-5)	
Enclosure / roof color	RAL 9016 / RAL 7004	
Supply transformer for external loads	○ (2.5 kVA)	
Standards and directives complied with	CE, IEC / EN 62109-1, IEC / EN 62109-2, BDEW-MSRL, IEEE1547, UL 840 Cat. IV, Arrêté du 23/04/08	
EMC standards	IEC / EN 61000-6-4, IEC / EN 61000-6-2, EN 55022, IEC 62920, FCC Part 15 Class A, Cispr 11, DIN EN55011:2017	
Quality standards and directives complied with	VDI/VDE 2862 page 2, DIN EN ISO 9001	
● Standard features ○ Optional * preliminary		
Type designation	SC-2200-10	SC-2475-10

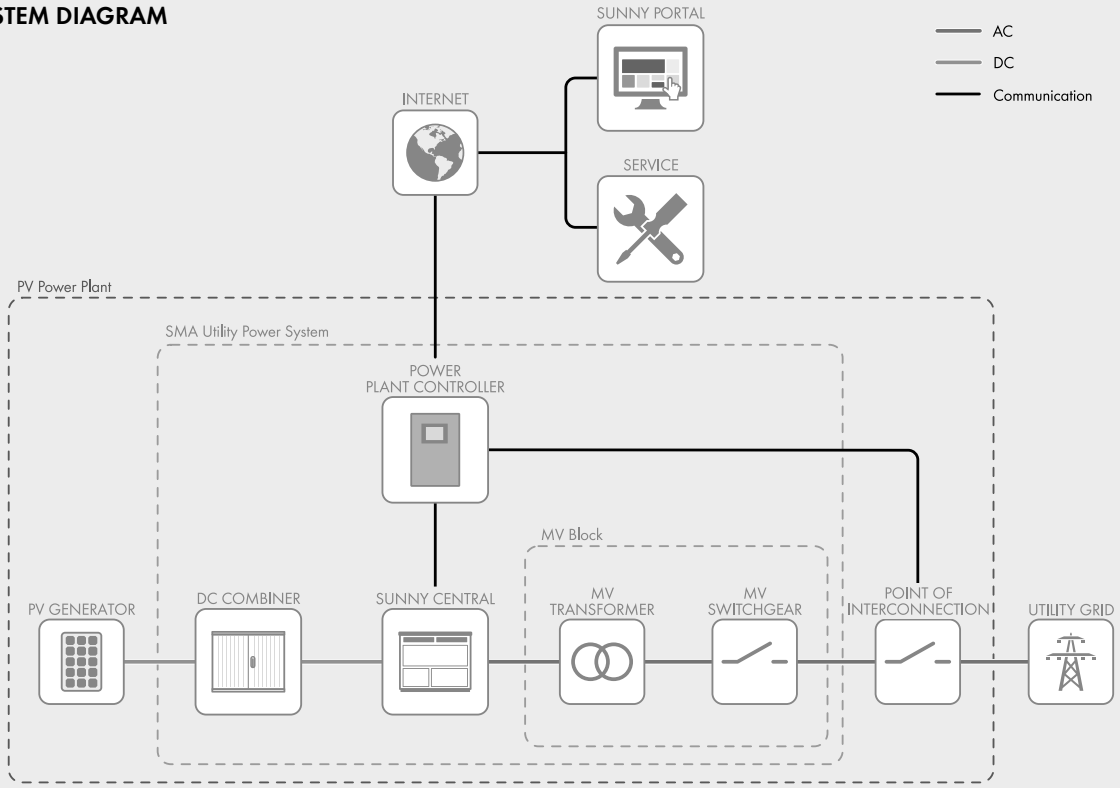
1) At nominal AC voltage, nominal AC power decreases in the same proportion
2) Efficiency measured without internal power supply
3) Efficiency measured with internal power supply
4) Self-consumption at rated operation
5) Self-consumption at < 75% Pn at 25°C
6) Self-consumption averaged out from 5% to 100% Pn at 25°C
7) Sound pressure level at a distance of 10 m
8) Values apply only to inverters. Permissible values for SMA MV solutions from SMA can be found in the corresponding data sheets.
9) A short-circuit ratio of < 2 requires a special approval from SMA
10) Depending on the DC voltage

SUNNY CENTRAL 1500 V

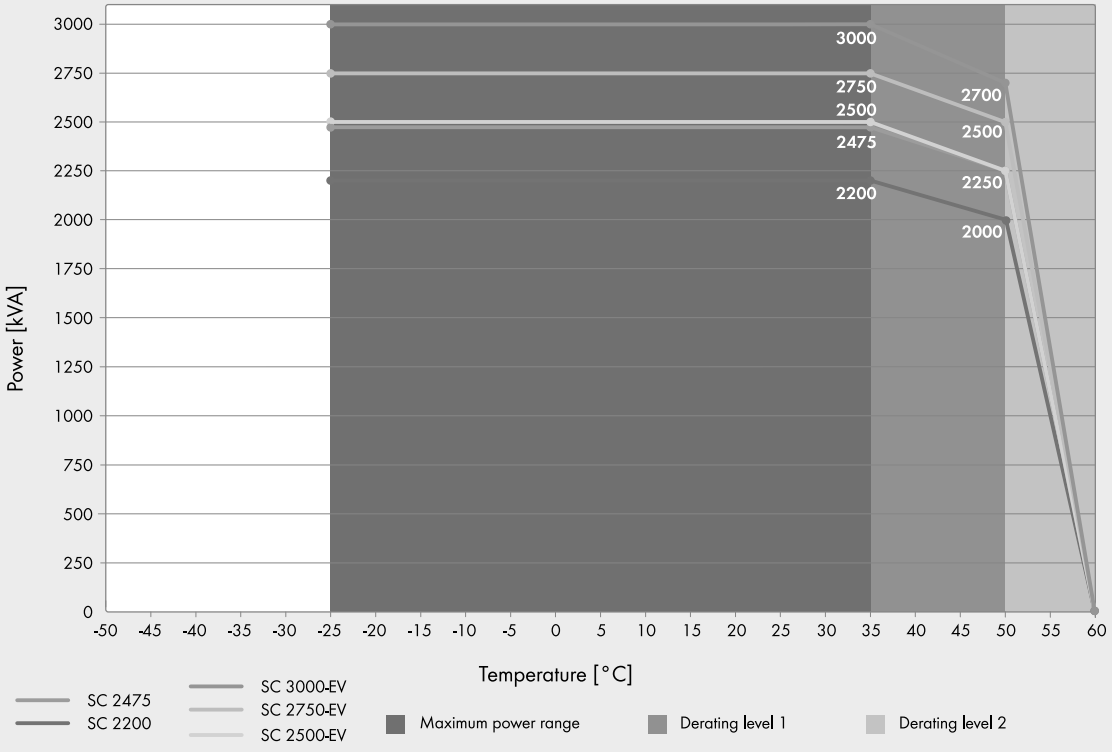
Technical Data	Sunny Central 2500-EV	Sunny Central 2750-EV	Sunny Central 3000-EV
Input (DC)			
MPP voltage range V_{DC} (at 25°C / at 35°C / at 50°C)	850 V to 1425 V / 1200 V / 1200 V	875 V to 1425 V / 1200 V / 1200 V	956 V to 1425 V / 1200 V / 1200 V
Min. input voltage $V_{DC, min}$ / Start voltage $V_{DC, Start}$	778 V / 928 V	849 V / 999 V	927 V / 1077 V
Max. input voltage $V_{DC, max}$	1500 V	1500 V	1500 V
Max. input current $I_{DC, max}$ (at 35°C / at 50°C)	3200 A / 2956 A	3200 A / 2956 A	3200 A / 2970 A
Max. short-circuit current rating	6400 A	6400 A	6400 A
Number of DC inputs	24 double pole fused (32 single pole fused) for PV		
Number of DC inputs with optional DC battery coupling	18 double pole fused (36 single pole fused) for PV and 6 double pole fused for batteries		
Max. number of DC cables per DC input (for each polarity)	2 x 800 kcmil, 2 x 400 mm²		
Integrated zone monitoring	○		
Available DC fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A		
Output (AC)			
Nominal AC power at cos φ =1 (at 35°C / at 50°C)	2500 kVA / 2250 kVA	2750 kVA / 2500 kVA	3000 kVA / 2700 kVA
Nominal AC power at cos φ =0.8 (at 35°C / at 50°C)	2000 kW / 1800 kW	2200 kW / 2000 kW	2400 kW / 2160 kW
Nominal AC current $I_{AC, nom}$ = Max. output current $I_{AC, max}$	2624 A	2646 A	2646 A
Max. total harmonic distortion	< 3% at nominal power	< 3% at nominal power	< 3% at nominal power
Nominal AC voltage / nominal AC voltage range[1) 8)]	550 V / 440 V to 660 V	600 V / 480 V to 690 V	655 V / 524 V to 721 V[9)]
AC power frequency	50 Hz / 47 Hz to 53 Hz 60 Hz / 57 Hz to 63 Hz		
Min. short-circuit ratio at the AC terminals[10)]	> 2		
Power factor at rated power / displacement power factor adjustable[8) 11)]	● 1 / 0.8 overexcited to 0.8 underexcited ○ 1 / 0.0 overexcited to 0.0 underexcited		
Efficiency			
Max. efficiency[2)] / European efficiency[2)] / CEC efficiency[3)]	98.6% / 98.3% / 98.0%	98.7% / 98.5% / 98.5%	98.8% / 98.6% / 98.5%
Protective Devices			
Input-side disconnection point	DC load-break switch		
Output-side disconnection point	AC circuit breaker		
DC overvoltage protection	Surge arrester, type I		
AC overvoltage protection (optional)	Surge arrester, class I		
Lightning protection (according to IEC 62305-1)	Lightning Protection Level III		
Ground-fault monitoring / remote ground-fault monitoring	○ / ○		
Insulation monitoring	○		
Degree of protection: electronics / air duct / connection area (as per IEC 60529)	IP65 / IP34 / IP34		
General Data			
Dimensions (W / H / D)	2780 / 2318 / 1588 mm (109.4 / 91.3 / 62.5 inch)		
Weight	< 3400 kg / < 7496 lb		
Self-consumption (max.[4)] / partial load[5)] / average[6)])	< 8100 W / < 1800 W / < 2000 W		
Self-consumption (standby)	< 370 W		
Internal auxiliary power supply	Integrated 8.4 kVA transformer		
Operating temperature range[8)]	−25 to 60°C / −13 to 140°F		
Noise emission[7)]	67.8 dB(A)		
Temperature range (standby)	−40 to 60°C / −40 to 140°F		
Temperature range (storage)	−40 to 70°C / −40 to 158°F		
Max. permissible value for relative humidity (condensing / non-condensing)	95% to 100% (2 month / year) / 0 % to 95%		
Maximum operating altitude above MSL[8)] 1000 m / 2000 m / 3000 m	● / ○ / ○ (earlier temperature-dependent derating)		
Fresh air consumption	6500 m³/h		
Features			
DC connection	Terminal lug on each input (without fuse)		
AC connection	With busbar system (three busbars, one per line conductor)		
Communication	Ethernet, Modbus Master, Modbus Slave		
Communication with SMA string monitor (transmission medium)	Modbus TCP / Ethernet (FO MM, Cat-5)		
Enclosure / roof color	RAL 9016 / RAL 7004		
Supply transformer for external loads	○ (2.5 kVA)		
Standards and directives complied with	CE, IEC / EN 62109-1, IEC / EN 62109-2, BDEW-MSRL, IEEE1547, Arrêté du 23/04/08		
EMC standards	CISPR 11, CISPR 22, EN55011:2017, EN 55022, IEC/EN 61000-6-4, IEC/EN 61000-6-2, IEC 62920, FCC Part 15 Class A	CISPR 11, CISPR 22, EN55011:2017, EN 55022, IEC 62920, FCC Part 15 Class A	
Quality standards and directives complied with	VDI/VDE 2862 page 2, DIN EN ISO 9001		
● Standard features ○ Optional			
Type designation	SC-2500-EV-10	SC-2750-EV-10	SC-3000-EV-10

1) At nominal AC voltage, nominal AC power decreases in the same proportion
2) Efficiency measured without internal power supply
3) Efficiency measured with internal power supply
4) Self-consumption at rated operation
5) Self-consumption at < 75% Pn at 25°C
6) Self-consumption averaged out from 5% to 100% Pn at 35°C
7) Sound pressure level at a distance of 10 m
8) Values apply only to inverters. Permissible values for SMA MV solutions from SMA can be found in the corresponding data sheets.
9) AC voltage range can be extended to 753V for 50Hz grids only (option „Aux power supply: external" must be selected, option "housekeeping" not combinable).
10) A short-circuit ratio of < 2 requires a special approval from SMA
11) Depending on the DC voltage

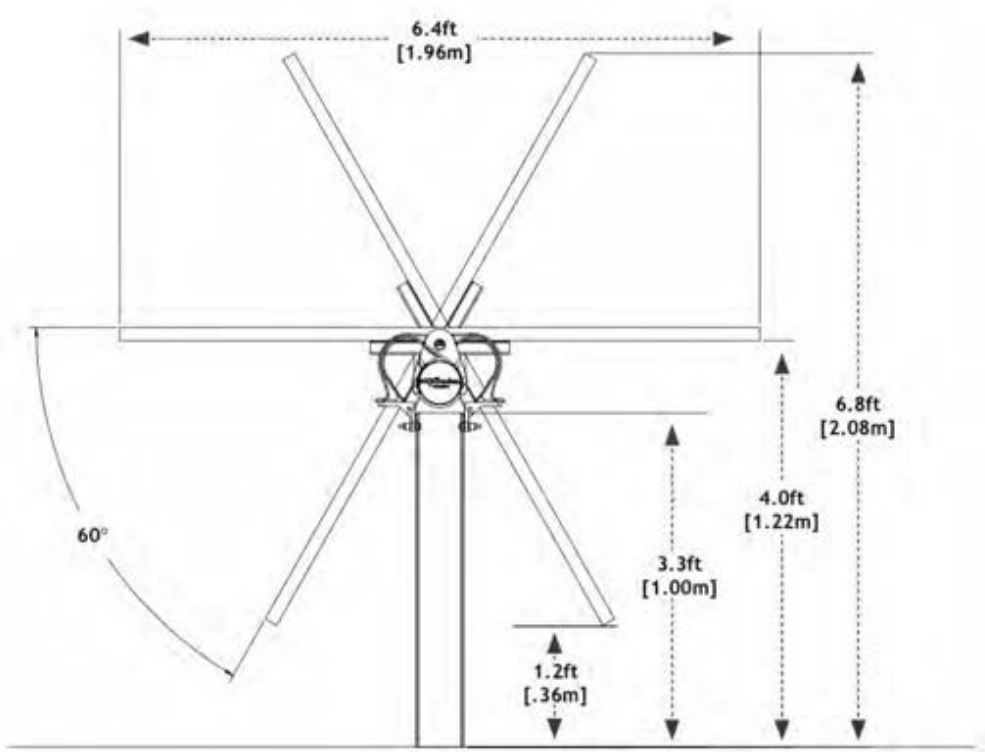
SYSTEM DIAGRAM



TEMPERATURE BEHAVIOR (at 1000 m)



SC2200/3000EV-DEN1903\V54 Printed on FSC paper. All products and services described and all technical data are subject to change, even for reasons of country-specific deviations, at any time without notice. SMA assumes no liability for typographical or other errors. For current information, please visit www.SMA-Solar.com.

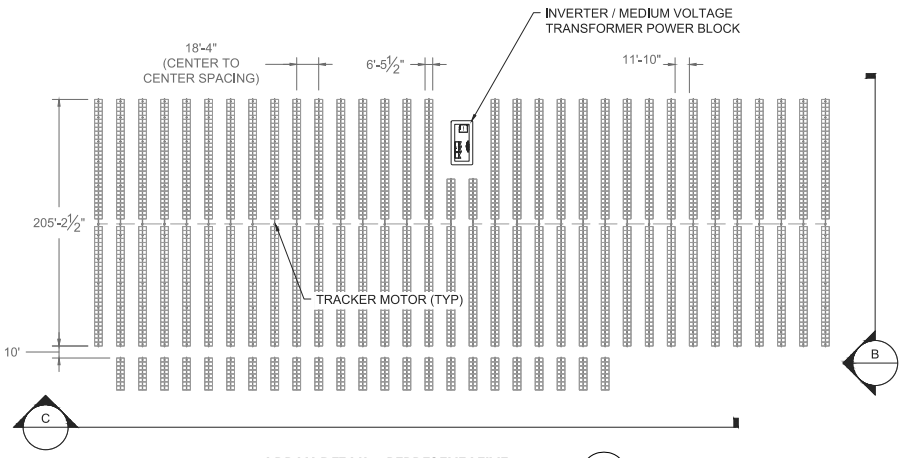




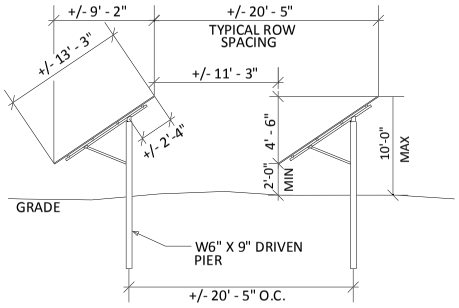


Sunseeker Photovoltaic Solar Energy Systems

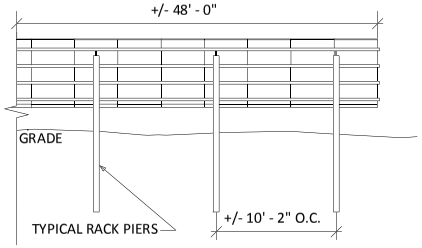
Trackers and Panels with Dimensions



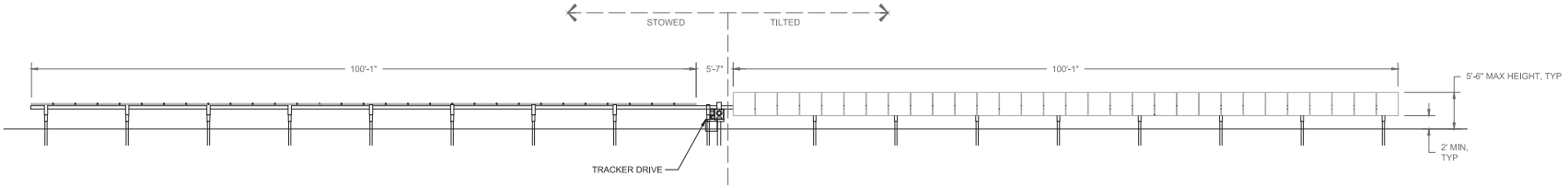
ARRAY DETAIL - REPRESENTATIVE A
NTS



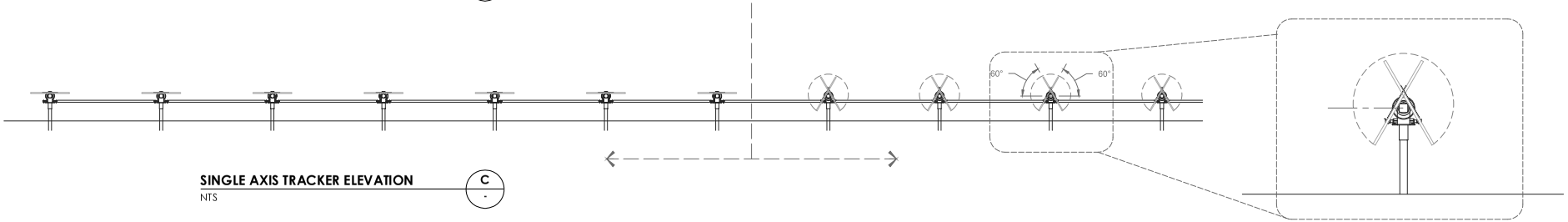
TYPICAL SOLAR ARRAY RACK DETAIL AND END ELEVATION D
NTS



SOLAR ARRAY RACK DETAIL ELEVATION E
NTS



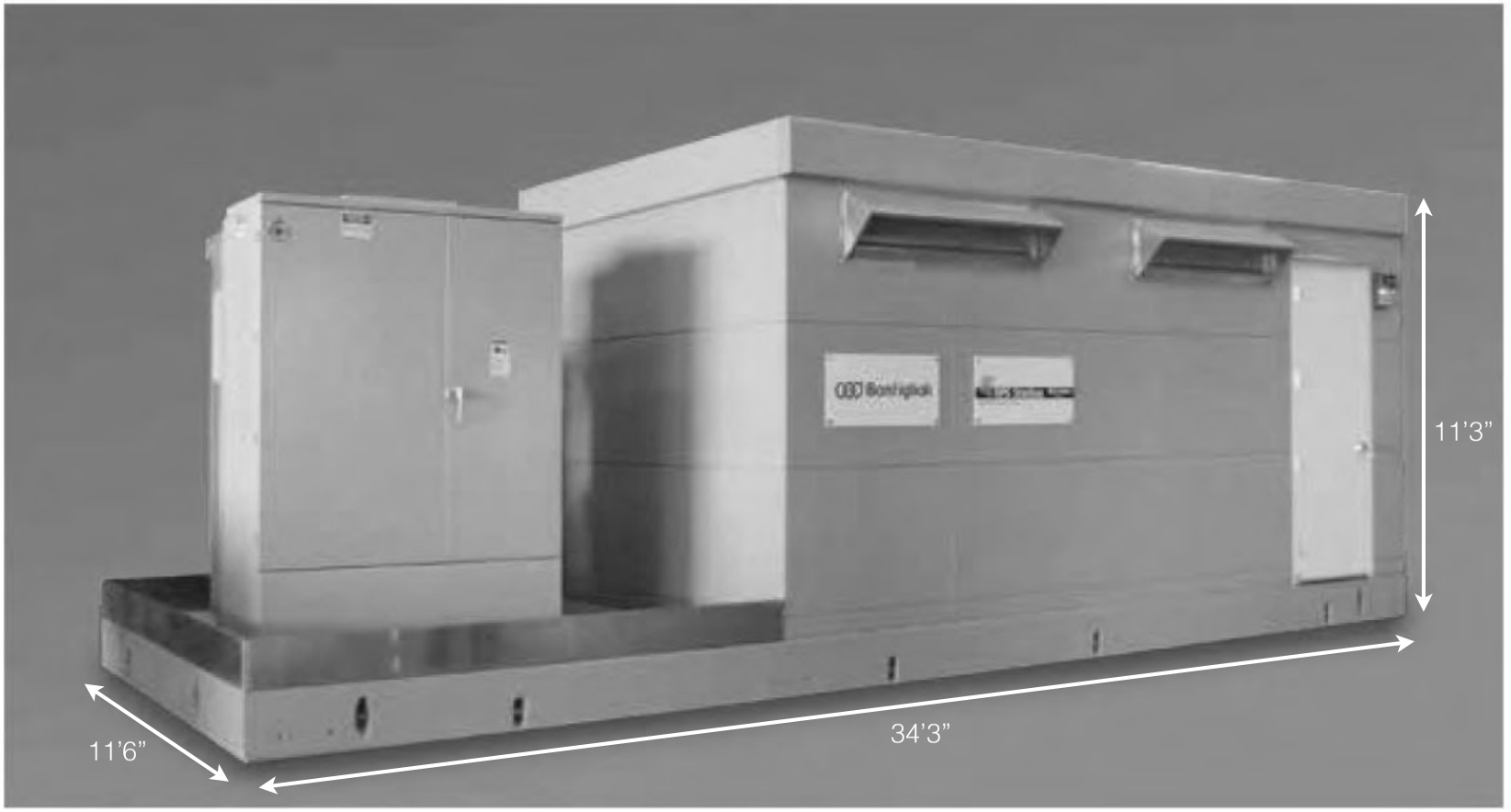
SINGLE AXIS TRACKER ELEVATION B
NTS



SINGLE AXIS TRACKER ELEVATION C
NTS

Mechanical Components – Single-Axis Tracking and Fixed-Tilt Systems

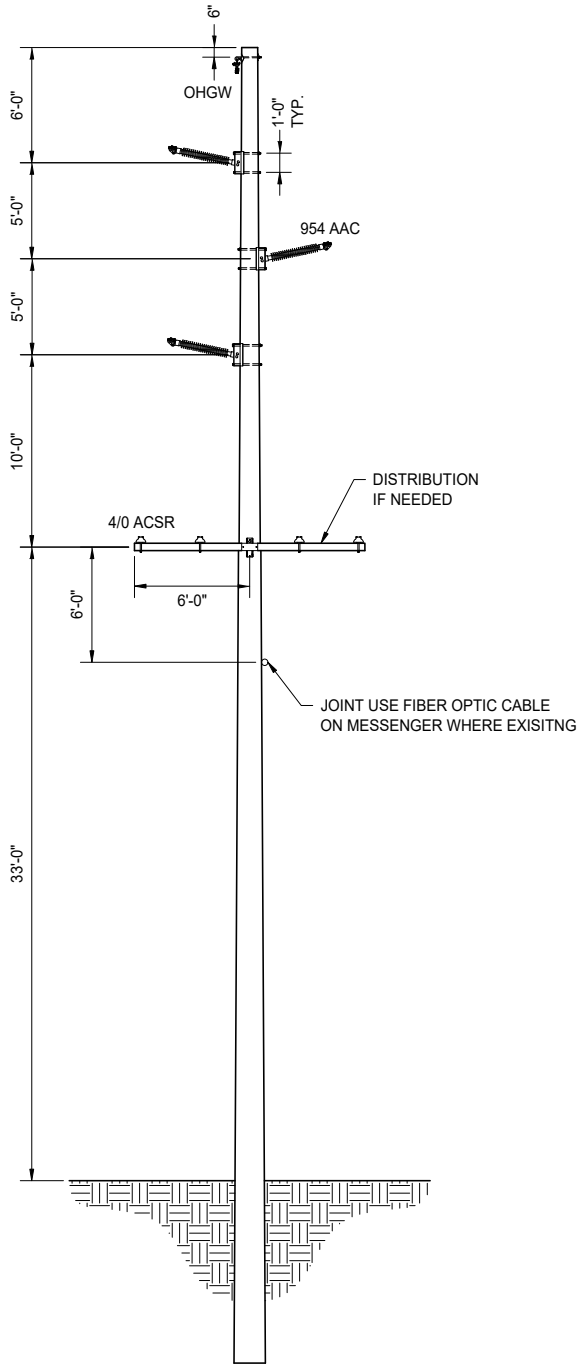
Sunseeker BESS/PSES



Sunseeker Photovoltaic Solar Energy Systems

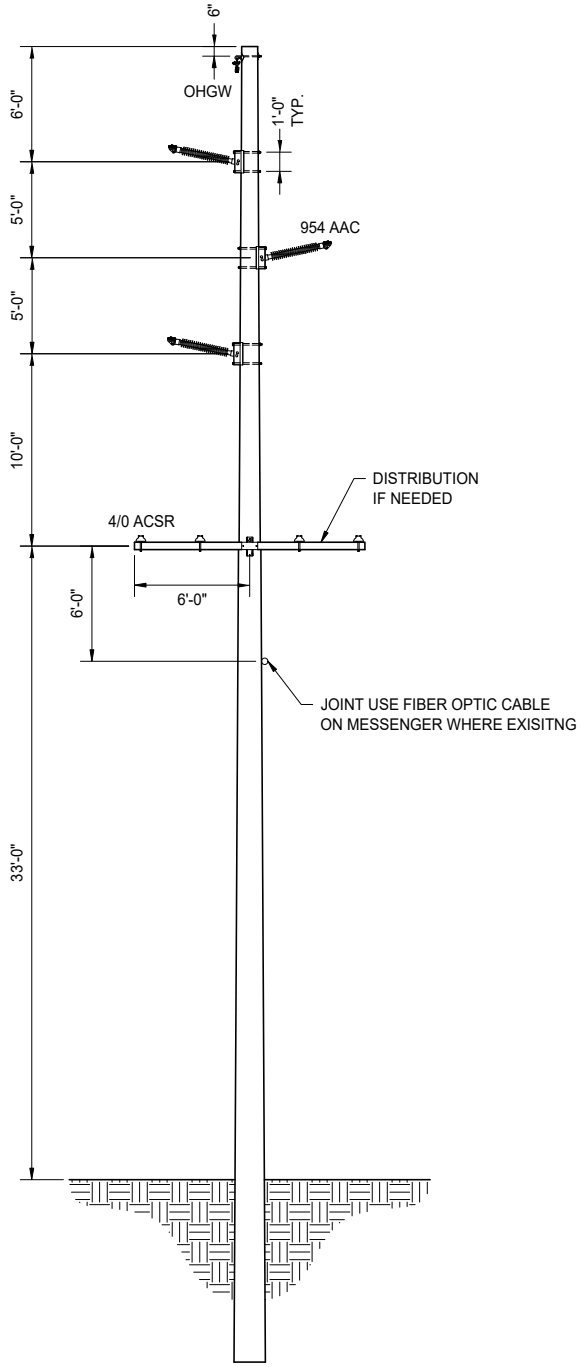
Inverter Station with Dimensions

REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD
*	*	*	*	*	*	*



DSGN	SH	03/05/18	Sunseeker BESS/PSES Interconnect Poles	JOB NUMBER / REV
DRN	DO	03/05/18	PRELIMINARY STRUCTURE CONFIGURATIONS	
CKD	JT	03/05/18	TYPICAL TANGENT STRUCTURE WITH DISTRIBUTION UNDERBUILD	DRAWING NUMBER
SCALE:	1"=10'			
REFERENCE DRAWINGS	FOR 8.5x11 DWG ONLY			

REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD
*	*	*	*	*	*	*



DSGN	SH	03/05/18		
DRN	DO	03/05/18		
CKD	JT	03/05/18		
SCALE:	1"=10'			
FOR 8.5x11 DWG ONLY				

REFERENCE DRAWINGS

Washoe BESS/PSES Interconnect Poles

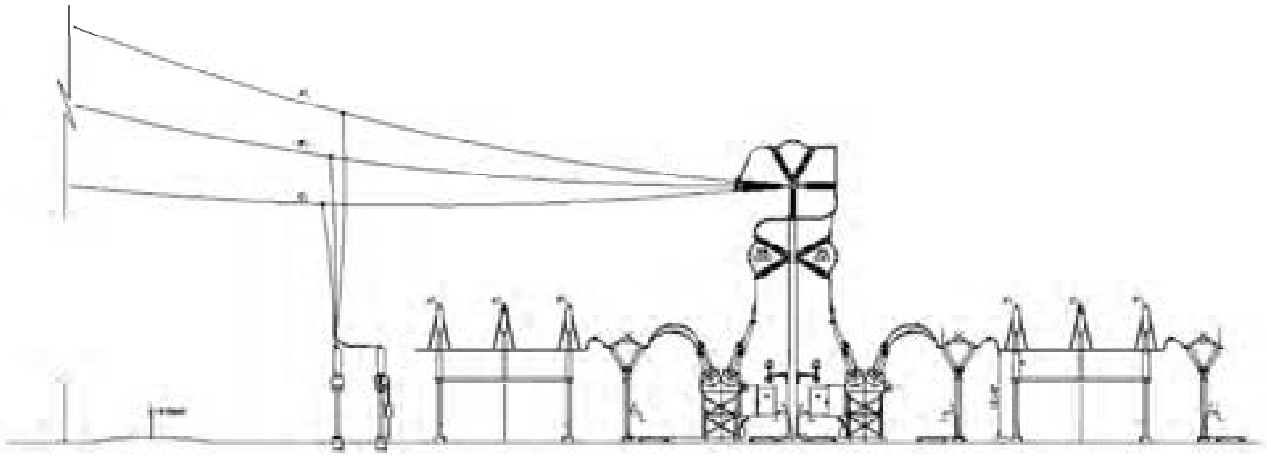
PRELIMINARY STRUCTURE CONFIGURATIONS

TYPICAL TANGENT STRUCTURE WITH DISTRIBUTION UNDERBUILD

JOB NUMBER

REV

DRAWING NUMBER



Typical Three-Bank Substation Profile

NOT TO SCALE

Preliminary and subject to change based on Praana requirements, final engineering, and other factors.

EXHIBIT G

Environmental Statement

ENVIRONMENTAL STATEMENT

Sunseeker Solar

Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project
Washoe County, Nevada

Prepared for:
Shreem Brzee Solar, LLC (SBS)
740 Broadway Street
Chico, California 95928



UES
6995 Sierra Center Parkway
Reno, Nevada 89511

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LIST OF ACRONYMS

AC Paving—Asphalt Concrete
ADT— Average Daily Traffic
ANSI—American National Standards Institute
APN—Assessor's Parcel Number
ASME—American Society of Mechanical Engineering
ASTM—American Society for Testing and Materials
BACT—Best Available Emission Control Technology
BMP— Best Management Practices
BP—Before Present
BPS— Best Performance Standards
BESS—Battery Energy Storage System
CAA—Clean Air Act
CCPS—Center for Chemical Process Safety
CD—Community Design
CERCLA— Comprehensive Environmental Response Compensation and Liability Act
CERCLIS-NFPRA— U.S. EPA Comprehensive Environmental Response, Compensation, and Liability Information System - No Further Remediation Action Planned List
CFM—Cubic Feet per Minute
CFR—Code of Federal Regulations
CH— Critical habitat
CHMIRS— Chemical Hazardous Materials Incident Report System
CNDDB— California Natural Diversity Data Base
CNEL— Community Noise Equivalent Level
CNPS— California Native Plant Society
CO—Carbon Monoxide
CO_2—Carbon Dioxide
Corps— United States Army Corps of Engineers
CORRACTS list—Resources Conservation and Recovery Act Corrective Action List
County—Washoe County
dB—Decibel
dBA—A-Weighted Decibel
DFMEA— Design Failure Mode and Effects Analysis

DHS— Department of Homeland Security

DOD—Department of Defense

DOI— Department of the Interior

DOT— United States Department of Transportation

EMD—Emergency Medical Dispatch

EDR— Environmental Database Report

EPA—United States Environmental Protection Agency

ESA—Environmental Site Assessment

ERNS— United States Environmental Protection Agency Emergency Response Notification System

FAR— Floor Area Ratio

FCC— Federal Communications Commission

FE— Federally endangered

Fed/ OSHA— Occupational Safety Health Administration

FEMA— Federal Emergency Management Agency

FESA— Federal Endangered Species Act

FIRM— Flood Insurance Rate Map

FMMP— Farmland Mapping and Monitoring Program

FSP— Facility Security Plan

FT— Federally threatened

GAMAQI— Guide for Assessing and Mitigating Air Quality Impacts

GHG—Greenhouse Gas Emissions

GIP— General Industrial Permit

GPM—Gallons Per Minute

HAP—Hazardous Air Pollutant

HCFC—Hydrofluorocarbons

HCP—Habitat Conservation Plan

HMRIS—Hazardous Materials Incident Report System

HR—Hour

HSWA— Hazardous and Solid Waste Act

Hz— Hertz

IBC— International Business Code

IEEE— Institute of Electrical and Electronic Engineers

ISO—International Organization for Standardization

IRS— United States Internal Revenue Service

ISR— Indirect Source Review

KOP— Key Observation Point

kV— Kilovolt

KW—Kilo Watt

LB—Pound

L_{dn}—Day/Night Equivalent (sound measurement)

L_{eq}— Equivalent Continuous Sound Pressure Level

LLC—Limited Liability Corporation

LOS—Level of Service

LESA—Limited Environmental Site Assessment

MBTA—Migratory Bird Treaty Act

MCE—Maximum Credible Earthquake

MEI—Maximum Exposure Individual

MOU— Memorandum of Understanding

MSDS—Material Safety Data Sheet

MSL—Mean Sea Level

MW—Mega Watt

Na. RC— National Research Council

NAAQS—National Ambient Air Quality Standards

NEC— National Electrical Code

NFPA—National Fire Protection Association

NHPA—National Historic Preservation Act

NIH— National Institute of Health

NMFS— National Marine Fisheries Service

NOx—Nitrogen Oxides

NO_2—Nitrogen Dioxide

NOAA— National Oceanic and Atmospheric Administration

NPDES— National Pollutant Discharge Elimination System

NPS— Non-Point Source

NRC— National Response Center

NTSB—National Transportation Safety Board

O_3—Trioxygen

OSBL—Outside Battery Limits

OSHA—Occupational Safety Health Administration

PPA—Power Purchase Agreement

Pb—Lead

PCE – Passenger Vehicle Equivalent

PFS—Public Facilities and Services

PHMSA— Pipeline and Hazardous Materials Safety Administration

PSES— Photovoltaic Solar Energy System

PSREC — Plumas-Sierra Rural Electric Cooperative

$PM_{2.5}$—Fine Particulate Matter

PM_{10}—Respirable Particulate Matter

PPM—Parts Per Million

PSI—Pounds Per Square Inch

PV—Photovoltaic

RACT—Reasonably Available Control Technology

RCRA— Resource Conservation and Recovery Act

RCRA-LQG— Resource Conservation and Recovery Act Large Quantity Generator

RCRA-SQG— Resource Conservation and Recovery Act Small Quantity Generator

REC— Recognized Environmental Condition

RMP— Risk Management Plan

ROG—Reactive Organic Gasses

ROW—Right of Way

RPS—Renewable Portfolio Standard

RSPA— Research and Special Programs Administration

RTTM— Real Time Transient Model

SBS—Shreem Brzee Solar, LLC

SCADA—Supervisory Control and Data Acquisition

SCP—Source Control Program

SGIP—Self Generation Incentive Program

SE— State Endangered

SO_2—Sulfur Dioxide

SO_x—Sulfur Oxide

SPCC— Spill Prevention, Control, and Countermeasures Plans

SR— State Rare

ST—State Threatened

SWPPP—Storm Water Pollution Prevention Plan

TAC— Toxic Air Containment

TFV—Threshold Friction Velocity

TMDL— Total Maximum Daily Load

TOP—Take Over Point
TRIS—Toxic Chemical Release Inventory System
TSA— Transportation Security Administration
TSD—Treatment, Storage, and Disposal Facilities
UBC—Uniform Building Code
UFC— Uniform Fire Code
UES – Universal Engineering Sciences, Inc.
UL— Underwriters Laboratories
UNS—Unified Numbering System
USC—United States Code
USDA—United States Department of Agriculture
USGS—United States Geological Survey
USFWS—United States Fish and Wildlife Service
V—Volt
VDE—Visible Dust Emissions
VOC—Volatile Organic Compounds
VPP—Virtual Power Plants
VRU— Vapor Recovery Unit
VTS— Vessel Traffic Service
WDR—Waste Discharge Report

1.0 INTRODUCTION

Shreem Brzee Solar, LLC ("SBS"), plans to construct a photovoltaic solar energy system (PSES) with up to 250 MW of power generation from the installation of up to approximately 439,000 solar PV modules on a single axis tracking system and an up to 200 MW battery electrical storage system (BESS) (the "Sunseeker Solar Project", the "Project" or "Sunseeker") on 1,128 acres of privately owned land (the "Property" or "Project Lease Area"), comprised of twenty-three (23) parcels known as Washoe County Assessor's Parcel Numbers (APNs) (APNs 074-461-11, 074-461-04, 074-162-06, 074-161-14, 074-461-13, 074-461-02, 074-432-01, 074-461-17, 074-461-18, 074-462-18, 074-461-24, 074-461-03, 074-461-07, 074-461-15, 074-462-02, 074-462-03, 074-462-19, 074-462-14, 074-462-05, 074-431-08, 074-462-15, 074-461-14, 074-461-16) of undeveloped, vacant rangeland located in Washoe County, Nevada, approximately 43 miles north of Reno in the Honey Lake Valley.

Energy produced and/or stored at the project lease area would be dispatched to the local grid via a proposed 345 kV generation-tie line to be placed in an existing private utility easement and access easement along the Rainbow Way corridor stretching from the project lease area to the NV Energy Fort Sage substation (approximately 5 miles south of the project lease area).

The Project will also include:

- Electrical inverters and transformers
- Battery energy storage system (BESS)
  - o Up to 200 battery storage enclosures to store 200 megawatts (MW) of electricity for dispatch
  - o BESS power inverters, transformers switches, MV switchgear
- On-site electrical substation
- Meteorological stations
- Remote monitoring system (SCADA)
- Site access roads and maintenance access roads

- Security fencing
- Gen-Tie line structures to interconnect with the NV Energy Fort Sage substation, south of the solar generation site
- Gen-Tie Laydown Area

This Environmental Statement (ES) evaluates potential environmental impacts of the proposed Sunseeker Solar Project to be reviewed by the Public Utility Commission of Nevada (PUCN) in compliance with the Utilities Environmental Protection Act (UEPA).

The project lease area is zoned by Washoe County as General Rural (GR) which allows for the development of energy and electric transmission facilities via a special use permit. Based on discussion with Washoe County Community Services Department staff (*Roger Pelham, MPA, Senior Planner*), it is anticipated that the Project will meet the definition of "*Projects of Regional Significance*". Therefore, approval by the Washoe County Planning Commission and the Washoe County Board of Supervisors is required.

1.1 PROJECT PURPOSE AND NEED

SBS is seeking to build the Project in response to the Nevada's Portfolio Standard (*NRS 704.7801 through 7828, NAC 704.8831*) which was adopted to "*Encourage and accelerate the development of new renewable energy projects for the economic, health and environmental benefits provided to the people of this State*". The proposed Sunseeker Solar Project would provide renewable energy and critically needed flexibility attributes needed to advance Nevada's renewable energy goals, climate policies, and to enhance electrical grid reliability. Advancements in solar energy production technology and modern large scale module production have made solar energy production an attractive alternative to traditional fossil fuel energy production from both an environmental and economic perspective. Solar energy allows the State of Nevada to decrease dependence on fossil fuels which are subject to the fluctuations of the global energy market. Solar energy also benefits the economy by generating jobs, business income, and tax revenue for Washoe County and Nevada.

1.2 AUTHORIZING ACTIONS

The primary approval required for the Sunseeker Solar Project would be issued by PUCN. The PUCN will review the ES in accordance with UEPA guidelines. Should the Project be approved, the PUCN will issue an Order assessing compliance with UEPA guidelines and would subsequently issue a Permit to Construct after all necessary development approvals have been obtained from federal, state, and local agencies. The PUCN list of potential federal, state, and local permits was reviewed. Table 1 lists those permits that may be necessary for the Project for the PUCN to issue a Notice to Construct. These permits and requirements are typical and well understood for projects of this nature in the Honey Lake Valley. Table 1 also lists the issuing agency for each permit and the anticipated completion date.

Table 1. Regulatory Permits and Approvals

Permit	Issuing Agency	Projected Completion Date
UEPA Order	PUCN	Q2 2024
UEPA Permit to Construct	PUCN	Q2 2024
Special Use and Major Grading Permit	Washoe County	Q3 2024
Dust Control Plan	Nevada Department of Environmental Protection	Q4 2024
Temporary Construction Water Permit (water rights)	Nevada Department of Environmental Protection	Q4 2024
Dust Control Permit	Washoe County	Q2 2025
Grading, Building and Fence Permit	Washoe County	Q2 2025
Storm Water Pollution Prevention Plan	Nevada Department of Environmental Protection	Q3 2025

1.3 ENVIRONMENTAL STATEMENT ORGANIZATION

To aid the reviewers and decision-makers, this section outlines the following sections:

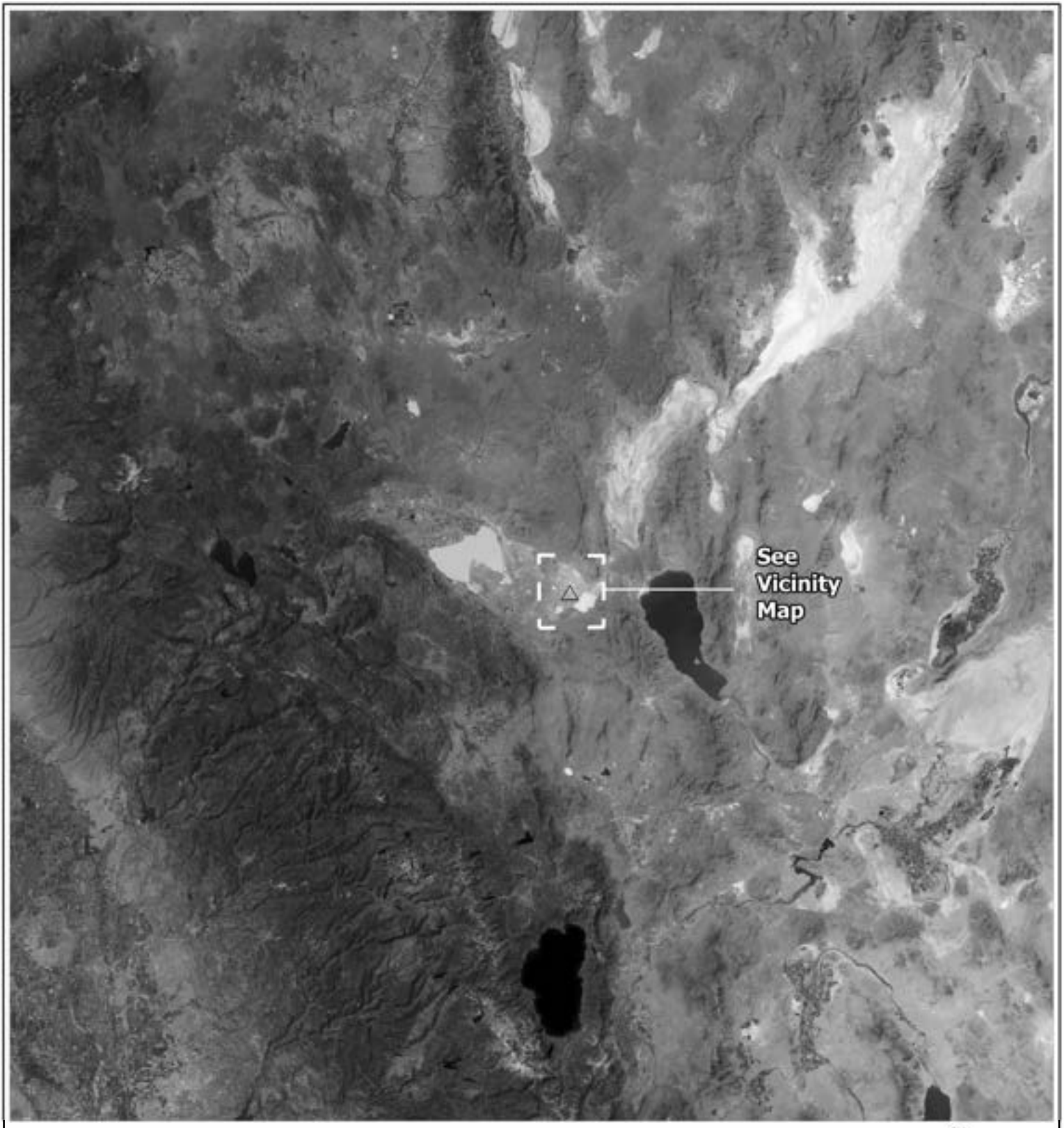
- **1.0 Introduction**. This chapter provides a brief general description of the Project and its purpose and need. The section also summarizes the Project location, the state and local reviews, regulatory approvals, and permits likely to be required.
- **2.0 Description of Proposed Action and Alternatives**. This chapter describes the Project as well as the alternatives that were considered but eliminated from detailed consideration along with the rationale for their elimination.
- **3.0 Existing Setting, Environmental Consequences, and Mitigation Measures**. This chapter describes the existing environment at and near the site. It also details the potential environmental consequences of the Project and mitigation measures designed to reduce, minimize, or avoid impacts so they are reduced to an acceptable level. In addition, a table summarizing the potential effects, the recommended mitigation measures, along with the timing of those measures and identification of entities responsible for implementation and monitoring, has been included.
- **4.0 List of Preparers and Reviewers**. Lists persons who contributed to the preparation and review of this EA.
- **5.0 References**. Lists references used in this EA.
- **Appendices**. Supplemental information on permitting and mitigation measures.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This chapter describes the project location, proposed action, and alternatives considered for this project.

2.1 PROJECT LOCATION AND ACCESS

The Sunseeker Solar Project area consists of approximately 1,128 acres of privately owned land located in Washoe County, Nevada, approximately 43 miles north of the City of Reno in the Honey Lake Valley, one mile east to the Nevada/California state line ("Lease Area") and an approximately 5 mile long corridor within an access and utility easement corresponding to the Rainbow Way public right of way straddles the section line which forms the western limit of the project lease area, extending 30 feet from either side of said section line and running north/south from the Union Pacific railroad corridor to Anaho Road. Said easement is documented in Record of Survey Pyramid Lake Ranches Unit 1, January 18, 1961 - Washoe County Recorder's Office File No. 331360; Record of Survey Pyramid Lake Ranches Unit 2, February 20, 1961- Washoe County Recorder's Office File No. 332860; and 55 Grant, Bargain, and Sale Deeds recorded at the Washoe County Recorder's Office along the existing Rainbow Way and Section Line, granting an non-exclusive easement around the project lease area and over existing roads to be used for ingress, egress, and utilities. Potential disturbance within this easement for the installation of a Generation Tie Line is estimated to total approximately 12 acres, resulting a total disturbance area of approximately 1,140 acres. The entirety of this acreage and the vast majority of the surrounding vicinity is privately owned vacant range land. The lease area is intersected by the Union Pacific railroad corridor which runs in a predominately east/west direction.



△ Project Location

N

0 60,000 120,000

Feet

Aerial imagery provided by Esri.
Projection: NAD 1983 2011 StatePlane California II FIPS 0402 Ft US

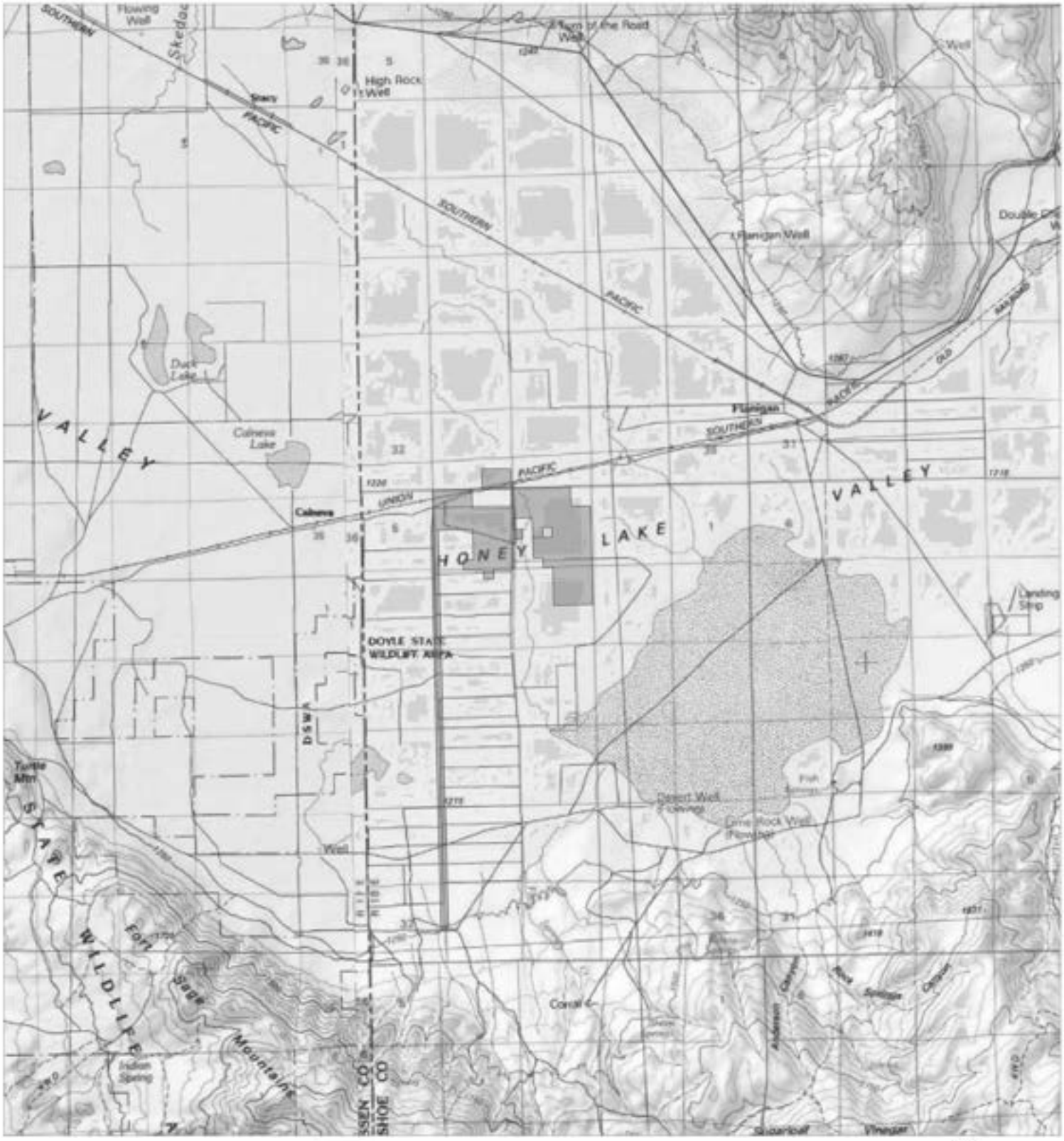
UES

PROJECT LOCATION MAP

SHREEM BREZEE SOLAR, LLC - WASHOE SOLAR PROJECT

Washoe County, California

FIGURE	1
DRAWN BY	JMB
CHECKED BY	BLM
PROJECT MGR	BLM
DATE	02/2024
PROJECT NO.	4640-23000053.0000



Topographic Basemap Adapted from the USGS 7.5' Digital Map Series
Projection: NAD 1983 2011 StatePlane California II FIPS 0402 Ft US

UES

PROJECT VICINITY MAP

SHREEM BREZEE SOLAR, LLC - WASHOE SOLAR PROJECT

Washoe County, California

FIGURE	2
DRAWN BY	JMB
CHECKED BY	BLM
PROJECT MGR	BLM
DATE	02/2024



Project Area

N

0 4,000 8,000

Feet

Aerial imagery provided by Esri.
Projection: NAD 1983 2011 StatePlane California II FIPS 0402 Ft US

UES

PROJECT BOUNDARY MAP

SHREEM BREZEE SOLAR, LLC - WASHOE SOLAR PROJECT

Washoe County, California

FIGURE	3
DRAWN BY	JMB
CHECKED BY	BLM
PROJECT MGR	BLM
DATE	02/2024

Shreem Brezee Solar, LLC
4640-23-00053.0000
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2.2 PROJECT FACILITIES

This section discusses the Project layout and design for the solar and battery energy storage facilities, ancillary facilities, and associated structures. The site layout is shown in Figure 4.

2.2.1 Major Equipment and Site Arrangement

The Photovoltaic Solar Energy System (PSES) utilizes photovoltaic (PV) panels/modules to absorb solar radiation/sunlight and convert it to electricity. The PSES is to consist of: (1) a solar field featuring PV a array comprised of up to 439,000 PV modules mounted on single axis tracking steel structures; (2) an electrical collection system that aggregates the output from the PV panels and converts the electricity from direct current (DC) to alternating current (AC); (3) a project substation where all of the facility output is combined and transformed to a voltage of 345 kilovolts (kV); (4) a Battery Energy Storage System (BESS); (5) a generation tie line used to transmit the electrical power to the electrical grid; (6) communications infrastructure including a microwave or fiber optic cable; and (7) civil infrastructure including driveways, and fencing.

The Solar PV facility's major equipment includes:

- PV modules
- AC or DC Coupled BESS
- Single-Axis Tracking Module Racking System
- DC combiner boxes
- Inverter Skid Assemblies, including:
    - DC to AC inverters
    - Medium voltage (MV) transformers
- Project substation including one 34.5-345 kV step-up transformer
    - 34.5 kV Capacitor Banks as required
- Plant control system

The design would include PV modules, inverters, and MV transformers combined into units that are repeated to reach the required capacity. The proposed PV facility would use commercially proven PV modules, BESS, inverters, and transformers. Inverter and transformer manufacturers and capacities would be selected based on cost, efficiency, reliability, and market availability.

Photovoltaic Modules

Solar energy would be captured by an array of PV panels mounted to a single-axis tracking system. The high-efficiency, commercially available PV panels convert incoming sunlight to DC electrical energy. The panels are arranged in series to increase the DC system voltage to approximately 1,500 volts. These series chains of panels are called "strings" in industry terms and provide the basic building block of power conversion in the solar array. The strings are combined in the solar field through an above or below ground DC collection system and then further grouped together at the inverter stations, where the energy is converted to AC and then stepped up to an intermediate voltage, typically 34.5 kV. The chosen PV panel would be either crystalline silicon or thin film and would be well suited for the desert environment due to their durability and reliability.

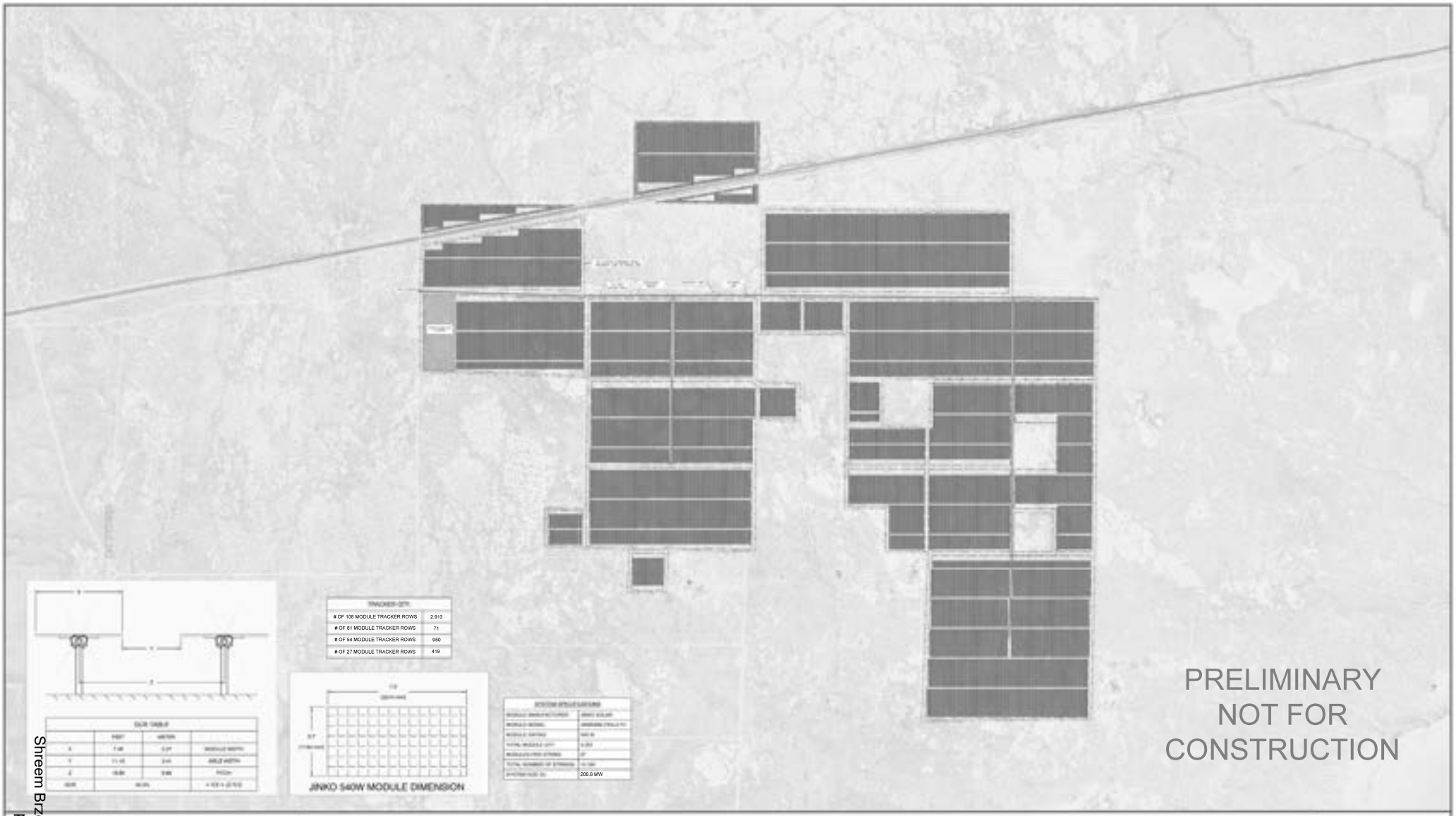
The tracking system would be supported, when practical, by driven piers (piles) directly embedded into the ground and would be parallel to the ground. The system would rotate slowly throughout the day at a range of+/- 60 degrees facing east to west to stay perpendicular to the incoming solar rays so that production can be optimized.

Each tracker would hold approximately 27 to 110 panels (depending on final configuration) and, at its highest rotated edge, would have a maximum height of approximately 15 feet above grade, depending on the dimensions of the chosen panel. The minimum clearance from the lower edge of the panel to ground level is approximately 12 to 24 inches, pending final design.

The panel connection electrical system would be suspended under the PV panels and at main junctions would be placed under ground and routed to the inverter stations.

Inverter Stations

The inverters convert the DC power to AC power and AC output voltage is boosted to 34.5 kV through a MV Step-up Transformer. The inverter/MV transformer together are referred to as an Inverter Skid Assembly. From each such transformer, electricity would be conveyed via an underground collector circuit to the project substation. The inverter stations would be up to 13 feet in height and perform three critical functions for the solar plant: (1) collect DC power in a central location, (2) convert the DC power into AC power, and (3) convert low-voltage AC power to MV AC power. The inverter stations are typically open-air and well suited for desert environments. The stations consist of DC collection equipment, utility-scale inverters, and a low- to medium-voltage transformer. The output power from the inverter stations would be fed to the AC collection system through an above or below ground collection system. This AC collection system substation would deliver the electricity to the onsite substation, where the voltage would be stepped up to the interconnection voltage.



# OF 108 MODULE TRACKER ROWS	2,913
# OF 81 MODULE TRACKER ROWS	71
# OF 54 MODULE TRACKER ROWS	950
# OF 27 MODULE TRACKER ROWS	419

UES

Site Layout
SUNSEEKER SOLAR PROJECT
Washoe County, Nevada

May 2024
1/128″=1′
Figure 4

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2.2.2 Project Substation

The project substation would be located along the western boundary of the Project site (as shown on Figure 3). The substation is a central hub for the 34.5 kV collector circuits and increases the electricity voltage from 34.5 kV to 345 kV. The substation includes, but is not limited to the following major components:

- 34.5 kV bus and associated switching devices
- 345 kV bus and associated switching devices
- 34.5/345 kV transformers
- 34.5 kV circuit breakers
- 345 kV circuit breakers
- 34.5 kV capacitors (as required)
- Grounding grid
- Perimeter security fence

The footprint of the onsite substation would be approximately 10 acres. The proposed Project onsite substation would consist of components up to 100 feet in height, and overhead lines constructed with up to 95-foot-tall poles. The communications microwave at the substation would be placed on a pole up to 150 feet in height.

2.2.3 Gen-tie Lines and Associated Structures

The gen-tie power line route from this facility would run approximately five miles south to the NV Energy Fort Sage Substation, along the Truckee Meadows Regional Planning Agency's designated Rainbow Way 345 kV Regional Utility Corridor. The gen-tie structures would be towers up to 100 feet high. The span between supporting structures ranges between 200 and 700 feet. Permission to construct a similar gen-tie, to be located within the same Rainbow way Regional Utility Corridor was previously granted to Praana Renewables Energy, LLC ("Praana") by the PUCN in January of 2023 (Docket Number 22-08029) and subsequently transferred to Rainbow Way 1, LLC ("RW1") in April of the same year. However, Sunseeker understands that the Praana/RW1 has since been abandoned

with RW1 having notified the lessors of the their project sites that all development activity had been suspended in a letter dated April 16, 2024 and NV Energy indicating on May 14th, 2024, that the project had been withdrawn from the interconnection queue. Sunseeker, therefore intends to develop the gen-tie in the absence of the previous applicant with any excess capacity on the gen-tie remaining available under the provisions of the Federal Power Act (sections 210, 211, and 212) in accordance with FERC open access guidelines for future development in the event that the neighboring project should be revived or additional developers in the vicinity should seek interconnections.

Access for construction and maintenance of the gen-tie would be via the existing Rainbow Way public right of way and utility/access easement which stretch the entire length of the proposed Gen-tie route from the Project site to the NV Energy Fort Sage Substation. The design characteristics of the existing 345 kV gen-tie line are listed in Table 2.

Table 2. Typical Design Characteristics for a 345 kV Gen-Tie Line

Feature	345 kV Characteristics
Type of structure	Per NV Energy Design Specifications
Structure height	Up to 100 feet
Span length	Between 200-700 feet
Anticipated Number of structures	50 to 70
Voltage	345 kV
Conductor size	2 per Phase Bundle up to 795 kcmil ACSR-1.06" dia
Ground clearance of conductor	Minimum 30 feet
Pole foundation depth	19 to 24 feet
All-Dielectric Self-Supporting (ADSS) fiber optic cable	None
Optical ground wire (OPGW)	Strung above the 345 kV conductors

2.2.4 Gen-tie Interconnection/Point of Change of Ownership Pole

The Project's substation would connect to NV Energy's Fort Sage Substation approximately five miles south of the proposed Project Substation via a 345 kV gen-tie line. The project Point of Change of Ownership pole (POCO) will be at the NV Energy Fort Sage substation. The gen-tie would also provide a communication path via OPGW fiber optic cable. A redundant communication path is also required, typically ADSS fiber optic cable. The +/- 5-mile gen-tie and POCO would be constructed and operated according to NV Energy specifications.

2.2.5 Battery Energy Storage System

The proposed Project would use a BESS consisting of either large format lithium-ion batteries or alternative battery technologies (such as flow batteries) that would have a capacity of up to 200 MWs which would be connected using either an AC-coupled or DC-coupled system. Selection of an AC or DC coupled system is ultimately determined through off-taker preference and contract terms.

An AC-coupled system would be connected to a bi-directional inverter to convert DC energy to AC energy, allowing for energy to flow in or out of the batteries to provide charge and discharge. This AC system would be coupled to the PV array at the inverter, AC collection system, or 34.5kV substation bus. Power switches and relays would protect the system. The system would consist of several housing units similar to shipping containers or buildings. The containers or buildings would occupy approximately up to 6 acres, depending on the size of the system contracted and technology selected. The equipment enclosures and buildings would be located next to the on-site substation.

A DC-coupled system would consist of battery units located in containers adjacent to the solar inverters distributed throughout the solar arrays. The solar DC collection and the DC battery connection would connect on a common DC bus at the inverter. The containers would be similar in size (20-40 feet long) to the solar inverter skids. In some cases, depending upon the battery capacity, multiple containers may be located adjacent to a single inverter.

The charge and discharge of the DC-coupled batteries would be controlled by the battery management system. DC-DC converters would be installed between the inverter and the batteries to control the DC voltage at the battery terminal. As is typical for the industry, inverters would be controlled by a central control system. The protections to the batteries would be internal to the battery management systems and control boxes located within the containers and inverters.

A battery supplier has not been selected at this time due to changing markets. The final battery supplier(s) would be selected prior to Project construction and would be subject to an industry- standard pre- qualification process.

The energy storage equipment would be enclosed in a structure that would conform with County standards in addition to National Fire Protection Agency Standard 855. Energy storage equipment will comply with UL-9540 and will account for the results of UL-9540A.The enclosures would have temperature control system consisting of fan, liquid, or equivalent. The energy storage system would be un-staffed and would have remote operational control and period inspections/maintenance performed, as necessary.

2.2.6 Electrical System for Plant Auxiliaries

During daylight hours, power for plant auxiliaries would be provided by the Project's electrical generation. During non-daylight hours, the Project would require small amounts of power to keep transformers energized, and for plant lighting and security. This auxiliary power would be provided by the onsite BESS.

2.2.7 Plant Auxiliaries Process Description

The following subsections describe the various power plant auxiliary systems associated with the Project.

Water

Water for construction and operations activities at the Project will be trucked to the project lease area from an offsite facility. Existing water rights are more than sufficient to

supply the estimated 100-acre feet required for construction and 1-acre foot per year estimated for operations.

Plant Control System

The microprocessor-based plant control system (PCS) would provide control, monitoring, alarm, and data storage functions for plant systems as well as communication with the Solar Field supervisory control and data acquisition (SCADA) system. Redundant capability would be provided for critical PCS components so that no single component failure would cause a plant outage.

All field instruments and controls would be hard-wired to local electrical panels. Local panels would be hard-wired to the plant PCS system.

The Sunseeker Solar plant will be monitored and controlled from a remote operations center (ROC) located offsite. Communications between the Sunseeker facility and the ROC would be by either microwave or fiber optic connection.

Lighting System

The Project's lighting system would provide O&M personnel with illumination for both normal and emergency conditions. Lighting would be designed to provide the minimum illumination needed to achieve safety and security objectives and would be downward facing and shielded to focus illumination on the desired areas only. There would be no lighting in the solar field, so light trespass on the surrounding properties would be minimal. If lighting at individual solar panels or other equipment is needed for night maintenance, portable lighting would be used. There would be lighting at the substation and site entrances to provide personnel with illumination for substation O&M under normal conditions and means of egress under emergency conditions.

Cathodic Protection Systems

Underground metal structures would have cathodic protection, as necessary, based on soil conditions, to avoid corrosion of metal surfaces.

Site Access, Roads, Fencing, and Security

As depicted in Figure 4, access to the site would be via Rainbow Way which also provide access to the Fort Sage Substation. Unpaved access roads would be constructed within the solar facility and around the perimeter of the site.

The perimeter of the solar site would be enclosed by a 7-foot-high chain link fence that may be topped with a 1-foot barbed wire section. Access into the site would be controlled (authorized personnel only) by employing swinging or rolling chain link gates. Select gates would be automated to facilitate emergency access for fire department vehicles.

2.3 FABRICATION AND CONSTRUCTION

This section summarizes the fabrication and construction for the Project.

2.3.1 Preconstruction Site Drainage Characteristics

Most of the Project site would be drained by sheet flow to perpetuate the existing flow patterns through the site. Appropriate drainage features will be incorporated into the design of the facility. The site is classified as an "area of minimal flood hazard" and is not within the 100-year flood event zone. Onsite and offsite drainage would be coordinated with Washoe County Engineering and Capital Projects Division.

2.3.2 Clearing, Grubbing, and Grading

Only limited grading for internal access roads is expected to be required because of the low impact development (LID) approach and nearly flat terrain. The project site has a slope of less than five (5%) percent; thus, no grading would be required for PV power blocks. The Sunseeker project will be constructed in areas that have been historically plowed and disturbed and all vegetation removed in the past. Mowing and management of existing vegetation will take place prior to construction and during operations.

Interconnection Facilities will be placed within an area of permanent disturbance associated with the Rainbow Way easements which will include the placement of Gen-Tie pole structure foundations, and minor road grading to maintain Rainbow Way to meet roadway standards necessary for safe travel and construction. Temporary disturbance would

result from pole construction work areas at each Gen-Tie pole sites along Rainbow Way easement.

2.3.3 Assembly and Construction

Substation Construction

The substation would be constructed by an engineering, procurement, and construction (EPC) contractor selected by SBS in accordance with its Engineering, Procurement, and Construction (EPC) contract specifications. The substation would occupy an area of approximately 10 acres and would be graded flat and level. Four to 6 inches of gravel would be installed on the entire area to keep down dust and mud and make for easier housekeeping. Precast or cast in place concrete foundations would be built for the substation equipment and structures.

Foundations would be drilled pier or spread footing. Foundation type and size would be determined during the detailed engineering phase. The substation would be enclosed with a security fence and would be within the Solar Field Area.

Gen-Tie Line Construction

The Gen-tie Line would be constructed by a contractor selected by RW1 and/or SBS in accordance with its Engineering, Procurement, and Construction (EPC) contract specifications. Gen-Tie Line construction would generally follow the sequence outlined below, but may vary depending on final engineering designs:

- Contractor mobilization of equipment and personnel
- Staging yard preparation
- Access road (Rainbow Way) maintenance and site preparation
- Foundation construction and anchor installation
    - The Gen-Tie Line would typically consist of drilled pier reinforced concrete foundations. No guys or anchors would be installed on the Gen-Tie.
- Assembly and erection of tubular steel poles for the Gen-Tie Line
- Wire stringing and sagging

- Testing and commissioning
- Cleanup and restoration

Construction would require heavy equipment including, but not limited to, pick-up trucks, water trucks, haul trucks, bucket trucks, bulldozers, graders, compactors, backhoe, excavator, drill rig, concrete trucks, cranes, puller and tensioner, reel trailer, splice trailer, and air compressors. Helicopters may also be utilized to support wire stringing operations.

Battery Energy Storage System (BESS) Construction

The BESS would be constructed by a contractor selected by SBS in accordance with its EPC contract specifications. The BESS would occupy an area of approximately 6 acres within the Project Substation footprint and would be graded flat and level and gravel placed and compacted. Precast or cast in place concrete foundations would be built for the BESS equipment and container/structures. Foundation type and size would be determined during the detailed engineering phase. The BESS would be enclosed with a security fence, within the Solar Field Area.

Tracker Modules Installation

The tracking system components would arrive on site, at an estimated rate of approximately 40 to 50 MW per month, to be assembled and installed at the site. PV modules would arrive on site and be placed in a staging area inside shipping containers. Modules would be distributed out to the blocks and put in place manually and secured to the tracker per vendor specifications and approved engineering plans. Each tracker would be populated with modules, wired in series, to create strings, and connected to a DC combiner box, which would deliver DC power to the block's inverter station.

Laydown Areas, Staging Areas, Work Areas, and Stringing Sites

The laydown area would be near the main site entrance at Rainbow Way and would have the contractor site trailers/offices as well as fabrication areas, worker break area, sanitation and parking, material staging area, and storage (CONEX) boxes. This area would cover approximately 5 to 7 acres. Temporary power for the main laydown area would be provided by temporary mobile generators. Potable water for drinking and sanitation would

be trucked in as needed from an outside source. Secondary materials staging/laydown areas may be located closer to work areas and would be moved periodically as the site builds out.

The Gen-Tie and Service Line would have work areas around each structure location which may require grading and vegetation removal for various construction activities. Stringing sites would support required equipment to perform wire stringing and sagging operations.

2.3.4 RESTORATION

The permanent easement and temporary use areas will be restored. All construction material and debris will be removed and disposed of at appropriate permitted landfills. All work areas will be graded and restored to as close to preconstruction contours as is feasible. EPC contractor will prepare and implement a postconstruction erosion control and Rainbow Way easement restoration plan.

2.3.5 Design and Construction Schedule

Construction of the Sunseeker Solar Project will potentially begin in Spring of 2025 and may continue through Fall of 2026, depending on interconnection approvals. If sensitive environmental resources such as nesting birds are encountered in preconstruction surveys or during construction, construction scheduling in those identified portions of the project lease area or Gen-Tie Line corridor on Rainbow Way may be modified to prevent impacts to sensitive species or sensitive habitat. Construction is expected to be conducted 10 hours per day, 6 days per week, depending on the schedule for the phases of construction.

Typical construction work schedules are expected to be from 7:00 a.m. to 5:00 p.m., Monday through Saturday, which is within allowed hours of exemption from local noise ordinance restrictions (Washoe County) for construction activity between 7:00 a.m. and 7:00 p.m., except Sundays and federal holidays.

2.3.6 Construction Sequencing

SBS expects to commence onsite construction as early as April, 2025. The construction period is estimated to last approximately 7 months, contingent on several factors including timely obtention of an interconnection agreement, weather, pauses needed to mitigate potential impacts identified in this assessment, etc. The engineering process would commence before starting construction and is divided between the basic design phase and detail design phase. During the basic design phase, key information drawings and technical specifications would be developed. The RFP for the Engineering, Procurement and Construction (EPC) Contractor would be developed and issued at the stage as well. At the detail design phase, the EPC contract would be executed and the detail drawings and specifications for all equipment would be completed. Procurement of long-lead equipment would be conducted before starting construction.

Four phases of construction are planned:

1. **Grading/Temporary Construction Facilities**. Grading of the pad for the project substation and establishing temporary construction facilities associated with the project substation. Grading of the access roads (site internal and external) for the solar photovoltaic facility and establishment of temporary construction facilities associated with the solar photovoltaic facility.
2. **Solar Field Construction**. Installing structural poles and trackers, mounting of panels, electrical system, inverters, and access driveways.
3. **Project Substation**. Installing BESS, 34.5-345 kV step-up transformer and 34.5 kV Capacitor Banks as required.
4. **Gen-Tie, and Ft Sage Substation**. Constructing the 345 kV Gen-Tie and improvements to the NV energy Ft Sage Substation.

The construction stage would commence with site mobilization. Substation clearing and grading work would last for approximately 1 month or as required to support Project schedule. Piling work would then commence. Following normal installation processes for similar PV plants, the mounting structure would first be installed. Next, the modules would

be installed and connected to each other in series as a string. The solar generation facility would be installed as a unit block concept. Construction of the project is expected to last for approximately 6 months including its commissioning and expected to commence between 2025 Q2 and 2025 Q3. Construction of the BESS would proceed concurrent with the PV system. All components of the plant would be commissioned separately. Upon completion of conventional commissioning, a "Performance and Acceptance" test would be performed. The following temporary construction facilities would be needed:

- Full-length trailer offices or equivalent
- Parking for construction worker vehicles
- Construction equipment parking
- Fueling area (diesel and gas)
- Chemical toilets
- Holding tanks and/or temporary septic system
- Tool sheds/containers
- Covered assembly area
- Solar field equipment laydown area
- Diesel power generator(s)

Construction materials, such as concrete, pipe, wire and cable, fuels, reinforcing steel, and small tools and consumables, would be delivered to the site by truck. Initial grading work on the substation and access roads would include the use of excavators, graders, dump trucks, and end loaders, in addition to support pickups, water trucks, and cranes. It is anticipated that the following equipment would be required:

- Scraper(s)
- Concrete truck(s)
- Motor grader(s)
- Backhoe/loader(s)
- Excavator(s)

- Truck-mounted crane(s)
- Dozer(s)
- Grader-all(s)
- Dump truck(s)
- Flatbed truck(s) for pre-cast foundations
- Pad drum vibrato roller(s)
- Trencher(s)
- Water truck(s)
- Pile driver(s)
- Lightweight truck(s).

2.3.7 Construction Staff

The workforce needed for the Project would vary during construction. The peak personnel during construction is expected to be around 200 people, with average manpower of approximately 150 per month. Table 3 depicts the anticipated construction workforce for the duration of construction.

Table 3. Estimated Personnel During Construction

Task	April 2025	May 2025	June 2025	July 2025	Aug 2025	Sept 2025	Oct 2025
Engineering/ Management	5	5	5	5	5	5	5
Electrical	70	70	70	60	40	40	30
Racking	60	60	60	50	50	60	60
Civil	10	10	10	15	15	20	20
Post Installation	40	40	40	20	20	30	30
Fencing	10	15	15	15	10	25	25

Total	195	200	200	165	140	180	170

2.3.8 Construction Waste Management

During construction, the primary waste generated would be solid non-hazardous waste. However, some non-hazardous liquid waste and hazardous waste (solid and liquid) would also be generated. All the waste generated by the Project would be at the Project site. The types of waste potentially generated during construction are described in the following discussion.

Non-Hazardous Solid Waste/Wastewater

Project construction could potentially generate the following non-hazardous waste streams:

- Paper, Wood, Glass, and Plastics. These wastes are typically generated from packing materials, waste lumber, insulation, and empty non-hazardous chemical containers. These wastes would be recycled to the extent practical. Waste that cannot be recycled would be disposed of weekly at an appropriately licensed landfill. Onsite, the waste would be placed in dumpsters.
- Metal. Metal wastes that include steel (from welding and cutting operations, packing materials, and empty non-hazardous chemical containers) and aluminum waste (from packing materials and electrical wiring) would be generated during construction. Metal waste would be recycled where practical and non-recyclable waste would be deposited in an appropriately licensed landfill.

Wastewater

During construction, wastewater would be collected in self-contained systems that would be pumped and disposed of in accordance with local requirements. Wastewater generated during construction would include sanitary waste and equipment wash-down water. These waters may be classified as hazardous or non-hazardous depending on their chemical quality and would be handled and disposed of in accordance with applicable laws.

Hazardous Waste

Most of the hazardous waste generated during construction would consist of lubricants, oily rags, and solvents. Some hazardous solid waste, such as welding materials and dried paint, may also be generated during construction. In the event there are spills at the site, they will be cleaned-up and contaminated soil waste may be generated. Spill cleanup kits would be available on construction vehicles so that spills or leaks of vehicle fluids could be quickly cleaned up for proper disposal.

The quantity of hazardous waste is expected to be minimal. Wastewater generated during construction could also be identified as hazardous, based on sampling and testing results.

2.3.9 Erosion and Sediment Control Measures

Due to the removal or disturbance of soil and vegetation during construction, appropriate water erosion and dust-control measures would be required to minimize dust and sediment load to water bodies.

Water Erosion Control Measures

The Project would implement best management practices (BMPs) erosion-control measures to control stormwater runoff. Site-specific BMPs would be implemented by the contractor in compliance with regulations and permit conditions. As appropriate, the Project would implement the following practices for temporary and final erosion control:

- Monitor the weather using National Weather Service reports during construction to track conditions and alert crews to the onset of rainfall events.
- Preserve existing vegetation where feasible. Conduct clearing and grading only in areas necessary for Project activities and equipment traffic. Install temporary fencing or signage prior to construction along the boundaries of the construction zone to clearly mark this zone, preventing vehicles or personnel from straying onto adjacent offsite habitat.

- Sequence construction activities with the installation of erosion control and sediment control measures. Arrange the construction schedule as much as practicable to leave existing vegetation undisturbed until grading begins.
- Stabilize non-active areas as soon as feasible on those portions of the Project site where construction has temporarily or permanently ceased.
- Place covers over stockpiles prior to forecasted storm events and during windy conditions as necessary to prevent erosion of stockpiles. Place sediment controls (such as fiber rolls, straw bales, silt fencing) around the perimeter of stockpiled materials to control sediment runoff.
- Maintain sufficient erosion control materials onsite to allow implementation of BMPs. This includes implementation requirements for active areas and non-active areas that require deployment before the onset of rain.
- Promptly repair and reapply controls according to BMPs in areas where erosion is evident.

Wind Erosion Control Measures

The Project would implement the following practices for wind erosion control:

- Minimize vegetation removal and grading to the extent practicable.
- Apply water or dust palliative to disturbed soil areas of the Project site to control dust and maintain optimum moisture levels for compaction as needed. Apply the water using water trucks. Minimize water application rates as necessary to prevent runoff and ponding.
- During windy conditions forecast or actual wind conditions of approximately 25 miles per hour or greater, apply dust control to haul roads to adequately control wind erosion. Cover exposed stockpiled material areas.
- Temporarily suspend excavation and grading during periods of high winds when dust cannot be reasonably controlled.
- Cover all trucks hauling soil and other loose material or maintain at least 2 feet of freeboard.

2.4 OPERATION AND MAINTENANCE

This section summarizes the O&M for the Project.

2.4.1 Facility Operation

O&M activities would be managed and performed by a team of highly qualified technicians. Five new solar technicians are expected to be hired to help manage the Sunseeker facility. The Sunseeker Solar plant would be monitored and controlled from regional operations center off site.

Daily operation of the solar plant would begin when there is sufficient sunlight to begin operation of the single-axis tracking solar arrays. Operators work rotating 10-hour shifts. Operators will be on site to complete maintenance requirements.

2.4.2 Maintenance

Long-term maintenance schedules would be developed to include periodic maintenance and equipment replacement in accordance with manufacturer recommendations. Solar panels may be warrantied for 20 to 25 years and are expected to have a life of 30 to 35 years. Moving parts, such as tracker motors, motorized circuit breakers and disconnects, and inverter ventilation equipment, would be serviced on a regular basis, and unscheduled maintenance would be conducted, as necessary.

Due to the efficiencies gained by adopting solar panel technology, the cost and time for O&M is expected to be minimal compared to that of conventional power plants.

2.4.3 Waste Management

The primary waste generated at the Project site during operations would be non-hazardous solid waste. However, varying quantities of liquid non-hazardous waste and solid and liquid hazardous waste would also be generated. The types of wastes and their estimated quantities are discussed in the following subsections.

Non-Hazardous Solid Waste

The Project would produce non-hazardous waste, including rags, broken metal, and machine parts, defective or broken electrical materials, empty containers, typical refuse generated by workers and small office operations, and other miscellaneous solid wastes. Large metal parts would be recycled. Other non-hazardous wastes would be disposed of in an appropriately licensed landfill.

Only limited hazardous materials are associated with the operation of the Project; however, during maintenance activities, there is potential for a vehicle petroleum spill. Spill cleanup kits would be available on equipment so that spills or leaks of vehicle fluids could be quickly cleaned up for proper disposal. Material storage yards, and access roads would be kept in an orderly condition throughout the construction period. Refuse and trash would be removed from the sites and disposed of in an approved manner. Oils or chemicals would be hauled to an approved site for disposal.

Non-Hazardous Wastewater

During operation, routine annual panel cleaning may be required depending upon local conditions and occasional rainfall. If the panels become soiled over time, water would be used to wash dust and dirt off each solar panel for a cleaning. This water would be non-hazardous and would be allowed to flow onto the ground.

Hazardous Waste

Limited quantities of hazardous materials would be used onsite for O&M that may require disposal as hazardous waste. These materials would include oils, diesel fuel, lubricants, solvents, janitorial supplies, office supplies, laboratory supplies, paint, degreasers, herbicides, pesticides, air conditioning fluids, gasoline, hydraulic fluid, propane, and welding rods. These materials would generally be used in small quantities.

Any hazardous materials would be stored offsite. Due to the small quantities involved, spills could be cleaned up without resulting in any considerable environmental consequences.

The PV panels and inverters produce no waste during operation; however, the PV panels may include solid materials that are considered hazardous. As such materials are in a

solid and non-leachable state, broken PV panels would not be a source of pollution to stormwater.

2.4.4 Decommissioning

SBS would operate the Sunseeker Project for the foreseeable future. However, the facilities and equipment to be located on the project lease area are subject to finite lifecycle. When the Project ultimately is decommissioned, the PV panels, support structures, and electrical equipment would be removed in accordance with a decommissioning plan prepared at that time and agreements with the property owners. The PV panels and inverters produce no waste during operation, and the panels and related equipment are solid and in a non-leachable state. Thus, no ground decontamination or remediation would be required. All panels removed from the site would be returned to the manufacturer or trucked offsite to an appropriate disposal facility.

2.4.5 Health and Safety

The health and safety of employees and contractors is a high priority. All employees and contractors would be required to adhere to the appropriate health and safety plans and emergency response plans. All construction and operation contractors would be required to operate under a health and safety program that meets industry standards.

An operational Environmental Health and Safety Plan (EHS Plan) would be prepared for the proposed solar facility and gen-tie line. The EHS Plan would outline all Project activities, identify all hazardous substances and chemicals used at the site, and ensure compliance with Occupational Safety and Health Administration (OSHA) Standards, the Nevada Division of Industrial Relations requirements, and all other local, state, and federal environmental and regulatory requirements. The EHS Plan would identify site-specific safety control measures, site health and safety roles and responsibilities, speed limits, and site safety hazards and controls.

2.4.6 Site Security and Lighting

The Project site would be secured with 7-foot chain-link fencing that may be topped with 1-foot of barbed wire. Lighting would be provided at the control building, within the project substation, and at the main plant entrance. A perimeter security system may also be installed, as necessary.

2.5 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED CONSIDERATION

Potential alternatives for the proposed Sunseeker Solar Project were evaluated to determine whether they could substantially achieve the Project goals and objectives to be considered feasible and appropriate for further consideration. This section describes the evaluation criteria, interconnection options, and technologies eliminated because they did not meet the Project objectives and/or did not reduce environmental consequences compared to the proposed action.

2.5.1 Facility Location Criteria

The primary objective of SBS was to locate the solar facility in northern Nevada. Several criteria were developed and used in evaluating appropriate sites:

- Adequate solar irradiation
- Proximity to a high-capacity substation with access to the NV Energy grid
- Adequate transmission capacity to convey the electrical output of the Project
- Minimal environmental concerns
- Relatively flat site to minimize the need for site grading
- Existing access to accommodate construction workforce needs
- Land parcel large enough to accommodate a utility scale solar facility
- Access to nearby workforce sufficient to support Project construction

The remote location of the Project site with respect to population centers minimizes the potential for impacts affecting the local population. Noise, visual, and traffic impacts are all minimized by the Project's remote location.

2.5.2 Gen-Tie Power Line Criteria

Another key objective was to locate the PV facility and the gen-tie line in an area with established utility easements/ROWs, allowing interconnection to the electrical grid in a direct path to minimize gen-tie line losses and costs and avoiding a protracted right-of-way acquisition process. The Project site meets these criteria.

2.5.3 Alternatives Considered and Eliminated

Alternative gen-tie route options and technologies were considered and eliminated are summarized in this section.

Alternative Gen-Tie Routes

The Project site is located approximately five miles north of NV Energy's Fort Sage Substation. Location of the solar facility substation and gen-tie line are constrained by, distances required to use alternative easements/ROWs, avoiding conflicts with existing transmission infrastructure in the vicinity, and by the ability to obtain a right-of-way for the gen-tie line.

A possible alternative gen-tie route was considered along Honey Lake Way that would surpass the junction with Anaho Rd to then connect to the NV Energy's Fort Sage Substation. However, use of this alternate gen-tie path would require amendments to the Truckee Meadows Regional Planning Agency's Regional Utility Corridors. Such modifications to existing plans would only be deemed necessary in the invent that Sunseeker is unable to co-develop the gen-tie corridor with previously permitted projects. In which case, permission to construct the alternative gen-tie would be sought in a subsequent application. Any property or work outside the limits of provided easements, must be acquired by the Contractor (RTC, 2016).

Alternative Technologies

The Sunseeker Solar Project is designed to use crystalline silicon or thin-film PV technology mounted on single-axis tracker racking. Other solar technologies considered by SBS for the Project included concentrating PV and solar thermal technologies. The water demand is significantly greater for solar thermal technology and therefore presents greater environmental concerns. Crystalline silicon and thin film are commercially proven technologies which have already been shown to be viable by other solar projects in the Honey Lake Valley.

SBS determined that using crystalline silicon or thin film PV solar panels is the preferred technology for this Project given the comparatively low water requirements, and reliable, proven technology. Additionally, the alternative technologies mentioned would result in an increased potential for environmental impacts. Concentrating solar would have greater impacts on visual and biological resources and solar thermal would increase water use. Therefore, other alternative solar technologies were eliminated from further consideration.

3.0 EXISTING SETTING, ENVIRONMENTAL CONSEQUENCES, AND MITIGATION MEASURES

The proposed Project site would be in the Honey Lake Valley approximately 12.5 miles west of Pyramid Lake and 43 miles north of Reno in Washoe County, Nevada.

The following resources are analyzed in this EA:

- Geology, Soils and Paleontology, Section 3.1
- Water Resources, Section 3.2
- Air Quality and Climate, Section 3.3
- Biological Resources, Section 3.4
- Cultural Resources, Section 3.5
- Land Use Section, 3.6
- Transportation, Section 3.7
- Visual Resources, Section 3.8
- Noise, Section 3.9
- Waste Management and Hazardous Materials, Section 3.10
- Socioeconomics, Section 3.11

3.1 GEOLOGY, SOILS, AND PALEONTOLOGY

This section describes the geological, soils, and paleontological resources in the area, the impacts of the proposed Project on these resources, and the BMPs/mitigation measures designed to reduce these impacts.

3.1.1 Existing Setting

The Sunseeker Solar project lease area is in the northwestern corner of Nevada within Honey Lake Valley, a structural basin bounded to the north and east by the Terraced Hills Mountains and to the south by the Virginia Mountains. This basin is transitional between the Basin and Range physiographic province to the east and the Sierra Nevada to the west. The site is generally flat with mild undulating topography fluctuating between elevations of 3,991 and 3,998 feet above mean sea level (MSL).

The present topography of the basin is due primarily to a combination of extensional normal faulting and Quaternary-age basinal sedimentation. During the Pleistocene glacial periods, Honey Lake Valley, and many of the valleys in the surrounding basins were submerged by lakes. These lakes have since evaporated and left behind extensive, flat playas. Generally, the sediment at the site is composed of silts and clays derived from the Pleistocene lakes, Quaternary-aged eolian sand dunes, talus, and stream deposits. The surface soils were observed to be a hard-packed, light brown, moderately plastic silt. According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service's (NRCS) Web Soil Survey (WSS) indicates soils at and around the Site primarily consist of very fine sandy loam to silty clay, 0-2 percent slopes (USDA, 2024). The maximum exploration depth of the geotehcnial investigation was 45 feet.

A paleontological records search identified two locations in the vicinity of the Project site, Calneva Lake I and Calneva Lake II, less than one mile northwest of the proposed Sunseeker Solar project lease area. Among the vertebrate fossil remains recovered from the Calneva Lake localities are a calcaneum fragment from a Rancholabrean-aged (240,000 years to 11,000 years old) cricetid (ID: 143241), a kind of small rodent in the Cricetidae family such

as a hamster, vole, lemming, gerbil, or rat or mouse; and an unspecified bone fragment from another mammal species of Rancholabrean age (ID: 143242; UCMP 2020).

Nine additional localities were identified associated with Lake Lahontan sediments similar to those underlying the proposed project lease area, all of which have yielded vertebrate remains. These include the Amedee, Honey Lake Deer, Long Valley, and multiple Alturas Interconnection Project Localities. The Long Valley locality is found south of Herlong approximately 6.5 miles west of the proposed BESS/PSES project lease area and has yielded the remains of an extinct mustelid (badger; McLeod 2018; Navient 2019). The Amedee locality roughly 12.5 miles northwest of the proposed BESS/PSES project lease area yielded ulna and radius fragments (ID: 83878) of a Rancholabrean Western Camel (Camelops hesternus). The Honey Lake Deer locality roughly 18 miles northwest of the proposed BESS/PSES project lease area yielded the remains of a Blancan-aged (4,750,000 to 1,806,000 years BP) American mountain deer (Odocoileus lucasi) including the fore and hind limb elements, pelvis, and scapula (ID: 170137; UCMP 2020).

Among the fossil remains recovered from Lake Lahontan sediments of the Alturas Interconnection Project localities are a penultimate phalanx (ID: 174934) and carpal fragment (ID: 174935) of a Blancan horse (Plesippus sp.); a vertebrae (ID: 174952) of a Rancholabrean fish (Oncorhynchus sp.); a thoracic vertebra (ID: 174956) of a Rancholabrean cotton tail rabbit (Sylvilagus sp.); the left calcaneum (ID: 174957) of a Rancholabrean hare (Lepus sp.); and a maxilla fragment (ID: 174958) of a Rancholabrean ray-finned fish (Chasmistes sp.) (UCMP 2020). Significant fossils have also been recovered from the Secret Valley locality approximately 35 miles northwest of the proposed BESS/PSES project lease area, including 78 specimens of mammals such as extinct species of camel, bison, coyote, horse, and mastodon. Finally, significant vertebrate fossils have been recovered from the Ravendale locality 66 miles northwest of the proposed BESS/PSES project lease area, including 180 specimens of mostly extinct fish species (McLeod 2018; Navient 2019).

Paleontological resources occur in geologic units (e.g., formations or members). The probability for finding significant fossils at a given location can be estimated based on previous records of fossils recovered from the geologic units present in and/or adjacent to

it. The geological setting and the number of known fossil localities help to estimate a location's paleontological sensitivity. As noted above, the treatment of paleontological resources on non-federal lands usually follows the SVP Standard Guidelines for the Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontological Resources guidance from the Society for Vertebrate Paleontology (2010). Treatment typically consists of identification, assessment, and mitigation for potential impacts to significant paleontological resources.

The SVP defines four levels of paleontological sensitivity: High, Low, Undetermined, and No Potential. High Potential geologic units are those from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered. These are regarded as having high potential to contain additional significant paleontological resources. Low Potential geologic units are those that are poorly represented by fossil specimens in institutional collections, or that are known to preserve fossils only in rare circumstances. Undetermined Potential geologic units are those for which little or no information is available concerning their paleontological content, geologic age, and depositional history. No Potential geologic units such as high-grade metamorphic rocks (e.g., gneisses and schists) and plutonic igneous rocks (e.g. granites and diorites) are those that would not preserve fossil resources under any circumstances (SVP 2010).

The proposed BESS/PSES project lease area is underlain by Early-to-Late Holocene aeolian, fluvial, and lacustrine deposits (Qhe) derived primarily from Lake Lahontan sediments (Adams et al. 2008; Meyer 2013; Grose et al. 2014). These geologic units have yielded an extensive catalog of vertebrate remains which are considered important paleontological resources. The fossil record for Lake Lahontan sediments indicates that the proposed BESS/PSES project lease area has variable sensitivity for paleontological resources ranging from low to high and increasing with depth. The precise depth that high sensitivity Early Holocene sediments are reached is not known, though significant fossils have been identified in similar lake deposits from depths as shallow as 5-10 feet below the ground surface (Jefferson 2003).

3.1.2 Environmental Consequences

This section summarizes potential geologic and soil hazards or constraints on the proposed solar facility, gen-tie line, and access road.

Soils

The erosion susceptibility of the soils in Honey Lake Valley is low. Soils disturbed by grading, excavation, and construction would have a higher potential for erosion by wind and water. Grading of the solar field is minimal due to the low impact construction methodology which avoids grading. Grading will be restricted to project internal and external access roads which are anticipated to include cuts and fills that are not expected to exceed 24 inches. Some potential for soil erosion exists from the proposed solar field site, due to soil disturbance and removal of vegetation during installation of piles. The Project would use BMPs for soil protection thereby minimizing the contribution to cumulative impacts. In addition, a fugitive dust plan would be developed with mitigation measures to reduce the potential for fugitive dust.

Faulting

The nearest mapped fault is a latest Quaternary-aged (< 15,000 years old) fault trending north-south approximately 0.4 miles north of the project site. It is calculated that, on average, an earthquake of Magnitude 5.3 to 5.4 would be expected to occur within 20 miles of Reno approximately once in 30 seconds of strong shaking. The expected return period of rock accelerations greater than 0.5g at an average site in western Nevada associated with an earthquake of magnitude greater than 7.0 is on the order of 2,000 years. The project site is in the Basin and Range Physiographic Province, structurally characterized by high-angle extensional normal faults. Therefore, strong ground shaking associated with earthquakes should be expected during the project's life.

Paleontological Resources

Background research indicated that the project lease area is underlain by Quaternary-aged eolian sand dunes, talus, and stream deposits derived from the Pleistocene Lake sediments. These geologic units have yielded an extensive catalog of Blancan and Rancholabrean-aged vertebrate remains which are considered important paleontological

resources. However, current Project construction plans do not call for excavation or grading to depths that would disturb these units.

3.1.3 Mitigation Measures

The project would be constructed to meet the safety standards listed in the Uniform Building Code. Best Management Practices (BMPs) for control of erosion would be executed on site as outlined in the Stormwater Pollution Prevention Plan (SWPPP). Grading and erosion control plans would be prepared in accordance with the Washoe County's engineer requirements for improvement plans. A detailed geotechnical survey will be completed, and grading, soil compaction, and structural design would be implemented in accordance with the recommendations of the geotechnical report during the final design phase of the BESS/PSES facility. (See: *Appendix A – Geotechnical Report*) No significant impacts are anticipated.

3.2 WATER RESOURCES

This section analyzes the potential impacts on water quality and hydrologic resources that may result from the proposed Sunseeker Solar project. Hydrologic resources include groundwater, surface water, and wetlands (where present). Groundwater quality and the issuance of permits for the use of both groundwater and surface water are overseen by the State Engineer under authority granted by the Nevada Revised Statutes 533 and 534. Wetlands are under jurisdiction of the U.S. Army Corps of Engineers (USACE). This section describes the water resources in the area, the impacts of the proposed Project on these resources, and the BMPs/mitigation measures designed to reduce potential impacts to a level of non-significance.

3.2.1 Existing Setting

The Clean Water Act (CWA) (33 USC 1251-1376), is the federal legislation that governs water quality. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The Nevada Division of Environmental Protection (NDEP) has primary authority under this Act as granted by the U.S. Environmental Protection Agency (USEPA), which has delegated responsibility to the owners, managers, and operators of public water systems (NDEP, 2024).

Groundwater

Holocene sedimentary deposits, Pleistocene Lake and near-shore deposits, and Pleistocene and Plio-Pleistocene volcanic rocks comprise the Honey Lake Valley Groundwater Basin aquifer system. The major sources of groundwater recharge in the region are direct infiltration of precipitation in upland areas and infiltration of streamflow in alluvial-fan areas accounting for approximately 80 percent of total recharge. The remaining 20 percent consists of infiltration of surface water and irrigation flow on the valley floor. The upland recharge areas consist of Plio-Pleistocene and Pleistocene basalt flows. Wells in the Honey Lake Basin produce between 20 and 2,500 gallons per minute (gpm), and range between 20 and 1,005 feet deep (California Department of Water Resources [DWR] 2004). Well Log No.: 16116 lies within the northeastern site boundary and has a recorded static

water level of approximately 40 feet below grade. During geotechnical drilling activities, free water was encountered between 30 and 35 feet below grade.

Surface Water

The presence of surface water resources in the Honey Lake Valley is very limited. Honey Lake Valley is part of the Basin Range Geomorphic Province that extends into California. The valley is bounded to the north and northeast by Plio-Pleistocene basalt of Antelope Mountain, Shaffer Mountain, and Amedee and Skedaddle Mountains, and the Modoc plateau. The valley is bounded on the southwest by Mesozoic granitic rocks of the Diamond Mountains of the Sierra Nevada Geomorphic Province. More than 40 streams flow from the Diamond, Fort Sage, and the Virginia mountains and the northern volcanic uplands. Most streams are intermittent.

Honey Lake is the most prominent surface feature in the basin with an average surface area of 47,000 acres. The lake fluctuates greatly in area and volume. It is likely that the flooding characteristic of the Honey Lake Valley basin exhibit shallow flash flooding over large areas (DWR 2004).

The project lease area is located within Honey Lake Valley, portions of the Honey Lake Valley have been designated as a special flood hazard area subject to inundation by the 100-year floodplain. The Project area is not within the 100-year floodplain (Federal Emergency Management Agency [FEMA] 2024). *Figure 5. Flood Zones in the Vicinity of the Project Lease Area* shows the flood zones in the project area vicinity.



Flood Hazard information adapted from the FEMA FIRM Program

UES

FLOOD ZONES IN THE PROJECT AREA

SHREEM BREZEE SOLAR, LLC - WASHOE SOLAR PROJECT

Washoe County, California

FIGURE	5
DRAWN BY	JMB
CHECKED BY	BLM
PROJECT MGR	BLM
DATE	02/2024

"Water of the United States," defined in 33 Code of Federal Regulations (CFR) 328.3(a) include:

1) The territorial seas, and water which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide;
2) Tributaries;
3) Lakes and ponds, and impoundments of jurisdictional waters; and
4) Adjacent wetlands.

No hydrological resources meeting these criteria are present in the Honey Lake Valley. Furthermore, the project lease area lacks hydrophytic vegetation and hydric soils and, as a result, cannot be considered a potential wetland habitat (see: *Appendix B- Biological Assessment Report*).

As the Honey Lake Valley is a closed basin in which surface water runoff from the surrounding mountains is directed to one of three dry lakes, a permit is not expected to be required for this project; however, a Jurisdictional Determination report was submitted to USACE in November 2023 for an official determination. The USACE is expected to agree with the findings that there are no permanent surface waters or wetlands exist on or near the Project area. Narrow and shallow ephemeral drainage washes flow from south to north across the site. Though water does flow during infrequent storm events, since there is no connection of this flow to any river system, there is no applicable regulation under section 404 of the Clean Water Act.

3.2.2 Environmental Consequences

The following subsections discuss the environmental consequences of the Project for groundwater and surface water.

Groundwater

The photovoltaic panels within the solar array area will be installed on the ground supported by a piling foundation system. The foundation system's support footings will be driven into the ground at a depth of 6-10' depending on soil conditions. The pile foundation

system will allow the solar array area to go undisturbed and allow all surface areas under the photovoltaic panels be natural earth to allow stormwater percolation. The small amount of new impervious surfaces required for the proposed BESS/PSES project (i.e., small pedestal footings for the battery storage system, small foundations for ancillary equipment, and pilings to support the photovoltaic panels) would not inhibit continued infiltration of rainwater into the project lease area soils.

Activities associated with the construction and operation of the Project would not have impacts at depths exceeding 30 feet, and therefore would not intercept or impact the groundwater. Water necessary for construction and operation of the proposed utility facilities and the associated Sunseeker Solar Project will be supplied from an off-site location to be brought on-site by truck. Water use during construction would be used primarily for dust control and would total approximately 100 acre-feet during the construction period. Water would principally be used during operation for occasional panel washing which is anticipated that panel washing may occur once a year depending on site conditions and rainfall.

Surface Water

Surface runoff in the BESS/PSES facility area typically infiltrates into the site soils inside the proposed perimeter fencing. Runoff of surface water outside of the perimeter fenced area of the BESS/PSES facility will be negligible or close to that which occurs under the existing conditions, due to on-site infiltration of stormwater. During a heavy precipitation event, sheet flows from the BESS/PSES facility area may reach the natural ground south of the perimeter fenced area and perc into the ground on adjoining acreage as did historically. Any runoff that may sheet flow beyond the perimeter fencing of the BESS/PSES area would enter the adjacent open range land parcel and would then infiltrate in the undeveloped area of the parcel, consistent with current practices. Increased soil disturbance would occur during construction of the Project, potentially resulting in increased levels of erosion, resulting in incrementally increased levels of sedimentation. Potential impacts resulting from this increased erosion and sedimentation due to soil disturbance would be reduced using BMPs and mitigation measures.

3.2.3 Mitigation Measures

Standard storm water BMPs will be incorporated by Sunseeker Solar Project construction contractors, such as erosion controls, soil barriers, sedimentation basins, site contouring, and others would be used during construction activities to minimize runoff of soils and associated contaminants. Erosion controls are used during construction to reduce the amount of soils disturbed and to prevent disturbed soils from entering runoff. Erosion controls can include both logistical practices, such as scheduling construction during seasons with the least potential for erosion (e.g., non-storm seasons), and sediment control practices. The combined effectiveness of the erosion and sediment control systems is not easily predicted or quantified (EPA, 2015). The proposed Sunseeker Solar Project would be required to obtain coverage under a Construction General Permit to comply with Clean Water Act NPDES requirements, because the project footprint is greater than one (1+) acre. The Sunseeker Solar Project, will require construction contractors to implement a SWPPP and associated BMPs.

Given the relatively flat topography of the BESS/PSES construction site, distance from surface waters, the minimal grading and excavation required for construction, soil disturbance footprint greater than one (1+) acre, and implementation of a SWPPP, construction of the proposed BESS/PSES facility would not violate any water quality standards or waste discharge requirements. During operations of the BESS/PSES facility, wastewater discharge would be expected to be minimal amounts of stormwater runoff generated during precipitation events. Given the nearly flat topography of the project lease area, and the minor amounts of impervious surfaces that the proposed BESS/PSES facility would create, precipitation would be expected to infiltrate or evaporate onsite more so than sheet flow over land and discharge offsite at substantial rates or volumes. Any runoff leaving the BESS/PSES facilities during operations would flow onto the adjoining open rangeland like previous historical storm events. Lithium-ion batteries would be fully contained within the storage enclosures, and battery fluids or substances would not be susceptible to spills or release as runoff. If the BESS facility did have a spill it would be contained within the battery storage containers. Operation of the proposed BESS facility would not be expected to violate

any water quality standards or waste discharge requirements. The proposed Sunseeker Solar Project would have less than significant impacts on water quality standards and discharge requirements.

Spills associated with construction equipment, such as oil/fluid drips or gasoline/diesel spills during fueling, typically involve small volumes that can be effectively contained in the work area and cleaned up immediately. Other spills of fuels and lubricants from construction equipment would have a very low potential to occur and enter surface water, including during the rainy season, due to implementation of BMPs in the project specific SWPPP and assuming the following are included in the SWPPP:

- Equipment shall be inspected regularly (daily) during construction, and any leaks found shall be repaired immediately.
- Refueling of vehicles and equipment shall be in a designated, contained area.
- Drip pans shall be used under stationary equipment (e.g., diesel fuel generators), during refueling, and when equipment is maintained.
- Drip pans that are in use shall be covered during rainfall to prevent washout of pollutants; and
- Monitoring to verify that the BMPs are implemented and kept in good working order.

Construction activities associated with the proposed BESS/PSES project would not result in discharges that create pollution, contamination, or nuisance, or cause regulatory standards to be violated. Therefore, construction activities would have less than significant impacts on water quality.

3.3 AIR QUALITY AND CLIMATE

This section describes the impacts of the proposed Sunseeker Solar Project on local and regional air quality. The primary factors that determine the air quality are the locations of air pollution sources, the type and magnitude of emissions, and the local meteorological conditions. The Federal Clean Air Act (CAA) and subsequent amendments have provided the authority and framework for USEPA regulation of air emission sources. As an enforcement tool, the CAA established National Ambient Air Quality Standards (NAAQS), which have historically applied to six criteria pollutants-sulfur dioxide (S02), carbon monoxide (CO), nitrogen dioxide (N02), particulate matter equal to or less than 10 microns in diameter (PM10), ozone (03), and lead (Pb) (see *Table 4: National Ambient Air Quality Standards*)

Table 4. National Ambient Air Quality Standards

Air Pollutant	Primary/ Secondary	Averaging Time	Units	NAAQS	Attainment Status
Ozone	both	8-hour	ppm	0.070	Unclassifiable/Attainment
Carbon monoxide (CO)	primary primary	8-hour 1-hour	ppm ppm	9 35	Attainment Attainment
Nitrogen dioxide (NO_2)	primary both	1-hour Annual	ppb ppb	100 53	Unclassifiable/Attainment
Sulfur dioxide (SO_2)	primary secondary	1-hour 3-hour	ppb ppm	75 .5	Unclassifiable/Attainment
Fine particulate matter ($PM_{2.5}$)	primary secondary both	Annual Annual 24-hour	µg/m^3 µg/m^3 µg/m^3	12 15 35	Unclassifiable/Attainment Unclassifiable/Attainment Unclassifiable/Attainment
Respirable particulate matter (PM_{10})	both	24-hour	µg/m^3	150	Attainment
Lead (Pb)	both	3-month	µg/m^3	0.15	Unclassifiable/Attainment

Source: EPA 2024

Geographic areas are designated as attainment, non-attainment, or unclassified for each of the six criteria pollutants with respect to the NAAQS. Currently, Washoe County meets all NAAQS (Federal Register Vol. 80, No. 235, December 8, 2015).

Currently there are no emission limits for so-called greenhouse gases (GHG), and no technically defensible methodology for predicting potential climate changes from GHG emissions. However, there are, and will continue to be, several efforts to address GHG emissions. Ongoing scientific research has identified the potential impacts on the global climate of anthropogenic (manmade) GHG emissions and changes in biological carbon sequestration due to land management activities. Through complex interactions on a regional and global scale, these GHG emissions and net losses of biological carbon sinks cause a net warming effect on the atmosphere, primarily by decreasing the amount of heat energy radiated by the earth back to space. Although GHG levels have varied for millennia, recent industrialization and burning of fossil carbon sources have caused carbon dioxide concentrations to increase dramatically and are likely to contribute to overall global climatic changes. Although it is expected that the proposed project would lead to a reduction in regional GHG emissions by offsetting traditional energy production systems, the net reduction in GHG emissions has not been quantified in the present assessment due to the lack of an applicable regulatory framework to guide such an analysis.

Sources of odor and air contaminants associated with a typical project consist of construction-related emissions (i.e., particulate matter from surface disturbance activities, such as grading and site preparation, and other short-term emissions from fuel combustion in equipment, including semi-trucks, trenchers, pavers, backhoes, and other construction equipment) and operational emissions (emissions produced in the course of operation after implementation of the completed project). Dust and fumes from increased traffic associated with construction can also reduce air quality. Presence of contaminants does not constitute an environmental or health risk unless minimum established thresholds are exceeded. However, because the proposed project is a renewable energy facility designed to be operated from off site, any emissions associated with operation and maintenance will be

minor and sporadic in nature. Therefore, the bulk of the analysis has been dedicated to the construction phase of the proposed Project.

3.3.1 Existing Setting

The Project area and surrounding region is located near a dry lakebed in the Honey Lake Valley, surrounded by desert mountain terrain. Washoe County maintains an arid climate year-round, with average temperatures ranging from a high of 95 degrees in July to a low of 42 degrees in December (The Weather Channel, 2024). Elevation in the vicinity of the Project area is approximately 4,000 feet above mean sea level (MSL), the highest elevations in the area included peaks of more than 7,000 feet above MSL in the Fort Sage Mountain Range. The elevation of the mountain ranges surrounding the Honey Lake Valley creates existing discernible air quality effects in the valley as the mountain ranges keep pollutants within the valley.

3.3.2 Environmental Consequences

Air emissions associated with the Project would occur primarily during construction and would be chiefly associated with fugitive dust during construction from ground disturbing activities include site preparation, pad construction and installation of the gen-tie line, as well as proportionally smaller amounts of emissions associated with engine exhaust from construction equipment and the transportation of goods and construction workers. Once the facility is operational relatively small contributions to air emissions would be generated from on-road travel of vehicles associated with worker commutes for maintenance activities and the potential limited use of an emergency diesel generator for the HVAC system in the event of a power outage.

Construction of the proposed Sunseeker Solar project is anticipated to begin in the second quarter of 2025 and would be completed by the third quarter of 2025 with the overall construction period, including commissioning and testing expected to last approximately 7 months (depending on outside factors). The construction phase consists of pre-construction Best Management Practices (BMPs) site preparation, including stormwater runoff containment systems; clearing driveway and foundation areas of existing vegetation, gravel,

etc.; compaction and the addition of gravel to driveway surface as needed; pour-in-place concrete footing and pad foundation installation; installation of subterranean conduit banks; delivery and placement of the battery enclosure to prepared foundation; installation of PCS, PDS, photovoltaic panels, and pad-mounted transformers; running conduit to existing utility poles; installation of safety features and security lighting; cleanup and demobilization. The system components are prefabricated. No onsite coating applications are needed for this equipment. Construction activities for the project would generate temporary air pollutant emissions and fugitive dust emissions (PM10 and PM2.5) from construction equipment used in activities such as minimal site preparation, portable engines, on-site heavy-duty construction vehicles, laying of foundations, and motor vehicles transporting construction workers. Exhaust emissions from construction activities would vary daily as construction activity levels change.

Fugitive particulate matter emissions (PM10, PM2.5) are the greatest pollutants of concern for a project's construction emissions as well as short-term increases in CO and NOx emissions associated with vehicle trips and construction equipment. However, the project site is not subject to any quantified thresholds for mobile sources as the region has been shown to be in attainment for all criteria pollutants. Despite this fact, BMPs would help to reduce any temporary issue of fugitive dust emissions from the proposed Sunseeker Solar project's construction activity. During operations, criteria pollutant emissions would be limited to those associated with vehicle traffic to and around the facility to perform maintenance on the solar arrays and battery systems.

Emissions during construction would be temporary and, based on comparison of analysis of similar projects in Nevada, would be less than de minimis and would result in no long-term impact on the existing ambient air quality. Similarly, operational emissions would be sporadic and limited in nature and are anticipated to constitute de minimis conditions with no potential to significantly impact regional air quality.

3.3.3 Mitigation Measures

The construction of the Project would temporarily cause fugitive dust related to grading and other construction activities. To comply with Washoe County dust control requirements, water would be used to control dust. Areas of higher erosion or poor soils may require application of a palliative dust reducing agent. The Project would implement the following BMPs for fugitive dust and wind erosion control:

- Minimize grading and vegetation removal, and limit surface disturbance during construction to the time just before PV module support structure installation.
- Limit vehicular speeds on non-paved roads (Washoe County ordinance speed limit is 25 mph.
- Apply water and/or palliatives (as allowed) to disturbed soil areas of the Project site to control dust and maintain optimum moisture levels for compaction, as needed.
- Apply the water using water trucks. Minimize water application rates, as necessary, to prevent runoff and ponding.
- During windy conditions (forecast or actual wind conditions of approximately 25 mph or greater), apply dust control measures to haul roads to adequately control wind erosion. Cover exposed stockpiled material areas, as necessary.
- Suspend excavation and grading during periods of high winds if substantial dust is generated by these activities.
- Cover all trucks hauling soil and other loose material or maintain at least 2 feet of freeboard.
- Gravel or other similar material would be used where dirt access roads intersect the paved roadways to prevent mud and dirt track-out. All paved roads would be kept clean of objectionable amounts of mud, dirt, or debris, as necessary, to prevent dust and particulates from being reintroduced (re-entrained) into the atmosphere.

3.4 BIOLOGICAL RESOURCES

The term "*biological resources*" refers to the flora and fauna found in the project lease area and the gen-tie line corridor (Rainbow Way Private Utility Easement). The two categories "*vegetation*" (plants) and "*wildlife*" (animals) each have feature the subcategory "*special status species*", which refers to biological resources that have been designated for protection under applicable legislation (Endangered Species Act or the Nevada Administrative Codes NAC.501 and NAC.503).

UES prepared a Biological Assessment in September 2023 to determine to what extent the proposed action may affect any of the federally threatened, endangered, proposed, candidate, or special-status species, critical habitat, or other species protected by the federal, state, or local plans and regulations that may occur in the project lease area and along the proposed gen-tie route corridor (Rainbow Way). This section summarizes the findings of the Biological Assessment and Special Status Plant Surveys, which has been provided in its entirety as Appendix B, by describing the biological resources in the area, the impacts of the proposed Project on these resources, and the any BMPs/mitigation measures that would be necessary to reduce these impacts.

3.4.1 Existing Setting

The following subsections describe existing conditions for vegetation, wildlife, and special status species in the Project area.

Vegetation

Plant communities and habitat types were mapped on the Sunseeker Solar project lease area as well as the Gen-Tie Line corridor of Rainbow Way easement along with a focused survey for special-status plant species (included in the Biological Assessment). Qualified botanists performed the presence/absence surveys and habitat type groundtruthing on July 19 and July 25-26 of 2023. The surveys were conducted during the month of July and consisted of sixteen (7) person days of surveys, or approximately seventy (70) person hours. Surveys were conducted within the blooming periods for special status species determined to have potential to occur within the action area. Surveys were floristic

in nature. The species observed in these studies can be seen in *Table 5: Plants Observed in the Project Action Area*. No special status plant species were observed within the action area.

Table 5. Plants Observed in the Project Area

Habitat Type	Scientific Name (Common Name)	Special Status
Intermountain Basins Greaswood Flat (IBGF)		
IBGF	*Atriplex confertifolia* (Shadscale)	No
IBGF	*Bromus tectorum* (Cheatgrass)	No
IBGF	*Ceratocephala testiculata* (Bur buttercup)	No
IBGF	*Distichlis spicata* (Saltgrass)	No
IBGF	*Elymus elymoides* (Squirreltail)	No
IBGF	*Grayia spinosa* (Hopsage)	No
IBGF	*Halogeton glomeratus* (Halogeton)	No
IBGF	*Krascheninnikovia lanata* (Winterfat)	No
IBGF	*Lepidium perfoliatum* (Clasping Pepperweed)	No
IBGF	*Neokochia americana* (Green Molly)	No
IBGF	*Sarcobatus vermiculatus* (Greasewood)	No
IBGF	*Sisymbrium altissimum* (Tumble Mustard)	No
Intermountain Basins Mixed Salt Desert Scrub (IBMSDS)		
IBMSDS	*Argemone munita* (Flatbud Pricklypoppy)	No
IBMSDS	*Artemisia tridentata* (Sagebrush)	No
IBMSDS	*Atriplex confertifolius* (Shadscale)	No
IBMSDS	*Bromus tectorum* (Cheatgrass)	No
IBMSDS	*Distichlis spicata* (Saltgrass)	No
IBMSDS	*Elymus cinereus* (Great Basin Wildrye)	No
IBMSDS	*Ericameria nauseosa* (Rubber Rabbitbrush)	No
IBMSDS	*Grayia spinosa* (Hopsage)	No
IBMSDS	*Halogeton glomeratus* (Halogeton)	No
IBMSDS	*Lepidium perfoliatum* (Clasping Pepperweed)	No
IBMSDS	*Matricaria descoidea* (Disc Mayweed)	No

IBMSDS	*Neokochia americana* (Green Molly)	No
IBMSDS	*Onopordum acanthium* (Scotch Thistle)	No
IBMSDS	*Prunus andersonii* (Desert Peach)	No
IBMSDS	*Sarcobatus vermiculatus* (Black Greasewood)	No
IBMSDS	*Sisymbrium altissimum* (Tumble Mustard)	No
IBMSDS	*Tetradymia glabrata* (Littleleaf Horsebrush)	No
IBMSDS	*Tragopogon dubius* (Salsify)	No
Invasive Annual and Biannual Forbland (IABF)		
IABF	*Bromus tectorum* (Cheatgrass)	No
IABF	*Elymus cinereus* (Great Basin Wildrye)	No
IABF	*Lepidium perfoliatum* (Clasping Pepperweed)	No
IABF	*Madia sp.* (Unknown Madia)	No
IABF	*Amsinckia tessellate* (Bristly Fiddleneck)	No
IABF	*Argemone munita* (Flatbud Pricklypoppy)	No
IABF	*Iva axillaris* (Poverty Weed)	No
IABF	*Erodium cicutarium* (Redstem Storksbill)	No
IABF	*Prunus andersonii* (Desert Peach)	No
IABF	*Salsola tragus* (Russian Thistle)	No
IABF	*Onopordum acanthium* (Scotch Thistle)	No
IABF	*Ericameria nauseosa* (Rubber Rabbitbrush)	No
IABF	*Verbascum Thapsus* (Wolly Mullein)	No
IABF	*Sisymbrium altissimum* (Tumble Mustard)	No
IABF	*Eriogonum baileyi* (Baliley's Buckwheat)	No
IABF	*Halogeton glomeratus* (Halogeton)	No
IABF	*Nicotiana attenuata* (Coyote Tobacco)	No
IABF	*Pleiacanthus spinosus* (Thorn Skeletonweed)	No

Wildlife

Special-status species lists from the USFWS (USFWS 2023), Nevada Division of Natural Heritage Program (NDNH), and Nevada Department of Wildlife (NDOW) were referenced to compile a master list of special-status and sensitive species that could potentially occur in the project action area. Special-status species that were considered include all federally

listed threatened and endangered species, candidates for listing, species proposed for listing, species delisted within the last five years, species of concern. A special-status species was considered a potential inhabitant of the project action area if its known geographical distribution overlapped with the project area and its general habitat requirements (e.g., roosting, nesting, or foraging habitat; specific soil type; permanent water source) were present. A list of special-status species with the potential to occur was compiled along with their listing status represented in Table 6.

Table 6. Wildlife with Potential to Occur in Project Action Area

Scientific Name	Common Name	Nevada Protected Species
Pseudocopaeodes eunus obscurus	Carson wandering skipper	No
Danaus plexippus	Monarch butterfly	No
Aquila chrysaetos	Golden eagle	Nevada Wildlife Action Plan (WAP) Species of Concern (SOC)
Odocoileus hemionus	Mule deer	Protected Game Species
Antilocapra americana	Pronghorn antelope	Protected Game Species
Ovis canadensis spp.	Bighorn sheep	Protected Game Species
Centrocercus urophasianus	Greater sage-grouse	Protected Game Species
Athene cunicularia	Burrowing owl	WAP SOC

Migratory Birds

The Migratory Bird Treaty Act (MBTA) implements international treaties devised to protect migratory birds and any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The

regulations governing migratory bird permits are in *50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits*.

As discussed above, migratory birds that have the potential to occur in the project area are the Golden Eagle, Greater Sage-Grouse, and Burrowing Owl. Although the property does not feature ideal nesting, breeding, or foraging habitats for the identified species, the project action area may contain potential breeding and foraging habitat for additional migratory bird species not observed on or around the project lease area at the time of site reconnaissance.

3.4.2 Environmental Consequences

This section describes potential consequences to Biological Resources that may result from construction of the proposed Project. These include both temporary and permanent impacts which can be either direct or indirect consequences of the development of the proposed Project.

Vegetation

Construction of Sunseeker Solar BESS/PSES and components of the project will require temporary disturbance of an approximate 635 acres or 50% of the project lease areas to install pilings. No grading and a low impact construction method will be implemented for 99% of the project lease areas. Maintenance of Rainbow Way and installation of the power poles within the Rainbow Way PUE will require temporary disturbance to an approximate 40-foot-wide PUE. In certain areas, the PUE may be narrowed to avoid impacts to sensitive habitats and special-status species. In other areas, additional workspace needs may require that the PUE be expanded temporarily beyond the 40-foot widths.

Wildlife

Construction related consequences may include loss of foraging and/or nesting habitat, decreased habitat value, disturbance of nesting sites, or habitat fragmentation. However, the majority of these impacts will be temporary, as SBS plans to restore all disturbed habitats within the project lease area following construction. Permanent impacts that may result from project construction are only anticipated where project improvements

(electrical substation, battery energy storage system, access/maintenance roads, and fencing) will permanently alter existing habitat.

Special Status Wildlife Species

Migratory birds represent the category of special status species to have the highest potential of impact by the development of the proposed Project. Specifically, the Golden Eagle, Greater sage-grouse, and Burrowing Owl. However, the Alkali Desert Scrub (ASC) and Alkali Basins/Flat/Playas (ABFP) habitats which comprise the vast majority of the project lease area are not considered prime habitat for these species. BMPs and mitigation measures have been adopted to ensure that other migratory birds will not be adversely impacted by the development of the Project.

3.4.3 Mitigation Measures

The following subsections discuss mitigation measures for vegetation and wildlife in the Project area.

Vegetation

The following BMPs/mitigation measures would be implemented to reduce construction impacts on vegetation and wildlife habitat:

- SBS or the Construction Contractor will mark the boundaries of environmentally sensitive exclusion zones and sensitive habitat features that are to be avoided before and during construction with highly visible flagging or fencing to prevent impacts from vehicles. All construction personnel will be required to conduct work activities within the defined area only.
- The Construction Contractor will only remove vegetation within the approved work area. Low impact construction will be adhered to minimize removal of vegetation and restrict grading.
- The Construction Contractor will confine all heavy equipment, vehicles, and construction work to approved roads and work areas.

Wildlife

The following BMPs/mitigation measures would aid in preserving wildlife habitat:

- Detailed construction maps showing location of sensitive environmental resources, construction sites and related features, environmental protection measures, and access routes will be provided to construction supervisors, and will be available to the construction crew members and environmental monitors prior to during construction activities.
- SBS or Construction Contractor will ensure that all construction personnel are instructed to visually check for wildlife beneath vehicles and equipment before moving or operating them.
- At the conclusion of each day's trenching or excavating activities, the end of the trench will be ramped at an approximate 2 to1 slope to allow any wildlife that enters the trench to escape.
- In accordance with the FESA, Nevada Revised Statues, and Nevada Administrative Code, SBS or the Construction Contractor will retain a qualified biological monitor to inspect any construction activity in habitat that is to be avoided or preserved to ensure that no unauthorized or unnecessary take of listed species or destruction of their habitat occurs.
- The Construction Contractor will install and maintain appropriate temporary erosion and sediment control measures until revegetation is successful as defined by the success criteria to be outlined in the Restoration and Monitoring Plan.
- The Construction Contractor will properly contain and remove all trash and waste items generated by construction or crew activities.

Special Status Wildlife Species

The following BMPs and mitigation measures would be implemented to reduce effects on the migratory birds:

- Because construction will take place during the breeding and nesting season of avian species in the action area (typically February 1 through August 31), the contactor will conduct nesting bird surveys prior to construction for avian species with potential to occur on-site, or where accessible, in areas adjacent to construction. Where nesting migratory bird are found in or near the action areas, the birds and their nests will be

evaluated by a qualified biologist. If nest disturbance is anticipated, the biologist will ensure adequate mitigation measures are implemented.

- In accordance with the MBTA, if an active nest is observed in the action area during construction, the contractor will stop work within the appropriate buffer for the species and contact the biological monitor immediately. Nest disturbance is dependent on a number of site-specific and activity-specific factors, including the sensitivity of the species, proximity to work activity, amount of noise or frequency of the work activity, and intervening topography, vegetation, structures, etc. Additional mitigation may be required to minimize disturbance of detected nesting activity, such as allowing nesting activity to conclude before continuing construction in an area, restricting certain types of construction practices/activities, creating screening devices to shield nest sites from construction activity, and establishing buffer areas around active nest sites. For inactive nests, measures could include removal and/or handling of nest materials, which will be conducted under the supervision of a qualified biologist.

3.5 CULTURAL RESOURCES

This section summarizes the findings of a Cultural Survey completed by Mesa Field Services (*Nevada Antiquities Permit No. 606 & Nevada Bureau of Land Management No. N-90108*) for the project lease area and gen-tie route (*Rainbow Way*) (See: *Appendix C – Class III Cultural Inventory*) and discusses the potential impacts of the proposed Sun Seek Solar Project on any cultural resources in the area. BPMs and any appropriate mitigation measures necessary to limit such impacts are also discussed.

3.5.1 Existing Setting

The archaeological inventory includes the project area consisting of the project lease area and the adjoining gen-tie corridor, in a series of continuous blocks, between one to three miles east of the border with California in an unincorporated area of Washoe County, Nevada. The project lease area can be found in Honey Lake Valley on the Flanigan, NV-CA, 7.5-minute USGS quadrangle map within portions of Sections 3, 4, 9, and 10 of Township 26 North, Range 18 East and Section 33 of Township 27 North, Range 18 East. The Area of Potential Effect (APE) is on private lands with the archaeological inventory to be completed in fulfillment of Section 106 for the Utilities Environmental Protection Act (UEPA) administered by the Public Utilities Commission of Nevada (PUCN). The direct APE is the footprint of all new ground disturbances occurring from project activities including material staging/prepping areas and vehicle access points. Access to the project area is along Rainbow Way, a mostly unimproved two track road depression extending along its ROW which will be improved to an all weather gravel surface by the Project. Access to Rainbow Way is from Fish Springs Road a county improved all weather road. Although the proposed ground disturbance is not to exceed 1,140 acres the disturbance may occur anywhere within the project lease area and Gen-tie corridor. Therefore, the direct APE is defined as the entire project lease area plus a 60-foot-wide impact area along Rainbow Way right-of-way for the placement of a 345-kV Gen-Tie line.

Historic Context

To properly evaluate cultural resources within the APE, a relevant regional cultural overview is needed to provide specific data for evaluating their eligibility to the NRHP (Hardesty and Little 2009). The APE is located in eastern Honey Lake basin. Below is a brief

outline of the prehistoric, ethnohistoric, and historic periods most relevant to the current APE.

Prehistory

There is archaeological evidence to suggest people have occupied the Great Basin for at least 13,000 years. Great Basin prehistory is divided into a series of sub-areas that represent concentrations of research characterized by differences in artifact inventories and adaptations to local environments (Jennings 1986:114). The project area can be found within the western Great Basin, which includes the eastern front of the Sierra Nevada range in California and most of the State of Nevada. The western Great Basin can be further divided into three sub-regions defined by differences in ecology and cultural history including the central sub-region, the Lohontan Basin, and the Eastern Slopes of the Sierras. The project area can be found within the Lohontan Basin at the eastern end of Honey Lake Valley.

Much of the regions earlier research and local phase sequences for Northwestern Nevada, including projectile point chronology, was first delineated by Layton (1970). Layton devised his sequence from the comparisons of artifacts from a few key sites within the High Rock Country (HRC) including Hanging Rock Shelter (26-WA-1502), Silent Snake Springs (26-HU-201), the Lake Parman Localities, Last Supper Cave (26-HU-102), the Calico Site Surface Collection (26-HU-46), and other surface assemblages in the area. The following sequence incorporates regional studies of projectile points for the region including an obsidian hydration record obtained from Hanging Rock Shelter and Last Supper Cave (Layton 1985) as a more recent compilation of regional typology as it corresponds to Great Basin wide sequence (Oetting 1994; Justice 2002; Hockett et al 2008; Beck and Jones 2008). The following prehistoric sequence reveals a changing adaptive strategy defined by five periods: Pre-Archaic, the Early, Middle and Late Archaic, and the Proto-Historic/Historic periods.

Pre-Archaic (13,100 to 7,700 B.P.)

The period when people first arrived in the Great Basin is referred to as the Pre-Archaic, Paleoarchaic, or Paleoindian (13,100-8,300 B.P.) which roughly corresponds to the

Terminal Pleistocene Early Holocene transition (Beck and Jones 1997; Haynes 2002). In northwestern Nevada this period encompasses Layton's (1970) Earliest Times including the Parman phase and early part of the Calico phase. During the transition to the Early Holocene effective moisture remained high. Biota was much different than today; many of the region's valleys are believed to have been very productive, though complete desertification of the region is not thought to have occurred until near the time of a series of large Mount Mazama eruptions (around 8,000 to 7,700 cal. B.P.). After which the region experienced the most severe warm and dry period of the Holocene.

The Parman Phase (12,700-8,300 B.P.)

Layton (1970) defined the Parman phase as a period in which populations lived at or near the margins of pluvial lakes and were heavily dependent on marsh and lacustrine resources for their subsistence economies. Lake Lahontan was a dominant fixture on the landscape during the Younger Dryas 12,900 to 11,470 B.P. (Adams et al. 2008) or earlier part of the Parman phase and populations inhabited the margins of Lake Lahontan and other pluvial lakes in the region (Adams et al. 2008). The earliest widespread evidence of occupation in the Lahontan Basin comes from textiles and human remains such as the Spirit Cave Mummy dating to the Early Holocene, 11,420–10,200 B.P. (Adams et al. 2008:619).

Great Basin Stemmed points have been well documented in stratigraphic settings at rock shelters throughout the Great Basin and their use dates between 12,700 and 8,500 B.P. (Hockett et al. 2008). The points occur in a wide variety of shapes and outlines that have been given a range of different point type names collectively referred to as the Great Basin Stemmed series (Layton and Davis 1978:6-2; Justice 2002:85). The Pre-Archaic tool kit is dominated by Cougar Mountain and Parman variety points, which are coterminous with the Lake Mohave and Silver Lake types identified for the southwestern Great Basin (Layton 1970:307, 313). Unfluted concave base points (Black Rock Concave Base points), and crescents occur less frequently than Great Basin Stemmed points during the Parman phase (Layton 1970; Layton and Davis 1978; Beck and Jones 1997, 2010; Jones et al. 2003). Projectile points of this period typically have heavily edge ground tongue shaped stems. Many are characterized by transverse flaking. Reduction strategies for this period are

defined by biface production and the use of gravers, scrapers, burins and unique crescent shaped bifaces. Groundstone and milling technology are generally absent in northwestern Nevada during this phase. Towards the end of the Parman phase, Parman variety transition from edge ground, tongue shaped stems to square shaped stems lacking edge grinding (Layton 1970:313).

The Calico Phase (8,300-7,700 B.P.)

This period has been identified by Layton as a transition between the Pre-Archaic and Archaic were there are elements of both traditions apparent at occupations. Modern chronologies for the area outlined by LaValley (2013) and Adams et al. (2008) identify the end of the Pre-Archaic and beginning of the Early Archaic at 8,300 B.P. The Calico phase is marked by a broadening of subsistence strategies and increased reliance on upland resources congruent with a rise in temperature and the drying of reliable water sources during the early Holocene (Layton 1970:313-316; Beck and Jones 2008). Groundstone and milling technology first appear in northwestern Nevada during this period. Projectile points dating to this period include the Humboldt Concave Base and potentially Northern Side-notched varieties. According to Layton's (1985) obsidian hydration study of Hanging Rock Shelter and Last Supper Cave, the initial use of Humboldt series points briefly overlaps with Great Basin Stemmed points during the latter part of the Pre-Archaic. Humboldt Concave Base and Northern Side-notched varieties persist to the Middle Holocene. Assemblages from this transition may also include low numbers of Northern Side-notched points, Elko and Gatecliff Split Stem (Oetting 1994:55).

The period ends with the drying of pluvial lakes in the region and with a series of massive eruptions over a one-to-two-hundred-year period attributed to Mount Mazama. This marks the end of the Pluvial Lakes Tradition and transition to the desert culture lifeway characteristic of the Archaic. The archaeological record indicates a significant reduction in land use of the area following the eruption. By the Early Archaic there is marked difference or significant shift in material culture and land use strategies over the pre-Archaic.

Early Archaic (7,700 B.P. to 4,500 B.P.)

The Early Archaic encompassed the end of the Early Holocene and all of the Middle Holocene which, as previously discussed, was a time of dramatic climatic shifts across the Great Basin which climaxed with an extended period of warm temperatures and decreased precipitation (Beck and Jones 2008; LaValley 2013:9-11). When the Mount Mazama series of eruptions ending by 7,700 B.P. lakes were drying out during an extended period of warm temperatures and decreased precipitation termed the Altithermal Maximum (Layton 1970:316). There are few archaeological sites identified in the Great Basin dating to the Early Archaic. The area may have been temporally abandoned with people eventually returning in growing numbers. Residential mobility decreased for this period compared to the Paleoarchaic.

Subsistence strategies continued to broaden during this period and seed grinding technology is evident with the regular appearance of milling stones in the archaeological record. The faunal assemblage for the period contains mountain sheep and artiodactyls. Great Basin Stemmed Points disappear altogether during this period and are replaced by notched points (Beck and Jones 2008:46). Projectile points dating to this period include Northern Side-notch, Humboldt Concave Base, Gatecliff, and Elko series. The appearance of Elko points occurs significantly earlier for the Northern and Eastern Great Basin. One of the oldest radiocarbon assays for an Elko point in northwestern Nevada was obtained from sinew still attached to the point recovered from Elephant Butte Cave north of Pyramid Lake, 7785 to 7669 cal. B.P. (Smith et al. 2013). The use of Northern Side-notched points is believed to be restricted to the Early Archaic and considered a distinct temporal marker for this period.

Middle Archaic (4,500 to 1,500 B.P.)

This period saw a significant increase in reoccupation of the area as the climate became considerably cooler and wetter and populations were higher than they were before (Layton 1970; LaValley 2013:11). Elko series projectile points are the most common point type recovered in the area for this period which Layton (1970:321) interprets as the "…most

intense period of human occupation of the entire prehistoric period." During this time, the faunal assemblage contains an increase in leporid and sciurid faunal remains. Dominant projectile point forms for this period include the Elko series, more common in the first half of the Middle Archaic. Oetting (1994:56) suggests the early half of the Middle Archaic assemblages include significant proportions of Gatecliff Split Stem points with these forms gradually phased out toward the end of the Middle Archaic.

Source provenance studies of projectile points from Paiute Creek Shelter (Smith et al. 2013) reveals a preference for the use of local obsidian for the manufacture of projectile points for the Middle Archaic with a shift during the Late Archaic to the preference for non-local obsidian and a significant increase in the use of chert materials. With the introduction in the use of the bow and arrow a few Rosegate series specimens appear late in this phase. Drought conditions and abandonment of sites punctuate the end of this phase. Intermittent drought periods are seen until circa 700 B.P.

A significant archaeological resource attributed to this period near the APE include the Karlo site, north of Honey Lake Valley. The site includes houses defined by post hole patterns 3 meters in diameter with cremations and pit burials dating to 1,600 B.P. Located a few miles south of the APE in the Fort Sage Mountains is the Fort Sage Drift Fence (26Wa3030/CrNv-03-2496) comprised of five separate rock alignments spanning nearly 1800 meters with its use dating between 3700 and 1000 cal. B.P. (Pendleton and Thomas 1983:7; Young and Hildebrandt 2017).

Late Archaic (1,500 B.P. to A.D. 1843)

Population densities reached their highest during the Late Archaic with the spread of Numic speaking groups of Northern Paiute, or Numic Expansion (Layton 1970; LaValley 2013). According to Bettinger and Baumhoff (1982), Madsen and Rhode (1994) and others Numic-speaking hunter-gatherer groups moved across the Great Basin from the southwest replacing or intermixing with existing populations. Desert Side-notched and Cottonwood projectile points are thought to represent the arrival of Numic Speakers across the Great Basin. The Northern Paiute are known to have used these points historically. The Archaic

Period ends about the time of the appearance of John C. Fremont in the region in 1843. The early part of the Late Archaic is defined by the use of both Elko and Rosegate Series points with the latter part of the period being dominated by Cottonwood or triangular forms.

Proto-Historic/Historic

This period encompasses the termination of aboriginal hunting and gathering lifeways and the influx of Euro-Americans during the 1849 Gold Rush. The period lasts 77 years, and in that time, the ever-increasing number of Euro-American settlers resulted in numerous territory and resource conflicts. Fairfield (1966:13) refers to the Washoe being present along the south side of Honey Lake Valley with Paiutes located in the rest of the valley. As settlement increased in Honey Lake Valley in the late 1850s conflicts between the settlers and Native groups living in the basin arose (Fairfield 1966:15-16). These incidents typically involved disagreements over property ownership, retaliation by one group over a dispute, and counterretaliation by the opposite group.

Contact between native groups and Euro-Americans in the mid-1800s resulted in several violent interactions including the Pyramid Lake War of 1860, Owens Valley Indian War from 1861 to 1864, and the Snake War from 1864 to 1868. In Honey Lake Valley in 1857, there was the brief "Potato War," between settlers and the Washoe after a group of hungry Washoe took a number of potatoes from the Morehead Ranch (Cerveri 1968). In 1856 Captain William Weatherlow acting on behalf of the settlers of Honey Lake Valley near the south shore of Honey Lake entered into agreement in with Winnemucca or Po-i-to (Cerveri 1968; Fairfield 1966:14). Winnemucca was in control of the Northern Paiute and based out of Pyramid Lake whose territory included the project area east of Honey Lake. The two sides had an agreement should there be any issues between the settlers and natives that the settlers should come to Winnemucca and not to take indiscriminate revenge. For the most part the treaty was observed by both sides.

ETHNO HISTORIC/ NORTHERN PAIUTE

Attempts at interpretation of the prehistoric record have often used comparisons with the Ethnographic record (Elston and Zeanah 2002). Hunter-gatherer lifeways of the

Great Basin evolved and fluctuated over the last 13,000 years in adaptive responses to climactic fluctuations. Two dominant climatic regimes define the prehistoric occupation of the Great Basin with a mesic period during the Pre-Archaic and later desert adaptation. Climatic and ethnographic correlations are believed to be more direct with the Archaic. Pre-Archaic adaptations are presumed to be less analogous to the ethnographic record due to the radical differences in climate and resource availability. Changing environmental conditions between these two significantly different periods is believed to have had a profound impact on overall hunter-gather mobility patterns (i.e. increased use of uplands, seen during the Early Archaic periods), resource procurement, and changes in subsistence strategies (i.e. Early Archaic broadening of diets). Archaic adaptations to the environmental fluctuations resulted in a strategy that enabled Archaic populations to survive the harsh conditions of the country (LaValley 2013).

The Washoe and Norther Paiute jointly used fishing and gathering sites in Honey Lake and eastward toward Pyramid Lake (d'Azevedo 1986:471). Deer Dick, "Little Paiute," or "Looks Like a Paiute" was headman of a group of Washoe that camped in Honey Lake, Sierra, and Long Valleys (d'Azevedo 1986:469). In Honey Lake Valley the Washoe and Paiute didn't live permanently on the flat valley land (Middleton 1963:30). They settled on ridges or hills and terraces above stream beds or springs where there was some degree of protection. In Honey Lake Valley food included deer, rabbits, ducks, geese, pigeons, and other birds taken by nets (Middleton 1963:30). Seeds were gathered in baskets by knocking the seeds in a basket with a stick. Fish were harpooned or taken by dip nets. Food was cooked in by stone boiling in a basket.

Northern Paiute Territory was entirely contained within the Great Basin with the core area being the Stillwater Marsh vicinity (d'Azevedo 1986:467-470; Fowler 2002:9). The Northern Paiute ranged as far north as the Oregon-Idaho border to south of Mono Lake. The territory of the Northern Paiute was environmentally diverse offering a variety of subsistence and settlement choices. Typically, Northern Paiutes were nomadic and made their living by hunting, gathering, and fishing. A range of resources were utilized from a variety of eco-zones but with a focus on wetland resources and pinyon nuts (Fowler 2002:45-

87). The Paiute lived in camps well adapted to the harsh desert environment with each sub-group or band occupying a specific territory typically located near a lake or other water source. Although the groups foraged broadly within their home districts, they often overlapped with neighboring territories (Fowler and Liljeblad 1986). The Northern Paiute lived in clusters of individual families who seasonally occupied homes or specific geographic areas with individuals permitted to move freely between the different bands or tribes.

HISTORIC BACKGROUND

The resources of the Honey Lake Valley played an important role in the early exploration and settlement of the American West. Due to its location at the crossroads between Nevada and California the area attracted the explorer John C. Fremont and later emigrants using the Applegate-Lassen Emigrant Trail on their way to Oregon and California. After the advent of the transcontinental railroad the area saw the development of cattle ranching and dry farming in the valley.

Early Exploration

In the early 1800s, the Great Basin was one of the largest expanses of the United States that remained unexplored and was the most rapidly settled (Morgan 1997:36). Exploration of northern Nevada was first accomplished by fur trappers (Hulse 2004:36-41). At the time, fur hats and coats were a popular fashion in Europe and eastern North America as Wild West items that fueled the expansion for furs into the Great Basin by British and American enterprises. The Lewis and Clarke Expedition through the Rocky Mountains to the Columbia River between 1803 and 1806 was the first transcontinental expedition in the region to detail a rich land with large rivers and plenty of beaver and other fur bearing animals. The first large scale and systematic fur trapping and trading in the region occurred during the mid-1820s (Idaho State Historical Society 1985). Peter Skene Ogden with the Snake River division of the Hudson Bay Company spent six years (1824-1831) trapping wherever he anticipated American intrusion exploring territory across the Snake River area and the northern Great Basin.

John C. Fremont, working for the Bureau of Topographical Engineers, was the first professional surveyor to enter the Great Basin. Through official government reports, he provided detailed knowledge that contributed the most to the opening of the Great Basin and expansion of the American West (Egan 1985). Fremont recorded flora, fauna, and geological data in addition to travel routes, proper season of travel, necessary supply limits to make the journey possible, etc. Fremont first passed through northwestern Nevada on his second western expedition during the years of 1843-1844 (Egan 1985:190). Although he never visited Honey Lake Valley John C. Fremont passed just to the east of the APE when he stopped in Pyramid Lake in 1846 (Middleton 1966:32).

The incursion by Euro-Americans into Northern Paiute territory had a detrimental effect on the traditional life ways of the Native Americans in the Great Basin. After Fremont established routes through the Great Basin emigrants prior to 1848 were primarily farmers passing through the area along the California Trail in low numbers on their way to the coast (Hardesty 1997:20). In 1848, both the signing of the Treaty of Hidalgo ceding northern Mexico to the United States and gold discovered at Sutter's Mill forced many more down the trail in the ensuing years. Between 1840 and 1848, 2,735 emigrants reached California over the California Trail (Hardesty 1997:20). After the discovery of gold, hysteria ensued with 60,000 people taking the overland route through the Humboldt River Basin in 1849 alone (Crum 1994:18).

As the discovery of gold in 1848 sparked a flow of westward migration, new settlers sought an alternative to the route through the treacherous Donner Pass to cross the Sierra Mountain Range. Peter Lassen first explored the area that is now Lassen County in 1850 and, in 1851, William Nobles began leading settlers over a route that ran from the Humboldt River (in the State of Nevada) to Shasta City at the northern end of the Sacramento Valley (Fairfield 1966:17-20). Nobles in a prospecting party of 8 men passed through the mountains to Honey Lake Valley in the spring of 1851. Noble so impressed with the value of the passage went to the town of Shasta, then the chief town in extreme northern California, to make known its potential economic value and divert as much emigrant traffic from the trail along the Humboldt (Fairfield 1966:17; Middleton 1966:33). Improvements were made to the

route in 1856 when Nobles obtained $300,000 in funding from Congress for its development as an improved wagon road, which became part of the Fort Kearny-South Pass-Honey Lake Wagon Road. The newly developed route superseded the Old California and Oregon Trails in the l860s as an emigrant route to the coast passing through the northern extent of Honey Lake Valley.

Of the thousands of people that passed through what is now Lassen County, some chose to remain in the Honey Lake Valley (what is now Susanville). Among those early settlers of Susanville was Isaac Roop, who established a trading post where travelers along the Nobles Emigrant Trail could stock up with provisions before crossing the Sierra Mountains. First known as Rooptown, Isaac Roop's settlement later was named Susanville for Roop's daughter, Susan. When the Territory of Nevada was established in 1861, Isaac Roop was made governor of the Territory. A few years later, surveys of the area established that Susanville was part of the State of California, and the County of Lassen was established in 1864.

Another early trail or road utilized in Honey Lake Valley was the road from Reno to Fort Bidwell, Surprise Valley, California also known as the Reno-Fort Bidwell Road. Fort Sage, just south of the APE was located 46 miles north of Reno in Washoe County, west of Pyramid Lake, on the road from Reno to Fort Bidwell, Surprise Valley, California (Ruhlen 1964). The fort was a garrison occupied in the early 1870s and located between State Line Peak and the Virginia Mountains. The route is present in the south part of Township 26 North, Range 18 East dating to 1881 (BLM 2021).

By the early 1850s, Native Americans began to sustain significant impacts to their way of life and survival as ever-increasing numbers of emigrant groups and their stock moved through the area depleting local food sources and restricting the native population from water sources. These threats caused friction between the populations, largely leading to the end of the traditional native way of life by the 1870s. By 1880, settlements had sprung up all over Honey Lake Valley. The Nevada-California-Oregon Railway which traversed the eastern side of the County was established. The railroad, sometimes referred to as the Narrow Crooked & Ornery, was a narrow-gauge line that operated from 1880 to 1927.

Logging was a large economic activity in the western Honey Lake Valley around Susanville, the eastern part of Honey Lake is lacking trees and ranching was a main activity in the immediate vicinity of the project area.

Settlement: (Moody 1985)

Settlement in Honey Lake Valley proceeded slowly in contrast to elsewhere that saw more rapid settlement. Settlement initiated south and west of Honey Lake. Issac N. Roop and others were first to settle there in 1853-54 (Purdy 1983:1). Short lived mining ventures in the Diamond Range in 1855 brought more permanent residents. Daniel C. Wheeler was the first to settle in the eastern part of the valley at the Lower Hot Springs where he and two German immigrants made a land claim and improved the property in in December of 1863. The property was sold to dairy farmers Thomas Pearson and John Sutherland in 1867. The two were from Red Rock Canyon north of Reno 20 miles. Thomas Parson and his family were killed at the location in Honey Lake on April 17, 1868, by the local Native Americans. The eastern part of the valley remained uninhabited and was mainly used for grazing livestock from Reno in the winter until 1874.

Honey lake economically has been part of the cattle and timber industry (Middleton 1963:1). The cattle industry was more dominant in the eastern part of the valley due to lack of timber. What contributed the most to the settlement of the eastern part of the valley was Charles L. Merill bill introduced in the United States Congress entitled “the Lassen County Desert Land Act” (Moody 1985:9; Purdy 1983:2). The bill allowed for the homesteading of arid lands of 640 acres approved by congress on March 8, 1875. If improved and irrigated an individual could purchase from the government at $ 1.25 per acre. Residency was not required. Originally only intended for Lassen County the bill was amended in 1877 for all arid lands of the Far West. At the height of the Golden Era of agriculture in 1911 the Eastside Development League sought to promote the area as rich farmland along east Honey Lake Valley. Some irrigation efforts were attempted in eastern part of the valley however, the lake kept drying up. Also, the results of using alkali water

from the Eagle Lake or Honey Lake has ruined the land on several ranches in Honey Lake Valley (Middleton 1963:21).

Established in 1880 the Nevada & Oregon Railroad Company was the first to construct a railroad through Honey Lake Valley (Purdy 1983:5-6). The company constructed a narrow-gauge railroad headquartered in Reno. The railroad was plagued by financial problems and sold to the Morgan Brothers at Public auction in Reno on April 17, 1884. The company was reorganized as the Nevada-California-Oregon Railway Company (NCO). At the time the line only extended 30 miles north form Reno. A fifty miles extension through the east side of Honey Lake was criticized by the local valley residents for it bypassed most of the development in the valley at the time. The reason was for the railroad could lay claim to the vast amounts of public lands uninhabited on the east side of the valley. Successive amendments to the Desert Land Act allowed for the claim of 1,120 acres prompting abuse of the act by land speculators (Purdy 1983:5-6).

Because of the abuse the Land Act was restructured to allow only 320 acres per individual in 1890. Large holding companies arose in the eastern part of the valley including the Honey Lake Reservoir & Irrigation Company, the Honey Lake Water Company, the Lassen County Land & Livestock Company, and the Lassen Development Company all obtained large tracts of land in the region (Purdy 1983:5). This created the impetus for the development of a town on the east side of the valley. The new terminus at the end of the 50 miles extension was named Heriot's Place after a former manager of the NCO but soon replaced with the name of Amedee in honor of Amedee Depau Moran part owner of the NCO. The first rain arrived in town on November 17, 1890. Being the only railroad in the region Amedee became a large shipping center servicing the Susanville area north to Lakeview, Oregon 121 miles north. The NCO built a large stockyard north of town for utilization by local ranchers for shipping livestock to Reno. The town had 300 to 400 residents at its height. When the terminus for the railroad moved 50 miles north to Madeline Plain at Termo in January of 1899 the town declined (Purdy 1983:19). The Southern Pacific Railroad was constructed across northern Honey Lake Valley to exploit the countries abundant timber resources in 1909 attracted additional settlement. The new branch line was known as the Fernley and

Lassen. The NCO lost profitability and was eventually sold to Western Pacific on June 11, 1917 (Purdy 1983:35).

Flanigan was established in 1909 with the building of the Western Pacific Railroad, Feather River Route between Oakland and Salt Lake City, Utah (Myrick 1992:318-319; Kneiss 1953:16; Moody 1985:5). The station in the extreme eastern Honey Lake Valley was named after Patrick L. Flanigan, a landowner, businessman, and state senator from Washoe County whom the Western Pacific purchased right of way in the area (Moody 1985:5). In 1913, the Southern Pacific Railroad built its Fernley & Lassen branch, with the two lines crossing at Flanigan (Moody 1985:7). A deed for Flanigan Townsite was filed on July 16, 1913 (Moody 1985:11-48). The town grew after the opening of the railroad station, with the establishment of a post office in the spring of 1914, a schoolhouse, and the establishment of a voting precinct in July. Railroad business contributed to most of the growth, with peak population of a few hundred in the 1920s, mostly Southern Pacific and Western Pacific employees. Population slowly dwindled, with only a handful of residents remaining by the 1950s. In March 1959, Southern Pacific Railroad closed the Flanigan station. By fall 1960, only one permanent resident remained.

After the abandonment of Flanigan many still owned title to the land, however, only a few ranches remained occupied in the area. Later in the 1970s, investors bought land just east of Flanigan, established dirt streets and planned to sell parcels for $200-$300 each, as a novelty to capitalize on Flanigan's Western ghost town history, intending to give parcels to celebrities like John Wayne and Clint Eastwood to draw publicity. However, the Interstate Land Sales Full Disclosure Act of 1968 requires new developments with plots sold over $100 to have basic infrastructure such as sewer and street lighting, which made the plan unprofitable, and the venture was mostly abandoned.

Two articles were printed around Memorial Day 1977 by the Reno Evening Gazette (Wednesday September 7, 1977) and the Reno Gazette Journal (Sunday Sept 11, 1977) suggests this venture wasn’t entirely abandoned. The articles detail a revitalization of the area and describes living conditions during the mid-1970s. The articles center on the creation of the “Honey Lake Valley Meeting Hall” a wheel less trailer within a fenced in area.

The meeting hall was actually a private school and called a meeting hall to get around state sanctions against unlicensed private schools. Although the local inhabitants petitioned California for a new school the local population was protesting the more than 30 miles drive to Herlong, California on bad roads with washboard and mostly muddy during winter. Sixteen families are described as inhabiting the area near Calneva and Flanigan, with some on ranches, others in lots across the valley floor.

Long time valley resident Lela Findley interviewed for the articles, had a house on the state border for 21 years prior to printing of the article printed on Sunday, September 11, 1977. Her house is described as just above the fenced in area containing the meeting hall. Lela describes herself as a supervisor of the new valley school. She used a wood stove for cooking and heating water. Oil lamps were used and generators for electricity with access to well water for the residents. She was a longtime resident of eastern Honey Lake Valley original from Herlong and recalls visiting Flanigan in the 1940s to attend town dances. Some of the other locals interviewed for the piece include Lynette Horner, Josephine Lander, and Joyce Pederson. The town hall was being built up and dedicated that Memorial Day weekend of 1977. It is part of a recent population boom in the project area starting two to three years earlier. A local Linda Wells stated more families want to move into the area but want better services. However, results from the current field investigation suggests this never happened with population in the project area continuing to decline sometime soon after the articles were printed.

According to the Washoe County Assessors Website (2021) the Phil and Lela Findley property (Washoe County Assessors Number 074-010-44) can be found under her name in the NW¼ of the NW¼ of Section 5 Range 25 North, Range 18 East. The site of the "Honey Lake Valley Meeting Hall" would have been just north of the property. Both properties are just over a mile southwest of the intersection of Rainbow Way and Fish Springs Road. A few of the properties in the project vicinity remain occupied and are being sold under the name "Pyramid Lake Ranch Estates."

Transportation

The Honey Lake Valley played an important role as a way station for many travelers utilizing the Nobles' Route of the Applegate-Lassen Emigrant Trail, which would later become the Fort Kearny-South Pass-Honey Lake Wagon Road passing through the northern extent of Honey Lake Valley (Purdy 1983:41). The United States Congress passed an act to provide for a federal road from Fort Kearney, Nebraska to the California boundary in the vicinity of Honey Lake in an effort to bypass the more treacherous and drier route through the 40 miles desert and Donner Summit. The construction of the Nevada-California-Oregon Railway and later the Southern Pacific and Western Pacific railroads were significant developments within the eastern part of Honey Lake Valley leading to the development of many small towns attributed to the construction and use of the railroads including the towns of Calneva and Flanigan nearest to the APE.

3.5.1.1 Western Pacific Railroad (S2852/D352)

The Feather River Route of the Western Pacific Railroad (Western Pacific) has the distinction of being the most recent of transcontinental built in the twentieth century (Myrick 1992:316; Kneiss 1953). The impetus for the railroad's construction is rooted in the decision of the Union Pacific Railroad, then led by E. H. Harriman, decision to close off access to the Southern Pacific to all railroads other than the Union Pacific, leaving all other railroads unable to access the Pacific Coast from Salt Lake City, thereby creating a monopoly on distribution (Kneiss 1953:6-8). This was bad news for California growers and merchants who had hoped to break the Union Pacific monopoly (Kneiss 1953:5).

Built as a standard gauge railroad the Feather River Route was the first transcontinental railroad to be constructed entirely by machine (Kneiss 1953:4). The Western Pacific extends for 924 miles between Oakland California and Salt Lake City, Utah. Formally incorporated on March 6, 1903, the Western Pacific was financed by a George Gould whose father Jay who had compiled a partially complete transcontinental railroad system terminating with the Denver & Rio Grande at Ogden, Utah (Myrich 1992:318-319; Kneiss 1953). George Gould had hoped to fill the gap between his railroad and the coast of

California. The first railroad spike was driven in Salt Lake City, Utah on May 24, 1906, with the last spike driven in on November 9, 1908, at Spanish Creek Bridge a few miles west of Quincy, California. The portion built within Nevada was mostly built by the Utah Construction Company during the summer of 1907. Regular freight along the line commenced the first of December with passenger service beginning nearly a year later in August of 1910.

Due to relatively light traffic and no branches to feed the railroad it went into receivership in 1915 emerging a year later as the Western Pacific Railroad with an emphasis on the construction of feeder lines with some 230 miles of new lines added over the next 15 years (Myrick 1992:331). The first feeder branch was the acquisition of the Northern California and Oregon Railroad to Reno, Nevada to a point just south of Herlong, California. A series of railroad stations along route in the Honey Lake Valley near the project area include Calneva just west of the APE and Flanigan at the far east end of the Western Pacific Railroad through Honey Lake Valley.

Flanigan was a company staffed railroad crossing that was first a station on the Western Pacific Railroad five miles east of the state line with California. The station was constructed in 1909 and in operation briefly before it was disconnected from the line in 1911. The station was named in honor of Patrick L. Flanigan, for his allowing passage of the railroad through his expansive ranching domain (Moody 1983:5). While freight and passenger trains of the Western Pacific Would use Flanigan Station infrequently it was the Southern Pacific Railroad that would be most influential to Flanigan Station. The construction of the Fernley and Lassen Branch of the Southern Pacific occurred in 1912 to 1913 and crossed the tracks of the Western Pacific at Flanigan Station before it headed west to Amedee (Moody 1983:8). Both railroads had a siding at the location used to "side" cars when not use or as switch.

Telegraph operator at Flanigan first with the Western Pacific Railroad in 1910 then again with the Southern Pacific in 1913 with the Railroad's signal operator doubling as a Western Union Telegrapher (Moody 1983:9). Between 1915 and 1920 the Nevada, California and Oregon Telephone and Telegraph Company (later Pacific Telephone and

Telegraph) installed a telephone line between Flanigan and Susanville, with Flanigan listed as being in California (Moody 1985:39-40). The line ran from Flanigan to Amedee along a railroad fence.

Ranching/Agriculture

A combination of factors led to development of ranching in the APE. Prior to the advent of the railroad California had been the regional center of cattle production. Western Nevada relied on California as a source of beef cattle during these early years. Due to droughts during the late 1860s California ranchers began using rangelands in northern Nevada as summer range. The advent of the railroad in 1868 allowed the beef industry to become regional in scope (Townley 1983). Cattle could be taken from the range in northern Washoe County fattened in the Truckee Meadows and shipped to the bay area for slaughter. Even comparatively remote areas such as the proposed APE were integrated into this regional marketplace.

Locally ranching began in the Honey Lake Valley and Winnemucca Lake areas during the 1850s through the 1870s. During this period many ranchers drove their herds to the central valley of California during the winter using their Nevada ranch lands only as summer pasture. Ranchers acquired land through the National Homestead Act of 1862, the Swamp and Overflow Act, or by filing preemption claims. By these means early ranchers gained access to most if not all water sources and potential pasture areas in the region thereby controlling the range. This allowed ranchers to enlarge their herds of cattle sheep and horses and to grow and cut feed. Many pinned their economic hopes for the state on agriculture (Townley 1983). Large ranching operations came into being that operated over huge acreages within Nevada and adjoining states. The Pyramid Land and Stock Company owned by Patrick Flanigan operated in the Pyramid Lake area and eastern Honey Lake Valley. Flanigan moved to Nevada in 1877 and began herding sheep in the early 1880s grazing on public domain land around Pyramid Lake. He began acquiring property in the 1890s including ranches near Gerlach Constantia in California in Winnemucca Valley and a number of others in the general area. At the height of his career Flanigan ran than 30,000 ewes 2,000 cattle and 1,800 horses in Washoe County (Moody 1985).

The sheep market boomed during the 1910s and 1920s prompting many ranchers increase the number of sheep they kept versus cattle. After the Wool Crash of 1923 the sheep industry dwindled. This trend was reinforced by several drought years the cumulative effect on vegetation of over grazing and passage of the Taylor Grazing Act. This act was intended to manage public grazing and to prevent degradation of the public domain due to overgrazing By World War II ranching was no longer a prominent industry in the project area. Beginning in 1914 Flanigan's empire began to unravel. Declining sheep prices and failed irrigation ventures eventually forced him into bankruptcy.

In the late 1800s there was an interest in reclaiming lands with 20 inches or less of annual rainfall led to a new wave of agriculturalists dry land farmers. The dry land farming movement reached full flower during the first two decades of the Twentieth Century. Many dry land farmers homesteaded in Honey Lake Valley during the 1900s and 1910s when the dry farming movement was at its height. Irrigation was proposed and attempted from Honey Lake. There was even a proposed apple plantation near Calneva (Moody 1985:12). In theory the homestead was also supposed to produce a crop of sufficient size that it could be sold. Following World War I when an agricultural depression set in that lasted throughout the 1920s dry land homesteaders suffered. They were also subject to changes in local climatic conditions. Droughts changing water tables depletion of nutrients in the soil or the accumulation of salts. Litigation over water rights, salinity, and the lake going dry in 1919 put an end to such activity and the homesteaders had largely left the area by the 1920s (Moody 1985:15).

Records Search

UES subconsultant, Mesa Field Services, performed a background literature search for the area concerning past archaeological projects and previously recorded sites in addition to an archival search of General Land Office (GLO) plats, historic topographic maps, historical indices, master title plats and federal and state patent records using the BLM Public Land Records website (Bureau of Land Management - General Land Office [BLM-GLO] 2023). A search of previous archaeological and architectural investigations, and previously recorded and evaluated properties, within one mile of the APE was performed using the Nevada

Cultural Resource Information System (NVCRIS) electronic database on October 27, 2023. In addition, the NRHP was consulted for significant properties in the project vicinity and a review of existing historic contexts related to the project area was also conducted. The Nevada Historical Society Research Division was contacted for historical records and photos of the APE and Honey Lake basin in addition to a search of the Washoe County Library. Resources were used to predict the frequency and kinds of cultural resources that would be expected as well as for defining the cultural history of the project area. The data is presented below in the following discussion concerning previous archaeological research, and field expectations.

Cultural Resources Records Search Results

The NVCRIS search revealed within one mile of the project lease area one prior archaeological inventory project, however there are three prior project completed within one mile of the APE (Table 7), and thirteen previously recorded archaeological sites (Table 8). Most of the sites within a mile are prehistoric lithic scatters and small historic artifacts scatters located west of the project area. They were recorded as part of the proposed Praana II Washoe BESS/PSES Site project (Simpson 2021). Four of the previously recorded sites are historic transportation related resources including Western Pacific Railroad (S2852) considered a part of a larger railroad district (D352), a dismantled telegraph or telephone line (26Wa12841) on the north side of S2852/D352, and two historic dirt roads (26Wa12851 and 26Wa12895) visible on the Flanigan, NV-CA, and State Line Peak NV, 7.5-minute USGS quadrangle maps dating to 1964. None of the sites are recommended eligible for listing to the NRHP. The recorded segment of the Western Pacific Railroad (S2852) is of modern construction and considered a non-contributing element to the district (D352). A search for currently listed NRHP properties did not identify any within eastern Honey Lake Valley.

Table 7. Previous archaeological inventory projects within one mile of the APE

SHPO Report Number	Title	Date & Author
N/A	A Cultural Survey for the proposed Praana II Washoe BESS/PSES Site Project, Washoe County, Nevada	2021, Simpson, S.
32482	A Class III Inventory for the US Gypsum Empire Natural Gas Pipeline, Washoe County, Nevada	1997, McNees, L.
N/A	Cultural Resources Assessment for the Calneva Battery Energy Storage System (BESS)/ Photovoltaic Solar Energy System (PSES) Project, Calneva, Lassen County, California.	2020, Spillane, Tim

Table 8. Previous recorded archaeological sites within one mile of the APE.

Trinomial 26	Temporal affiliation/ type	Description	Eligibility Status
WA12840	Prehistoric	Prehistoric	Ineligible
WA12843	Prehistoric	Lithic Scatter	Ineligible
WA12842	Multi Comp	Lithic and Can Scatter	Ineligible
WA12844	Prehistoric	Lithic Scatter with Tools	Ineligible
WA12845	Prehistoric	Lithic Scatter with Tools	Ineligible
WA12847	Prehistoric	Lithic Scatter	Ineligible
WA12846	Historic	Can Scatter	Ineligible
WA12848	Prehistoric	Lithic Scatter	Ineligible
WA12849	Prehistoric	Lithic Scatter	Ineligible
WA12841	Historic	Dismantled Telegraph Line	Ineligible
S2852	Historic	Western Pacific Railroad	Ineligible
WA12851	Historic	Two Track Road	Ineligible
WA12895	Historic	Rainbow Boulevard	Ineligible

Archival Research

A search for archival resources pertaining to the APE was conducted of historic GLO and USGS maps, and historical indices. The search revealed two GLO map dating to 1873 and 1881 for Township 26 North, Range 18 East and two historic USGS quadrangle maps dating to 1964 (Table 9). The GLO maps depict nothing within a mile of the project area. Some old roads, the railroad and telephone line are depicted northeast of the project area on the GLO

map dating to 1976 for Township 27 North, Range 18 East. The 1964 Flannigan, NV-CA and 1964 Silver Peak, NV 1:24,000-scale topographic quadrangle maps depict the railroad and an access road to its south.

Table 9. Historic Maps.

Historic Maps	Observations
1873 & 1881 GLO Maps, Township 26 North, Range 18 East	Both maps depict the same information. There is nothing in the immediate project area. Some old roads are depicted in the south half of the Township and Range, well south of project area.
1881 GLO Map, Township 27 North, Range 18 East	There is nothing in the immediate project area. Some old roads are depicted in the north half of the Township and Range, well northeast of project area.
1976 GLO Map, Township 27 North, Range 18 East	Map depicts the "Western Pacific Railroad" and Telephone line along its north side.
1964 Flannigan, NV-CA 1:24,000-scale topographic quadrangle map	There are few man made features in the project area. The route of the Western Pacific Railroad and a road that somewhat parallels it to the south.
1964 Silver Peak, NV 1:24,000-scale topographic quadrangle map	The map reveals a few roads in the project area. Rainbow Road is much shorter being about 1.5 miles in length extending from Fish Springs Road north in Sections 20, 21 28, and 29.

Archaeological Field Survey

Field reconnaissance was completed between the dates of October 28 and November 25, 2023. Mesa Field Services surveyed and performed an archaeological inventory of the 1,128-acre Sunseeker lease area and the entirety of the Rainbow Way gen-tie corridor. As a result, 21 isolates, 10 archaeological sites and one historic architectural resource was recorded. The sites include 8 new sites (26W13509 to 26Wa13516), and the update of three historic linear features including the Western Pacific Railroad (S2852/D352), a dismantled telegraph or telephone line (26Wa12841) on the north side of S2852/D352, and a dirt road (26Wa12851) visible on the Flanigan, NV, 7.5-minute USGS quadrangle map dating to 1964.

Table 10. Site Summaries and NRHP recommendations

State No. 26Wa	Description	Temporal Affiliation	NRHP Eligibility (Criteria)
12841	Disassembled Telegraph Line (in ruin)	Historic	Not eligible
12851	Two track road south of S2852/D352	Historic	Not eligible
13509	Small lithic scatter	Prehistoric	Not Eligible
13510	Fire Cracked Rock scatter with two Mano fragments.	Prehistoric	Not Eligible
13511	Small lithic scatter Black Rock Concave Base	Pre-Archaic	Not Eligible
13512	Small lithic scatter with Great Basin Stemmed series point.	Pre-Archaic	Not Eligible
13513	Small lithic scatter	Prehistoric	Not Eligible
13514	Small lithic scatter	Prehistoric	Not Eligible
13515	Small lithic scatter	Prehistoric	Not Eligible
13516	Fire Cracked Rock and Groundstone Scatter	Prehistoric	Not Eligible
S2852/D352	Western Pacific Railroad (modern construction)	Historic	Non-contributing

26Wa12841

This newly recorded historic site is a half mile recorded segment of a dismantled telephone line located on flat terrain on the north side of the Western Pacific Railroad (S2852/D352). The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The telephone line was placed immediately north and parallel to the railroad grade. It is not clear when the telephone line was built but the railroad was incorporated on March 6, 1903 and financed by a George Gould with regular freight along its route beginning on the first of December 1909 and passenger service which began in August of 1910 (Myrich 1992:318-319). Fragments occur of the hardware and insulators occasionally in the project area mainly along the north side of the present railroad grade. The site boundary is defined by the original alignment on the north side of the railroad grade (S2852/D352). A number of "HEMINGRAY" manufactured insulators were documented for a recent archaeological inventory for the

proposed Praana II Washoe BESS/PSES Site project (Simpson 2021), immediately west. No intact remains or different types of hardware were observed during this latest update.

26Wa12851

This is an update or extension to a previously recorded two-track road that extends just over one-mile identified as Washoe County Road 8283. The road extends along the south side of the Western Pacific Railroad (S2852/D352) with a loop section to the south. The recorded segment extends from about a mile east of the intersection with Rainbow Road (26Wa12895). The road appears to have been bladed in the past and has a three-foot-high berm on its sides in some places. The road does not appear to have been heavily utilized historically for there are few sites or historic artifacts along its route and it is heavily overgrown. The road is a single wide road about 8 feet in width and is depicted on the Flanigan, Nev-Cal. 7.5-min USGS quadrangle map 1964. Much of the original route is still in use. No diagnostic railroad related artifacts were found along its route. It's not clear what land use activity the road is attributed to but it most likely was used to drive between railroad stations in eastern Honey Lake Valley along the Western Pacific Railroad when it was first in use in 1909 (Kneiss 1953:16).

26WA13509

This newly recorded prehistoric site is a small lithic scatter comprised of 11 pieces of debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The assemblage is comprised of late-stage reduction flakes being less than two centimeters in length and lacking cortex. The site has at most two flakes per square meter with an average of one flake every three to five meters. The artifacts are comprised of 10 red and brown chert flakes and one translucent black obsidian tertiary flake. The debitage is typical of late stage lithic reduction. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

26WA13510

This newly recorded prehistoric site is a small fire cracked rock scatter with two mano fragments. A light scatter of approximately 10 pieces of fire cracked rock or vesicular basalt.

No debitage or other stone tools were observed, and the site boundary is defined by the extent of the fire cracked rock. All artifacts are the same material and the fire cracked rock scatter may represent a disintegrated metate. The manos have facets on both sides and are fire cracked as well. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The site lacks an association with tools or temporally diagnostic artifacts.

26WA13511

This newly recorded prehistoric site is a small artifact scatter comprised of three pieces of debitage and an obsidian Black Rock Concave Base fragment (A-1) with parallel oblique pressure flake scars. Artifacts are several meters apart. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The Black Rock Concave Base fragment would suggest a Pre-Archaic (13,100 to 7,700 B.P.) occupation for the site. No other artifacts were observed.

26WA13512

This newly recorded prehistoric site is a small lithic scatter comprised of one piece of debitage and a portion of a possible contracting stem to a Great Basin Stemmed point (A-1) about six to seven meters apart. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The Great Basin Stemmed point fragment would suggest a Pre-Archaic (13,100 to 7,700 B.P.) occupation for the site. No other artifacts were observed. No other artifacts were observed.

26WA13513

This newly recorded prehistoric site is a small lithic scatter comprised of 35 pieces of debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are mostly mid to late stage with partial to no cortex. The site has at most five flakes per square meter with an average of one flake every three to five meters. The artifacts are comprised of 33 yellow, red and brown chert flakes and two translucent black obsidian secondary flakes with partial cortex. The debitage is concentrated along a low dune ridge trending in an east

to west direction. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

26WA13514

This newly recorded prehistoric site is a small lithic scatter comprised of 20 pieces of debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex. The site has at most three flakes per square meter with an average of one flake every three to five meters. The artifacts are comprised of black, red, and brown chert colored chert and ten obsidian flakes. The debitage is typical of late stage lithic reduction with flakes lacking cortex. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

26WA13515

This newly recorded prehistoric site is a small lithic scatter comprised of 32 recorded pieces of debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex. The site has at most three flakes per square meter with an average of one flake every three to five meters. The artifacts are comprised of 12 red, brown, and black chert flakes, 14 translucent black obsidian tertiary flakes and six fine grained volcanic or basalt flakes. The debitage is typical of late stage lithic reduction with all but two flakes lacking cortex. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

26WA13516

This newly recorded prehistoric site is a small fire cracked rock scatter with one mano fragment (A-1) and fragments of three slab metates. A light scatter of approximately 10 pieces of fire cracked rock or vesicular basalt form the site boundary. No debitage or other stone tools were observed. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility.

All artifacts are the same material and the fire cracked rock scatter may represent a disintegrated parts of various groundstone tools. The mano has facets on both sides and is fire cracked as well. The slab metate fragments are formally prepared slabs with pitted or sharpened and well used surfaces. The site lacks an association with tools or temporally diagnostic artifacts.

S2852/D352

The Western Pacific Railroad, Feather River Route, between Oakland and Salt Lake City, in 1909 (Myrick 1992:318-319; Kneiss 1953:16). The portion built within Nevada was mostly built by the Utah Construction Company during the summer of 1907 and a number of stations were constructed through eastern Honey Lake basin. The current recordation is for a just over a mile-long segment one mile east of the Calneva Station (P-18-001698) on the California-Nevada Border. There was a long-distance telephone line (26Wa12841) that ran alongside and parallel to the north side of the tracks. But it has since been dismantled. The railroad grade and all materials appear to have been replaced. The grade contains ballast material mounded approximately 30 feet wide and six feet higher than surrounding ground surface. The tracks are US standard railroad gauge is 4 feet, 8.5 inches between the two rails. There are no culverts or sidings with the recorded section and the telephone line along the north side has been dismantled with only a few remaining pieces of hardware in the area. Resources with the railroad feature include modern railroad spikes and broken cast iron pieces from passing trains. No historic artifacts attributed to the railroad were identified and recorded.

3.5.2 Environmental Consequences

The proposed Sunseeker Solar Project will have the potential for an adverse impact on archaeological resources in the APE. However, none of the newly identified sites are eligible for inclusion on the NRHP so these impacts are not expected to be extensive and are considered acceptable and less than significant. Previously recorded sites include the Western Pacific Railroad corridor (within the existing railroad easement, will not be affected

by Project development) and an area of prehistoric artifact scatter along the gen-tie route will also not be affected.

3.5.3 Mitigation Measures

Despite the lack of prehistoric sites eligible to the NRHP, there is still reason to ensure the avoidance of potential disruption of artifacts. Appropriate spacing of gen-tie poles and confining construction activities to established roadways (Rainbow Way PUE) and staging areas will ensure that this is possible. Alternatively, the resources may be appropriately removed and cataloged by a professional archeologist. If potential resources are found during project construction, the shall contractor halt work immediately and a professional archaeologist mobilized to the site to evaluate the find and determine appropriate further steps and mitigation measures as necessary. If significant resources are discovered, they would be recovered and turned over to the owner of the parcel on which they were found.

3.6 LAND USE

This section analyzes the potential impacts on land use and planning that may result from the proposed Sunseeker Solar Project. Land use describes the ways in which a community utilizes land, including the applicable planning policies of the relevant jurisdiction. This includes what is built, where it is built, and includes aspects such as the ownership of land as well as the governing entities' management plans and zoning that regulate development and define types of land use. This section describes the land uses in the area and the Sunseeker Solar Project's consistency with the zoning criteria of the area.

3.6.1 Existing Setting

The proposed project lease area and the adjacent area is part of the High Desert Planning Area in Washoe County. The Project site is zoned as “General Rural” zoning classification, which according to the Washoe County Development Code (Division Three: Regulation of uses) allows for renewable energy production with a Board of Adjustment Special Use Permit, to be approved by the Washoe county Planning Commission for projects which meet the criteria for projects of regional significance, such as the proposed Sunseeker Solar Project (Washoe County, 2023). The Sunseeker Solar project would be located on vacant rangeland that has been dedicated to agricultural uses for nearly a century and is therefore considered previously disturbed despite the lack of permanent structure or other improvements typically associated with developed properties.

The Project site is located within a sparsely populated area of Washoe County approximately 43 miles North of Reno within the Honey Lake Valley. The surrounding land is primarily characterized by open rangeland zoned for agricultural uses with some portions of the Honey Lake Valley are used recreationally for off-road vehicles and other outdoors leisure activities. The Sunseeker Project would include an approximately five-mile 345 kV gen-tie power line to be located entirely within an existing, dedicated utility and access easement which runs along the private right of way for Rainbow Way from the project lease area to the NV Energy’s Fort Sage substation.

3.6.2 Environmental Consequences

Construction of the Project would convert the project site into a solar generation facility and associated infrastructure. As described previously, the Project site is in a remote area with a few nearby residents. Similar solar energy generation facilities currently are planned in the area surrounding the Project. Development of the Project current zoning designations would not conflict with any current or known authorized land uses and is consistent with other development activities occurring in the surrounding area.

3.6.3 Mitigation Measures

Because development of the Project is consistent with the established goals and policies of Washoe County as codified in *Chapter 110 of Washoe County Code*, the Project would not have an adverse effect on current or known future land use activities in the area, mitigation measures are not warranted.

3.7 TRANSPORTATION

This section describes the traffic and transportation facilities in the area, potential impacts of the proposed Project on these resources, and BMPs/mitigation measures designed to reduce potential impacts to a level of non-significance.

3.7.1 Existing Setting

The project lease area is in a remote area in northern Washoe County, as described earlier. The project lease area is generally accessed via US Highway 395 to Hackstaff Road, to Fort Sage Road in California, which becomes Fish Springs Road in Nevada, and Rainbow Way which runs from Fish Springs Road to the project lease area, approximately four miles north of Fish Springs Road. Ingress and egress for the project lease area during both construction and operation would follow this same trajectory. Both Fish Springs/Fort Sage Road are hard-packed gravel all weather roadways with low traffic volumes. Rainbow Way is hard packed dirt road with very low traffic volumes.

3.7.2 Environmental Consequences

During peak construction, an estimated maximum of approximately 200 daily trips for arriving/departing construction workers, and 50 truck trips per day would be required to supply concrete, construction materials, and equipment to the Project site. Though construction- related traffic for the Project would increase traffic compared to present conditions, no impacts to level of service are anticipated. Traffic is also expected to increase minimally as a result of occasional site visits for maintenance operations to the gen-tie line and solar facility. Daily operation is to be carried out from an offsite location and would therefore not result in a regular increase on traffic on area roads.

3.7.3 Mitigation Measures

Because the proposed Sunseeker Solar Project would not result in substantive impacts to traffic conditions; mitigation is not warranted.

3.8 VISUAL RESOURCES

Visual resources are the natural and cultural features of the landscape that can be seen and that contribute to the public's appreciative enjoyment of the environment. Visual resources, or aesthetic impacts, are generally defined in terms of a project's physical characteristics and potential visibility, and the extent to which the project's presence would change the perceived visual character and quality of the environment in which it would be located.

This section describes existing regional visual character, visual resources, views of the project area from important vantage points, and the changes in these views that would occur with the implementation of the proposed Sunseeker Solar project and the BMPs/mitigation measures intended to reduce these impacts, if warranted.

3.8.1 Existing Setting

The proposed project lease area is in the southern end of the Honey Lake Valley along the Nevada/California state line and is situated just over seven and a half (7 ½) miles east of Herlong, immediately north of Dust Angels Acres Ranch, and as such, the proposed project lease area is located on flat lands which do not possess significant natural topographic variation. The immediate surrounding area of the proposed project lease area is characterized by open range lands in all directions which allows for unobstructed views to the horizons or nearby mountains. In the surrounding area of the proposed project lease area, several natural gas line facilities, electrical transmission lines, and elevated railroad exist. Just south and west of the proposed project lease area is the Alturas Interconnection Transmission Power Line which has utility infrastructure with heights that reach over the range lands approximately 100 feet and can be seen from a distance, such as transmission line towers. The proposed project lease area has been used in the past as cattle grazing range land and is disturbed only by natural gas line easements for the several gas lines. The project lease area is located approximately eight miles from any residential, military, commercial, or industrial land uses centered in the community of Herlong. US Highway 395 is located approximately ten miles southwest of the proposed project lease area and has no view of

the site due to obstructions such as Fort Sage Mountain and other topographic features which limits sight distance from this highway. To the south of the project lease area Fort Sage Mountain can be seen in the background and the base of the mountains are located approximately five miles south of the proposed project lease area. The top of the Adams Peak at 8,200 feet above sea level and Crystal Peak at 7,900 feet above sea level are approximately 16 ½ miles from the proposed project lease area and can also be viewed from the site on a clear day. Local regional land uses which affect the visual character include: Union Pacific Railroad elevated rail bed (cuts through the north boundary of the proposed project lease area) and open cattle range lands/sage brush (west/south/north/east of the proposed project lease area) and Sierra Army Depot with associated structures and storage of military equipment (west of the proposed project lease area) and public utilities facilities (High Power Transmission Lines, High Pressure Natural Gas Pipelines) (south/north/west of proposed project lease area).

The proposed Sunseeker Solar project lease area is located two (2) miles north of the intersection of Rainbow Way and Marina Way in rural Washoe County. The lease area is intersected on the northern property boundary by a raised railroad bed which carries the Union Pacific Railroad across the lease area approximately 5 to 7 feet higher than the surrounding elevation of the lease area. The lease area does not conform to a distinct shape but is arranged into various groupings of parcels. The greatest width of the lease area is approximately two (2) miles with a length of one and a half (1.5) miles. The total approximate acreage of the lease area is 1,128 in size. Additionally, the Rainbow Way Regional Utility Corridor runs along Rainbow Way, immediately West of the lease area, from the Union Pacific Railroad to the NV Energy Ft Sage Station (approximately five miles). Installation of a generation tie line would entail disturbance of approximately 12 acres within existing access and utility easements located within this corridor. As a result, the total disturbance area associated with the project is to be 1,140 acres. The landscape surrounding the project lease area and gen-tie corridor in all direction is characterized by basin and range sage brush landscape with various mountain ranges in the distance. The entire project area is located

within an area that is primarily undeveloped open rangeland for cattle grazing in Washoe County. In general, prominent adjoining land uses are as follows:

- West: The Nevada/California State Boundary Line lies just approximately .93 miles from the western limit of the property accompanied by undeveloped open rangeland.
- North: Union Pacific Railroad and undeveloped open rangeland.
- East: The Dead cow Lakebed Airstrip is located approximately 1.85 miles from the eastern limit of the property with the addition of undeveloped open rangeland.
- South: Undeveloped open rangeland.

The landforms in and around the proposed project lease area range from relatively flat or slightly undulating in the foreground, to low hills in the middle ground, to mountainous in the distance. The proposed project lease area is vegetated with a variety of weeds and native plants (sagebrush) and grasses. Colors and textures in the landscape would vary somewhat by season, but consist primarily of shades of green, tan, and brown in vegetation with shades of gray and black in the exposed earth while the dry lakebed bottoms in the region of the proposed project lease area provide a lighter almost white shade of soils.

3.8.2 Environmental Consequences

Although the construction of solar facilities under the proposed Project would change the existing local landscape, the surrounding region is already developed with military installations, and public utilities infrastructure including other solar energy production facilities, with the remaining land being open sagebrush rangelands, the military and utilities features take on the dominate visual focus of sensitive viewers. The relative visibility of the proposed project lease area from residences, industrial, institutional, and commercial properties is low (See: Figure 6, Viewshed Map). The vantage points with the clearest views of the proposed project lease area are distant elevated locations such as from the Fort Sage Mountain Off-Road Vehicle Trails. Furthermore, the general viewshed is highly disrupted by existing man made public utilities, military installations or transportation infrastructure, ranging from the US Route 395, to military equipment stored on nearby Sierra Army Depot, high power electric transmission lines, electric distribution lines, Fort Sage and Herlong

power substations, dry lake bottoms, train tracks, undeveloped cattle grazing rangelands, etc.). The minimal topographic relief does not provide the viewers with a vivid viewshed or long sight distances while in the valley area close by the proposed project lease area. As a result of the existing development in the nearby vicinity (Herlong, Sierra Army Deport), the viewer sensitivity remains low to moderately low for agricultural, military, residential, and industrial viewers, and moderate to more distant recreational viewers. As such, these viewers, who are already in an impacted viewshed, and will receive minimal, if any, impact from the proposed Sunseeker Solar project.

3.8.3 Mitigation Measures

Because of the distance to sensitive receptors and consistent nature of potential impacts with the existing visual character of the viewshed, mitigation is not warranted.



Project Area

Visible

N

0 4,000 8,000

Feet

Aerial imagery provided by Esri.
Projection: NAD 1983 2011 StatePlane California II FIPS 0402 Ft US

UES

VIEWSHED MAP

SHREEM BREZEE SOLAR, LLC - WASHOE SOLAR PROJECT

Washoe County, California

FIGURE	6
DRAWN BY	JMB
CHECKED BY	BLM
PROJECT MGR	BLM
DATE	02/2024

3.9 NOISE

The following section addresses noise as it relates to the construction and operation of the proposed Sunseeker Solar Project. A review of the setting surrounding the project lease area was carried out in order to identify any noise impacts that might occur. Noise sensitive receptors closest to the project lease area are identified and mitigation measures required to avoid significant impacts to said receptors are discussed, where necessary.

The decibel scale used to describe sound levels is a logarithmic rating system to account for large range in audible sound intensities. A general rule for the decibel scale is that a 10-decibel (dB) increase in sound is perceived as a doubling of loudness by the human ear. For example, a 55-dB sound level would sound twice as loud as a 45-dB sound level. Generally, people cannot detect differences of 1-dB whereas a 5-dB change is clearly noticeable.

Several sound measurement descriptors are used to assess the effects of sound on the human environment. These include the equivalent sound level, Leq, which is the level of a constant sound that has the same sound energy as the actual fluctuating sound. It is like the average sound level. The day-night sound level, Ldn, is like the 24-hour Leq except that a 10-dB penalty is added to sound levels between 10 p.m. and 7 a.m. to account for the greater sensitivity of people to sound at night. The Community Noise Equivalent Level, or CNEL, also places a weighted factor on sound events occurring in the evening hours. L90 is the sound level that is exceeded 90 percent of the time and is often used to describe the background or residual sound level.

Acoustics is defined as the science of sound, including the generation, transmission, and effects of sound waves, both audible and inaudible. Noise, on the other hand, is generally defined as loud, unpleasant, unexpected, or undesired sound that disrupts or interferes with normal human activities. Although exposure to high noise levels has been demonstrated to cause hearing loss, the principal human response to environmental noise is annoyance. The objectionable nature of sound is caused by its pitch or loudness. Pitch is the height or depth of a tone or sound wave, depending on the relative rapidity (frequency) of the sound vibrations by which it is produced. Higher pitched signals sound louder to

humans than sounds with a lower pitch. Loudness is intensity of sound waves combined with the reception characteristics of the ear. Intensity is a measure of the amplitude or height of the sound wave. Frequency describes the sound's pitch and is measured in Hertz (Hz), while intensity describes the sound's loudness and is measured in dB.

Applicable Sound Measurements

The A–weighted decibel (dBA) is a method of sound measurement which assigns weighted values to selected frequency bands to reflect how the human ear responds to sound. The range of human hearing is from 0 dBA (the threshold of hearing) to about 140 dBA which is the threshold of pain. In general, a three to five dBA change in community noise levels starts to become noticeable, while one to two decibel changes are generally not perceived. Quiet suburban areas typically have noise levels in the range of 40–50 dBA, while those along arterial streets are in the 50–65+ dBA range. Normal conversational levels are in the 60–65 dBA ranges.

In addition to the actual instantaneous measurements of sound levels, the duration of sound is important since sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. To analyze the overall noise levels in an area, noise events are combined for an instantaneous value or averaged over a specific time period. The time–weighted measure is referred to as equivalent sound level and represented by energy equivalent sound level (Leq). The percentage of time that a given sound level is exceeded also can be designated as L10, L50, and L90. The subscript denotes the percentage of time that the noise level was exceeded during the measurement period. Namely, an L10 indicates the sound level is exceeded 10 percent of the time and is generally taken to be indicative of the highest noise levels experienced at the site. The L90 is that level exceeded 90 percent of the time and this level is often called the base level of noise at a location. The L50 sound (that level exceeded 50 percent of the time) is frequently used in noise standards and ordinances.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within ±1 dBA. The data is then imported into computer sound models. These computer models are used to predict

environmental noise levels from sources such as roadways and airports over a given area using equal sound level contours. The accuracy of the predicted models depends upon the distance the receptor is from the noise source and natural attenuation caused by structures and other sound barriers. The closer to the noise source, the greater is the model's accuracy (±1–2 dBA).

As a rule, sound from localized or point sound sources spreads out as it travels away from the source, and the sound level drops at a rate of 6 dBA for each doubling of distance (determined as measured from initial distance from the sound). If the sound source is long in 1 dimension, such as traffic on a highway, the sound source is considered to be a line source. The sound level from a line source generally would drop off at a rate of 3 dBA for each doubling of distance. If the intervening ground between the line source and the receptor is acoustically "soft" (e.g., ground vegetation, scattered trees, clumps of bushes), an attenuation rate of 4.5 dBA for each doubling of distance is generally used.

Any solid structure such as a berm, wall, or building that blocks the line of sight between a source and a receiver serves as a sound barrier and would result in additional sound attenuation (e.g., perimeter screening fence and vegetative hedge surrounding project lease area) The amount of additional attenuation is a function of the difference between the length of the sound path over the barrier and the length of the direct-line-ofsight path. Thus, the sound attenuation of a barrier between a source and a receiver that are very far apart would be much less than the attenuation that would result if either the source or the receiver is very close to the barrier.

3.9.1 Existing Setting

The proposed Sunseeker Solar Project is located one mile east of the Nevada/California state line some four (4) miles north of the intersection of Rainbow Way and Fish Springs Road in northern Washoe County, Nevada. The entire vicinity is dedicated to rural uses with the main improvement in the area being the railroad track which intersects portions of the northern boundary of the project lease area. The nearest residences are located in Herlong, more than seven (7) miles west of the project lease area. The current

noise environment surrounding the project lease area consists of noise contributed by the Union Pacific Railroad which runs through the middle of the project lease area.

3.9.2 Environmental Consequences

The following subsections discuss the environmental consequences from construction and operation of the Project.

Construction

Noise calculations suggest that the construction noise produced at the Project area would range around 100-110 dBA which would be temporary and would occur intermittently throughout the construction phase. However, because of the distance to the nearest residential area (>7 miles) or sensitive receptor, noise levels perceived at that area would be less than 60 dBA, placing the effect of the construction noise from the proposed Project within acceptable noise levels for an agricultural or community utility site.

The project lease area is located more than seven miles from the nearest sensitive receptors, the site is also visually obstructed from said sensitive receptors by existing fencing, vegetation, buildings, and topographical features which would provide noise-reducing barrier or “shielding” effects. Additionally, the Project construction timeframes for these heavy equipment activities would be brief and would occur at small intervals over the Project construction timeframe, primarily during the first few weeks of site preparation and earthwork. See Table 11: Estimated Noise Levels. Estimated Noise Levels, below for likely construction noise levels to be generated by the proposed Sunseeker Solar Project. Therefore, construction noise impacts would be temporary and less than significant.

Table 11. Estimated Noise Levels

Construction Equipment Noise Source	Typical Noise Level (dBA)	
	50 ft	100 ft
Pneumatic tools	85	79
Truck (e.g., dump, water)	84	78
Concrete mixer (truck)	85	79
Backhoe	80	74
Generator	82	76
Portable air compressor	80	74
Combined equipment	82	76

Source: Federal Transit Administration (2018)
Note: An assumed propagation rate is 6 dBA per doubling of distance.

Operation

To estimate proposed project operational noise levels, noise modeling completed for a separate, comparable project in El Centro, California, was utilized (Appendix D – El Centro BESS Project Noise Study). Operation of the air conditioning equipment used to cool the batteries was determined to be the dominant source of noise during operation of the proposed BESS/PSES facility. The El Centro BESS Project utilizes 12 air conditioning units to provide air conditioning for the battery units. The proposed Project would utilize a separate air conditioning unit for each of the battery storage enclosure (estimated at 8). However, the proposed Project would locate the air conditioning units within the interior of the storage enclosures. The air conditioning units at the El Centro BESS Project are located on the exterior of structures.

With the air conditioning units in operation, the El Centro Project was determined to produce noise of 80.8 dBA Leq at a distance of approximately 10 feet from BESS building (approximately 5 feet from an air conditioning unit). At a distance of approximately 100 feet from the building, but within direct line-of-sight of air conditioning units, noise was determined to be 61.6 dBA Leq. Which is consistent with the generally accepted standard for attenuation of noise of approximately 6 dBA per distance doubled.

During summer, when ambient air temperatures are exceedingly high, there would be potential for the air conditioning unit in each of the battery storage enclosures to operate concurrently. Based on the noise produced by the air conditioning units at the El Centro Project, 8 air conditioning units operating concurrently would be anticipated to produce a noise level of approximately 83 dBA Leq at a distance of approximately 10 feet when located in an exterior location with no barriers.

As described above, a barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction. The proposed Project would locate air conditioning units within the fully enclosed battery enclosures, thereby creating a barrier which breaks the line of sight between the air conditioning units and receptors. Each battery enclosure would be insulated, which would further attenuate any noise emitted from within the enclosure. Insulation absorbs sound waves and adding insulation to metal construction can reduce noise by an additional 5 to 6 dB (North American Insulation Manufacturers Association 2015). Thus, when all air conditionings units operate concurrently within the insulated battery storage enclosures, noise levels would be approximately 73 dBA Leq at a distance of 10 feet from the enclosures. Using the doubling of distance attenuation rate of 6 dBA, project noises levels would attenuate to 43 dBA Leq at the northern parcel boundary which is approximately 50 feet from the proposed placement of air conditioning units (noise source) and 1 dBA Leq at the southern boundary. With the closest structure to the proposed project lease area located some 7 miles to the west, no additional noise will be contributed to nearby sensitive receptors.

As discussed above, the proposed Project will not contribute new levels of noise that could impact sensitive land uses surrounding the project lease area. In addition, the SunseekerSolar BESS/PSES facilities will comply with all local regulations and standards regarding noise. The project lease area is located within a large area zoned for rural/agricultural land uses and noise levels will remain compatible with said land uses. The proposed Project is compatible with the existing agricultural land uses in the area and will not create significant impacts regarding noise.

3.9.3 Mitigation Measures

Typical schedules during the construction phase would generally run from 7:00 am to 5:00 pm, Monday through Friday. This would ensure compliance with the local noise ordinance concerning construction which limits activity to daytime hours between 7:00 am to 7:00 pm. However, because of the distance to the closest sensitive noise receptors, strict adherence to this schedule is not required to avoid potential impacts.

3.10 WASTE MANAGEMENT AND HAZARDOUS MATERIALS

This section addresses potential site contamination issues-the use, handling and storage of hazardous and toxic substances and the generation and disposal of hazardous materials associated with the proposed construction and operations of the Project. Hazardous materials are substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present a substantial danger to public health or the environment if released. In relation to this Project hazardous materials may include fuels, lubricants, and other liquid materials that would be used at the site during construction and operations. Non- hazardous solid waste refers to waste that is commonly discarded during everyday activities and for this Project may include construction debris, landscaping waste, and household waste from construction workers and operational staff.

3.10.1 Existing Setting

A Phase I Environmental Site Assessment (ESA) of the project lease area was conducted by Universal Engineering Sciences (UES) in July 2023 according to American Society for Testing and Materials (ASTM) Standard Practice E-1527-21. That study included a review of the site history, including ownership records and historical aerial photographs and topo maps; interviews with the developer; and review of environmental databases. The Phase 1 ESA revealed no evidence of recognized environmental conditions (RECs) or likely RECs on the project lease area itself or the surrounding vicinity.

The project lease area is vacant and relatively free of improvements other than the Union Pacific Railroad which intersects a small portion of the northern boundary of the project area and Rainbow Way, a hard packed dirt road which runs along the project lease area western edge. Other improvements in the Project vicinity include the Tuscarora gas line and the Alturas Interconnection Transmission Line. No observations were made of indicators of the likely presence of hazardous materials or past releases of the same on the project lease area, including the presence of storage tanks, barrels, or drums; stained or discolored soil, unusually stressed vegetation; odors, sheens, or similar.

3.10.2 Environmental Consequences

The construction of the Project would generate solid waste in the form of soil and brush from clearing and grubbing, as well as materials from installation of the project substation, PV panels, gen-tie, BESS, and access driveway. Solid waste generated during construction would be transported for disposal at a licensed waste management facility. The operation of the Project is expected to generate limited amounts of solid waste stemming from routine maintenance activities. Any waste generated because of these activities would be disposed of at a licensed waste management facility.

The construction and operation of the Project is not expected to require the transportation, use, or generation of hazardous materials or hazardous wastes that could create a potential hazard to the public or environment. The types of materials that would potentially be present during construction would be minimal volumes of vehicle fuels, lubricating oils, paints, adhesives, and sealants. The ordinary use of these materials would not generate hazardous wastes. As the construction contractors would be required to comply with environmental and workplace safety laws and procedures, no substantive risks to public health and safety are expected from the proposed action.

3.10.3 Mitigation Measures

The following BMP and mitigation measures are to be implemented to prevent and reduce potential impacts associated with hazardous waste:

- Spill cleanup kits would be available on construction equipment and vehicles so that spills or leaks of vehicle fluids would be quickly cleaned up for proper disposal.
- Construction sites, material storage yards, and access roads would be kept in an orderly condition throughout the construction period.
- Refuse and trash, including stakes and flags, would be removed from the project and disposed of in an approved manner.
- No construction equipment oil or fuel would be drained on the ground.
- Oils or chemicals would be hauled to an approved site for disposal. No open burning of construction trash would occur.

- An operational Environmental Health and Safety Plan would be prepared for the Project. The Safety Plan would outline all Project activities, identify the hazardous substances and chemicals used at the site, and ensure compliance with OSHA Standards, the Nevada Division of Industrial Relations requirements, and all other local, state, and federal regulatory requirements. The Safety Plan would identify site-specific safety control measures, site health and safety roles and responsibilities, speed limits, and site safety hazards and controls.
- A Solid and Hazardous Waste Management Plan would be prepared and implemented for both construction and operation of the Project. Included in the solid and hazardous waste management plans would be stipulations and procedures regarding compliance with federal, state, and local regulations for waste minimization, storage, and disposal. The construction contractor shall prepare BMPs that describe the methods for working with hazardous materials during construction.

3.11 SOCIOECONOMICS

This section describes the socioeconomic issues related to the proposed Sunseeker Solar Project.

3.11.1 Existing Setting

The Project site is in the undeveloped, uninhabited, and rural area that Washoe County, Nevada. The nearest inhabited area is approximately 8 miles from the Project site. As of July 1, 2022, the population of Washoe County was estimated at 496,745 people. The population density of the county is 77 persons per square mile. Approximately 42 percent of the population identifies as a racial minority, consisting of 26.2 percent Hispanic or Latino, 2.3 percent American Indian or Alaska Native, 6.3 percent Asian, 3.0 percent Black or African American, and 4.2 percent identified as two or more races (U.S. Census Bureau 2012a). There are 218,178 housing units available in Washoe County, of which 58.6 percent are owner-occupied (U.S Census Bureau 2022a).

Median income for a household in the Washoe County in 2022 was $80,125 and the County's poverty rate in 2022 was 10.2 percent. Total employment for Washoe County as of 2022 was 62.7 percent, and the three largest industries were Educational services, and health care and social assistance (16.9 percent); Arts, entertainment, and recreation, and accommodation and food services (12.9 percent); and Professional, scientific, and management, and administrative and waste management services (12.4percent) (U.S Census Bureau 2022b).

Environmental Justice

The USEPA defines a community with potential environmental justice populations as one that has a higher proportion of minority or low-income populations than does an identified reference community. An environmental justice assessment requires an analysis of whether low-income or poverty populations would be disproportionately and adversely affected by a Project. For this analysis, "minority" includes all racial groups other than "white, not Hispanic or Latino." Low-income populations are defined as those individuals that are considered living below poverty levels, as defined by the U.S. Census Bureau. The U.S. Census

Bureau defines poverty level thresholds for individuals and a family of four as income levels below $15,852 and $31,428, respectively (U.S. Census Bureau, 2024). Populations in either group are considered significant if their share of the population is more than ten percentage points higher than the minority/low-income population's share of the state and the county. Table 12 shows that Washoe County has a higher proportion of white, non-Hispanic residents and lower proportions of low-income residents when compared to those in Nevada. The Project is in Census Tract 35.01 which is less racially diverse than both the Washoe County and the State of Nevada with no minority group exceeding the proportions of the State or County and a poverty level consistent with the countywide metric but below that of the State.
(https://data.census.gov/profile/Census_Tract_35.01;_Washoe_County;_Nevada?g=1400000US32031003501)

Table 12. 2010 Race, Ethnicity and Low-Income Indicators

Environmental Justice Indicator	Nevada	Washoe County	Census Tract 003501
White, Non-Hispanic	45.7%	59%	70%
Black	10.8%	6%	1%
American Indian and Alaska Native	1.7%	2%	2%
Asian	9.4%	6%	1%
Native Hawaiian and Other Pacific Islander	0.9%	1%	0%
Two or More Races	5.1%	13%	8%
Hispanic or Latino, Total	30.3%	25%	10%
Persons below poverty line	12.5%	10.2%	10.9%

Source: U.S. Census Bureau 2020 Decennial Census

3.11.2 Environmental Consequences

The Project would generate temporary employment during construction of the solar field, substation, and gen-tie line. The construction of the solar field and associated facilities is anticipated to employ approximately 200 workers during peak activity. Construction would be underway for approximately 7 months, depending on various contingencies with potential do delay and/or extend this period.

Temporary construction jobs would bring employment and income to Washoe County. It is expected that the construction workers would primarily be residents in Washoe County, NV, or Lassen County, CA. However, a small amount of workforce is expected to require specialty skills and would either relocate to the region temporarily or permanently, including staying in hotels/motels, apartments, or purchasing a home. Thus, population is expected to grow at least temporarily by up to 100 individuals over the duration of the construction phase, representing a very minor impact on population and temporary housing. The temporary employment would bring income to the region, which would support other businesses in the area. Workers spend their income on food services, transportation services, accommodations, retail stores, medical services, and other services and products. As worker spending rolls through the local economy, it supports additional jobs and income in the area. Additionally, the state of Nevada as well as Washoe County is expected to gain from sales and property tax receipts from the successful construction and operation of the Project.

The analysis indicates that the Project would be located in a Census Tract that is consistent with the general demographic distribution of the population of Washoe County. However, based on review of satellite imagery, only about 20 structures or trailers exist within a 5-mile radius of the project site boundaries. Therefore, very few people live adjacent to or near the site (under 5 miles); therefore, no environmental justice populations would be unduly affected. Additionally, construction and operation of the Project would not have long-term or adverse health or environmental impacts, and therefore there would not be disproportionate and adverse effects to these residents.

3.11.3 Mitigation Measures

Potential impacts to socioeconomic conditions may be beneficial, and therefore no mitigation is required.

4.0 LIST OF PREPARERS AND REVIEWERS

This section provides the name, qualifications, professions, and contact information of each person with primary responsibility for the preparation of the environmental statement and of each person who has provided comments or input in the preparation of the statement.

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BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA
IN THE MATTER OF:

Application of Shreem Brzee Solar, LLC, for a permit to construct a 250 MW Solar Energy Generating Facility, 345 kV Project Substation, 345 kV Generation-Tie Line, and associated facilities, including an energy storage system to be located in Washoe County, Nevada, pursuant to the Utility Environmental Protection Act	Docket No. 24-_____

VOLUME 2 OF 2

SHREEM BRZEE SOLAR, LLC

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Appendix A – Geotechnical Report

Preliminary Geotechnical Engineering Report

SUNSEEKER SOLAR PROJECT
Northern Washoe County, Nevada

Prepared for:
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Chico, CA 95928

Prepared By:
Universal Engineering Sciences (UES)
6995 Sierra Center Parkway
Reno, NV 89511

January 30, 2024
Project No. 4140.2300007

January 30, 2024

Shreem Brzee Solar, LLC
740 Broadway Street
Chico, CA 95928

Attention: Josephine Pillai; President
(530)521-4925
Jpillai108@gmail.com

Regarding: **Preliminary Geotechnical Engineering Report**
Sunseeker Solar Project
Northern Washoe County, Nevada Centroid:
40.153, -119.959
UES Project No: 4140.2300007

Universal Engineering Sciences (UES) is pleased to submit this Preliminary Geotechnical Engineering Report for the Sunseeker Solar Project. This report includes our literature review, field exploration, laboratory testing program, and geotechnical engineering results, along with our preliminary geotechnical recommendations for use in preparing initial site design(s) and budgetary construction estimates. *Please note that this report's recommendations are unsuitable for final design or construction.* As presented in the attached report and based on our exploration, knowledge of the project area, and understanding of the project, we conclude that the project site is suitable for the intended use from a geotechnical standpoint. It is our opinion that the primary geotechnical concerns are:

- **Loose, fine-grained silty soils throughout the project site**
- **Risk for liquefaction and seismically induced settlements**
- **Corrosivity of native soils toward both buried steel and Portland Cement Concrete**

UES appreciates the opportunity to provide this preliminary geotechnical engineering report. We trust that these results fulfill the project requirements at this time. If you or any of your design consultants have any questions or comments, do not hesitate to get in touch with us. If there are questions pertaining to this report or if UES may be of further service, please contact us at your convenience.

Respectfully,
Universal Engineering Sciences (UES)

Katie Bates, E.I.
Geotechnical Professional

Nelson Pearson, PE
Digitally signed by Nelson Pearson, PE
Date: 2024.01.30 13:04:50 -08'00'

Nelson Pearson, PE
Geotechnical Project Manager



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1 EXECUTIVE SUMMARY

This executive summary is provided solely as an overview and summary of our geotechnical services; as such, several details are omitted, any one of which could be crucial to the proper application of this report. The purpose of this study has been to evaluate the existing soil and groundwater conditions at the site, assess the site's geotechnical suitability for the proposed development, and provide preliminary geotechnical engineering conclusions and recommendations for use during the design process. This report is preliminary, and additional geotechnical services are required before final design and construction.

We understand that the project consists of constructing an approximately 250 MW photovoltaic (PV) solar energy facility in Honey Lake Valley, northern Washoe County. Subsurface explorations and sampling were completed by UES on November 2 and November 21, 2023, which included excavating 13 test pits to a maximum depth of 10 feet, advancing six borings to depths between 15 and 45 feet below the existing grade (BEG), and two geophysical seismic surveys. Samples were submitted for laboratory testing to evaluate mechanical properties and corrosivity. In general, the subsurface consisted of loose to medium dense interbedded sandy silts and sandy clays down to approximately 10 feet BEG, where layers of poorly graded sands and silty sands were encountered.

Our exploration and analysis have revealed a set of site characteristics that warrant consideration during the design, construction, and operation of the proposed project. The soils underlaying the site were found to have a high corrosivity potential for buried metals and Portland Cement Concrete (PCC) materials. The onsite sandy silt and clayey soils may also pose challenges to construction and compaction efforts due to their moisture-sensitive properties; dust control will be required in dry seasons. Additionally, the silty nature of the near-surface soils combined with the local climate may increase the effects of adfreeze stresses acting on piles. Lastly, our liquefaction analysis suggests that the site is susceptible to seismically-induced liquefaction settlements of up to 18 inches due to layers of loose, clean sands and silty sands below the water table. However, these characteristics are manageable with proper design and mitigation stratiges. **UES concludes that this Sun Seek Solar project site is geotechnically suitable for the proposed development.**

UES appreciates the opportunity to serve as the geotechnical consultant for the Sun Seek Solar project. Due to the preliminary nature of this geotechnical engineering report, the recommendations are general and should not be used for the final design. UES should be retained to provide a general review of final design plans and specifications so that grading and foundation recommendations may be interpreted and implemented. If any changes to the proposed project are planned, this report's conclusions and recommendations should be reviewed, and the report modified or supplemented as necessary.

2 INTRODUCTION

We have completed a preliminary geotechnical engineering report for the proposed approximately 250 MW photovoltaic (PV) solar energy production facility to be constructed in the Honey Lake Valley of northern Washoe County, Nevada. The purpose of this study has been to evaluate the existing soil and groundwater conditions at the site, assess the site's geotechnical suitability for the proposed development, and provide preliminary geotechnical engineering conclusions and recommendations for use during the design process. This report presents the results of our study.

2.1 PROJECT AUTHORIZATION

Authorization for this project is presented as a UES Proposal for Solar Project Development, Entitlement, and Environmental Consulting Services, Proposal No: 4140.0523.00001, Dated May 19, 2023.

1.2 SCOPE OF WORK

Our scope of services for this study has included the following tasks:

- Perform a site reconnaissance.
- Review of a United States Geological Survey (USGS) geologic and topographic maps, historical aerial photographs, and available groundwater information relevant to the site.
- Subsurface exploration and sampling, which included excavating 13 test pits to a maximum depth of 10 feet and advancing six (6) borings to depths between 15 and 45 feet below the existing grade.
- Collecting representative soil samples for possible laboratory testing
- Laboratory testing of selected samples
- Engineering analyses.
- Develop general recommendations regarding:
    - Seismic design parameters for the design of the foundation system and site seismicity
    - Excavation, grading, and permanent slopes
    - Structural backfill requirements.
    - Allowable bearing capacity for foundations.
    - Settlement characteristics.
    - Lateral earth pressures, static and dynamic
    - Site drainage and moisture protection
    - Erosion control
    - Corrosivity testing of soils in contact with foundations and metal piles
    - Identification of main geotechnical concerns and suitability of the site
- Preparation of this report.

2.2 APPENDICES

This report contains surface photographs showing the subject site conditions encountered during our exploraiton. Appendix A includes an exploration plan showing the approximate boring and test pit locations, as well as a general site layout and a geologic map showing nearby geological formations. Appendix B contains exploration photographs, boring and test pit logs, and an explanation of the symbols and classification system used on the logs. Appendix C includes laboratory testing results and the results

of the geophysical surveys completed during the field exploration phase of our investigation. Appendix D includes the liquefaction analysis report.

2.3 PROPOSED DEVELOPMENT

Based on correspondence with the client and assumptions based on the provided limited site plan data, we believe that the proposed project involves the design and construction of a new approximately 250 MW Photovoltaic (PV) solar energy production facility over 23 parcels adding up to approximately 1,128 acres of private land. As a preliminary report, the project characteristics have yet to be finalized.

We assume that the PV arrays will consist of parallel rows of single-axis trackers supported using driven (e.g., W6x9 or equivalent) galvanized steel piles. In addition to the PV arrays, we assume the final project will include a Battery Energy Storage System (BESS), electrical equipment (e.g., inverters, switchgear, transformers), aggregate access and maintenance roads, stormwater management basins, fencing, and utilities that may be above or below ground. An existing electrical substation is located approximately 5 miles from the site; therefore, we assume that the final design may include a high-voltage transmission line to connect the Sun Seek Solar installation to the electrical network (geotechnical assessments related ot the potential transmission line are beyond this reports scope of work). A combination of shallow foundation systems (e.g., spread footings, slab-on-grade floors, matt foundations) and driven W6x9 (or similar) steel piles will be used to support the associated structures.

3 FINDINGS

3.1 SITE DESCRIPTION

The proposed project site is located in Washoe County, Nevada, with an approximate centroid at latitude 40.153° and longitude -119.959°. Located approximately eight (8) miles east of the town of Herlong, California, the site is comprised of 23 neighboring parcels totaling ±1,128 acres and lies just south of the Union Pacific Railroad heading east toward Flanigan, NV. The site is undeveloped aside from single-lane, unpaved access roads that transect the area north-south and east-west. As seen in Figure 1 below, the site (highlighted in blue) is surrounded by private residential parcels, with a few residential developments in the surrounding area.

Sparse to moderate native vegetation, primarily high desert grasses and sagebrush bushes, cover the site. The surface soils were observed to be a hard-packed, light brown, moderately plastic silt. These soils are well-compacted when dry but lose strength when water is introduced. Therefore, site access may be hindered during wet seasons. Cobbles and boulders were rarely observed during our exploration. Figure 2 provides representative photographs of the site conditions at the time of our field activities. Several relatively shallow (typically less than two feet deep) ephemeral drainage channels flow through the site oriented northwest-southeast and flow toward the large Alkali Flat. The site is generally flat with mild undulating topography. Using Google Earth Pro elevation data (WGS 84), we believe the site fluctuates between elevations of 3,991 and 3,998 feet above mean sea level (MSL).

Few unpaved roads provide access to the site, and access to the majority of the site requires off-road driving. Rainbow Road and Calveda Way run north-south and east-west, respectively, on the western and northern edges of the site. The north and west portions of the site are accessible via small, rutted paths

that offshoot from the main access roads. The southwestern extent of the site is approximately 0.5 miles away from the access road to the west and is best reached by a 4x4 vehicle.

UES reviewed historical aerial imagery of the site using Google Earth Pro (Google, 2022) and publicly available historical aerial photographs using the website (www.historicaerials.com). The site appears to have not been previously developed, aside from the private residences surrounding the site.

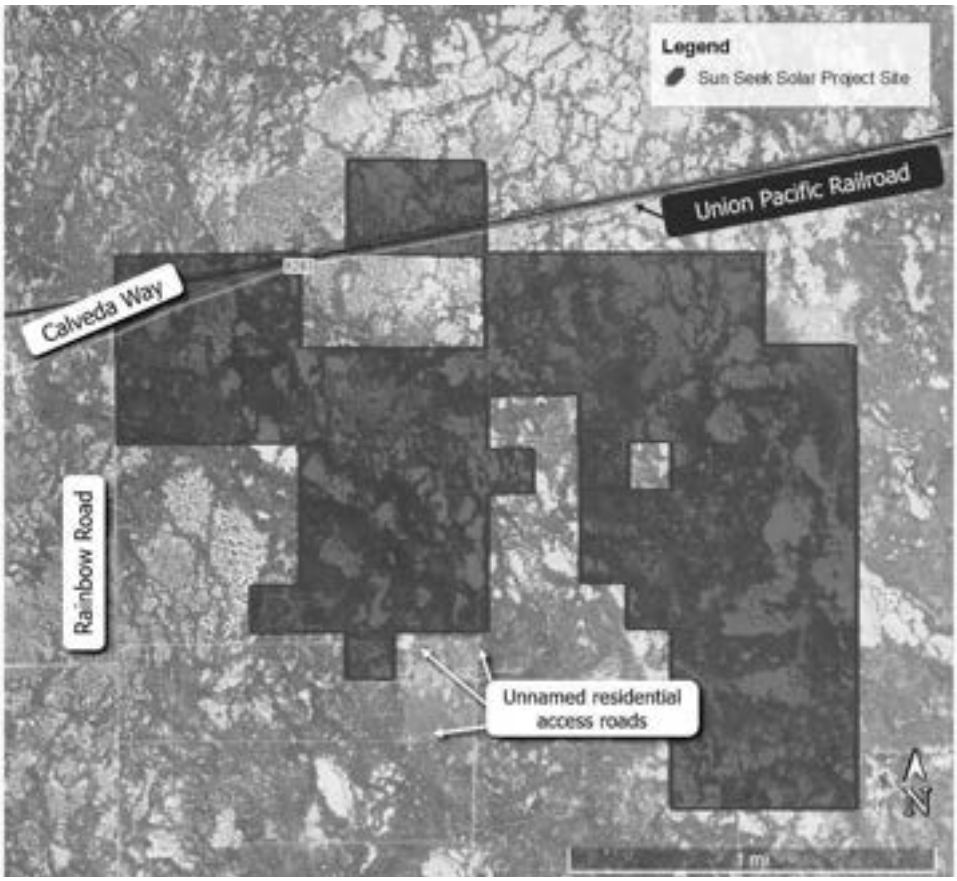


Figure 1: 1,128-acre Sunseeker Solar project site aerial imagery



Figure 2: ***Left:*** *View from the southeast extent of the site showing rutting in dry silty soils and flat topography.* ***Middle:*** *View from the northeast showing wide, silt playas characteristic of the site.* ***Right:*** *Surface cracking of light brown playa silts.*

3.2 GEOLOGICAL SETTING

The site is located within Honey Lake Valley, a structural basin bounded to the north and east by the Terraced Hills Mountains and to the south by the Virginia Mountains. This basin is transitional between the Basin and Range physiographic province to the east and the Sierra Nevada to the west. The area's geologic structure is characterized by high-angle extensional normal faults trending in a north-northeast direction. The present topography of the basin is due primarily to a combination of extensional normal faulting and Quaternary-age basinal sedimentation. During the Pleistocene glacial periods, Honey Lake Valley and many of the valleys in the surrounding basins were submerged by lakes. These lakes have since evaporated and left behind extensive, flat playas. Generally, the sediment at the site is composed of silts and clays derived from the Pleistocene lakes, Quaternary-aged eolian sand dunes, talus, and stream deposits.

According to the geologic mapping by Harold F. Bonham (Nevada Bureau of Mines and Geology, Geologic Map of Washoe and Storey Counties, NV, 1969), the materials in the general site vicinity are composed of the following:

> **Ql –** Lake deposits, clay, silt, sand, gravel, and calcareous tufa. Includes some areas thinly veneered by eolian sand. Chiefly of Pleistocene age.

The mapped geology was consistent with the subsurface soil conditions encountered within our borings drilled to a maximum depth of approximately 45 feet below existing site grades. A copy of a portion of the referenced Geologic Map is provided in Appendix A.

3.3 SOIL SURVEY

UES reviewed the United States Department of Agriculture's (USDA) Natural Resources Conservation Service Web Soil Survey to gain a broad understanding of the onsite soils. The survey revealed that the site soils lie within the *Gitakup-Tresed-Ragtown association*, *Chuckles-playas complex*, and *Chuckles-*

Ragtown-playas complex units. These units are generally comprised of silt (ML) and silty clay (CL), which aligns with the results of our explorations.

In addition to identifying the soil units at the project site, the USDA provides general information on the climate conditions, which are summarized in Table 1.

Table 1:Summary of USDA-NCRCS Web Soil Survey data for the Sun Seek Solar project

	Gitakup-Tresed-Ragtown association	*Chuckles-playas complex*	*Chuckles-Ragtown-playas complex*
National map unit symbol	j0y0	j0y4	j0y5
Mean annual precipitation	4 to 7 inches	4 to 8 inches	4 to 8 inches
Frost-free period	100 to 140 days	100 to 140 days	100 to 135 days
Drainage Class	Moderately well drained	Moderately well drained	Moderately well drained
Runoff Class	High	Medium	Medium
Frequency of flooding and ponding	None	None	None
Corrosion of steel	High	High	High
Corrosion of concrete	High	High	High
Shrink-swell potential	Moderate	Moderate	Moderate
Solar Arrays, Soil-based anchor systems	Somewhat limited	Somewhat limited	Somewhat limited

3.4 FAULTING

Based on a review of the United States Geological Survey (USGS) Quaternary Fault and Fold database and the referenced geologic map, the nearest mapped fault is a latest Quaternary-aged (< 15,000 years old) fault trending north-south approximately 0.4 miles north of the project site. We believe surface fault rupture is unlikely; therefore, no further fault exploration is recommended.

Literature prepared by A. Ryall and B. M. Douglas (NBMG, Regional Seismicity, Reno Folio, 1976) indicates that earthquake recurrence curves predict a return period of 70 to 80 years for an earthquake Magnitude 7.0 or greater within 62 miles of the Reno-Carson area. They also calculate that, on average, an earthquake of Magnitude 5.3 to 5.4 would be expected to occur within 20 miles of Reno approximately once in 30 years, would have a maximum bedrock acceleration of 0.12g to 0.19g, and would involve about 6 (six) seconds of strong shaking. The expected return period of rock accelerations greater than 0.5g at an average site in western Nevada associated with an earthquake of magnitude greater than 7.0 is on the order of 2,000 years. The project site is in the Basin and Range Physiographic Province, structurally characterized by high-angle extensional normal faults. Therefore, strong ground shaking associated with earthquakes should be expected during the project's life.

3.5 SUBSURFACE SOIL CONDITIONS

On November 2, 2023, Nevada Excavation provided a CAT 304E2 Mini Excavator to advance 13 test pits (TP1 through TP 13) to a maximum depth of 10.5 feet below the existing grade. On November 21, 2023, Taber Drilling provided a CME 55 track-mounted drill rig to advance six (6) exploratory borings (B1 through

B6) to maximum depths of 45 feet BEG. Test pit and boring locations are shown in Appendix A, Exploration Map. A UES engineer observed, logged, and collected representative soil samples from the test pits and borings for potential laboratory testing.

The surface and near-surface soil conditions generally consisted of a gray-brown, dry sandy silt (ML) from the surface down to approximately five feet (5') BEG, underlain by varying amounts of stiff clayey sand (SC), silty sand (SM), poorly graded sand (SP), and poorly graded sand with silt or clay (SP). The subsurface varies in fines content with depth; however, in general, the top five to ten feet (5 – 10') of material is fine-grained, loose to medium stiff, dry to slightly moist, and silty. Below approximately ten feet (10'), the soil increases in sand content until it becomes a clean, loose to medium dense poorly graded sand (SP), interbedded with lean clays with sand (CL) and a few lenses of fat clays (CH). Organics were generally encountered within the upper foot of the subsurface.

Field standard penetration tests (N_{field}) are reported on the boring logs. The following table summarizes the standardized N_{60} values resulting from applying the appropriate corrections for rod length, borehole diameter, liner type, and energy correction factor. Table 2 shows that the project site's subsurface is classified as loose to medium dense.

Table 2: N60 values corrected from field standard penetration test blow counts

Depth [ft]	B1	B2	B3	B4	B5	B6
2.5	20	5	-	-	-	-
5	10	13	6	11	5	4
7.5	10	6	-	-	-	-
10	8	5	5	5	4	10
15	8	9	7	5	13	19
20	19	-	-	-	-	-
25	20	-	-	-	-	-
30	6	-	-	-	-	-
35	9	-	-	-	-	-
40	39	-	-	-	-	-

For information regarding the soil conditions at a specific boring/test pit location or depth, please refer to the Boring Logs and Test Pit Logs in Appendix B.

3.6 GROUNDWATER

UES reviewed available groundwater information provided by the Nevada Department of Water Resources Well Log Query website (DWR, http://water.nv.gov/welllogquery.aspx) to estimate the approximate depth to monthly median water level. The DWR periodically monitors groundwater levels in wells across the state. Well Log No.: 16116 lies within the northeastern site boundary and has a recorded static water level of approximately 40 feet below grade. During our drilling activities, free water was encountered between 30 and 35 feet below grade. We anticipate that water will not affect the construction of the proposed development; **however, due to the loose to medium dense sandy and silty soils below the water table, water may affect the project's seismic design.**

4 EVALUATIONS

4.1 SEISMIC HAZARDS

Seismic hazards, seismic site classification, and seismic design parameters are provided in the following sections and are in accordance with the 2018 International Building Code (IBC) in conjunction with the American Society of Civil Engineers Standard 7-16 (ASCE 7-16).

4.2 SEISMIC SITE CLASS

Per ASCE 7-16 Sections 20.3, UES considers the project site a **Site Class F** due to the site's liquefaction potential. *A site-specific response analysis shall be completed in accordance with Section 21.1 of ASCE 7-16 if the fundamental periods of vibrations are equal to or less than 0.5 seconds (ASCE 7-16, 20.3.1 Exception)*.

4.2.1 Shear Wave Velocities

If a registered design professional determines that the fundamental periods of vibrations are less than or equal to 0.5 seconds, then the following geophysical site assessment is appropriate for determining the site class.

UES's geophysical site evaluation included two (2) Refraction Microtremor (ReMi) surveys; the locations are shown on Plate A-1, Exploration Map. The ReMi surveys determine the seismic site class per the IBC 2018 and ASCE 7-16 using the weighted average soil shear wave velocity for the upper 100 feet (Vs100). Additionally, the ReMi surveys provide essential information for liquefaction screening and analysis. The ReMi surveys recorded active and ambient seismic noise using 12 10-Hz geophones spaced at eight meters (8m, 26.25 ft) for a total survey length of 289 feet. Active noise was generated by striking a 16-pound sledgehammer off the ReMi array's ends and walking along the survey line during data acquisition; in addition, ambient noise was provided from local traffic. The ReMi data were acquired using a Seismic Source model DAQlink4 24-channel seismograph, while data was processed using the VsSurf™ application.

The results of the ReMi surveys indicated weighted-average soil shear wave velocities of the upper 100 feet (Vs100) of 764 ft/s and 623 ft/s for Lines 1 and 2, respectively. According to Table 20.3-1 in ASCE 7-16, this results in a designation of a Seismic Site Class D; however, **a Site Class D shall only be used if a registered design professional determines the structural characteristics of the site's development meet the exceptions outlined in Section 20.3.1 of ASCE 7-16.**

4.3 2018 IBC/ASCE 7-16 SEISMIC DESIGN CRITERIA

The seismic design parameters provided in Table 3 were developed based on a Site Classification D and the latitude and longitude for the site using the web interface developed by ASCE (https://asce7hazardtool.online/). Parameters for a Site Class F are not provided by the ASCE online interface, and must be determined by a registered design professional based on Section 20.3.1 of ASCE 7-16 as stated above.

Table 3: 2018 IBC/ASCE 7-16 seismic design parameters

Latitude: 40.150000° Longitude: -119.958000°	ASCE 7-16 Table/Figure	2018 IBC Table/Figure	Factor/ Coefficient	2018 IBC Value
Short-Period MCE_R at 0.2 second	Figure 22-1	Figure 1613.2.1(1)	S_S	1.022 g
1.0 second Period MCE_R	Figure 22-2	Section 1613.2.1(2)	S_1	0.361 g
Soil Class	Table 20.3-1	Section 1613.2.2	**Site Class**	**D**
Site Coefficient	Table 11.4-1	Table 1613.2.3(1)	F_a	1.091
Site Coefficient	Table 11.4-2	Table 1613.2.3(2)	F_v	*null
Adjusted MCE Spectral Response Parameters	Equation 11.4-1	Equation 16-36	S_{MS}	1.115 g
	Equation 11.4-2	Equation 16-37	S_{M1}	*null
Design Spectral Acceleration Parameters	Equation 11.4-3	Equation 16-38	S_{DS}	0.743 g
	Equation 11.4-4	Equation 16-39	S_{D1}	*null
Site Modified Peak Ground Acceleration	Section 11.8.3	Section 1803.5.12	PGA_M	0.510 g
Seismic Design Category	Table 11.6-1	Section 1613.2.5(1)	Risk Category I through IV	D
	Table 11.6-2	Section 1613.2.5(2)	Risk Category I through IV	D

*null: The Structural Engineer shall determine this value in accordance with ASCE 7-16, Section 11.4.8, Exception 2, and make a further determination if a site response analysis is required in accordance with Chapter 21 of ASCE 7-16.

4.4 LIQUEFACTION POTENTIAL

Liquefaction is a loss of soil shear strength that may occur during a seismic event and results from a buildup of pore water pressures caused by cyclic shear stresses exceeding the effective soil stress. When the pore water pressures exceed the soil's effective stress, the soil may behave like a non-Newtonian fluid, subject to three-dimensional ground movement. This phenomenon is limited to poorly consolidated (typically, soils with a shear wave velocity less than 600 feet per second and Standard Penetration Test (SPT) less than 30) clean sand to silty sand/sandy silt lying below the groundwater table (typically less than 50 feet deep). The consequences of liquefaction include substantial loss of soil strength, seismic settlement, horizontal ground displacement from lateral spreading, increased lateral soil loads, sand boils, and bearing capacity degradation.

With groundwater between 30 and 35 feet BEG and the relatively loose silty sands and poorly graded sands encountered during the exploratory borings, UES concludes that the site is susceptible to liquefaction. Therefore, we conducted a liquefaction analysis to assess the potential seismic settlement that may occur at the project site.

Liquefaction analysis was conducted using LiqSVs 2.3.2.5, a software package that interprets standard penetration test (SPT) and shear wave (Vs) field data and simulates earthquake responses. Numerous empirical assumptions support the different liquefaction analysis methods; therefore, we conducted our liquefaction analysis using multiple methodologies and available geotechnical data. This approach provides insights into the sensitivity of the site to liquefaction.

Per the 2018 International Building Code, ASCE 7-16 Section 11.8.3, the most severe earthquake effect is used for analysis. The maximum considered earthquake geometric mean (MCE_G) peak ground acceleration (PGA) adjusted for site effects (PGA_M) is standard for the evaluation of liquefaction, lateral spreading, seismic settlements, and other soil-related issues.

Per FEMA P-2082-1 NEHRP Recommended Seismic Provisions for New Buildings and Other Structures (Sept. 2020) Section C12.13.9.1:

> "Foundations are not allowed to lose the strength capacity to support vertical reactions after liquefaction. This requirement is intended to prevent bearing capacity failure of shallow foundations and axial load failure of deep foundations. Settlement in the event of such failures cannot be accurately estimated and has potentially catastrophic consequences. Such failures can be prevented by using ground improvement or adequately designed deep foundations."

Our liquefaction analysis concludes that **the project site may be susceptible to liquefaction with vertical seismic settlement between 2 and 18 inches.** Details of the liquefaction analysis are included in Appendix D.

UES recommends conducting additional geotechnical explorations and analysis to develop a more robust understanding of the site's liquefaction and settlement potential.

4.4.1 Settlement Due to Seismicity

Liquefaction analysis was conducted using the National Center for Earthquake Engineering Research (NCEER) 1998 and the Kayen et al., 2013 methodologies using the Refraction Microtremor (ReMi) shear wave velocity (V_s) profile, along with the results of our laboratory testing.

Using the NCEER 1998 method and the Idriss and Boulanger (2014) analysis methodologies, approximately 16 inches of vertical settlement are suggested. UES's sensitivity analysis included adjusting various analysis parameters to understand the potential variation in seismic settlements; using plausible values, seismic settlements ranged from a few inches to nearly two feet of possible settlement. **We consider the project site to have a significant risk for liquefaction and seismic settlements**. We recommend additional geotechnical services to develop a more robust understanding of the site's liquefaction and settlement potential.

Due to the natural topography and relatively uniform ground conditions, we anticipate that the differential settlement between adjacent pile foundations will be significantly less than the overall settlements. UES recommends that a PV racking system that can accommodate differential settlements be considered.

4.4.2 Lateral Spreading

The horizontal surface displacement of soils characterizes lateral spread due to the liquefaction of subsurface granular deposits. In a seismic event, soil deposits are subjected to both vertical and horizontal ground motions. During an earthquake, it is possible that the soil deposits above a liquified layer act as a unit that is subjected to lateral ground motions, resulting in the deposits traveling laterally. Above the liquefied layers, the soil deposit tends to travel on the liquefied deposits horizontally down a gentle slope.

Horizontal displacements (i.e., lateral spreading) may range from a few inches to several feet, depending on earthquake magnitude, site topography, and soil characteristics. **Due to the site topography, we conclude that the risk of lateral spreading is minimal.**

4.5 Flood Hazards

UES analyzed studies completed by the Federal Emergency Management Agency (FEMA), community panel number 32031C2125G, effective 3/16/2009. The subject site does not lie within a mapped flood hazard zone. UES believes that flooding will not affect the proposed development.

4.6 Radon-222 Gas

Radon, a colorless, odorless, radioactive gas derived from the natural decay of uranium, is found in nearly all rocks and soils. The Environmental Protection Agency (EPA) suggests remedial action to reduce radon in any structure with an average indoor radon level of 4.0 pCi/L or more. Based on the MyHAZARDS-Nevada database managed by the Nevada Bureau of Mines and Geology, the project site is in an area with average radon levels of 5.67 pCi/L. If permeable enclosed spaces are included as part of the site's development (e.g., maintenance building), radon mitigation/management will be required. Our office can be of assistance if you desire radon-related services.

4.7 Soil Expansion Potential

Our subsurface explorations revealed that the near-surface project site soils are primarily comprised of low to moderate plasticity sandy silts (ML), silts (ML), and some high plasticity lean to fat clays (CL to CH). Soils with a plasticity index (PI) greater than 15 have been demonstrated to be more sensitive to moisture content, have a potential for volumetric changes (i.e., shrink and swell), and have an increased potential for long-term settlement. Laboratory test results from test pits at depths between zero and six feet (0-6') across the site revealed PIs ranging between non-plastic (NP) and 29. Therefore, UES concludes that the risk of soil expansion is non-negligible and non-uniform throughout the site. Additional geotechnical site explorations are recommended to identify and characterize zones of potential expansive soils.

4.8 Groundwater Conditions and Seasonal Moisture

UES encountered free groundwater between 30 and 35 feet below grade during our subsurface exploration. It is unknown whether localized perched conditions or other subsurface conditions exist in unexplored areas of the subject site. Based on the available data and our exploration, we believe that groundwater will not affect the construction of the proposed development; however, as noted above, the development's design may be influenced by the presence of loose to medium dense silty sands and silts below the water table.

Due to the differences in temperature throughout the year in the region, frost penetration must be considered. Per Washoe County Building Department, 2018 Northern Nevada Amendments, Appendix Table R301.2(1), a frost depth of two feet (2') shall be assumed.

4.9 Onsite Soil Suitability for Use in Fill Construction

Onsite soils, minus debris, organic matter, and oversized materials (>6"), may be used in mass grading fills, provided they follow the requirements outlined in this report's Compaction Recommendations section.

4.10 Soil Corrosion Potential

Corrosivity testing was conducted on samples collected from Test Pits 1, 6, and 8 from depths between six and seven feet (6 – 7') BEG. Test results are summarized in the table below, as well as in Appendix C.

Table 4: Corrosion Testing Lab Results

Sample	Method	Test	Limit	Results	Corrosivity
TP 1C @ 7'	AASHTO T291B	Chloride	< 100 ppm	20,300 ppm	High
	AASHTO T289	pH	5.0 ≤ pH ≤ 10.0	8.28	Low
	AASHTO T288	Minimum Soil Resistivity	≥3,000 Ω-cm	76.6 Ω-cm	High
	SM 2510 B*	Specific Conductivity	< 16 dS/m	2,940 dS/m	High
	AASHTO T290B	Sulfate	< 200 ppm	98 ppm	Low
TP 6C @ 6'	AASHTO T291B	Chloride	< 100 ppm	59,100 ppm	High
	AASHTO T289	pH	5.0 ≤ pH ≤ 10.0	8.21	Low
	AASHTO T288	Minimum Soil Resistivity	≥3,000 Ω-cm	49.3 Ω-cm	High
	SM 2510 B*	Specific Conductivity	< 16 dS/m	4,500 dS/m	High
	AASHTO T290B	Sulfate	< 200 ppm	120 ppm	Low
TP 8C @ 7'	AASHTO T291B	Chloride	< 100 ppm	3,890 ppm	High
	AASHTO T289	pH	5.0 ≤ pH ≤ 10.0	8.56	Low
	AASHTO T288	Minimum Soil Resistivity	≥3,000 Ω-cm	368 Ω-cm	High
	SM 2510 B*	Specific Conductivity	< 16 dS/m	424 dS/m	High
	AASHTO T290B	Sulfate	< 200 ppm	ND	Low

* Salinity assessment based on the NRCS Soil Survey Handbook; 1dS/m = 10 µmhos/cm

Based on the electrochemical testing, we conclude that the project site soils demonstrate an aggressive corrosivity potential for both buried steel and Portland Cement Concrete (PCC). UES recommends the inclusion of a sacrificial thickness of metal for any buried metals at the site and the use of corrosion-resistant materials (e.g., plastics, galvanized steel. It is recommended that a corrosion expert be consulted to develop mitigation measures to ensure the long-term performance of metal and PCC items in direct contact with the project site soils.

Using the American Concrete Institute (ACI) 318 Table 19.3.1.1 - Exposure Categories and Classes, we recommend the exposure categories provided in Table 5.

Table 5: Concrete exposure categories and classes (ACI 318)

Category	Class	Condition
Freezing and thawing	F2	Concrete exposed to freezing-and-thawing cycles with frequent exposure to water
Sulfates	S0	120 ppm
In contact with water	W0	Concrete dry in service Concrete in contact with water and low permeability is not required
Corrosion Protection of reinforcements	C2	Concrete exposed to moisture and external source of chlorides

Per ACI 318 Table 19.3.2.1 – Requirements for Concrete by Exposure Class, concrete at the Sun Seek Solar project site shall have a maximum water-to-cement ratio (w/cm) of 0.40 with a minimum compressive strength of 5,000 psi (pounds per square inch). Furthermore, due to the potential for freeze and thaw cycles, concrete at the project site shall be air-entrained per Table 19.3.3.1 of ACI 318, shown in the following Table:

Table 6: Entrained air content for exposure class F2 (ACI 318)

Nominal Maximum Aggregate Size [in]	Air Content [%] – Exposure Class F2
3/8	7.5
1/2	7
3/4	6
1	6
1 1/2	5.5
2	5
3	4.5

Note: Please refer to ACI 318 for greater detail on project site concrete requirements.

5 RECOMMENDATIONS

5.1 GENERAL

Development and construction efforts shall be performed in accordance with the Federal Occupational Safety and Health Administration, Nevada Department of Industrial Relations, Division of Occupational Safety and Health requirements, and applicable ordinances of the governing municipality.

Our subsurface explorations revealed that the overall project site soils are typical of the vicinity's mapped geology. Onsite soils, minus oversized and otherwise unsuitable materials such as organics and debris, may be repurposed for mass grading within the subject site, provided that the recommendations within this report are adhered to. However, fine-grained and potentially moisture sensitive silty and clayey soils should not be used within structural fills.

5.2 Construction and Earthwork Considerations

UES anticipates that the proposed earthwork and excavations will be achievable using appropriately sized conventional earthmoving equipment. Additionally, although suitable for mass grading, the onsite sandy silt (ML) clayey soils may pose challenges to construction and compaction efforts due to their moisture-sensitive properties. Control of the soil moisture content per this report's recommendations is essential for proper compaction. Further, based on the conditions encountered during our field investigation, we believe dust control will be required during earthwork activities conducted in dry seasons.

If earthwork is to occur during wet conditions, UES recommends using four to 12 inch crushed aggregate to increase soil stability. The aggregate should be placed in loose lifts and compacted into the existing soils; aggregates should be added to form an appropriately stable working surface. Aggregates should be angular to increase interlock and stability. Alternatively, the inclusion of a geotextile (e.g., geogrid) may be used to create stable working areas. UES can provide additional recommendations and specifications if requested.

5.3 Site Clearing

UES anticipates that grading will be minimized for the construction of the Solar project. To prepare areas where mass grading is not required, we recommend, as a minimum, mowing the existing vegetation to a uniform and safe height. The generated debris will likely need to be removed and disposed of appropriately. Further, we recommend that before construction starts, the entire site be proof-rolled to identify soft/weak soil areas. Identified soft spots should be excavated until a medium-dense to dense soil layer is identified or a minimum of three feet, and the backfill and compacted to geotechnical recommendations with the excavated material.

To prepare the project site for construction, strip and remove the existing vegetation, debris, loose or disturbed natural soils, and other deleterious materials from proposed solar array areas, slabs, and paved areas. We anticipate stripping and grubbing operations to remove between 0.2 and 0.5 feet of the surface soil, depending on the depth required to remove the root systems of the native vegetation, the surface and near-surface cobbles and boulders, and the potentially unsuitable surface soils.

Clearing and grubbing excavations should extend at least five feet (5') beyond the areas to be improved in plan view. The resulting spoils may be placed in landscaped areas and non-structural fills; these areas should be clearly marked on the as-built plans. Care should be taken to prevent the concentration of buried vegetation; over time, the deposits of vegetation will decompose and lead to localized surface and soil irregularities. Therefore, we recommend removing the cleared and grubbed vegetation from the project site. As an alternative to removal, burning of the vegetation may be possible and shall be done in accordance with applicable laws, ordinances, rules, and regulations. The necessary permit approvals shall be obtained prior to burning. Trash, abandoned utilities, construction debris ruminate, or other deleterious materials exposed or created during the site preparation shall be removed.

In addition, excavations caused by the removal of existing foundations or utilities shall be cleared of waste, debris, and loose soil and refilled with compacted structural fill. All fill compactions should be performed per this report's recommendations and conducted under observation and testing by the geotechnical engineer.

Buried drain lines, pipes, conduits, utilities, etc., which are necessarily cut, shall be carefully and permanently capped at the property line or re-routed as indicated on the drawings. If they are to remain onsite, they shall be protected from damage. If utility lines are encountered during earthwork and not explicitly noted for decommissioning, they shall be capped, extended, protected, or reworked as necessary to complete the work as directed.

If unexpected fills or abandoned structures/improvements are encountered during site clearing, such features should be removed and the excavation thoroughly cleaned and backfilled. The geotechnical engineer or their representative should observe excavations before placing backfill soils.

Exposed surfaces should be free of mounds and depressions, which could prevent uniform compaction. The upper foot of the exposed soil should be screened of materials greater than six inches (6") in any direction and compacted to the recommendations in this report.

5.4 PROOF ROLLING

The primary purpose of proof roll testing is to identify areas where instability may be exhibited under heavy loads, requiring higher compaction effort to ensure the area is stable and meets performance expectations. Proof rolling with a fully loaded 4,000-gallon water truck (or equivalent) is a proven method to identify weak, unstable soil layers. Identifying and mitigating unstable subgrades improves constructability by ensuring a smooth and uniform foundation for construction. Furthermore, the early identification of potentially problematic areas reduces the effort required to mitigate soil-related defects in the final materials and potential future maintenance.

We recommend that the firm conducting quality insurance inspections inspect and document the proof rolling equipment and procedures. Proofing rolling should meet the following criteria:

- The proof rolling equipment shall make at least two overlapping passes at a speed not exceeding five miles per hour (5 mph).
    - A single pass proof roll is acceptable for the PV array area, provided no fills exceed five feet (>5').
- Proof rolling shall be completed in the longitudinal direction, starting from the outside edge and moving in (approximately the width of the proof rolling equipment's tires) with each subsequent pass.
- The recommended proof rolling vehicle will have a gross vehicle weight of 35 tons (± 5 tons), with a tire pressure of 120 pounds per square inch (psi), and provide a uniform compaction effort over the entire contact area.
- Tire pressures must remain within five psi (5 psi) of each other.
- Failure criteria for proof rolling include:
    - Permanent rutting or soil rebounding exceeding one inch (1").
    - Signs of soil pumping.
- Possible mitigation alternatives for soft or weak areas exposed during proof-rolling include:
    - Removing, replacing, and recompacting the area of concern
    - Add additional soil such that there is a smooth transition (± 1/2 inch) between the improved area and the remaining subgrade after recompacting the area.
    - Other approved alternative methods provided by the Earthwork Contractor

- The contractor should provide in writing a description of their ways and means to the design team, UES, and the firm providing quality assurance for acceptance.

Regardless of the mitigation approach selected, all mitigated areas require verification through proof rolling and shall be documented by the firm conducting quality assurance efforts.

5.5 Compaction Recommendations

Fill shall be placed on a subgrade approved by the geotechnical engineer or their authorized representative. Fill soils should be moisture conditioned to near optimum ±2 percent, optimum to +4 percent for fills below concrete pads and flat work. We recommend that Fill be placed in loose horizontal lifts of eight to ten (8-10") and uniformly compacted. Thicker lifts may be possible if the contractor can consistently demonstrate their ability to meet the compaction requirements.

The compaction specifications for the proposed projects are presented in the following table.

Table 7: Compaction Specifications

Area	Minimum Relative Density [%]	Moisture Content [%]
Fill		
Below footing level	90	Optimum ± 2%
Below slabs-on-grade (granular)	90	Optimum ± 2%
Below slabs-on-grade (fine-grained) *	88-92	Optimum + 4%
Pavement subgrade or fill	95	Optimum ± 2%
Utility trench backfill		
Utility trench backfill upper 12 inches	95	Optimum ± 2%
Utility trench backfill below 12 inches	90	Optimum ± 4%
Aggregate base course		
Below floor slabs and flat work	90	Optimum + 4%
Below asphalt paving	100	Optimum ± 2%
Landscape areas	85	Optimum + 4%

*Note: Fine-grained soils have greater than 30% retained on the #200 sieve or a PI greater than 15

5.6 Subgrade Preparation

Subgrade soils beneath a proposed structure or road and five feet (5') beyond in plan view shall be scarified a minimum of eight inches (8"), moisture, and compacted per the recommendations of this report.

- The resulting surface shall be free of mounds and depressions greater than one inch (1").
- Materials over 12 inches (12") are considered oversized and not allowed within five feet (5') below the foundations and pads.
- Oversized material could be removed by screening or raking the pad area before compaction. The owner should determine which method or how much removal is practical and acceptable.

5.7 Engineered Fill Construction

Imported soils should meet the criteria provided in Table 8. Structural fill criteria are for soils placed beneath buildings, PCC slabs, bituminous pavement, and other components subject to structural loading. Materials for structural fill should be free of organic or other deleterious materials and have a maximum particle size of less than four inches (4"). Soils proposed to be used as engineered fill material should be classified in accordance with procedures stated in ASTM D2487. Soils will be considered satisfactory for engineered structural fill when classified as follows: GW, GP, GC, GM, SW, SP, SC, SM, or combinations thereof. Soils will be considered unsatisfactory for engineered structural fill materials when classified as follows: ML, Cl, MH, CH, OL, OH, PT, or any material having a plasticity index that exceeds 15 percent. The geotechnical engineer may approve other fill materials.

Table 8: Structural fill material criteria

Sieve Size (ASTM C136)	Percentage by Weight Passing
4-inch	100
¾-inch	70-100
No. 4	15-65
No.200	5-20
Additional Requirements	
Liquid Limit	35 MAX
Plasticity Index	15 MAX
Resistance (R) Value	30 MIN
Sulfate Content	0.1% MAX
Organic Content	1.0% MAX

- Imported materials should be tested and approved by the geotechnical firm providing testing during construction prior to importing.
    - We recommend collecting and testing a representative soil sample of any proposed imported fill material to document compliance with these specifications.
- Imported material should be compatible with onsite soils and suitable for intended use.
- In general, material greater than 12 inches in diameter should not be used in fills within five feet (5') below the bottom of the footing within building pad areas.
- Fill containing material greater than six inches (6") in diameter should not be used in utility trenches, behind retaining walls, or against foundations or grade beams.
- Select free-draining granular materials should be used as backfill immediately behind retaining walls (6 to 12 inches). As an option, a prefabricated drain may be used and should be installed in accordance with the manufacturer's recommendations.

5.8 Utility Trench Backfill

The Earthwork Contractor must comply with the "Safety and Health Regulations for Construction" as directed by the Occupational Safety and Health Act (OSHA Standards, Volume III, Part 1926, Subpart P) while excavating and backfilling. The Earthwork Contractor is also responsible for providing a competent person to ensure excavation safety as defined by OSHA standards. UES considers the project type soils an

OSHA Soil Type C. Therefore, the maximum allowable slope for excavations less than 20 feet deep is 1½H:1V or 34°. UES strongly suggests that earthwork and trench contractors conduct a trench-specific evaluation to determine safe working conditions.

Pipe bedding and trench backfill materials should be moisture conditioned to near optimum (±2%) and compacted to 90 percent relative compaction, or local requirements, based on the maximum dry density determined by ASTM D1557. The thickness of lifts shall be restricted to a maximum of eight inches (8") (loose) and be individually tested unless the Earthwork Contractor can demonstrate their ability to achieve the required compaction.

Surface stormwater runoff should be prevented from infiltrating into utility trenches. As such, lean concrete should be used for manhole collars to minimize infiltration at these points.

For corrosion protection, where steel or metal pipes are proposed, we recommend that the contractor follow the pipe manufacturer's recommendation regarding corrosion protection.

5.9 FOUNDATIONS

5.9.1 Shallow Foundations

Shallow foundations shall be designed and constructed per local building codes and IBC 2018 Sections 1808 and 1809. The construction of shallow foundations shall occur on verified compacted soils. Supporting soils must be free of mounds and depressions to ensure uniform compaction and support for the foundation system. Materials greater than six inches (6") are not recommended on the surface of the native supporting soils. When fills are used to support a foundation system, materials greater than six inches (6") are not permitted 24 inches (24") below the foundation system's base.

UES considers the fine-grained, potentially expansive native soils unsuitable in their observed state to support structures associated with the Sun Seek solar project. Potential mitigation strategies include over-excavation and re-compaction of native soils, importing non-expansive soils, chemical treatment, or the inclusion of mechanical reinforcement (e.g., geogrids). Numerous factors (e.g., imposed load, allowable total and differential settlements) affect the feasibility and efficacy of the various mitigation strategies. UES should be retained to provide additional geotechnical guidance once equipment and site layout plans have been developed.

Allowable bearing pressure is calculated considering an acceptable total and differential settlement with the addition of a safety factor against shear failure below foundation structural elements, derived from ultimate bearing capacity using surcharge, cohesion, and self-weight factors for the subject site soil material properties. below provides recommended preliminary foundation design values.

Table 9 below provides recommended preliminary foundation design values.

Table 9: Preliminary shallow foundation design values

Description	Value
Allowable bearing pressure [1]	1,500 psf
Minimum width [2]	18 inches
Minimum embedment depth [2,3]	24 inches [4]
Anticipated total settlement	Less than 1 inch
Anticipated differential settlement	Less than ½ inch

Notes:
1. A one-third increase may be used for wind or seismic loads.
2. Minimum width and embedment depth are for conventional spread footings
3. Below the lowest adjacent final compacted subgrade (generally pad grade before landscaping)
4. Required by Washoe County Building Department, 2018 Northern Nevada Amendments, Appendix Table R301.2(1) – City of Reno)

5.9.2 Driven Pile Solar Foundations

We consider the Solar project site geotechnically suitable for the use of driven pile foundations to support the PV arrays and ancillary components of the proposed project. For preliminary design purposes, we believe that the driven piles used to support the PV arrays will likely require embedment depths in the neighborhood of ten feet (10') for steel W6X9 piles or similar. Deeper driven piles may be used to support ancillary and support structures at the site. Due to the corrosive potential of the project site soil, cathodic protection and the inclusion of sacrificial pile thickness should be considered as the design develops. UES recommends the implementation of a pile load testing program to develop performance based geotechnical recommendations for driven pile foundations.

5.9.2.1 Adfreeze Stresses

The USDA's Web Soil Survey website has estimated that the Chuckles-playas complex and the Chuckles-Ragtown-playas complex units that make up the majority of the site are considered to have a Moderate to High Frost Heave potential. This high frost heave potential was verified by the presence of fine-grained, moisture sensitive soils within the top five feet (5') of the subsurface. It is also exacerbated by the fluctuating climate of the area, which the USDA claims reaches temperatures above 100° F in the summer and below 5° F in the winter. The design embedments of the solar pile foundations should consider a depth that will resist the adfreeze stresses exerted on the piles during their lifetime due to frost heave.

UES recommends that the design of the Sun Seek solar facility include the effects of adfreeze stresses. For preliminary design, we recommend considering an uplift force (adfreeze stress) of 2,500 psf to be applied to the upper two feet of all driven pile foundations. UES recommends additional geotechnical services to assess the potential of adfreeze stresses better.

5.10 Exterior Flatwork and Mat Foundation Construction

Exterior civil flat work should be supported on a minimum of six inches (6") of type II Class B crushed aggregate base placed on 18 inches of compacted native soils. Concrete flatwork not subject to traffic loading should be a minimum of four inches (4") thick, and concrete flatwork subjected to traffic or other

heavy loads should be a minimum of six inches (6") thick. We recommend that a structural engineer design/verify the required thickness of exterior flatwork and mat foundations.

5.11 Pavement Design

UES anticipates that the roads developed for the Seeker solar site access will likely be unpaved aggregate base roads. Resistance Value (R-value) testing was completed on samples taken from TP 5 and TP 12 between 1 and 2 feet, resulting in values of 9 and 13, respectively. Based on these values, UES believes that the aggregate access and maintenance roads will require a minimum of six inches of Type II Class B crushed aggregate base. Further, we recommend that the native soils undergo a minimum of 18 inches of over-excavation and densification before importing a structural layer of base (Type II or similar) for the roads. Native and imported soils should be moisture-conditioned and compacted per this report's Compaction Recommendations section.

UES suggests using a geogrid (e.g., TX5 or TX7) to increase the aggregate roads' longevity. Geogrids have been demonstrated to extend the durability and life of subgrade significantly, lowering future maintenance costs. UES has not received or reviewed traffic loadings or volumes for the proposed development, and the recommendations provided are based on our experience.

The Earthwork Contractor shall ensure that field density tests have been performed to document the relative compaction of at least the upper 18 inches of compacted native soil beneath the aggregate base section. Preparation of the native soils shall be documented before the subgrade placement. Native soils shall be compacted to a smooth, non-yielding surface before placement of aggregate base.

5.12 Concrete Slabs

The American Concrete Institute (ACI 302) recommendations for slabs-on-grade should be complied with for all concrete placement and curing operations. Northern Nevada is a region with relatively low humidity; consequently, concrete flatwork is prone to shrinking and curling. Improper curing techniques, excessive water-cement ratios, or inadequate quality control measures can result in random cracking, excessive shrinkage, or slab curling. Control joints and reinforcements shall be utilized to help mitigate any damage resulting from the curing of the concrete slabs.

Concrete slabs shall be supported by a minimum six-inch (6") layer of Type 2, Class B aggregate base per the Standard Specifications for Public Works Construction 2016. The aggregate base layer is a leveling course between the subgrade and concrete slab and is a critical element of the concrete slab's structural capacity. The structural engineer shall design the building's floor slab. For concrete slabs founded on a properly compacted Type 2 Class B aggregate base, a coefficient of subgrade reaction (k-value) of 300 pounds per cubic inch (300 pci) should be used. The aggregate base layer shall be moisture conditioned and compacted according to the recommendations in this report's Compaction Recommendations section. The aggregate base layer should be moistened before the placement of concrete.

5.13 Permanent Slopes

As UES understands the project, there are no current grading plans that include permanent slopes on the project site. Shallow slopes (less than ten feet in vertical relief) can be designed with a maximum allowable slope ratio of 3H:1V. If plans change, please get in touch with UES for site-specific permanent slope recommendations.

5.14 Retaining Walls

UES has provided general retaining wall construction recommendations to increase the likelihood of retaining walls meeting or exceeding long-term performance expectations.

Backfill within two feet (2') of the retaining wall's back face shall be compacted to 90 percent but not more than 92 percent of the maximum dry density as determined by ASTM D1557.

Care must be taken to not over-compact backfilled soils within two feet (2') of the wall's back face to minimize pressure on the wall; over-compaction may cause excessive lateral earth pressures, resulting in unintended wall movement. Backfilling should only occur once the concrete or other wall construction material has achieved sufficient strength, as determined by the wall designer. Further, UES recommends using only handheld (e.g., vibratory plates or jumping jack compactors) compaction equipment within two feet (2') of the wall.

Soils greater than two feet (2') from the wall's back face should be compacted to earthwork and fill recommendations provided in this report.

The buildup of hydrostatic water pressure behind the wall poses a significant risk to the retaining wall's performance. The hydrostatic pressures increase the loading on the wall and simultaneously reduce the backfill soils' bearing capacity. Therefore, a wall drainage system shall be installed to mitigate the potential for hydrostatic water buildup. Wall drainage should consist of a minimum of two (2) cubic feet of drain rock per linear foot of the retaining wall, wrapped in filter fabric (e.g., Mirafi 140N or equivalent), placed at the wall base, and made to discharge to an appropriate outlet. Drain rock should consist of clean, uniformly sized gravel, ¾-inch in nominal size. The structural fill immediately behind retaining walls (6 to 12 inches) should be granular and free draining. The upper two feet (2') of backfill should comprise compacted native soils. A prefabricated drain may be used behind walls; holes or slits used to capture water shall be placed facing down to maximize its ability to capture and convey water away from the structure.

The wall drainage system is an integral part of the retaining wall design. The retaining wall designer is ultimately responsible for the design and shall ensure that the above-recommended drainage system is compatible with the wall's design or select a different drainage system at their discretion. Walls below grade should be dampproofed and ideally waterproofed.

5.15 Lateral Earth Pressures

For soils above any free water surface, with level backfill and no surcharge loads, we recommend the following equivalent fluid pressures and coefficient of friction:

Table 10: Retaining wall design parameters

Soil Parameter	Value
Soil Unit Weight	120 pcf
Internal Angle of Friction	28°
Cohesion	0 psf
Coefficient of Friction	0.36

Table 11: Lateral earth pressure recommendations, assuming vertical wall back face

Loading Condition	Lateral Earth Coefficient		Equivalent Fluid Pressures	Units
Horizontal Backfill	K_0	0.50	65	pcf
	K_a	0.40	45	pcf
	K_p	2.80	330	psf/ft

Notes:
1. The above values do not include a factor of safety. The designer should employ an adequate factor of safety.
2. Passive pressures should not exceed a maximum of 4,000 psf. A one-third (1/3) increase may be used for wind or seismic loads.

If the retaining wall is constrained and prevented from lateral movement (e.g., basement walls, loading docks), the at-rest equivalent fluid pressure should be used for design instead of the active equivalent fluid pressure. The prevention of lateral movement does not allow sufficient soil displacement to activate the active forces. Therefore, restrained retaining walls should be designed using the at-rest (K_0) pressure.

For static conditions, the lateral earth pressures on a retaining wall increase linearly from the surface, resulting in triangular force distribution. Therefore, the resultant of the static lateral earth pressures acting on the retaining wall at a point H/3 from the base of the wall (H = retaining wall height).

5.16 Site Drainage

Foundation soils should not be allowed to become saturated during or after construction, except when necessary to increase moisture content prior to construction. Infiltration of water into the foundation or utility excavations should be prevented during construction. Utility lines should be properly installed and the backfill properly compacted to avoid possible sources for subsurface saturation.

Positive drainage away from the buildings should be provided during construction and maintained throughout the life of the buildings. Any downspouts, roof drains, or scuppers should discharge into splash blocks or extensions and away from the buildings. Backfill against footings, exterior walls, and utility trenches should be properly compacted and free of construction debris to reduce the possibility of moisture infiltration.

The performance of the foundation system recommended in this report depends on the ability to keep moisture from penetrating the soils below the foundations and slabs. Therefore, we recommend the following:

- Positive drainage should be maintained away from the buildings.
    - Positive drainage of 2% minimum shall be maintained for areas adjacent to the buildings not covered by concrete or asphalt.
    - Areas where concrete or asphalt about the buildings should be sloped a minimum of 2% away from the buildings.
    - A minimum of positive drainage of 1% shall be maintained for areas adjacent to block walls.
    - Positive drainage should be maintained for ten feet (10’). If physical obstructions or lot lines prohibit ten feet (10’) of horizontal distance, the slope should be provided with an approved alternate drainage method.

If the above recommendations are not followed, there would be an increased risk/potential for increasing moisture below foundations and slabs, resulting in additional movement and distress to structures and slabs.

5.17 Additional Services

UES should also be retained to provide a general review of final design plans and specifications so that grading and foundation recommendations may be interpreted and implemented. If any changes to the proposed project are planned, this report's conclusions and recommendations should be reviewed, and the report modified or supplemented as necessary.

6 LIMITATIONS

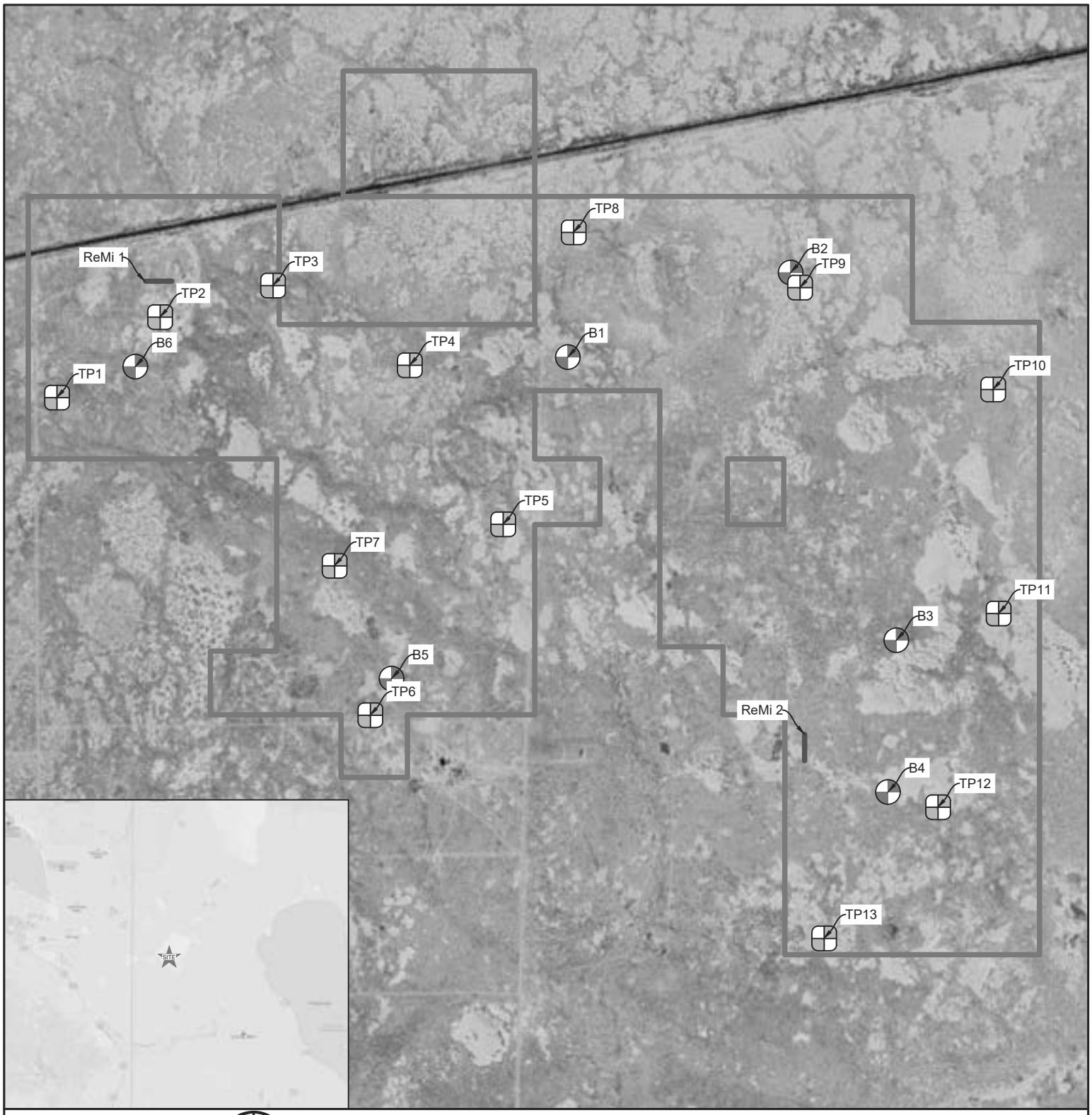
The analyses and recommendations in this report are based in part on data obtained from the field exploration. The nature and extent of variations beyond the locations of the explorations may not become evident until construction. If variations then appear evident, it may be necessary to re-evaluate the recommendations of this report.

Our professional services were performed using the degree of care and skill ordinarily exercised, under similar circumstances, by reputable geotechnical engineers practicing in this or similar localities. No warranties, either express or implied, are intended or made. We prepared this report to aid the geotechnical exploration plan. This report is not a bidding document. Any contractor reviewing this report must draw their own conclusions regarding site conditions and specific construction techniques for this project.

Appendix A

Maps

Exploration Map.....Plate A-1
Geologic Map.....Plate A-2



UES

Exploration Map

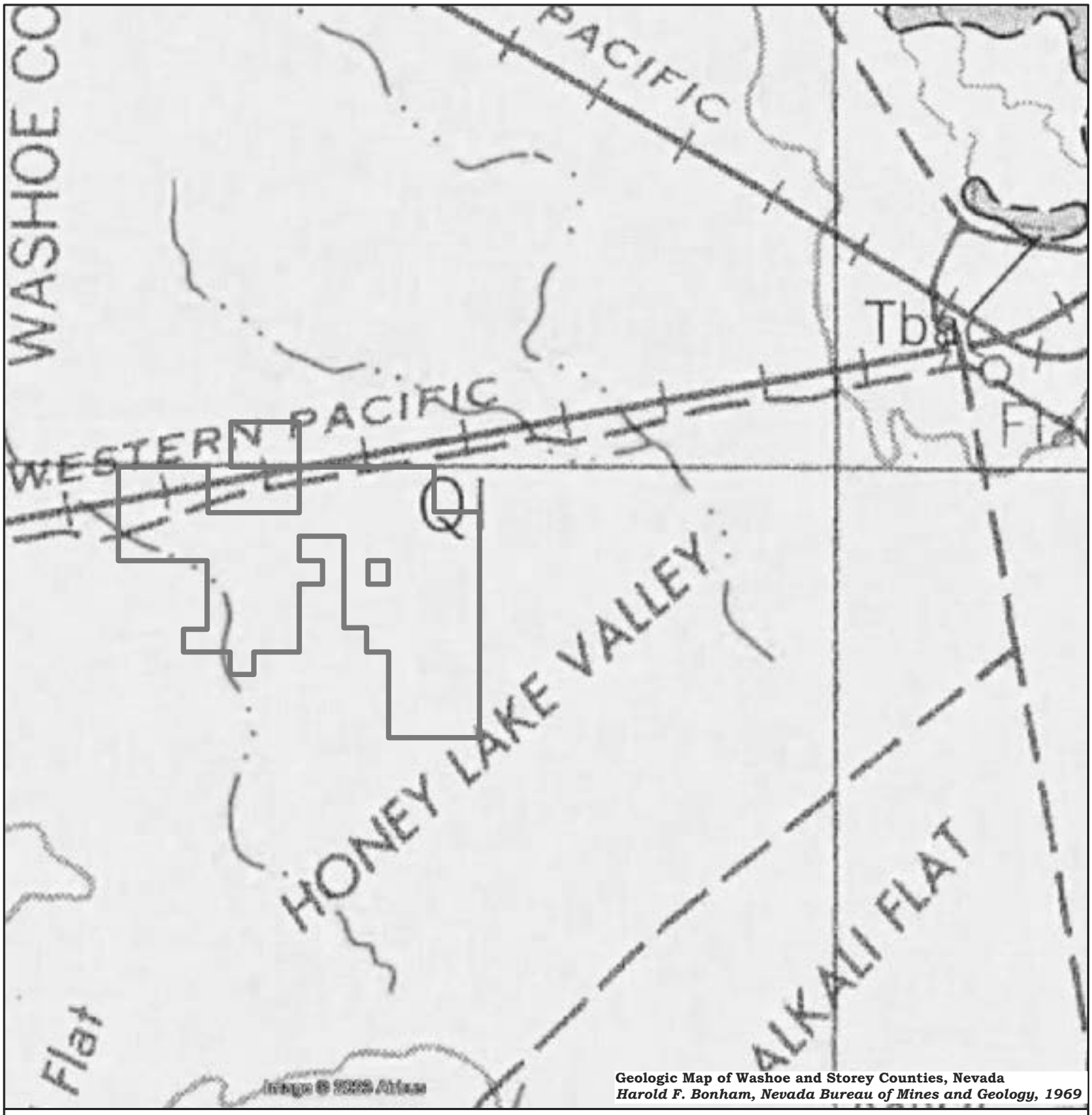
Sunseeker Solar

Washoe County, Nevada

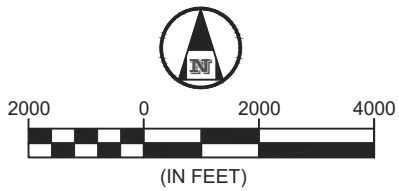
Date:
01-29-2024

Job No:
4140.2300007.0000

Plate A-1



Geologic Map of Washoe and Storey Counties, Nevada
Harold F. Bonham, Nevada Bureau of Mines and Geology, 1969



Ql Lake deposits, clay, silt, sand, gravel, and calcareous tufa. Includes some areas thinly veneered by eolian sand.

Tba Basalt - flows and intrusive dikes of olivine basalt derived from fissures and from central vents such as Twin and Poodle Mountains.

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Geologic Map

Sunseeker Solar

Washoe County, Nevada

Date:
01-29-2024

Job No:
4140.2300007.0000

Plate A-2

Appendix B

Exploration

Site Walk Photos.....Plate B-1 & B-2
Exploration Photos (Borings).....Plate B-3 through B-4
Exploration Photos (Test Pits).....Plate B-5 through B-11
Test Pit and Boring Logs.....Plate B-12 through B-32
Key to Symbols.....Plate B33









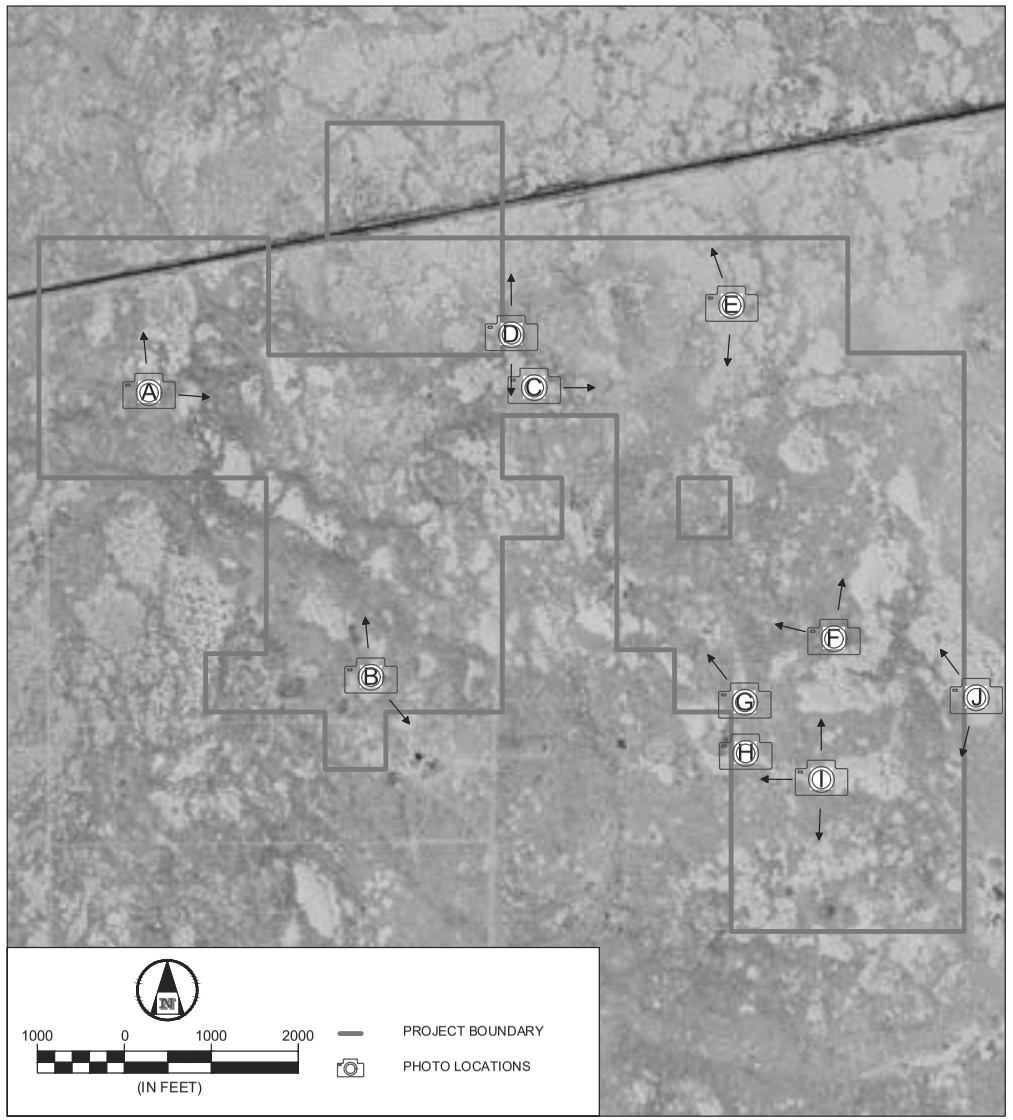












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Site Walk Photos

Sunseeker Solar

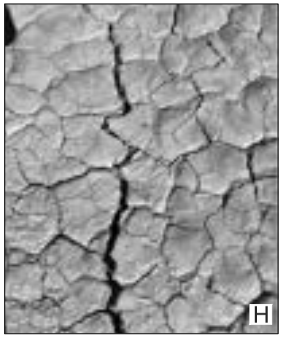
Washoe County, Nevada

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Job No.	4140.2300007.0000
Date	12-18-2023
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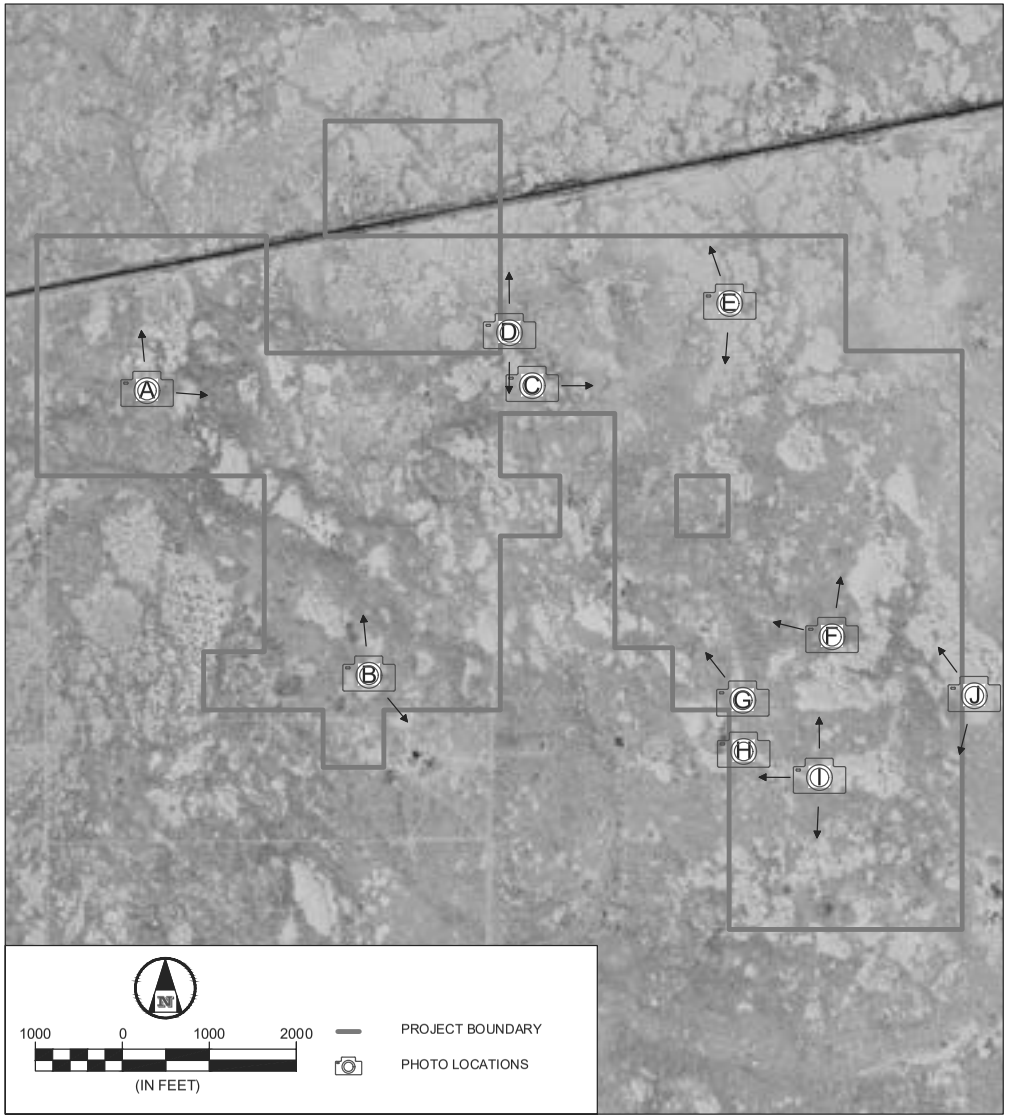












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Site Walk Photos - Cont.

Sunseeker Solar

Washoe County, Nevada

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Job No.	4140.2300007.0000
Date	12-18-2023
Scale	
Figure	B-2



B1 at 30.5'



B1 at 15'

Boring 1

UES	**Exploration Photos** **Sunseeker Solar** **Washoe County, Nevada**	**Date:** 12-15-2023 **Job No:** 4140-2300007.0000 **Plate B-3**





Boring 5 at 15'

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Exploration Photos

Sunseeker Solar

Washoe County, Nevada

Date: 12-15-2023

Job No: 4140.2300007.0000

Plate B-4









Test Pit 1

UES

Exploration Photos

Sunseeker Solar

Washoe County, Nevada

Date: 12-15-2023

Job No: 4140.2300007.0000

Plate B-5







Test Pit 2

UES

Exploration Photos

Sunseeker Solar

Washoe County, Nevada

Date:	**12-15-2023**
Job No:	**4140.2300007.0000**
Plate B-6	







Test Pit 3

UES

Exploration Photos

Suseeker Solar

Washoe County, Nevada

Date:	**12-15-2023**
Job No:	**4140.2300007.0000**
Plate B-7	







Test Pit 4

UES

Exploration Photos

Sunseeker Solar

Washoe County, Nevada

Date: 12-15-2023

Job No: 4140.2300007.0000

Plate B-8







Test Pit 5

UES

Exploration Photos

Sunseeker Solar

Washoe County, Nevada

Date: 12-15-2023
Job No: 4140.2300007.0000
Plate B-9







Test Pit 6

UES

Exploration Photos

Sunseeker Solar

Washoe County, Nevada

Date: 12-15-2023

Job No: 4140.2300007.0000

Plate B-10







Test Pit 7

UES	**Exploration Photos** **Sunseeker Solar** **Washoe County, Nevada**	**Date:** 12-15-2023 **Job No:** 4140.2300007.0000 **Plate B-11**

UNIVERSAL ENGINEERING SCIENCES

LOG OF TEST PIT No. TP 1

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
LOCATION: 40.152963°, -119.978881° **ELEVATION:** 3998 Feet NAD 83/84
OPERATOR: Nevada Excavation **LOGGED BY:** DL
EXCAVATION METHOD: Cat 304E Mini Excavator **DATE:** 11/2/23
DEPTH TO WATER, INITIAL: ▽ N/A **AFTER 24 HOURS:** ▽ N/A **CAVING>** ⊂ N/A

Elevation / Depth (Ft)	Description	Graphic	USCS	SAMPLERS	% < #200
3998 — 0					
	SANDY SILT (ML): Gray-Brown; Soft; Dry; Organics Becomes Slightly Moist Penetrometer = 4.5 TSF; Becomes Hard End Organics		ML		
3996 — 2					
3994 — 4					
	SANDY CLAY (CH): Dark Brown; Very Stiff; Slightly Moist Penetrometer = 4.0 TSF	4	CH		66
	SANDY SILT (ML): Gray- Brown; Medium Stiff; Slightly Moist Penetrometer = 1.0 TSF	5	ML		
3992 — 6					
3990 — 8					
3988 — 10		10			
3986 — 12					
3984 — 14					

TEST RESULTS
Plastic Limit ⊢——⊣ Liquid Limit
Water Content - ●
10 20 30 40 50

Test pit terminated at 10 feet.
No free water encountered. TSF = tons per square foot.

This information pertains only to this test pit and should not be interpreted as being indicative of the entire site.

UNIVERSAL ENGINEERING SCIENCES

LOG OF TEST PIT No. TP 2

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
LOCATION: 40.155064°, -119.975037° **ELEVATION:** 3998 Feet NAD 83/84
OPERATOR: Nevada Excavation **LOGGED BY:** DL
EXCAVATION METHOD: Cat 304E Mini Excavator **DATE:** 11/2/23
DEPTH TO WATER, INITIAL: ▽ N/A **AFTER 24 HOURS:** ▽ N/A **CAVING>** ⊂ N/A

Elevation / Depth (Ft)	Description	Graphic	USCS	SAMPLERS	% < #200	TEST RESULTS: Plastic Limit — Liquid Limit; Water Content - ● (10 20 30 40 50)
3998 — 0	SANDY SILT (ML): Gray-Brown; Soft; Dry; Organics					
	Becomes Slightly Moist					
	End Organics					
3996 — 2	Penetrometer = 1.5; Becomes Stiff					
	Penetrometer = 2.0					
3994 — 4			ML			
3992 — 6	Penetrometer = 1.0; Becomes Medium Stiff					
3990 — 8						
	9					
	SILTY SAND (SM): White; Loose; Dry; Weakly Cemented; Fine Sand Fraction		SM			
	9.5		ML			
3988 — 10	SANDY SILT (ML): Gray-Brown; Medium Stiff; Slightly Moist					
	10					
3986 — 12						
3984 — 14						

Test pit terminated at 10 feet.
No free water encountered. TSF = tons per square foot.

This information pertains only to this test pit and should not be interpreted as being indicative of the entire site.

UNIVERSAL ENGINEERING SCIENCES

LOG OF TEST PIT
No. TP 3

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
LOCATION: 40.156014°, -119.970648° **ELEVATION:** 3997 Feet NAD 83/84
OPERATOR: Nevada Excavation **LOGGED BY:** DL
EXCAVATION METHOD: Cat 304E Mini Excavator **DATE:** 11/2/23
DEPTH TO WATER, INITIAL: ▽ N/A **AFTER 24 HOURS:** ▽ N/A **CAVING>** ⌭ N/A

Elevation / Depth (Ft)	Description	Graphic	USCS	SAMPLERS	% < #200	TEST RESULTS
3996 / 0	SANDY SILT (ML): Gray-Brown; Soft; Dry; Organics Becomes Slightly Moist Penetrometer = 4.5; Becomes Hard		ML			Plastic Limit ⊢—⊣ Liquid Limit Water Content - ● 10 20 30 40 50
3994 / 2	SANDY CLAY (CL): Dark Brown; Very Stiff; Slightly Moist Penetrometer = 3.5 TSF Penetrometer = 2.0 TSF; Becomes Stiff		CL			
3992 / 4.5	SANDY SILT (ML): Gray-Brown; Stiff; Slightly Moist Penetrometer = 2.5 TSF; Becomes Very Stiff		ML			
3990 / 6						
3988 / 8						
3986 / 10						
3984 / 12						
14						
	10.5					

Test pit terminated at 10.5 feet.
No free water encountered. TSF = tons per square foot.

This information pertains only to this test pit and should not be interpreted as being indicative of the entire site.

UNIVERSAL ENGINEERING SCIENCES

LOG OF TEST PIT No. TP 4

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
LOCATION: 40.153612°, -119.965507° **ELEVATION:** 3996 Feet NAD 83/84
OPERATOR: Nevada Excavation **LOGGED BY:** DL
EXCAVATION METHOD: Cat 304E Mini Excavator **DATE:** 11/2/23
DEPTH TO WATER, INITIAL: ▽ N/A **AFTER 24 HOURS:** ▽ N/A **CAVING>** ⊂ N/A

Elevation / Depth (Ft)	Description	Graphic	USCS	SAMPLERS	% < #200	TEST RESULTS
3996 — 0	SANDY SILT (ML): Gray-Brown; Soft; Dry; Organics Becomes Slightly Moist		ML			Plastic Limit ⊢——⊣ Liquid Limit Water Content - ●
	1					10 20 30 40 50
	SANDY CLAY (CL): Dark Brown; Very Stiff; Slightly Moist End Organics Penetrometer = 2.5 TSF		CL			
3994 — 2	2.25					
	SANDY SILT (ML): Gray-Brown; Very Stiff; Slightly Moist					
3992 — 4	Penetrometer = 2.5 TSF					
3990 — 6	Penetrometer = 2.0 TSF; Becomes Stiff		ML			
3988 — 8						
3986 — 10	10					
3984 — 12						
3982 — 14						

Test pit terminated at 10 feet.
No free water encountered. TSF = tons per square foot.

This information pertains only to this test pit and should not be interpreted as being indicative of the entire site.

UNIVERSAL ENGINEERING SCIENCES

LOG OF TEST PIT No. TP 5

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
LOCATION: 40.149070°, -119.961971° **ELEVATION:** 3994 Feet NAD 83/84
OPERATOR: Nevada Excavation **LOGGED BY:** DL
EXCAVATION METHOD: Cat 304E Mini Excavator **DATE:** 11/2/23
DEPTH TO WATER, INITIAL: ▽ N/A **AFTER 24 HOURS:** ▽ N/A **CAVING>** ⊂ N/A

Elevation / Depth (Ft)	Description	Graphic	USCS	SAMPLERS	% < #200	TEST RESULTS
3994 — 0	SANDY SILT (ML): Gray-Brown; Soft; Dry; Organics					Plastic Limit ⊢——⊣ Liquid Limit
	Becomes Slightly Moist					Water Content - ●
	Becomes Brown					10 20 30 40 50
	Penetrometer = 1.0 TSF; Becomes Medium Stiff; Gray-Brown					
3992 — 2						
	Penetrometer = 2.0 TSF; Becomes Stiff					
3990 — 4						
	Penetrometer = 1.5 TSF		ML			
3988 — 6						
	Penetrometer = 0.75 TSF; Becomes Medium Stiff					
3986 — 8						
3984 — 10	10					
3982 — 12						
3980 — 14						

Test pit terminated at 10 feet.
No free water encountered. TSF = tons per square foot.

This information pertains only to this test pit and should not be interpreted as being indicative of the entire site.

UNIVERSAL ENGINEERING SCIENCES

LOG OF TEST PIT No. TP 6

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
LOCATION: 40.143540°, -119.967058° **ELEVATION:** 3996 Feet NAD 83/84
OPERATOR: Nevada Excavation **LOGGED BY:** DL
EXCAVATION METHOD: Cat 304E Mini Excavator **DATE:** 11/2/23
DEPTH TO WATER, INITIAL: ▽ N/A **AFTER 24 HOURS:** ▽ N/A **CAVING>** ⊂ N/A

Elevation / Depth (Ft)	Description	Graphic	USCS	SAMPLERS	% < #200	TEST RESULTS
3996 — 0	SANDY SILT (ML): Gray-Brown; Soft; Dry; Organics					Plastic Limit ⊢—⊣ Liquid Limit
	Becomes Brown and Slightly Moist					Water Content - ●
	Becomes Gray-Brown					10 20 30 40 50
	Penetrometer = 3.0 TSF; Becomes Very Stiff; End Organics					
3994 — 2			ML			
	Penetrometer = 2.75 TSF					
3992 — 4						
	Penetrometer = 1.0 TSF; Becomes Medium Stiff					
	6					
3990 — 6	SILTY SAND (SM): Gray-Brown; Loose; Slightly Moist				49	
3988 — 8			SM			
	10					
3986 — 10						
3984 — 12						
3982 — 14						

Test pit terminated at 10 feet.
No free water encountered. TSF = tons per square foot.

This information pertains only to this test pit and should not be interpreted as being indicative of the entire site.

UNIVERSAL ENGINEERING SCIENCES

LOG OF TEST PIT No. TP 7

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
LOCATION: 40.147856°, -119.968416° **ELEVATION:** 3996 Feet NAD 83/84
OPERATOR: Nevada Excavation **LOGGED BY:** DL
EXCAVATION METHOD: Cat 304E Mini Excavator **DATE:** 11/2/23
DEPTH TO WATER, INITIAL: ▽ N/A **AFTER 24 HOURS:** ▽ N/A **CAVING>** C 9

Elevation / Depth (Ft)	Description	Graphic	USCS	SAMPLERS	% < #200	TEST RESULTS
3996 — 0	SANDY SILT (ML): Gray-Brown; Soft; Dry; Organics					Plastic Limit ⊢——⊣ Liquid Limit; Water Content - ●
	End Organics					10 20 30 40 50
3994 — 2	Caving/Weak Sidewalls					
3992 — 4			ML			
3990 — 6						
3988 — 8						
	C 9					
3986 — 10						
3984 — 12						
3982 — 14						

Test pit terminated at 9 feet.
No free water encountered. TSF = tons per square foot.

This information pertains only to this test pit and should not be interpreted as being indicative of the entire site.

UNIVERSAL ENGINEERING SCIENCES

LOG OF TEST PIT
No. TP 8

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
LOCATION: 40.157494°, -119.959365° **ELEVATION:** 3995 Feet NAD 83/84
OPERATOR: Nevada Excavation **LOGGED BY:** DL
EXCAVATION METHOD: Cat 304E Mini Excavator **DATE:** 11/3/23
DEPTH TO WATER, INITIAL: ▽ N/A **AFTER 24 HOURS:** ▽ N/A **CAVING>** ⊂ N/A

Elevation / Depth (Ft)	Description	Graphic	USCS	SAMPLERS	% < #200	TEST RESULTS
0 / 3994	SILT (ML): Gray-Brown; Soft; Dry; Organics				95	Plastic Limit ⊢—⊣ Liquid Limit; Water Content - ●
	Becomes Slightly Moist					
	Becomes Brown					
	Penetrometer = 1.25 TSF; Becomes Stiff; Gray-Brown; End Organics					
2 / 3992	Penetrometer = 4.5 TSF; Becomes Hard					
4 / 3990	Penetrometer = 2.5 TSF; Becomes Very Stiff		ML			
6 / 3988						
8 / 3986						
10 / 3984	10'					
12 / 3982						
14						

Test pit terminated at 10 feet.
No free water encountered. TSF = tons per square foot.

This information pertains only to this test pit and should not be interpreted as being indicative of the entire site.

UNIVERSAL ENGINEERING SCIENCES

LOG OF TEST PIT No. TP 9

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
LOCATION: 40.155936°, -119.950697° **ELEVATION:** 3993 Feet NAD 83/84
OPERATOR: Nevada Excavation **LOGGED BY:** DL
EXCAVATION METHOD: Cat 304E Mini Excavator **DATE:** 11/3/23
DEPTH TO WATER, INITIAL: ▽ N/A **AFTER 24 HOURS:** ▼ N/A **CAVING>** ⌭ N/A

Elevation / Depth (Ft)	Description	Graphic	USCS	SAMPLERS	% < #200	TEST RESULTS: Plastic Limit — Liquid Limit; Water Content - ● (10 20 30 40 50)
3992 / 0	SANDY SILT (ML): Gray-Brown; Soft; Dry; Organics					
	Becomes Slightly Moist					
	Becomes Brown; End Organics					
3990 / 2	Penetrometer = 4.5 TSF; Becomes Hard; Gray-Brown					
	Harder/Slower Digging					
3988 / 4	Penetrometer = 4.5 TSF		ML			
3986 / 6	Penetrometer = 4.5 TSF					
3984 / 8						
	8.75					
	SILTY SAND (SM): Brown; Dense; Slightly Moist		SM			
3982 / 10	10					
3980 / 12						
14						

Test pit terminated at 10 feet.
No free water encountered. TSF = tons per square foot.

This information pertains only to this test pit and should not be interpreted as being indicative of the entire site.

UNIVERSAL ENGINEERING SCIENCES

LOG OF TEST PIT No. TP 10

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
LOCATION: 40.152933°, -119.943387° **ELEVATION:** 3994 Feet NAD 83/84
OPERATOR: Nevada Excavation **LOGGED BY:** DL
EXCAVATION METHOD: Cat 304E Mini Excavator **DATE:** 11/3/23
DEPTH TO WATER, INITIAL: ▽ N/A **AFTER 24 HOURS:** ▼ N/A **CAVING>** ⊂ N/A

Elevation / Depth (Ft)	Description	Graphic	USCS	SAMPLERS	% < #200	TEST RESULTS
3994 — 0						Plastic Limit ⊢—⊣ Liquid Limit; Water Content - ●
	SANDY SILT (ML): Gray-Brown; Soft; Dry; Organics		ML			10 20 30 40 50
	Becomes Slightly Moist					
	Penetrometer = 1.0 TSF; Becomes Medium Stiff; Brown; End Organics					
	Becomes Gray-Brown					
3992 — 2	Becomes Stiff; Penetrometer = 2.0 TSF					
	Becomes Very Stiff; Penetrometer = 2.5 TSF					
3990 — 4						
	Penetrometer = 2.5 TSF					
3988 — 6						
3986 — 8						
3984 — 10	10					
3982 — 12						
3980 — 14						

Test pit terminated at 10 feet.
No free water encountered. TSF = tons per square foot.

This information pertains only to this test pit and should not be interpreted as being indicative of the entire site.

UNIVERSAL ENGINEERING SCIENCES

LOG OF TEST PIT No. TP 11

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
LOCATION: 40.146417°, -119.943164° **ELEVATION:** 3993 Feet NAD 83/84
OPERATOR: Nevada Excavation **LOGGED BY:** DL
EXCAVATION METHOD: Cat 304E Mini Excavator **DATE:** 11/3/23
DEPTH TO WATER, INITIAL: ▽ N/A **AFTER 24 HOURS:** ▽ N/A **CAVING>** ⊂ N/A

Elevation / Depth (Ft)	Description	Graphic	USCS	SAMPLERS	% < #200	TEST RESULTS
0 / 3992	SANDY SILT (ML): Gray-Brown; Soft; Dry; Organics					Plastic Limit ⊢—⊣ Liquid Limit
	Becomes Slightly Moist					Water Content - ●
	Becomes Brown					10 20 30 40 50
	Penetrometer = 2.75 TSF; Becomes Very Stiff; End Organics				73	
2 / 3990	Becomes Gray-Brown					
4 / 3988	Penetrometer = 3.5 TSF		ML			
6 / 3986	Penetrometer = 2.5 TSF					
8 / 3984						
10 / 3982						
12 / 3980						
14						

Test pit terminated at 10 feet.
No free water encountered. TSF = tons per square foot.

This information pertains only to this test pit and should not be interpreted as being indicative of the entire site.

UNIVERSAL ENGINEERING SCIENCES

LOG OF TEST PIT No. TP 12

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
LOCATION: 40.140747°, -119.945583° **ELEVATION:** 3992 Feet NAD 83/84
OPERATOR: Nevada Excavation **LOGGED BY:** DL
EXCAVATION METHOD: Cat 304E Mini Excavator **DATE:** 11/3/23
DEPTH TO WATER, INITIAL: ▽ N/A **AFTER 24 HOURS:** ▽ N/A **CAVING>** ⊂ N/A

Elevation / Depth (Ft)	Description	Graphic	USCS	SAMPLERS	% < #200	TEST RESULTS: Plastic Limit — Liquid Limit; Water Content - ● (10 20 30 40 50)
3992 — 0	SANDY SILT (ML): Gray-Brown; Soft; Dry; Organics					
	Becomes Slightly Moist					
	Penetrometer = 1.5 TSF; Becomes Stiff; Brown; Moist					
3990 — 2	Penetrometer = 1.5 TSF					
	Penetrometer = 3.0 TSF; Becomes Very Stiff					
3988 — 4	Penetrometer = 1.5 TSF; Becomes Stiff		ML			
3986 — 6	Becomes Gray-Brown and Slightly Moist					
3984 — 8						
3982 — 10	10					
3980 — 12						
3978 — 14						

Test pit terminated at 10 feet.
No free water encountered. TSF = tons per square foot.

This information pertains only to this test pit and should not be interpreted as being indicative of the entire site.

UNIVERSAL ENGINEERING SCIENCES

LOG OF TEST PIT No. TP 13

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
LOCATION: 40.137095°, -119.949763° **ELEVATION:** 3992 Feet NAD 83/84
OPERATOR: Nevada Excavation **LOGGED BY:** DL
EXCAVATION METHOD: Cat 304E Mini Excavator **DATE:** 11/3/23
DEPTH TO WATER, INITIAL: ▽ N/A **AFTER 24 HOURS:** ▽ N/A **CAVING>** ⊂ N/A

Elevation / Depth (Ft)	Description	Graphic	USCS	SAMPLERS	% < #200
3992 — 0	SANDY SILT (ML): Gray-Brown; Soft; Dry; Organics Becomes Slightly Moist Becomes Moist Penetrometer = 3.5 TSF; Becomes Very Stiff		ML		
	1.5				
3990 — 2	SILTY SAND (SM): Brown; Medium Dense; Slightly Moist		SM		33
	3				
	SANDY SILT (ML): Gray-Brown; Soft; Slightly Moist Penetrometer = 0.75 TSF				
3988 — 4	Penetrometer = 1.5 TSF; Becomes Stiff				
3986 — 6	Penetrometer = 3.5 TSF; Becomes Very Stiff		ML		
	Becomes Light Gray-Brown				
3984 — 8					
3982 — 10					
	10				
3980 — 12					
3978 — 14					

TEST RESULTS
Plastic Limit ⊢——⊣ Liquid Limit
Water Content - ●
10 20 30 40 50

Test pit terminated at 10 feet.
No free water encountered. TSF = tons per square foot.

This information pertains only to this test pit and should not be interpreted as being indicative of the entire site.

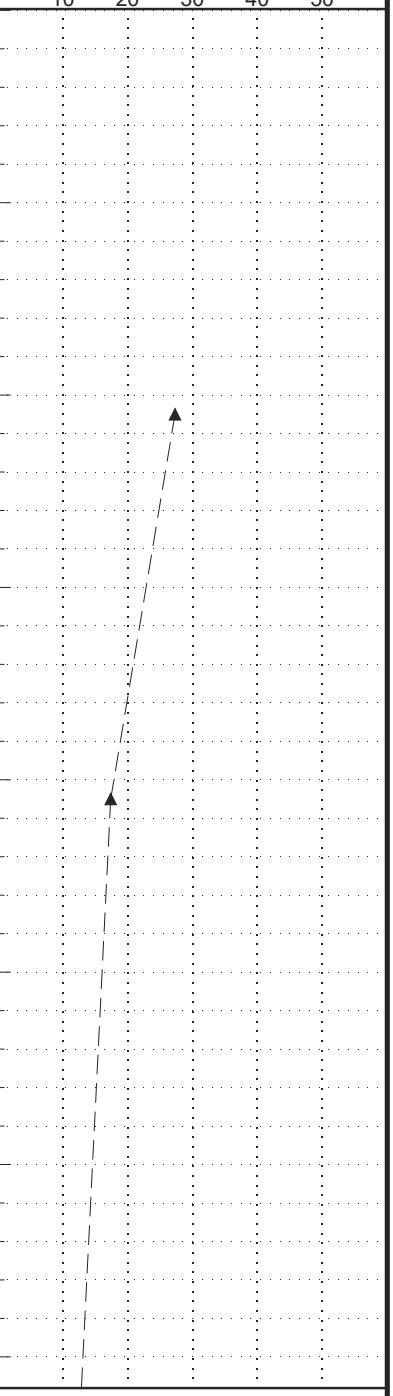
UNIVERSAL ENGINEERING SCIENCES

LOG OF BORING No. B 1

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
BORING LOCATION: 40.153856°, -119.959511° **ELEVATION:** 3994 Feet NAD 83/84
DRILLER: Taber Drilling **LOGGED BY:** KB
DRILLING METHOD: Solid Flight Auger & Hollow Stem Augers **DATE:** 11/21/23
DEPTH TO WATER, INITIAL: ▽ 30 Feet **AFTER 24 HOURS:** ▽ N/A **CAVING>** ⌭ N/A

Elevation / Depth (Ft)	Description	Graphic	USCS	SAMPLERS	Blow Counts	% < #200	Dry Density
0 / 3992.5	SANDY SILT (ML): Light Brown; Very Stiff; Slightly Moist						
2.5	Penetrometer = 2.5 TSF				15 25 25		
5 / 3990	Penetrometer = 3.75 TSF				8 12 13		67
7.5 / 3987.5			ML		6 10 14		
10 / 3985	Becomes Light Yellow-Brown				11 10 11	42	60
12.5 / 3982.5	Becomes Light Brown						
15.0 / 3980	SILTY CLAY (CL-ML): Greenish-Brown; Stiff; Slightly Moist Penetrometer = 4.5 TSF		CL-ML		3 5 12		
16.0 / 3977.5	POORLY GRADED SAND (SP): Yellow-Brown; Loose; Slightly Moist Sample From Cal Mod Shoe						
17.5							

TEST RESULTS
Plastic Limit ⊢——⊣ Liquid Limit
Water Content - ▲
Penetration - ●
10 20 30 40 50



This information pertains only to this boring and should not be interpreted as being indicative of the site.

Free water encountered at 30 feet.
Boring terminated at 45 feet.
Field N blow counts reported. TSF = tons per square foot.

UNIVERSAL ENGINEERING SCIENCES

LOG OF BORING No. B 1

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
BORING LOCATION: 40.153856°, -119.959511° **ELEVATION:** 3994 Feet NAD 83/84
DRILLER: Taber Drilling **LOGGED BY:** KB
DRILLING METHOD: Solid Flight Auger & Hollow Stem Augers **DATE:** 11/21/23
DEPTH TO WATER, INITIAL: ▽ 30 Feet **AFTER 24 HOURS:** ▽ N/A **CAVING>** ⌭ N/A

Elevation/ Depth (Ft)	Description	Graphic	USCS	SAMPLERS	Blow Counts	% < #200	Dry Density
3975 / 20	20.0 POORLY GRADED SAND WITH CLAY (SP-SC): Yellow-Brown; Medium Dense; Slightly Moist		SP		13 19 22	19	103
3972.5 / 22.5	22.5 SANDY CLAY (CL): Dark Brown; Medium Stiff; Moist		SP-SC CL				
3970 / 25	25.0 POORLY GRADED SAND (SP): Yellow-Brown; Medium Dense; Moist		SP		10 21 19	5	
3967.5 / 27.5							
3965 / 30	30.0 SANDY CLAY (CL): Dark Green-Blue; Medium Stiff; Wet Penetrometer = 2.5 TSF				3 4 7		61
3962.5 / 32.5							
3960 / 35	Penetrometer = 1.5 TSF; Becomes Stiff		CL		8 8 9		

TEST RESULTS

Plastic Limit ⊢——⊣ Liquid Limit
Water Content - ▲
Penetration - ●

10 20 30 40 50

64.6 →

Free water encountered at 30 feet.
Boring terminated at 45 feet.
Field N blow counts reported. TSF = tons per square foot.

This information pertains only to this boring and should not be interpreted as being indicative of the site.

UNIVERSAL ENGINEERING SCIENCES

LOG OF BORING No. B 1

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
BORING LOCATION: 40.153856°, -119.959511° **ELEVATION:** 3994 Feet NAD 83/84
DRILLER: Taber Drilling **LOGGED BY:** KB
DRILLING METHOD: Solid Flight Auger & Hollow Stem Augers **DATE:** 11/21/23
DEPTH TO WATER, INITIAL: ▽ 30 Feet **AFTER 24 HOURS:** ▽ N/A **CAVING>** ⌭ N/A

Elevation	Depth (Ft)	Description	Graphic	USCS	SAMPLERS	Blow Counts	% < #200	Dry Density
3957.5	37.5							
3955	40	POORLY GRADED SAND (SP): Brown; Dense; Saturated; Hydrostatic Pressure						
		Sampler Resistance				22 50/3	6	108 94
3952.5	42.5			SP				
3950	45	Boring and sampling terminated due to excessive hydrostatic pressure (heaving sands)						
3947.5	47.5							
3945	50							
3942.5	52.5							

39.5
45.0

TEST RESULTS

Plastic Limit ⊢——⊣ Liquid Limit
Water Content - ▲
Penetration - ●

10 20 30 40 50

This information pertains only to this boring and should not be interpreted as being indicative of the site.

Free water encountered at 30 feet.
Boring terminated at 45 feet.
Field N blow counts reported. TSF = tons per square foot.

UNIVERSAL ENGINEERING SCIENCES

LOG OF BORING No. B 2

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
BORING LOCATION: 40.156257°, -119.957090° **ELEVATION:** 3994 Feet NAD 83/84
DRILLER: Taber Drilling **LOGGED BY:** KB
DRILLING METHOD: Solid Flight Augers **DATE:** 11/21/23
DEPTH TO WATER, INITIAL: ▽ N/A **AFTER 24 HOURS:** ▼ N/A **CAVING>** ⌭ N/A

Elevation / Depth (Ft)	Description	Graphic	USCS	SAMPLERS	Blow Counts	% < #200	Dry Density	TEST RESULTS
0 / 3992.5	SANDY SILT (ML): Light Brown; Stiff; Slightly Moist				7 6 8			Plastic Limit ⊢—⊣ Liquid Limit; Water Content - ▲; Penetration - ●
2.5 / 3990								
5 / 3987.5	Penetrometer = 1.25 TSF				11 15 19		84	▲
7.5 / 3985	Becomes Brown and Weakly Cemented		ML		8 7 9			
10 / 3982.5					7 7 7			
12.5 / 3980								
15 / 3977.5					6 8 13			
16.5 / 17.5								

10 20 30 40 50

No free water encountered.
Boring terminated at 16.5 feet.
N-60 blow counts reported. TSF = tons per square foot.

This information pertains only to this boring and should not be interpreted as being indicative of the site.

UNIVERSAL ENGINEERING SCIENCES

LOG OF BORING No. B 3

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
BORING LOCATION: 40.145650°,-119.947101° **ELEVATION:** 3994 Feet NAD 83/84
DRILLER: Taber Drilling **LOGGED BY:** KB
DRILLING METHOD: Solid Flight Augers **DATE:** 11/21/23
DEPTH TO WATER, INITIAL: ▽ N/A **AFTER 24 HOURS:** ▽ N/A **CAVING>** ⌭ N/A

Elevation	Depth (Ft)	Description	Graphic	USCS	SAMPLERS	Blow Counts	% < #200	Dry Density
3994	0	SANDY SILT (ML): Light Brown; Very Stiff; Slightly Moist		ML		6 7 9		73
3992.5	2.5							
3990	5							
3987.5	7.5							
3985	10							
	10.0	POORLY GRADED SAND (SP): Brown; Loose; Slightly Moist		SP		4 5 7		
3982.5	12.5							
3980	15							
	15.0	SANDY CLAY (CL): Light Brown; Very Stiff; Slightly Moist		CL		7 7 9		
3977.5	16.5							
	17.5							

TEST RESULTS
Plastic Limit ⊢——⊣ Liquid Limit
Water Content - ▲
Penetration - ●
10 20 30 40 50

No free water encountered.
Boring terminated at 16.5 feet.
N-60 blow counts reported. TSF = tons per square foot.

This information pertains only to this boring and should not be interpreted as being indicative of the site.

UNIVERSAL ENGINEERING SCIENCES

LOG OF BORING No. B 4

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
BORING LOCATION: 40.141256°, -119947392° **ELEVATION:** 3992 Feet NAD 83/84
DRILLER: Taber Drilling **LOGGED BY:** KB
DRILLING METHOD: Solid Flight Augers **DATE:** 11/21/23
DEPTH TO WATER, INITIAL: ▽ N/A **AFTER 24 HOURS:** ▽ N/A **CAVING>** ⌭ N/A

Elevation / Depth (Ft)	Description	Graphic	USCS	SAMPLERS	Blow Counts	% < #200	Dry Density	TEST RESULTS
3990 / 0	SANDY SILT (ML): Light Brown; Very Stiff; Slightly Moist		ML					Plastic Limit ⊢—⊣ Liquid Limit; Water Content - ▲; Penetration - ●
3987.5 / 2.5								
3985 / 5	SANDY CLAY (CL): Greenish Brown; Very Stiff; Slightly Moist Penetrometer = 3.5 TSF		CL		8 12 17		75	
3982.5 / 7.5								
3980 / 10	CLAYEY SAND (SC): Dark Brown; Loose; Slightly Moist		SC		4 5 7			
3977.5 / 12.5								
3975 / 15	SANDY CLAY (CL): Greenish-Brown; Stiff; Slightly Moist		CL		3 5 7			
17.5								

5.0 10.0 15.0 16.5

No free water encountered.
Boring terminated at 16.5 feet.
N-60 blow counts reported. TSF = tons per square foot.

This information pertains only to this boring and should not be interpreted as being indicative of the site.

UNIVERSAL ENGINEERING SCIENCES

LOG OF BORING No. B 5

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
BORING LOCATION: 40.144560°, -119.966216° **ELEVATION:** 3994 Feet NAD 83/84
DRILLER: Taber Drilling **LOGGED BY:** KB
DRILLING METHOD: Solid Flight Augers **DATE:** 11/21/23
DEPTH TO WATER, INITIAL: ▽ N/A **AFTER 24 HOURS:** ▽ N/A **CAVING>** ⌭ N/A

Elevation / Depth (Ft)	Description	Graphic	USCS	SAMPLERS	Blow Counts	% < #200	Dry Density
0 / 3992.5	SANDY SILT (ML): Light Brown; Very Stiff; Slightly Moist		ML				
4.0 / 3990	SANDY CLAY (CL): Dark Brown; Very Stiff; Slightly Moist; Weakly Cementation Penetrometer = 3.25 TSF		CL		6 6 7		62
10.0 / 3985	SILTY SAND (SM): White; Loose; Dry; Weakly Cemented; Fine Sand Fraction		SM		2 4 6		
10.5 / 3982.5	SANDY CLAY (CL): Dark Brown; Very Stiff; Slightly Moist; Weakly Cemented		CL				
15.0 / 3980	POORLY GRADED SAND (SP): Light Brown; Medium Dense; Slightly Moist		SP		20 15 15		
17.5 / 3977.5							

TEST RESULTS
Plastic Limit ⊢——⊣ Liquid Limit
Water Content - ▲
Penetration - ●
10 20 30 40 50

This information pertains only to this boring and should not be interpreted as being indicative of the site.

No free water encountered.
Boring terminated at 16.5 feet.
N-60 blow counts reported. TSF = tons per square foot.

UNIVERSAL ENGINEERING SCIENCES

LOG OF BORING No. B 6

PROJECT: Sunseeker Solar GEO **PROJECT NO.:** 4140.2300007.0000
CLIENT: Shreem Brzee Solar, LLC
PROJECT LOCATION: Honey Lake Valley, Washoe County Nevada
BORING LOCATION: 40.153650°, -119.975928° **ELEVATION:** 3997 Feet NAD 83/84
DRILLER: Taber Drilling **LOGGED BY:** KB
DRILLING METHOD: Solid Flight Augers **DATE:** 11/21/23
DEPTH TO WATER, INITIAL: ▽ N/A **AFTER 24 HOURS:** ▼ N/A **CAVING>** ⊂ N/A

Elevation	Depth (Ft)	Description	Graphic	USCS	SAMPLERS	Blow Counts	% < #200	Dry Density
3997	0	SANDY SILT (ML): Light Brown; Very Stiff; Slightly Moist		ML				
3995	2.5							
3992.5	5					8 7 9		66
	5.0	SANDY CLAY (CL): Dark Brown; Very Stiff; Slightly Moist; Weakly Cemented		CL				
3990	7.5							
3987.5	10	Interbedded Lenses of SP and CL				6 3 8		
	11.0	POORLY GRADED SAND (SP): Light Brown; Loose; Slightly Moist		SP				
3985	12.5							
3982.5	15	Becomes Dense				20 28 15		
	16.5							
3980	17.5							

TEST RESULTS
Plastic Limit ⊢——⊣ Liquid Limit
Water Content - ▲
Penetration - ●
10 20 30 40 50

This information pertains only to this boring and should not be interpreted as being indicative of the site.

No free water encountered.
Boring terminated at 16.5 feet.
N-60 blow counts reported. TSF = tons per square foot.

KEY TO SYMBOLS

Symbol	Description
Strata symbols	
	Sandy silt
	Sandy fat clay
	Silty sand
	Sandy lean clay
	Silt
	Silty clay
	Poorly graded sand
	Poorly graded sand with clay
	Clayey sand
Misc. Symbols	
	Depth to caving
	Drill rejection
▲	Moisture content (%)
	Water table during drilling

Symbol	Description
Soil Samplers	
	Bulk/Grab sample
	California sampler
	Standard penetration test

Notes:

1. Boring and test pit locations were taped from existing features and elevations extrapolated from the final design schematic plan.

2. These logs are subject to the limitations, conclusions, and recommendations in this report.

3. Results of tests conducted on samples recovered are reported on the logs.

Appendix C

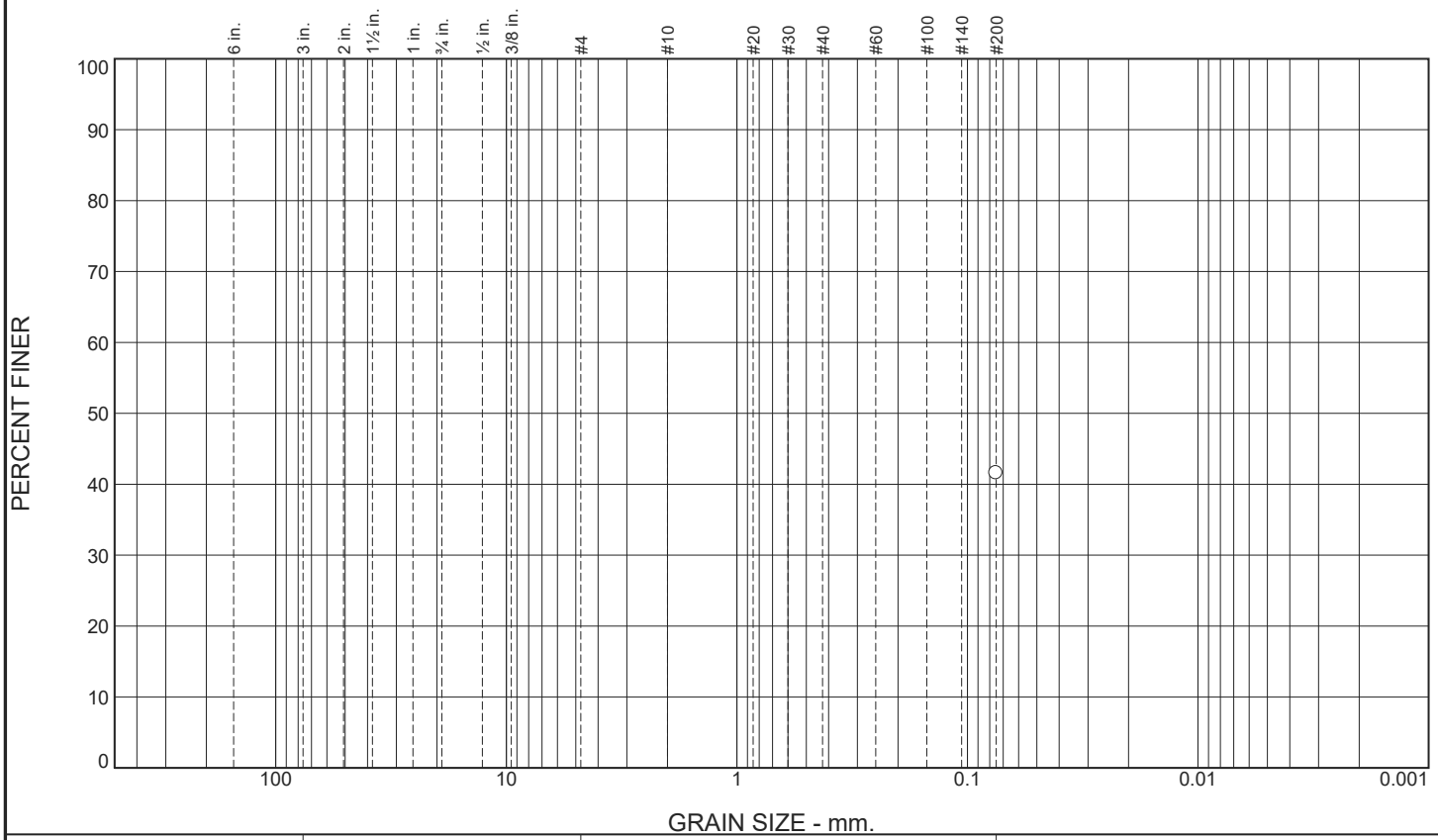
Data

Particle Size Distribution Report.....Plate C-1 through C-9
Liquid & Plastic Limit Test.....Plate C-10
Compaction Test (ASTM D1557).....Plate C-11 through C-13
R-Value Test (ASTM D2844).....Plate C-14 & C-15
Tube Moisture Density Data.....Plate C-16 through C-18
Corrosion Test Data.....Plate C-19

Geophysical Data

Shear Wave Velocity Profile.....Plate C-20

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						41.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	41.6		

* (no specification provided)

Material Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Location: B1 H @ 10.5'
Sample Number: G-23-0031

Date: 12/4/23

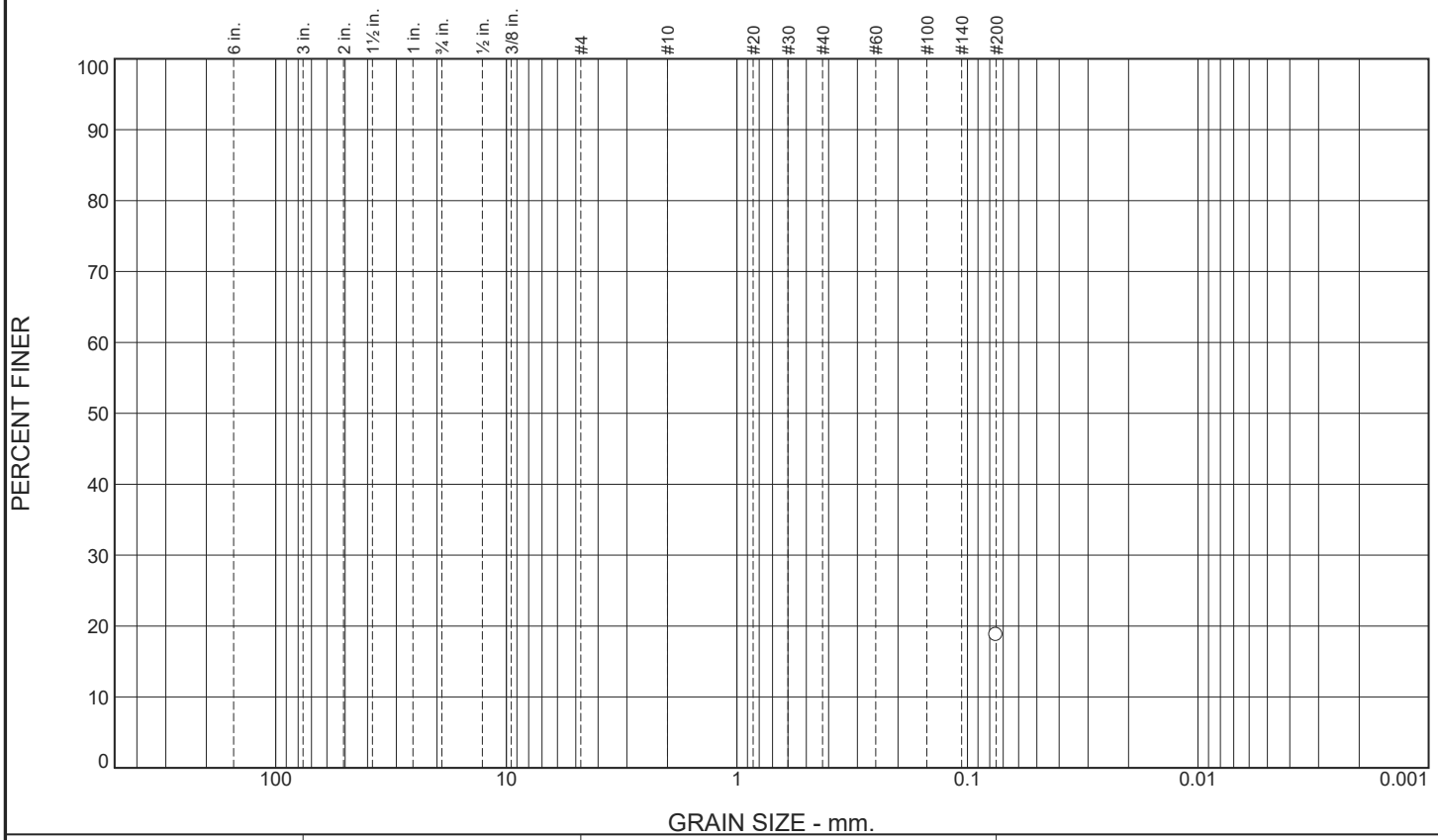
Client: Shreem Brzee Solar, LLC
Project: Sunseeker Solar

Project No: 4140.2300007.0000

Figure C-1

Tested By: CP **Checked By:** LN

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						18.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	18.8		

* (no specification provided)

Material Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Location: B1 M @ 20.54'
Sample Number: G-23-0031

Date: 12/4/23

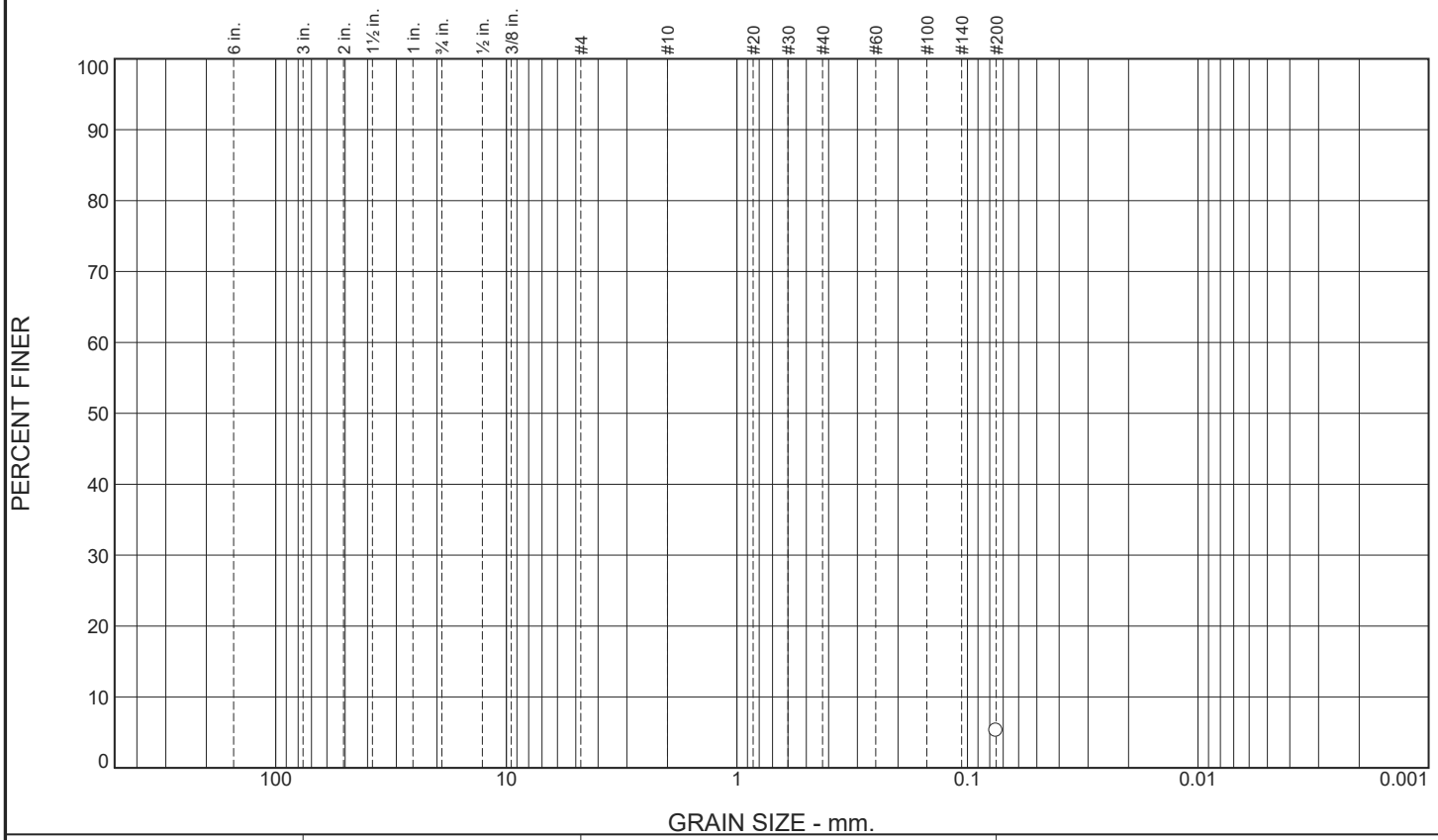
Client: Shreem Brzee Solar, LLC
Project: Sunseeker Solar

Project No: 4140.2300007.0000

Figure C-2

Tested By: CP **Checked By:** LM

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						5.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	5.3		

* (no specification provided)

Material Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Location: B1 N @ 25'
Sample Number: G-23-0031

Date: 12/4/23

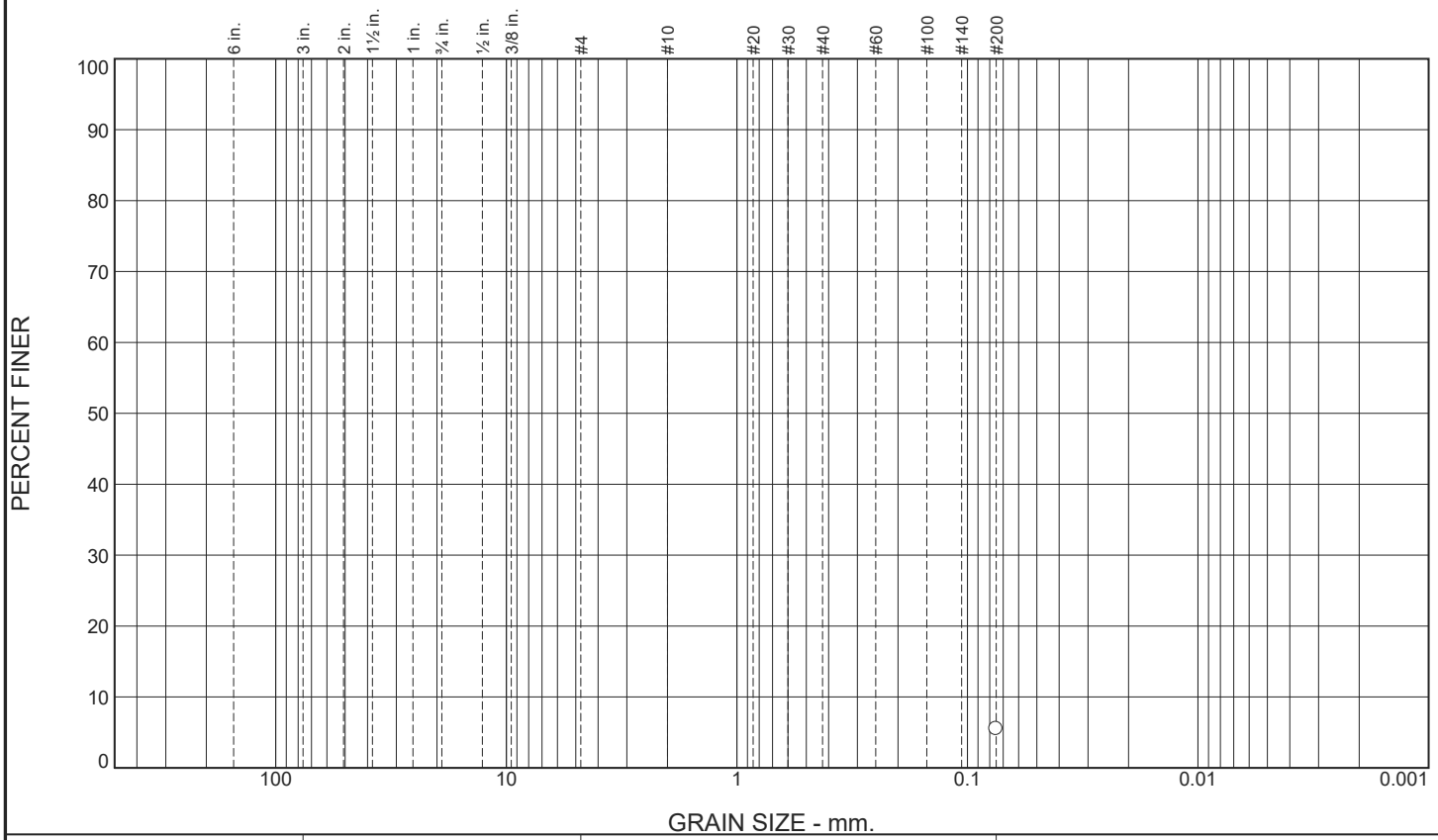
Client: Shreem Brzee Solar, LLC
Project: Sunseeker Solar

Project No: 4140.2300007.0000

Figure C-3

Tested By: CP **Checked By:** LM

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
						5.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#200	5.5		

* (no specification provided)

Material Description

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= AASHTO=

Remarks

Location: B1 W @ 40.5'
Sample Number: G-23-0031

Date: 12/4/23

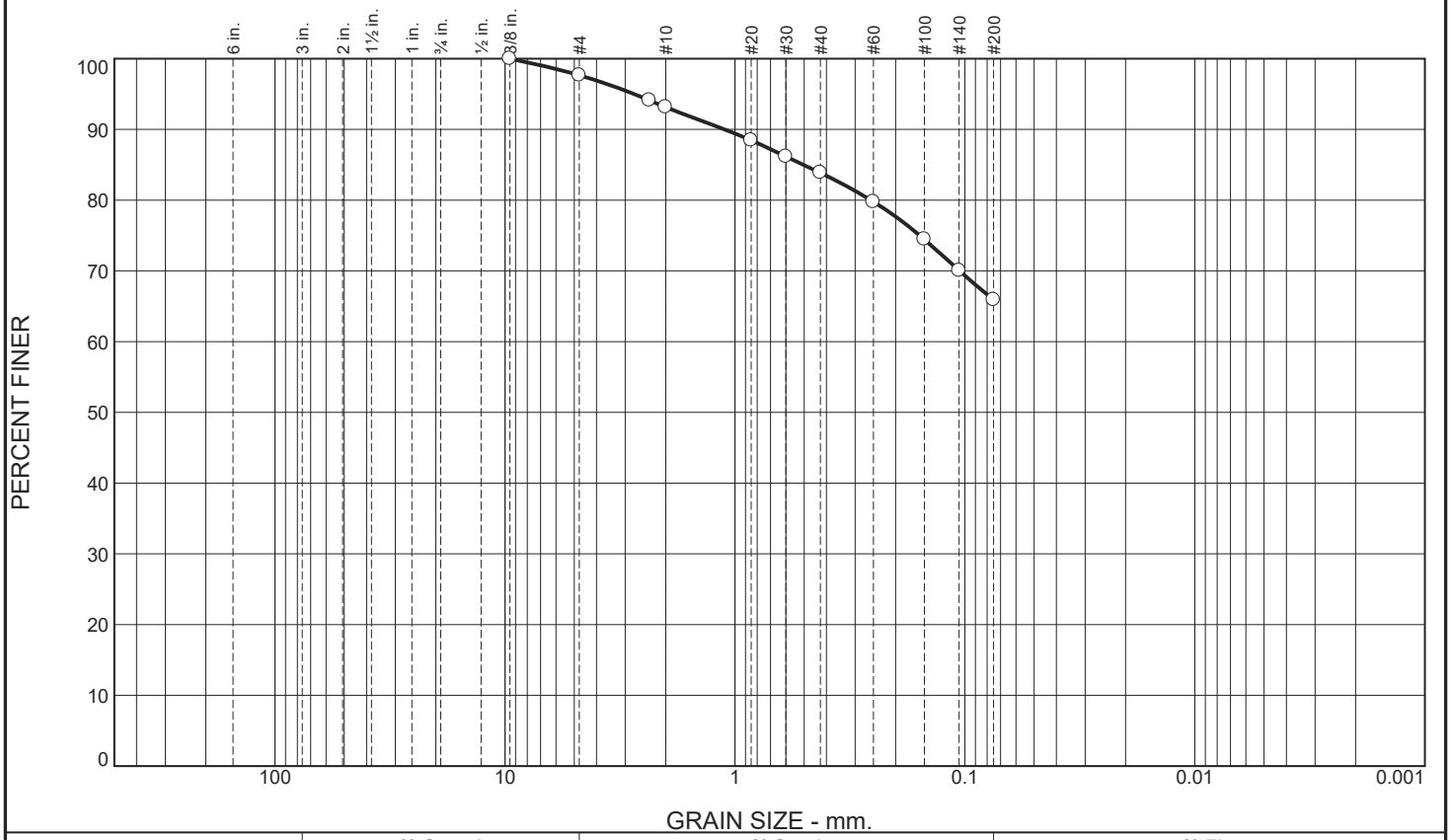
Client: Shreem Brzee Solar, LLC
Project: Sunseeker Solar

Project No: 4140.2300007.0000

Figure C-4

Tested By: CP **Checked By:** LM

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.3	4.5	9.3	18.0	65.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375"	100.0		
#4	97.7		
#8	94.1		
#10	93.2		
#20	88.5		
#30	86.2		
#40	83.9		
#60	79.8		
#100	74.5		
#140	70.0		
#200	65.9		

* (no specification provided)

Material Description

Sandy Fat Clay (CH)

Atterberg Limits

PL= 27 LL= 56 PI= 29

Coefficients

D_{90}= 1.1116 D_{85}= 0.5032 D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(18)

Remarks

Location: TP 1C @ 4-5'
Sample Number: G-23-0031

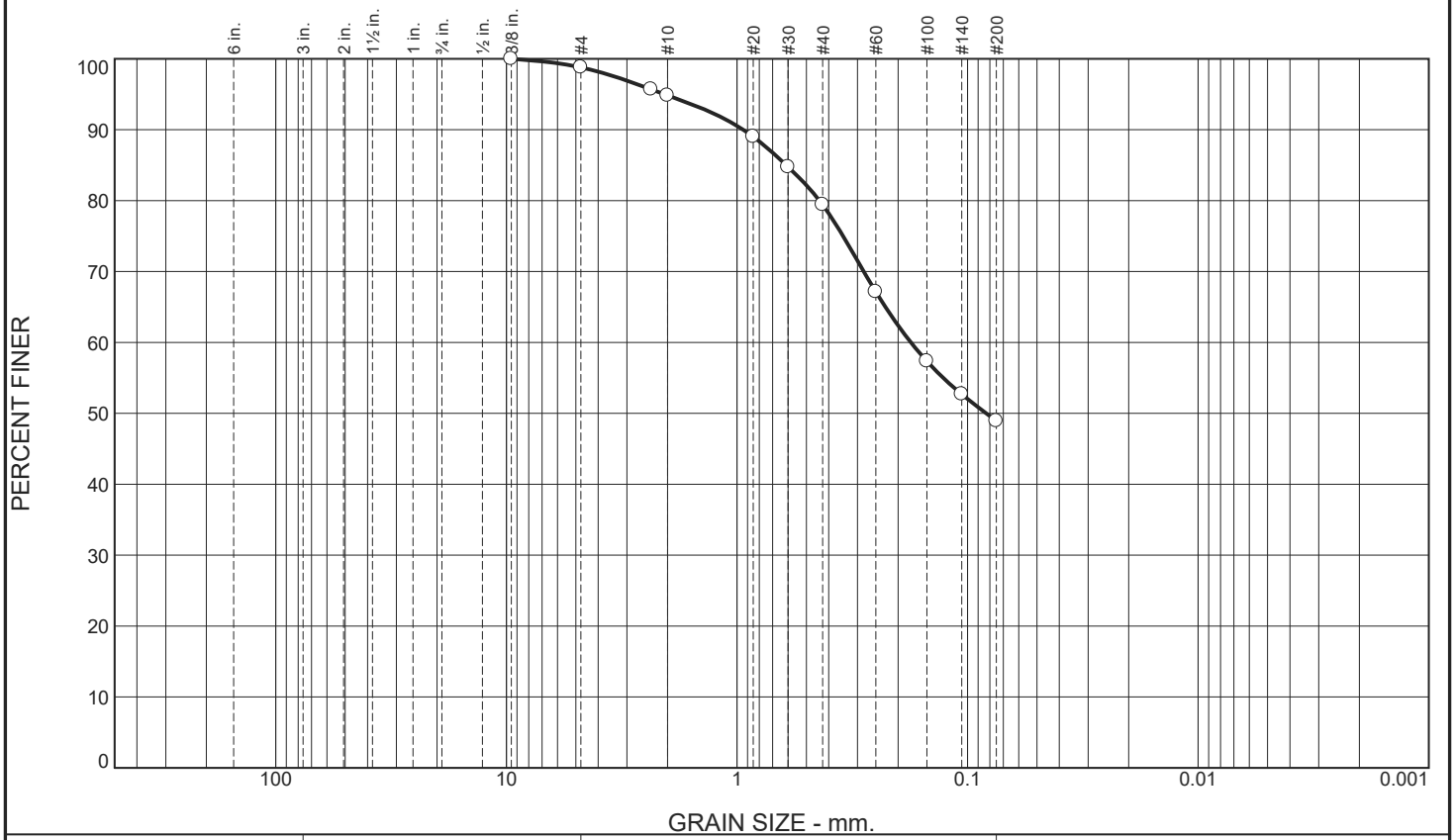
Date: 11/15/23

Client: Shreem Brzee Solar, LLC
Project: Sunseeker Solar

Project No: 4140.2300007.0000 **Figure C-5**

Tested By: CP **Checked By:** LM

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.2	4.0	15.4	30.5	48.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375"	100.0		
#4	98.8		
#8	95.7		
#10	94.8		
#20	89.0		
#30	84.7		
#40	79.4		
#60	67.1		
#100	57.3		
#140	52.7		
#200	48.9		

* (no specification provided)

Material Description

Silty Sand (SM)

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 0.9405 D_{85}= 0.6118 D_{60}= 0.1761
D_{50}= 0.0830 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO= A-4(0)

Remarks

Location: TP 6C @ 6'
Sample Number: G-23-0031

Date: 11/15/23

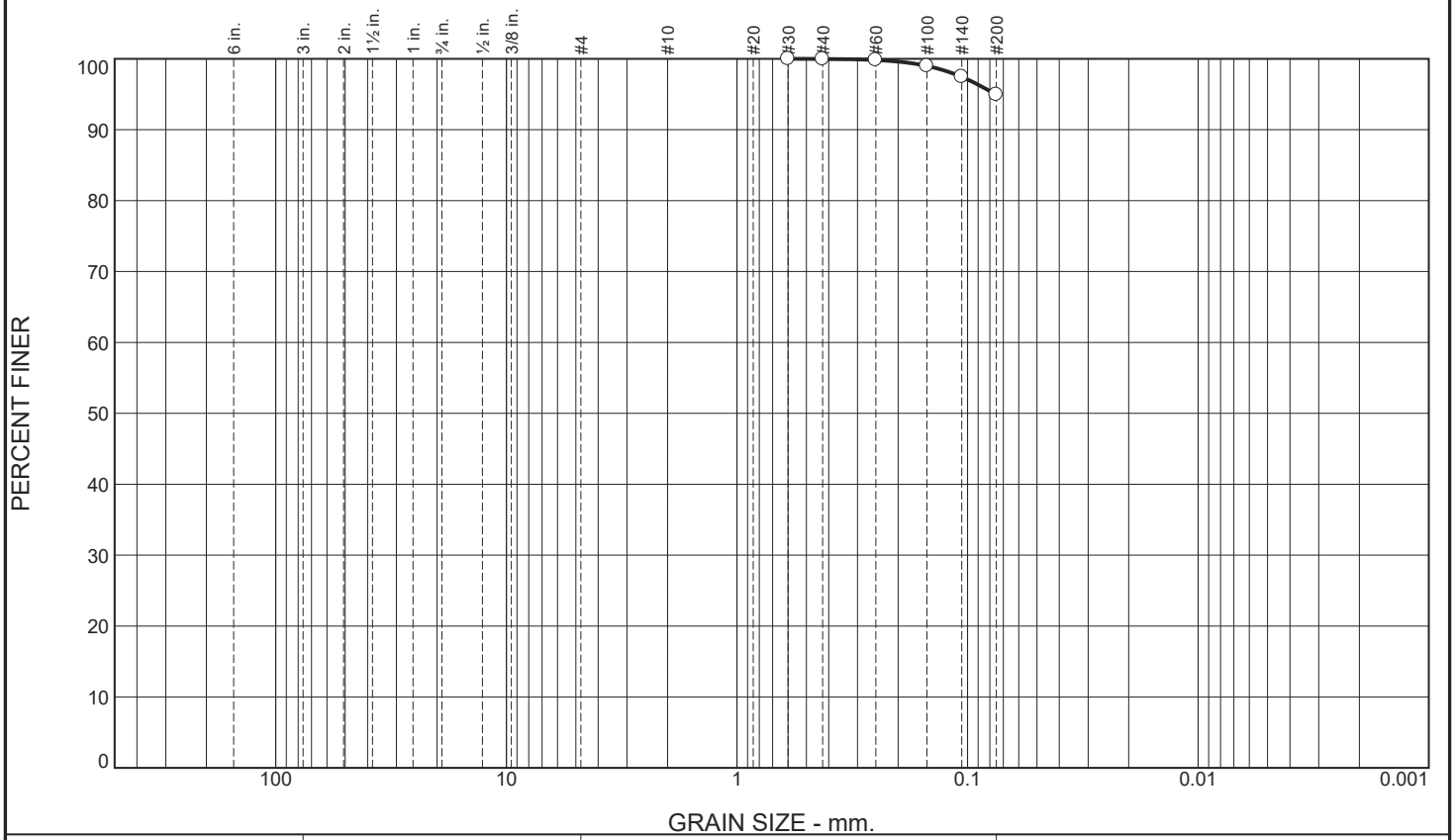
Client: Shreem Brzee Solar, LLC
Project: Sunseeker Solar

Project No: 4140.2300007.0000

Figure C-6

Tested By: CP **Checked By:** LM

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.0	5.1	94.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#30	100.0		
#40	100.0		
#60	99.8		
#100	99.0		
#140	97.5		
#200	94.9		

* (no specification provided)

Material Description

Silt (ML)

Atterberg Limits

PL= 25 LL= 31 PI= 6

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO= A-4(6)

Remarks

Location: TP 8A @ 0'
Sample Number: G-23-0031

Date: 11/15/23

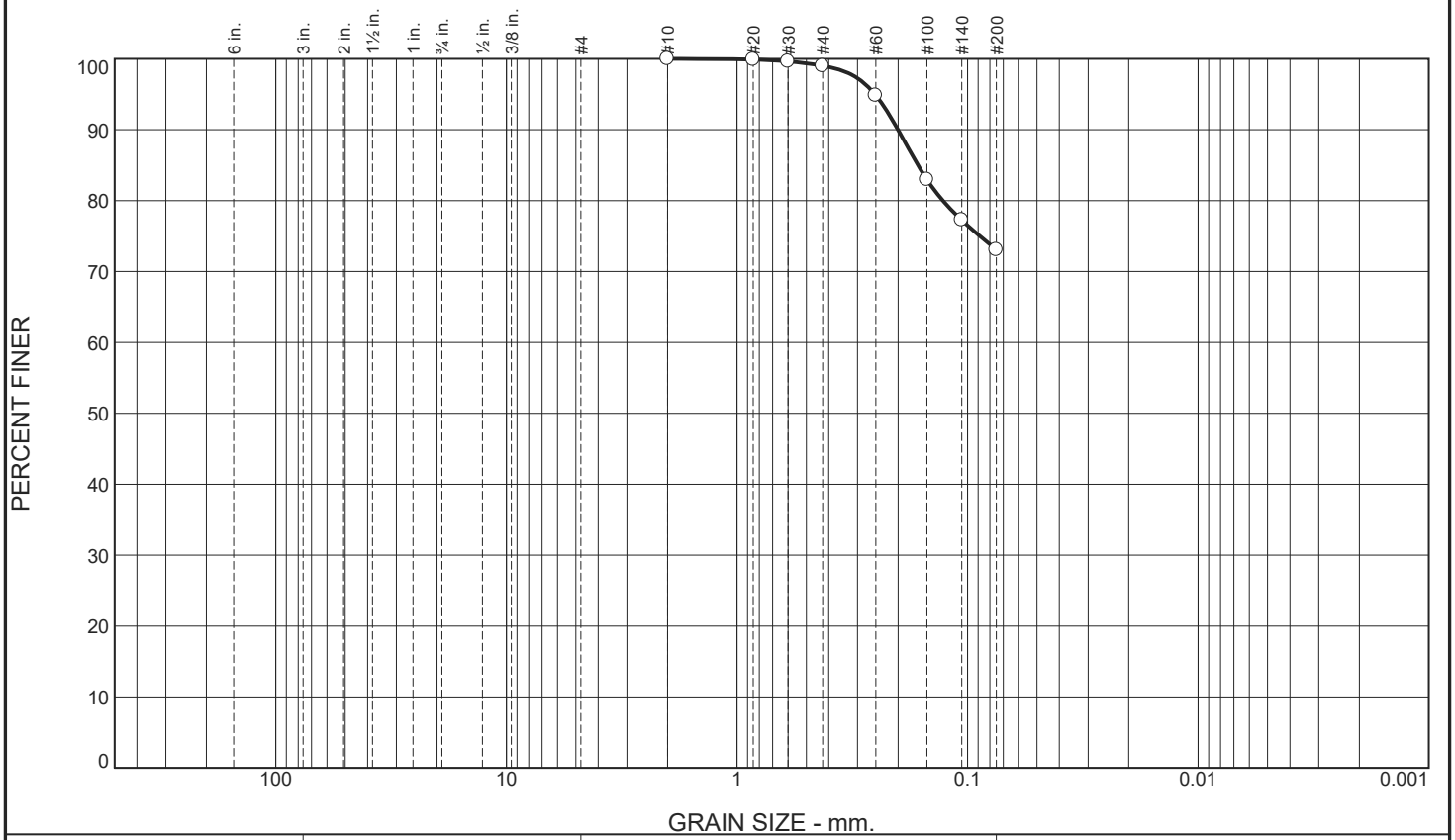
Client: Shreem Brzee Solar, LLC
Project: Sunseeker Solar

Project No: 4140.2300007.0000

Figure C-7

Tested By: CP **Checked By:** LM

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.0	25.9	73.1	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.9		
#30	99.6		
#40	99.0		
#60	94.8		
#100	83.0		
#140	77.3		
#200	73.1		

* (no specification provided)

Material Description

Silt With Sand (ML)

Atterberg Limits

PL= 27 LL= 44 PI= 17

Coefficients

D_{90}= 0.2004 D_{85}= 0.1640 D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= ML AASHTO= A-7-6(12)

Remarks

Location: TP 11A @ 1'
Sample Number: G-23-0031

Date: 11/15/23

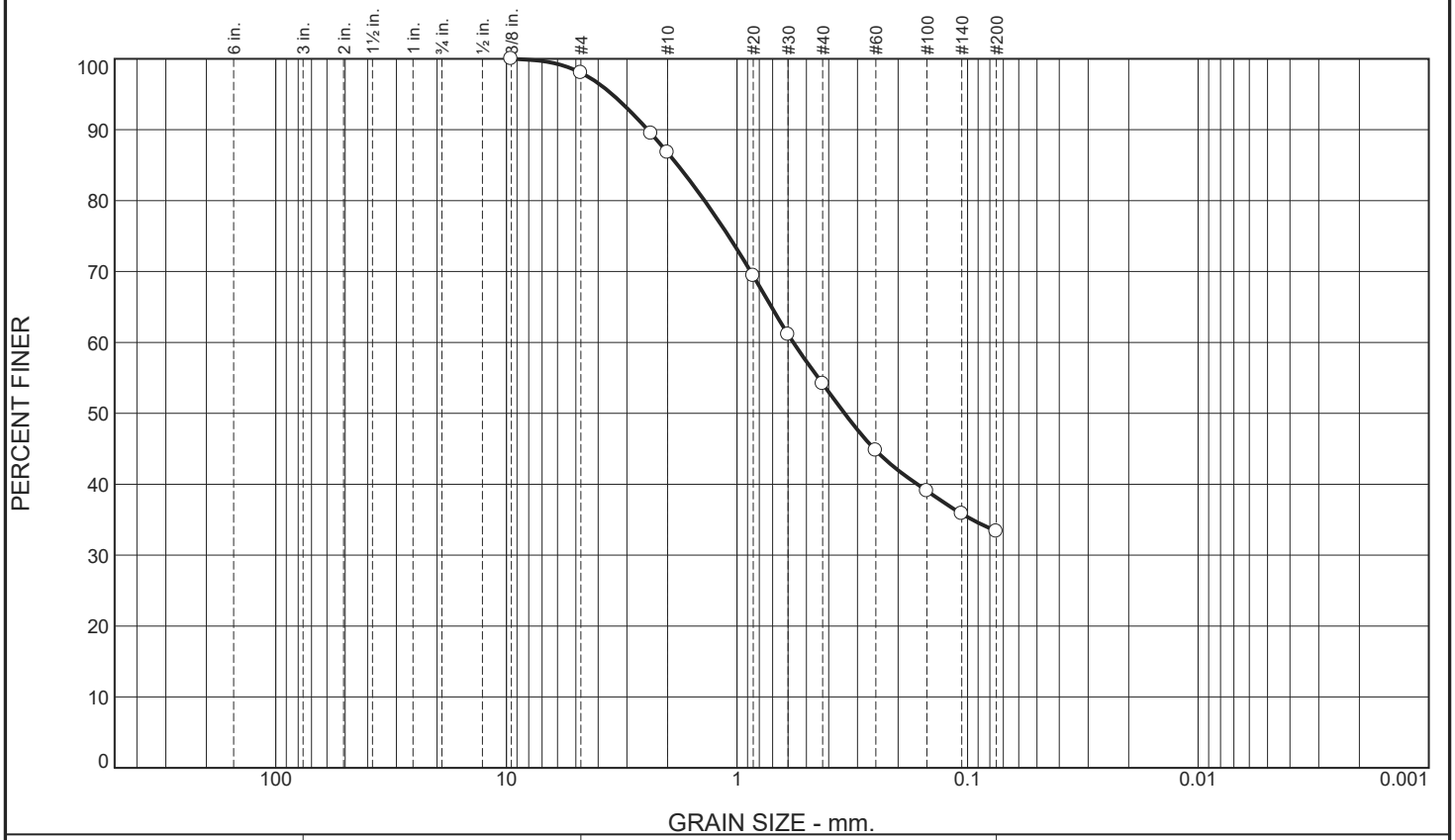
Client: Shreem Brzee Solar, LLC
Project: Sunseeker Solar

Project No: 4140.2300007.0000

Figure C-8

Tested By: CP **Checked By:** LM

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.0	11.2	32.6	20.9	33.3	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375"	100.0		
#4	98.0		
#8	89.5		
#10	86.8		
#20	69.4		
#30	61.1		
#40	54.2		
#60	44.8		
#100	39.1		
#140	35.8		
#200	33.3		

* (no specification provided)

Material Description

Silty Sand (SM)

Atterberg Limits

PL= NP LL= NV PI= NP

Coefficients

D_{90}= 2.4392 D_{85}= 1.8057 D_{60}= 0.5698
D_{50}= 0.3415 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

Location: TP13 B @ 2.5'
Sample Number: G-23-0031

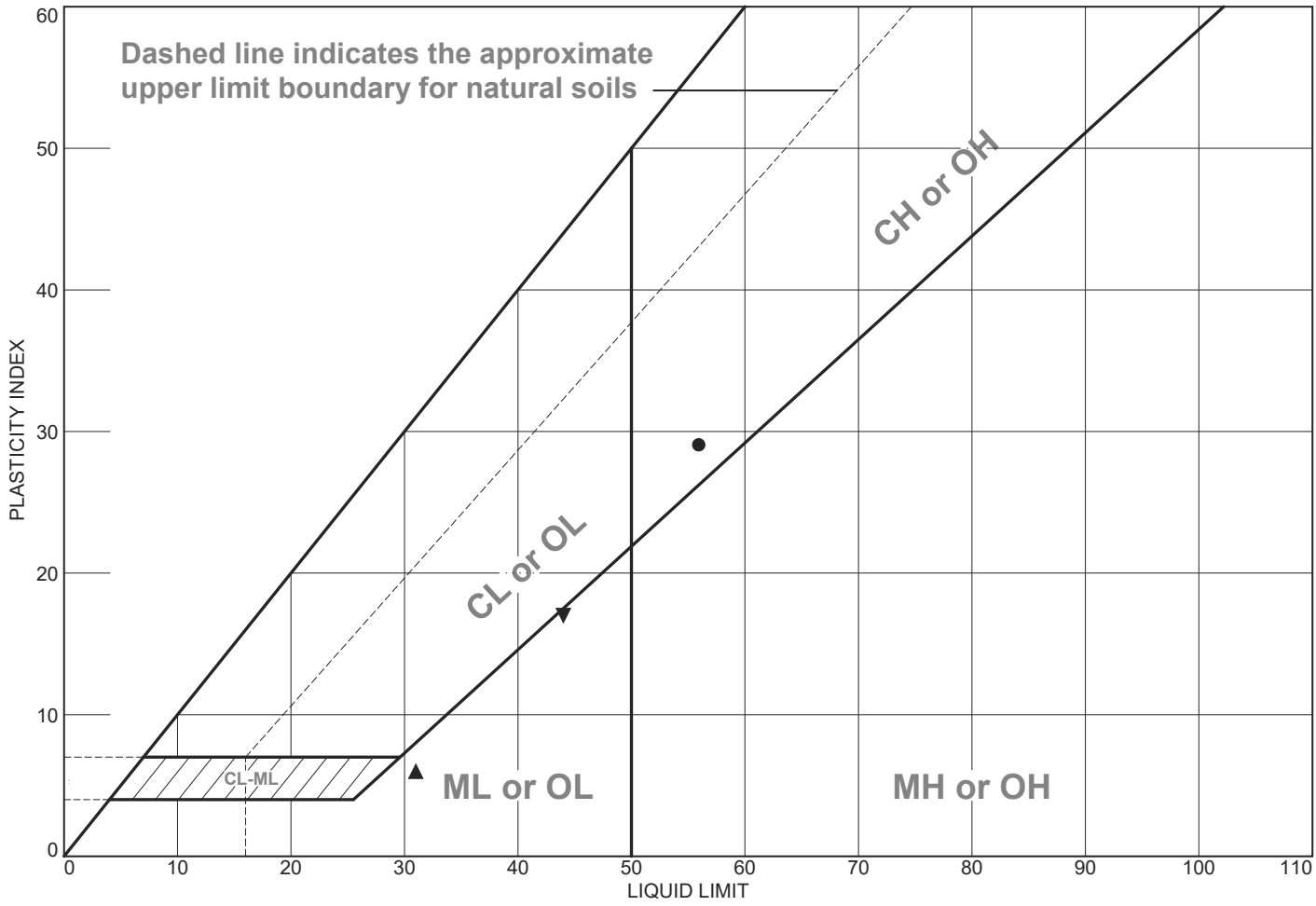
Date: 11/15/23

Client: Shreem Brzee Solar, LLC
Project: Sunseeker Solar

Project No: 4140.2300007.0000 **Figure C-9**

Tested By: CP **Checked By:** LM

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Sandy Fat Clay (CH)	56	27	29	83.9	65.9	CH
■	Silty Sand (SM)	NV	NP	NP	79.4	48.9	SM
▲	Silt (ML)	31	25	6	100	95	ML
◆	Silty Sand (SM)	NV	NP	NP	54	33	SM
▼	Silt With Sand (ML)	44	27	17	99	73	ML

Project No. 4140.2300007 **Client:** Shreem Brzee Solar, LLC

Project: Sunseeker Solar GEO

●**Location:** TP 1C @ 4-5' **Sample Number:** G-23-0031

■**Location:** TP 6C @ 6' **Sample Number:** G-23-0031

▲**Location:** TP 8A @ 0' **Sample Number:** G-23-0031

◆**Location:** TP13 B @ 2.5' **Sample Number:** G-23-0031

▼**Location:** TP 11A @ 1' **Sample Number:** G-23-0031

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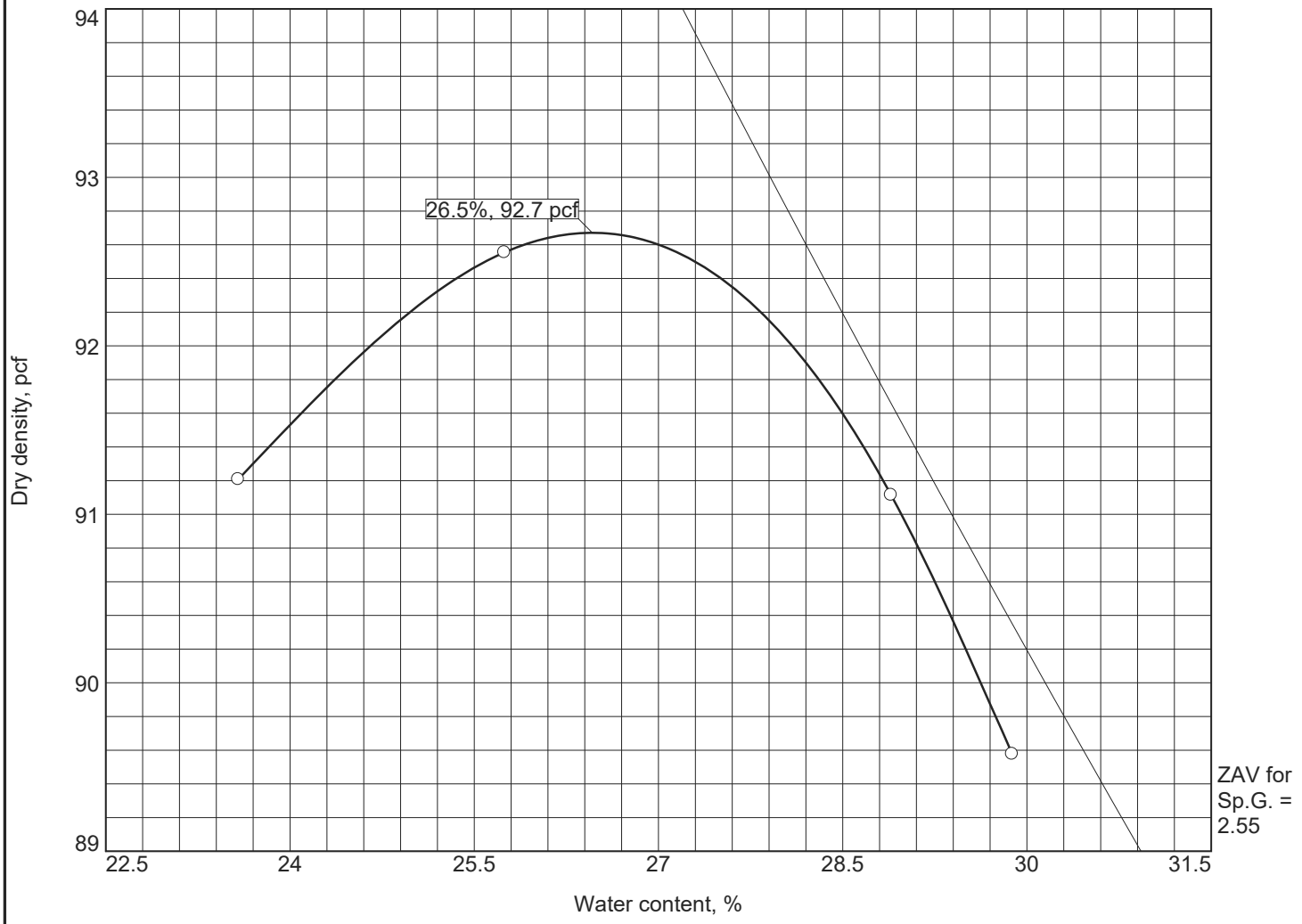
Reno, Nevada

Remarks:

Figure C-10

Tested By: CP **Checked By:** LM

COMPACTION TEST REPORT



Test specification: ASTM D 1557-12 Method B Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 92.7 pcf Optimum moisture = 26.5 %	Silty Sand (SM)

Project No. 4140.2300007 **Client:** Shreem Brzee Solar, LLC
Project: Sunseeker Solar GEO

○**Location:** TP 6 A @ 1-2' **Sample Number:** G-23-0031

Remarks:

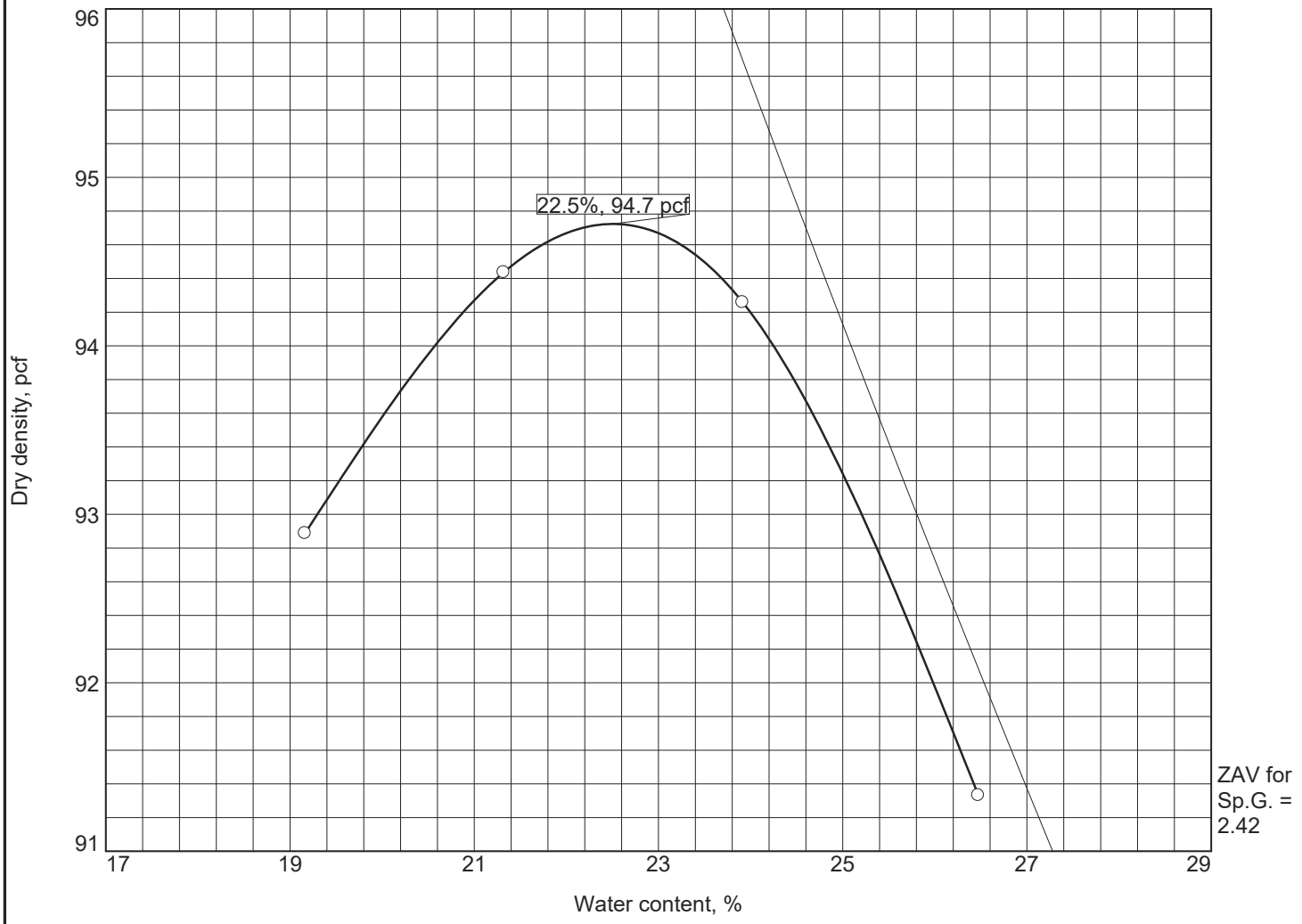
Universal Engineering Sciences

Reno, Nevada

Figure C-11

Tested By: PC **Checked By:** LM

COMPACTION TEST REPORT



Test specification: ASTM D 1557-12 Method B Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 94.7 pcf Optimum moisture = 22.5 %	Silty Sand (SM)

Project No. 4140.2300007 **Client :** Shreem Brzee Solar, LLC
Project: Sunseeker Solar GEO

○**Location:** TP 9 A @ 1-2' **Sample Number:** G-23-0031

Universal Engineering Sciences

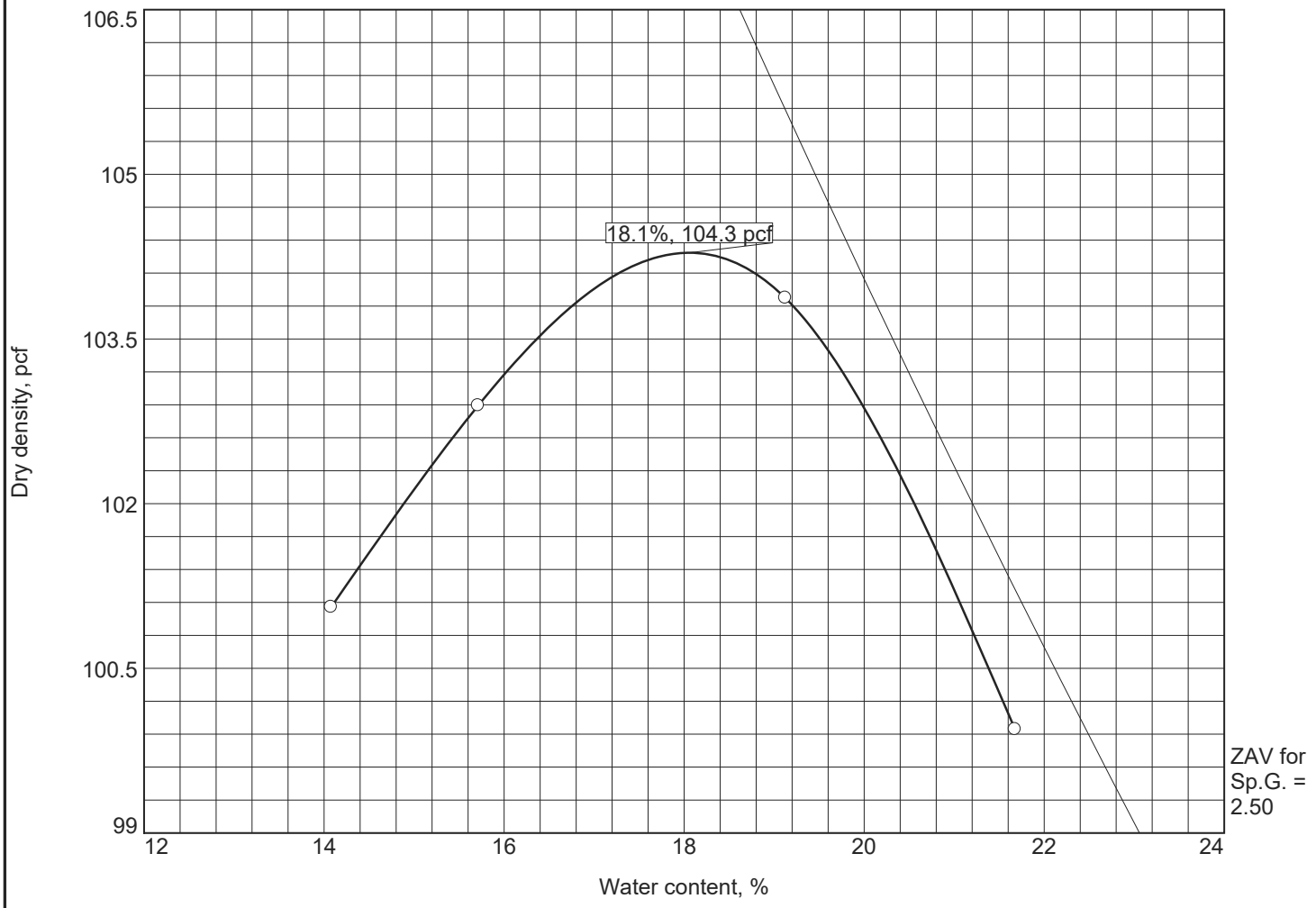
Reno, Nevada

Remarks:

Figure C-12

Tested By: PC **Checked By:** LM

COMPACTION TEST REPORT



Test specification: ASTM D 1557-12 Method B Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > 3/8 in.	% < No.200
	USCS	AASHTO						

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 104.3 pcf Optimum moisture = 18.1 %	Silty Sand (SM)

Project No. 4140.2300007 **Client:** Shreem Brzee Solar, LLC
Project: Sunseeker Solar GEO

○**Location:** TP 13 A @ 1-2' **Sample Number:** G-23-0031

Remarks:

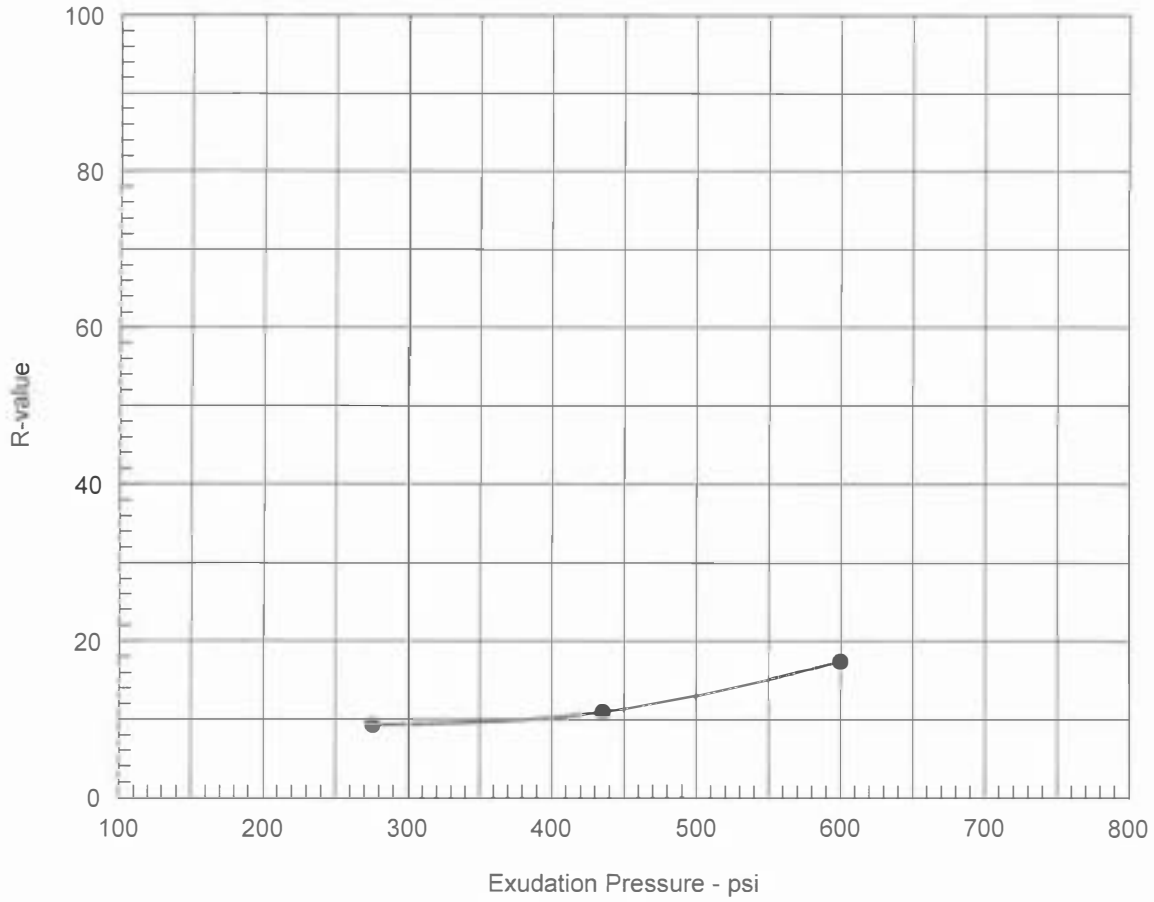
Universal Engineering Sciences

Reno, Nevada

Figure C-13

Tested By: PC **Checked By:** LM

R-VALUE TEST REPORT



Resistance R-Value and Expansion Pressure - ASTM D2844

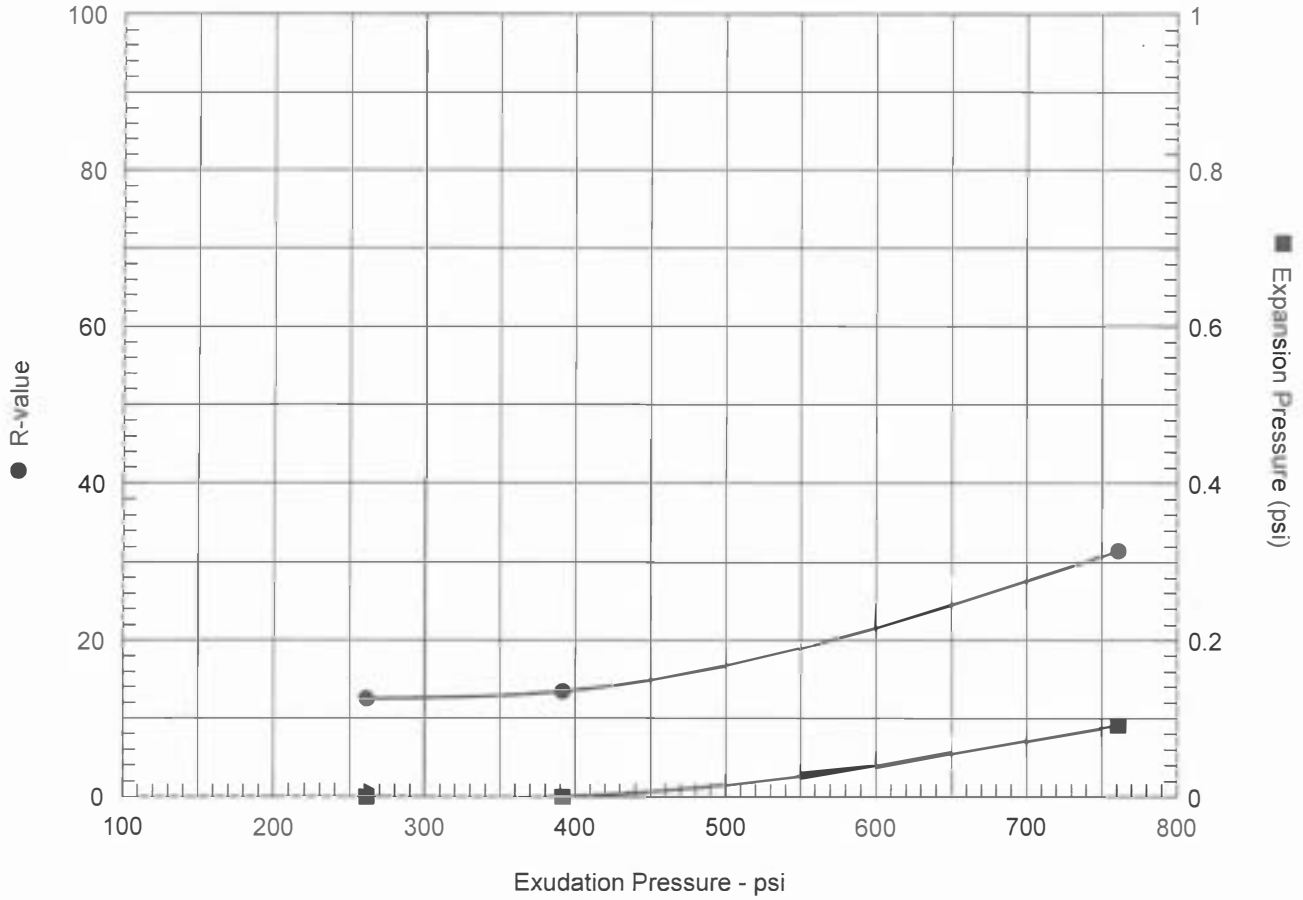
No.	Compact. Pressure psi	Density pcf	Moist. %	Expansion Pressure psi	Horizontal Press. psi @ 160 psi	Sample Height in.	Exud. Pressure psi	R Value	R Value Corr.
1	200	101.9	26.7	0.00	115	2.55	600	17	17
2	150	97.7	28.3	0.00	126	2.50	435	11	11
3	100	96.8	29.6	0.00	130	2.50	275	9	9

Test Results	Material Description
R-value at 300 psi exudation pressure = 9	NATIVE BROWN CLAYEY SILT
Project No.: CME #3347 **Project:** UES-#4140.2300007.0000 **Location:** TP-5 A, LAB #G-23-0031 **Sample Number:** 38321 **Depth:** 1-2' **Date:** 11/29/2023	**Tested by:** J. COLLETT **Checked by:** S. SCHWEITZER **Remarks:** RECEIVED ON 11/16/2023

CME CONSTRUCTION MATERIALS ENGINEERS, INC.

Figure C-14

R-VALUE TEST REPORT



Resistance R-Value and Expansion Pressure - ASTM D2844

No.	Compact. Pressure psi	Density pcf	Moist. %	Expansion Pressure psi	Horizontal Press. psi @ 160 psi	Sample Height in.	Exud. Pressure psi	R Value	R Value Corr.
1	350	86.4	34.6	0.09	84	2.45	761	31	31
2	150	87.6	37.1	0.00	123	2.50	392	13	13
3	125	87.1	37.8	0.00	125	2.50	261	13	13

Test Results	Material Description
R-value at 300 psi exudation pressure = 13 **Exp. pressure at 300 psi exudation pressure =** 0.00 psi	NATIVE LIGHT BROWN CLAYEY SILT

Project No.: CME #3347
Project: UES-#4140.2300007.0000
Location: TP-12 A, LAB #G-23-0031
Sample Number: 38321 **Depth:** 1-2'
Date: 11/29/2023

Tested by: J. COLLETT
Checked by: S. SCHWEITZER
Remarks:
RECEIVED ON 11/16/2023

CME CONSTRUCTION MATERIALS ENGINEERS, INC.

Figure C-15

UNIVERSAL ENGINEERING SCIENCES
Consultants In: Geotechnical Engineering • Environmental Sciences
Geophysical Services • Construction Materials Testing • Threshold Inspection
Building Inspection • Plan Review • Building Code Administration

TUBE MOISTURE DENSITY

PROJECT NAME:	Sunseeker Solar
LOCATION:	
SOURCE:	

PROJECT NUMBER:	4140.2300007.0000
LAB LOG NO:	G-23-0031
DATE SAMPLED:	11/2/2023

Boring No.	B1 C	B1 G	B1 I	B1 P
Depth	5'	10'	20'	30'
INITIAL DATA				
Tube Inside Diameter	2.40	2.40	2.40	2.40
Tube Length	6.00	6.00	6.00	6.00
Top Correction	0.62	0.37	0.00	0.00
Bottom Correction	0.00	0.00	0.00	0.00
Sample Length	5.38	5.63	6.00	6.00
Weight Tube + Sample	832.5	754.9	1118.5	1011.4
Weight of Tube	291.0	281.0	298.6	293.0
Sample Weight	541.5	473.9	819.9	718.4
MOISTURE				
Wet + Tare	709.1	633.7	1012.5	827.6
Dry + Tare	593.1	563.5	928.1	546.2
Tare	167.8	159.9	192.7	110.3
Water	116.0	70.2	84.4	281.4
Dry Soil	425.3	403.6	735.4	435.9
MOISTURE DENSITY				
Wet Density	84.7	70.9	115.1	100.8
Dry Density	66.6	60.4	103.2	61.3
Moisture Content	27.3	17.4	11.5	64.6

Figure C-16

UNIVERSAL ENGINEERING SCIENCES
Consultants In: Geotechnical Engineering • Environmental Sciences
Geophysical Services • Construction Materials Testing • Threshold Inspection
Building Inspection • Plan Review • Building Code Administration

TUBE MOISTURE DENSITY

PROJECT NAME:	Sunseeker Solar
LOCATION:	
SOURCE:	

PROJECT NUMBER:	4140.2300007.0000
LAB LOG NO:	G-23-0031
DATE SAMPLED:	11/2/2023

Boring No.	B1 V	B1 X	B2 C	B3 B
Depth	40'	41'	5.5'	5.5'
INITIAL DATA				
Tube Inside Diameter	2.40	2.40	2.40	2.40
Tube Length	6.00	6.00	6.00	6.00
Top Correction	0.00	0.00	0.00	0.00
Bottom Correction	0.00	0.00	0.00	0.00
Sample Length	6.00	6.00	6.00	6.00
Weight Tube + Sample	1208.6	1232.9	932.5	988.3
Weight of Tube	294.8	312.5	291.5	273.0
Sample Weight	913.8	920.4	743.6	715.3
MOISTURE				
Wet + Tare	1025.8	1027.1	743.6	818.7
Dry + Tare	880.8	777.8	616.3	621.6
Tare	112.4	107.2	103.3	104.7
Water	145.0	249.3	127.3	197.1
Dry Soil	768.4	670.6	513.0	516.9
MOISTURE DENSITY				
Wet Density	128.3	129.2	104.4	100.4
Dry Density	107.9	94.2	83.6	72.7
Moisture Content	18.9	37.2	24.8	38.1

Figure C-17

UNIVERSAL
ENGINEERING SCIENCES
Consultants In: Geotechnical Engineering • Environmental Sciences
Geophysical Services • Construction Materials Testing • Threshold Inspection
Building Inspection • Plan Review • Building Code Administration

TUBE MOISTURE DENSITY

PROJECT NAME:	Sunseeker Solar
LOCATION:	
SOURCE:	

PROJECT NUMBER:	4140.2300007.0000
LAB LOG NO:	G-23-0031
DATE SAMPLED:	11/2/2023

Boring No.	B4 B	B5 B	B6 B	
Depth	5.5'	5.5'	5.5'	
INITIAL DATA				
Tube Inside Diameter	2.40	2.40	2.40	
Tube Length	6.00	6.00	6.00	
Top Correction	0.00	0.00	0.00	
Bottom Correction	0.00	0.00	0.00	
Sample Length	6.00	6.00	6.00	0.00
Weight Tube + Sample	1029.2	860.2	902.2	
Weight of Tube	268.9	227.8	290.4	
Sample Weight	760.3	632.4	611.8	0.0
MOISTURE				
Wet + Tare	856.8	840.3	1005.9	
Dry + Tare	630.8	647.9	865.5	
Tare	97.6	208.0	394.4	
Water	226.0	192.4	140.4	0.0
Dry Soil	533.2	439.9	471.1	0.0
MOISTURE DENSITY				
Wet Density	106.7	88.8	85.9	#DIV/0!
Dry Density	74.9	61.7	66.2	#DIV/0!
Moisture Content	42.4	43.7	29.8	#DIV/0!

Figure C-18

SGS Silver State Analytical Laboratories
1135 Financial Blvd
Reno, NV 89502
(775) 857-2400
www.ssalabs.com

Analytical Report

Workorder#: 23110591
Date Reported: 11/28/2023

Client: Universal Engineering Services (UES) **Sampled By:** Dale Lehman
Project Name: 4140.2300007/Sun Seek Solar GEO/ TP 1C @ 4 - 5
PO #:

Laboratory Accreditation Number: NV930/CA3029

Laboratory ID	Client Sample ID	Date/Time Sampled	Date Received
23110591-01	TP1C @ 7'	11/03/2023 12:00	11/9/2023

Parameter	Method	Result	Units	PQL	Analyst	Date/Time Analyzed	Data Flag
Chloride	AASHTO T291B	20300	mg/Kg	1000	LJ	11/22/2023 15:47	
pH	AASHTO T289	8.28	pH Units	0.1	LJ	11/22/2023 11:13	
Resistivity, Minimum	AASHTO T288	76.6	Ohms-cm	0.1	LJ	11/21/2023 16:06	
Specific Conductivity	SM 2510 B	29400	µmhos/cm	2	LJ	11/22/2023 16:24	
Sulfate	AASHTO T290B	98	mg/Kg	10	LJ	11/22/2023 16:37	

Laboratory Accreditation Number: NV930/CA3029

Laboratory ID	Client Sample ID	Date/Time Sampled	Date Received
23110591-02	TP 6C @ 6'	11/03/2023 14:00	11/9/2023

Parameter	Method	Result	Units	PQL	Analyst	Date/Time Analyzed	Data Flag
Chloride	AASHTO T291B	59100	mg/Kg	2000	LJ	11/22/2023 15:47	
pH	AASHTO T289	8.21	pH Units	0.1	LJ	11/22/2023 11:13	
Resistivity, Minimum	AASHTO T288	49.3	Ohms-cm	0.1	LJ	11/21/2023 16:06	
Specific Conductivity	SM 2510 B	45000	µmhos/cm	2	LJ	11/22/2023 16:24	
Sulfate	AASHTO T290B	120	mg/Kg	10	LJ	11/22/2023 16:37	

Laboratory Accreditation Number: NV930/CA3029

Laboratory ID	Client Sample ID	Date/Time Sampled	Date Received
23110591-03	TP8C @ 7'	11/04/2023 9:00	11/9/2023

Parameter	Method	Result	Units	PQL	Analyst	Date/Time Analyzed	Data Flag
Chloride	AASHTO T291B	3890	mg/Kg	200	LJ	11/22/2023 15:47	
pH	AASHTO T289	8.56	pH Units	0.1	LJ	11/22/2023 11:13	
Resistivity, Minimum	AASHTO T288	368	Ohms-cm	0.1	LJ	11/21/2023 16:06	
Specific Conductivity	SM 2510 B	4240	µmhos/cm	2	LJ	11/22/2023 16:24	
Sulfate	AASHTO T290B	ND	mg/Kg	10	LJ	11/22/2023 16:37	

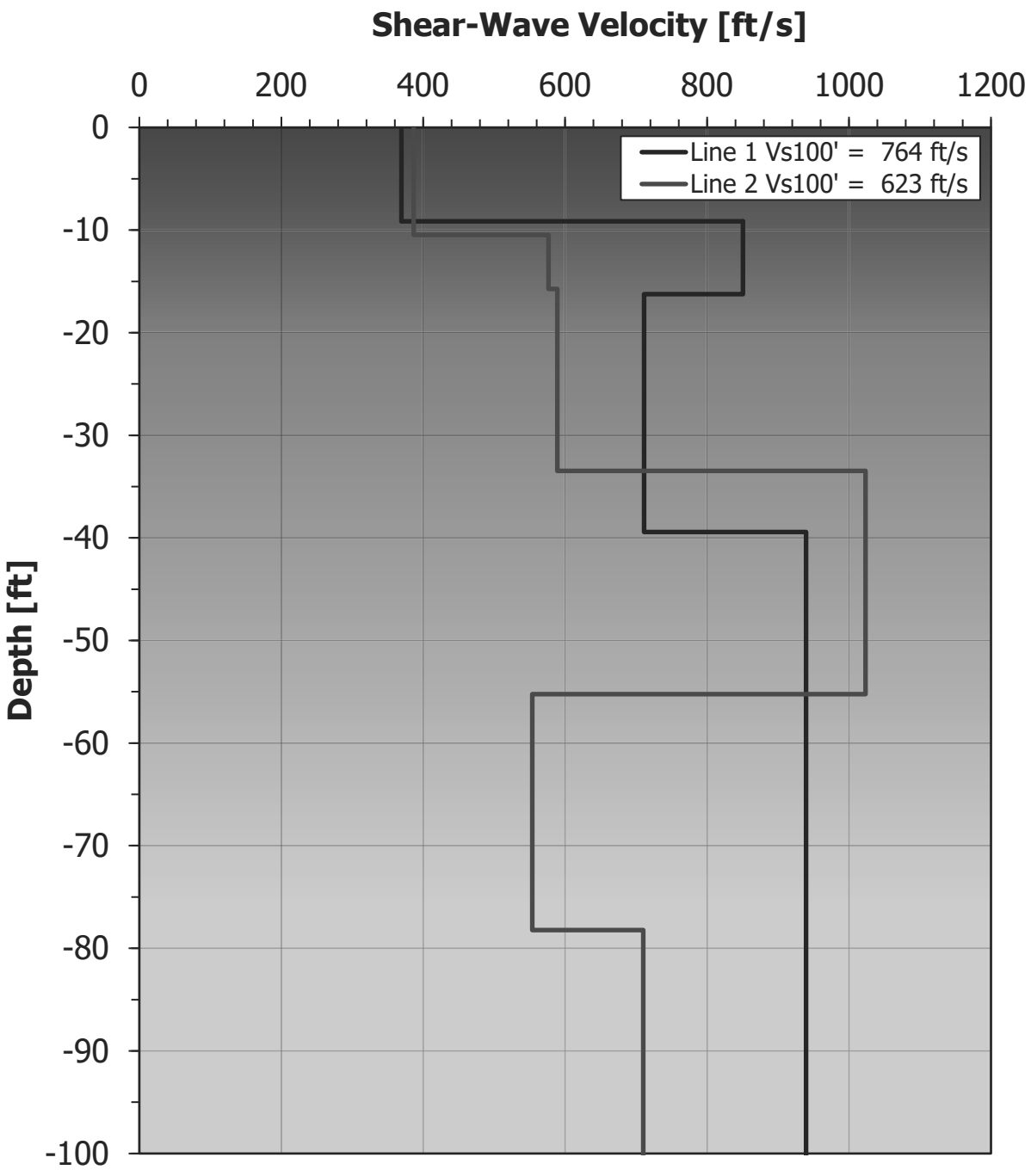
UES

Corrosion Testing Results

Job No: 4140.2300007
Date: 12/18/2023

Sunseeker Solar

Plate C-19



UES	**Shear-Wave Velocity Profile**	Job No: 4140.2300007
		Date: 10/31/2023
	Sunseeker Solar	Plate C-20

Appendix D

SPT & Vs Based Liquefaction Analysis Report

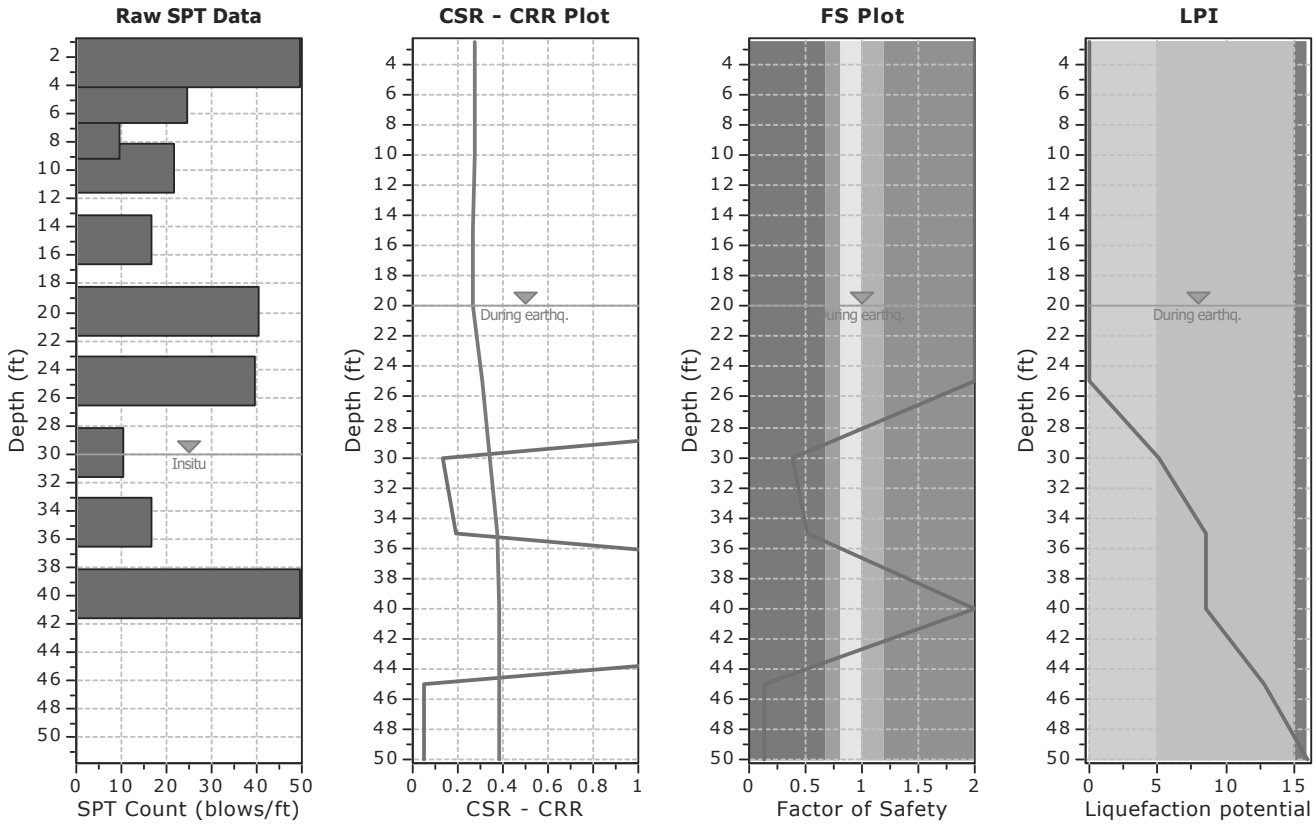
SPT BASED LIQUEFACTION ANALYSIS REPORT

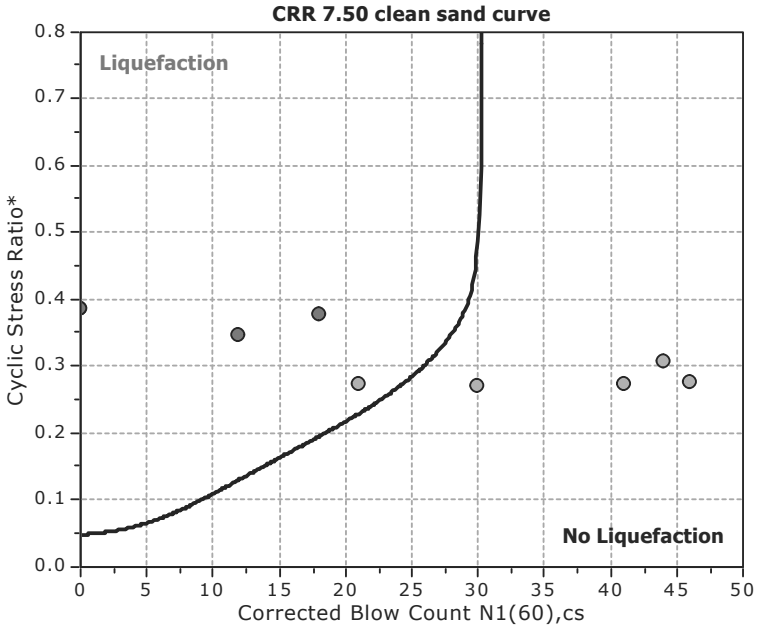
Project title : Sunseeker Solar **SPT Name: SPT #1**

Location :

:: Input parameters and analysis properties ::

Analysis method:	NCEER 1998	G.W.T. (in-situ):	30.00 ft
Fines correction method:	NCEER 1998	G.W.T. (earthq.):	20.00 ft
Sampling method:	Standard Sampler	Earthquake magnitude M_w:	7.00
Borehole diameter:	200mm	Peak ground acceleration:	0.51 g
Rod length:	3.30 ft	Eq. external load:	0.00 tsf
Hammer energy ratio:	1.00		





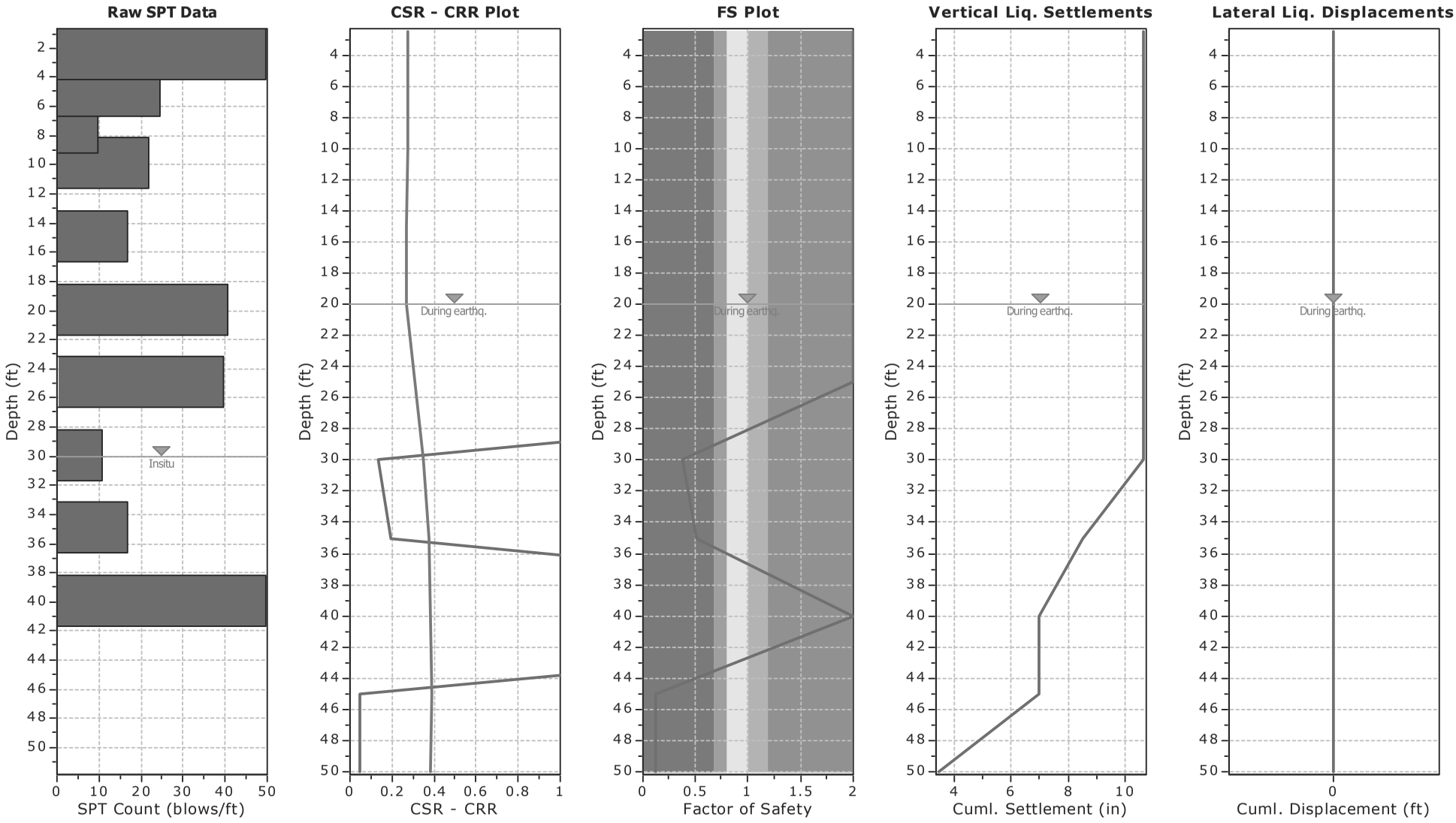
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

:: Overall Liquefaction Assessment Analysis Plots ::



:: Field input data ::

Test Depth (ft)	SPT Field Value (blows)	Fines Content (%)	Unit Weight (pcf)	Infl. Thickness (ft)	Can Liquefy
2.50	50	0.00	110.00	2.50	Yes
5.00	25	65.90	66.60	2.50	Yes
7.50	10	65.90	66.60	2.50	Yes
10.00	22	41.60	60.40	2.50	Yes
15.00	17	41.60	60.40	5.00	Yes
20.00	41	18.80	103.20	5.00	Yes
25.00	40	5.30	103.20	5.00	Yes
30.00	11	5.30	61.30	5.00	Yes
35.00	17	5.30	61.30	5.00	Yes
40.00	50	5.30	107.90	5.00	Yes
45.00	0	5.50	94.20	5.00	Yes
50.00	0	5.50	94.20	5.00	Yes

Abbreviations

Depth: Depth at which test was performed (ft)
SPT Field Value: Number of blows per foot
Fines Content: Fines content at test depth (%)
Unit Weight: Unit weight at test depth (pcf)
Infl. Thickness: Thickness of the soil layer to be considered in settlements analysis (ft)
Can Liquefy: User defined switch for excluding/including test depth from the analysis procedure

:: Cyclic Resistance Ratio (CRR) calculation data ::

Depth (ft)	SPT Field Value	Unit Weight (pcf)	σ_v (tsf)	u_o (tsf)	σ'_{vo} (tsf)	C_N	C_E	C_B	C_R	C_S	$(N_1)_{60}$	Fines Content (%)	α	β	$(N_1)_{60cs}$	$CRR_{7.5}$
2.50	50	110.00	0.14	0.00	0.14	1.65	1.00	1.15	0.75	1.00	71	0.00	0.00	1.00	71	4.000
5.00	25	66.60	0.22	0.00	0.22	1.56	1.00	1.15	0.75	1.00	34	65.90	5.00	1.20	46	4.000
7.50	10	66.60	0.30	0.00	0.30	1.48	1.00	1.15	0.75	1.00	13	65.90	5.00	1.20	21	4.000
10.00	22	60.40	0.38	0.00	0.38	1.41	1.00	1.15	0.85	1.00	30	41.60	5.00	1.20	41	4.000
15.00	17	60.40	0.53	0.00	0.53	1.29	1.00	1.15	0.85	1.00	21	41.60	5.00	1.20	30	4.000
20.00	41	103.20	0.79	0.00	0.79	1.13	1.00	1.15	0.95	1.00	51	18.80	3.40	1.07	58	4.000
25.00	40	103.20	1.05	0.00	1.05	1.01	1.00	1.15	0.95	1.00	44	5.30	0.01	1.00	44	4.000
30.00	11	61.30	1.20	0.00	1.20	0.94	1.00	1.15	1.00	1.00	12	5.30	0.01	1.00	12	0.131
35.00	17	61.30	1.35	0.16	1.20	0.94	1.00	1.15	1.00	1.00	18	5.30	0.01	1.00	18	0.196
40.00	50	107.90	1.62	0.31	1.31	0.90	1.00	1.15	1.00	1.00	52	5.30	0.01	1.00	52	4.000
45.00	0	94.20	1.86	0.47	1.39	0.88	1.00	1.15	1.00	1.00	0	5.50	0.01	1.00	0	0.048
50.00	0	94.20	2.09	0.62	1.47	0.85	1.00	1.15	1.00	1.00	0	5.50	0.01	1.00	0	0.048

Abbreviations

σ_v: Total stress during SPT test (tsf)
u_o: Water pore pressure during SPT test (tsf)
σ'_{vo}: Effective overburden pressure during SPT test (tsf)
C_N: Overburden corretion factor
C_E: Energy correction factor
C_B: Borehole diameter correction factor
C_R: Rod length correction factor
C_S: Liner correction factor
$N_{1(60)}$: Corrected N_{SPT} to a 60% energy ratio
α, β: Clean sand equivalent clean sand formula coefficients
$N_{1(60)cs}$: Corected $N_{1(60)}$ value for fines content
$CRR_{7.5}$: Cyclic resistance ratio for M=7.5

:: Cyclic Stress Ratio calculation (CSR fully adjusted and normalized) ::

Depth (ft)	Unit Weight (pcf)	$\sigma_{v,eq}$ (tsf)	$u_{o,eq}$ (tsf)	$\sigma'_{vo,eq}$ (tsf)	r_d	α	CSR	MSF	$CSR_{eq,M=7.5}$	K_{sigma}	CSR^*	FS
2.50	110.00	0.14	0.00	0.14	1.00	1.00	0.330	1.19	0.277	1.00	0.277	2.000
5.00	66.60	0.22	0.00	0.22	0.99	1.00	0.328	1.19	0.275	1.00	0.275	2.000
7.50	66.60	0.30	0.00	0.30	0.98	1.00	0.326	1.19	0.274	1.00	0.274	2.000
10.00	60.40	0.38	0.00	0.38	0.98	1.00	0.325	1.19	0.272	1.00	0.272	2.000
15.00	60.40	0.53	0.00	0.53	0.97	1.00	0.321	1.19	0.269	1.00	0.269	2.000
20.00	103.20	0.79	0.00	0.79	0.96	1.00	0.317	1.19	0.266	1.00	0.266	2.000
25.00	103.20	1.05	0.16	0.89	0.94	1.00	0.367	1.19	0.308	1.00	0.308	2.000
30.00	61.30	1.20	0.31	0.89	0.92	1.00	0.412	1.19	0.346	1.00	0.346	0.379
35.00	61.30	1.35	0.47	0.89	0.89	1.00	0.451	1.19	0.378	1.00	0.378	0.517
40.00	107.90	1.62	0.62	1.00	0.85	1.00	0.458	1.19	0.384	1.00	0.384	2.000
45.00	94.20	1.86	0.78	1.08	0.80	1.00	0.459	1.19	0.385	1.00	0.386	0.125
50.00	94.20	2.09	0.94	1.16	0.75	1.00	0.451	1.19	0.378	0.98	0.385	0.126

Abbreviations

$\sigma_{v,eq}$: Total overburden pressure at test point, during earthquake (tsf)
$u_{o,eq}$: Water pressure at test point, during earthquake (tsf)
$\sigma'_{vo,eq}$: Effective overburden pressure, during earthquake (tsf)
r_d : Nonlinear shear mass factor
α: Improvement factor due to stone columns
CSR : Cyclic Stress Ratio (adjusted for improvement)
MSF : Magnitude Scaling Factor
$CSR_{eq,M=7.5}$: CSR adjusted for M=7.5
K_{sigma}: Effective overburden stress factor
CSR^*: CSR fully adjusted (user FS applied)***
FS: Calculated factor of safety against soil liquefaction

*** User FS: 1.00

:: Liquefaction potential according to Iwasaki ::

Depth (ft)	FS	F	wz	Thickness (ft)	I_L
2.50	2.000	0.00	9.62	2.50	0.00
5.00	2.000	0.00	9.24	2.50	0.00
7.50	2.000	0.00	8.86	2.50	0.00
10.00	2.000	0.00	8.48	2.50	0.00
15.00	2.000	0.00	7.71	5.00	0.00
20.00	2.000	0.00	6.95	5.00	0.00
25.00	2.000	0.00	6.19	5.00	0.00
30.00	0.379	0.62	5.43	5.00	5.14
35.00	0.517	0.48	4.67	5.00	3.44
40.00	2.000	0.00	3.90	5.00	0.00
45.00	0.125	0.87	3.14	5.00	4.19
50.00	0.126	0.87	2.38	5.00	3.17

Overall potential I_L : 15.93

I_L = 0.00 - No liquefaction
I_L between 0.00 and 5 - Liquefaction not probable
I_L between 5 and 15 - Liquefaction probable
I_L > 15 - Liquefaction certain

:: Vertical settlements estimation for dry sands ::

Depth (ft)	$(N_1)_{60}$	τ_{av}	p	G_{max} (tsf)	α	b	γ (%)	ε_{15}	N_c	ε_{Nc} (%)	Δh (ft)	ΔS (in)
2.50	71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	0.000
5.00	34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	0.000
7.50	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	0.000
10.00	30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.50	0.000
15.00	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.000

Cumulative settlemetns: 0.000

Abbreviations

τ_{av}: Average cyclic shear stress
p: Average stress
G_{max}: Maximum shear modulus (tsf)
α, b: Shear strain formula variables
γ: Average shear strain (%)
ε_{15}: Volumetric strain after 15 cycles
N_c: Number of cycles
ε_{Nc}: Volumetric strain for number of cycles N_c (%)
Δh: Thickness of soil layer (in)
ΔS: Settlement of soil layer (in)

:: Vertical settlements estimation for saturated sands ::

Depth (ft)	D_{50} (in)	q_c/N	e_v weight factor	e_v (%)	Δh (ft)	s (in)
20.00	0.00	5.00	1.00	0.00	5.00	0.000
25.00	0.00	5.00	1.00	0.00	5.00	0.000
30.00	0.00	5.00	1.00	3.55	5.00	2.131
35.00	0.00	5.00	1.00	2.55	5.00	1.529
40.00	0.00	5.00	1.00	0.00	5.00	0.000
45.00	0.00	5.00	1.00	5.80	5.00	3.480
50.00	0.00	5.00	1.00	5.80	5.00	3.480

Cumulative settlements: 10.620

Abbreviations

D_{50}: Median grain size (in)
q_c/N: Ratio of cone resistance to SPT
e_v: Post liquefaction volumetric strain (%)
Δh: Thickness of soil layer to be considered (ft)
s: Estimated settlement (in)

:: Lateral displacements estimation for saturated sands ::

Depth (ft)	$(N_1)_{60}$	D_r (%)	γ_{max} (%)	d_z (ft)	LDI	LD (ft)
2.50	71	100.00	0.00	2.50	0.000	0.00
5.00	34	81.63	0.00	2.50	0.000	0.00
7.50	13	50.48	0.00	2.50	0.000	0.00
10.00	30	76.68	0.00	2.50	0.000	0.00
15.00	21	64.16	0.00	5.00	0.000	0.00
20.00	51	100.00	0.00	5.00	0.000	0.00
25.00	44	100.00	0.00	5.00	0.000	0.00
30.00	12	48.50	34.10	5.00	0.000	0.00
35.00	18	59.40	22.70	5.00	0.000	0.00

:: Lateral displacements estimation for saturated sands ::

Depth (ft)	$(N_1)_{60}$	D_r (%)	γ_{max} (%)	d_z (ft)	LDI	LD (ft)
40.00	52	100.00	0.00	5.00	0.000	0.00
45.00	0	0.00	51.20	5.00	0.000	0.00
50.00	0	0.00	51.20	5.00	0.000	0.00

Cumulative lateral displacements: 0.00

Abbreviations

D_r: Relative density (%)
γ_{max}: Maximum amplitude of cyclic shear strain (%)
d_z: Soil layer thickness (ft)
LDI: Lateral displacement index (ft)
LD: Actual estimated displacement (ft)

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Appendix B- Biological Assessment Report

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BIOLOGICAL EVALUATION

Sunseeker Solar
Battery Energy Storage System (BESS) and Photovoltaic Solar Energy System (PSES) Projects

Washoe County, Nevada

Prepared for

Shreem Brzee Solar, LLC (SBS)
740 Broadway Street Chico,
California 95928

September 2023

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LIST OF ACRONYMS AND ABBREVIATIONS

BE	Biological Evaluation
BESS	Battery Energy Storage System
CFR	Code of Federal Regulations
CWA	Clean Water Act
FESA	Federal Endangered Species Act
gen-tie	generation tie
GIS	geographic information system
HCP	Habitat Conservation Plan
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
McGinley	McGinley and Associates
MW	megawatt
MWh	megawatt hours
NAC	Nevada Administrative Code
NDNH	Nevada Division of Natural Heritage
NDOW	Nevada Department of Wildlife
NMFS	National Marine Fisheries Service
NRS	Nevada Revised Statutes
PSES	Photovoltaic Solar Energy System
PUE	Public Utility Easement
PV	photovoltaic
ROW	Right of Way
SBS	Shreem Brzee Solar, LLC
SOC	Species of Concern
UEPA	Utility Environmental Protection Act
UES	UES, INC
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
WAP	Wildlife Action Plan

1. EXECUTIVE SUMMARY

Shreem Brzee Solar, LLC (SBS) has entered into several lease agreements on properties located in Washoe County, Nevada with the intent to plan, permit, and sell an entitled Battery Energy Storage System (BESS) and Photovoltaic Solar Energy System (PSES) Project (Project) to a power merchant, community choice aggregator, or public utility to develop and operate. The proposed project area is on the Nevada side of the Honey Lake Valley in Washoe County, Nevada approximately three miles east of Calneva, California. The Project will provide renewable energy generation and storage for greater capacity and service reliability to the existing electric grid transmission and distribution line systems in the region. This project involves the construction of approximately 250 megawatts of solar photovoltaic (PV) array power generation, with up to 200 megawatts of battery energy storage system on approximately 1,128 +/- acres of open cattle range land with a 345 kV generation tie (gen-tie) line to connect the project to the NV Energy Fort Sage substation along a private public utility easement located within Rainbow Way approximately 5.5 miles in length.

Sensitive and special-status species protected by the Federal Endangered Species Act and the Migratory Bird Treaty Act may exist within the project lease area or action area, and may be impacted by project construction activities. Project effects to special-status species and their habitats can be minimized to a less than significant impact or avoided with the implementation of the recommended construction practices and avoidance measures outlined in this report.

Construction within the project lease area will result in temporary effects to approximately 1,128 +/- acres of land located in the Honey Lake Valley in the northwestern margins of the Basin and Range including a 40-foot buffer along the Rainbow Way Public Utility Easement (PUE). The project lease area is located within four habitat types as defined by the Landfire database: Intermountain Basins Greasewood Flat, Intermountain Basins Mixed Salt Desert Scrub, Invasive Annual and Biennial Forbland, and Intermountain Basin Playa. Intermountain Basin Playa, also known as alkali basins/flats/playas, are dispersed throughout the area and are barren of vegetation. Intermountain Basins Greasewood Flat is the dominant habitat within the lease area and was dominated by black greasewood (*Sarcobatus vermiculatus*) intermixed with shadscale (*Atriplex confertifolia*) and hopsage (*Grayia spinosa*). The Intermountain Basins Mixed Salt Desert Scrub habitat was present in a small band extending about 100 meters from the western boundary of the project site and along an established vegetated on the southern boundary in the northwest quarter of section four, and along a 10-20-foot buffer of the railroad tracks, most likely due to the shallow ditch retaining water longer than the surrounding area. This habitat is dominated by a mix of greasewood, shadscale, hopsage, green molly (*Neokochia americana*), and sagebrush (*Artemisia tridentata*). The Invasive Annual and Biennial Forbland habitat was the most disturbed and extended farther south than mapped, most likely from the recent solar development in that area. The habitat was dominated by sporadic shrubs and weedy invasive, including several large populations of scotch thistle (*Onopordum acanthium*), a Nevada noxious weed. The full list of plants found within these habitat types in the Project lease area are documented in Section 5.1.1 below.

The Alkali Desert Scrub or Desert sink scrub, area within the project lease area, borders on shallow, interconnected basins (alkali flats or playas) where water intermittently collects during the wet season. Alkali basins/flats/playas are unvegetated and barren, and occur within a matrix of low mounds that support Desert sink scrub plant communities. Therefore, these features have been categorized on the project site as Desert sink scrub plant community underlain by US Department of Agriculture (USDA) Epot Soil ss very fine sandy loam and are alkali lacustrine soils. Water has been observed to collect temporarily during rain events, and then dry within 24 hours (reconnaissance survey December 2019, February 2021, January 2022, February 2022) in

the alkali basin/flats/playa areas adjacent to the project lease area. However, puddling is sporadic and unpredictable from one year to the next. The alkali basin/flat/playas on the project lease area do not qualify as jurisdictional wetlands because of the lack of hydrophytic vegetation, wetland hydrology or hydric soils. Wetland hydrology is not present due to low average annual precipitation and low frequency of rainfall during the growing season, and the alkali basins/flats/playas abilities to dry rapidly following a rainfall event.

The construction of several permanent structures (electric substation, battery energy storage system containers, electrical inverters and transformers, site access roads, metrological stations, pilings for single axis track systems, and utility poles) will permanently remove approximately 2 acres of alkali basins/flats/playas, and 11 acres of Desert sink scrub plant communities within the project footprint. All other project effects will be temporary, and all disturbed areas will be restored to preconstruction conditions following installation of the solar PV arrays and battery energy storge systems.

Construction of the 345 kV gen-tie line within the public utility easement of Rainbow Way of approximately 5.5 miles will traverse the following habitat types: Intermountain Basin Greasewood Flat, Intermountain Basin Mixed Salt Desert Scrub, and Invasive Annual and Biennial Forbland. Special Status Plant Surveys were conducted on the Rainbow Way public utility easement (PUE) with a corridor width on each side of the PUE of one hundred feet (25).

No federally listed, federal candidate, or state-listed plant species (Nevada Administrative Code 527.010) occurs in the project lease area or action area (Gen-Tie Line Corridor) for the proposed project. The following determinations have been made for federally listed species, state special status species, and critical habitat, with the potential to occur in the project lease area or gen-tie line corridor:

Table 1: Determinations for Federal, State, Listed Species or Special Status Species and Critical Habitat with Potential to Occur in Project Action Area

Common Name	Scientific Name	Description of Habitat Type and Potential to Occur in the Project Area	Nevada Protected Species	Project Effect
Carson wandering skipper	*Pseudocopaeodes eunus obscurus*	No critical habitat is present within the project area.	No	No effect. No suitable habitat is present within the project area.
Monarch butterfly	*Danaus plexippus*	No critical habitat is present within the project area.	No	No effect. No suitable habitat is present within the project area.
Golden eagle	*Aquila chrysaetos*	Found throughout Nevada, occurring in a variety of habitats ranging from arctic to desert. Occurs in open country, especially around mountains, hills, and cliffs. In Nevada, this species nests primarily on cliff ledges and occasionally in large trees (WAPT, 2012). The lack of cliff habitat and tall trees within the project area make it unlikely for golden eagle to use the project area for nesting. However, nesting birds may be present in the surrounding mountains so it is possible that individuals may use the project area for foraging or may pass over the project area.	WAP SOC	The proposed project may affect, but is not likely to adversely affect this species. Individuals potentially flying over the project area or using it for foraging will be able to access other surrounding habitats that can meet these needs.

Table 1: Determinations for Federal, State, Listed Species or Special Status Species and Critical Habitat with Potential to Occur in Project Action Area				
Common Name	**Scientific Name**	**Description of Habitat Type and Potential to Occur in the Project Area**	**Nevada Protected Species**	**Project Effect**
Mule deer Mule deer (cont'd)	*Odocoileus hemionus* *Odocoileus hemionus*	Occupies a variety of habitats, including desert shrub. Prefers open landscapes. Often found near human development (WAPT 2012, NatureServe 2023). Occupied distribution exists within the project area and surrounding four-mile buffer (NDOW 2023).	G G	The proposed project may affect, but is not likely to adversely affect this species. High quality habitat is not present within the project area, and individuals who may use it for foraging will be able to access alternative surrounding habitat.
Pronghorn antelope	*Antilocapra americana*	Occupies a variety of habitats, including deserts, grasslands, and river basins, especially those containing low sagebrush. Prefers open landscapes (NDOW 2023, NatureServe 2023). Occupied distribution exists within the four-mile buffer, but not within the project area. Within the project area, the distribution only crosses within the very southern tip of the Rainbow Way PUE (NDOW 2023).	G	The proposed project may affect, but is not likely to adversely affect this species. A very limited amount of the project area falls within the occupied distribution, and individuals who might use this habitat will have access to alternative surrounding habitat.
Bighorn sheep	*Ovis canadensis* spp.	Occurs throughout Nevada in alpine meadows, mountain slopes, and foothills. Steep rocky slopes are an important feature of habitat as this provides escape terrain to avoid predators (WAPT 2012). Occupied distribution exists within the four-mile buffer, but not within the project area (NDOW 2023).	G	No effect. Suitable habitat does not exist within the project area, and occurrences have not been documented within the project area.
Greater sage-grouse	*Centrocercus urophasianus*	Uses a variety of sagebrush habitats and often found in close proximity to meadows. Sagebrush overstory and herbaceous understory are critical (Cornell University 2023). Greater sage-grouse habitat within the project area or surrounding four-mile buffer has been classified as other, general, and priority habitat by the Nevada Sagebrush Ecosystem Program. Within the project boundary, habitat is only present within the Rainbow Way PUE. Greater sage-grouse activity in the project area and/or surrounding four-mile buffer has been documented by 1,275 tracking locations generated by at least 90 radio-marked birds. There is one known sage-grouse lek within the project area and/or surrounding four-mile buffer (NDOW 2023).	G	The proposed project may affect, but is not likely to adversely affect this species. The only habitat available within the project boundary is within the Rainbow Way PUE, which is already impacted by vehicle traffic. Therefore, project activity should not additionally affect greater sage-grouse in this area.
Burrowing owl	*Athene cunicularia*	Occupies open habitats with sparse vegetation, such as prairie, pastures, desert, or shrub-steppe. Occurs	WAP SOC	The proposed project may affect, but is not likely to adversely

Table 1: Determinations for Federal, State, Listed Species or Special Status Species and Critical Habitat with Potential to Occur in Project Action Area				
Common Name	**Scientific Name**	**Description of Habitat Type and Potential to Occur in the Project Area**	**Nevada Protected Species**	**Project Effect**
		throughout Nevada in salt desert scrub, Mojave shrub, and sagebrush habitat, as well as agricultural landscapes (BLM 2017). One nest has been found within either the project area or surrounding 10-mile buffer (NDOW 2023).		affect this species. Surveys should be conducted in the spring to identify and avoid active burrows.

2. INTRODUCTION

SBS is responding to the Nevada Revised Statutes (NRS) Section 704.7801 through 7828, the Nevada Administrative Code (NAC) 704.8831 to develop cost-effective energy storage projects. The proposed SBS Washoe BESS/PSES project would provide renewable energy and critically needed flexibility attributes needed to advance Nevada's Renewable Portfolio Standard (RPS) goals and climate policies, and to enhance electrical grid reliability. To meet this demand, SBS is planning to construct a BESS that would store up to 250 megawatts (MW) of electricity for dispatch into the local grid via the proposed gen-tie line (345kV) to be placed either on the Rainbow Way corridor. The project will also include the installation of up to an estimated 439,000 solar PV modules on a single axis track system within the the 1,128 +/- acre project site (Figure 1). Project elements will also include:

- Electrical inverters and transformers
- Battery energy storage system (BESS)
- BESS power inverters, transformers switches, MV switchgear, SCADA enclosure,
- On-site electrical substation
- Meteorological stations
- Remote monitoring system (SCADA)
- Site access roads and maintenance access roads
- Security fencing
- Gen-Tie line structures to interconnect with the NV Energy Fort Sage substation south of the solar
- generation site and
- Gen-Tie Laydown Area

On behalf of SBS, Universal Engineering Sciences, Inc (UES) prepared this Biological Evaluation (BE) to determine to what extent the proposed action may affect any of the federally threatened, endangered, proposed, candidate, or special-status species, critical habitat, or other species protected by the federal, state, or local plans and regulations that may occur in the project lease area or action area (the project lease area or action area is defined in detail in Section 3 below). The purpose of this BE is to review existing resource information; to summarize the results of the field surveys performed in the project lease area and gen-tie line corridor (Rainbow Way); to determine if species or their habitats addressed in this BE are likely to be adversely affected by construction, operation, or maintenance of the project; and to describe impact avoidance and minimization measures that would reduce or avoid potential adverse project effects to these species and their habitats. This BE has been prepared according to the legal requirements set forth under Section 7 of the Federal Endangered Species Act (FESA) (16 U.S.C. 1536 [c], C.F.R. Sec. 402.12), and presents technical information upon which later determinations regarding project effects will be developed for compliance with the 1971 Utility Environmental Protection Act (UEPA) of Nevada found in the Nevada Revised Statutes (NRS). UEPA permits are addressed in NRS 704.820 through 704.900, and NAC 703.415 through 703.427.

Rare plant, vegetation community and wetland surveys were conducted by UES biologists: Ben Klink, Meaghan Davis, Tessa Behnke, Teresa Campbell, and Tom Tsunemoto during the summer of 2023. These surveys are described in detail in Section 4 of this report.

3. DESCRIPTION OF PROJECT LEASE AREAS OR ACTION AREA

The project lease areas or action area includes the easement of Rainbow Way from the NV Energy Fort Sage Substation to the SBS BESS/PSES project lease area and the full extent of additional space that may be directly or indirectly affected by project construction. The project is located within Section 33 of Township 27 North, Range 18 East and Sections 3-5, 8-9, 16-17, 20-21, 28-29, and 32-33 of Township 26 North, Range 18 East (Figure 2). In addition, undetermined portions of the 1,128 +/- project area will be utilized as workspace areas necessary for laydown of materials, maneuvering of construction vehicles, and access to and from the Rainbow Way easement and the PSES field. It is not anticipated that direct or indirect effects resulting from project construction or operation will extend beyond this action area.

To delineate the project action area, local topography, hydrology, special-status species populations, and potential project effects were considered. The topography of the project area is relatively flat with a slope of less than five (5%) percent for all project action areas. There are no water features in the project area, nor jurisdictional wetlands.

3.1 Vegetation Communities and Habitat Types

Plant communities and habitat types were mapped on the Shreem Brzee project lease area using data from the 2020 Landfire dataset. This dataset indicated that the project occurred within four habitat types: Intermountain Basins Greasewood Flat (558 acres), Intermountain Basins Mixed Salt Desert Scrub (317 acres), Invasive Annual and Biennial Forbland (7 acres), and Intermountain Basin Playa (46 acres). These communities were then groundtruthed in the field by qualified biologists. Focused surveys for special-status plant species were conducted on the SBS lease area as well as the Gen-Tie Line corridor of Rainbow Way easement. Qualified botanists performed the presence/absence surveys and habitat type groundtruthing on July 19 and July 25-26 of 2023. The surveys were conducted during the month of July and consisted of sixteen (7) person days of surveys, or approximately seventy (70) person hours. Surveys were conducted within the blooming periods for special status species determined to have potential to occur within the action area. Surveys were florisitic in nature. No special status plant species were observed within the action area.

Preconstruction surveys and focused blooming season surveys may be required to identify the location of special-status species habitat within the project lease area or action area prior to construction and earth moving activities. Figure 3 shows the habitat characterization of the Shreem Brzee project lease area (Intermountain Basins Greasewood Flat, Intermountain Basins Mixed Salt Desert Scrub, Invasive Annual and Biennial Forbland, and Intermountain Basin Playa). Figure 3 shows the areas of alkali basins/flats/playas, which are barren and void of all vegetation, and the Alkali Desert Scrub plant community areas between the alkali basins/flats/playas, which can support vegetation. Figure 3 also shows the changing and various habitat characterization of the Gen-Tie Line corridor down Rainbow Way from the Shreem Brzee BESS/PSES project lease area to the NV Energy Fort Sage substation (Intermountain Basins Greasewood Flat, Intermountain Basins Mixed Salt Desert Scrub, and Invasive Annual and Biennial Forbland). The habitat characterization types that were identified in the project action areas are described in detail below.

3.2 Descriptions of Habitat Types in Project Action Areas

3.2.1 Intermountain Basins Greasewood Flat

This ecological system typically occurs near drainages on stream terraces and flats or may form rings around more sparsely vegetated playas. Sites typically have saline soils, a shallow water table and flood intermittently, but remain dry for most growing seasons. The water table remains

high enough to maintain vegetation, despite salt accumulations. This system usually occurs as a mosaic of multiple communities, with open to moderately dense shrublands dominated or codominated by *Sarcobatus vermiculatus*. *Atriplex canescens*, *Atriplex confertifolia*, or *Krascheninnikovia lanata* may be present to codominant. Occurrences are often surrounded by mixed salt desert scrub. The herbaceous layer, if present, is usually dominated by graminoids. There may be inclusions of *Sporobolus airoides*, *Distichlis spicata* (where water remains ponded the longest), or *Eleocharis palustris* herbaceous types.

Intermountain Basins Greasewood Flat is the dominant habitat type in the project lease area and Rainbow Way easement (Figure 3). Biologists confirmed this during surveys, finding that the habitat is dominated by black greasewood, which is intermixed with shadscale and hopsage. The understory is dominated by clasping pepperweed with occasional sporadic annual invasive grasses. The habitat is a mosaic of the shrub/grassland vegetation type and dry alkali playa, and is stunted in growth compared to the mixed scrub. Shrubs and grasses persist in small rises in topography above playa. The ditch along the railroad supports larger greasewood and a greater diversity in vegetation, similar to the mixed salt desert scrub, but quickly returns to stunted greasewood dominated playa about ten (10) ft away from the railroad ditch.

3.2.2 Intermountain Basins Mixed Salt Desert Scrub

Occurs in saline basins, alluvial slopes and plains. Soils are generally saline, calcareous, alkaline, and medium- to fine-textured. The plant community is characterized as an open to moderately dense shrubland composed of sagebrush (Atriplex) species. Other shrubs present to codominant may include Wyoming big sagebrush (*Artemisia tridentata* ssp. *Wyomingensis*), yellow rabbitbrush (*Chrysothamnus viscidiflorus*), rubber rabbitbrush (*Ericameria nauseosa*), Nevada ephedra (*Ephedra nevadensis*), spiny hopsage (*Grayia spinosa*), winterfat (*Krascheninnikovia lanata*), desert thorn (*Lycium* sp.), bud sagebrush (*Picrothamnus desertorum*), or horsebrush (*Tetradymia* sp.). The sparse to moderately dense herbaceous layer is dominated by perennial graminoids such as Indian ricegrass (*Achnatherum hymenoides*), blue grama (*Bouteloua gracilis*), thickspike wheatgrass (*Elymus lanceolatus* ssp. *Lanceolatus*), western wheatgrass (*Pascopyrum smithii*), James' galleta (*Pleuraphis jamesii*), big galleta (*Pleuraphis rigida*), Sandberg bluegrass (*Poa secunda*), or Alaki scaton (*Sporobolus airoides*).

The Landfire data suggested that the Intermountain Basins Mixed Salt Desert Scrub habitat was dispersed throughout the project lease area and Rainbow Way easement (Figure 3). The groundtruthing survey determined that a small band of this habitat extends about ten (10) m from the western boundary of the project and along an established vegetated on the southern boundary in the northwest quarter of section four. This habitat is also present along a 10-20-ft buffer of the railroad tracks, most likely due to shallow ditch retaining water longer than the surrounding area. This habitat is dominated by a mix of greasewood, shadscale, hopsage, green molly, and sagebrush. The understory is limited to saltgrass, intermediate wheatgrass, clasping pepperweed, and other invasive annual grasses/forbs. This habitat type was mapped over an established dune (intersection of northern Marina Ln and Rainbow Way), which had little to no variation from the surrounding habitat. Further south, desert peach was intermixed along the roadway.

3.2.3 Invasive Annual and Biennial Forbland

A community type resulting from poor land use practices and increased disturbance regimes. The plant community is dominated by introduced annual and/or biennial forb species such as *Halogeton glomeratus*, *Kochia scoparia*, *Salsola* sp., etc.

Although Landfire data indicated the Invasive Annual and Biennial Forbland habitat occurred only in the Rainbow Way easement (Figure 3), groundtruthing showed that it occurs in the project lease area as well. This is the most disturbed habitat and extends farther south than mapped

(from the intersection of fish springs to the southern end of the ROW), most likely from the recent solar development in that area. The habitat was dominated by sporadic shrubs and weedy invasives, including several large populations of Nevada noxious weed scotch thistle.

3.2.4 Intermountain Basin Playa

This ecological system is composed of barren and sparsely vegetated playas (generally <10% plant cover). Salt crusts are common throughout, with small saltgrass beds in depressions and sparse shrubs around the margins. These systems are intermittently flooded. The water is prevented from percolating through the soil by an impermeable soil subhorizon and is left to evaporate. Soil salinity varies greatly with soil moisture and greatly affects species composition. Characteristic species may include *Allenrolfea occidentalis*, *Sarcobatus vermiculatus*, *Grayia spinosa*, *Puccinellia lemmonii*, *Leymus cinereus*, *Distichlis spicata*, and/or *Atriplex* spp. Intermountain Basin Playas are mostly found within the project lease area. Groundtruthing confirmed that this habitat type is dispersed throughout the other three habitat types (Figure 3) and that it is predominantly void of vegetation.

3.3 Aquatic Resources

UES performed an analysis of potentially jurisdictional aquatic resources, including wetlands, present within the project area is to determine the presence or absence of these features and evaluate the need further regulation.

3.3.1 Regulatory Context

The U.S Army Corps of Engineers (USACE) has been delegated the authority to issue permits for the discharge of dredged and/or fill material into waters of the U.S. (WOTUS) under Section 404 of the Clean Water Act (CWA). If a permit under Section 404 of the CWA is required from the USACE then a Section 401 Water Quality Certification (WQC) from the Nevada Division of Environmental Protection (NDEP) is also required.

3.3.2 Methods

UES reviewed the most recent satellite imagery from Google Earth (October 2022) and ESRI ArcMap (August 2022) of the site to identify whether there were any wetlands, washes, or drainages that may potentially be jurisdictional aquatic resources. This review specifically looked for indicators of wetness including defined channels, dense vegetation, change in vegetation or site characteristics, or changes in slope. Staff also reviewed the National Wetlands Inventory (NWI) mapping for indicators of hydrology and flow (Figure 4) and verified these findings through field observation. To determine the presence or absence of hydric soils, UES reviewed the US Department of Agriculture's (USDA) Web Soil mapping to identify the presence of hydric soils within the project area.

3.3.3 Results

Analysis of satellite imagery indicated no indicators of jurisdictional aquatic resources. Vegetation appeared by be limited to upland shrubs and forbs and absent of typical riparian plants. No indicators of wetness, flowing water or open water were observed in aerial imagery. Topography did not indicate a consistent flow regime present within the project area.

NWI data shown on Figure 4 identified the following feature classifications within the project area:

- **L2USJ** - Lacustrine, Littoral, Unconsolidated Shore, Intermittently Flooded
- **PSS1J -** Palsturine, Scrub Shrub, Broad-leaved Deciduous, Intermittently Flooded
- **PUSJ –** Palsturine, Unconsolidated Shore, Intermittently Flooded
  (USFWS, 2023)

Each feature classification within the project area included the estimated water regime classification of (J) - Intermittently Flooded. This classification is used to describe a feature when the substrate is exposed, but surface water is present for variable periods without detectable seasonal periodicity and weeks, months, or even years may intervene between periods of inundation (USFWS, 2023).

All soil types identified within the project area were identified as Nonhydric or Predominanatly Nonhydric (Table 2). Soil classifications within the project area are shown on Figure 5.

Table 2: Hydric Soils Rating by Map Unit

MUSYM	MUNAME	MUKEY	Hydric Rating (NRCS)
610	Haybourne-Mottsville-Incy association	477524	Nonhydric
630	Chappuis sandy loam	477535	Nonhydric
750	Gitakup-Tresed-Ragtown association	477555	Predominantly Nonhydric
780	Chuckles-Playas complex	477559	Nonhydric
781	Chuckles-Ragtown-Playas complex	477560	Nonhydric

(NRCS, 2023)

Field observations confirmed that there were no defined channels with evidence of flow, or Ordinary High-Water Mark (OHWM) within the project area. In addition, no hydric soils, hydrophytic vegetation or hydrologic topography was observed. Indicators of surface hydrology appeared to support an ephemeral flow or inundation regime at best and there were no indicators of prior, current, or potential interstate or foreign commerce on these potential resources.

As such no permits under Sections 401 or 404 of the Clean Water Act would be required for development of the project area. This finding would not obviate the need for other permits under the purview of NDEP such as the Working-in-Waterways/Temporary Discharge permits and Stormwater Construction permit.

4. STUDY METHODS AND SPECIES CONSIDERED

4.1 Literature Review and Consultation

Special-status species lists from the USFWS (USFWS 2023), Nevada Division of Natural Heritage Program (NDNH), and Nevada Department of Wildlife (NDOW) were referenced to compile a master list of special-status and sensitive species that could potentially occur in the project action area. Aerial photography and geographic information system (GIS) maps were then used to assess the potential for sensitive habitats in the project area.

Special-status species that were considered include all federally listed threatened and endangered species, candidates for listing, species proposed for listing, species delisted within the last five years, species of concern. A special-status species was considered a potential inhabitant of the project action area if its known geographical distribution overlapped with the project area and its general habitat requirements (e.g., roosting, nesting, or foraging habitat; specific soil type; permanent water source) were present. A list of special-status species with the potential to occur was compiled, and the habitat requirements of each species were considered during reconnaissance field surveys, habitat assessments, and blooming surveys. The list of special-status plant species was utilized to organize and implement blooming focused surveys in the 2021 blooming season. Table 3 lists the special-status species identified in the literature review, their listing status, habitat association, and potential to occur in the project lease area or action area.

No federally listed or federal candidate species occur in the project lease areas or action area. The Carson wandering skipper (Endangered) and monarch butterfly (Candidate) were reported by the USFWS Information for Planning and Consultation (IPaC) database as potentially occurring within the project area, but critical habitat for these species is not present (USFWS 2023).

No (0) Nevada protected plant species were identified to occur within the project area in record searches from the Nevada Division of Natural Heritage (NDNH 2023). Additionally, no special-status plant species were found during reconnaissance plant surveys, nor blooming surveys of the project lease area/project action area.

Four (4) Nevada protected game species (mule deer, pronghorn antelope, bighorn sheep, and greater sage-grouse) were identified by the Nevada Department of Wildlife as potentially occurring within the project area or surrounding four-mile buffer. It was determined that the proposed project would have no effect on bighorn sheep due to lack of suitable habitat, and may affect, but is not likely to adversely affect the other three species.

Two Nevada Wildlife Action Plan (WAP) Species of Concern (SOC) (golden eagle and burrowing owl) were identified by the Nevada Department of Wildlife as potentially occurring within the project area or surrounding 10-mile buffer. It was determined that the proposed project may affect, but is not likely to adversely affect these species. Suitable measures (spring surveys and avoidance buffers) should be implemented to ensure minimal effects on burrowing owl.

Table 3: Determinations for Federal, State, Listed Species or Special Status Species and Critical Habitat with Potential to Occur in Project Action Area

Common Name	Scientific Name	Description of Habitat Type and Potential to Occur in the Project Area	Nevada Protected Species	Project Effect
Carson wandering skipper	*Pseudocopaeodes eunus obscurus*	No critical habitat is present within the project area.	No	No effect. No suitable habitat is present within the project area.

Table 3: Determinations for Federal, State, Listed Species or Special Status Species and Critical Habitat with Potential to Occur in Project Action Area				
Common Name	**Scientific Name**	**Description of Habitat Type and Potential to Occur in the Project Area**	**Nevada Protected Species**	**Project Effect**
Monarch butterfly	Danaus plexippus	No critical habitat is present within the project area.	No	No effect. No suitable habitat is present within the project area.
Golden eagle	*Aquila chrysaetos*	Found throughout Nevada, occurring in a variety of habitats ranging from arctic to desert. Occurs in open country, especially around mountains, hills, and cliffs. In Nevada, this species nests primarily on cliff ledges and occasionally in large trees (WAPT, 2012). The lack of cliff habitat and tall trees within the project area make it unlikely for golden eagle to use the project area for nesting. However, nesting birds may be present in the surrounding mountains so it is possible that individuals may use the project area for foraging or may pass over the project area.	WAP SOC	The proposed project may affect, but is not likely to adversely affect this species. Individuals potentially flying over the project area or using it for foraging will be able to access other surrounding habitats that can meet these needs.
Mule deer	*Odocoileus hemionus*	Occupies a variety of habitats, including desert shrub. Prefers open landscapes. Often found near human development (WAPT 2012, NatureServe 2023). Occupied distribution exists within the project area and surrounding four-mile buffer (NDOW 2023).	G	The proposed project may affect, but is not likely to adversely affect this species. High quality habitat is not present within the project area, and individuals who may use it for foraging will be able to access alternative surrounding habitat.
Pronghorn antelope	*Antilocapra americana*	Occupies a variety of habitats, including deserts, grasslands, and river basins, especially those containing low sagebrush. Prefers open landscapes (NDOW 2023, NatureServe 2023). Occupied distribution exists within the four-mile buffer, but not within the project area. Within the project area, the distribution only crosses within the very southern tip of the Rainbow Way PUE (NDOW 2023).	G	The proposed project may affect, but is not likely to adversely affect this species. A very limited amount of the project area falls within the occupied distribution, and individuals who might use this habitat will have access to alternative surrounding habitat.
Bighorn sheep	*Ovis canadensis* spp.	Occurs throughout Nevada in alpine meadows, mountain slopes, and foothills. Steep rocky slopes are an important feature of habitat as this provides escape terrain to avoid predators (WAPT 2012). Occupied distribution exists within the four-mile buffer, but not within the project area (NDOW 2023).	G	No effect. Suitable habitat does not exist within the project area, and occurrences have not been documented within the project area.
Greater sage-grouse	*Centrocercus urophasianus*	Uses a variety of sagebrush habitats and often found in close proximity to meadows. Sagebrush overstory and herbaceous understory are critical (Cornell University 2023). Greater sage-	G	The proposed project may affect, but is not likely to adversely affect this species. The only habitat

Table 3: Determinations for Federal, State, Listed Species or Special Status Species and Critical Habitat with Potential to Occur in Project Action Area				
Common Name	**Scientific Name**	**Description of Habitat Type and Potential to Occur in the Project Area**	**Nevada Protected Species**	**Project Effect**
		grouse habitat within the project area or surrounding four-mile buffer has been classified as other, general, and priority habitat by the Nevada Sagebrush Ecosystem Program. Within the project boundary, habitat is only present within the Rainbow Way PUE. Greater sage-grouse activity in the project area and/or surrounding four-mile buffer has been documented by 1,275 tracking locations generated by at least 90 radio-marked birds. There is one known sage-grouse lek within the project area and/or surrounding four-mile buffer (NDOW 2023).		available within the project boundary is within the Rainbow Way PUE, which is already impacted by vehicle traffic. Therefore, project activity should not additionally affect greater sage-grouse in this area.
Burrowing owl	*Athene cunicularia*	Occupies open habitats with sparse vegetation, such as prairie, pastures, desert, or shrub-steppe. Occurs throughout Nevada in salt desert scrub, Mojave shrub, and sagebrush habitat, as well as agricultural landscapes (BLM 2017). One nest has been found within either the project area or surrounding 10-mile buffer (NDOW 2023).	WAP SOC	The proposed project may affect, but is not likely to adversely affect this species. Surveys should be conducted in the spring to identify and avoid active burrows.

4.2 Field Surveys

Special status plant surveys and habitat ground-truthing surveys were conducted on the project lease areas in July 2023 by UES staff who walked the project lease area on 50-meter transects and surveyed out to 25 feet of the Rainbow Way PUE. Qualified biologists performed the surveys on July 19 and 25-26. The surveys consisted of seven (7) person days of surveys, or approximately seventy (70) person-hours. Surveys were conducted during flowering periods for special status species determined to have potential to occur in the project lease areas and project action area. Surveys were floristic in nature. All plants observed were identified using The Jepson Manual (Hickman 1993) to the taxonomic level necessary to determine whether they were rare. The biologists walked through each habitat type and documented all plant species present within the habitat types. All plant species encountered in the project area were documented.

5. SURVEY RESULTS AND SPECIAL STATUS SPECIES ACCOUNTS

5.1 Flora and Fauna

The flora and fauna identified during the surveys is typical of the Basin and Range and the Terrestrial Natural Communities of Nevada, which include: Intermountain Basin Greasewood Flat, Intermountain Basin Mixed Salt Desert Scrub, Invasive Annual and Biennial Forbland, and Intermountain Basin Playa. All the plants and animals associated with the project lease area or Gen-Tie line corridor are locally common. The plants observed are expected to represent at least 90-95 percent of the naturalized species occurring on the project lease area.

Approximately 6.6% of the project lease areas are comprised of Intermountain Basin Playa which are barren and lack any vegetation. Approximately 0.2% of the project lease areas are

characterized as Invasive Annual and Biennial Forbland. The invasive annual and biennial forbland habitat consists of many introduced and invasive species that are associated with recent ground clearing for an adjacent solar project. The remaining habitat is a mix of Intermountain Basin Mixed Salt Desert Scrub, approximately 29.1% of the project lease, and Intermountain Basin Greasewood Flat, approximately 64.1% of the project lease. These habitats consist of mostly salt scrub shrub species and are associated with access roads, natural gas pipelines, wild horse trails, recreational vehicles trails, and the railroad.

5.1.1 Flora

The following plant species were observed within the Intermountain Basin Greasewood Flat, Intermountain Basin Mixed Salt Desert Scrub, and Invasive Annual and Biennial Forbland habitat types within the project lease area.

Intermountain Basins Greasewood Flat	
Atriplex confertifolia	Shadscale
Bromus tectorum	Cheatgrass
Ceratocephala testiculata	Bur buttercup
Distichlis spicata	Saltgrass
Elymus elymoides	Squirreltail
Grayia spinosa	Hopsage
Halogeton glomeratus	Halogeton
Krascheninnikovia lanata	Winterfat
Lepidium perfoliatum	Clasping Pepperweed
Neokochia americana	Green Molly
Sarcobatus vermiculatus	Greasewood
Sisymbrium altissimum	Tumble Mustard

Intermountain Basins Mixed Salt Desert Scrub	
Argemone munita	Flatbud Pricklypoppy
Artemisia tridentata	Sagebrush
Atriplex confertifolius	Shadscale
Bromus tectorum	Cheatgrass
Distichlis spicata	Saltgrass
Elymus cinereus	Great Basin Wildrye
Ericameria nauseosa	Rubber Rabbitbrush
Grayia spinosa	Hopsage
Halogeton glomeratus	Halogeton
Lepidium perfoliatum	Clasping Pepperweed
Matricaria descoidea	Disc Mayweed
Neokochia americana	Green Molly
Onopordum acanthium	Scotch Thistle
Prunus andersonii	Desert Peach
Sarcobatus vermiculatus	Black Greasewood
Sisymbrium altissimum	Tumble Mustard

Intermountain Basins Mixed Salt Desert Scrub	
Tetradymia glabrata	Littleleaf Horsebrush
Tragopogon dubius	Salsify

Invasive Annual and Biannual Forbland	
Bromus tectorum	Cheatgrass
Elymus cinereus	Great Basin Wildrye
Lepidium perfoliatum	Clasping Pepperweed
Madia sp.	Unknown Madia
Amsinckia tessellata	Bristly Fiddleneck
Argemone munita	Flatbud Pricklypoppy
Iva axillaris	Poverty Weed
Erodium cicutarium	Redstem Storksbill
Prunus andersonii	Desert Peach
Salsola tragus	Russian Thistle
Onopordum acanthium	Scotch Thistle
Ericameria nauseosa	Rubber Rabbitbrush
Verbascum thapsus	Wolly Mullein
Sisymbrium altissimum	Tumble Mustard
Eriogonum baileyi	Bailey's Buckwheat
Halogeton glomeratus	Halogeton
Nicotiana attenuata	Coyote Tobacco
Pleiacanthus spinosus	Thorn Skeletonweed

5.2 Sensitive Vegetation Communities

Vegetation communities (habitats) are generally considered "sensitive" if they; (a) are recognized by the Nevada Division of Natural Heritage or U.S. Fish and Wildlife Service as being locally depleted; (b) are considered rare within the region by local experts, (c) are known to support sensitive animal or plant species, including Listed Species; and/or (d) they are known to serve as important wildlife corridors. These sensitive habitats are typically depleted throughout their known ranges or are localized and/or highly fragmented.

The vegetation on the project lease areas are not sensitive and is not considered a significant biological resource for analysis purposes in this report. Furthermore, no sensitive vegetation communities were identified by the NDNH, and none were observed during field surveys.

5.3 Special-Status Plant Species

No special-status plant species were identified by the NDNH, and none were observed during field surveys.

5.4 Special-Status Wildlife Species

No special-status wildlife species were identified by the NDNH, and none were observed during field surveys.

6. REGULATORY BACKGROUND

6.1 Federal Endangered Species Act

The FESA protects plants and wildlife that are listed as endangered or threatened by the USFWS and the National Marine Fisheries Service (NMFS). Section 9 of the FESA prohibits the take of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land, and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16USC1538). Under Section 7 of the FESA, federal agencies are required to consult with the USFWS and/or the NMFS if their actions, including permit approvals or funding, could adversely affect a listed plant or wildlife species or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS and/or the NMFS may issue an incidental take permit allowing take of the species that is incidental to another authorized activity, provided the action will not jeopardize the continued existence of the species. Section 10 of the FESA provides for issuance of incidental take permits to private parties, provided a habitat conservation plan (HCP) is developed.

6.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties devised to protect migratory birds and any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits are in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits.

6.3 Federal Clean Water Act

The federal Clean Water Act's (CWA) purpose is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into waters of the United States without a permit from the USACE. The definition of waters of the United States includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The U.S. Environmental Protection Agency also has authority over wetlands and may override a USACE permit. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or Waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board.

6.4 Nevada Administrative Code (NAC) 503.030: Protected, Threatened, and Sensitive Mammals; 503.050 Birds, and 503.060 Fish

The Nevada Administrative Code (NAC) protects threatened, and sensitive mammals, birds, and fish. Specific lists of mammals, birds, and fish are established and identified within the NAC.

6.5 Nevada Administrative Code (NAC) 527.010 List of Fully Protected Species of

Native Flora; NAC 503.0935 Special Permit for Handling, Moving or Temporarily Possessing Protected Wildlife; Nevada Revised Statutes (NRS) 527.270 List of Fully Protected Species Declared to be Threatened with Extinction; Special Permit Require for Removal or Destruction

The Nevada Administrative Code (NAC) lists fully protected species of native flora. The NAC also prescribes special permits for handling, moving, or temporarily possessing protected wildlife. The NRS establishes the requirements and information needed for the application for the special permits.

6.6 Nevada Administrative Code (NAC) 527.200 Nevada Natural Heritage Program

The Nevada Administrative Code (NAC) sets out the responsibilities of the Nevada Natural Heritage Program which includes establishing and maintaining a committee of qualified professionals to conduct scientific research and analysis of native flora; maintain data and records related thereto; and provide assistance to the State Forester in the development and administration of a program for the conservation, protection, restoration and propagation of critically endangered species of native flora. It is the responsibility of the Nevada Natural Heritage Program to determine if the existence of a species or subspecies of native flora is endangered and if the survival of that species or subspecies requires assistance because of overexploitation, disease or other factors, or because the habitat of the native flora is threatened with destruction, drastic modification or curtailment. The Nevada Natural Heritage Program in consultation with the State Forester will recommend that the species or subspecies of native flora be placed on the list of fully protected species of native flora in the state of Nevada.

6.7 Washoe County Master Plan

High Desert Area Plan

The SBS Sunseeker BESS/PSES Project is located within the High Desert Area Plan of the Washoe County Master Plan, which is composed of a number of unique habitats that provide for a diverse population of wildlife and plants. Mule deer, pronghorn antelope, California bighorn sheep, and wild horses can be found in this region. The federal list of threatened and endangered species indicates that the endangered Peregrine falcon and Southern bald eagle occur in the High Desert Area Plan, planning area as well. Wildlife habitat and migratory routes are a key component of the area's character. In 2006, The Nevada Natural Heritage Program ranked Wall Canyon and Fly Geyser as "*Highest Priority Conservation Sites*." These sites are characterized as currently requiring protection in order to conserve a significant assemblage of at-risk species and to prevent the loss of one or more species in the immediate future. Due to the High Desert's sensitive environmental conditions, it is essential to protect the natural balance that has evolved in the area over time. Careful stewardship of this rich natural environment is fundamental to maintaining and preserving this valuable component of the High Desert area character.

The High Desert Area Plan calls for new development to respect the value of wildlife and wildlife habitat. Goal HD.12.2 states: "Any development that has the potential to negatively impact an established wildlife migration route or critical habitat, including but not limited to traditional mule deer migration routes, deer winter range, federally classified Threatened and Endangered Species and their associated habitat must demonstrate how that project will protect the integrity of the migration route or habitat." Goal nineteen requires that all wetlands and their associated habitats be addressed. Goal HD 19.1 states: "All development will meet or exceed the standards for wetland development and impact established by state and federal agencies responsible for wetlands management." Goal HD 19.3 states: "Development proposals that impact any area designated "potential wetlands" on the Development Suitability map must conduct a wetlands delineation study and obtain Army Corps of Engineers certification of the proposed wetlands and

comply with vector-borne diseases regulations."

Conservation Element

Nevada Revised Statutes (NRS) Chapter 278.160 requires a conservation plan as part of any adopted master plan for counties with a population of more than 100,000 but less than 400,000, as is the case in Washoe County. The SBS project lease area and the Gen-Tie Line corridor are subject to the Washoe County Master Plan – Conservation Element. The Conservation Element of the Washoe County Master Plan serves as the conservation "plan" for unincorporated Washoe County and outlines policies and action programs for the conservation and preservation of natural resources. The plan also provides guidance to the Washoe County Planning Commission and the Washoe County Board of County Commissioners regarding their efforts to conserve natural resources while balancing the interests of growth and development. The Conservation Element was first adopted in 1991 and was comprehensively updated in 2008. It should be noted that several different planning documents, agencies, and regulations (including federal, state, and local) are often used to address or implement the required contents of a conservation plan cited in NRS 278.160.

The SBS Sunseeker BESS/PSES must demonstrate compliance with the goals of the Conservation Element which include:

C.3.1 The Washoe County Department of Community Development shall adequately consult with other agencies while maintaining Development Suitability maps that depict valuable and/or critical land, water and wildlife resources or features which shall include, but not be limited to, the following: …Key wildlife habitats and migration routes; Perennial and intermittent streams and wetlands.

C.11.4 Washoe County will encourage the development of active solar energy collection and production infrastructure.

C.13.1 Protect key wildlife habitats; habitats of threatened, endangered or rare species; and key migration routes.

C.13.2 Promote the conservation and enhancement of fishery and wildlife resources; areas of high wildlife value; areas necessary for the protection and perpetuation of rare, endangered and threatened species; and areas important for scientific study.

C.13.3 Ensure that all existing natural streams, playas and other water bodies are recognized for their wildlife habitat, floodway, water quality enhancement and scenic value.

The Conservation Element identifies the Nevada Natural Heritage Program, and five plant species in Washoe County that are identified for Nevada state protection (Washoe pine, Webber ivesia, Williams

6.8 Required Permits and Approvals

Based on the results of our survey, no biological permits or approvals related to state or federal law are required.

7. EFFECTS ANALYSIS

The following section describes impacts to habitat types, species, and critical habitat that may result from construction of the project. Temporary and permanent impacts are described for all habitats and species. Additionally, direct, and indirect impacts are discussed for each species and critical habitat that may be affected by the project. These types of impacts are described below.

- **Temporary Impacts:** Construction of SBS Sunseeker BESS/PSES and components of the project will require temporary disturbance of an approximate 1015 acres or 90% percent of the project lease areas to install pilings. No grading and a low impact construction method will be implemented for 90% of the project lease areas. Maintenance of Rainbow Way and installation of the power poles within the Rainbow Way PUE will require temporary disturbance to an approximate 40-foot-wide PUE. In certain areas, the PUE may be narrowed to avoid impacts to sensitive habitats and special-status species. In other areas, additional workspace needs may require that the PUE be expanded temporarily beyond the 40-foot widths.

Potential temporary construction impacts may include loss of foraging and/or nesting habitat, decreased habitat value, disturbance of nesting sites, or habitat fragmentation. However, the majority of these impacts will be temporary, as SBS Sunseeker BESS/PSES plans to restore all disturbed habitats within the project lease areas following construction. Temporary impacts resulting from construction activities will be reduced to less than significant levels with the implementation of the avoidance, minimization, and mitigation measures outlined in Section 8 of this report.

- **Permanent Impacts:** The SBS Sunseeker BESS/PSES project consists of the construction of an shared electrical substation, shared battery energy storage system, access/maintenance roads, and underground collection cables for electrical collection from the solar panels to the invertors. These project improvements will take approximately 63 acres or .055% of the project lease area. Permanent impacts that may result from project construction are only anticipated where the above-described project improvements (electrical substation, battery energy storage system, and access/maintenance roads) will permanently convert existing habitat.

Permanent impacts to special-status species may consist of loss of suitable foraging, nesting, roosting, breeding, aestivation, or hibernation habitat. However, permanent impacts will be reduced to less than significant levels by avoiding location of permanent structures in sensitive habitat to the maximum extent feasible, by final spatial relationships of the project components responding and reflecting special-status species geography on the project lease areas and properly restoring the project lease areas and work areas, and by replacing sensitive habitat features as identified in focus blooming surveys through avoidance, restoration, and compensatory mitigation.

- **Direct Impacts:** Direct impacts are defined in the FESA as effects to species or their critical habitat that occur during the implementation of a project. These impacts are likely to result from construction of the project but are not likely to continue once construction is complete.
- **Indirect Impacts:** Indirect impacts are defined in the FESA as effects that occur to species or their critical habitat after implementation of the project is complete. These effects are caused by or result from project activities and are reasonably certain to occur.

7.1 Plant Communities and Habitat Types

Project impact is confined to acreages with habitat types as summarized in Table 4.

Table 4: Project Impact Acreages – Project Lease Area

Habitat Type	Temporary Impact Acreage	Permanent Impact Acreage
Intermountain Basin Greasewood Flat	722	41
Intermountain Basin Mixed Salt Desert Scrub	328	18
Invasive Annual and Biennial Forbland	3	0.08
Intermountain Basin Playa	75	4

7.1.1 Intermountain Basin Greasewood Flat

Temporary Impacts

Construction of the project will temporarily impact approximately 722 acres of Intermountain Basin Greasewood Flat habitat within the project lease area. Intermountain Basin Greasewood Flat will be developed with low impact methods. This area will have pilings driven into the ground to support the solar array axis. No clearing or grading of vegetation or the surface will be conducted in 722 acres of the Intermountain Basin Greasewood Flat. Sensitive areas located in the Intermountain Basin Greasewood Flat, such as locations of special status species, or active burrows and nesting will be avoided, or impacts minimized using the mitigation measures outlined in Section 8 of this report.

Permanent Impacts

The construction of the SBS Sunseeker BESS/PSES project shared electrical substation, shared battery energy storage system, weather monitoring stations, and access/maintenance roads will permanently remove approximately 41 acres of Intermountain Basin Greasewood Flat habitat within the project lease area. Additionally, Shreem Brzee BESS/PSES will implement the mitigation measures outlined in Section 8 to minimize permanent impacts to Intermountain Basin Greasewood Flat habitat.

7.1.2 Intermountain Basin Mixed Salt Desert Scrub

Temporary Impacts

Construction of the project will temporarily impact approximately 328 acres of Intermountain Basin Mixed Salt Desert Scrub habitat within the project lease area. Intermountain Basin Mixed Salt Desert Scrub will be developed with low impact methods. This area will have pilings driven into the ground to support the solar array axis. No clearing or grading of vegetation or the surface will be conducted in 328 acres of the Intermountain Basin Mixed Salt Desert Scrub. Sensitive areas located in the Intermountain Basin Mixed Salt Desert Scrub, such as locations of special status species, or active burrows and nesting will be avoided, or impacts minimized using the mitigation measures outlined in Section 8 of this report.

Permanent Impacts

The construction of the SBS Sunseeker BESS/PSES project shared electrical substation, shared

battery energy storage system, weather monitoring stations, and access/maintenance roads will permanently remove approximately 18 acres of Intermountain Basin Mixed Salt Desert Scrub habitat within the project lease area. Additionally, SBS Sunseeker BESS/PSES will implement the mitigation measures outlined in Section 8 to minimize permanent impacts to Intermountain Basin Mixed Salt Desert Scrub habitat.

7.1.3 Invasive Annual and Biennial Forbland

Temporary Impacts

Construction of the SBS Sunseeker BESS/PSES project will temporarily impact approximately 3 acre of Invasive Annual and Biennial Forbland within the project lease area. This habitat classification only in the This Impacts may include the temporary loss of portions of disturbed areas when they are used for laydown areas. Following construction, most disturbed habitat lands disturbed during installation of the project will be restored to its previous condition or better, including replanting Invasive Annual and Biennial Forbland vegetation. However, some impacts will be permanent, as described below. SBS Sunseeker BESS/PSES will restore the Rainbow Way a private easement and PUE to the existing condition or better following completion of construction activities. Additionally, the SBS Sunseeker BESS/PSES project will implement the mitigation measures outlined in Section 8 to minimize potential temporary construction impacts to disturbed habitat.

Permanent Impacts

The construction of the five permanent structures, on disturbed habitat which will include portions of the shared electrical substation, shared battery energy storage system, and access/maintenance roads, weather monitoring stations, and maintenance of the permanent easements, PUE, and ROW on Rainbow Way will permanently remove approximately 0.08 acre of disturbed habitat. Dirt access roads and Rainbow Way will be permanently impacted where a 30-foot-wide permanent strip of the permanent PUE and ROW centered on electrical infrastructure facilities will be maintained by the SBS Sunseeker BESS/PSES project to keep the area free of deep-rooted vegetation for safety purposes.

7.1.4 Intermountain Basin Playa

Temporary Impacts

Construction of the project lease areas will temporarily impact approximately 75 acres of Intermountain Basin Playa habitat. This habitat type is barren and void of vegetation and does not provide habitat value to special-status plant or wildlife species, except for providing open areas for predators to forage and more success in hunting for species like the prairie falcon or long-eared owl. Intermountain Basin Playa will be developed with low impact methods. This area will have pilings driven into the ground to support the solar array axis. No clearing or grading of Intermountain Basin Playa will be conducted in the 75 acres of the alkali basins/flats/playas. Sensitive areas located in alkali basins/flats/playas such as locations active burrows and nesting will be avoided, or impacts minimized using the mitigation measures outlined in Section 8 of this report.

Permanent Impacts

Construction of the project lease areas will permanently impact approximately 4 acres of Intermountain Basin Playa habitat where the solar arrays pilings are placed and driven into the earth. No other permanent impacts to this habitat type are expected.

7.2 Special-Status Plant Species

No special-status plant species were identified as potentially occurring within the project area by the NDNH or USFWS, and none were observed during the special-status plant species surveys.

7.3 Special-Status Wildlife Species

All special-status wildlife species identified during the literature review were determined to not be affected by the project (No Effect) or that the project may affect individuals but is not likely to adversely affect this species (Table 3).

7.4 Operation and Maintenance

Operation and maintenance activities of SBS are not expected to have permanent impacts to sensitive habitats or special-status species, as all aboveground structures will be located in fenced yards within previously disturbed areas, alkali basins/flats/playas, or Alkali Desert Scrub, and will require minimal maintenance once construction is complete. Routine maintenance will consist of quarterly to annual patrolling (e.g., foot or vehicle), and use of water to clean the solar arrays, and will not require significant disturbance of habitat. Within the project lease areas, construction and maintenance vehicles will remain on designated project access routes and existing surfaced roads. SBS Sunseeker BESS/PSES will implement an ongoing worker education program to educate staff in recognizing and avoiding sensitive habitats in order to minimize impacts during maintenance and operation.

7.5 Interrelated and Interdependent Effects

The SBS project activities are not interrelated with any other action, and there are no known interdependent effects.

7.6 Cumulative Effects

Cumulative effects include the effects of future state, Tribal, local, or private actions that are reasonably certain to occur in the southeast corner of the Honey Lake Valley considered in this BA. Future federal actions that are unrelated to the proposed action are not considered in this section because they will be subject to separate consultation pursuant to Section 7 of the FESA.

The project may contribute to the cumulative effects to special-status species and their habitats resulting from numerous developments and road expansions that are planned in the region. Planned developments in the area include the Fish Springs Solar Project, Rock Springs Solar Project, and Sierra Plumas Rural Electric Cooperative Herlong to Fort Sage Intertie Line. In addition, road maintenance and improvements are planned for Calneva Road, and Rainbow Way between the Union Pacific railroad and Fort Sage Road.

These new developments and road improvements are likely to permanently impact the habitats of special-status species, including rare plants and wildlife associated with local habitats found in the Basin and Range of northwestern Nevada, raptors and other avian species that utilize alkali desert scrub, and alkali basins/flats/playas for foraging and roosting. These impacts may include take of special-status species, fragmentation or permanent loss of habitat, or reductions in the quality of habitat.

While the project may contribute to the cumulative effects resulting from new development and road expansion, most of the impacts from the project are temporary, as habitat will be restored to preconstruction conditions following the completion of construction activities. It is likely that many of the habitats temporarily impacted by project construction will be fully restored by the time construction begins for many of the new developments planned in the area.

Cumulative impacts will be minimized by constructing the SBS Sunseeker BESS/PSES with low impact methodologies (no grading, grubbing only, pile driving) access roads to follow existing roadways such that fragmentation of habitat will be minimized. To the extent possible, the SBS project will be constructed in areas that have previously been disturbed, or within alkali basins/flats/playas that do not harbor special status species.

8. IMPACT AVOIDANCE AND MINIMIZATION RECOMMENDATIONS

The following mitigation measures will be implemented by the SBS project to avoid or minimize the potential impacts to biological resources that may result from project construction, operation, and maintenance. These mitigation measures have been grouped into two categories: general measures and species or habitat-specific measures.

General mitigation measures apply to the entire action area and both project lease areas, and are organized into preconstruction, during construction, and postconstruction measures. General mitigation measures include worker education training, erosion control, ROW or PUE restoration, and seasonal construction-timing restrictions.

Specific measures include those that will be implemented for specific species or habitat types, and detail procedures that will be utilized such as special plant species-blooming focus surveys prior to construction, migratory and nesting bird surveys and monitoring, and special status species avoidance and minimization measures.

General Preconstruction

MM 1: Project Maps: Detailed construction maps showing location of sensitive environmental resources, construction sites and related features, environmental protection measures, and access routes will be provided to construction supervisors, and will be available to the construction crew members and environmental monitors prior to during construction activities.

MM 2: Worker Training: SBS's contractor will provide a qualified biologist(s) to conduct environmental compliance training, including an endangered species/sensitive habitat education program for construction crews prior to the commencement of the project (SBS) and during construction activities. Additional “tailgate” training will be conducted for new construction personnel as needed during construction. Sessions will include discussions of regulatory requirements, including the federal and Nevada Revised Statutes, Nevada Administrative Code, and consequences of noncompliance with these acts and requirements. Training will also include identification of special-status species that are likely to occur in the action area and discussion of the values of sensitive habitats. Training will also brief construction crews on the blooming focus surveys results concerning special status plant species for the project lease areas and the findings and mitigation requirements.

MM 3: Educational Brochure: As part of construction training, SBS will produce an educational brochure for crews working on the project. Color photos of threatened and endangered species, likely to occur in the action area will be included, as well as a discussion of protective measures agreed to by SBS and the resource agencies of Nevada.

MM 4: Exclusion Zone Fencing: SBS will mark the boundaries of environmentally sensitive exclusion zones and sensitive habitat features that are to be avoided (active burrows, active nests, special status plant species locations, etc.) before and during construction with highly visible flagging or fencing to prevent impacts from vehicles. All construction personnel will be required to conduct work activities within the defined area only.

MM 5: Vegetation Removal: SBS contractor will only remove vegetation within the approved work area. Low impact construction will be adhered to minimize removal of vegetation and restrict grading.

General Construction

MM 6: Work Area: SBS contractor will confine all heavy equipment, vehicles, and construction work to approved roads and work areas. Solar array work areas will be limited to what is necessary for construction (Pile Driver). Where possible, construction vehicles will be kept out of the action areas with the potential to support special-status species. Where these

avoidance measures are not feasible, SBS will apply for and obtain the appropriate permits prior to construction from the Nevada agencies, grading permit and will implement any additional avoidance or mitigation measures that are agreed upon during the grading permit process.

MM 7: Construction Monitoring: SBS will retain a qualified biologist(s) to be on-site during construction activities to perform pre-activity surveys just prior to construction in order to clear the work area of any special-status species, and to monitor compliance with mitigation measures.

MM 8: Workday Schedule: To the extent possible, SBS will conduct all construction activity during daylight hours only. Where it is deemed necessary and feasible, night lighting and monitors will be used for work that occurs after sundown.

MM 9: Vehicle Inspection: SBS will ensure that all construction personnel are instructed to visually check for wildlife beneath vehicles and equipment before moving or operating them.

MM 10: Speed Limit: SBS will enforce a speed limit of 15 miles per hour on private roads and the posted speed limit on public roads.

MM 11: Trench Ramping: At the conclusion of each day's trenching or excavating activities, the end of the trench will be ramped at an approximate 2 to 1 slope to allow any wildlife that enters the trench to escape. A biological monitor may approve the use of boards placed at an approximate 2 to 1 slope for site-specific, pre-approved locations where earthen escape ramps are not feasible.

MM 12: Sensitive Habitat Monitoring and Procedures if Listed Species are Found: In accordance with the FESA, Nevada Revised Statues, and Nevada Administrative Code, SBS will retain a qualified biological monitor to inspect any construction activity in habitat that is to be avoided or preserved to ensure that no unauthorized or unnecessary take of listed species or destruction of their habitat occurs. Upon recommendation of the biological monitor, the SBS work supervisor or contractor will be responsible for avoiding and stopping all activities that may result in such take or destruction of habitat until appropriate corrective measures have been completed. SBS will be responsible for immediately reporting any unauthorized impacts to the USFWS and NDOW.

MM 13: Trash Cleanup: SBS contractor will properly contain and remove all trash and waste items generated by construction or crew activities.

MM 14: Prohibitions for Pets, Fire, Firearms: SBS contractor will prohibit employees, contractors, and subcontractors from having pets, campfires, or firearms at the project sites. Smoking will be limited to designated smoking areas only.

General Postconstruction

MM 15: Restoration: SBS will restore work areas to pre-existing contours and conditions upon completion of work. Restoration, including revegetation and soil stabilization, will be performed as outlined in the Restoration and Monitoring Plan described below.

MM 16: Project Lease Areas Restoration Plan: SBS contractor will prepare a Restoration and Monitoring Plan to address postconstruction revegetation, success criteria, and monitoring periods in natural areas. The intent of this plan will be to ensure that impacts are minimized and adequately mitigated to the satisfaction of the permitting agencies, property owners, and/or habitat managers. Restoration will result in restoration of temporarily disturbed areas to conditions similar to preconstruction conditions. The Restoration and Monitoring Plan to be developed by SBS contractor for review with resource agencies will include, at a minimum, the following measures:

- At the completion of construction activities, the ROW/PUE will be graded to restore flow lines and natural topography.
- Ripping or disking will be performed to relieve compaction at identified locations as needed.
- Stockpiled topsoil will be re-spread, providing organic matter and a seed bank for restoration.
- At the completion of soil work, all areas disturbed by construction activities will be subject to implementation of permanent erosion control measures.
- Permanent erosion control measures could include spreading a combination of native grass and forb seed, fertilizer, compost, and mulch for soil protection.
- Seed mixes will be identified, for Alkali Desert Scrub areas and existing disturbed habitat areas.

MM 17: Seed Mix and Success Criteria: In sensitive communities such as Alkali Desert Scrub areas, SBS's Restoration and Monitoring Plan will include the use of native seed or plantings and will specify native species lists and propagule types, quantities of material, and appropriate success criteria and monitoring requirements to be determined in discussion with the appropriate resource agencies with responsibility for those areas (e.g., Washoe County and NDOW).

MM 18: Erosion Control: SBS contractor will install and maintain appropriate temporary erosion and sediment control measures until revegetation is successful as defined by the success criteria to be outlined in the Restoration and Monitoring Plan.

Special-status and Nesting Birds

MM 19: Bird Nest Surveys and Monitoring: Because construction will take place during the breeding and nesting season of avian species in the action area (typically February 1 through August 31), SBS's contactor will conduct nesting bird surveys prior to construction for avian species with potential to occur on-site, or where accessible, in areas adjacent to construction. Where nesting migratory birds are found in or near the action areas, the birds and their nests will be evaluated by a qualified biologist. If nest disturbance is anticipated, the biologist will ensure adequate mitigation measures are implemented (MM 20).

MM 20: Nesting Birds: In accordance with the MBTA, if an active nest is observed in the action area during construction, SBS's contractor will stop work within the appropriate buffer for the species and contact the biological monitor immediately. Nest disturbance is dependent on a number of site-specific and activity-specific factors, including the sensitivity of the species, proximity to work activity, amount of noise or frequency of the work activity, and intervening topography, vegetation, structures, etc. Additional mitigation may be required to minimize disturbance of detected nesting activity, such as allowing nesting activity to conclude before continuing construction in an area, restricting certain types of construction practices/activities, creating screening devices to shield nest sites from construction activity, and establishing buffer areas around active nest sites. For inactive nests, measures could include removal and/or handling of nest materials, which will be conducted under the supervision of a qualified biologist.

9. CONCLUSIONS AND DETERMINATION STATEMENTS

9.1 Conclusion

Potential direct effects resulting from solar array and batter energy storage systems construction include species harassment, displacement, or mortality; habitat destruction; or impacted water quality resulting from accidental hazardous material spills, sedimentation, or altered hydrology. Potential indirect effects include loss or degradation of future habitat functionality or impacted water quality resulting from adverse habitat modification causing future sedimentation and/or altered hydrology.

Potential adverse impacts to these species and their habitats can be minimized or avoided if project conservation measures are implemented. Implementation of appropriate construction BMPs, restricting work to non-sensitive or designated areas, providing environmental awareness to the crew, careful handling of chemicals near waterways, use of non-invasive installation methods, and restoring the site appropriately are general measures that will minimize or avoid the negative effects that may be associated with construction of the project. Additional conservation measures that may avoid or minimize adverse effects to potentially occurring special-status species include avoiding sensitive temporal windows for wildlife, conducting appropriate preconstruction surveys for wildlife species in the project action area, checking for wildlife beneath vehicles and equipment in the project area, restricting construction activities to daylight hours where feasible, and having a qualified biologist on-site for construction monitoring, conducting blooming focused surveys for special status plant species, and preconstruction surveys. Implementation of these measures will greatly reduce the potential for significant impacts to special-status species and their habitats.

9.2 Determination Statements

Per the FESA, biologists who surveyed the project area recommend the following determinations:

Special Status Plant Species: Special Status Plant Focused Surveys carried out in the blooming season of 2023 did not find any special status plant species on the proposed project lease area nor the Gen-Tie Line corridor or other action areas. The SBS Sunseeker BESS/PSES project will not affect special status plant species.

Special Status Wildlife Species: Pending results from Pre-construction Surveys, the proposed project may affect but is not likely to adversely affect certain identified special status wildlife species with mitigation measures incorporated. On other identified species, the project will have No Effect.

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11. CLOSING

UES trusts the information provided herein satisfies the requirements of UEPA at this time. Should you have any questions regarding this report please contact Ben Klink at (928) 814-3847 or bklink@teamues.com.

Respectfully submitted,

UES

Prepared by:
Teresa Campbell, MS
Staff Biologist

Reviewed by:
Ben Klink
Biology Program Manager

FIGURES

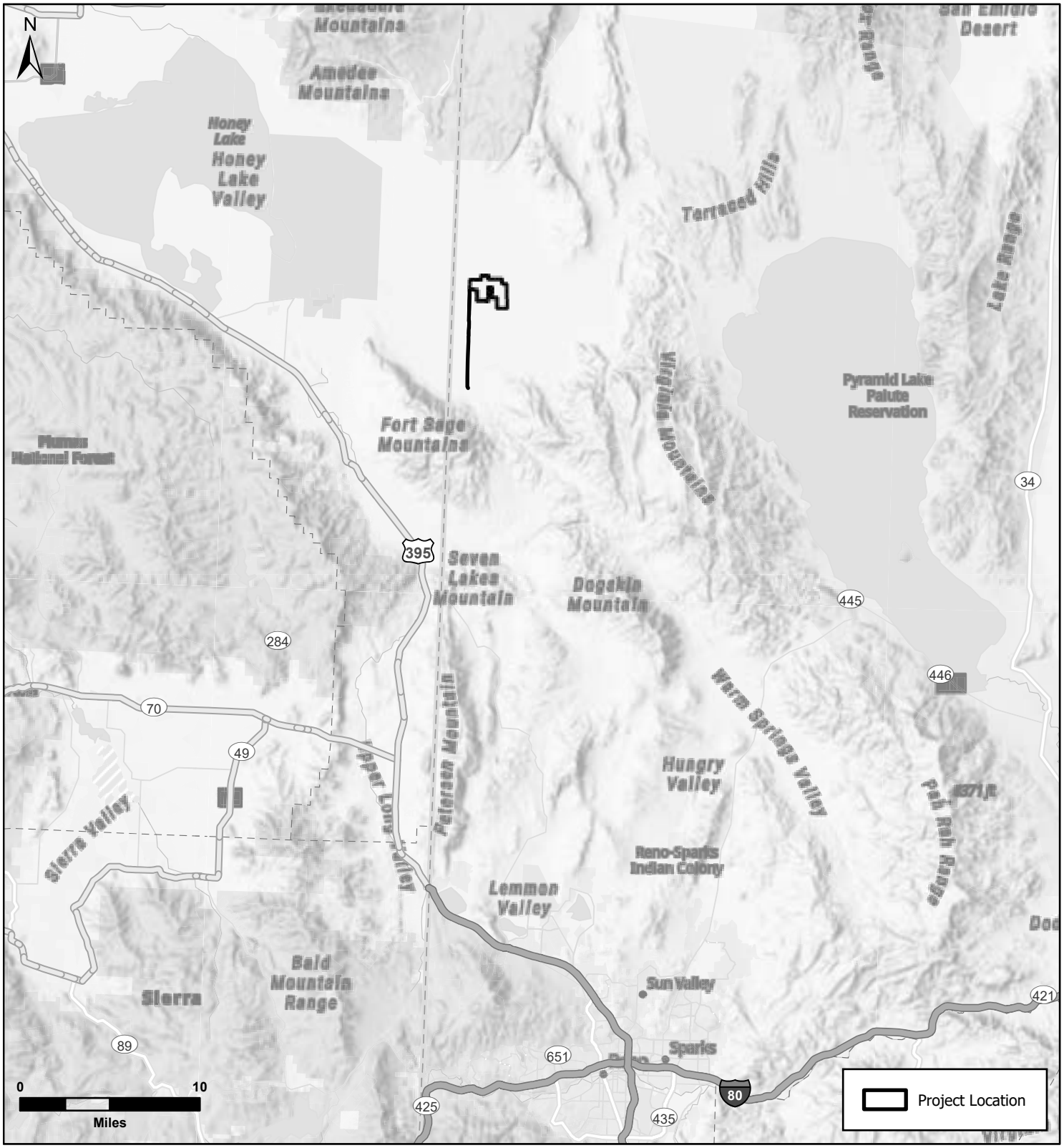




FIGURE 1

TITLE:

PROJECT LOCATION MAP
-SHOWING-
SUNSEEKER SOLAR PROJECT
WASHOE COUNTY, NEVADA

FILE: **Fig 1 - Project Location Map**

COORDINATE SYSTEM: **NAD 1983 UTM Zone 11N**

JOB NO.:	DATE:	REF.					REVISION:
UES040	8/11/2023	DESIGNED	TC	CHECKED	BK		-
		DRAWN	TC	APPROVED	BK		

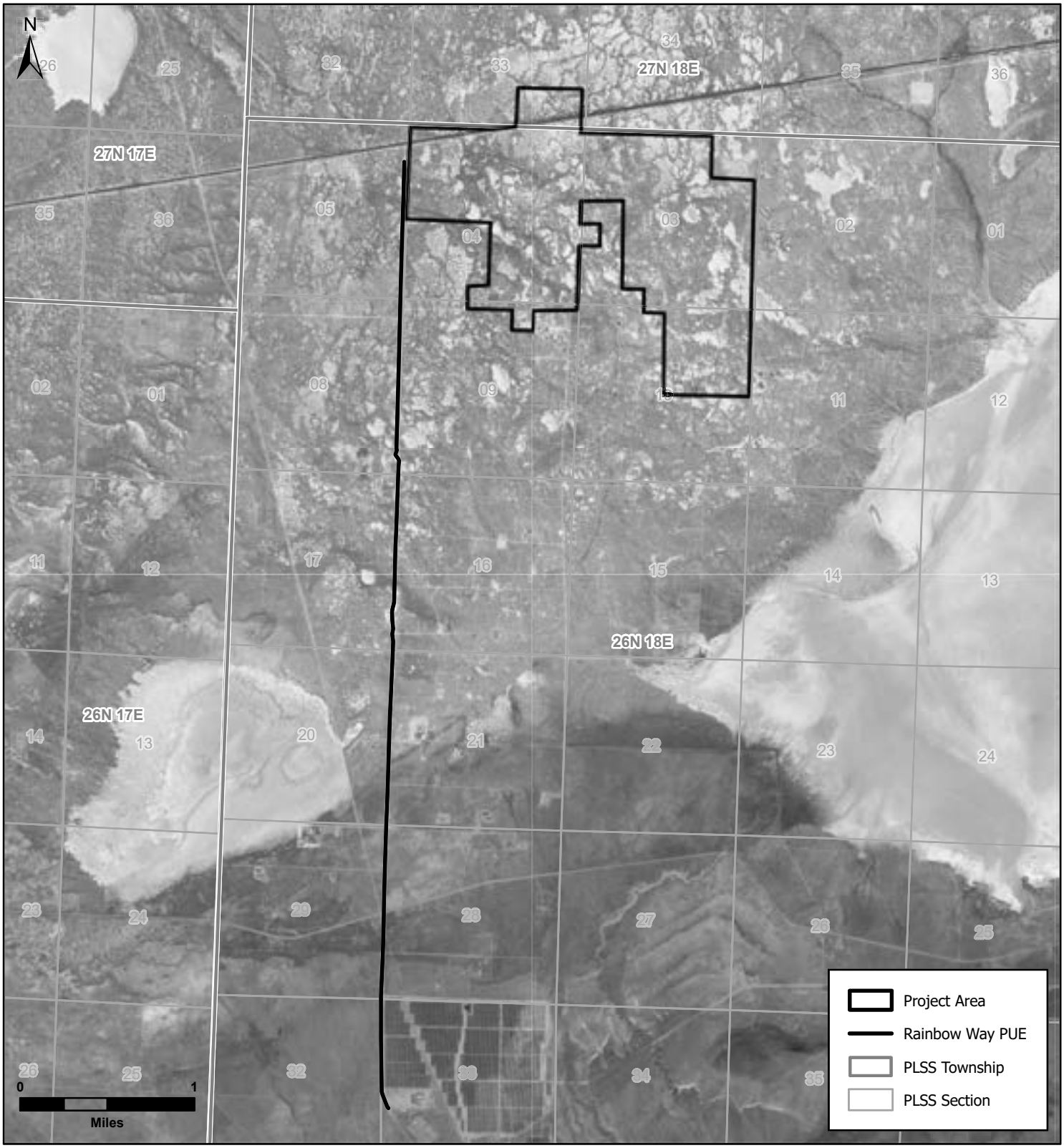




FIGURE 2

TITLE:

SITE MAP
-SHOWING-
SUNSEEKER SOLAR PROJECT
WASHOE COUNTY, NEVADA

FILE: **Fig 2 - Site Map**

COORDINATE SYSTEM: **NAD 1983 UTM Zone 11N**

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		DRAWN	TC	APPROVED	BK		

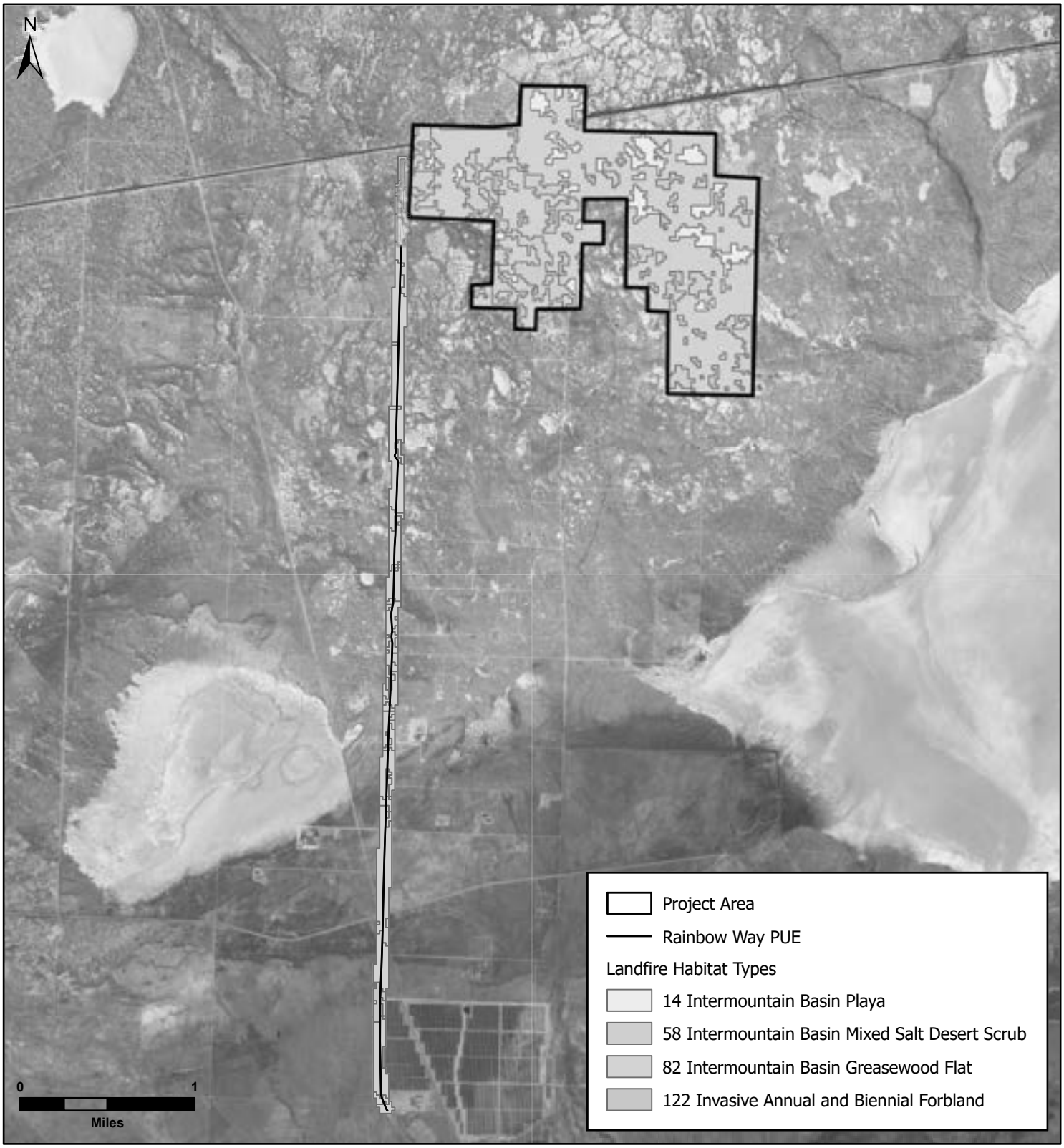




FIGURE 3

TITLE:

SITE MAP
-SHOWING-
HAITAT CHARACTERIZATION
SUNSEEKER WASHOE COUNTY, NEVADA

FILE: **Fig 3 - Habitat Characterization**

COORDINATE SYSTEM: **NAD 1983 UTM Zone 11N**

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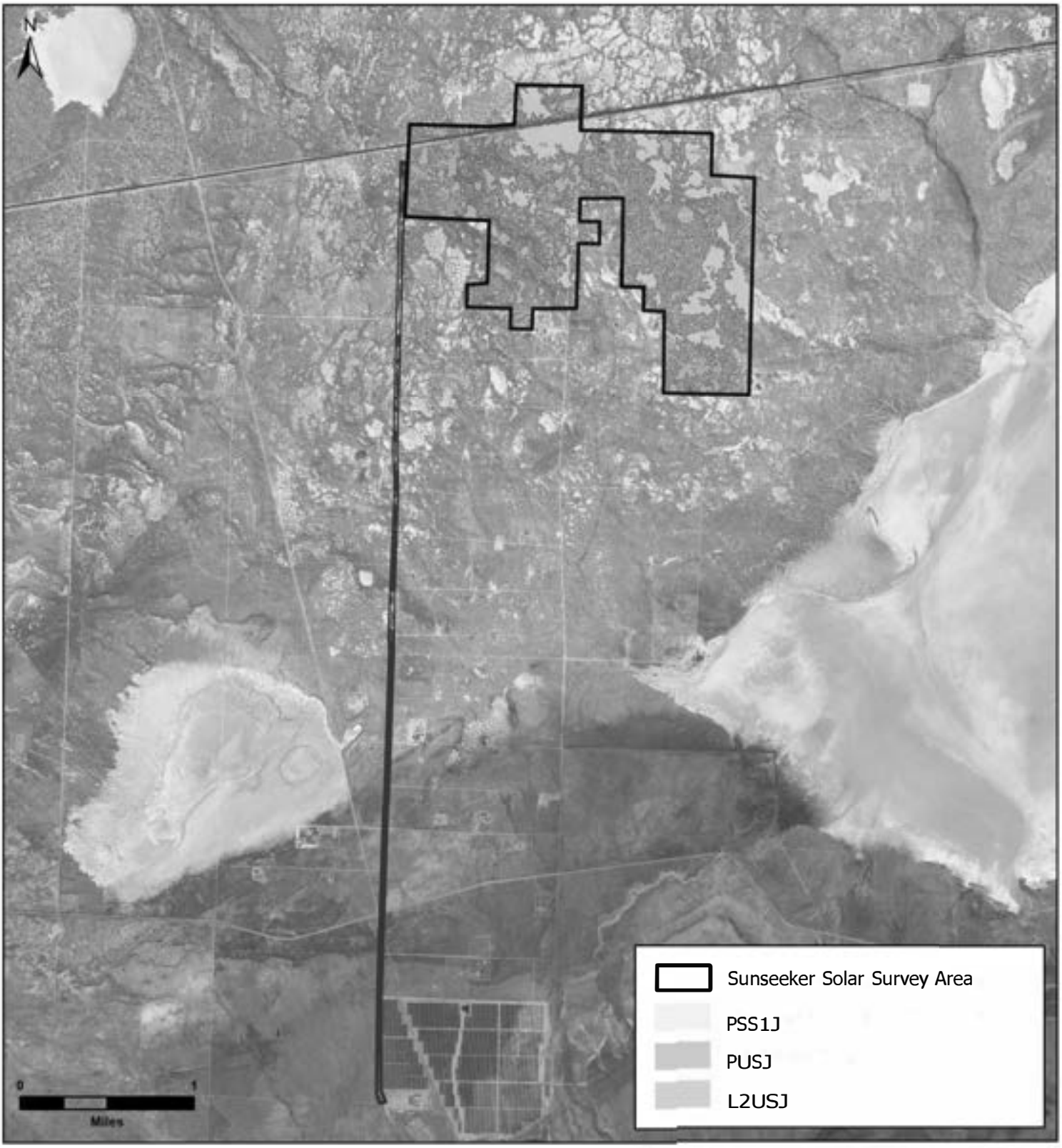




FIGURE 4

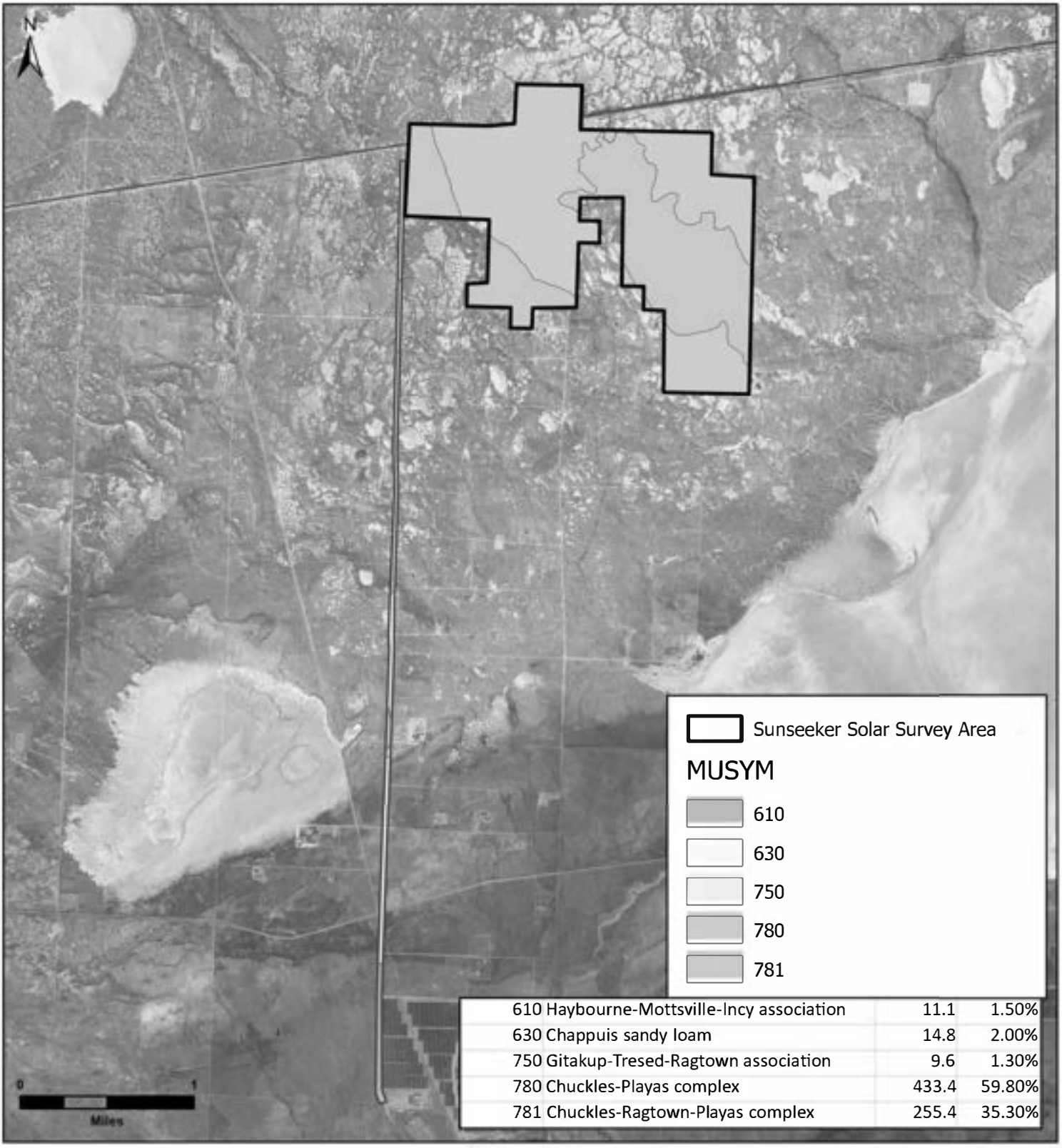
TITLE

SITE MAP
-SHOWING-
National Wetlands Inventory Data
SUNSEEKER SOLAR PROJECT
WASHOE COUNTY, NEVADA

FILE: **Fig 4 - National Wetlands Inventory Data Map**

COORDINATE SYSTEM: **NAD 1983 UTM Zone 11N**

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610 Haybourne-Mottsville-Incy association	11.1	1.50%
630 Chappuis sandy loam	14.8	2.00%
750 Gitakup-Tresed-Ragtown association	9.6	1.30%
780 Chuckles-Playas complex	433.4	59.80%
781 Chuckles-Ragtown-Playas complex	255.4	35.30%



FIGURE 5

TITLE

SITE MAP
-SHOWING-
USDA Soils Data
SUNSEEKER SOLAR PROJECT
WASHOE COUNTY, NEVADA

FILE: **Fig 5 - USDA Soils**

COORDINATE SYSTEM: **NAD 1983 UTM Zone 11N**

JOB NO.:	DATE:	REF.					REVISION:
UES040	8/22/2023	DESIGNED	BK	CHECKED	BK		-
		DRAWN	BK	APPROVED	BK		

Appendix C – Class III Cultural Inventory

A CLASS III CULTURAL INVENTORY FOR THE SBS SUNSEEKER BESS/PSES PROJECT, WASHOE COUNTY, NEVADA

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Mesa Field Services Project 1560

December 3, 2023

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1. ADMINISTRATIVE SUMMARY

A cultural survey for the proposed Shreem Brzee Solar, LLC (SBS) Sunseeker Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES) Project, Washoe County, Nevada was completed in the field by Mesa Field Services (MFS) between the dates of October 29 and November 25, 2023. The archaeological inventory involves a series of 23 adjoining parcels totaling 1,128 acres, in a series of continuous blocks, between one to three miles east of the border with California in an unincorporated area of Washoe County, Nevada. The project area can be found in Honey Lake Valley on the Flanigan, NV-CA, 7.5-minute USGS quadrangle map within portions of Sections 3, 4, 9, and 10 of Township 26 North, Range 18 East and Section 33 of Township 27 North, Range 18 East (Figures 1 and 2). The Area of Potential Effect (APE) is on private lands with the archaeological inventory to be completed in fulfillment of Section 106 for the Utilities Environmental Protection Act (UEPA) administered by the Public Utilities Commission of Nevada (PUCN). Although the project is on private land with the project to be reviewed by the Nevada, State Historic Preservation Office (SHPO) all inventory, and reporting standards follow Nevada, Bureau of Land Management (BLM) guidelines (2012a). Mesa Field Services holds a current Nevada Antiquities Permit (No. 606) and a Nevada BLM Permit (No. N-90108).

Between the dates of October 29 and November 25, 2023, archaeologist Sean Simpson and Joshua Soto with MFS conducted a Class III archaeological survey of the 1,128 acres. The inventory resulted in the recordation of 21 isolates and 11 archaeological sites. The resources including 8 new prehistoric sites (26W13509 to 26Wa13516), and the update of three historic linear features. The updates include the Western Pacific Railroad (S2852/D352), a dismantled telegraph or telephone line (26Wa12841) on the north side of S2852/D352, and a dirt road (26Wa12851) visible on the Flanigan, NV-CA, and State Line Peak NV, 7.5-minute USGS quadrangle map dating to 1964. The prehistoric sites are recommended not eligible for listing to the National Register of Historic Places (NRHP). We agree with prior evaluations for the dismantled telegraph or telephone line (26Wa12841) and dirt road (26Wa12851) that they are not eligible for listing to the NRHP. The recorded segment of the Western Pacific Railroad (S2852) within the APE is of modern construction and considered a non-contributing element to the district (D352).

2. PROJECT DESCRIPTION

The proponent proposes the construction of a Battery Energy Storage System (BESS)/Photovoltaic Solar Energy System (PSES). The APE is on private lands with the archaeological inventory to be completed in fulfillment of Section 106 for the UEPA administered by the PUCN. The APE is one to three miles east of the border with California in an unincorporated area of Washoe County, Nevada. It is comprised of a series of 23 adjoining parcels totaling 1,128 acres (Table 1). The proposed Sunseeker BESS/PSES facility would utilize the Washoe County Rainbow Way right-of-way (ROW) located along the western boundary of the APE. The Union Pacific Railroad would bisect the project area and solar field along its north. The project area and can be found on the Flanigan, NV, 7.5-minute USGS quadrangle map within portions of Sections 3, 4, 9, and 10 of Township 26 North, Range 18 East and Section 33 of Township 27 North, Range 18 East.

Table 1 Parcels within the SBS Solar Lease Project Area.

APN	Acres	Location
074-461-04	10	T26N, R18E, Section 3
074-162-06	9	T27N, R18E, Section 4
074-161-14	48	T27N, R18E, Section 33
074-461-13	40	T26N, R18E, Section 3
074-461-02	241	T26N, R18E, Section 3
074-432-01	160	T26N, R18E, Section 10
074-461-17	40	T26N, R18E, Section 3
074-461-18	30	T26N, R18E, Section 3
074-462-18	40	T26N, R18E, Section 4
074-461-24	20	T26N, R18E, Section 3
074-461-03	10	T26N, R18E, Section 3
074-461-07	10	T26N, R18E, Section 3
074-461-11	10	T26N, R18E, Section 3
074-461-15	60	T26N, R18E, Section 3
074-462-02	20	T26N, R18E, Section 4
074-462-03	140	T26N, R18E, Section 4
074-462-14	10	T26N, R18E, Section 4
074-462-19	40	T26N, R18E, Section 4
074-462-05	80	T26N, R18E, Section 4
074-431-08	10	T26N, R18E, Section 4
074-462-15	80	T26N, R18E, Section 4 and 9
074-462-14	10	T26N, R18E, Section 4
074-462-14	10	T26N, R18E, Section 4
Total	**1,128**	

The project proposes to construct a nominal 250-megawatt (MW) solar photovoltaic (PV) power facility to provide renewable energy and critically needed flexibility attributes to advance California's and Nevada's Renewable Portfolio Standard (RPS) goals, climate policies, and to enhance electrical grid reliability. The proposed Sunseeker BESS/PSES facilities would reduce greenhouse gas emissions associated with gas-fired power generation facilities by storing energy during off-peak hours (lower energy usage/demand times) and dispatch energy on an as-needed basis during peak demand hours.

Direct APE

The direct APE is the footprint of all new ground disturbances occurring from project activities including material staging/prepping areas and vehicle access points. Access to the project area is along Rainbow Way, a mostly unimproved two track road depression extending along its ROW and is anticipated to be graveled and graded to a allow all weather travel. Access to Rainbow Way is from Fish Springs Road a county improved all weather road. Although the proposed ground disturbance is not to exceed 1,128 acres the disturbance may occur anywhere within the 1,128 acres solar lease area. Therefore, the direct APE is defined as the entire 1,128-acre block. A 40-foot-wide impact area along Rainbow Way ROW, for the placement of a 345-kV Gen-Tie line, was subject to an archaeological inventory for the Praana II Washoe BESS/PSES Project in 2021 (Simpson 2021) and conditions have not changed since such survey.

Indirect APE

Any noise, visual, or atmospheric indirect effects associated with construction will be temporary and negligible. Standing structures will include a solar field plus a 345-Kv generation tie line with poles located every 200 to 700 feet apart. Atmospheric effects will be temporary during construction then non-existent. Impacts to the visual and scenic quality of the area will be reduced by reclaiming all disturbed areas, except for existing roads, in a timely manner. Indirect effects will mainly include indirect physical effects from construction activities. Vibrations associated with the proposed action have the potential to affect cultural resources within the block area and access utility easement.



Figure 1: Project Vicinity Map.

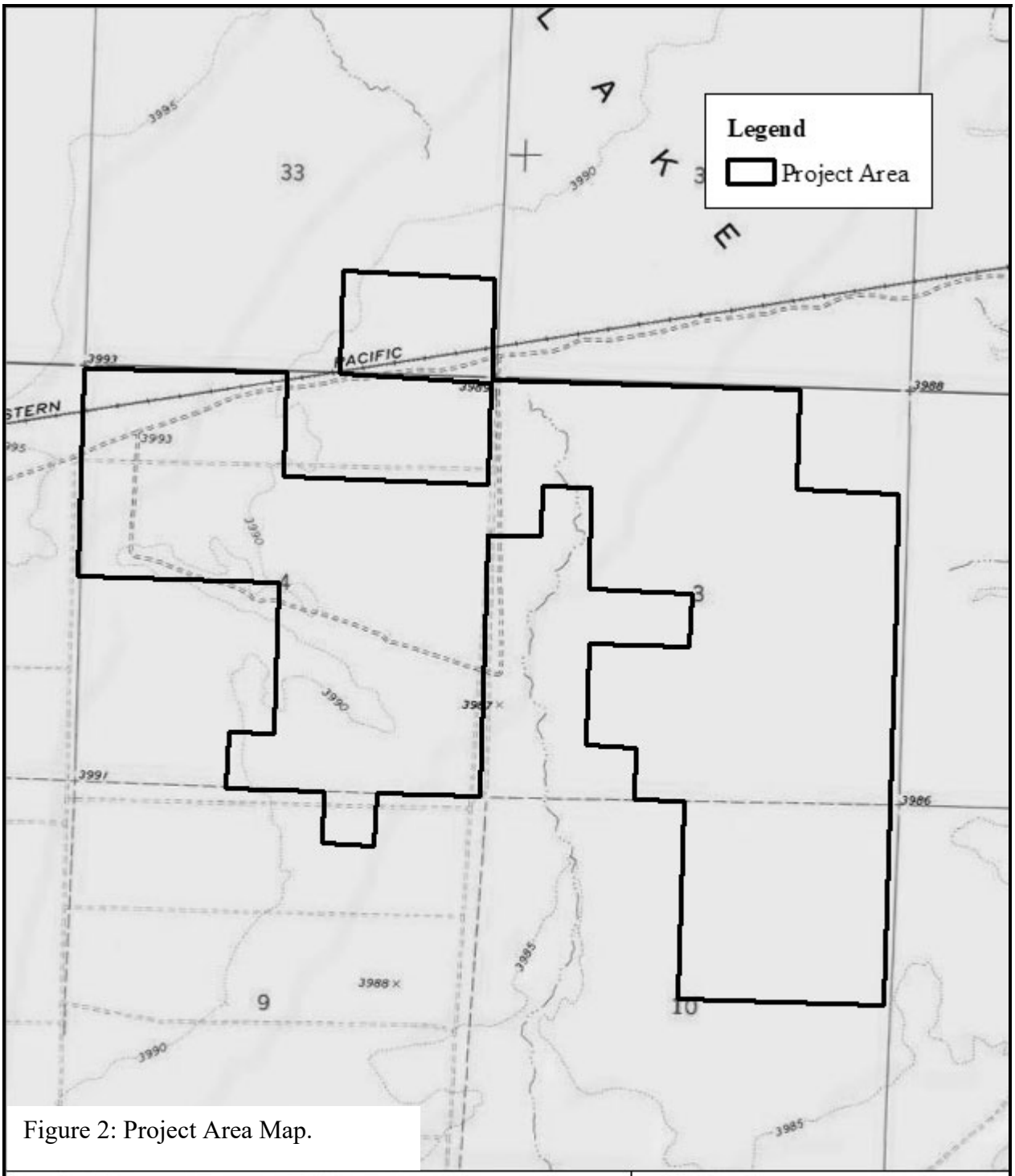


Figure 2: Project Area Map.

3. PREHISTORIC AND HISTORIC OVERVIEW

To properly evaluate cultural resources within the APE, a relevant regional cultural overview is needed to provide specific data for evaluating their eligibility to the NRHP (Hardesty and Little 2009). The APE is located in eastern Honey Lake Valley. Below is a brief outline of the prehistoric, ethnohistoric, and historic periods most relevant to the current APE.

Prehistory

There is archaeological evidence to suggest people have occupied the Great Basin for at least 13,000 years. Great Basin prehistory is divided into a series of sub-areas that represent concentrations of research characterized by differences in artifact inventories and adaptations to local environments (Jennings 1986:114). The project area can be found within the western Great Basin, which includes the eastern front of the Sierra Nevada range in California and most of the State of Nevada. The western Great Basin can be further divided into three sub-regions defined by differences in ecology and cultural history including the central sub-region, the Lohontan Basin, and the Eastern Slopes of the Sierras. The project area can be found within the Lohontan Basin at the eastern end of Honey Lake Valley.

Much of the regions earlier research and local phase sequences for Northwestern Nevada, including projectile point chronology, was first delineated by Layton (1970). Layton devised his sequence from the comparisons of artifacts from a few key sites within the High Rock Country (HRC) including Hanging Rock Shelter (26-WA-1502), Silent Snake Springs (26-HU-201), the Lake Parman Localities, Last Supper Cave (26-HU-102), the Calico Site Surface Collection (26-HU-46), and other surface assemblages in the area. The following sequence incorporates regional studies of projectile points for the region including an obsidian hydration record obtained from Hanging Rock Shelter and Last Supper Cave (Layton 1985) as a more recent compilation of regional typology as it corresponds to Great Basin wide sequence (Oetting 1994; Justice 2002; Hockett et al 2008; Beck and Jones 2008). The following prehistoric sequence reveals a changing adaptive strategy defined by five periods: Pre-Archaic, the Early, Middle and Late Archaic, and the Proto-Historic/Historic periods.

Pre-Archaic (13,100 to 7,700 B.P.)

The period when people first arrived in the Great Basin is referred to as the Pre-Archaic, Paleoarchaic, or Paleoindian (13,100-8,300 B.P.) which roughly corresponds to the Terminal Pleistocene Early Holocene transition (Beck and Jones 1997; Haynes 2002). In northwestern Nevada this period encompasses Layton's (1970) Earliest Times including the Parman phase and early part of the Calico phase. During the transition to the Early Holocene effective moisture remained high. Biota was much different than today; many of the region's valleys are believed to have been very productive, though complete desertification of the region is not thought to have occurred until near the time of a series of large Mount Mazama eruptions (around 8,000 to 7,700 cal. B.P.). After which the region experienced the most severe warm and dry period of the Holocene.

The Parman Phase (12,700-8,300 B.P.)

Layton (1970) defined the Parman phase as a period in which populations lived at or near the margins of pluvial lakes and were heavily dependent on marsh and lacustrine resources for their

subsistence economies. Lake Lahontan was a dominant fixture on the landscape during the Younger Dryas 12,900 to 11,470 B.P. (Adams et al. 2008) or earlier part of the Parman phase and populations inhabited the margins of Lake Lahontan and other pluvial lakes in the region (Adams et al. 2008). The earliest wide spread evidence of occupation in the Lahontan Basin comes from textiles and human remains such as the Spirit Cave Mummy dating to the Early Holocene, 11,420–10,200 B.P. (Adams et al. 2008:619).

Great Basin Stemmed points have been well documented in stratigraphic settings at rock shelters throughout the Great Basin and their use dates between 12,700 and 8,500 B.P. (Hockett et al. 2008). The points occur in a wide variety of shapes and outlines that have been given a range of different point type names collectively referred to as the Great Basin Stemmed series (Layton and Davis 1978:6-2; Justice 2002:85). The Pre-Archaic tool kit is dominated by Cougar Mountain and Parman variety points, which are coterminous with the Lake Mohave and Silver Lake types identified for the southwestern Great Basin (Layton 1970:307, 313). Unfluted concave base points (Black Rock Concave Base points), and crescents occur less frequently than Great Basin Stemmed points during the Parman phase (Layton 1970; Layton and Davis 1978; Beck and Jones 1997, 2010; Jones et al. 2003). Projectile points of this period typically have heavily edge ground tongue shaped stems. Many are characterized by transverse flaking. Reduction strategies for this period are defined by biface production and the use of gravers, scrapers, burins and unique crescent shaped bifaces. Groundstone and milling technology are generally absent in northwestern Nevada during this phase. Towards the end of the Parman phase, Parman variety transition from edge ground, tongue shaped stems to square shaped stems lacking edge grinding (Layton 1970:313).

The Calico Phase (8,300-7,700 B.P.)

This period has been identified by Layton as a transition between the Pre-Archaic and Archaic were there are elements of both traditions apparent at occupations. Modern chronologies for the area outlined by LaValley (2013) and Adams et al. (2008) identify the end of the Pre-Archaic and beginning of the Early Archaic at 8,300 B.P. The Calico phase is marked by a broadening of subsistence strategies and increased reliance on upland resources congruent with a rise in temperature and the drying of reliable water sources during the early Holocene (Layton 1970:313-316; Beck and Jones 2008). Groundstone and milling technology first appear in northwestern Nevada during this period. Projectile points dating to this period include the Humboldt Concave Base and potentially Northern Side-notched varieties. According to Layton's (1985) obsidian hydration study of Hanging Rock Shelter and Last Supper Cave, the initial use of Humboldt series points briefly overlaps with Great Basin Stemmed points during the latter part of the Pre-Archaic. Humboldt Concave Base and Northern Side-notched varieties persist to the Middle Holocene. Assemblages from this transition may also include low numbers of Northern Side-notched points, Elko and Gatecliff Split Stem (Oetting 1994:55).

The period ends with the drying of pluvial lakes in the region and with a series of massive eruptions over a one-to-two-hundred-year period attributed to Mount Mazama. This marks the end of the Pluvial Lakes Tradition and transition to the desert culture lifeway characteristic of the Archaic. The archaeological record indicates a significant reduction in land use of the area following the eruption. By the Early Archaic there is marked difference or significant shift in material culture and land use strategies over the pre-Archaic.

Early Archaic (7,700 B.P. to 4,500 B.P.)

The Early Archaic encompassed the end of the Early Holocene and all of the Middle Holocene which, as previously discussed, was a time of dramatic climatic shifts across the Great Basin which climaxed with an extended period of warm temperatures and decreased precipitation (Beck and Jones 2008; LaValley 2013:9-11). When the Mount Mazama series of eruptions ending by 7,700 B.P. lakes were drying out during an extended period of warm temperatures and decreased precipitation termed the Altithermal Maximum (Layton 1970:316). There are few archaeological sites identified in the Great Basin dating to the Early Archaic. The area may have been temporally abandoned with people eventually returning in growing numbers. Residential mobility decreased for this period compared to the Paleoarchaic.

Subsistence strategies continued to broaden during this period and seed grinding technology is evident with the regular appearance of milling stones in the archaeological record. The faunal assemblage for the period contains mountain sheep and artiodactyls. Great Basin Stemmed Points disappear altogether during this period and are replaced by notched points (Beck and Jones 2008:46). Projectile points dating to this period include Northern Side-notch, Humboldt Concave Base, Gatecliff, and Elko series. The appearance of Elko points occurs significantly earlier for the Northern and Eastern Great Basin. One of the oldest radiocarbon assays for an Elko point in northwestern Nevada was obtained from sinew still attached to the point recovered from Elephant Butte Cave north of Pyramid Lake, 7785 to 7669 cal. B.P. (Smith et al. 2013). The use of Northern Side-notched points is believed to be restricted to the Early Archaic and considered a distinct temporal marker for this period.

Middle Archaic (4,500 to 1,500 B.P.)

This period saw a significant increase in reoccupation of the area as the climate became considerably cooler and wetter and populations were higher than they were before (Layton 1970; LaValley 2013:11). Elko series projectile points are the most common point type recovered in the area for this period which Layton (1970:321) interprets as the "…most intense period of human occupation of the entire prehistoric period." During this time, the faunal assemblage contains an increase in leporid and sciurid faunal remains. Dominant projectile point forms for this period include the Elko series, more common in the first half of the Middle Archaic. Oetting (1994:56) suggests the early half of the Middle Archaic assemblages include significant proportions of Gatecliff Split Stem points with these forms gradually phased out toward the end of the Middle Archaic.

Source provenance studies of projectile points from Paiute Creek Shelter (Smith et al. 2013) reveals a preference for the use of local obsidian for the manufacture of projectile points for the Middle Archaic with a shift during the Late Archaic to the preference for non-local obsidian and a significant increase in the use of chert materials. With the introduction in the use of the bow and arrow a few Rosegate series specimens appear late in this phase. Drought conditions and abandonment of sites punctuate the end of this phase. Intermittent drought periods are seen until circa 700 B.P.

A significant archaeological resource attributed to this period near the APE include the Karlo site, north of Honey Lake Valley. The site includes houses defined by post hole patterns 3 meters in diameter with cremations and pit burials dating to 1,600 B.P. Located a few miles south of the

APE in the Fort Sage Mountains is the Fort Sage Drift Fence (26Wa3030/CrNv-03-2496) comprised of five separate rock alignments spanning nearly 1800 meters with its use dating between 3700 and 1000 cal. B.P. (Pendleton and Thomas 1983:7; Young and Hildebrandt 2017).

Late Archaic (1,500 B.P. to A.D. 1843)

Population densities reached their highest during the Late Archaic with the spread of Numic speaking groups of Northern Paiute, or Numic Expansion (Layton 1970; LaValley 2013). According to Bettinger and Baumhoff (1982), Madsen and Rhode (1994) and others Numic-speaking hunter-gatherer groups moved across the Great Basin from the southwest replacing or intermixing with existing populations. Desert Side-notched and Cottonwood projectile points are thought to represent the arrival of Numic Speakers across the Great Basin. The Northern Paiute are known to have used these points historically. The Archaic Period ends about the time of the appearance of John C. Fremont in the region in 1843. The early part of the Late Archaic is defined by the use of both Elko and Rosegate Series points with the latter part of the period being dominated by Cottonwood or triangular forms.

Proto-Historic/Historic

This period encompasses the termination of aboriginal hunting and gathering lifeways and the influx of Euro-Americans during the 1849 Gold Rush. The period lasts 77 years, and in that time, the ever-increasing number of Euro-American settlers resulted in numerous territory and resource conflicts. Fairfield (1966:13) refers to the Washoe being present along the south side of Honey Lake Valley with Paiutes located in the rest of the valley. As settlement increased in Honey Lake Valley in the late 1850s conflicts between the settlers and Native groups living in the basin arose (Fairfield 1966:15-16). These incidents typically involved disagreements over property ownership, retaliation by one group over a dispute, and counterretaliation by the opposite group.

Contact between native groups and Euro-Americans in the mid-1800s resulted in several violent interactions including the Pyramid Lake War of 1860, Owens Valley Indian War from 1861 to 1864, and the Snake War from 1864 to 1868. In Honey Lake Valley in 1857, there was the brief "Potato War," between settlers and the Washoe after a group of hungry Washoe took a number of potatoes from the Morehead Ranch (Cerveri 1968). In 1856 Captain William Weatherlow acting on behalf of the settlers of Honey Lake Valley near the south shore of Honey Lake entered into agreement in with Winnemucca or Po-i-to (Cerveri 1968; Fairfield 1966:14). Winnemucca was in control of the Northern Paiute and based out of Pyramid Lake whose territory included the project area east of Honey Lake. The two sides had an agreement should there be any issues between the settlers and natives that the settlers should come to Winnemucca and not to take indiscriminate revenge. For the most part the treaty was observed by both sides.

Ethno Historic/ Northern Paiute

Attempts at interpretation of the prehistoric record have often used comparisons with the Ethnographic record (Elston and Zeanah 2002). Hunter-gatherer lifeways of the Great Basin evolved and fluctuated over the last 13,000 years in adaptive responses to climactic fluctuations. Two dominant climatic regimes define the prehistoric occupation of the Great Basin with a mesic period during the Pre-Archaic and later desert adaptation. Climatic and ethnographic correlations are believed to be more direct with the Archaic. Pre-Archaic adaptations are presumed to be less analogous to the ethnographic record due to the radical differences in climate and resource availability. Changing environmental conditions between these two significantly different periods is believed to have had a profound impact on overall hunter-gather mobility patterns (i.e. increased use of uplands, seen during the Early Archaic periods), resource procurement, and changes in subsistence strategies (i.e. Early Archaic broadening of diets). Archaic adaptations to the environmental fluctuations resulted in a strategy that enabled Archaic populations to survive the harsh conditions of the country (LaValley 2013).

The Washoe and Norther Paiute jointly used fishing and gathering sites in Honey Lake and eastward toward Pyramid Lake (d'Azevedo 1986:471). Deer Dick, "Little Paiute," or "Looks Like a Paiute" was headman of a group of Washoe that camped in Honey Lake, Sierra, and Long Valleys (d'Azevedo 1986:469). In Honey Lake Valley the Washoe and Paiute didn't live permanently on the flat valley land (Middleton 1963:30). They settled on ridges or hills and terraces above stream beds or springs where there was some degree of protection. In Honey Lake Valley food included deer, rabbits, ducks, geese, pigeons, and other birds taken by nets (Middleton 1963:30). Seeds were gathered in baskets by knocking the seeds in a basket with a stick. Fish were harpooned or taken by dip nets. Food was cooked in by stone boiling in a basket.

Northern Paiute Territory was entirely contained within the Great Basin with the core area being the Stillwater Marsh vicinity (d'Azevedo 1986:467-470; Fowler 2002:9). The Northern Paiute ranged as far north as the Oregon-Idaho border to south of Mono Lake. The territory of the Northern Paiute was environmentally diverse offering a variety of subsistence and settlement choices. Typically, Northern Paiutes were nomadic and made their living by hunting, gathering, and fishing. A range of resources were utilized from a variety of eco-zones but with a focus on wetland resources and pinyon nuts (Fowler 2002:45-87). The Paiute lived in camps well adapted to the harsh desert environment with each sub-group or band occupying a specific territory typically located near a lake or other water source. Although the groups foraged broadly within their home districts, they often overlapped with neighboring territories (Fowler and Liljeblad 1986). The Northern Paiute lived in clusters of individual families who seasonally occupied homes or specific geographic areas with individuals permitted to move freely between the different bands or tribes.

Historic Background

The resources of the Honey Lake Valley played an important role in the early exploration and settlement of the American West. Due to its location at the cross roads between Nevada and California the area attracted the explorer John C. Fremont and later emigrants using the Applegate-Lassen Emigrant Trail on their way to Oregon and California. After the advent of the transcontinental railroad the area saw the development of cattle ranching and dry farming in the valley.

Early Exploration

In the early 1800s, the Great Basin was one of the largest expanses of the United States that remained unexplored and was the most rapidly settled (Morgan 1997:36). Exploration of northern Nevada was first accomplished by fur trappers (Hulse 2004:36-41). At the time, fur hats and coats were a popular fashion in Europe and eastern North America as Wild West items that fueled the expansion for furs into the Great Basin by British and American enterprises. The Lewis and Clarke Expedition through the Rocky Mountains to the Columbia River between 1803 and 1806 was the first transcontinental expedition in the region to detail a rich land with large rivers and plenty of beaver and other fur bearing animals. The first large scale and systematic fur trapping and trading in the region occurred during the mid-1820s (Idaho State Historical Society 1985). Peter Skene Ogden with the Snake River division of the Hudson Bay Company spent six years (1824-1831) trapping wherever he anticipated American intrusion exploring territory across the Snake River area and the northern Great Basin.

John C. Fremont, working for the Bureau of Topographical Engineers, was the first professional surveyor to enter the Great Basin. Through official government reports, he provided detailed knowledge that contributed the most to the opening of the Great Basin and expansion of the American West (Egan 1985). Fremont recorded flora, fauna, and geological data in addition to travel routes, proper season of travel, necessary supply limits to make the journey possible, etc. Fremont first passed through northwestern Nevada on his second western expedition during the years of 1843-1844 (Egan 1985:190). Although he never visited Honey Lake Valley John C. Fremont passed just to the east of the APE when he stopped in Pyramid Lake in 1846 (Middleton 1966:32).

The incursion by Euro-Americans into Northern Paiute territory had a detrimental effect on the traditional life ways of the Native Americans in the Great Basin. After Fremont established routes through the Great Basin emigrants prior to 1848 were primarily farmers passing through the area along the California Trail in low numbers on their way to the coast (Hardesty 1997:20). In 1848, both the signing of the Treaty of Hidalgo ceding northern Mexico to the United States and gold discovered at Sutter's Mill forced many more down the trail in the ensuing years. Between 1840 and 1848, 2,735 emigrants reached California over the California Trail (Hardesty 1997:20). After the discovery of gold, hysteria ensued with 60,000 people taking the overland route through the Humboldt River Basin in 1849 alone (Crum 1994:18).

As the discovery of gold in 1848 sparked a flow of westward migration, new settlers sought an alternative to the route through the treacherous Donner Pass to cross the Sierra Mountain Range. Peter Lassen first explored the area that is now Lassen County in 1850 and, in 1851, William Nobles began leading settlers over a route that ran from the Humboldt River (in the State of

Nevada) to Shasta City at the northern end of the Sacramento Valley (Fairfield 1966:17-20). Nobles in a prospecting party of 8 men passed through the mountains to Honey Lake Valley in the spring of 1851. Noble so impressed with the value of the passage went to the town of Shasta, then the chief town in extreme northern California, to make known its potential economic value and divert as much emigrant traffic from the trail along the Humboldt (Fairfield 1966:17; Middleton 1966:33). Improvements were made to the route in 1856 when Nobles obtained $300,000 in funding from Congress for its development as an improved wagon road, which became part of the Fort Kearny-South Pass-Honey Lake Wagon Road. The newly developed route superseded the Old California and Oregon Trails in the l860s as an emigrant route to the coast passing through the northern extent of Honey Lake Valley.

Of the thousands of people that passed through what is now Lassen County, some chose to remain in the Honey Lake Valley (what is now Susanville). Among those early settlers of Susanville was Isaac Roop, who established a trading post where travelers along the Nobles Emigrant Trail could stock up with provisions before crossing the Sierra Mountains. First known as Rooptown, Isaac Roop's settlement later was named Susanville for Roop's daughter, Susan. When the Territory of Nevada was established in 1861, Isaac Roop was made governor of the Territory. A few years later, surveys of the area established that Susanville was part of the State of California, and the County of Lassen was established in 1864.

Another early trail or road utilized in Honey Lake Valley was the road from Reno to Fort Bidwell, Surprise Valley, California also known as the Reno-Fort Bidwell Road. Fort Sage, just south of the APE was located 46 miles north of Reno in Washoe County, west of Pyramid Lake, on the road from Reno to Fort Bidwell, Surprise Valley, California (Ruhlen 1964). The fort was a garrison occupied in the early 1870s and located between State Line Peak and the Virginia Mountains. The route is present in the south part of Township 26 North, Range 18 East dating to 1881 (BLM 2021).

By the early 1850s, Native Americans began to sustain significant impacts to their way of life and survival as ever-increasing numbers of emigrant groups and their stock moved through the area depleting local food sources and restricting the native population from water sources. These threats caused friction between the populations, largely leading to the end of the traditional native way of life by the 1870s. By 1880, settlements had sprung up all over Honey Lake Valley. The Nevada-California-Oregon Railway which traversed the eastern side of the County was established. The railroad, sometimes referred to as the Narrow Crooked & Ornery, was a narrow-gauge line that operated from 1880 to 1927. Logging was a large economic activity in the western Honey Lake Valley around Susanville, the eastern part of Honey Lake is lacking trees and ranching was a main activity in the immediate vicinity of the project area.

Settlement: (Moody 1985)

Settlement in Honey Lake Valley proceeded slowly in contrast to elsewhere that saw more rapid settlement. Settlement initiated south and west of Honey Lake. Issac N. Roop and others were first to settle there in 1853-54 (Purdy 1983:1). Short lived mining ventures in the Diamond Range in 1855 brought more permanent residents. Daniel C. Wheeler was the first to settle in the eastern part of the valley at the Lower Hot Springs where he and two German immigrants made a land claim and improved the property in in December of 1863. The property was sold to dairy farmers Thomas Pearson and John Sutherland in 1867. The two were from Red Rock Canyon north of

Reno 20 miles. Thomas Parson and his family were killed at the location in Honey Lake on April 17, 1868, by the local Native Americans. The eastern part of the valley remained uninhabited and was mainly used for grazing livestock from Reno in the winter until 1874.

Honey lake economically has been part of the cattle and timber industry (Middleton 1963:1). The cattle industry was more dominant in the eastern part of the valley due to lack of timber. What contributed the most to the settlement of the eastern part of the valley was Charles L. Merill bill introduced in the United States Congress entitled "the Lassen County Desert Land Act" (Moody 1985:9; Purdy 1983:2). The bill allowed for the homesteading of arid lands of 640 acres approved by congress on March 8, 1875. If improved and irrigated an individual could purchase from the government at $ 1.25 per acre. Residency was not required. Originally only intended for Lassen County the bill was amended in 1877 for all arid lands of the Far West. At the height of the Golden Era of agriculture in 1911 the Eastside Development League sought to promote the area as rich farmland along east Honey Lake Valley. Some irrigation efforts were attempted in eastern part of the valley however, the lake kept drying up. Also, the results of using alkali water from the Eagle Lake or Honey Lake has ruined the land on several ranches in Honey Lake Valley (Middleton 1963:21).

Established in 1880 the Nevada & Oregon Railroad Company was the first to construct a railroad through Honey Lake Valley (Purdy 1983:5-6). The company constructed a narrow-gauge railroad headquartered in Reno. The railroad was plagued by financial problems and sold to the Morgan Brothers at Public auction in Reno on April 17, 1884. The company was reorganized as the Nevada-California-Oregon Railway Company (NCO). At the time the line only extended 30 miles north form Reno. A fifty miles extension through the east side of Honey Lake was criticized by the local valley residents for it bypassed most of the development in the valley at the time. The reason was for the railroad could lay claim to the vast amounts of public lands uninhabited on the east side of the valley. Successive amendments to the Desert Land Act allowed for the claim of 1,120 acres prompting abuse of the act by land speculators (Purdy 1983:5-6).

Because of the abuse the Land Act was restructured to allow only 320 acres per individual in 1890. Large holding companies arose in the easter part of the valley including the Honey Lake Reservoir & Irrigation Company, the Honey Lake Water Company, the Lassen County Land & Livestock Company, and the Lassen Development Company all obtained large tracts of land in the region (Purdy 1983:5). This created the impetus for the development of a town on the east side of the valley. The new terminus at the end of the 50 miles extension was named Heriot's Place after a former manager of the NCO but soon replaced with the name of Amedee in honor of Amedee Depau Moran part owner of the NCO. The first rain arrived in town on November 17, 1890. Being the only railroad in the region Amedee became a large shipping center servicing the Susanville area north to Lakeview, Oregon 121 miles north. The NCO built a large stockyard north of town for utilization by local ranchers for shipping livestock to Reno. The town had 300 to 400 residents at its height. When the terminus for the railroad moved 50 miles north to Madeline Plain at Termo in January of 1899 the town declined (Purdy 1983:19). The Southern Pacific Railroad was constructed across northern Honey Lake Valley to exploit the countries abundant timber resources in 1909 attracted additional settlement. The new branch line was known as the Fernley and Lassen. The NCO lost profitability and was eventually sold to Western Pacific on June 11, 1917 (Purdy 1983:35).

Flanigan was established in 1909 with the building of the Western Pacific Railroad, Feather River Route between Oakland and Salt Lake City, Utah (Figure 3; Myrick 1992:318-319; Kneiss 1953:16; Moody 1985:5). The station in the extreme eastern Honey Lake Valley was named after Patrick L. Flanigan, a landowner, businessman, and state senator from Washoe County whom the Western Pacific purchased right of way in the area (Moody 1985:5). In 1913, the Southern Pacific Railroad built its Fernley & Lassen branch, with the two lines crossing at Flanigan (Moody 1985:7). A deed for Flanigan Townsite was filed on July 16, 1913 (Moody 1985:11-48). The town grew after the opening of the railroad station, with the establishment of a post office in the spring of 1914, a schoolhouse, and the establishment of a voting precinct in July. Railroad business contributed to most of the growth, with peak population of a few hundred in the 1920s, mostly Southern Pacific and Western Pacific employees. Population slowly dwindled, with only a handful of residents remaining by the 1950s. In March 1959, Southern Pacific Railroad closed the Flanigan station. By fall 1960, only one permanent resident remained.

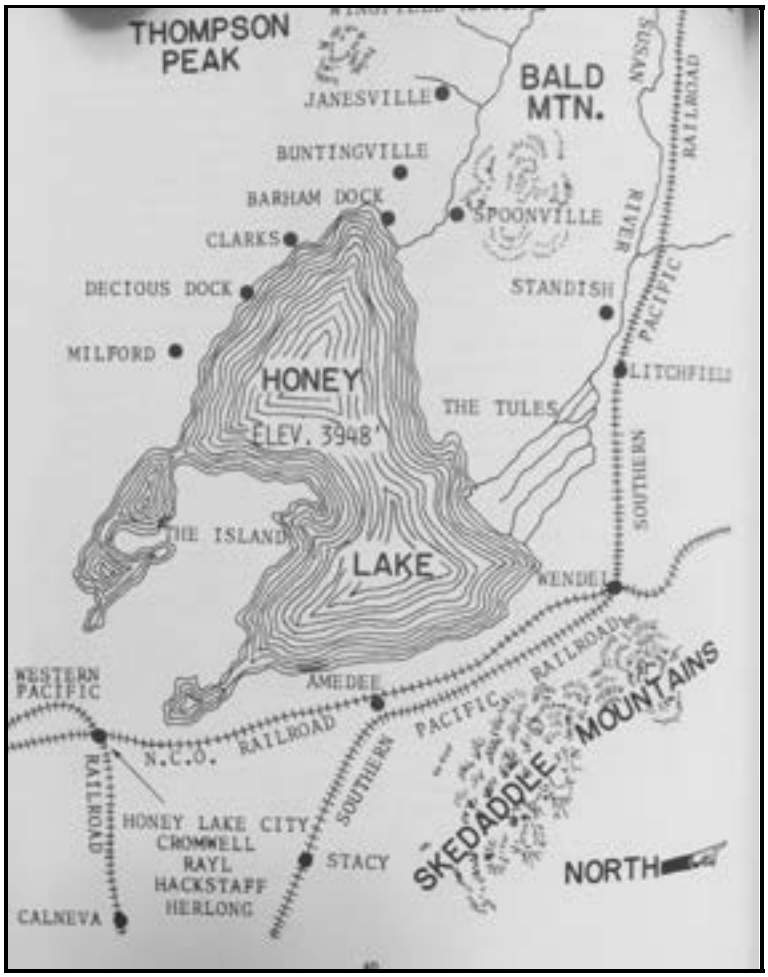


Figure 3. Routes of the Western Pacific Railroad and the Southern Pacific Railroad through Honey Lake Valley (Purdy 1983:40).

After the abandonment of Flanigan many still owned title to the land, however, only few ranches remained occupied in the area. Later in the 1970s, investors bought land just east of Flanigan,

established dirt streets and planned to sell parcels for $200-$300 each, as a novelty to capitalize on Flanigan's Western ghost town history, intending to give parcels to celebrities like John Wayne and Clint Eastwood to draw publicity. However, the Interstate Land Sales Full Disclosure Act of 1968 requires new developments with plots sold over $100 to have basic infrastructure such as sewer and street lighting, which made the plan unprofitable, and the venture was mostly abandoned.

Two articles were printed around Memorial Day 1977 by the Reno Evening Gazette (Wednesday September 7, 1977) and the Reno Gazette Journal (Sunday Sept 11, 1977) suggests this venture wasn't entirely abandoned. The articles detail a revitalization of the area and describes living conditions during the mid-1970s. The articles center on the creation of the "Honey Lake Valley Meeting Hall" a wheel less trailer within a fenced in area. The meeting hall was actually a private school and called a meeting hall to get around state sanctions against unlicensed private schools. Although the local inhabitants petitioned California for a new school the local population was protesting the more than 30 miles drive to Herlong, California on bad roads with washboard and mostly muddy during winter. Sixteen families are described as inhabiting the area near Calneva and Flanigan, with some on ranches, others in lots across the valley floor.

Long time valley resident Lela Findley interviewed for the articles, had a house on the state border for 21 years prior to printing of the article printed on Sunday, September 11, 1977. Her house is described as just above the fenced in area containing the meeting hall. Lela describes herself as a supervisor of the new valley school. She used a wood stove for cooking and heating water. Oil lamps were used and generators for electricity with access to well water for the residents. She was a longtime resident of eastern Honey Lake Valley original from Herlong and recalls visiting Flanigan in the 1940s to attend town dances. Some of the other locals interviewed for the piece include Lynette Horner, Josephine Lander, and Joyce Pederson. The town hall was being built up and dedicated that Memorial Day weekend of 1977. It is part of a recent population boom in the project area starting two to three years earlier. A local Linda Wells stated more families want to move into the area but want better services. However, results from the current field investigation suggests this never happened with population in the project area continuing to decline sometime soon after the articles were printed.

According to the Washoe County Assessors Website (2021) the Phil and Lela Findley property (Washoe County Assessors Number 074-010-44) can be found under her name in the NW¼ of the NW¼ of Section 5 Range 25 North, Range 18 East. The site of the "Honey Lake Valley Meeting Hall" would have been just north of the property. Both properties are just over a mile southwest of the intersection of Rainbow Road and Fish Springs Road. A few of the properties in the project vicinity remain occupied and are being sold under the name "Pyramid Lake Ranch Estates."

Transportation

The Honey Lake Valley played an important role as a way station for many travelers utilizing the Nobles' Route of the Applegate-Lassen Emigrant Trail, which would later become the Fort Kearny-South Pass-Honey Lake Wagon Road passing through the northern extent of Honey Lake Valley (Purdy 1983:41). The United States Congress passed an act to provide for a federal road from Fort Kearney, Nebraska to the California boundary in the vicinity of Honey Lake in an effort to bypass the more treacherous and drier route through the 40 miles desert and Donner Summit. The construction of the Nevada-California-Oregon Railway and later the Southern Pacific and

Western Pacific railroads were significant developments within the eastern part of Honey Lake Valley leading to the development of many small towns attributed to the construction and use of the railroads including the towns of Calneva and Flanigan nearest to the APE.

Western Pacific Railroad (S2852/D352)

The Feather River Route of the Western Pacific Railroad (Western Pacific) has the distinction of being the most recent of transcontinental built in the twentieth century (Myrick 1992:316; Kneiss 1953). The impetus for the railroad's construction is rooted in the decision of the Union Pacific Railroad, then led by E. H. Harriman, decision to close off access to the Southern Pacific to all railroads other than the Union Pacific, leaving all other railroads unable to access the Pacific Coast from Salt Lake City, thereby creating a monopoly on distribution (Kneiss 1953:6-8). This was bad news for California growers and merchants who had hoped to break the Union Pacific monopoly (Kneiss 1953:5).

Built as a standard gauge railroad the Feather River Route was the first transcontinental railroad to be constructed entirely by machine (Kneiss 1953:4). The Western Pacific extends for 924 miles between Oakland California and Salt Lake City, Utah. Formally incorporated on March 6, 1903, the Western Pacific was financed by a George Gould whose father Jay who had compiled a partially complete transcontinental railroad system terminating with the Denver & Rio Grande at Ogden, Utah (Myrich 1992:318-319; Kneiss 1953). George Gould had hoped to fill the gap between his railroad and the coast of California. The first railroad spike was driven in Salt Lake City, Utah on May 24, 1906, with the last spike driven in on November 9, 1908, at Spanish Creek Bridge a few miles west of Quincy, California. The portion built within Nevada was mostly built by the Utah Construction Company during the summer of 1907. Regular freight along the line commenced the first of December with passenger service beginning nearly a year later in August of 1910.

Due to relatively light traffic and no branches to feed the railroad it went into receivership in 1915 emerging a year later as the Western Pacific Railroad with an emphasis on the construction of feeder lines with some 230 miles of new lines added over the next 15 years (Myrick 1992:331). The first feeder branch was the acquisition of the Northern California and Oregon Railroad to Reno, Nevada to a point just south of Herlong, California. A series of railroad stations along route in the Honey Lake Valley near the project area include Calneva just west of the APE and Flanigan at the far east end of the Western Pacific Railroad through Honey Lake Valley.

Flanigan was a company staffed railroad crossing that was first a station on the Western Pacific Railroad five miles east of the state line with California. The station was constructed in 1909 and in operation briefly before it was disconnected from the line in 1911. The station was named in honor of Patrick L. Flanigan, for his allowing passage of the railroad through his expansive ranching domain (Moody 1983:5). While freight and passenger trains of the Western Pacific Would use Flanigan Station infrequently it was the Southern Pacific Railroad that would be most influential to Flanigan Station. The construction of the Fernley and Lassen Branch of the Southern Pacific occurred in 1912 to 1913 and crossed the tracks of the Western Pacific at Flanigan Station before it headed west to Amedee (Moody 1983:8). Both railroads had a siding at the location used to "side" cars when not use or as switch.

Telegraph operator at Flanigan first with the Western Pacific Railroad in 1910 then again with the Southern Pacific in 1913 with the Railroad's signal operator doubling as a Western Union Telegrapher (Moody 1983:9). Between 1915 and 1920 the Nevada, California and Oregon Telephone and Telegraph Company (later Pacific Telephone and Telegraph) installed a telephone line between Flanigan and Susanville, with Flanigan listed as being in California (Moody 1985:39-40). The line ran from Flanigan to Amedee along a railroad fence.

Ranching/Agriculture

A combination of factors led to development of ranching in the APE. Prior to the advent of the railroad California had been the regional center of cattle production. Western Nevada relied on California as a source of beef cattle during these early years. Due to droughts during the late 1860s California ranchers began using rangelands in northern Nevada as summer range. The advent of the railroad in 1868 allowed the beef industry to become regional in scope (Townley 1983). Cattle could be taken from the range in northern Washoe County fattened in the Truckee Meadows and shipped to the bay area for slaughter. Even comparatively remote areas such as the proposed APE were integrated into this regional marketplace.

Locally ranching began in the Honey Lake Valley and Winnemucca Lake areas during the 1850s through the 1870s. During this period many ranchers drove their herds to the central valley of California during the winter using their Nevada ranch lands only as summer pasture. Ranchers acquired land through the National Homestead Act of 1862, the Swamp and Overflow Act, or by filing preemption claims. By these means early ranchers gained access to most if not all water sources and potential pasture areas in the region thereby controlling the range. This allowed ranchers to enlarge their herds of cattle sheep and horses and to grow and cut feed. Many pinned their economic hopes for the state on agriculture (Townley 1983). Large ranching operations came into being that operated over huge acreages within Nevada and adjoining states. The Pyramid Land and Stock Company owned by Patrick Flanigan operated in the Pyramid Lake area and eastern Honey Lake Valley. Flanigan moved to Nevada in 1877 and began herding sheep in the early 1880s grazing on public domain land around Pyramid Lake. He began acquiring property in the 1890s including ranches near Gerlach Constantia in California in Winnemucca Valley and a number of others in the general area. At the height of his career Flanigan ran than 30,000 ewes 2,000 cattle and 1,800 horses in Washoe County (Moody 1985).

The sheep market boomed during the 1910s and 1920s prompting many ranchers increase the number of sheep they kept versus cattle. After the Wool Crash of 1923 the sheep industry dwindled. This trend was reinforced by several drought years the cumulative effect on vegetation of over grazing and passage of the Taylor Grazing Act. This act was intended to manage public grazing and to prevent degradation of the public domain due to overgrazing By World War II ranching was no longer a prominent industry in the project area. Beginning in 1914 Flanigan's empire began to unravel. Declining sheep prices and failed irrigation ventures eventually forced him into bankruptcy.

In the late 1800s there was an interest in reclaiming lands with 20 inches or less of annual rainfall led to a new wave of agriculturalists dry land farmers. The dry land farming movement reached full flower during the first two decades of the Twentieth Century. Many dry land farmers homesteaded in Honey Lake Valley during the 1900s and 1910s when the dry farming movement

was at its height. Irrigation was proposed and attempted from Honey Lake. There was even a proposed apple plantation near Calneva (Moody 1985:12). In theory the homestead was also supposed to produce a crop of sufficient size that it could be sold. Following World War I when an agricultural depression set in that lasted throughout the 1920s dry land homesteaders suffered. They were also subject to changes in local climatic conditions. Droughts changing water tables depletion of nutrients in the soil or the accumulation of salts. Litigation over water rights, salinity, and the lake going dry in 1919 put an end to such activity and the homesteaders had largely left the area by the 1920s (Moody 1985:15).

4. HISTORIC CONTEXT

The significance of resources in the project area should be evaluated within a regionally relevant framework or context when determining their relative significance to the NRHP at the local, regional, and worldwide level (Hardesty and Little 2009; National Park Service [NPS] 1995:7). A proper historic sequence provides an analytical framework within which the significance of an archaeological site or district can be understood. To properly evaluate archaeological remains they first need to be linked to a relevant historic context. Archaeological sites should not only include diagnostic artifacts or features that can link its temporal association with the local context but also task specific data that clearly identifies a sites or components specific land use activity or related research theme. Without a proper identification of a particular sites associated research theme, its meaning and ultimately its significance within history or prehistory cannot be understood.

Furthermore, archeological remains should be evaluated with the local context through a series of middle range research questions specifically relevant to the APE (Little et al. 2000:31). Research questions should not be over generalized and applicable to any cultural resource inventory in North America such as food practices, technology, etc. (Hardesty 1990). Instead, they should be tailored to the resources at hand and within the limits of the proposed undertaking by being able to reach specific, detailed, and reliably supported conclusions within a reasonable amount of time (Hardesty 1990:43).

Sites identified during the investigation were evaluated based on their ability to meet the four National Register (NR) criteria. National Register eligibility recommendations were developed using those aspects of the historic context appropriate to the cultural resources identified during the inventory. Cultural resources were examined to determine significance based on property type, resources present, integrity, and association with time, space, and themes important to local, state, or national history. Guidelines provided in the NR Bulletin 15 (NPS 1995) stipulate that properties must, as a rule, be at least 50 years old and meet requirements for site significance for listing on the NR under at least one of the following criteria:

Criterion A: Association with major events or patterns of events significant in U.S., Nevada, or local history, or traditional cultural values.

Criterion B: Association with persons important in the past.

Criterion C: Representative of the distinctive characteristics of a particular type, period, or method of construction; of the works of a master; of high artistic values; or of a significant and distinguishable entity whose components may lack individual distinction.

Criterion D: Have the potential to yield important information to understanding prehistory or history. In general, moved properties; birthplaces; cemeteries; reconstructed buildings, structures, or objects; commemorative properties; and properties that have achieved significance within the past 50 years are not considered eligible for the NR.

A proper evaluation of a property's significance must be based on the four criteria (A, B, C, or D). However, a site's mere association with historic events, trends, or important persons in the past is not enough for establishing eligibility for Criteria A and B. A property's specific association must be considered. In addition to the use of cultural contexts, arguments of significance should also consider comparisons with similar known sites in the area relative to the region's prehistory and history, an appraisal of the expected kinds of information that the site could yield, and judgments about a cultural property's research potential.

Not only should a property have an important association with historic trends, it must also retain its historic integrity. Evaluation of the integrity of a property can occur after the establishment of significance. An evaluation of integrity must be grounded in an understanding of the property's physical features and how they relate to its significance (NPS 1995:44). A site's key features must retain their integrity to convey its significance. An assessment of integrity relative to the data potential of a site depends on the research design or questions. It is important that the significant data contained in the property be preserved or is present to address important information relevant to a property's significance (NPS 1995:23). The National Parks Service (1995) defines seven aspects to integrity including location, design, setting, materials, workmanship, feeling, and association. To retain historical integrity a property should meet at least a few of these aspects. Determining which aspects are more important to the resource is determined by its association with the local relevant historic context.

Location: The construction place of the historic property or place where the historic event occurred. Location helps in understanding the "why" of a construction or an event.

Design: The result of the conception and planning that created the form, plan, space, structure, technology, scale, materials, functions, aesthetics, and style of a property.

Setting: The character of the physical environment of a historic property. Setting, or how the property is situated, includes topographic features, vegetation, cultural features, relationships between features, and open space.

Materials: The combination of physical elements that were used to create a historic property during a particular period of time in a particular pattern. The property must retain actual historic resources dating from the period of its significance.

Workmanship: The evidence of artisans' labor and skill of a particular culture or people in creating a property during any given period in history or prehistory.

Feeling: The presence of physical features that express the aesthetic or historic sense of a particular period of time.

Association: The direct link between an important historic event or person and a historic property.

Assessing integrity requires determining whether or not the property retains the identity for which it is significant. A property that retains integrity may possess several of the seven aspects, as well as the essential features that define why a property is significant and when it was significant. Archaeological sites eligible under Criteria A and B must retain excellent preservation of features, artifacts, and spatial relationships to convey important associations with events or persons. For Criterion C, sites must retain the majority of features to illustrate a site type, period, method of construction, or work of a master. Overall condition is less important under Criterion D in which integrity is based upon the property's data potential, as shown by intact or identifiable relationships among artifacts, features, and other elements of the site. A "property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained" (NPS 1995:22).

Prehistory

The lack of written records compounds the difficulty in the development of prehistoric contexts with prehistoric sites most frequently being considered eligible under Criterion D. Using the concepts of theme, place, and time a broad-based prehistoric context can be developed to address eligibility of prehistoric resources within the APE. Chronometric data such as diagnostic artifacts or features with the potential for dating typically must be present for a prehistoric site to be considered eligible for the NRHP. Chronometric data is critical to defining the different periods of the past and trends over time. In addition, a site must retain sufficient integrity to yield important information that can address relevant research issues to the area of concern. A prehistoric site with additional research potential should contain datable subsurface deposits and be able to address one or more of the following broad based research themes: chronology; land use patterns; site structure; and trade and exchange. The four broad themes center on research issues that may help illuminate prehistoric occupation and land use for central Nevada over time.

Chronology

One of the more critical data classes for reconstructing prehistoric human activities, land use patterns, and ultimately, behavior, is the establishment of a chronological sequence. Chronology is the most important and basic research issue in any region, particularly in relation to questions involving human adaptation to changing environmental, technological, and population dynamics. Chronological placement allows for the definition of different prehistoric periods or trends in a region over time critical to our understanding of the past. A number of projectile point types and series are generally accepted as reliable chronological indicators, although testing with other datable deposits and relative obsidian hydration results are also contributors to our understanding of a site's chronology (Beck and Jones 1994; Hockett 1995). Secure dates on sites, features, and artifacts provide the basis for developing chronologies capable of being used for both temporal and regional comparison. The lack of high-resolution chronological data is commonplace in the Great Basin with the temporal associations of most sites having been assigned from the analysis of diagnostic artifacts particularly projectile points from surface assemblages. What are needed for control are secondary sources of chronological data that could refine the relative projectile point sequences.

Although all periods associated with the local chronological sequence are in need of additional refinement, there are three major unresolved chronological issues associated with transitions in the archaeological record including: (1) the nature of the Late Pleistocene Early Holocene transition

for the Great Basin; (2) the appearance of Early Archaic Elko and Gatecliff forms may occur earlier in the eastern Great Basin than in the west; and (3) the Numic expansion. There are few unambiguous time markers dating to the Early Holocene transition, as a result most other aspects concerning the early occupation in the Great Basin are not well understood. The major issue that compounds the difficulty in our understanding of the Pleistocene Early Holocene transition is relevant diagnostic artifacts associated with the Late Pleistocene were also utilized through the Early Holocene. Additionally, large side-notched points and Gatecliff points (including Pinto) first used during the Early Archaic persist into the Middle Archaic and are sparsely represented in the record. This is not only a local issue of relative importance for the Early Holocene is poorly understood across North America and any knowledge we can contribute to this little understood period in North American prehistory could constitute a significant contribution.

To substantiate or refute the theory of Numic expansion there is a need to distinguish ethnographic or Northern Paiute related sites or occupations from other late prehistoric sites within the local archaeological record. Archaeological sites that can be considered Northern Paiute are few, for the period is difficult to identify archaeologically. One of the few diagnostic artifacts conclusively associated with the Northern Paiute may be pottery, in the form of a locally made Intermountain Brownware. Late prehistoric projectile points such as Desert Side Notch and Cottonwood Series may also be potential indicators of a Northern Paiute occupation; however, it is sites that are associated with the period just before contact that are needed. The timing and position of the arrival of certain artifacts, features, or site types attributed to the Northern Paiute may help substantiate or refute the theory of Numic expansion.

Projectile Points

There are a number of research issues surrounding Pleistocene adaptive strategies and the nature of the transition to the Holocene, and the timing of the arrival of Middle Archaic point types from the eastern Great Basin. Major issues that compound the difficulty in our understanding of the Paleoarchaic are relevant diagnostic artifacts associated with the early Holocene overlap with the preceding Pleistocene. Concerning the Middle Archaic transition, large side-notched points, Gatecliff, and Pinto points first used during the Early Archaic persist into the Middle Archaic and are sparsely represented in the record.

Point types for central Nevada have been sequenced by David Hearst Thomas at Gatecliff Rockshelter (Thomas 1981). The sequence suggests local date ranges for Archaic points for the western Great Basin may be significantly later than for the eastern Great Basin with gradual diffusion of Early Archaic Elko and Gatecliff forms to the west by the Middle Archaic (Hockett 1995:41). Elko points recovered from Danger and Hogup caves reveal the presence of Elko points in the Bonneville Basin as early as 8,000 years ago, nearly 5,000 years earlier than at Gatecliff Rockshelter (Hockett 1995:43). An obsidian hydration analysis of 109 projectile points from northeastern Nevada reveals Elko and Split Stem or Pinto forms may have been in the Bonneville Basin region as early as 8,000 years ago (Hockett 1995). The presence of these point types at Gatecliff between 5,000 and 3,300 supports the theory of gradual diffusion of these forms from the east. The identification of these forms in the landscape can serve as an important indicator. By identifying the source material and hydration readings independent verification of the date ranges of use for individual point styles can be refined and is the only way to substantiate or refute the theory of gradual diffusion from the east for the Elko and Split Stem forms.

Research Questions and Data Requirements

To address a site's chronological placement diagnostic artifacts, a number of obsidian artifacts, or datable features would have to be present. Chronological information is paramount to address questions associated with reuse/reoccupation over time and to distinguish temporally specific activity areas from one another on multi-component sites as well as identifying diagnostic patterns associated with land use, site structure, patterns of trade and exchange, and changes over time. The lack of chronometric data for small non-diagnostic lithic scatters makes it impossible to place a site's prehistoric occupation within any of the regional periods. However, all too often sites contain additional buried deposits in the form of artifacts and potential thermal features that could address chronology. In this instance, the site retains additional information potential or integrity in the form of buried deposits. This is why prehistoric sites are often evaluated under Criterion D. For a site to be considered eligible, it should have the potential to refine local diagnostic projectile point sequences and be able to address important chronological research issues for the area. An eligible site should possess a chronometric association and be able to address at least one of the last two research questions presented below:

What is the time frame for the sites and do they represent a single occupation or reoccupation of the same area over time?

Are there fire hearths or intact subsurface deposits with diagnostic artifacts, projectile points or ceramics that could provide independent verification and refinement of current chronological sequences?

Does the site contain a large enough sample of obsidian artifacts, either projectile points or flakes, which could provide independent chronological data in the form of obsidian hydration analysis?

A site's mere association with diagnostic artifacts is not enough to consider a site eligible to the NRHP. A site will also need a secondary source of chronometric data that can verify the relative time markers. Sites or site types with the potential to address chronological research issues are those with the potential to provide any of the following: projectile points, ceramics or other datable cultural material from a single occupation or activity area in association with a secondary chronometric indicator. The addition of dateable artifacts beyond those found on the surface such as radiocarbon samples, stratified cultural deposits, or a sample of obsidian for hydration studies are needed. The presence of datable feature deposits in direct or close proximity to projectile points would be ideal for addressing the outlined chronological related research issues such as the current theory of diffusion of Early Archaic Elko and Gatecliff points across the Great Basin from the east.

Land Use Patterns

Land use patterns relate to a prehistoric population's land use strategy. This is a broad category that includes but is not limited to issues of settlement, subsistence, and material production including lithic procurement. The research theme is based on the assumption that prehistoric activities have a direct relationship to landscape features and resource distributions. Binford's (1980) model of foraging and collecting hunter-gatherer land use systems figures prominently in Great Basin archaeology as research has attempted to interpret variation in settlement patterns across both space and time. It is assumed landscape use is tied to the spatial position of key

resources such as toolstone, water, game, and vegetation communities on a landform. The position of these key resources is potentially reflected in patterns of site type or use and distribution important to our understanding of resource acquisition strategies and mobility patterns and how they change over time. Hunter-gatherer land use systems are dynamic, changing in response to shifting environments and social factors such as population growth, movement, and territorial restrictions. The interpretation of land use is dependent on our understanding or how a site is used such as whether it is a habitation site or a satellite site, a short-term encampment for the procurement or processing of resources on a seasonal basis. A site must be able to provide data that can answer some of these basic questions such as what types of activities are represented at the site and how it compares to other sites in the area or relevant region or territory.

Obsidian sourcing and hydration studies have gained in importance in the Great Basin for it is prevalent at sites in northern Nevada and can provide both a source location on the landscape and temporal data important for addressing settlement mobility and changes over time. Obsidian sourcing and hydration analysis can contribute valuable data concerning broad land use patterns. However, we must be careful in our interpretations for the tracing of obsidian artifacts to a specific source can reflect either direct procurement by site occupants or acquisition through trade.

Key to our understanding of land use practice is our need for reliable information on the different periods' subsistence practices. The interpretation of land use strategies based on the distribution of lithic tool sources and analysis of their use alone is not adequate. However, almost no direct data concerning prehistoric subsistence has been recovered in the archaeological record for the Great Basin. Interpretation of subsistence practices has been largely reliant on indirect evidence such as the analysis of projectile point sequences and associated tools including the presence or absence of groundstone artifacts to infer a reliance on vegetal food or the processing of seeds.

Land Use Patterns Property Types

Property types associated with land use include a wide variety of sites associated with single component lithic scatters to complex sites containing artifacts and features that have built up over time. Some of the more obvious activities that can be identified during a surface inspection include quarrying, tool manufacture or maintenance, hunting and the processing of vegetal food stuffs by the presence of projectile points, groundstone, food caches or other tools diagnostic of a particular type of behavior or task. Site types can be identified as satellite sites, single or multiple use episodes, or a more permanent habitation locale such as a base camp or habitation site where a population may congregate during winter months. Satellite sites are often associated with direct resource procurement. Base camps or habitation sites are in general more of a built-up environment typically reoccupied over years. A greater range of activities should be present as well as more permanent types of features such as fire hearths and evidence for more substantial structures that could protect the population from winter cold. Site types include some of the more common or familiar types of patterns that can be discerned in the archaeological record that directly relate to a type of task or activity. These various site types include: (1) quarry; (2) tool production or maintenance, (3) hunting or butcher site; (4) vegetal procurement; (5) a base camp; or (6) habitation site where a range of repetitive activities are often represented. The same type or related activities can take place either at a satellite site or at a more established camp. Resources are often procured and then brought back to a base camp or habitation site where they could be further worked or refined, stored, or consumed.

In addition to the identification of potential site types, the position of a site on the landform must also be considered. The position of the different site types and their relative frequency must be identified for each time period so general land use patterns can be identified and changes over time. The location of sites as they relate to landform type, slope, vegetation type and other potential valuable landform related data is critical to our understanding of how a landscape was utilized.

Research Questions and Data Requirements

Sites addressing questions in this research domain must contain sufficient data about the site's function and resource use. A site's significance cannot be addressed by itself but must be compared to the region as a whole and its ability to contribute to our understanding of land use patterns for northwestern Nevada. A site must have a chronological placement to be identified to a specific prehistoric period and be directly compared to the occupation of other sites in the region with temporal associations. For a site to be considered eligible under this research domain it must contain task specific artifacts or tools and or features with chronological indicators and be able to address at least the first of the following important research questions that relate to land use patterns:

1. *Are there tools or features at a site that might reveal task specific activities or potential site types and be able to contribute to our understanding of local land use strategies by offering new or additional data for the regional prehistoric sequence?*

2. *Does the site contain local obsidian materials from one of the nearby obsidian sources in northwestern Nevada defined by the Northwest Research Obsidian Studies Laboratory or does it include preferred or exotic materials that could potentially be sourced from outside of the region?*

3. *Can changes in mobility strategies through time be identified by comparing the representation and lithic reduction strategies of local and non-local toolstone sources?*

The variety of tool types within the assemblage can offer data about the types of activities and resources targeted while subsistence activities can be identified directly from floral and faunal remains obtained from cultural features. Sites with large, moderate, and small assemblages containing at least one tool and debitage are needed, as are sites containing obsidian artifacts, especially projectile points, suitable for sourcing studies. Quarry sites should include the presence of lithic raw material as well as the presence of cores, early-stage reduction, and broken blanks or bifaces being shaped for transport. Sites containing groundstone, hunting blinds, tools or pinyon caches, or spatial patterning would also help address questions associated with land use patterns, particularly with subsistence. For a site to be identified as a base camp or habitation site it must contain evidence for structures or other features typical of a base camp or built up environment such as fire hearths, midden deposits, or large concentrations of artifacts. Sites may also have evidence for spatial patterning suggesting a wider range of activities to have taken place at the location over a length of time to establish some sort of permanence on the landscape.

Sourcing data in conjunction with the identification of lithic technology, including relative stages of reduction for material types is also important to our understanding of mobility patterns and changes over time. A high degree of use of localized material sources would suggest more limited mobility whereas the presence of exotic materials from more distant sources tends to be more reduced and curated. Local materials usage can be identified by the presence of quarry sites with lithic raw material. Material type assemblages that are characterized by early-stage reduction techniques typically occur in close proximity to sources. There are no obsidian sources in close proximity to the APE. The closest are at Fredonyer Peak and Buffalo Hills north of the APE 50 miles (Northwest Research Obsidian Studies Laboratory 2021).

Site Structure

Site structure relates to how a site or area has been utilized and is fundamental to our understanding of land use patterns. This research theme is valuable to our understanding of prehistory for its ability to interpret how resources were utilized and deposited or discarded on the landscape as it relates to different types of behavior. Important issues associated with this research theme for the Great Basin is with small sites that are defined by only a few formed tools. Small sites have traditionally been deemed insignificant since it is assumed they represent short stays with little potential in regard to chronology and settlement issues. However, small sites constitute the bulk of the archaeological record, are typically associated with a single task activity, and excavations at some small sites have yielded datable hearth features or additional diagnostic artifacts not noted during surface inspection.

Larger sites typically represent a range of different activities over time and materials from different time periods that can overlap at the same location within a site forming artifact concentrations or middens. Activity areas, often spatially discreet at the time of an occupation, can become focal points for the discarding of refuse during later occupations. While the various site types in the Great Basin are in need of identification and additional refinement habitation sites are critical to our understanding of land use patterns for each major prehistoric period. One of the more critical research issues for the Lahontan Basin area and the Great Basin overall is the general lack of pre-Archaic habitation sites identified in the archaeological record, along with long distance tool source procurement as an important indicator for a high degree of residential mobility.

Research Questions and Data Requirements

A discussion of site structure should include a discussion of potential feature types as they relate to the inter components of a site. Activity areas can be manifest in the record of a site in many forms represented by a series of different feature types but most often by concentrations of artifacts and their relative position within the site. The type of artifacts associated with a concentration can be indicative of a particular type of activity. For smaller sites a concentration comprised primarily of lithic debitage may be an example of a single reduction event where materials were reduced or worked and left in position. In contrast to larger sites spatial use may be more organized with activities being routinely cleaned and discarded in an organized location. Concentrations in this case could include a range of different types of artifacts and may include the presence of charcoal and or ash from cooking activities forming a midden deposit over time. Other types of features characteristic of task specific or related activities could include fire hearths, structures, or caches. A small site that lacks any evidence for internal special patterning shall not be considered eligible. Only sites that contain spatial patterning should be considered and be able to address at least one of the following related research questions:

1. *Are there patterns associated with the placement of artifacts or features at a site?*

2. *Do various types of sites contain the assemblages and facilities predicted in settlement models for each period?*

3. *Can site typologies be refined into more discrete behavioral units?*

4. *Are there habitation sites present?*

5. *Are there unique patterns associated with each site type attributed to the different periods of prehistory?*

Various types of datable sites with discrete clusters of artifacts, sites located in good depositional environments that retain integrity in the form of subsurface cultural material, and sites that appear to represent single occupations or activity areas on larger sites that can be isolated as single use events are needed to address this little understood research issue.

Trade and Exchange

This research issue relates to the identification of and distribution of trade goods both within and between regions. Trade relationships within the Great Basin itself are distinguished by a variety of regional goods. Extra-regional trade goods are rare and could include Pacific Coast shell beads and pendants, turquoise from Arizona and possibly central Nevada, and Anasazi ceramics. For small sites with limited artifact assemblages, task specific activities often do not contain data associated with trade and exchange beyond the identification of potential material sources for lithic technology. A significant problem with identifying trade and exchange in the archaeological record for the Great Basin is Archaic groups appear to have predominantly used locally available resources, resulting in limited information regarding trade relations with other regions. Local exchange is more likely and could be represented by inter-valley, nearest neighbor encounters. Regional exchange may be represented at lithic scatter sites as material from regionally important quarries were traded over large areas.

One commonly employed method of identifying trade and exchange is through the identification and tracking of tool sources such as chert and obsidian. However, the resulting data is often more relevant to the discussion of land use patterns. Existing studies of toolstone transport suggest tool size decreases and late stage lithic reduction strategies can increase with distance from sources. Since site assemblages in the Great Basin are dominated by the presence of stone tools and waste flakes, toolstone sourcing studies, lithic reduction sequences, and tool use is typically the only method available when trying to address issues associated with trade and exchange. The tracking of source material is not necessarily the best data for identifying issues associated with trade and exchange for it is often difficult to determine if the resources were traded within a prehistoric group's territory or between territories, which more specifically addresses issues associated with residential mobility.

Data Requirements

For a site to be considered eligible under this research issue, it must contain exotic forms of trade items that would have come from outside of the occupants' traditional territory such as shell beads,

turquoise, ceramics or other exotics. For the prehistoric period where ethnic identity or cultural affiliation is difficult to determine, this would include the presence of any artifact whose material or construction originates archaeologically outside its sphere of influence or subarea as defined by Jennings (1986). For a site to be considered eligible under this research theme, it must be able to address one of the following research questions pertaining to trade and exchange:

1. *Does the site assemblage contain exotic forms of trade items that would have come from outside of the occupants' traditional territory such as shell beads, turquoise, ceramics or other exotic materials.*

2. *Is there evidence for the presence of exotic toolstone or other evidence of non-local material use at the site that originates outside the traditional region or sphere of influence?*

Prehistoric Site Evaluation

Due to the lack of written records, prehistoric sites cannot be evaluated under Criterion B with most sites being evaluated under Criterion D. Criterion C could potentially apply if prehistoric sites within the project area and region contain unique built up or engineered features associated with a specific site type; however, feature and site types that could potentially be evaluated under Criterion C have not currently been identified for northwestern Nevada. Therefore, prehistoric resources are more likely to be evaluated under Criterion D for a site or resource's ability to provide important understanding to prehistory.

Criterion A: A site could potentially be associated with this criterion if a site can address any of the important research themes outlined above as they relate specifically with an important transitional period. Sites that represent the introduction of dart points during the transition from the Paleoarchaic to the Archaic or represent the first known use of a diagnostic artifact type, unique feature type, or site type would represent a major shift in land use strategies, site patterning or introduction of a trade good and would mark a significant event in prehistory.

Criterion C: Potentially eligible sites under this criterion relate to the prehistoric research themes of land use patterns and site structure. If a unique or well represented example of a diagnostic trend in site layout or site patterning is evident or if a good example of a unique feature type not well represented elsewhere is present then the site may be considered eligible.

Criterion D: This criterion is the most broadly applicable category. The resource should be able to address the major research themes and issues outlined for the prehistoric period. It must have a chronometric association and datable subsurface deposits, obsidian for hydration readings, or other type of chronometric indicator that can refine relative chronologies. However, few prehistoric resources have been identified for the region and almost any site with a temporal affiliation has the potential to contribute significantly to our understanding of the local prehistoric sequence.

Although a site might not be remarkable or significant by itself with so few prehistoric sites identified in the local record, almost any prehistoric property types identified during the project with a chronometric association could be considered a significant contribution to our understanding of the local prehistoric sequence. Sites with both a chronometric and property type

association offer the best potential for addressing important research themes and questions outlined in the context section of this report. Sites associated with short time periods or transitional periods such as the transition from the Late Pleistocene to Early Transition during the Paleoarchaic or theory of Numic expansion are of particular significance since they are the most underrepresented in the archaeological record and most poorly understood periods of prehistory.

History

The background search and inventory identified "transportation" related themes in the project area as outlined in the NR Bulletin 15 (NPS 1995). Although, the Nobles section of the route passes through Honey Lake Valley it was significantly further north and west of the APE. The Reno to Fort Bidwell, Surprise Valley, California also known as the Reno-Fort Bidwell Road is located a few miles south of the APE. Resources attributed to early exploration and settlement were not expected within the direct APE. Therefore, the following discussion presents data requirements developed to facilitate the evaluation of transportation related historic resources for nomination to the NRHP.

Transportation Property Types Evaluation

This research theme includes systems associated with the long-distance transport of people or commodities between different regions or communities. Shorter routes such as driveways, turnouts, ore tracks, ranching field roads, short paths, etc. are considered a feature of a site and are assessed as property types under the sites particular research theme such as mining or agriculture. The kinds of sites associated with transportation corridors include trails, wagon roads, highways, and railroads. The Western Pacific Railroad's Feather River Route (S2852/D352), an extensive transcontinental transportation feature is within the APE and still in use. Some typical property types attributed to a railroad include ballast material, borrow pits, construction/work camps, hill cuts, fill or elevated roadbeds, grade line, parks, telegraph or telephone line, railroad yards, roadbed, shoo-fly's, sidings, snow sheds, spurs, stockyards, town plans, tunnels, and access roads (Bernstein and James 1989:8-40-41). Ballast is made of crushed stone, gravel or cinder. It is placed on top of a roadbed and beneath track. Ballast is used to support the load of the track and train and distribute the weight evenly to the foundation. A siding is a track of various length that is connected to one or both ends of the main track and used to "side" cars when not use or as switch. A shoo-fly is a temporary segment of passage of construction that allows trains to pass until the completion of the permanent grade. A cut is utilized, to go through terrain obstacles like hills or cliffs. Construction related workcamps are common along railroads. The types of diagnostic artifacts or hardware attributed to railways include rails, rail fasteners, rail cars and engines, railroad ties, and related hardware such as bar bolts, track bolts, rail braces, and tie plates, or switches.

To address research questions an overall background review was developed to determine construction dates for the line and roads, how it was used through time, and use demand. Additionally, association with important figures was also addressed, such as the railroads founder George Gould. It is then necessary, to research specific research concerns for the railroad within the project area. This includes integrity and modifications to the line and features, the Flanigan Station history and use, people affiliated with the area, and any unique elements to railroad within this section.

Criterion A: The resource should be clearly related to an important railroad line or road that connected with other communities and ultimately the world or have importance within the community.

Criterion B: The resource should show evidence linking a road and/or railroad to an important person's significant achievements.

Criterion C: The resource should be a segment to a system that shows innovative or unusual construction techniques.

Criterion D: The resource should contain information that can address research issues important in the history of railroads. The resource should address one or several research questions listed below:

Research Questions and Data Needs

Do work camps exist, and if so, what do they tell us about construction and/or maintenance techniques and the workforce? Is there evidence of specific ethnic groups at these camps?

If the workcamps exist then what are they utilized for and do the material remains inform on when and how long they were used?

Do the railroad features reveal information about construction dates and techniques, or integrity of the line?

Do any of the features, and remains provide significant new information for the overall railroad transportation system?

A railroad should display sufficient integrity to discern construction methods and maintenance techniques and lack vandalism or other damages. According to the State Protocol Agreement between the Bureau of Land Management, Nevada and the Nevada State Historic Preservation Office (2012b:43-44), maintenance that is not consistent with its historic use compromises the integrity of a historic resource. For railroads this would be the in-kind replacement of ties, rails and switching facilities and for roads this would be the same kind of repairing, grading, and cleaning of roads. Upgrades to features such as culverts or replacement of elements such as railroad ties alter this integrity. Railroads are often evaluated by segment as non-contributing to the site due to the lack of integrity of original features.

Telegraph/ Telephone

The telegraph and the railroad were natural partners in commerce. The telegraph needed the right of way that the railroads provided, and the railroads needed the telegraph to coordinate the arrival and departure of trains. Western Union controlled the telegraph market by being one of the first telegraph companies in the United States to use railroads to establish their lines. Railroad companies provided a protected route for telegraph lines while at the same time the telegraph system was used by the railroad to promote safe travel (Johnson 2006:5, 21). The remains of utility lines can include all aspects of the system, from the point of origin to its delivery to the customers (Johnson 2006:62). This includes the standing, cut or fallen poles, wire, insulators, brackets or cross-arms, and hardware, as well as temporary construction camps and access roads built solely for the utility lines. Telephone lines used mostly glass insulators, but rural lines may have had a variety of insulator materials. Galvanized wire appeared on earlier lines, while copper wire was often used on later period lines.

Criterion A: The resource should be clearly related to an important utility line, newspaper, or mail service that connected major cities or metropolitan areas with each other.

Criterion B: The resource should show evidence linking a utility line or communication system to an important person's significant achievements.

Criterion C: The resource should be a segment to a system that shows innovative or unusual construction techniques.

Criterion D: The resource should contain information that can address research issues important in the history of utility lines and communication. The resource should address one or several research questions listed below:

Research Questions and Data Needs

Do the physical characteristics of the property provide information about its construction and maintenance?

Is there evidence of equipment used to build and maintain the line?

Is evidence of innovative construction techniques evident, such as methods of dealing with rough terrain?

The remains of a communication or utility line should have enough of the line (standing line to occasional stumps and linear scatter of insulators and wire) to discern construction methods and maintenance techniques. The use of a line is often ephemeral and leaves few physical traces. The line should not be altered by vandalism, removal of poles, or removal of insulators. In general, a utility line should be considered a linear feature of a larger system and should be evaluated as part of an entire utility system under Criteria A and B. The recorded portion within a project area should be evaluated under Criteria C and D for that segment only as a contributing or non-contributing element of the entire utility system. The rest of the system should be left unevaluated. With reference to Appendix E of the State Protocol Agreement (BLM 2012b) "a segment of a telecommunication or utility line should be considered categorically not eligible if the line is not datable and lacks unique engineered features associated with the segment."

5. ENVIRONMENTAL BACKGROUND

Important to our understanding of the archaeological record and adaptation is a background on the local flora and fauna, climate, and geology. The project area is within the Lahontan Basin within the far eastern part of Honey Lake Valley. Topography ethnographically and historically Honey Lake Valley is part of the Intermountain Region (Middleton 1963:1). Honey Lake Valley is the division between the Sierras to the south and the fault block ranges or Basin and Range province to the east (Middleton 1963:12-14). The Sierra's effectively block moisture from the Pacific, as affectively as it did early communications and transportation. The Honey Lake Valley is part of the northern fringe of the Basin and Range geomorphic province which extends westward from Nevada into northeastern California. Located along the Honey Lake Fault Zone, the geographical landscape within the Project Area is very flat with an average elevation of 3,990 feet above mean sea level (msl). The area is a unique high-altitude desert playa; located in the northwestern shrub-steppe ecoregion of the Great Basin north of Reno.

The closest town is Doyle California located approximately 15 miles west. The APE is remarkable flat. The lowest part of the APE is in the southeast at 3,885 ft. with the highest to the north where the project is bisected by the Union Pacific Railroad at 3,995 ft above msl. The valley has a dry climate with a winter moisture regime and dry summers. Heavier moisture is characteristic of the western part of Honey Lake Valley with the eastern much drier (Middleton 1963:16-17). Cold winters are characteristic of interior ranges with the climate becoming dryer and seasonal temperatures ranges larger eastward across Honey Lake Valley. The nearest climatic data available for the project area is from Doyle, California (Western Regional Climate Center, 2023). The project area receives an average of 10.69 inches of water a year and has an average high temperature of 93.4 degrees Fahrenheit in July and 41.7 degrees in January (Table 2).

Table 2. Period of monthly record: 5/01/1959 to 6/30/1977 for Doyle, California.

Averages	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temp (F)	41.7	47.6	56.3	65.1	74.0	82.7	93.4	91.6	82.4	69.7	53.9	43.5	66.8
Average Min. Temp (F)	20.1	24.3	28.0	32.6	38.3	43.4	48.8	46.4	41.1	33.8	26.1	21.4	33.7
Average Total Precip (in.)	1.80	1.39	1.15	0.62	0.62	0.53	0.25	0.22	0.36	0.76	1.25	1.73	10.69
Average Total Snow (in.)	5.6	3.7	3.5	1.8	0.6	0.0	0.0	0.0	0.1	0.2	2.0	5.0	22.6

Geological Setting

Honey Lake Valley is a large, closed area of approximately 2,378 square miles (Middleton 1963:7-10). It is the terminal sink for the Susan River draining from the west and Long (Valley) Creek, draining from the southeast as well as numerous unnamed ephemeral washes. Honey Lake is an

alkali lake or intermittent body of water located approximately 8 miles west of the APE that occasionally goes completely dry (Middleton 1963:2). When filled it contains a shallow body of turbid alkaline water about 100 square miles in extent. At an elevation of less than 4,000 feet msl, Honey Lake fluctuates greatly in area and volume. Historically, it was full at 135 square miles in 1853/55, then completely dry in 1859 and 1863, and then covered 90 square miles in 1867. Its maximum depth was calculated at 1.5 feet in 1877 and 4 feet in 1882 (Purdy 1989).

Soils

The level portion of the valley is lacustrine sediments that at one time were an arm of ancient Lake Lahontan. The lake once covered a large area of the Great Basin in eastern Nevada and adjacent parts of California (Middleton 1963). Sediments of the valley floor are typical stratified lacustrine deposits washed in from the surrounding mountains and mixed with volcanic ash deposited on the old lake surface (Middleton 1963:11). The texture grade from silts and fine alkaline clays in the center of the valley to sands and coarse gravels next to ranges. Soil material in the eastern part of Honey Lake Valley is derived from basaltic and andesitic rocks. The basin also contains areas of aeolian deposits. Due to aridity or low rainfall has an almost complete absence of soil leaching (Middleton 1963:20). The United State Department of Agriculture, Natural Resource Conservation Service (USDA-NRCS 2021) categorizes a series of two soil types within the APE (Table 3; Figure 4).

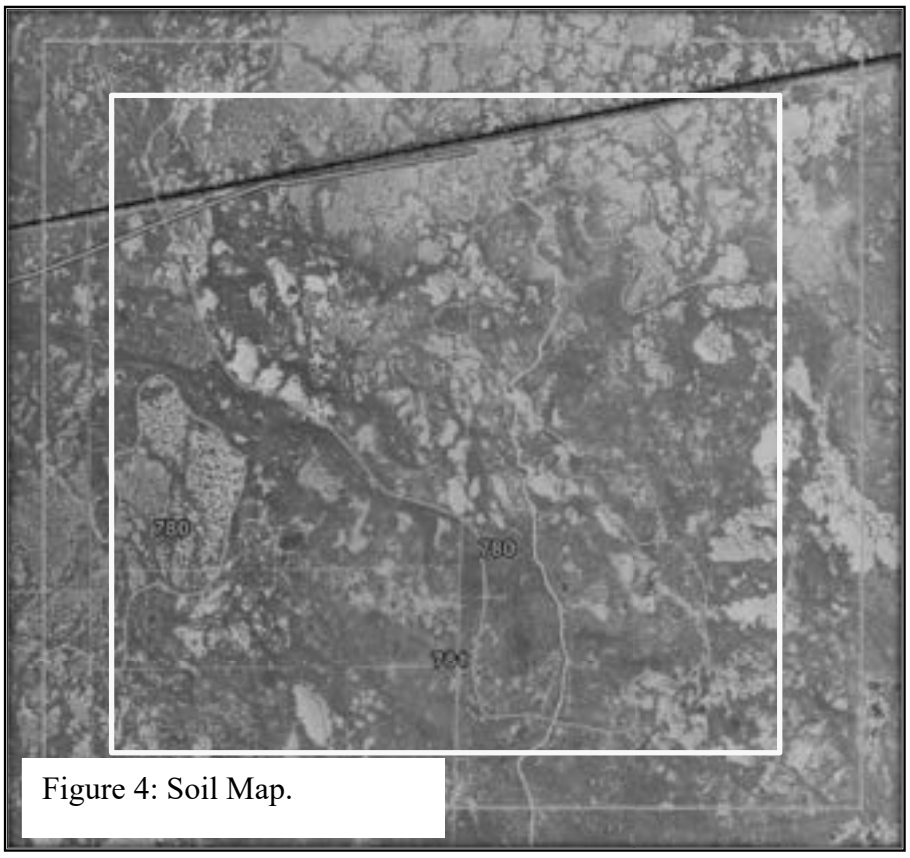


Figure 4: Soil Map.

Table 3. Soil unit descriptions.

Map Unit Symbol	Map Unit Name
780	Chuckles-Playas complex
781	Chuckles-Ragtown-Playas complex

The Chuckles-Playas complex and Chuckles-Ragtown-Playas complex are described as typical lake terraces, lacustrine deposits and includes alluvium and eolian deposits derived mainly from granitic rocks. The salinity of the soil varies from non-saline to very slightly saline. The association has 4 to 8 inches of annual rainfall with a mean annual air temperature between 50 to 55 degrees Fahrenheit. There are 100 to 140 frost free days. The soil types are strongly saline soils typical of lake plains and lacustrine deposits soils vary from a silty clay to a silty clay loam. The soils are well drained with the exception of Ragtown soils described as poorly drained playa sediments.

Flora and Fauna

While forests characterize the western part of Honey Lake Valley brushland and open grassland dominate the eastern part of the basin (Middleton 1963:22). In better soils big sagebrush (*Artemsia tridentata*), and two sagebrush (*Artemsia tridentata*) variety (*arbuscula*) combined with bitter brush (*Purshia tridentata*). Two other varieties of sage are in lower areas with poorer quality soils including the bud sage or spiney sage (*Artemisia spinescens*) and silver sage (*Artemisia cana*). On the margins of salt flats can be found greasewood (*Sarcobatus vermiculatus*) and rabbit brush (*Chrysothamnus nauseosus*). Grasses include cheat grass or downy brome (*Bromus tectorum*) and various types of bunch grasses; Idaho fescue (*Festuca idahoensis*), bluestem wheat grass (*Agrophyron spicatum*) and squirrel tail (*sitanion hystrix*).

6. EXPECTATIONS

This chapter presents the results of a background literature search for the area concerning past archaeological projects and previously recorded sites in addition to an archival search of General Land Office (GLO) plats, historic topographic maps, historical indices, master title plats and federal and state patent records using the BLM Public Land Records website (Bureau of Land Management - General Land Office [BLM-GLO] 2023). A search of previous archaeological and architectural investigations, and previously recorded and evaluated properties, within one mile of the APE was performed using the Nevada Cultural Resource Information System (NVCRIS) electronic database on October 27, 2023. In addition, the NRHP was consulted for significant properties in the project vicinity and a review of existing historic contexts related to the project area was also conducted. The Nevada Historical Society Research Division was contacted for historical records and photos of the APE and Honey Lake Valley in addition to a search of the Washoe County Library. Resources were used to predict the frequency and kinds of cultural resources that would be expected as well as for defining the cultural history of the project area. The data is presented below in the following discussion concerning previous archaeological research, and field expectations.

Cultural Resources Records Search Results

The NVCRIS search revealed within one mile of the project area one prior archaeological inventory project, however there are three prior project completed within one mile of the APE (Table 4), and thirteen previously recorded archaeological sites (Table 5). Most of the sites within a mile are prehistoric lithic scatters and small historic artifacts scatters located west of the project area. They were recorded as part of the proposed Praana II Washoe BESS/PSES Site project (Simpson 2021). Four of the previously recorded sites are historic transportation related resources including Western Pacific Railroad (S2852) considered a part of a larger railroad district (D352), a dismantled telegraph or telephone line (26Wa12841) on the north side of S2852/D352, and two historic dirt roads (26Wa12851 and 26Wa12895) visible on the Flanigan, NV-CA, and State Line Peak NV, 7.5-minute USGS quadrangle maps dating to 1964. None of the sites are recommended eligible for listing to the NRHP. The recorded segment of the Western Pacific Railroad (S2852) is of modern construction and considered a non-contributing element to the district (D352). A search for currently listed NRHP properties did not identify any within eastern Honey Lake Valley.

Table 4. Previous archaeological inventory projects within one mile of the APE.

SHPO Report Number	Title	Date & Author
N/A	A Cultural Survey for the proposed Praana II Washoe BESS/PSES Site Project, Washoe County, Nevada	2021, Simpson, S,
32482	A Class III Inventory for the US Gypsum Empire Natural Gas Pipeline, Washoe County, Nevada	1997, McNees, L.
N/A	Cultural Resources Assessment for the Calneva Battery Energy Storage System (BESS)/ Photovoltaic Solar Energy System (PSES) Project, Calneva, Lassen County, California.	2020, Spillane, Tim

N/A Not Available.

Table 5. Previous recorded archaeological sites within one mile of the APE.

Trinomial 26	Temporal affiliation/ type	Description	Eligibility Status
WA12840	Prehistoric	Lithic Scatter	Ineligible
WA12843	Prehistoric	Lithic Scatter	Ineligible
WA12842	Multi Comp	Lithic and Can Scatter	Ineligible
WA12844	Prehistoric	Lithic Scatter with Tools	Ineligible
WA12845	Prehistoric	Lithic Scatter with Tools	Ineligible
WA12847	Prehistoric	Lithic Scatter	Ineligible
WA12846	Historic	Can Scatter	Ineligible
WA12848	Prehistoric	Lithic Scatter	Ineligible
WA12849	Prehistoric	Lithic Scatter	Ineligible
WA12841	Historic	Dismantled Telegraph Line	Ineligible
S2852	Historic	Western Pacific Railroad	Ineligible
WA12851	Historic	Two Track Road	Ineligible
WA12895	Historic	Rainbow Boulevard	Ineligible

Archival Research

A search for archival resources pertaining to the project area was conducted of historic GLO and USGS maps, and historical indices. The search revealed two GLO map dating to 1873 and 1881 for Township 26 North, Range 18 East and two historic USGS quadrangle maps dating to 1964 (Table 6). The GLO maps for Township 26 North, Range 18 East depict nothing within a mile of the project area. Some old roads the railroad and telephone line are depicted northeast of the project area on the GLO map dating to 1976 for Township 27 North, Range 18 East (Figure 5). The 1964 Flannigan, NV-CA and 1964 Silver Peak, NV 1:24,000-scale topographic quadrangle map depicts the railroad and an access road to its south (Figure 6).

Table 6. Historic Maps.

Historic Maps	OBSERVATIONS
1873 & 1881 GLO Maps, Township 26 North, Range 18 East	Both maps depict the same information. There is nothing in the immediate project area. Some old roads are depicted in the south half of the Township and Range, well south of project area.

Table 6. Historic Maps.

Historic Maps	OBSERVATIONS
1881 GLO Map, Township 27 North, Range 18 East	There is nothing in the immediate project area. Some old roads are depicted in the north half of the Township and Range, well northeast of project area.
1976 GLO Map, Township 27 North, Range 18 East	Map depicts the "Western Pacific Railroad" and Telephone line along its north side.
1964 Flannigan, NV-CA 1:24,000-scale topographic quadrangle map	There are few man made features in the project area. The route of the Western Pacific Railroad and a road that somewhat parallels it to the south.
1964 Silver Peak, NV 1:24,000-scale topographic quadrangle map	The map reveals a few roads in the project area. Rainbow Road is much shorter being about 1.5 miles in length extending from Fish Springs Road north in Sections 20, 21 28, and 29.

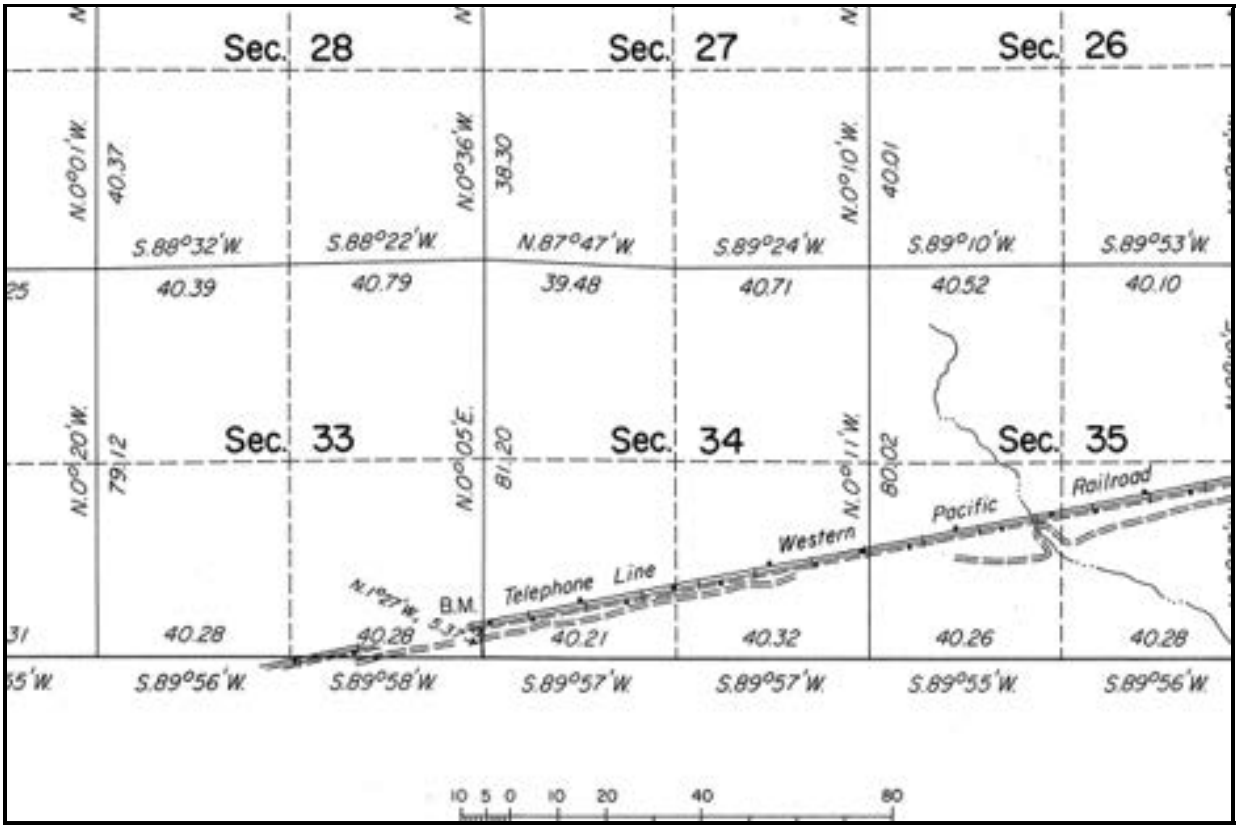


Figure 5. GLO for Township 27 North, Range 18 East (1976).

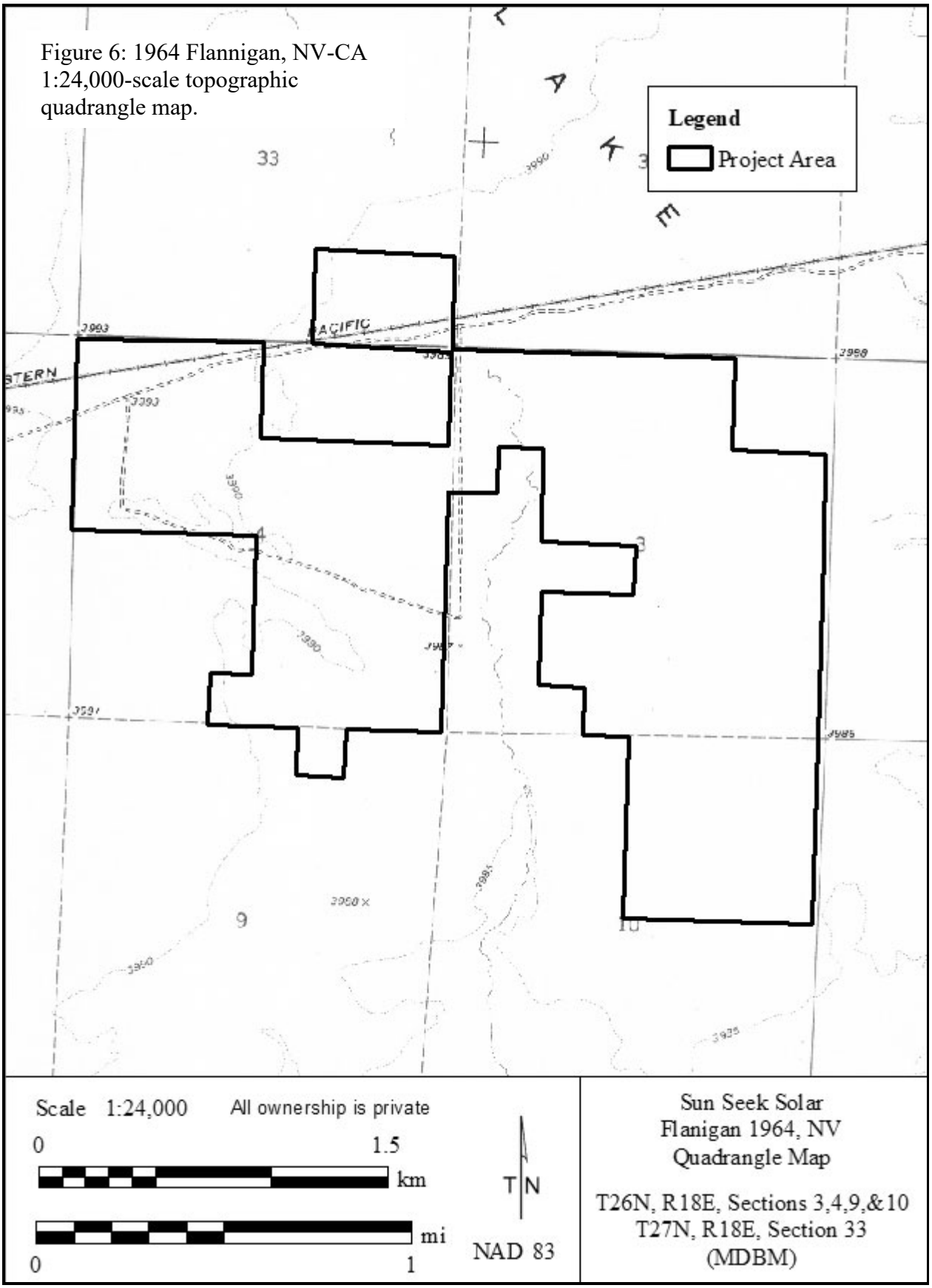


Figure 6: 1964 Flannigan, NV-CA 1:24,000-scale topographic quadrangle map.

7. FIELD METHODS

In this section, the procedures and standards that were used during fieldwork and for the completion of the report are identified and discussed. All survey and site inventory methods correspond to Class III inventory standards outlined in the BLM Nevada guidelines and standards for archaeological inventory (2012a). The client provided maps indicating the boundaries of the project area in addition to flagging the corners of the direct APE.

Inventory Methods

Survey of the project area was accomplished by walking parallel transects no more than 30 meters apart in cardinal directions throughout the APE. When cultural resources were encountered, personnel performed transects in the immediate area at closer intervals to identify the extent of the discovery and locate associated artifacts or features.

Site Recording and Artifact Analysis

A site is defined by the current Nevada BLM guidelines as any location containing two or more artifacts or features spaced no more than 30 meters apart (BLM 2012a). An isolate is considered a single artifact spatially discrete from any other artifacts by a minimum distance of 30 meters. A number of fragments from a single artifact are considered an isolate, such as broken bottle or ceramic vessel if no other artifacts or features are located within 30 meters. Isolated features, which lack associated artifacts or other associated features, are considered isolates, which are described, with measurements when possible. Photographs were taken in JPG format and at a minimum of 10 megapixels using 600 dpi (BLM 2012a: Appendix H). Sites were photographed, providing at least three overviews of the location and setting with information tracked on an image log. Diagnostic and/or unique historic artifacts were also photographed, such as personal items, buttons, ceramic bases with maker's marks, etc. Fragmentary or non-diagnostic historic artifacts or artifacts for which function could not be reliably described were not drawn or photographed. Additional historic artifact analysis included recording the height, diameter, and or/width of complete cans and tins, seam types, and glass bottle finish types and recording any company information such as makers marks, embossing, and other diagnostic information on glass, cans, or ceramics.

Site locations were mapped with an Ashtech Mobile Mapper 10 GPS unit with data generated to create an accurate sketch map with relative position to the APE. Additionally, GPS/GIS shapefiles are provided for all sites within this undertaking and included with the report on a disk relative to datum NAD 83, Zone 11. Previously recorded sites encountered that were found were updated according to current BLM guidelines and subject to a minimum of recordation per the BLM guidelines (2012a:10) including the GPS reference of diagnostic artifacts and site boundary plus site overview photos with an updated Intermountain Antiquities Computer System (IMACS) site form completed. An isolate table and maps are presented in Appendix C. All archaeological sites were documented in the field on an IMACS site short form (BLM 2012a: Appendix H) and architectural resources recorded on an Architectural Resources Assessment (ARA) form (Appendix D).

Linear Features

Historic linear features can be very long, often extending well outside the APE and can vary widely in their state of preservation and degree of engineering. As a result, often only segments of corridors are documented relative to an APE. The scope of historic linear feature recordation related activities includes: (1) documenting location and extent with GPS; (2) a description of engineered features, including measurements, and (3) the noting the degree of its remaining integrity. According to the "Guidelines and Standards for Archaeological Inventory" detailed by the BLM (2012a:12) requirements for recording historic linear features include recording 100 meters beyond the APE boundaries. One historic road within the APE was documented during the survey. Recorded information included reference to: "location and boundaries; description, including dimensions of the feature and any identified associated features, each of which shall be recorded and described; and setting, or the degree of alteration of the surrounding landscape past the period of use of the feature."

8. RESULTS OF INVENTORY

Field reconnaissance was completed between the dates of October 28 and November 25, 2023. Mesa Field Services surveyed 1,128 acres of archaeological inventory. As a result, 21 isolates (Appendix C), 10 archaeological sites and one historic architectural resource was recorded (Table 7; Appendix D). The sites include 8 new sites (26W13509 to 26Wa13516), and the update of three historic linear features including the Western Pacific Railroad (S2852/D352), a dismantled telegraph or telephone line (26Wa12841) on the north side of S2852/D352, and a dirt road (26Wa12851) visible on the Flanigan, NV, 7.5-minute USGS quadrangle map dating to 1964.

Table 7. Site Summaries and NRHP recommendations.

State No. 26Wa	Description	Temporal Affiliation	NRHP Eligibility (Criteria)
12841	Disassembled Telegraph Line (in ruin)	Historic	Not eligible
12851	Two track road south of S2852/D352	Historic	Not eligible
13509	Small lithic scatter	Prehistoric	Not Eligible
13510	Fire Cracked Rock scatter with two Mano fragments.	Prehistoric	Not Eligible
13511	Small lithic scatter Black Rock Concave Base	Pre-Archaic	Not Eligible
13512	Small lithic scatter with Great Basin Stemmed series point.	Pre-Archaic	Not Eligible
13513	Small lithic scatter	Prehistoric	Not Eligible
13514	Small lithic scatter	Prehistoric	Not Eligible
13515	Small lithic scatter	Prehistoric	Not Eligible
13516	Fire Cracked Rock and Groundstone Scatter	Prehistoric	Not Eligible
S2852/D352	Western Pacific Railroad (modern construction)	Historic	Non-contributing

Most sites are prehistoric lithic scatters but two are fire cracked rock scatters with (26Wa13510 and 26Wa13516), and two sites include projectile points. A Blackrock Concave Base fragment was identified with 26Wa13511 and a Great Basin Stemmed Series point identified with 26Wa13512. A basalt Great Basin Stemmed base fragment was also identified as Isolate 4. The remainder of the isolates are debitage with the exception of three slab metate fragments (Isolates 3, 14, and 18). The prehistoric occupation of the project area appears to include a Pre-Archaic occupation focused on the use of projectile points with a later Archaic assemblage focused on the use of fire and groundstone.

26Wa12841
This newly recorded historic site is a half mile recorded segment of a dismantled telephone line located on flat terrain on the north side of the Western Pacific Railroad (S2852/D352). The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The telephone line was placed immediately north and parallel to the railroad grade. It is not clear when the telephone line was built but the railroad was incorporated on March 6, 1903 and financed by a George Gould with regular freight along its route beginning on the first of December 1909 and passenger service which began in August of 1910 (Myrich 1992:318-319). Fragments occur of the hardware and insulators occasionally in the project area mainly along the north side of the present railroad grade. The site boundary is defined by the original alignment on the north side of the railroad grade (S2852/D352). A number of "HEMINGRAY" manufactured insulators were documented for a recent archaeological inventory for the proposed Praana II Washoe BESS/PSES Site project (Simpson 2021), immediately west. No intact remains or different types of hardware were observed during this latest update.

26Wa12851
This is an update or extension to a previously recorded two-track road that extends just over one-mile identified as Washoe County Road 8283. The road extends along the south side of the Western Pacific Railroad (S2852/D352) with a loop section to the south. The recorded segment extends from about a mile east of the intersection with Rainbow Road (26Wa12895). The road appears to have been bladed in the past and has a three-foot-high berm on its sides in some places. The road does not appear to have been heavily utilized historically for there are few sites or historic artifacts along its route and it is heavily overgrown. The road is a single wide road about 8 feet in width and is depicted on the Flanigan, Nev-Cal. 7.5-min USGS quadrangle map 1964. Much of the original route is still in use. No diagnostic railroad related artifacts were found along its route. It's not clear what land use activity the road is attributed to but it most likely was used to drive between railroad stations in eastern Honey Lake Valley along the Western Pacific Railroad when it was first in use in 1909 (Kneiss 1953:16).

26WA13509
This newly recorded prehistoric site is a small lithic scatter comprised of 11 pieces of debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The assemblage is comprised of late-stage reduction flakes being less than two centimeters in length and lacking cortex. The site has at most two flakes per square meter with an average of one flake every three to five meters. The artifacts are comprised of 10 red and brown chert flakes and one translucent black obsidian tertiary flake. The debitage is typical of late stage lithic reduction. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

26WA13510
This newly recorded prehistoric site is a small fire cracked rock scatter with two mano fragments. A light scatter of approximately 10 pieces of fire cracked rock or vesicular basalt. No debitage or other stone tools were observed, and the site boundary is defined by the extent of the fire cracked rock. All artifacts are the same material and the fire cracked rock scatter may represent a

disintegrated metate. The manos have facets on both sides and are fire cracked as well. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The site lacks an association with tools or temporally diagnostic artifacts.

26WA13511

This newly recorded prehistoric site is a small artifact scatter comprised of three pieces of debitage and an obsidian Black Rock Concave Base fragment (A-1) with parallel oblique pressure flake scars. Artifacts are several meters apart. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The Black Rock Concave Base fragment would suggest a Pre-Archaic (13,100 to 7,700 B.P.) occupation for the site. No other artifacts were observed.

26WA13512

This newly recorded prehistoric site is a small lithic scatter comprised of one piece of debitage and a portion of a possible contracting stem to a Great Basin Stemmed point (A-1) about six to seven meters apart. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The Great Basin Stemmed point fragment would suggest a Pre-Archaic (13,100 to 7,700 B.P.) occupation for the site. No other artifacts were observed. No other artifacts were observed.

26WA13513

This newly recorded prehistoric site is a small lithic scatter comprised of 35 pieces of debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are mostly mid to late stage with partial to no cortex. The site has at most five flakes per square meter with an average of one flake every three to five meters. The artifacts are comprised of 33 yellow, red and brown chert flakes and two translucent black obsidian secondary flakes with partial cortex. The debitage is concentrated along a low dune ridge trending in an east to west direction. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

26WA13514

This newly recorded prehistoric site is a small lithic scatter comprised of 20 pieces of debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex. The site has at most three flakes per square meter with an average of one flake every three to five meters. The artifacts are comprised of black, red, and brown chert colored chert and ten obsidian flakes. The debitage is typical of late stage lithic reduction with flakes lacking cortex. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

26WA13515

This newly recorded prehistoric site is a small lithic scatter comprised of 32 recorded pieces of debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex. The site has at most three flakes per square meter with an average of one flake every three to five meters. The artifacts are comprised of 12 red, brown, and black chert flakes, 14 translucent black obsidian tertiary flakes and six fine grained volcanic or basalt flakes. The debitage is typical of late stage lithic reduction with all but two flakes lacking cortex. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

26WA13516

This newly recorded prehistoric site is a small fire cracked rock scatter with one mano fragment (A-1) and fragments of three slab metates. A light scatter of approximately 10 pieces of fire cracked rock or vesicular basalt form the site boundary. No debitage or other stone tools were observed. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. All artifacts are the same material and the fire cracked rock scatter may represent a disintegrated parts of various groundstone tools. The mano has facets on both sides and is fire cracked as well. The slab metate fragments are formally prepared slabs with pitted or sharpened and well used surfaces. The site lacks an association with tools or temporally diagnostic artifacts.

S2852/D352

The Western Pacific Railroad, Feather River Route, between Oakland and Salt Lake City, in 1909 (Myrick 1992:318-319; Kneiss 1953:16). The portion built within Nevada was mostly built by the Utah Construction Company during the summer of 1907 and a number of stations were constructed through eastern Honey Lake basin. The current recordation is for a just over a mile-long segment one mile east of the Calneva Station (P-18-001698) on the California-Nevada Border. There was a long-distance telephone line (26Wa12841) that ran alongside and parallel to the north side of the tracks. But it has since been dismantled. The railroad grade and all materials appear to have been replaced. The grade contains ballast material mounded approximately 30 feet wide and six feet higher than surrounding ground surface. The tracks are US standard railroad gauge is 4 feet, 8.5 inches between the two rails. There are no culverts or sidings with the recorded section and the telephone line along the north side has been dismantled with only a few remaining pieces of hardware in the area. Resources with the railroad feature include modern railroad spikes and broken cast iron pieces from passing trains. No historic artifacts attributed to the railroad were identified and recorded.

9. ELIGIBILITY RECOMMENDATIONS

As a result of the inventory 21 isolates and 11 archaeological sites were recorded. The resources including 8 new sites (26Wa13509 to 26Wa13516), and updates of sections of the Western Pacific Railroad (S2852/D352) a dismantled telegraph or telephone line (26Wa12841) on the north side of S2852/D352 and a dirt road (26Wa12851) visible on the Flanigan, NV-CA, 7.5-minute USGS quadrangle maps dating to 1964. The new sites are prehistoric sites two of which include a Great Basin Stemmed point (26Wa13512) and a Black Rock Concave Base (26Wa13511).

All prehistoric sites (26Wa13509 to 26Wa13516) are comprised of limited artifact scatters lacking diagnostic artifacts or an adequate sample of obsidian for hydration analysis and are recommended not eligible to the NRHP under any of the four nationally derived criteria for prehistoric sites as developed for the current undertaking. The prehistoric sites cannot address important research questions for prehistoric sites outlined for the current investigation. Sites that lack a temporal affiliation lack a historic context within which it can be evaluated (NPS 1995:22). Pre-Archaic period sites 26Wa13511 and 26Wa13512 lack a secondary source of diagnostic information such as an adequate sample of obsidian artifact for obsidian hydration analysis or buried subsurface datable deposits. We agree with prior evaluations for the dismantled telegraph or telephone line (26Wa12841) and dirt road (26Wa12851) that they are not eligible for listing to the NRHP. The recorded segment of the Western Pacific Railroad (S2852) within the APE is of modern construction and considered a non-contributing element to the district (D352).

26Wa12841

The site constitutes a recorded segment of a historic era telephone line along the north side the Western Pacific Railroad first in operation in 1910. According to Johnson (2006:63) a utility line should be considered a linear feature and evaluated as part of an entire utility system under Criteria A and B with the recorded portion or segment within a project area evaluated under Criteria C and D as a contributing or non-contributing element. The line was installed in possible as early as 1910. A search of archival information does not support the use of the line by a particular significant individual in the development of the Western Pacific Railroad and the site is recommended not eligible to the NRHP under Criteria A and B. Only a few pieces of hardware are all that remains of the system which does not appear to represent the remains of a unique system. Therefore, the recorded segment does not represent unique architecture or constructed elements or the remains of a system specifically important to developments for the area and is recommended not eligible to the NRHP under Criterion C. The recorded segment has been mostly dismantled and the remaining hardware have been fully recorded in the field with little to no additional information remaining. Since the recorded segment does not contain unique engineered features or evidence for work camps it cannot address important research questions and issues attributed to communication lines developed for the current investigation and is recommended not eligible to the NRHP under Criterion D. According to the United State Forest Service recorded segments of a telecommunication line that lack unique engineered features or have been severely altered by vandalism, removal of poles, or removal of insulators are considered not eligible under all criteria (Dunkelberger 2015:127). If additional segments of the telephone line can be identified that are more intact with significant research potential the site may be considered eligible to the NRHP under Criteria C or D. However, the current recorded segment should be considered a non-contributing element.

26Wa12851

This short and simple two-track road depression is recommended not eligible to the NRHP under any of the four developed criteria for the current undertaking. Although the road parallels the south side of the Western Pacific Railroad (S2852/D352) it is not clear how old the feature is or specifically what type of land use activity it is specifically attributed to. The historic site is recommended not eligible to the NRHP under Criterion A for it cannot be directly linked to a specific important event in local or national history. Therefore, the historic site is recommended not eligible to the NRHP under Criterion B for it cannot be directly linked with archival support to a specific important person in local or national history as identified in the developed context for the current undertaking. The two-track road depression is recommended not eligible to the NRHP under Criterion C for it is not an example of an innovative design or an example of a unique technological adaptation to local resource conditions. The site contains no indication of intact subsurface cultural deposits with debris likely attributed to the surface. The site is a simple two-track depression limited to the eastern Honey Lake Valley that does not address important research themes and issues related to the theme of transportation developed for the current undertaking and is recommended not eligible to the NRHP under Criterion D.

26WA13509

The prehistoric site consists of a limited debitage scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake Valley marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

26WA13510

The prehistoric site consists of a limited groundstone and fire cracked rock scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance

of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake Valley marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

26WA13511

The prehistoric site consists of a limited debitage scatter and a Pre-Archaic period projectile point. The site does not appear to have an association and datable subsurface deposits, obsidian for hydration readings, or other type of chronometric indicators that can refine relative chronologies. Unless significant subsurface deposits or a significant quantity of obsidian artifacts suitable for obsidian hydration analysis are present the research potential of the prehistoric site is limited. Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake Valley marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of three artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists or a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. Therefore, the prehistoric site cannot address important research questions outlined for prehistoric sites for the current investigation.

26WA13512

The prehistoric site consists of a limited debitage scatter and a Pre-Archaic period projectile point. The site does not appear to have an association and datable subsurface deposits, obsidian for hydration readings, or other type of chronometric indicator that can refine relative chronologies. Unless significant subsurface deposits or a significant quantity of obsidian artifacts suitable for obsidian hydration analysis the research potential of the prehistoric site is limited. Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake Valley marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is

recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists or a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. Therefore, the prehistoric site cannot address important research questions outlined for prehistoric sites for the current investigation.

26WA13513

The prehistoric site consists of a limited debitage scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake Valley marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

26WA13514

The prehistoric site consists of a limited debitage scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake Valley marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

26WA13515

The prehistoric site consists of a limited debitage scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake Valley marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

26WA13516

The prehistoric site consists of a limited groundstone and fire cracked rock scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake Valley marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

S2852/D352

The Western Pacific Railroad, Feather River Route has been designated a district resource (D352) and is considered eligible for listing to the NRHP by the Nevada State Historic Preservation Office (SHPO). Although the site is considered eligible the original materials associated with the

recorded segment have all been replaced with modern counterparts and the recorded segment is recommended a non contributing element according to the established criteria for railroads outlined for the current investigation. Although there is archival information that indicates the route built in Nevada was constructed by the Utah Construction Company during the summer of 1907 the company is not identified with a significant person or event in local or national history. Archival information is lacking that would link the construction and use of the railroad with a significant individual or event in southern Nevada outlined in the context section of this report and the site is recommended not eligible to the NRHP under Criteria A and B. The recorded segments lack integrity of materials and are recommended not eligible to the NRHP under Criteria C and D. The Western Pacific Railroad is a modern gauge railroad bed that is not unique and does not include original materials.

Prior recordings of the Western Pacific Railroad, Feather River Route have resulted in the evaluation of the line as not eligible under Criteria A and B and Criteria C and D due to the lack of integrity of original features. Mesa Field Services agrees with the prior recommendations. According to the State Protocol Agreement between the BLM, Nevada and the Nevada State Historic Preservation Office (SHPO; 2012a:43-44), maintenance that is not consistent with its historic use compromises the integrity of a historic resource. The removal of much of the components due to salvage, destruction such as fire, or any other type of activity of calamity leaves the physical remains more or less un-intact and lacking integrity of materials. A railroad should display sufficient integrity to discern construction methods and maintenance techniques and lack vandalism or other damages. Few artifacts were observed along the length of the recorded segment, and it cannot address important research themes and issues attributed to its construction and use developed for the current investigation.

10. MANAGEMENT RECOMMENDATIONS

All prehistoric sites (26Wa13509 to 26Wa13516) are comprised of limited artifact scatters lacking diagnostic artifacts or an adequate sample of obsidian for hydration analysis and are recommended not eligible to the NRHP under any of the four nationally derived criteria for prehistoric sites as developed for the current undertaking. We agree with prior evaluations for the dismantled telegraph or telephone line (26Wa12841) and dirt road (26Wa12851) that they are not eligible for listing to the NRHP. The recorded segment of the Western Pacific Railroad (S2852) within the APE is of modern construction and considered a non-contributing element to the district (D352).

11. SUMMARY/DISCUSSION/CONCLUSIONS

Between the dates of October 29 and November 25, 2023, archaeologist Sean Simpson and Joshua Soto with MFS conducted a Class III archaeological survey for the proposed SBS Sunseeker BESS/PSES Project, Washoe County, Nevada. The APE is on private lands with the archaeological inventory to be completed in fulfillment of Section 106 for the Utilities Environmental Protection Act (UEPA) administered by the Public Utilities Commission of Nevada (PUCN). As a result of the survey 21 isolates, and 11 archaeological sites were recorded. The resources including 8 new prehistoric sites (26W13509 to 26Wa13516), and the update of three linear historic sites. The updates include the Western Pacific Railroad (S2852/D352), a dismantled telegraph or telephone line (26Wa12841) on the north side of S2852/D352, and a dirt road (26Wa12851) visible on the Flanigan, NV-CA, and State Line Peak NV, 7.5-minute USGS quadrangle map dating to 1964.

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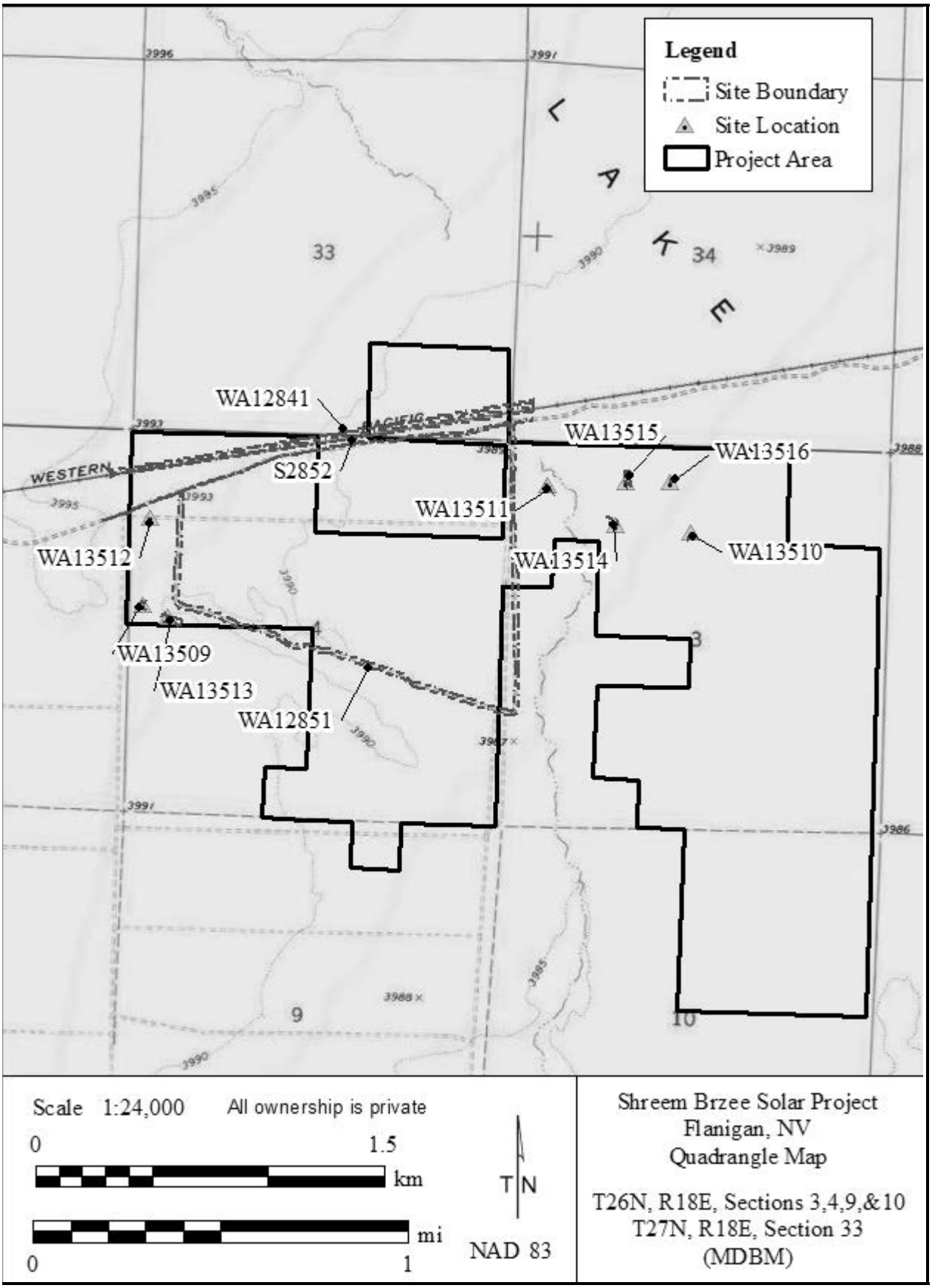
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APPENDIX A: PROJECT AREA MAP RESULTS


Legend
Site Boundary
Site Location
Project Area
WA12841
S2852
WA13515
WA13516
WA13511
WA13512
WA13514
WA13510
WA13509
WA13513
WA12851
WESTERN
PACIFIC
LAKE
33
34
3
4
9
10
Scale 1:24,000
All ownership is private
0
1.5
km
mi
0
1
T N
NAD 83
Shreem Brzee Solar Project
Flanigan, NV
Quadrangle Map
T26N, R18E, Sections 3,4,9,&10
T27N, R18E, Section 33
(MDBM)

APPENDIX B: IMAGE LOG

Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
01	26Wa13509	Site overview	110º	246262	4448859	10/29/23
02	26Wa13509	Site overview	320º	246299	4448833	10/29/23
03	26Wa13512	A-1: Side A, basalt Gt. Basin Stemmed base fragment	Plan	246315	4449233	10/29/23
04	26Wa13512	A-1: Side B, basalt Gt. Basin Stemmed base fragment	Plan	246315	4449233	10/29/23
05	26Wa13512	A-1: Profile, basalt Gt. Basin Stemmed base fragment	Profile	246315	4449233	10/29/23
06	26Wa13512	Site overview	360º	246314	4449222	10/29/23
07	26Wa13512	Site overview	180º	246315	4449236	10/29/23
08	26Wa13513	Site overview	300º	246449	4448779	10/29/23
09	26Wa13513	Site overview	120º	246358	4448815	10/29/23
10	Isolate 4	Side A, basalt Gt. Basin Stemmed base fragment, 2.9 cm x 3 cm x 0.7 cm	Plan	246915	4449257	10/30/23
11	Isolate 4	Side B, basalt Gt. Basin Stemmed base fragment, 2.9 cm x 3 cm x 0.7 cm	Plan	246915	4449257	10/30/23
12	Isolate 4	Basalt Gt. Basin Stemmed base fragment, 2.9 cm x 3 cm x 0.7 cm	Profile	246915	4449257	10/30/23
13	Isolate 8	Cadastral Marker "1973"	Plan	248691	4449533	10/31/23
14	Isolate 8	Cadastral Marker "1973"	Profile	248691	4449533	10/31/23
15	Isolate 18	Side A, Fine Grained Volcanic, slab metate fragment, 2.9 cm x 2 cm x 4.5 cm	Plan	248374	4449130	11/01/23
16	Isolate 18	Side B, Fine Grained Volcanic, slab metate fragment, 2.9 cm x 2 cm x 4.5 cm	Plan	248374	4449130	11/01/23
17	Isolate 18	Fine Grained Volcanic, slab metate fragment, 2.9 cm x 2 cm x 4.5 cm	Profile	248374	4449130	11/01/23
18	26Wa13510	A-1: Side A	Plan	248633	4449163	11/05/23
19	26Wa13510	A-1: Side B	Plan	248633	4449163	11/05/23

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
20	26Wa13510	A-1: Profile	Profile	248633	4449163	11/05/23
21	26Wa13510	A-2: Side A	Plan	248629	4449149	11/05/23
22	26Wa13510	A-2: Side B	Plan	248629	4449149	11/05/23
23	26Wa13510	A-2: Profile	Profile	248629	4449149	11/05/23
24	26Wa13510	Site overview	180º	248634	4449180	11/05/23
25	26Wa13510	Site overview	20º	248625	4449141	11/05/23
26	26Wa13514	Site overview	350º	248315	4449219	11/05/23
27	26Wa13514	Site overview	130º	248276	4449240	11/05/23
28	26Wa13511	A-1: Side A, (BI) Black Rock Concave Base fragment	Plan	248023	4449372	11/05/23
29	26Wa13511	A-1: Side B, (BI) Black Rock Concave Base fragment	Plan	248023	4449372	11/05/23
30	26Wa13511	A-1: Profile, (BI) Black Rock Concave Base fragment	Profile	248023	4449372	11/05/23
31	26Wa13511	Site overview	150º	248020	4449379	11/05/23
32	26Wa13511	Site overview	340º	248037	4449378	11/05/23
33	26Wa13515	Site overview	360º	248372	4449352	11/05/23
34	26Wa13515	Site overview	140º	248352	4449442	11/05/23
35	26Wa13516	A-1: Side A	Plan	248559	4449391	11/05/23
36	26Wa13516	A-1: Side B	Plan	248559	4449391	11/05/23
37	26Wa13516	A-1: Profile	Profile	248559	4449391	11/05/23
38	26Wa13516	A-2: Side A	Plan	248561	4449389	11/05/23
39	26Wa13516	A-2: Side B	Plan	248561	4449389	11/05/23
40	26Wa13516	A-2: Profile	Profile	248561	4449389	11/05/23
41	26Wa13516	A-3: Side A	Plan	248562	4449387	11/05/23
42	26Wa13516	A-3: Side B	Plan	248562	4449387	11/05/23
43	26Wa13516	A-3: Profile	Profile	248562	4449387	11/05/23
44	26Wa13516	A-4: Side A	Plan	248568	4449386	11/05/23
45	26Wa13516	A-4: Side B	Plan	248568	4449386	11/05/23
46	26Wa13516	A-4: Profile	Profile	248568	4449386	11/05/23

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
47	26Wa13516	Site overview	110º	248546	4449396	11/05/23
48	26Wa13516	Site overview	270º	248567	4449392	11/05/23

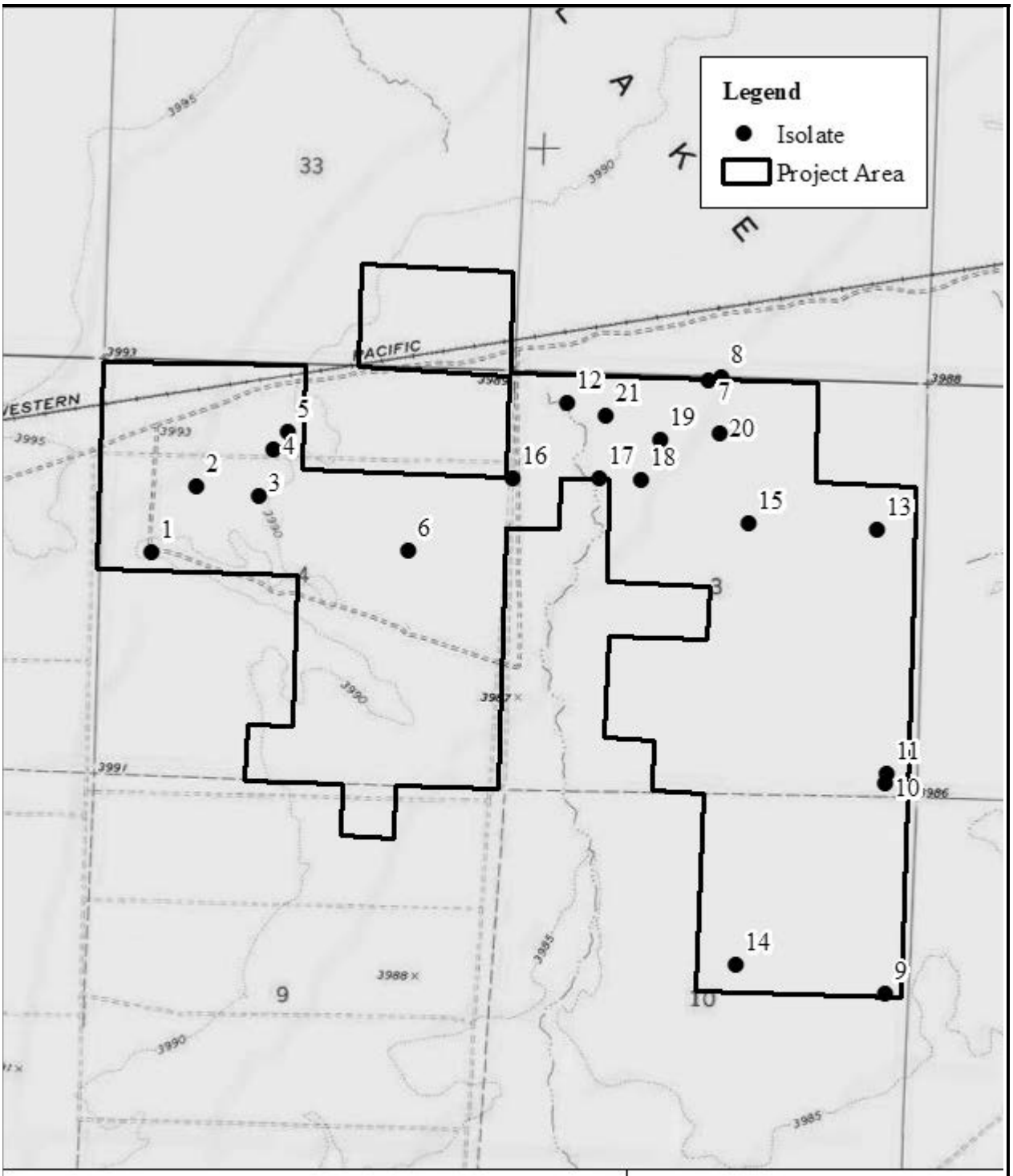
Mesa Field Services
Image Log 2

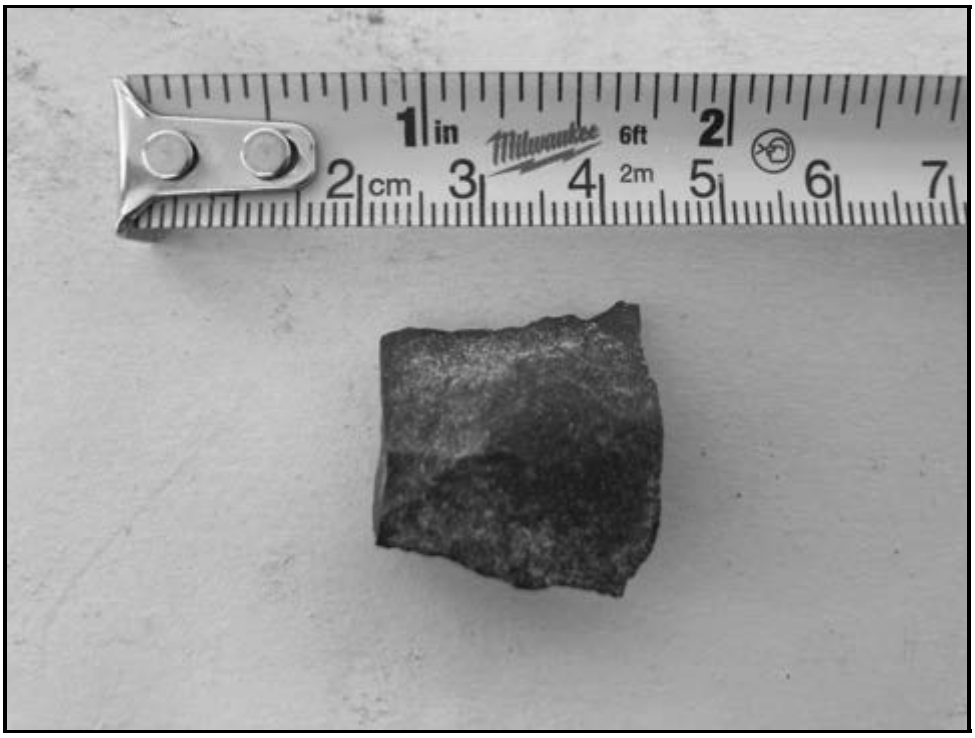
No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
01	26Wa12841	Site overview	90º	246230	4449446	11/25/23
02	26Wa12841	Site overview	270º	246230	4449446	11/25/23
03	26Wa12841	Site overview	90º	247870	4449721	11/25/23
04	26Wa12841	Site overview	270º	247870	4449721	11/25/23
05	26Wa12851	Site overview	270º	246452	4449348	11/25/23
06	26Wa12851	Site overview	90º	246452	4449348	11/25/23
07	26Wa12851	Site overview	180º	246452	4449348	11/25/23
08	26Wa12851	Site overview	180º	247874	4449685	11/25/23

APPENDIX C: ISOLATES

Isolate Summary

Isolate Number	Description	UTM Coordinates		Legal Location
		Easting	Northing	
1	Yellow chert tertiary flake	264433	4448841	SW¼ SW¼ NW¼ of Section 4, T26N, R18E
2	Red chert tertiary flake	246590	4449136	NE¼ SE¼ NW¼ of Section 4, T26N, R18E
3	Fine grained volcanic formal, slab, metate fragment, with one preserved facet. 16 cm. in length.	246858	4449069	SW¼ SW¼ NW¼ of Section 4, T26N, R18E
4	Basalt Gt. Basin Stemmed base fragment 2.2 x 2.5 x 0.9 cm.	246915	4449257	SE¼, NE¼, NW¼ of Section 4, T26N, R18E
5	Yellow chert shatter	246973	4449319	SE¼, NE¼, NW¼ of Section 4, T26N, R18E
6	Red chert shatter	247446	4448851	SW¼ SE¼ NE¼ of Section 4, T26N, R18E
7	Obsidian biface tool with unifacial use wear	248636	4449524	NE¼ NE¼ NW¼ of Section 3, T26N, R18E
8	1973 Cadestral Marker, 8 in. high 3½ in. diameter on a 4 x 4 post	248691	4449533	NE¼ NE¼ NW¼ of Section 3, T26N, R18E
9	Large red chert shatter	249331	4447101	SE¼ SE¼ NE¼ of Section 10, T26N, R18E
10	Utilized basalt tertiary flake, unifacial use wear	249334	4447928	SE¼ SE¼ SE¼ of Section 3, T26N, R18E
11	Utilized basalt tertiary flake, unifacial use wear	249336	4447967	SE¼ SE¼ SE¼ of Section 3, T26N, R18E
12	Red chert tertiary flake	248080	4449437	NW¼ NW¼ NW¼ of Section 3, T26N, R18E
13	Brown chert secondary flake	249300	4448932	NE¼ SE¼ NE¼ of Section 3, T26N, R18E
14	Fine grained volcanic mano fragment 6 cm in length	248744	4447209	SW¼ SW¼ NE¼ of Section 10, T26N, R18E
15	Whiter chert tertiary flake	248797	4448957	SW¼ NW¼ NW¼ of Section 3, T26N, R18E
16	Red chert tertiary flake	247863	4449138	SE¼ NW¼ NW¼ of Section 3, T26N, R18E
17	Basalt tertiary flake	248766	4449137	SW¼ NE¼ NW¼ of Section 3, T26N, R18E
18	Fine grained volcanic slab metate, 24 x 20 x 4.5 cm. one facet and evidence for sharpening or pitting.	248374	4449130	SW¼ NE¼ NW¼ of Section 3, T26N, R18E
19	Red chert tertiary flake	248479	4449289	NE¼ NE¼ NW¼ of Section 3, T26N, R18E
20	Obsidian tertiary flake	248684	4449313	NE¼ NE¼ NW¼ of Section 3, T26N, R18E
21	Obsidian tertiary flake	248226	4449333	NE¼ NW¼ NW¼ of Section 3, T26N, R18E


Legend
Isolate
Project Area
33
PACIFIC
WESTERN
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
Scale 1:24,000
All ownership is private
0
1.5
km
mi
0
1
T N
NAD 83
Sun Seek Solar
Flanigan, CA-NV
Quadrangle Map
T26N, R18E, Sections 3,4,9,&10
T27N, R18E, Section 33
(MDBM)



Log 1, Image 10, Isolate 4, Side A, basalt Gt. Basin Stemmed base fragment, 2.9 cm x 3 cm x 0.7 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 246915 E/ 4449257 N



Log 1, Image 11, Isolate 4, Side B, basalt Gt. Basin Stemmed base fragment, 2.9 cm x 3 cm x 0.7 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 246915 E/ 4449257 N



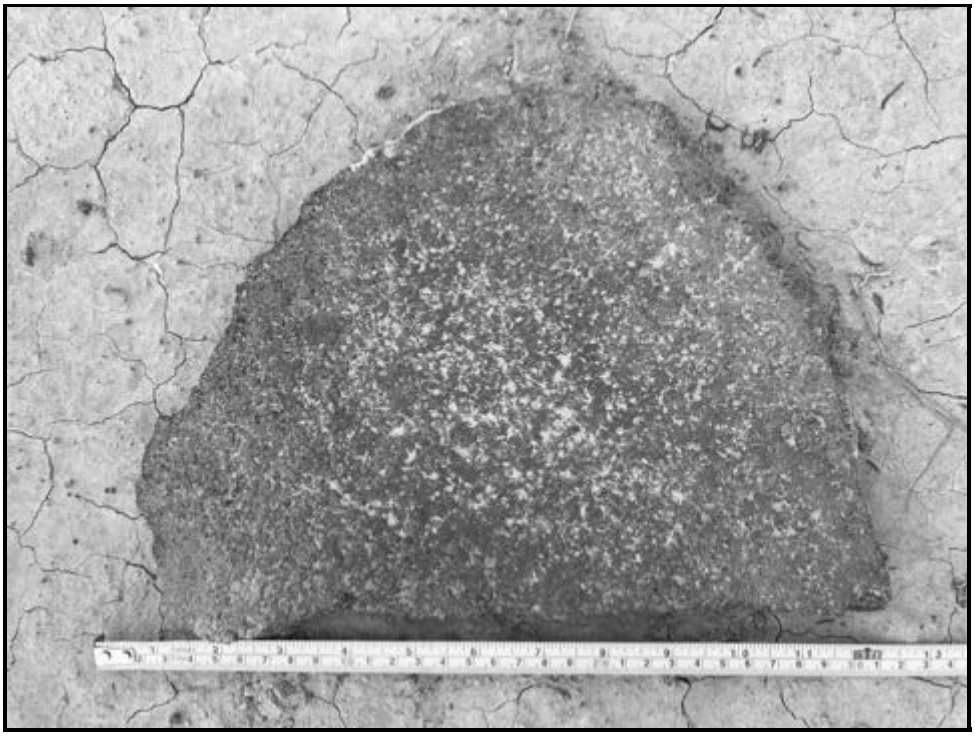
Log 1, Image 12, Isolate 4, Profile, basalt Gt. Basin Stemmed base fragment, 2.9 cm x 3 cm x 0.7 cm (Profile)
Shreem Brzee Solar Project, UTM Zone 11, 246915 E/ 4449257 N



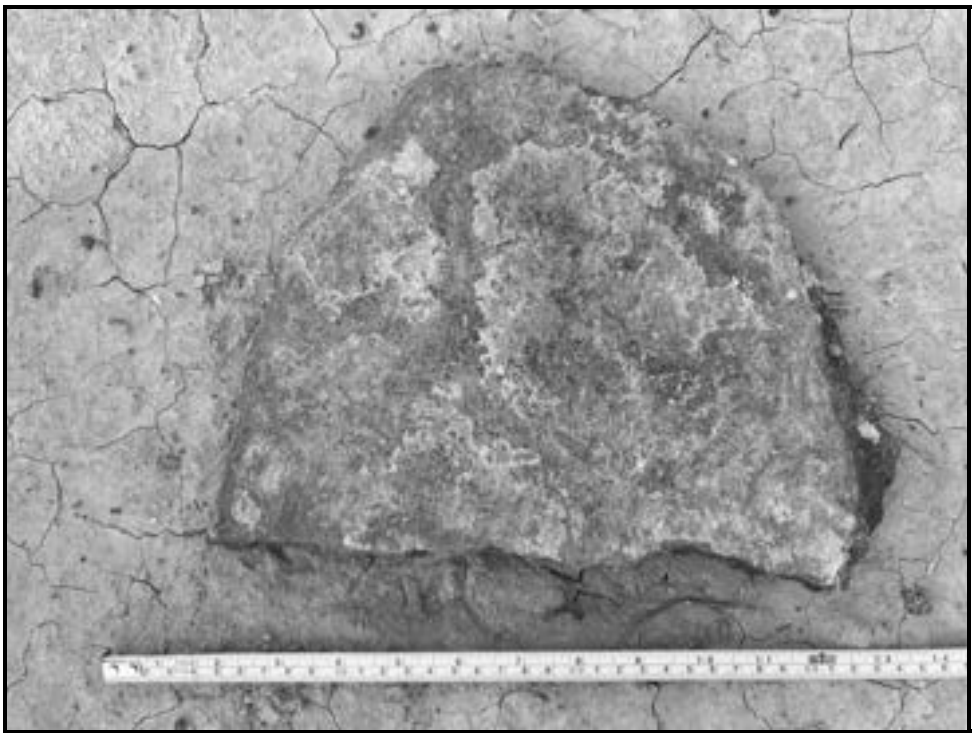
Log 1, Image 13, Isolate 8, Cadastral Marker “1973” (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248691 E/ 4449533 N



Log 1, Image 14, Isolate 8, Cadastral Marker “1973” (Profile)
Shreem Brzee Solar Project, UTM Zone 11, 248691 E/ 4449533 N



Log 1, Image 15, Isolate 18, Side A, Fine Grained Volcanic, slab metate fragment, 2.9 cm x 2 cm x 4.5 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248374 E/ 4449130 N



Log 1, Image 16, Isolate 18, Side B, Fine Grained Volcanic, slab metate fragment, 2.9 cm x 2 cm x 4.5 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248374 E/ 4449130 N



Log 1, Image 17, Isolate 18, Fine Grained Volcanic, slab metate fragment, 2.9 cm x 2 cm x 4.5 cm (Profile)
Shreem Brzee Solar Project, UTM Zone 11, 248374 E/ 4449130 N

APPENDIX D: ARA AND IMACS FORMS

Eligibility: Unevaluated __ Not eligible_X_ Eligible __ Criteria: A__B__C__D__ by: concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa12841
2. County: Washoe
3. BLM Site No: Not Applicable
4. Project Name: A Class III Inventory for the Shreem Brzee Solar Project, Washoe County, Nevada

5. Temporary/Field Site No: N/A
6. BLM Report No: Not Applicable

7. Site/Property Name:
8. Site Class: Historic
Historic Theme/Affiliation: Communication (CM)
Site area: 15 m N/S by 1,850 m E/W
Age: 1907+ **Dating Method:** (F) Cross-Dating/Diag. Artifacts

Depth of Cultural Fill: surface

9. Site description:
This newly recorded historic site is a half mile recorded segment of a dismantled telephone line located on flat terrain on the north side of the Western Pacific Railroad (S2852/D352). The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The telephone line was placed immediately north and parallel to the railroad grade. It is not clear when the telephone line was built but the railroad was incorporated on March 6, 1903 and financed by a George Gould with regular freight along its route beginning on the first of December 1909 and passenger service which began in August of 1910 (Myrich 1992:318-319). Fragments occur of the hardware and insulators occasionally in the project area mainly along the north side of the present railroad grade. The site boundary is defined by the original alignment on the north side of the railroad grade (S2852/D352). A number of "HEMINGRAY" manufactured insulators were documented for a recent archaeological inventory for the proposed Praana II Washoe BESS/PSES Site project (Simpson 2021), immediately west. No intact remains or different types of hardware were observed during this latest update.

National Register Justification:
The site constitutes a recorded segment of a historic era telephone line along the north side the Western Pacific Railroad first in operation in 1910. According to Johnson (2006:63) a utility line should be considered a linear feature and evaluated as part of an entire utility system under Criteria A and B with the recorded portion or segment within a project area evaluated under Criteria C and D as a contributing or non-contributing element. The line was installed in possible as early as 1910. A search of archival information does not support the use of the line by a particular significant individual in the development of the Western Pacific Railroad and the site is recommended not eligible to the NRHP under Criteria A and B. Only a few pieces of hardware are all that remains of the system which does not appear to represent the remains of a unique system. Therefore, the recorded segment does not represent unique architecture or constructed elements or the remains of a system specifically important to developments for the area and is recommended not eligible to the NRHP under Criterion C. The recorded segment has been mostly dismantled and the remaining hardware have been fully recorded in the field with little to no additional information remaining. Since the recorded segment does not contain unique engineered features or evidence for work camps it cannot address important research questions and issues attributed to communication lines developed for the current investigation and is recommended not eligible to the NRHP under Criterion D. According to the United State Forest Service recorded segments of a telecommunication line that lack unique engineered features or have been severely altered by vandalism, removal of poles, or removal of insulators are considered not eligible under all criteria (Dunkelberger 2014:127). If additional segments of the telephone line can be identified that are more intact with significant research potential the site may be considered eligible to the NRHP under Criteria C or D. However, the current recorded segment should be considered a non-contributing element.

10. Elevation: 3,993 ft.
11. UTM Grid: Zone 11, 246134mE 4449438m N NAD 83 (West End)
247961m E 4449740m N NAD 83 (East End)

12. Township/Range (to quarter section only): NE¼ NE¼ of Section 4 and N½ NW¼ of Section 5 of Township 26 North, Range 18 East, and S½ SE¼ of Section 33 and the SW¼ SW¼ of Section 34 of Township 27 North, Range 18 East

13. Meridian: Mt. Diablo **14. Map Reference:** *Flanigan, Nev.* 7.5-min USGS quad. 1964 (Photorevised, 1981)
15. Land Owner: Private **16. BLM District and Field Office:** N/A
17. Photographs (attach photo log): Log 2, Images 1 through 4
18. Recorded by: S. Simpson **Date:** 11/25/2023 **19. Survey Organization:** Mesa Field Services
20. Distance to Permanent Water (meters X 100): 11.2 **Type:** Spring
21. Geographic Unit: Honey Lake Valley (BMG)
22. Topographic Location/Primary Landform: Valley
23. Depositional Context: Alluvial Plain **24. Vegetation Community (primary only):** Little Sagebrush

Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

Count	Density m²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
6+/-	1	Copper	(WI) Wire		Telegraph or telephone wire
140+/-	1	Glass	(G7) Insulators	Fragments	Aqua color

Bibliography:

Dunkelberger, W.
2015 *Humboldt-Toiyabe National Forest Interim Guidelines and Standards for Archaeological Inventory for Archaeological Contractors Working in Nevada.* Revised Interim Draft. Humboldt-Toiyabe National Forest.

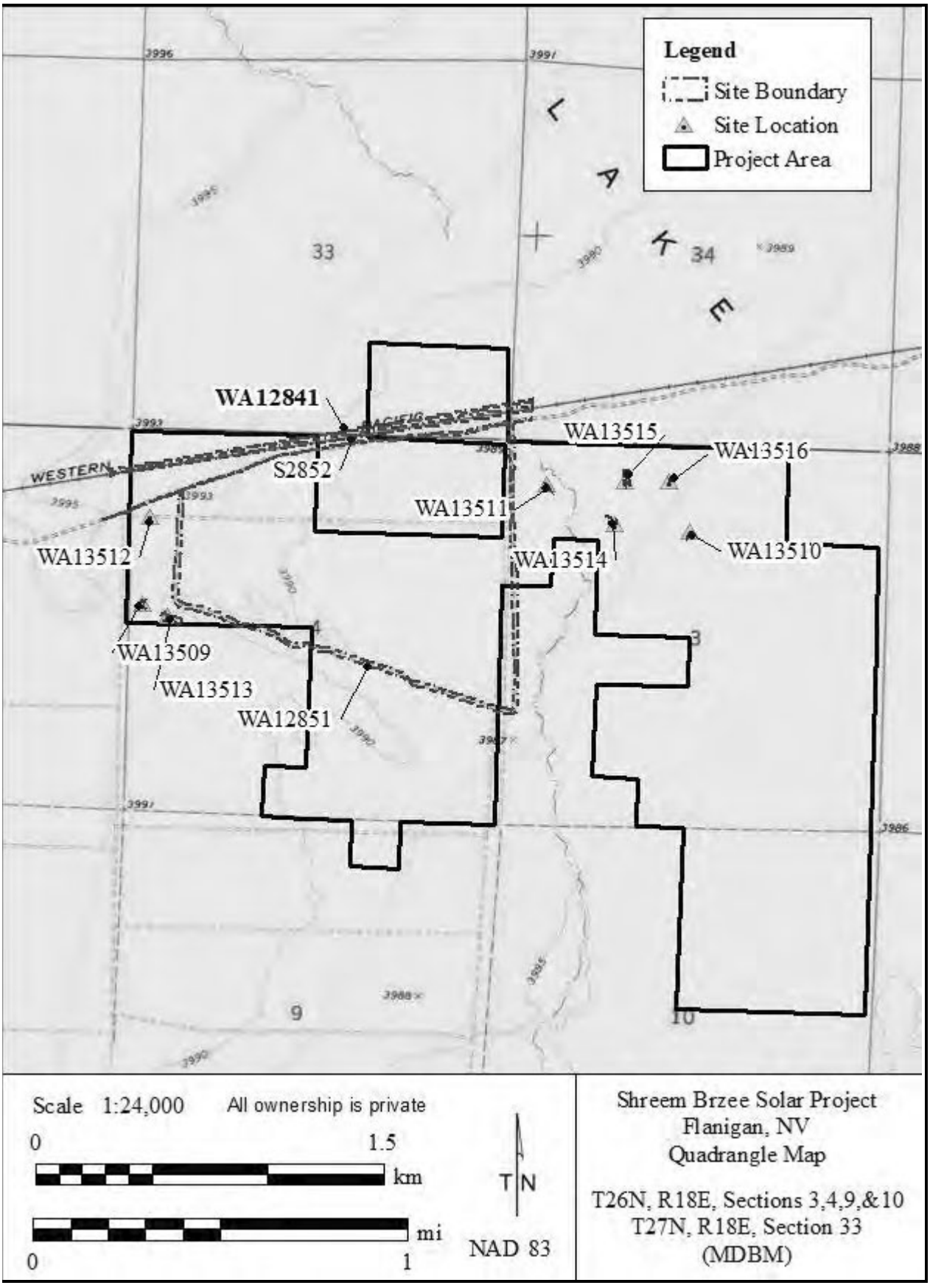
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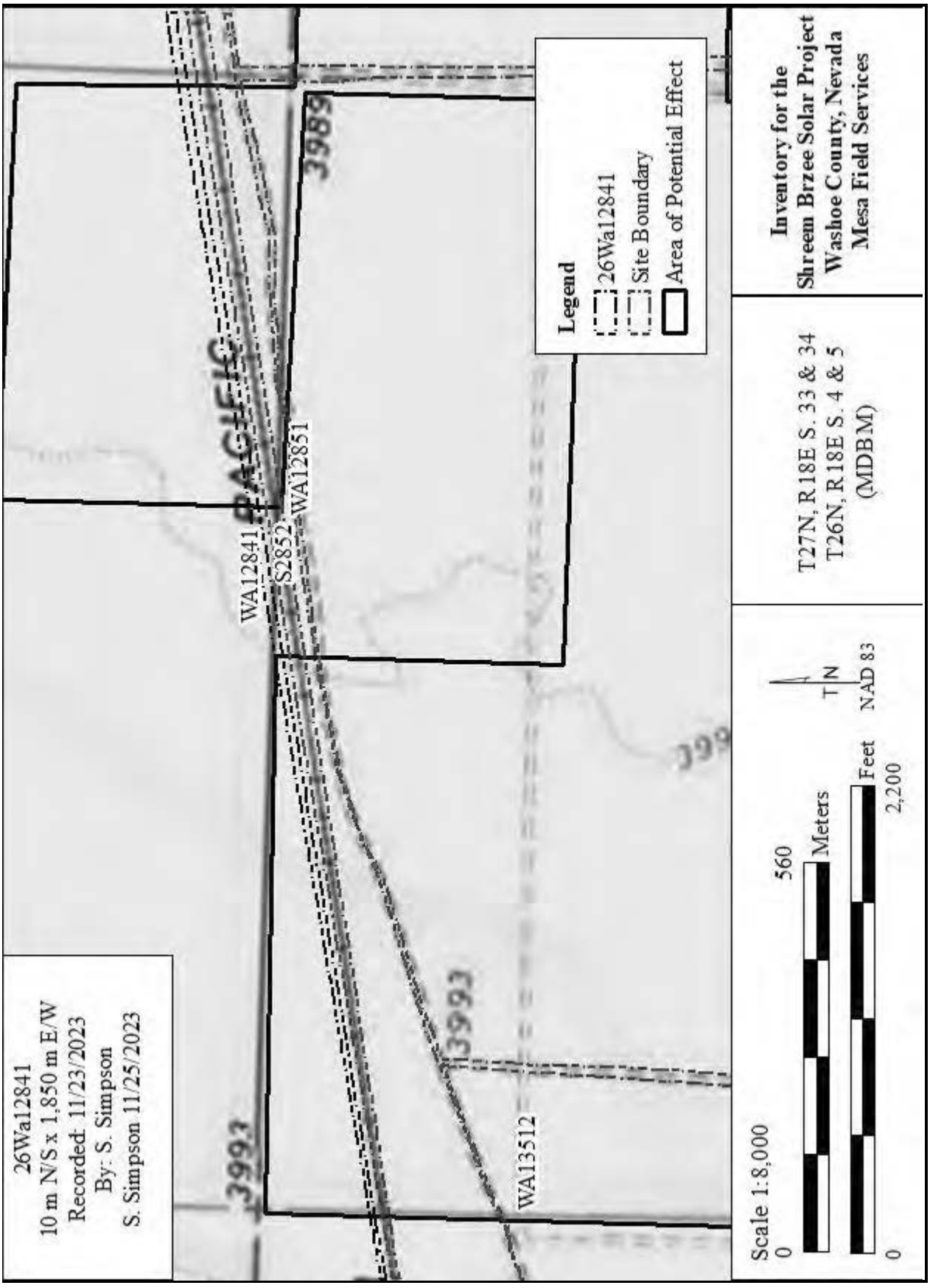
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Simpson
2021 *A Class III Cultural Inventory for the PRAANA II Washoe BESS/PSES Site Project, Washoe County, Nevada.* Prepared for Sierra Geotech DBE, Inc.

Attachments: 7.5-minute USGS Location Map; Site Sketch Map; photographs


Legend
Site Boundary
Site Location
Project Area
WA12841
S2852
WA13515
WA13516
WA13511
WA13512
WA13514
WA13510
WA13509
WA13513
WA12851
WESTERN
33
34
3
4
9
10
Scale 1:24,000
All ownership is private
0
1.5
km
mi
0
1
T N
NAD 83
Shreem Brzee Solar Project
Flanigan, NV
Quadrangle Map
T26N, R18E, Sections 3,4,9,&10
T27N, R18E, Section 33
(MDBM)


26Wa12841
10 m N/S x 1,850 m E/W
Recorded: 11/23/2023
By: S. Simpson
S. Simpson 11/25/2023
Legend
26Wa12841
Site Boundary
Area of Potential Effect
Inventory for the
Shreem Brzee Solar Project
Washoe County, Nevada
Mesa Field Services
T27N, R18E S. 33 & 34
T26N, R18E S. 4 & 5
(MDBM)
Scale 1:8,000
0
560
Meters
0
2,200
Feet
NAD 83
N
WA12841
S2852
WA12851
WA13512
3993
3989

Mesa Field Services
Image Log 2

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
01	26Wa12841	Site overview	90º	246230	4449446	11/25/23
02	26Wa12841	Site overview	270º	246230	4449446	11/25/23
03	26Wa12841	Site overview	90º	247870	4449721	11/25/23
04	26Wa12841	Site overview	270º	247870	4449721	11/25/23



Log 2, Image 1, 26Wa12841, Site overview (270º)
Shreem Brzee Solar Project, UTM Zone 11, 246230 E/ 4449446 N



Log 2, Image 2, 26Wa12841, Site overview (90º)
Shreem Brzee Solar Project, UTM Zone 11, 246230 E/ 4449446 N



Log 2, Image 3, 26Wa12841, Site overview (270º)
Shreem Brzee Solar Project, UTM Zone 11, 247870 E/ 4449721 N



Log 2, Image 4, 26Wa12841, Site overview (90º)
Shreem Brzee Solar Project, UTM Zone 11, 247870 E/ 4449721 N

Eligibility: Unevaluated __ Not eligible_X_ Eligible __ Criteria: A__B__C__D__ by: concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa12851
2. County: Washoe
3. BLM Site No: Not Applicable
4. Project Name: A Class III Inventory for the Shreem Brzee Solar Project, Washoe County, Nevada

5. Temporary/Field Site No: N/A
6. BLM Report No: Not Applicable

7. Site/Property Name:
8. Site Class: Historic
Historic Theme/Affiliation: (ZZ) Unknown
Site area: 3 m N/S x 3,150 m N/S
Age: 1909 **Dating Method:** (I) Historical Record

Depth of Cultural Fill: surface

9. Site description:
This is an update or extension to a previously recorded two-track road that extends just over one-mile identified as Washoe County Road 8283. The road extends along the south side of the Western Pacific Railroad (S2852/D352) with a loop section to the south. The recorded segment extends from about a mile east of the intersection with Rainbow Road (26Wa12895). The road appears to have been bladed in the past and has a three-foot-high berm on its sides in some places. The road does not appear to have been heavily utilized historically for there are few sites or historic artifacts along its route and it is heavily overgrown. The road is a single wide road about 8 feet in width and is depicted on the Flanigan, Nev-Cal. 7.5-min USGS quadrangle map 1964. Much of the original route is still in use. No diagnostic railroad related artifacts were found along its route. It's not clear what land use activity the road is attributed to but it most likely was used to drive between railroad stations in eastern Honey Lake Valley along the Western Pacific Railroad when it was first in use in 1909 (Kneiss 1953:16).

National Register Justification:
This short and simple two-track road depression is recommended not eligible to the NRHP under any of the four developed criteria for the current undertaking. Although the road parallels the south side of the Western Pacific Railroad (S2852/D352) it is not clear how old the feature is or specifically what type of land use activity it is specifically attributed to. The historic site is recommended not eligible to the NRHP under Criterion A for it cannot be directly linked to a specific important event in local or national history. Therefore, the historic site is recommended not eligible to the NRHP under Criterion B for it cannot be directly linked with archival support to a specific important person in local or national history as identified in the developed context for the current undertaking. The two-track road depression is recommended not eligible to the NRHP under Criterion C for it is not an example of an innovative design or an example of a unique technological adaptation to local resource conditions. The site contains no indication of intact subsurface cultural deposits with debris likely attributed to the surface. The site is a simple two-track depression limited to the eastern Honey Lake Valley that does not address important research themes and issues related to the theme of transportation developed for the current undertaking and is recommended not eligible to the NRHP under Criterion D.

10. Elevation: 3,995 ft.
11. UTM Grid: Zone 11, 247950mE 4449600m N NAD 83 (East End)
246100m E 4449210m N NAD 83 (West End)
12. Township/Range (to quarter section only): SE¼ of Section 33 and SW¼ of Section 34, Township 27 North, Range 17 East and the NW¼ and SW¼ of Section 3 and NW¼ and NW¼ and SE¼ of Section 4 of Township 26 North, Range 18 East
13. Meridian: Mt. Diablo
14. Map Reference: *Flanigan, Nev.* 7.5-min USGS quad. 1964 (Photorevised, 1981)
15. Land Owner: Private
16. BLM District and Field Office: N/A
17. Photographs (attach photo log): Log 2, Images 5 through 89
18. Recorded by: S. Simpson **Date:** 11/25/2023
19. Survey Organization: Mesa Field Services
20. Distance to Permanent Water (meters X 100): 11.2 **Type:** Spring
21. Geographic Unit: Honey Lake Valley (BMG)
22. Topographic Location/Primary Landform: Valley
23. Depositional Context: Alluvial Plain
24. Vegetation Community (primary only): Little Sagebrush

Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

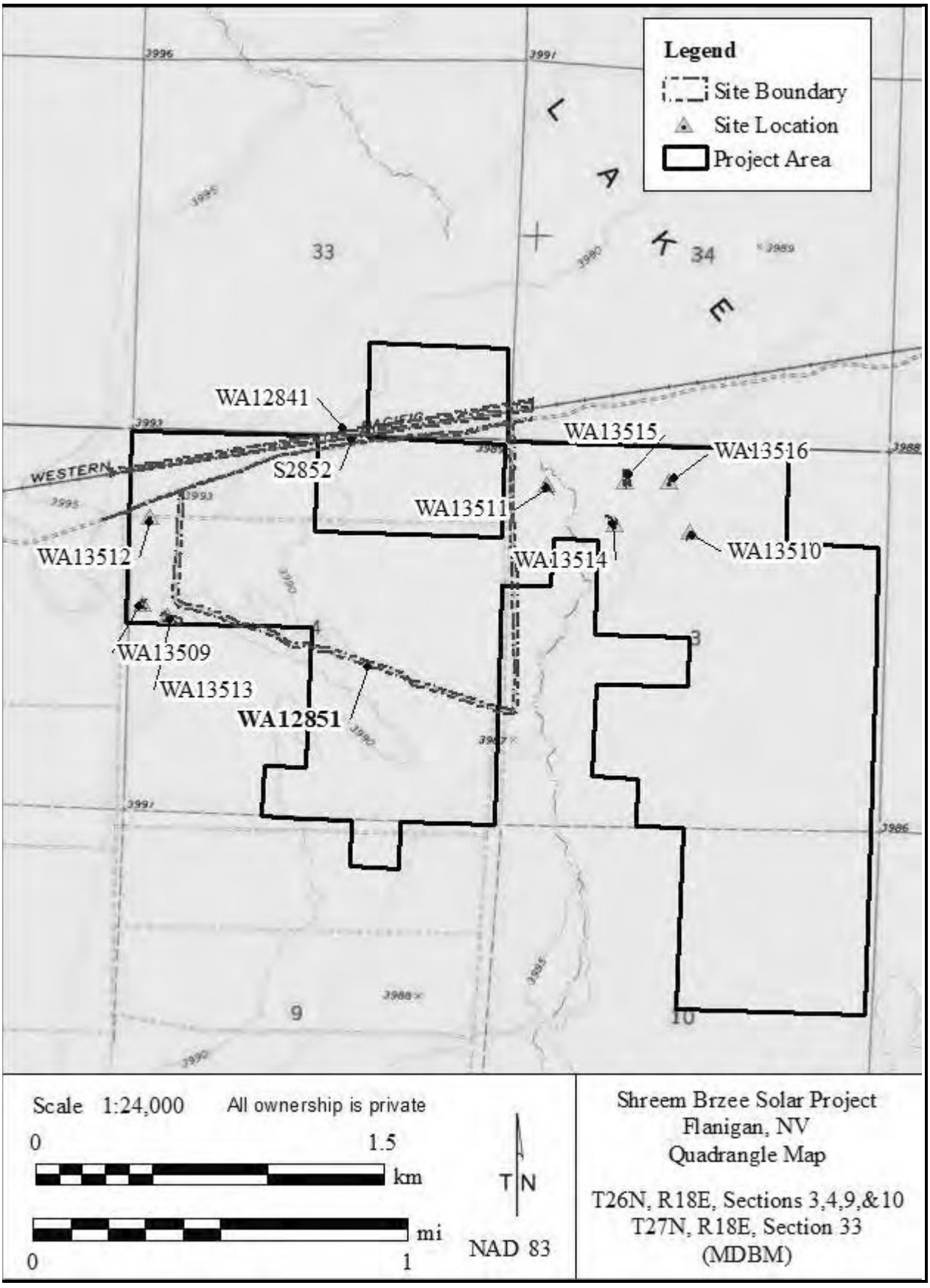
Count	Density m²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments

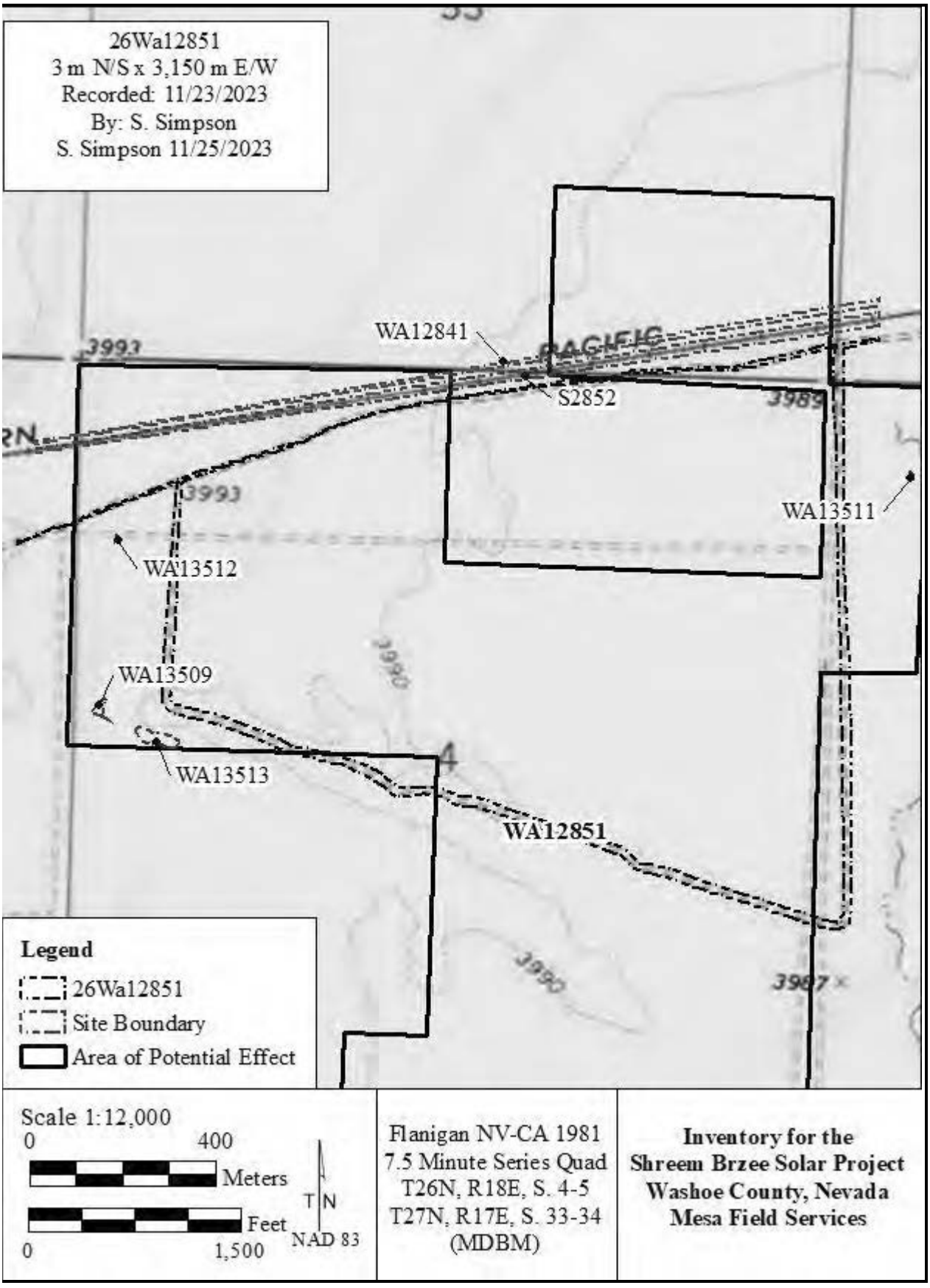
Bibliography:

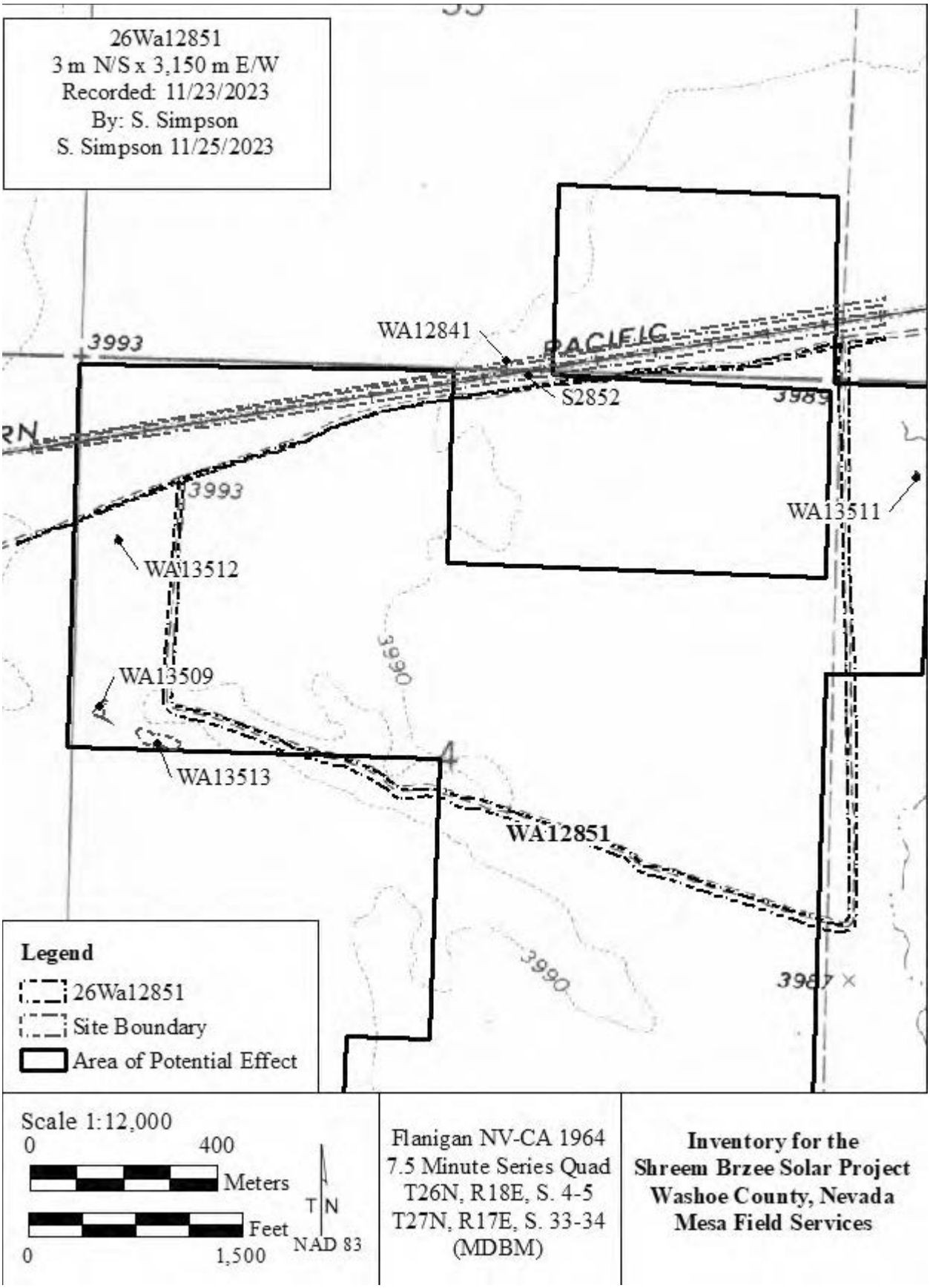
Kneiss, G. H.
1953 *Fifty Candles for Western Pacific: 1903 to 1953 Golden Anniversary Western Pacific*. Published by Western Pacific Mileposts.

Simpson
2021 *A Class III Cultural Inventory for the PRAANA II Washoe BESS/PSES Site Project, Washoe County, Nevada.* Prepared for Sierra Geotech DBE, Inc.

Attachments: 7.5-minute USGS Location Map; Site Sketch Map; photographs


Legend
Site Boundary
Site Location
Project Area
WA12841
S2852
WA13515
WA13516
WA13511
WA13512
WA13514
WA13510
WA13509
WA13513
WA12851
WESTERN
33
34
9
10
3
4
Scale 1:24,000
All ownership is private
0
1.5
km
mi
0
1
T N
NAD 83
Shreem Brzee Solar Project
Flanigan, NV
Quadrangle Map
T26N, R18E, Sections 3,4,9,&10
T27N, R18E, Section 33
(MDBM)


26Wa12851
3 m N/S x 3,150 m E/W
Recorded: 11/23/2023
By: S. Simpson
S. Simpson 11/25/2023
WA12841
S2852
WA13511
WA13512
WA13509
WA13513
WA12851
Legend
26Wa12851
Site Boundary
Area of Potential Effect
Scale 1:12,000
0
400
Meters
Feet
0
1,500
T N
NAD 83
Flanigan NV-CA 1981
7.5 Minute Series Quad
T26N, R18E, S. 4-5
T27N, R17E, S. 33-34
(MDBM)
Inventory for the
Shreem Brzee Solar Project
Washoe County, Nevada
Mesa Field Services


26Wa12851
3 m N/S x 3,150 m E/W
Recorded: 11/23/2023
By: S. Simpson
S. Simpson 11/25/2023
WA12841
S2852
WA13511
WA13512
WA13509
WA13513
WA12851
3993
3990
Legend
26Wa12851
Site Boundary
Area of Potential Effect
Scale 1:12,000
0
400
Meters
Feet
0
1,500
NAD 83
Flanigan NV-CA 1964
7.5 Minute Series Quad
T26N, R18E, S. 4-5
T27N, R17E, S. 33-34
(MDBM)
Inventory for the
Shreem Brzee Solar Project
Washoe County, Nevada
Mesa Field Services

Mesa Field Services
Image Log 2

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
05	26Wa12851	Site overview	270º	246452	4449348	11/25/23
06	26Wa12851	Site overview	90º	246452	4449348	11/25/23
07	26Wa12851	Site overview	180º	246452	4449348	11/25/23
08	26Wa12851	Site overview	180º	247874	4449685	11/25/23



Log 2, Image 5, 26Wa12851, Site overview (270º)
Shreem Brzee Solar Project, UTM Zone 11, 246452 E/ 4449348 N



Log 2, Image 6, 26Wa12851, Site overview (90º)
Shreem Brzee Solar Project, UTM Zone 11, 246452 E/ 4449348 N



Log 2, Image 3, 26Wa12851, Site overview (180º)
Shreem Brzee Solar Project, UTM Zone 11, 246452 E/ 4449348 N



Log 2, Image 4, 26Wa12851, Site overview (180º)
Shreem Brzee Solar Project, UTM Zone 11, 247874 E/ 4449685 N

Eligibility: Unevaluated __ Not eligible_X_ Eligible __ Criteria: A__B__C__D__ by: concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa13509
2. County: Washoe
3. BLM Site No: Not Applicable
4. Project Name: A Class III Inventory for the Shreem Brzee Solar Project, Washoe County, Nevada

5. Temporary/Field Site No: 1560-1
6. BLM Report No: Not Applicable

7. Site/Property Name:
8. Site Class: Prehistoric
Historic Theme/Affiliation: Unknown
Site area: 46 m N/S x 42 m E/W
Age: **Dating Method:** N/A

Depth of Cultural Fill: surface

9. Site description:
This newly recorded prehistoric site is a small lithic scatter comprised of 11 pieces of debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The assemblage is comprised of late-stage reduction flakes being less than two centimeters in length and lacking cortex. The site has at most two flakes per square meter with an average of one flake every three to five meters. The artifacts are comprised of 10 red and brown chert flakes and one translucent black obsidian tertiary flake. The debitage is typical of late stage lithic reduction. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

National Register Justification:
The prehistoric site consists of a limited debitage scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake Valley marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

10. Elevation: 3,990 ft.
11. UTM Grid: Zone 11, 246277 m E/ 4448858 m N
12. Township/Range (to quarter section only): NW¼ of Section 4, Township 26 North, Range 18 East
13. Meridian: Mt. Diablo
14. Map Reference: *Flanigan, Nev.* 7.5-min USGS quad. 1964 (Photorevised, 1981)
15. Land Owner: Private
16. BLM District and Field Office: N/A
17. Photographs (attach photo log): Log 1, Images 1 through 2
18. Recorded by: S. Simpson **Date:** 10/29/2023
19. Survey Organization: Mesa Field Services
20. Distance to Permanent Water (meters X 100): 17.9 **Type:** Spring
21. Geographic Unit: Honey Lake Valley (BMG)
22. Topographic Location/Primary Landform: Valley
23. Depositional Context: Alluvial Plain
24. Vegetation Community (primary only): Little Sagebrush

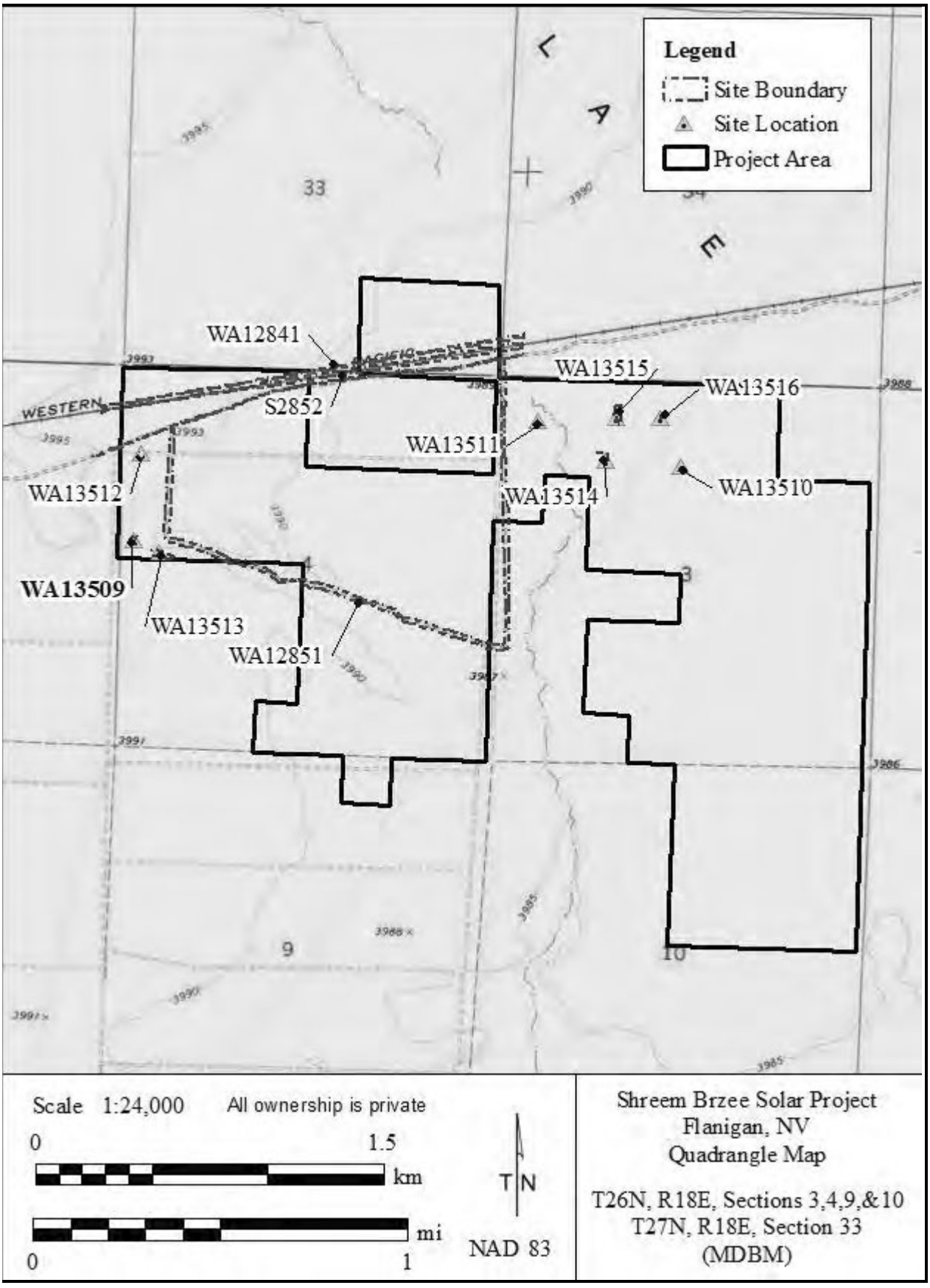
Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

Count	Density m²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
10	2	Chert	(LS) Lithic Scatter/Concentration		Red and a brown variety each.
1	1	Obsidian	(LS) Lithic Scatter/Concentration		Small tertiary debitage, black translucent.

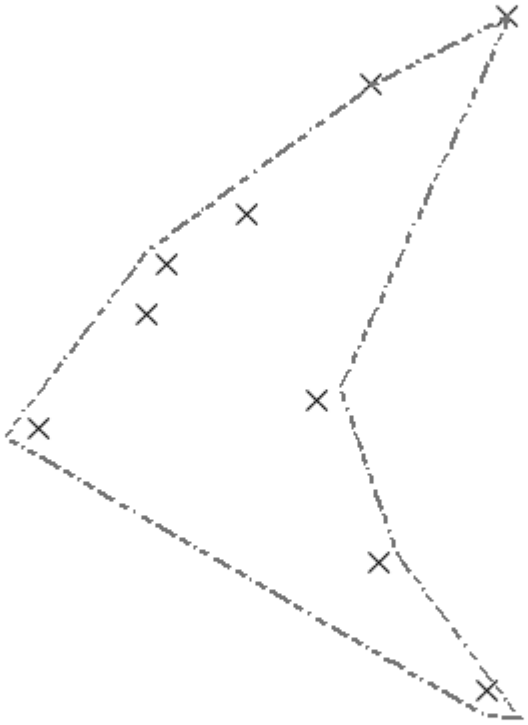
Bibliography:

National Park Service (NPS)
1995 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.

Attachments: 7.5 minute USGS Location Map; Site Sketch Map; photographs


Legend
Site Boundary
Site Location
Project Area
WA12841
WA13515
WA13516
S2852
WA13511
WA13512
WA13514
WA13510
WA13509
WA13513
WA12851
WESTERN
33
9
10
Scale 1:24,000
All ownership is private
0
1.5
km
mi
0
1
NAD 83
T N
Shreem Brzee Solar Project
Flanigan, NV
Quadrangle Map
T26N, R18E, Sections 3,4,9,&10
T27N, R18E, Section 33
(MDBM)

26Wa13509
46 m N/S x 42 m E/W
Recorded: 11/05/2023
By: S. Simpson
S. Simpson 11/15/2023



Legend
Project Area
Site Boundary
× Debitage

Scale 1:500
0 20
Meters
Feet
0 80
T N
NAD 83

T26N, R18E
S. 4
(MDBM)

Inventory for the Shreem Brzee Solar Project Washoe County, Nevada
Mesa Field Services

Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
01	26Wa13509	Site overview	110º	246262	4448859	10/29/23
02	26Wa13509	Site overview	320º	246299	4448833	10/29/23



Log 1, Image 01, 26Wa13509, Site Overview (110°)
Shreem Brzee Solar Project, UTM Zone 11, 246262 E/ 4448859 N



Log 1, Image 02, 26Wa13509, Site Overview (320°)
Shreem Brzee Solar Project, UTM Zone 11, 246299 E/ 4448833 N

Eligibility: Unevaluated __ Not eligible_X_ Eligible __ Criteria: A__B__C__D__ by: concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa13510
2. County: Washoe
3. BLM Site No: Not Applicable
4. Project Name: A Class III Inventory for the Shreem Brzee Solar Project, Washoe County, Nevada

5. Temporary/Field Site No: 1560-4
6. BLM Report No: Not Applicable

7. Site/Property Name:
8. Site Class: Prehistoric
Historic Theme/Affiliation: Unknown
Site area: 29 m N/S x 10 m E/W
Age: **Dating Method:** N/A

Depth of Cultural Fill: surface

9. Site description:
This newly recorded prehistoric site is a small fire cracked rock scatter with two mano fragments. A light scatter of approximately 10 pieces of fire cracked rock or vesicular basalt. No debitage or other stone tools were observed, and the site boundary is defined by the extent of the fire cracked rock. All artifacts are the same material and the fire cracked rock scatter may represent a disintegrated metate. The manos have facets on both sides and are fire cracked as well. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The site lacks an association with tools or temporally diagnostic artifacts.

National Register Justification:
The prehistoric site consists of a limited groundstone and fire cracked rock scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake Valley marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

10. Elevation: 3,989 ft.
11. UTM Grid: Zone 11, 248634 m E/ 4449158 m N
12. Township/Range (to quarter section only): NW¼ of Section 3, Township 26 North, Range 18 East
13. Meridian: Mt. Diablo
14. Map Reference: *Flanigan, Nev.* 7.5-min USGS quad. 1964 (Photorevised, 1981)
15. Land Owner: Private
16. BLM District and Field Office: N/A
17. Photographs (attach photo log): Log 1, Images 08 through 09
18. Recorded by: S. Simpson
Date: 10/29/2023
19. Survey Organization: Mesa Field Services
20. Distance to Permanent Water (meters X 100): 17.9
Type: Spring
21. Geographic Unit: Honey Lake Valley (BMG)
22. Topographic Location/Primary Landform: Valley
23. Depositional Context: Alluvial Plain
24. Vegetation Community (primary only): Little Sagebrush

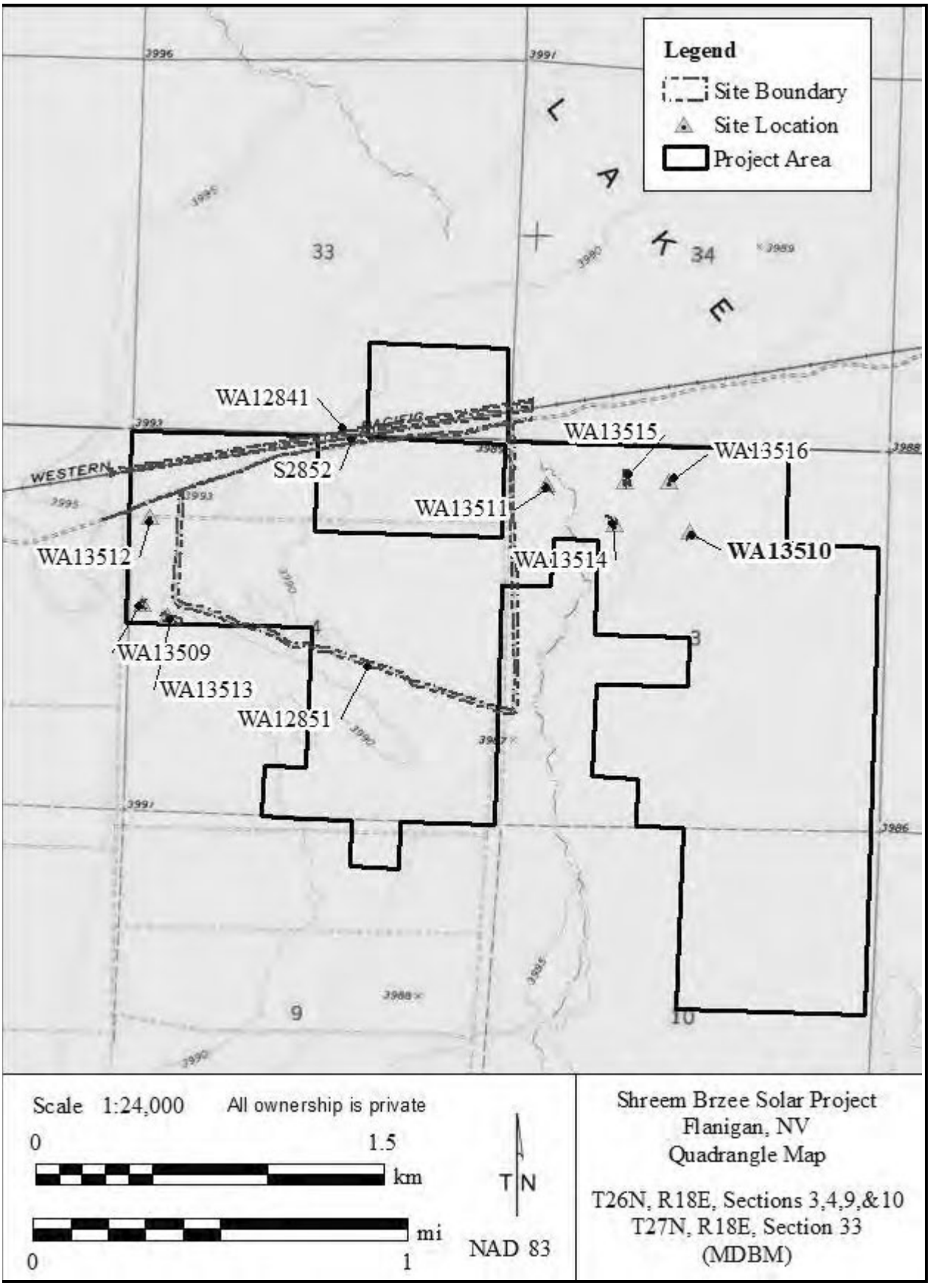
Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

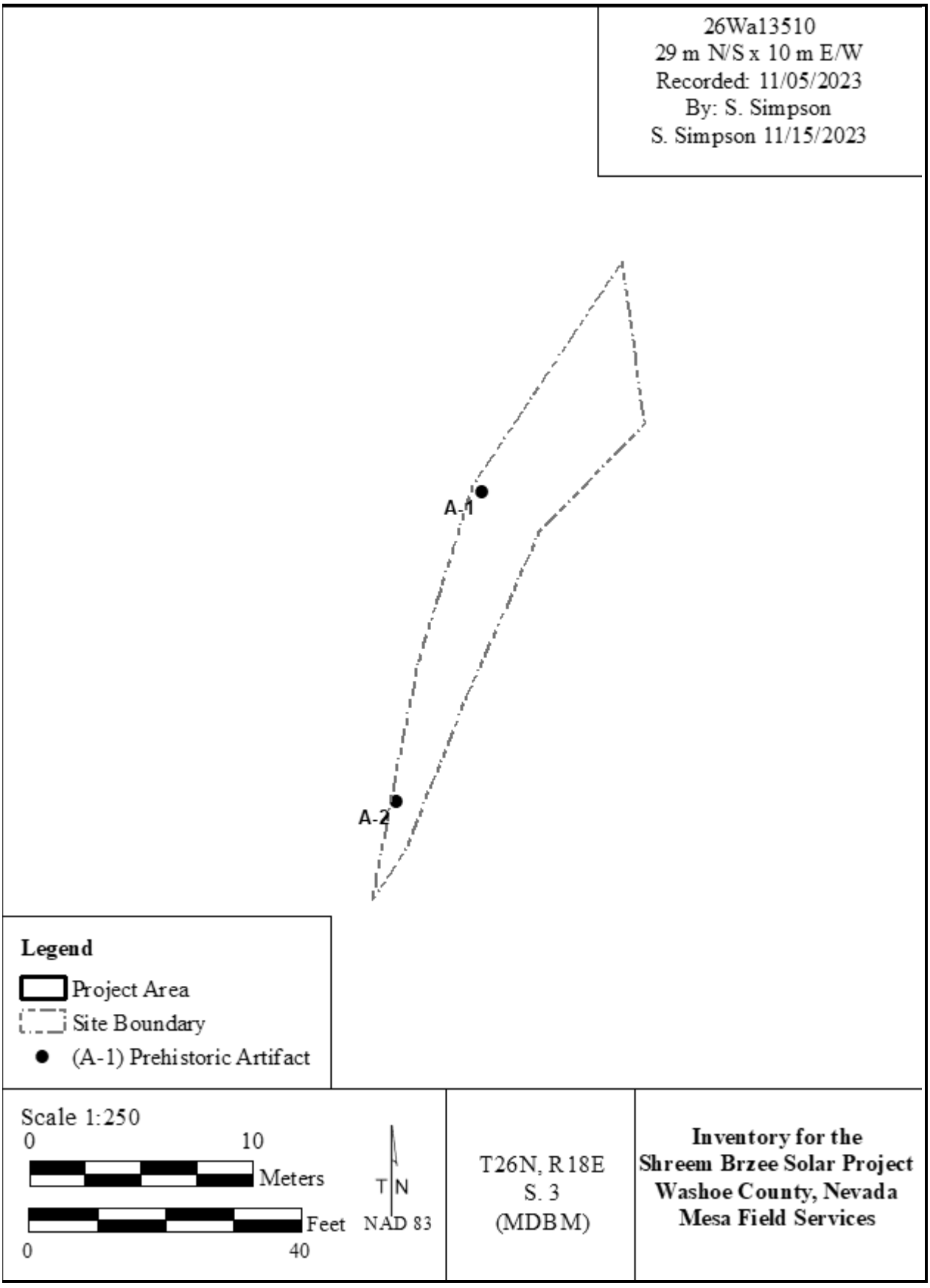
Count	Density m²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
10	1	(VB) Vesicular Basalt Scatter	(BS) Scattered Burned Stone/Firecracked Rock Scatter	Fragments	Metate fragments possibly.
1	1	(VB) Vesicular Basalt Scatter	(NA) Mano (single-handed)	9 x 8 x 4 cm	A-1: Broken one handed mano fragment of fine grained volcanic.
1	1	(VB) Vesicular Basalt Scatter	(NA) Mano (single-handed)	9 x 8 x 4 cm	A-2: Broken one handed mano fragment of fine grained volcanic.

Bibliography:

National Park Service (NPS)
1995 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.

Attachments: 7.5 minute USGS Location Map; Site Sketch Map; photographs


Legend
Site Boundary
Site Location
Project Area
WA12841
S2852
WA13515
WA13516
WA13511
WA13512
WA13514
WA13510
WA13509
WA13513
WA12851
WESTERN
33
34
9
10
Scale 1:24,000
All ownership is private
0
1.5
km
mi
0
1
T N
NAD 83
Shreem Brzee Solar Project
Flanigan, NV
Quadrangle Map
T26N, R18E, Sections 3,4,9,&10
T27N, R18E, Section 33
(MDBM)


26Wa13510
29 m N/S x 10 m E/W
Recorded: 11/05/2023
By: S. Simpson
S. Simpson 11/15/2023
A-1
A-2
Legend
Project Area
Site Boundary
(A-1) Prehistoric Artifact
Scale 1:250
0
10
Meters
Feet
0
40
T N
NAD 83
T26N, R18E
S. 3
(MDBM)
Inventory for the
Shreem Brzee Solar Project
Washoe County, Nevada
Mesa Field Services

Mesa Field Services
Image Log 1

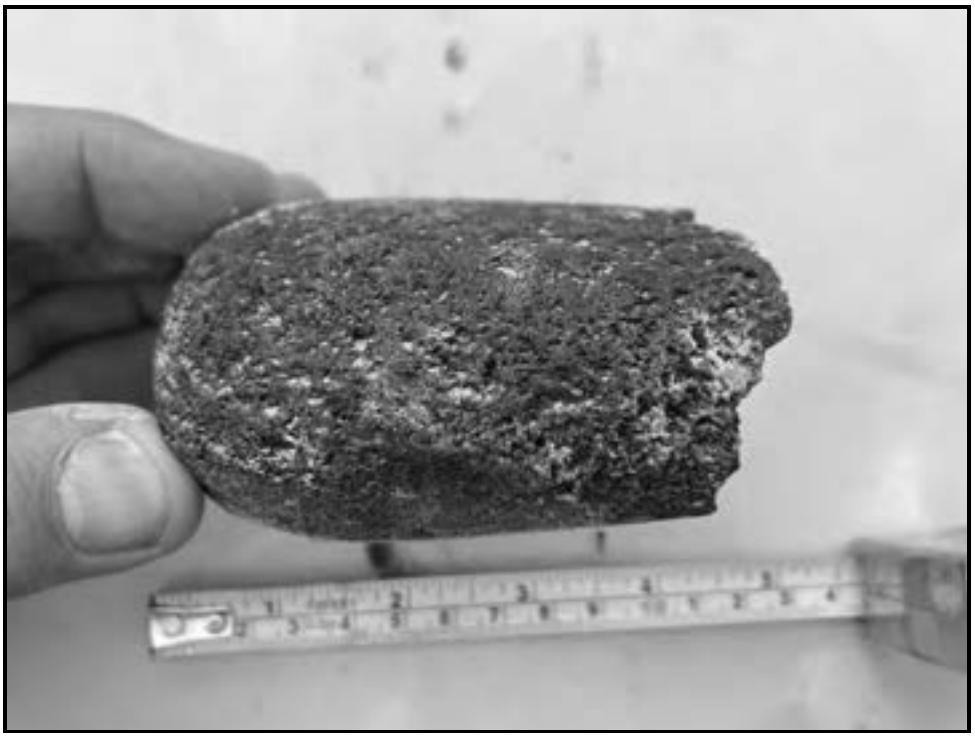
No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
18	26Wa13510	A-1: Side A	Plan	248633	4449163	11/05/23
19	26Wa13510	A-1: Side B	Plan	248633	4449163	11/05/23
20	26Wa13510	A-1: Profile	Profile	248633	4449163	11/05/23
21	26Wa13510	A-2: Side A	Plan	248629	4449149	11/05/23
22	26Wa13510	A-2: Side B	Plan	248629	4449149	11/05/23
23	26Wa13510	A-2: Profile	Profile	248629	4449149	11/05/23
24	26Wa13510	Site overview	180º	248634	4449180	11/05/23
25	26Wa13510	Site overview	20º	248625	4449141	11/05/23



Log 1, Image 18, 26Wa13510, A-1 Side A, Fine Grained Volcanic, Mano fragment, 9 cm x 8 cm x 4 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248633 E/ 4449163 N



Log 1, Image 19, 26Wa13510, A-1 Side B, Fine Grained Volcanic, Mano fragment, 9 cm x 8 cm x 4 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248633 E/ 4449163 N



Log 1, Image 20, 26Wa13510, A-1 Profile, Fine Grained Volcanic, Mano fragment, 9 cm x 8 cm x 4 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248633 E/ 4449163 N



Log 1, Image 21, 26Wa13510, A-2 Side A, Fine Grained Volcanic, Mano fragment, 9 cm x 8 cm x 4 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248629 E/ 4449149 N



Log 1, Image 22, 26Wa13510, A-2 Side B, Fine Grained Volcanic, Mano fragment, 9 cm x 8 cm x 4 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248629 E/ 4449149 N



Log 1, Image 23, 26Wa13510, A-2 Profile, Fine Grained Volcanic, Mano fragment, 9 cm x 8 cm x 4 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248629 E/ 4449149 N



Log 1, Image 24, 26Wa13510, Site Overview (180°)
Shreem Brzee Solar Project, UTM Zone 11, 248634 E/ 4449180 N



Log 1, Image 25, 26Wa13510, Site Overview (20°)
Shreem Brzee Solar Project, UTM Zone 11, 248625 E/ 4449141 N

Eligibility: Unevaluated __ Not eligible_X_ Eligible __ Criteria: A__B__C__D__ by: concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa13511
2. County: Washoe
3. BLM Site No: Not Applicable
4. Project Name: A Class III Inventory for the Shreem Brzee Solar Project, Washoe County, Nevada

5. Temporary/Field Site No: 1560-6
6. BLM Report No: Not Applicable

7. Site/Property Name:
8. Site Class: Prehistoric
Historic Theme/Affiliation: Unknown
Site area: 24 m N/S x 5 m E/W
Age: **Dating Method:** N/A

Depth of Cultural Fill: surface

9. Site description:
This newly recorded prehistoric site is a small artifact scatter comprised of three pieces of debitage and an obsidian Black Rock Concave Base fragment (A-1) with parallel oblique pressure flake scars. Artifacts are several meters apart. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The Black Rock Concave Base fragment would suggest a Pre-Archaic (13,100 to 7,700 B.P.) occupation for the site. No other artifacts were observed.

National Register Justification:
The prehistoric site consists of a limited debitage scatter and a Pre-Archaic period projectile point. The site does not appear to have an association and datable subsurface deposits, obsidian for hydration readings, or other type of chronometric indicators that can refine relative chronologies. Unless significant subsurface deposits or a significant quantity of obsidian artifacts suitable for obsidian hydration analysis are present the research potential of the prehistoric site is limited. Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake Valley marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of four artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists or a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. Therefore, the prehistoric site cannot address important research questions outlined for prehistoric sites for the current investigation.

10. Elevation: 3,989 ft.
11. UTM Grid: Zone 11, 248029 m E/ 4449362 m N
12. Township/Range (to quarter section only): NW¼ of Section 3, Township 26 North, Range 18 East
13. Meridian: Mt. Diablo
14. Map Reference: *Flanigan, Nev.* 7.5-min USGS quad. 1964 (Photorevised, 1981)
15. Land Owner: Private
16. BLM District and Field Office: N/A
17. Photographs (attach photo log): Log 1, Images 28 through 327
18. Recorded by: S. Simpson
Date: 11/05/2023
19. Survey Organization: Mesa Field Services
20. Distance to Permanent Water (meters X 100): 17.9
Type: Spring
21. Geographic Unit: Honey Lake Valley (BMG)
22. Topographic Location/Primary Landform: Valley
23. Depositional Context: Alluvial Plain
24. Vegetation Community (primary only): Little Sagebrush

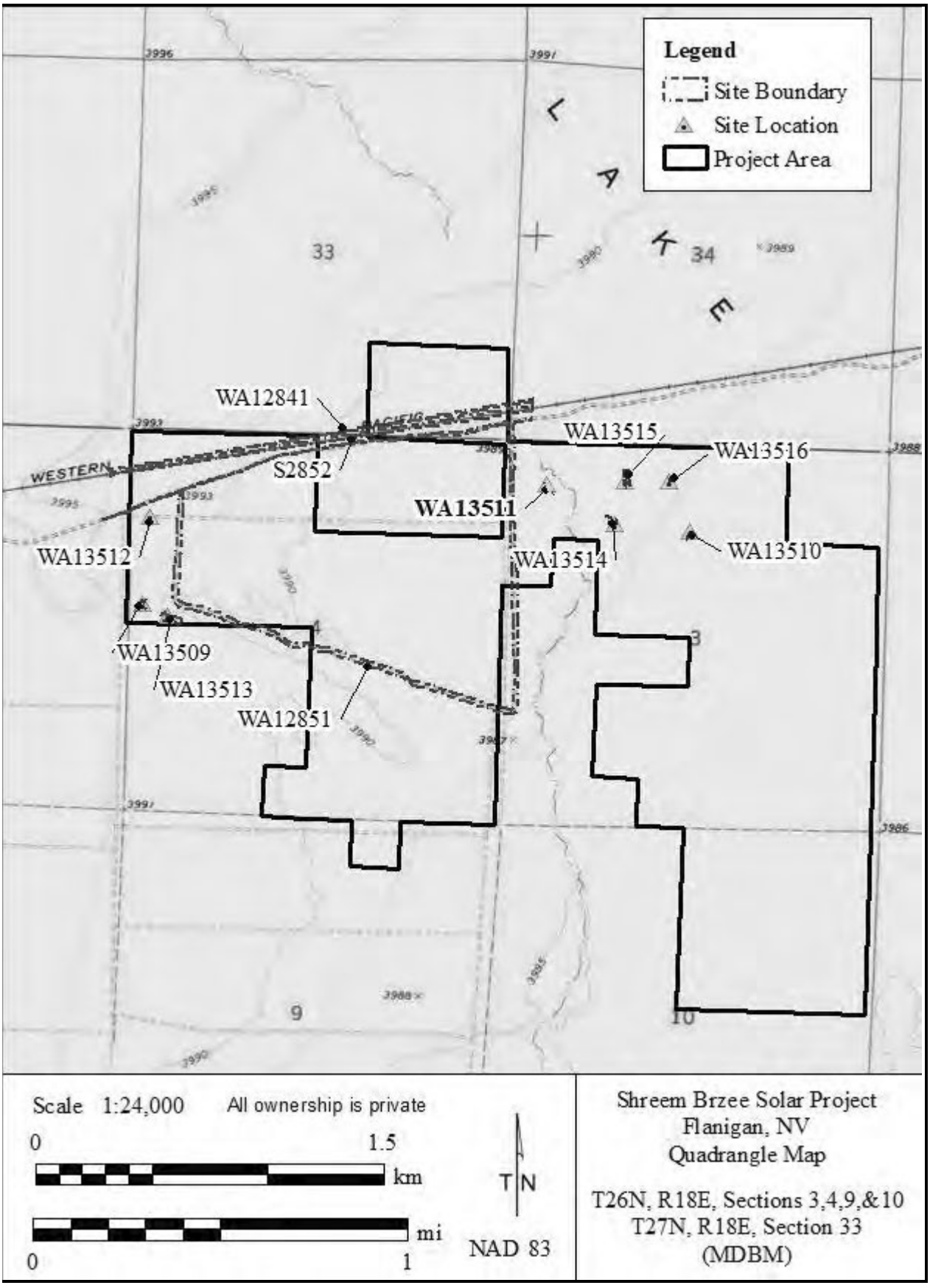
Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

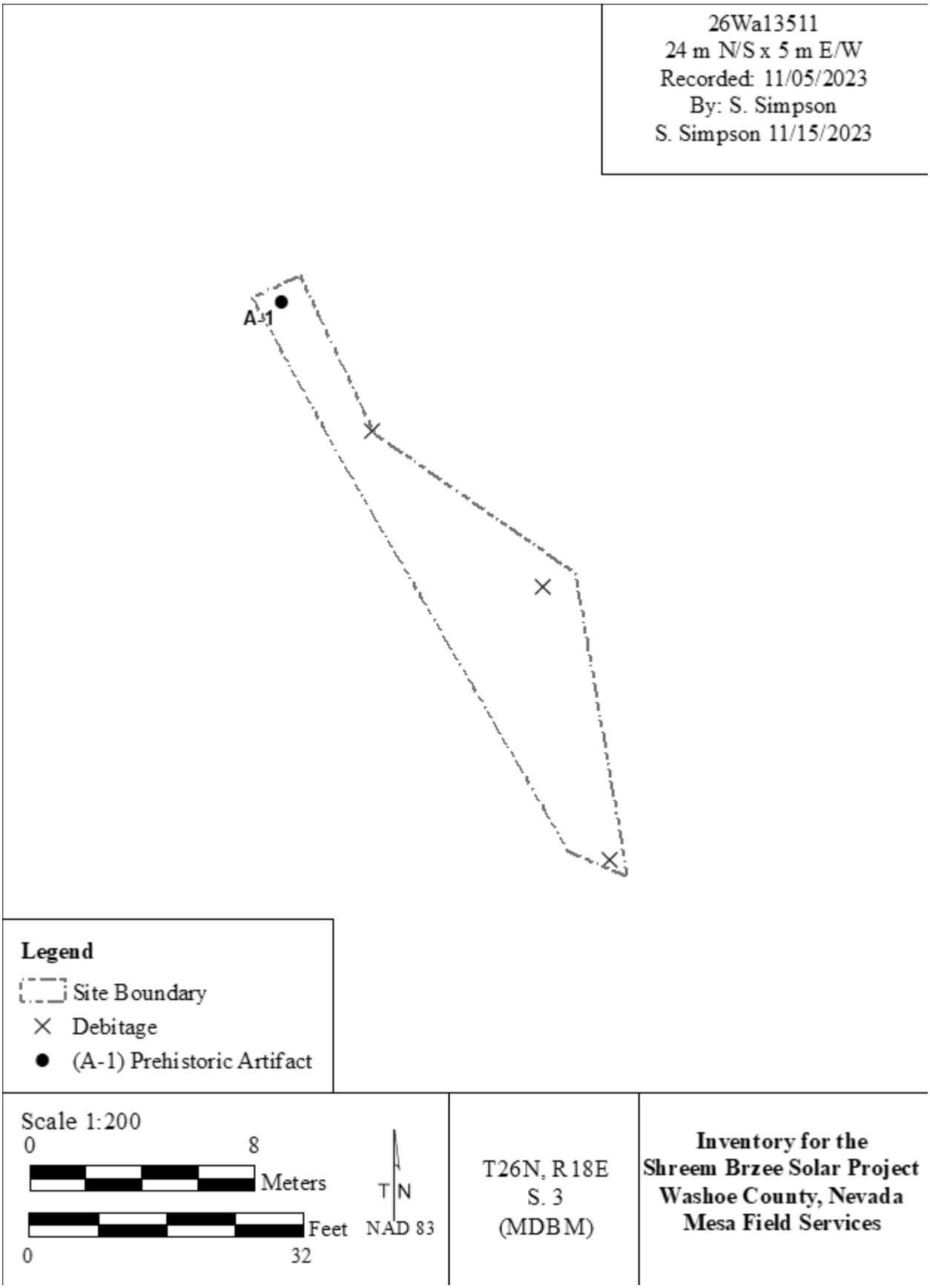
Count	Density m²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
1	1	Obsidian	(BI) Black Rock Concave Base fragment	2.1 x 2.5 x 0.3 cm	A-1: Base fragment with parallel oblique pressure flake scars.
10	3	Chert	(LS) Lithic Scatter/Concentration		Black, red and a brown late stage reduction.
6	2	Obsidian	(LS) Lithic Scatter/Concentration		Small tertiary debitage, black translucent.
4	1	(LB) Lithic Sources: Basalt	(LS) Lithic Scatter/Concentration		Late stage tertiary flakes.

Bibliography:

National Park Service (NPS)
1995 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.

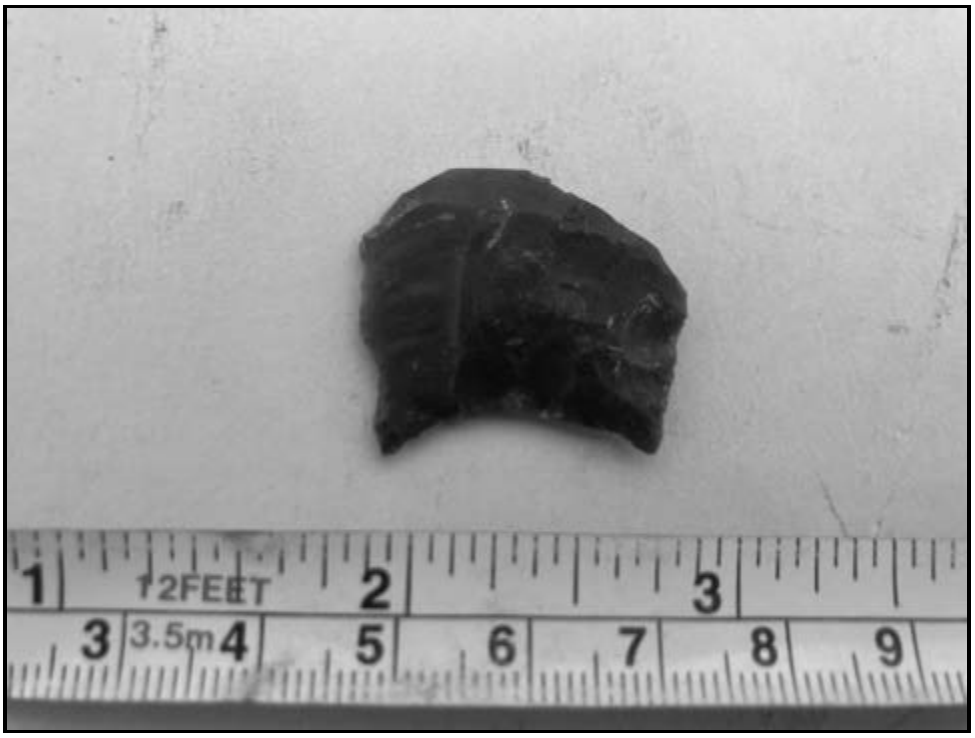
Attachments: 7.5 minute USGS Location Map; Site Sketch Map; photographs


Legend
Site Boundary
Site Location
Project Area
WA12841
S2852
WA13515
WA13516
WA13511
WA13512
WA13514
WA13510
WA13509
WA13513
WA12851
WESTERN
33
34
3
4
9
10
Scale 1:24,000
All ownership is private
0
1.5
km
mi
0
1
T N
NAD 83
Shreem Brzee Solar Project
Flanigan, NV
Quadrangle Map
T26N, R18E, Sections 3,4,9,&10
T27N, R18E, Section 33
(MDBM)

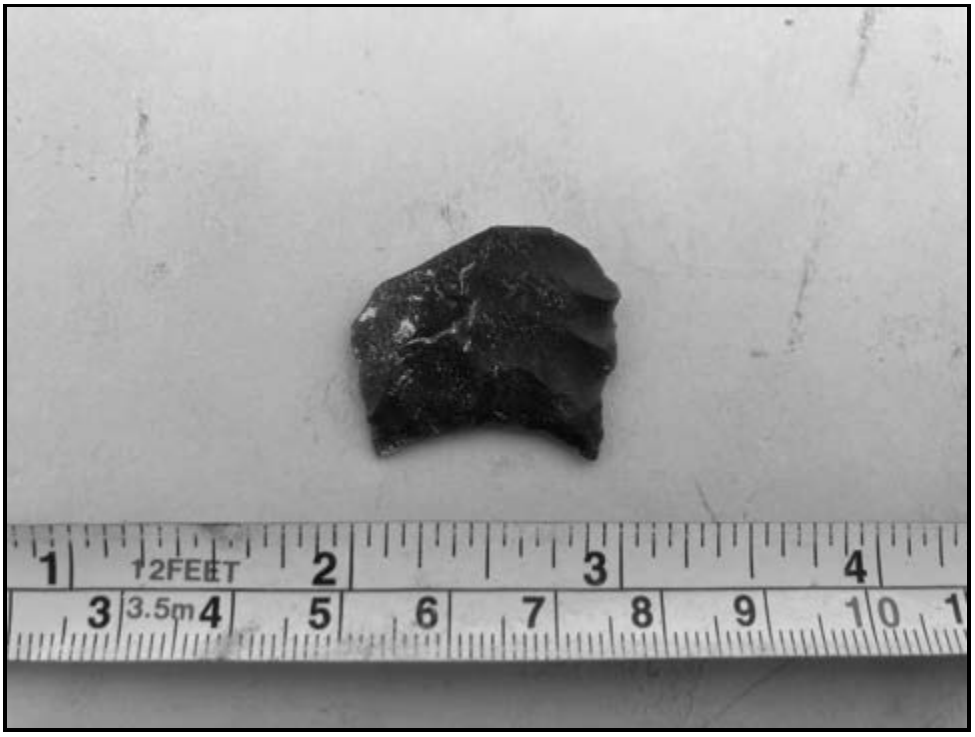

26Wa13511
24 m N/S x 5 m E/W
Recorded: 11/05/2023
By: S. Simpson
S. Simpson 11/15/2023
A-1
Legend
Site Boundary
Debitage
(A-1) Prehistoric Artifact
Scale 1:200
0
8
Meters
Feet
0
32
T N
NAD 83
T26N, R18E
S. 3
(MDBM)
Inventory for the
Shreem Brzee Solar Project
Washoe County, Nevada
Mesa Field Services

Mesa Field Services
Image Log 1

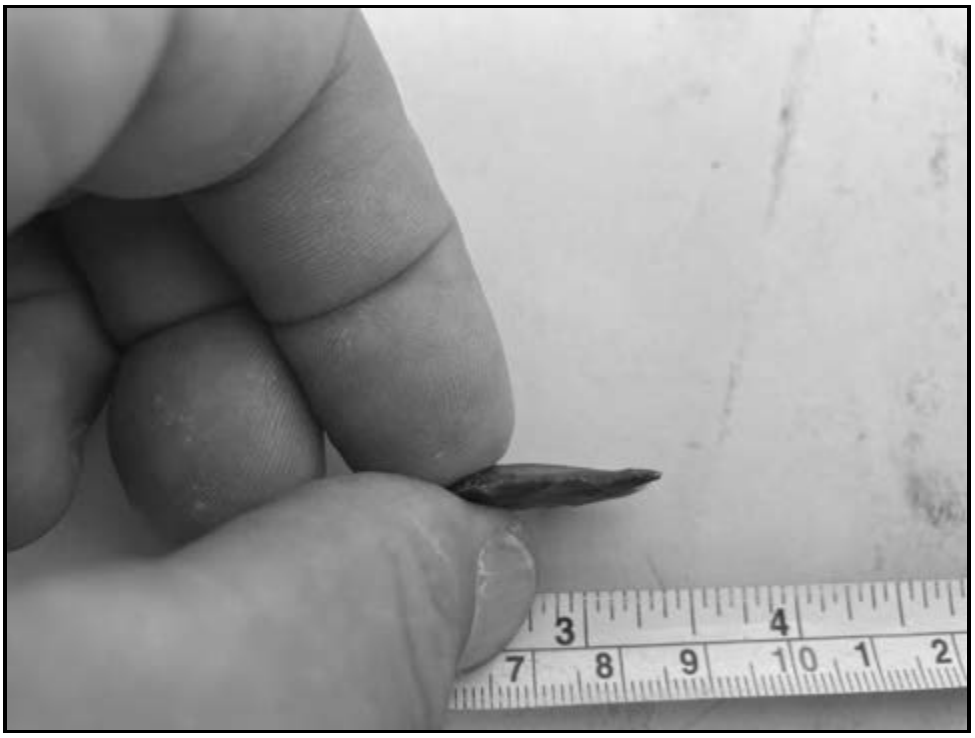
No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
28	26Wa13511	A-1: Side A, (BI) Black Rock Concave Base fragment	Plan	248023	4449372	11/05/23
29	26Wa13511	A-1: Side B, (BI) Black Rock Concave Base fragment	Plan	248023	4449372	11/05/23
30	26Wa13511	A-1: Profile, (BI) Black Rock Concave Base fragment	Profile	248023	4449372	11/05/23
31	26Wa13511	Site overview	150º	248020	4449379	11/05/23
32	26Wa13511	Site overview	340º	248037	4449378	11/05/23



Log 1, Image 28, 26Wa13511, A-1 Side A, obsidian (BI) Black Rock Concave Base, 2.1 cm x 2.5 cm x 0.3 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248023 E/ 4449372 N



Log 1, Image 29, 26Wa13511, A-1 Side B, obsidian (BI) Black Rock Concave Base, 2.1 cm x 2.5 cm x 0.3 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248023 E/ 4449372 N



Log 1, Image 30, 26Wa13511, A-1 Profile, obsidian (BI) Black Rock Concave Base, 2.1 cm x 2.5 cm x 0.3 cm
Shreem Brzee Solar Project, UTM Zone 11, 248023 E/ 4449372 N



Log 1, Image 31, 26Wa13511, Site Overview (150°)
Shreem Brzee Solar Project, UTM Zone 11, 248020 E/ 4449379 N



Log 1, Image 31, 26Wa13511, Site Overview (340°)
Shreem Brzee Solar Project, UTM Zone 11, 248037 E/ 4449378 N

Eligibility: Unevaluated __ Not eligible_X_ Eligible __ Criteria: A__B__C__D__ by: concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa13512
2. County: Washoe
3. BLM Site No: Not Applicable
4. Project Name: A Class III Inventory for the Shreem Brzee Solar Project, Washoe County, Nevada

5. Temporary/Field Site No: 1560-2
6. BLM Report No: Not Applicable

7. Site/Property Name:
8. Site Class: Prehistoric
Historic Theme/Affiliation: Unknown
Site area: 9 m N/S x 3 m E/W
Age: Early Archaic **Dating Method:** Cross Dating

Depth of Cultural Fill: surface

9. Site description:
This newly recorded prehistoric site is a small lithic scatter comprised of one piece of debitage and a portion of a possible contracting stem to a Great Basin Stemmed point (A-1) about six to seven meters apart. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The Great Basin Stemmed point fragment would suggest a Pre-Archaic (13,100 to 7,700 B.P.) occupation for the site. No other artifacts were observed. No other artifacts were observed.

National Register Justification:
The prehistoric site consists of a limited debitage scatter and a Pre-Archaic period projectile point. The site does not appear to have an association and datable subsurface deposits, obsidian for hydration readings, or other type of chronometric indicator that can refine relative chronologies. Unless significant subsurface deposits or a significant quantity of obsidian artifacts suitable for obsidian hydration analysis the research potential of the prehistoric site is limited. Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake Valley marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists or a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. Therefore, the prehistoric site cannot address important research questions outlined for prehistoric sites for the current investigation.

10. Elevation: 3,994 ft.
11. UTM Grid: Zone 11, 246315 m E/ 4449229 m N
12. Township/Range (to quarter section only): NW¼ of Section 4, Township 26 North, Range 18 East
13. Meridian: Mt. Diablo
14. Map Reference: *Flanigan, Nev.* 7.5-min USGS quad. 1964 (Photorevised, 1981)
15. Land Owner: Private
16. BLM District and Field Office: N/A
17. Photographs (attach photo log): Log 1, Images 03 through 07
18. Recorded by: S. Simpson **Date:** 10/29/2023
19. Survey Organization: Mesa Field Services
20. Distance to Permanent Water (meters X 100): 17.9 **Type:** Spring
21. Geographic Unit: Honey Lake Valley (BMG)
22. Topographic Location/Primary Landform: Valley
23. Depositional Context: Alluvial Plain
24. Vegetation Community (primary only): Little Sagebrush

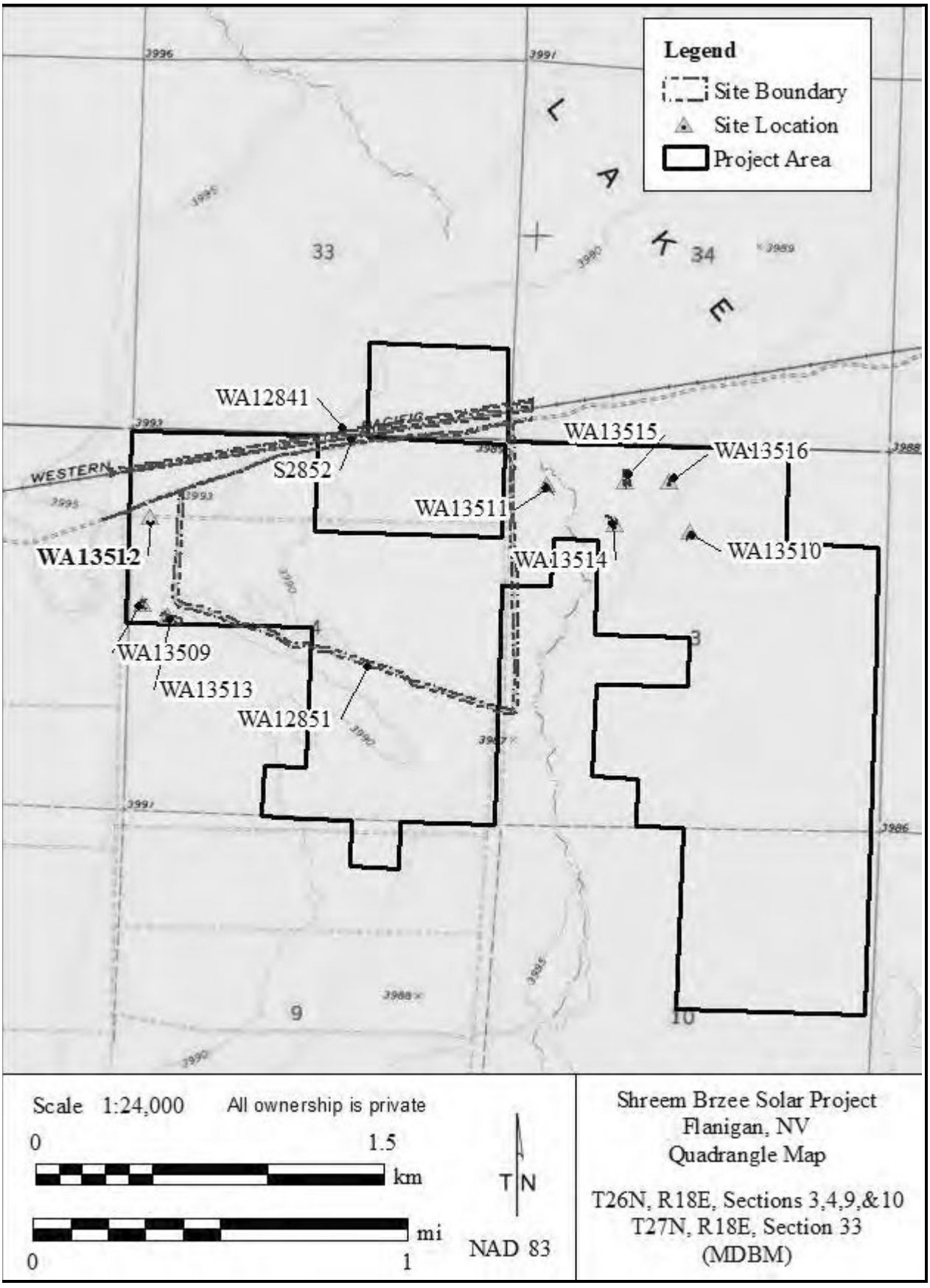
Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

Count	Density m²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
1	1	Basalt	(CI) Gt. Basin Stemmed	2.9 x 3 x 0.7 cm	A-1: Basalt contracting stem fragment.
1	1	Chert	(LS) Lithic Scatter/Concentration		Shatter.

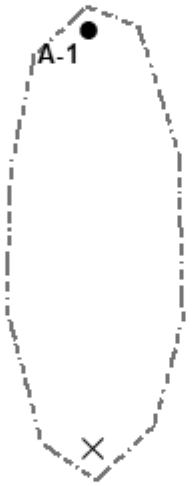
Bibliography:

National Park Service (NPS)
1995 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.

Attachments: 7.5 minute USGS Location Map; Site Sketch Map; photographs


Legend
Site Boundary
Site Location
Project Area
WA12841
WA13515
WA13516
S2852
WA13511
WA13512
WA13514
WA13510
WA13509
WA13513
WA12851
WESTERN
33
34
3
4
9
10
Scale 1:24,000
All ownership is private
0
1.5
km
mi
0
1
T N
NAD 83
Shreem Brzee Solar Project
Flanigan, NV
Quadrangle Map
T26N, R18E, Sections 3,4,9,&10
T27N, R18E, Section 33
(MDBM)

26Wa13512
9 m N/S x 3 m E/W
Recorded: 10/29/2023
By: S. Simpson
S. Simpson 11/14/2023



Legend

Site Boundary
× Debitage
● (A-1) Prehistoric Artifact

Scale 1:150
0 6
Meters
Feet
0 24
T N
NAD 83

T26N, R18E
S. 4
(MDBM)

Inventory for the Shreem Brzee Solar Project Washoe County, Nevada Mesa Field Services

Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
03	26Wa13512	A-1: Side A, basalt Gt. Basin Stemmed base fragment	Plan	246315	4449233	10/29/23
04	26Wa13512	A-1: Side B, basalt Gt. Basin Stemmed base fragment	Plan	246315	4449233	10/29/23
05	26Wa13512	A-1: Profile, basalt Gt. Basin Stemmed base fragment	Profile	246315	4449233	10/29/23
06	26Wa13512	Site overview	360º	246314	4449222	10/29/23
07	26Wa13512	Site overview	180º	246315	4449236	10/29/23



Log 1, Image 03, 26Wa13512, A-1 Side A, basalt Gt. Basin Stemmed base fragment, 2.9 cm x 3 cm x 0.7 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 246315 E/ 4449233 N



Log 1, Image 04, 26Wa13512, A-1 Side B, basalt Gt. Basin Stemmed base fragment, 2.9 cm x 3 cm x 0.7 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 246315 E/ 4449233 N



Log 1, Image 05, 26Wa13512, A-1 Profile, basalt Gt. Basin Stemmed base fragment, 2.9 cm x 3 cm x 0.7 cm
Shreem Brzee Solar Project, UTM Zone 11, 246315 E/ 4449233 N



Log 1, Image 06, 26Wa13512, Site Overview (360°)
Shreem Brzee Solar Project, UTM Zone 11, 246314 E/ 4449222 N



Log 1, Image 07, 26Wa13512, Site Overview (180°)
Shreem Brzee Solar Project, UTM Zone 11, 246315 E/ 4449236 N

Eligibility: Unevaluated __ Not eligible_X_ Eligible __ Criteria: A__B__C__D__ by: concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa13513
2. County: Washoe
3. BLM Site No: Not Applicable
4. Project Name: A Class III Inventory for the Shreem Brzee Solar Project, Washoe County, Nevada

5. Temporary/Field Site No: 1560-3
6. BLM Report No: Not Applicable

7. Site/Property Name:
8. Site Class: Prehistoric
Historic Theme/Affiliation: Unknown
Site area: 45 m N/S x 98 m E/W
Age: **Dating Method:** N/A

Depth of Cultural Fill: surface

9. Site description:
This newly recorded prehistoric site is a small lithic scatter comprised of 35 pieces of debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are mostly mid to late stage with partial to no cortex. The site has at most five flakes per square meter with an average of one flake every three to five meters. The artifacts are comprised of 33 yellow, red and brown chert flakes and two translucent black obsidian secondary flakes with partial cortex. The debitage is concentrated along a low dune ridge trending in an east to west direction. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

National Register Justification:
The prehistoric site consists of a limited debitage scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake Valley marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

10. Elevation: 3,990 ft.
11. UTM Grid: Zone 11, 246403 m E/ 4448795 m N
12. Township/Range (to quarter section only): NW¼ of Section 4, Township 26 North, Range 18 East
13. Meridian: Mt. Diablo
14. Map Reference: *Flanigan, Nev.* 7.5-min USGS quad. 1964 (Photorevised, 1981)
15. Land Owner: Private
16. BLM District and Field Office: N/A
17. Photographs (attach photo log): Log 1, Images 08 through 09
18. Recorded by: S. Simpson
Date: 10/29/2023
19. Survey Organization: Mesa Field Services
20. Distance to Permanent Water (meters X 100): 17.9
Type: Spring
21. Geographic Unit: Honey Lake Valley (BMG)
22. Topographic Location/Primary Landform: Valley
23. Depositional Context: Alluvial Plain
24. Vegetation Community (primary only): Little Sagebrush

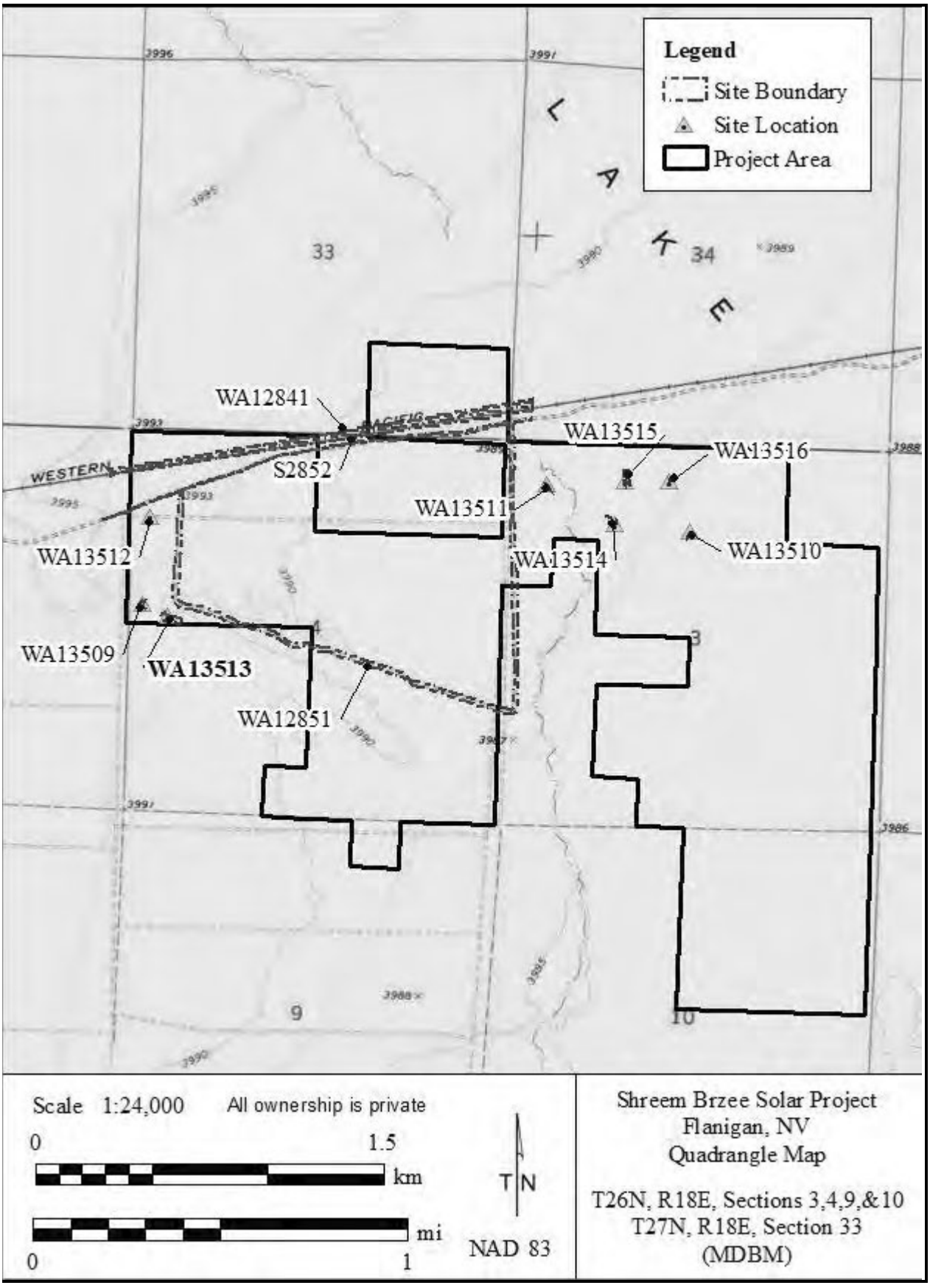
Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

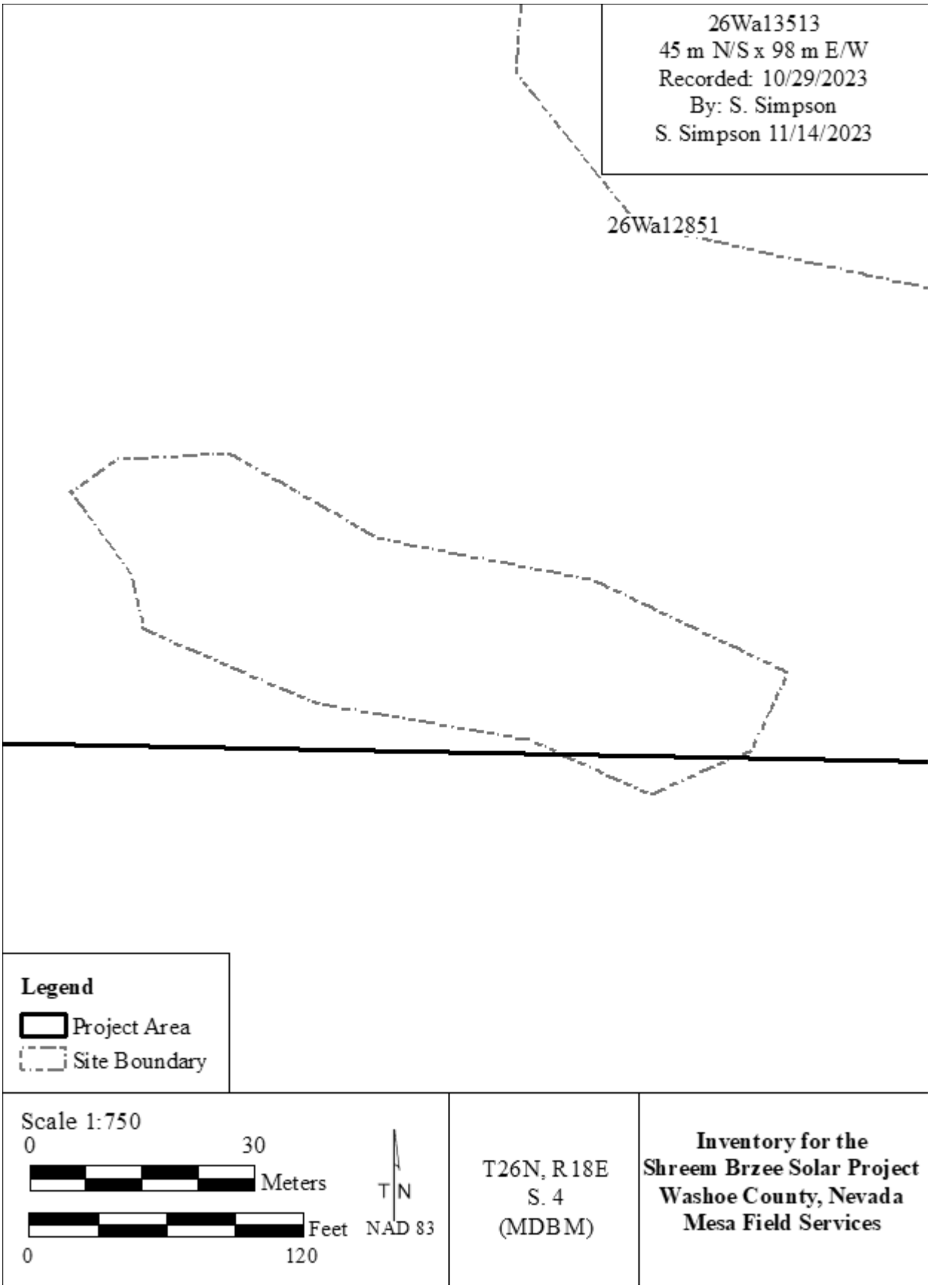
Count	Density m²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
33	5	Chert	(LS) Lithic Scatter/Concentration		Red and a brown variety each mid to late stage reduction.
2	1	Obsidian	(LS) Lithic Scatter/Concentration		Secondary

Bibliography:

National Park Service (NPS)
1995 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.

Attachments: 7.5 minute USGS Location Map; Site Sketch Map; photographs


Legend
Site Boundary
Site Location
Project Area
WA12841
S2852
WA13515
WA13516
WA13511
WA13512
WA13514
WA13510
WA13509
WA13513
WA12851
WESTERN
33
34
9
10
Scale 1:24,000
All ownership is private
0
1.5
km
mi
0
1
T N
NAD 83
Shreem Brzee Solar Project
Flanigan, NV
Quadrangle Map
T26N, R18E, Sections 3,4,9,&10
T27N, R18E, Section 33
(MDBM)


26Wa13513
45 m N/S x 98 m E/W
Recorded: 10/29/2023
By: S. Simpson
S. Simpson 11/14/2023
26Wa12851
Legend
Project Area
Site Boundary
Scale 1:750
0
30
Meters
Feet
0
120
T N
NAD 83
T26N, R18E
S. 4
(MDBM)
Inventory for the
Shreem Brzee Solar Project
Washoe County, Nevada
Mesa Field Services

Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
08	26Wa13513	Site overview	300º	246449	4448779	10/29/23
09	26Wa13513	Site overview	120º	246358	4448815	10/29/23



Log 1, Image 08, 26Wa13513, Site Overview (300°)
Shreem Brzee Solar Project, UTM Zone 11, 246449 E/ 4448779 N



Log 1, Image 09, 26Wa13513, Site Overview (120°)
Shreem Brzee Solar Project, UTM Zone 11, 246358 E/ 4448815 N

Eligibility: Unevaluated __ Not eligible_X_ Eligible __ Criteria: A__B__C__D__ by: concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa13514
2. County: Washoe
3. BLM Site No: Not Applicable
4. Project Name: A Class III Inventory for the Shreem Brzee Solar Project, Washoe County, Nevada

5. Temporary/Field Site No: 1560-5
6. BLM Report No: Not Applicable

7. Site/Property Name:
8. Site Class: Prehistoric
Historic Theme/Affiliation: Unknown
Site area: 31 m N/S x 48 m E/W
Age: **Dating Method:** N/A

Depth of Cultural Fill: surface

9. Site description:
This newly recorded prehistoric site is a small lithic scatter comprised of 20 pieces of debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex. The site has at most three flakes per square meter with an average of one flake every three to five meters. The artifacts are comprised of black, red, and brown chert colored chert and ten obsidian flakes. The debitage is typical of late stage lithic reduction with flakes lacking cortex. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

National Register Justification:
The prehistoric site consists of a limited debitage scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake Valley marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

10. Elevation: 3,988 ft.
11. UTM Grid: Zone 11, 248306 m E/ 4449219 m N
12. Township/Range (to quarter section only): NW¼ of Section 3, Township 26 North, Range 18 East
13. Meridian: Mt. Diablo
14. Map Reference: *Flanigan, Nev.* 7.5-min USGS quad. 1964 (Photorevised, 1981)
15. Land Owner: Private
16. BLM District and Field Office: N/A
17. Photographs (attach photo log): Log 1, Images 26 through 27
18. Recorded by: S. Simpson
Date: 11/05/2023
19. Survey Organization: Mesa Field Services
20. Distance to Permanent Water (meters X 100): 17.9
Type: Spring
21. Geographic Unit: Honey Lake Valley (BMG)
22. Topographic Location/Primary Landform: Valley
23. Depositional Context: Alluvial Plain
24. Vegetation Community (primary only): Little Sagebrush

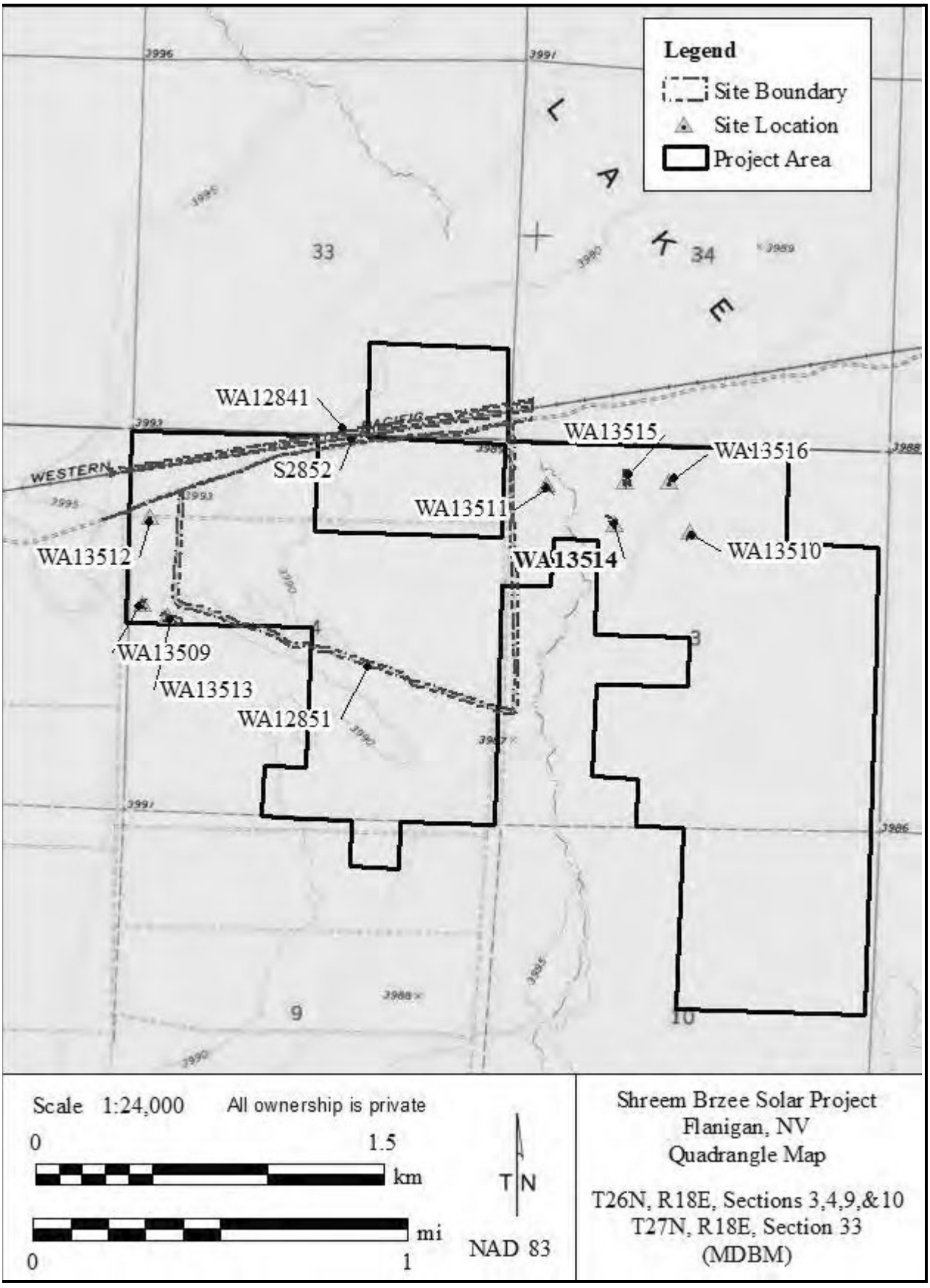
Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

Count	Density m²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
10	3	Chert	(LS) Lithic Scatter/Concentration		Black, red and a brown late stage reduction.
6	2	Obsidian	(LS) Lithic Scatter/Concentration		Small tertiary debitage, black translucent.
4	1	(LB) Lithic Sources: Basalt	(LS) Lithic Scatter/Concentration		Late stage tertiary flakes.

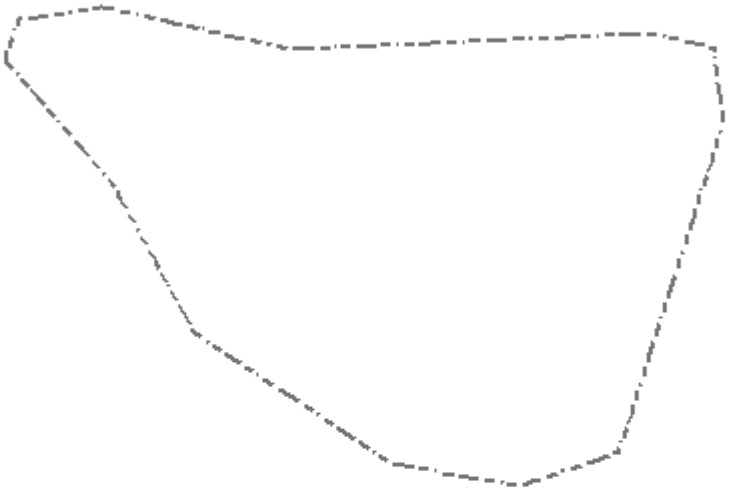
Bibliography:

National Park Service (NPS)
1995 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.

Attachments: 7.5 minute USGS Location Map; Site Sketch Map; photographs


Legend
Site Boundary
Site Location
Project Area
WA12841
S2852
WA13515
WA13516
WA13511
WA13512
WA13514
WA13510
WA13509
WA13513
WA12851
WESTERN
33
34
3
4
9
10
Scale 1:24,000
All ownership is private
0
1.5
km
mi
0
1
T N
NAD 83
Shreem Brzee Solar Project
Flanigan, NV
Quadrangle Map
T26N, R18E, Sections 3,4,9,&10
T27N, R18E, Section 33
(MDBM)

26Wa13514
31 m N/S x 48 m E/W
Recorded: 11/05/2023
By: S. Simpson
S. Simpson 11/15/2023



Legend

Project Area

Site Boundary

Scale 1:500

0 20 Meters

0 80 Feet

T N

NAD 83

T26N, R18E
S. 3
(MDBM)

Inventory for the Shreem Brzee Solar Project Washoe County, Nevada Mesa Field Services

Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
26	26Wa13514	Site overview	350º	248315	4449219	11/05/23
27	26Wa13514	Site overview	130º	248276	4449240	11/05/23



Log 1, Image 26, 26Wa13514, Site Overview (350°)
Shreem Brzee Solar Project, UTM Zone 11, 248315 E/ 4449219 N



Log 1, Image 27, 26Wa13514, Site Overview (130°)
Shreem Brzee Solar Project, UTM Zone 11, 248276 E/ 4449240N

Eligibility: Unevaluated __ Not eligible_X_ Eligible __ Criteria: A__B__C__D__ by: concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data

1. State Site No: 26Wa13515
2. County: Washoe
3. BLM Site No: Not Applicable
4. Project Name: A Class III Inventory for the Shreem Brzee Solar Project, Washoe County, Nevada

5. Temporary/Field Site No: 1560-7
6. BLM Report No: Not Applicable

7. Site/Property Name:
8. Site Class: Prehistoric
Historic Theme/Affiliation: Unknown
Site area: 87 m N/S x 37 m E/W
Age: **Dating Method:** N/A

Depth of Cultural Fill: surface

9. Site description:
This newly recorded prehistoric site is a small lithic scatter comprised of 32 recorded pieces of debitage. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. The materials are late-stage reduction being less than two centimeters in length and lacking much cortex. The site has at most three flakes per square meter with an average of one flake every three to five meters. The artifacts are comprised of 12 red, brown, and black chert flakes, 14 translucent black obsidian tertiary flakes and six fine grained volcanic or basalt flakes. The debitage is typical of late stage lithic reduction with all but two flakes lacking cortex. No tools were identified at this site and the site lacks an association with tools or temporally diagnostic artifacts.

National Register Justification:
The prehistoric site consists of a limited debitage scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake Valley marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

10. Elevation: 3,990 ft.
11. UTM Grid: Zone 11, 248367 m E/ 4449398 m N
12. Township/Range (to quarter section only): NW¼ of Section 3, Township 26 North, Range 18 East
13. Meridian: Mt. Diablo
14. Map Reference: *Flanigan, Nev.* 7.5-min USGS quad. 1964 (Photorevised, 1981)
15. Land Owner: Private
16. BLM District and Field Office: N/A
17. Photographs (attach photo log): Log 1, Images 33 through 34
18. Recorded by: S. Simpson, J. Soto
Date: 11/05/2023
19. Survey Organization: Mesa Field Services
20. Distance to Permanent Water (meters X 100): 17.9
Type: Spring
21. Geographic Unit: Honey Lake Valley (BMG)
22. Topographic Location/Primary Landform: Valley
23. Depositional Context: Alluvial Plain
24. Vegetation Community (primary only): Little Sagebrush

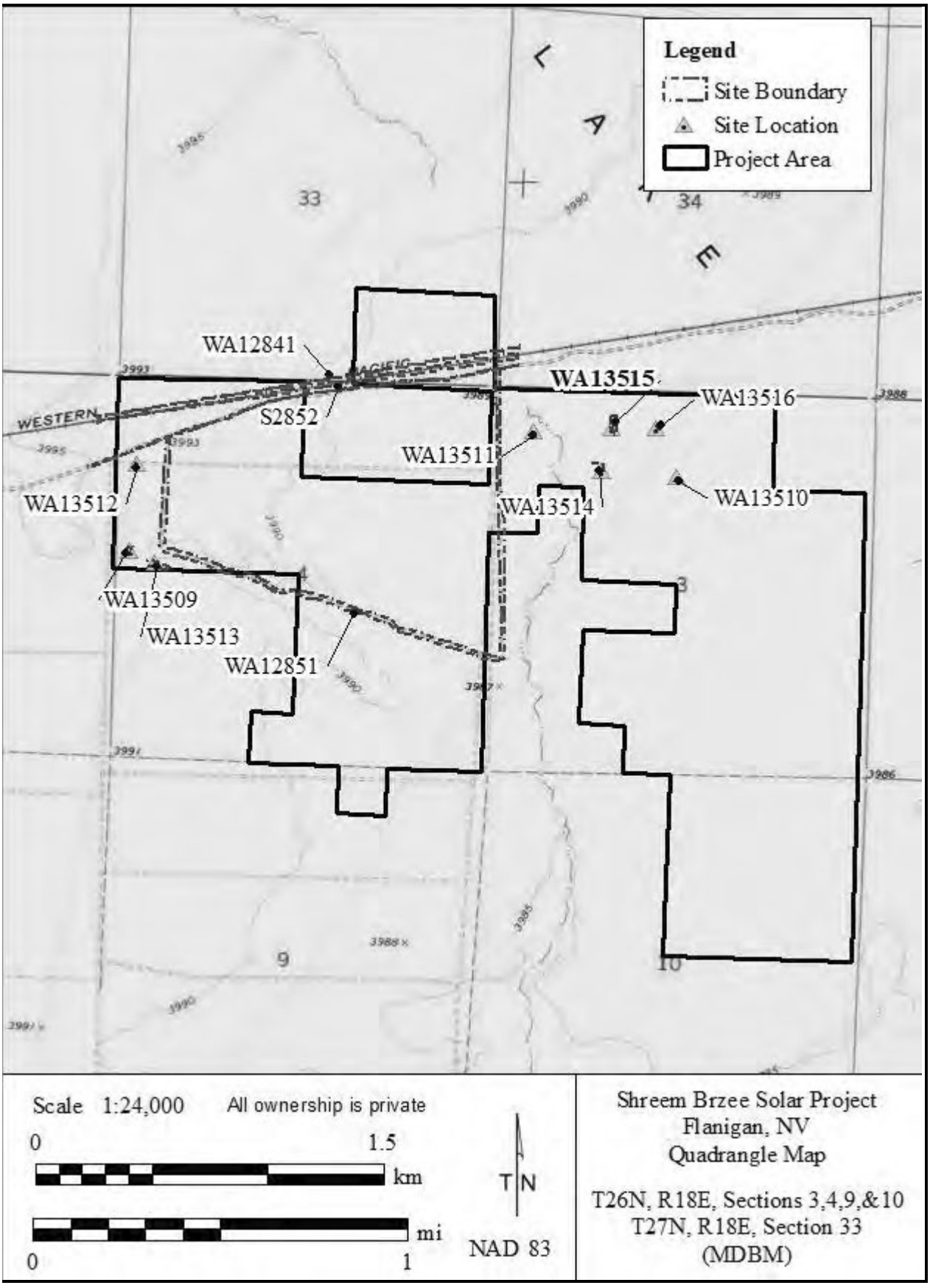
Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

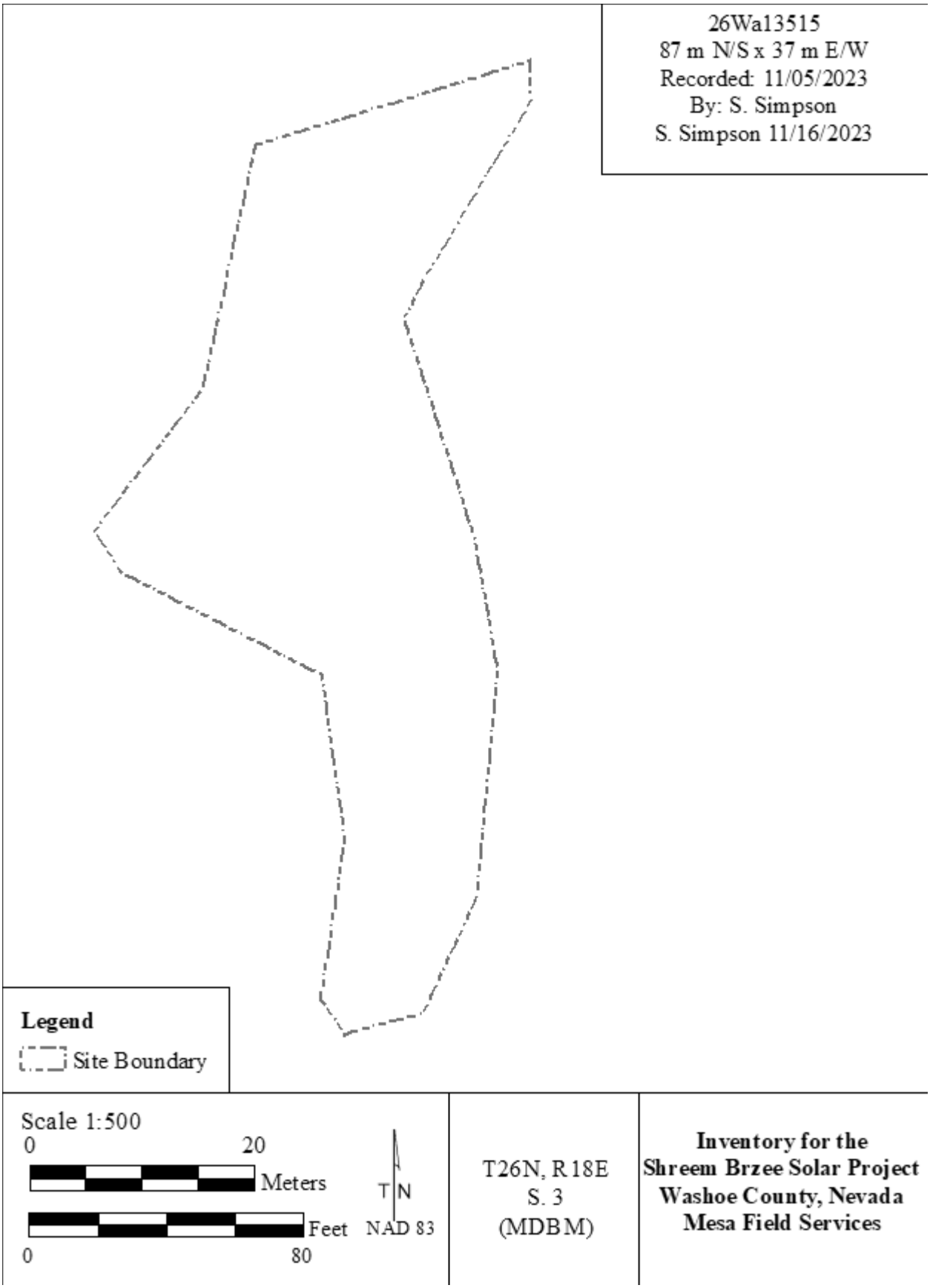
Count	Density m²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
12	3	Chert	(LS) Lithic Scatter/Concentration		Red, brown, and black.
14	3	Obsidian	(LS) Lithic Scatter/Concentration		Small tertiary debitage, black translucent.
6	1	(LB) Lithic Sources: Basalt	(LS) Lithic Scatter/Concentration		Late stage tertiary flakes.

Bibliography:

National Park Service (NPS)
1995 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.

Attachments: 7.5 minute USGS Location Map; Site Sketch Map; photographs


Legend
Site Boundary
Site Location
Project Area
WA12841
WA13515
WA13516
S2852
WA13511
WA13512
WA13514
WA13510
WA13509
WA13513
WA12851
WESTERN
33
34
9
10
Scale 1:24,000
All ownership is private
0
1.5
km
mi
0
1
T N
NAD 83
Shreem Brzee Solar Project
Flanigan, NV
Quadrangle Map
T26N, R18E, Sections 3,4,9,&10
T27N, R18E, Section 33
(MDBM)


26Wa13515
87 m N/S x 37 m E/W
Recorded: 11/05/2023
By: S. Simpson
S. Simpson 11/16/2023
Legend
Site Boundary
Scale 1:500
0
20
Meters
Feet
0
80
T N
NAD 83
T26N, R18E
S. 3
(MDBM)
Inventory for the
Shreem Brzee Solar Project
Washoe County, Nevada
Mesa Field Services

Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
33	26Wa13515	Site overview	360º	248372	4449352	11/05/23
34	26Wa13515	Site overview	140º	248352	4449442	11/05/23



Log 1, Image 33, 26Wa13515, Site Overview (360°)
Shreem Brzee Solar Project, UTM Zone 11, 248372 E/ 4449351 N



Log 1, Image 34, 26Wa13515, Site Overview (140°)
Shreem Brzee Solar Project, UTM Zone 11, 248352 E/ 4449442 N

Eligibility: Unevaluated __ Not eligible_X_ Eligible __ Criteria: A__B__C__D__ by: concur:

NEVADA IMACS SITE FORM

Administrative and Environmental Data
1. State Site No: 26Wa13516
2. County: Washoe
3. BLM Site No: Not Applicable
4. Project Name: A Class III Inventory for the Shreem Brzee Solar Project, Washoe County, Nevada

5. Temporary/Field Site No: 1560-8
6. BLM Report No: Not Applicable

7. Site/Property Name:
8. Site Class: Prehistoric **Historic Theme/Affiliation:** Unknown
Site area: 11 m N/S x 17 m E/W **Age:** **Dating Method:** N/A

Depth of Cultural Fill: surface

9. Site description:
This newly recorded prehistoric site is a small fire cracked rock scatter with one mano fragment (A-1) and fragments of three slab metates (A-2 through A-4). A light scatter of approximately 10 pieces of fire cracked rock or vesicular basalt form the site boundary. No debitage or other stone tools were observed. The ground surface is comprised of light-colored silt lacking vegetation between areas of sage brush allowing for about a 90 percent surface visibility. All artifacts are the same material and the fire cracked rock scatter may represent a disintegrated parts of various groundstone tools. The mano has facets on both sides and is fire cracked as well. The slab metate fragments are formally prepared slabs with pitted or sharpened and well used surfaces. The site lacks an association with tools or temporally diagnostic artifacts.

National Register Justification:
The prehistoric site consists of a limited groundstone and fire cracked rock scatter. Unless significant subsurface deposits or additional artifacts such as diagnostic projectile points can be identified the research potential of the prehistoric site is limited. According to the National Park Service (NPS 1995:22) "a property is not eligible if it cannot be related to a particular time period or cultural group and, as a result, lacks any historic context within which to evaluate the importance of the information to be gained." Therefore, this prehistoric site is recommended as not eligible to the NRHP under any of the four National Register criteria. The site is recommended not eligible to the NRHP under Criterion A for it cannot be identified as the best example of a particular type of site or the earliest or latest example of a specific prehistoric period occupation in the Honey Lake Valley marking a significant transitional event. Due to the lack of written records, the prehistoric site cannot be identified with a specific individual and is recommended not eligible to the NRHP under Criterion B. The site is recommended not eligible under Criterion C for it is a limited scatter of two artifacts and lacks evidence for a built environment, unique features, or evidence of unique spatial patterning. It is doubtful significant subsurface deposits exists in the form of diagnostic projectile points, a substantial obsidian artifact collection sufficient for hydration analysis or intact datable fire hearths. The prehistoric site lacks a temporal affiliation and cannot address important research questions outlined for prehistoric sites for the current investigation.

10. Elevation: 3,989 ft. **11. UTM Grid:** Zone 11, 248557 m E/ 4449387 m N
12. Township/Range (to quarter section only): NW¼ of Section 3, Township 26 North, Range 18 East
13. Meridian: Mt. Diablo **14. Map Reference:** *Flanigan, Nev.* 7.5-min USGS quad. 1964 (Photorevised, 1981)
15. Land Owner: Private **16. BLM District and Field Office:** N/A
17. Photographs (attach photo log): Log 1, Images 35 through 48
18. Recorded by: S. Simpson, J. Soto **Date:** 11/05/2023 **19. Survey Organization:** Mesa Field Services
20. Distance to Permanent Water (meters X 100): 17.9 **Type:** Spring
21. Geographic Unit: Honey Lake Valley (BMG)
22. Topographic Location/Primary Landform: Valley
23. Depositional Context: Alluvial Plain **24. Vegetation Community (primary only):** Little Sagebrush

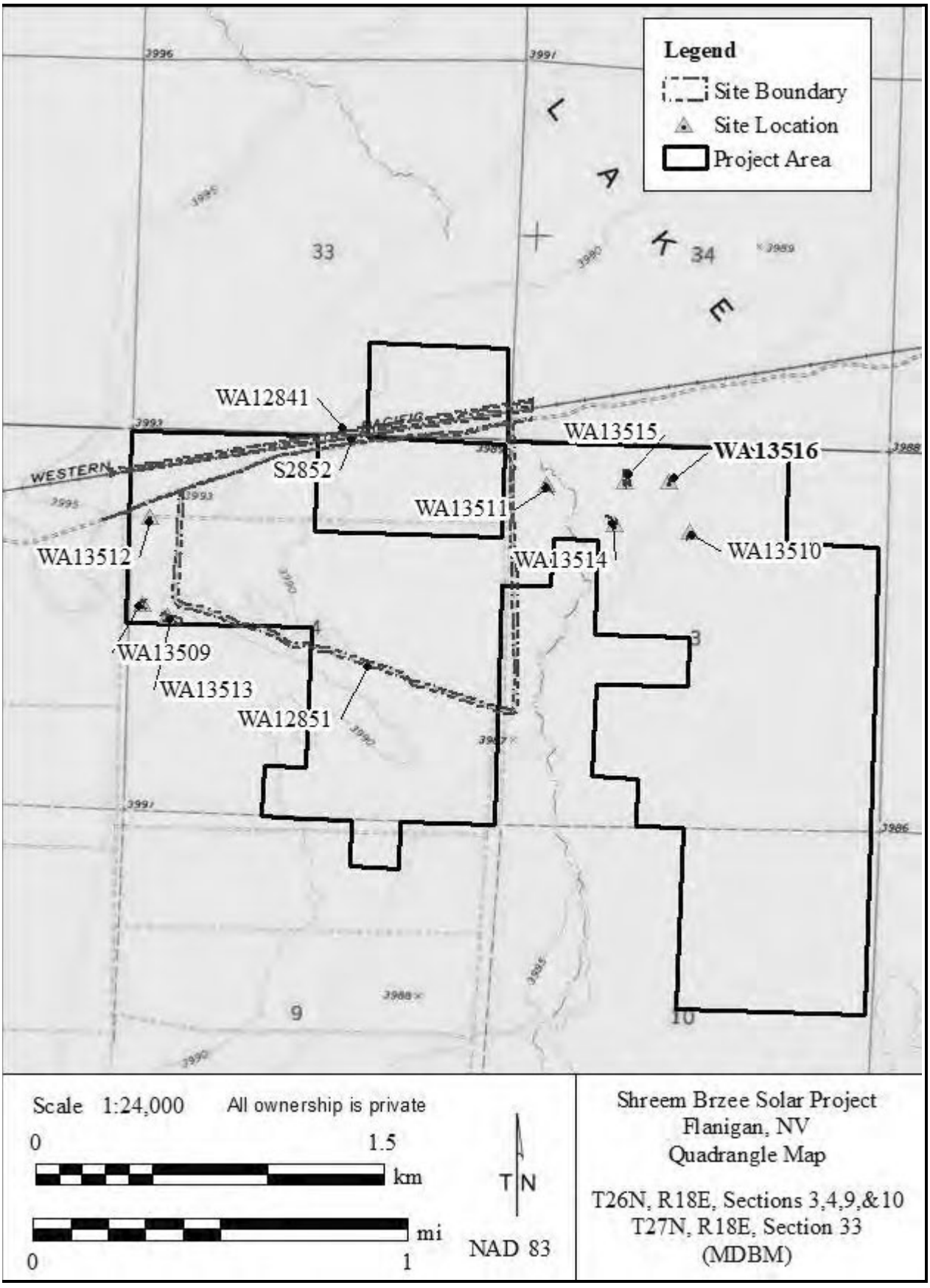
Artifact Summary: Record all culturally modified materials and artifacts (including but not limited to: projectile points, bifaces, debitage, groundstone, beads, FCR, textiles, glass, cans, ceramics, etc.) using **IMACS USER'S GUIDE** categories.

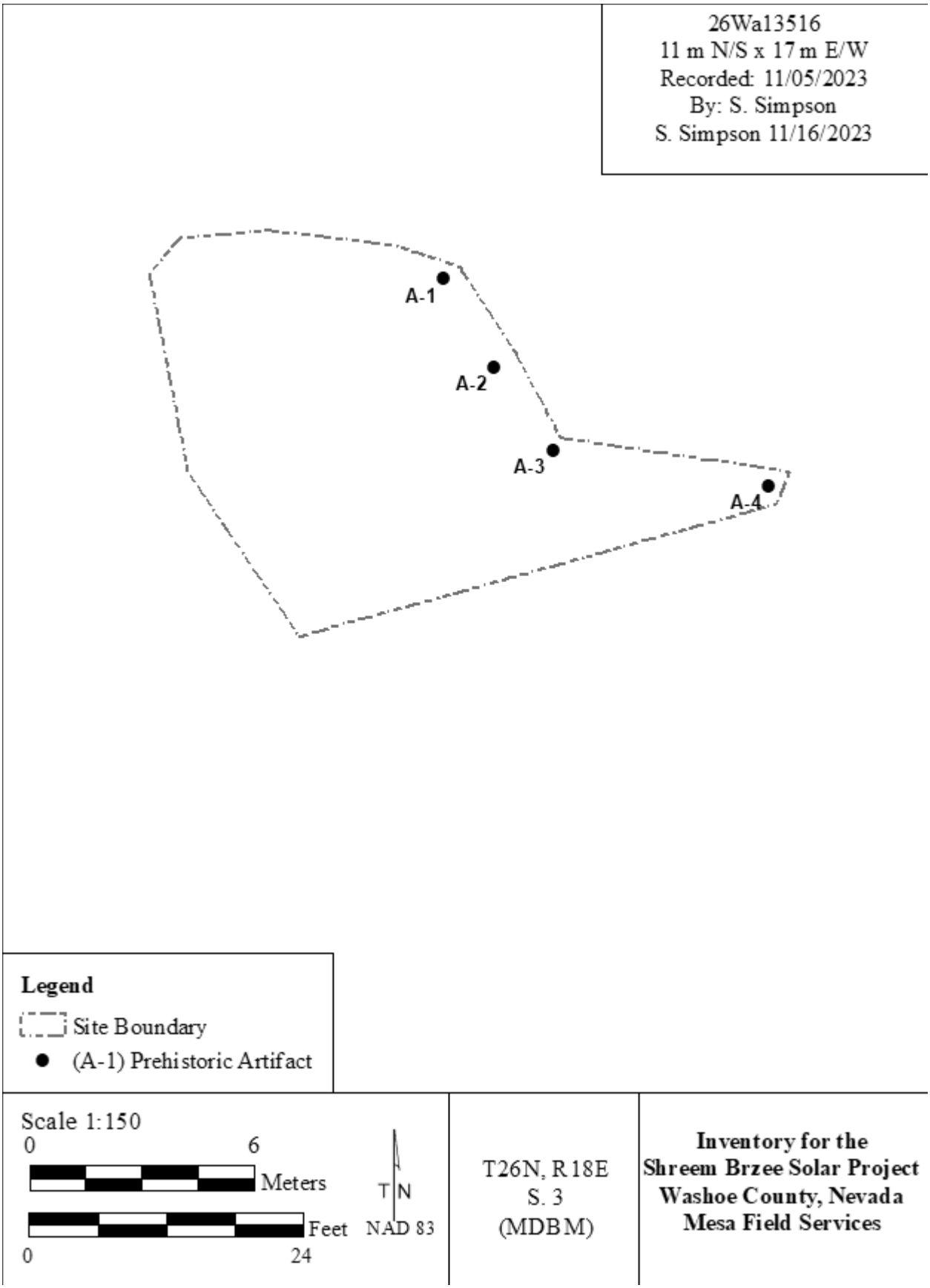
Count	Density m²	Material	Artifact	Measurements (d x h) or (l x w x h)	Comments
10	1	(VB) Vesicular Basalt Scatter	(BS) Scattered Burned Stone/Firecracked Rock Scatter	Fragments	Metate fragments possibly.
1	1	(VB) Vesicular Basalt Scatter	(NA) Mano (single-handed)	7 x 6 x 4.5 cm	A-1: One handed mano fragment of fine grained volcanic.
1	1	(VB) Vesicular Basalt Scatter	(ME) Slab Milling Stone: Portable	15 x 12 x 4.5 cm	A-2: Metate fragment with one preserved facet.
1	1	(VB) Vesicular Basalt Scatter	(ME) Slab Milling Stone: Portable	9.5 x 7 x 2 cm	A-3: Metate fragment with one preserved facet and bifacially worked along one edge and used for pecking.
1	1	(VB) Vesicular Basalt Scatter	(ME) Slab Milling Stone: Portable	20 x 14 x 4.5 cm	A-4: Metate fragment with one preserved facet.

Bibliography:

National Park Service (NPS)
1995 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin, No. 15. U.S. Department of the Interior, National Park Service.

Attachments: 7.5 minute USGS Location Map; Site Sketch Map; photographs


Legend
Site Boundary
Site Location
Project Area
WA12841
WA13515
WA13516
S2852
WA13511
WA13512
WA13514
WA13510
WA13509
WA13513
WA12851
WESTERN
33
34
9
10
Scale 1:24,000
All ownership is private
0
1.5
km
mi
0
1
T N
NAD 83
Shreem Brzee Solar Project
Flanigan, NV
Quadrangle Map
T26N, R18E, Sections 3,4,9,&10
T27N, R18E, Section 33
(MDBM)


26Wa13516
11 m N/S x 17 m E/W
Recorded: 11/05/2023
By: S. Simpson
S. Simpson 11/16/2023
A-1
A-2
A-3
A-4
Legend
Site Boundary
(A-1) Prehistoric Artifact
Scale 1:150
0
6
Meters
Feet
0
24
T N
NAD 83
T26N, R18E
S. 3
(MDBM)
Inventory for the
Shreem Brzee Solar Project
Washoe County, Nevada
Mesa Field Services

Mesa Field Services
Image Log 1

No.	Site No.	Description	Bearing	Location UTM's (NAD 83)		Date
				Easting	Northing	
35	26Wa13516	A-1: Side A	Plan	248559	4449391	11/05/23
36	26Wa13516	A-1: Side B	Plan	248559	4449391	11/05/23
37	26Wa13516	A-1: Profile	Profile	248559	4449391	11/05/23
38	26Wa13516	A-2: Side A	Plan	248561	4449389	11/05/23
39	26Wa13516	A-2: Side B	Plan	248561	4449389	11/05/23
40	26Wa13516	A-2: Profile	Profile	248561	4449389	11/05/23
41	26Wa13516	A-3: Side A	Plan	248562	4449387	11/05/23
42	26Wa13516	A-3: Side B	Plan	248562	4449387	11/05/23
43	26Wa13516	A-3: Profile	Profile	248562	4449387	11/05/23
44	26Wa13516	A-4: Side A	Plan	248568	4449386	11/05/23
45	26Wa13516	A-4: Side B	Plan	248568	4449386	11/05/23
46	26Wa13516	A-4: Profile	Profile	248568	4449386	11/05/23
47	26Wa13516	Site overview	110º	248546	4449396	11/05/23
48	26Wa13516	Site overview	270º	248567	4449392	11/05/23



Log 1, Image 35, 26Wa13516, A-1 Side A, Fine Grained Volcanic, Mano fragment, 7 cm x 6 cm x 4.5 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248559 E/ 4449391 N



Log 1, Image 36, 26Wa13516, A-1 Side B, Fine Grained Volcanic, Mano fragment, 7 cm x 6 cm x 4.5 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248559 E/ 4449391 N



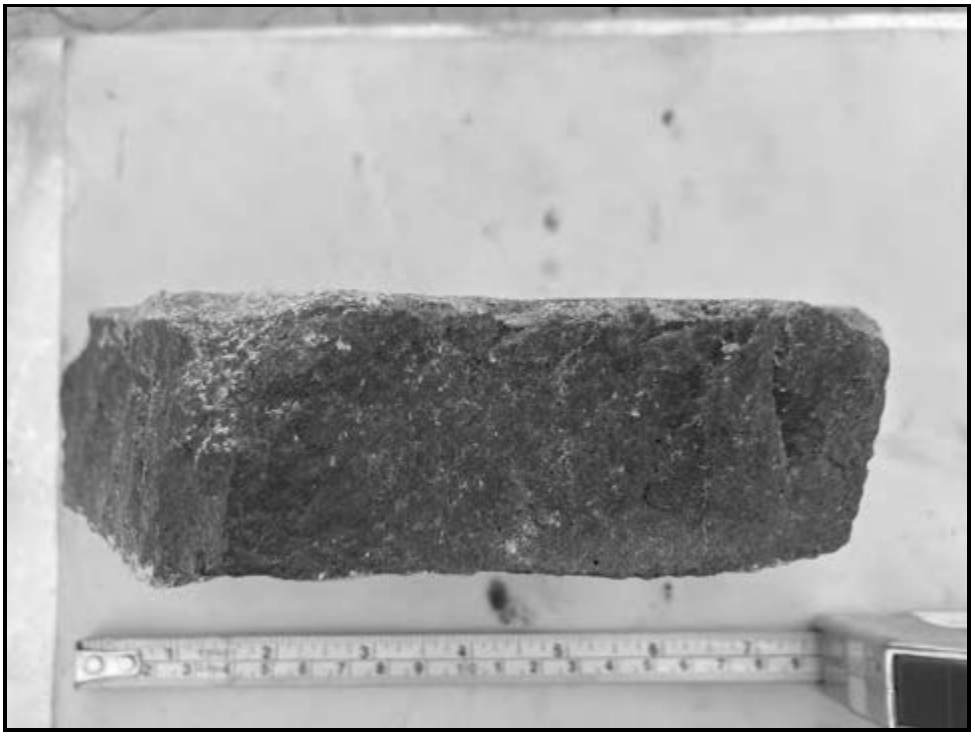
Log 1, Image 37, 26Wa13516, A-1 Profile, Fine Grained Volcanic, Mano fragment, Mano fragment, 7 cm x 6 cm x 4.5 cm
Shreem Brzee Solar Project, UTM Zone 11, 248559 E/ 4449391 N



Log 1, Image 38, 26Wa13516, A-2 Side A, Fine Grained Volcanic, slab metate fragment, 15 cm x 12 cm x 4.5 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248561 E/ 4449389 N



Log 1, Image 39, 26Wa13516, A-2 Side B, Fine Grained Volcanic, slab metate fragment, 15 cm x 12 cm x 4.5 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248561 E/ 4449389 N



Log 1, Image 40, 26Wa13516, A-2 Profile, Fine Grained Volcanic, slab metate fragment, 15 cm x 12 cm x 4.5 cm
Shreem Brzee Solar Project, UTM Zone 11, 248561 E/ 4449389 N



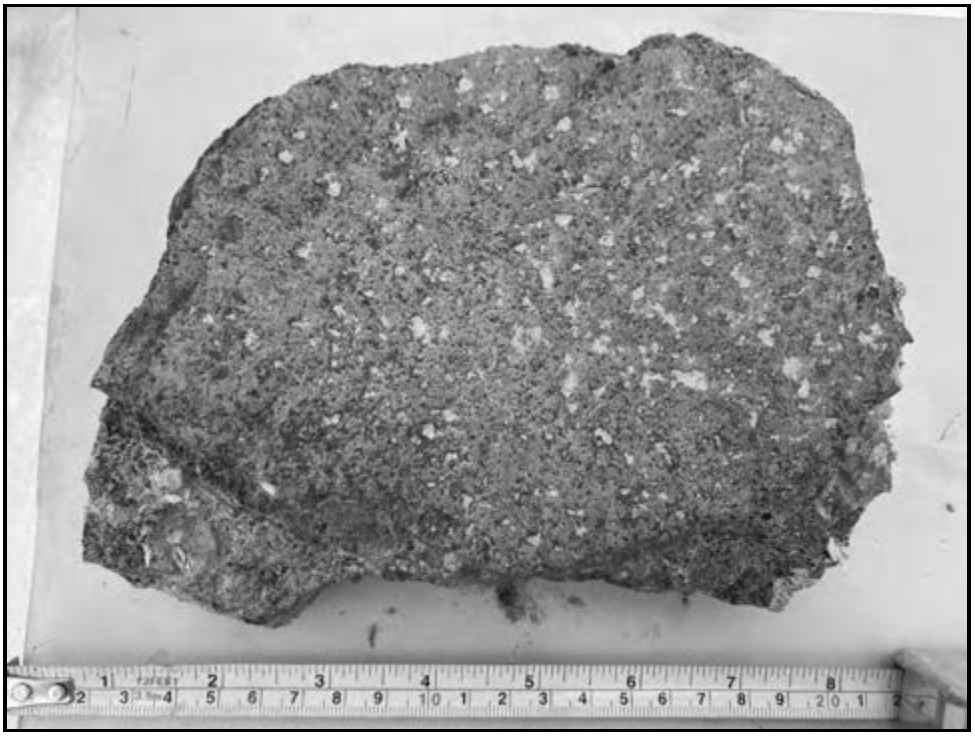
Log 1, Image 41, 26Wa13516, A-3 Side A, Fine Grained Volcanic, slab metate fragment, 9.5 cm x 7 cm x 2 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248562 E/ 4449387 N



Log 1, Image 42, 26Wa13516, A-3 Side B, Fine Grained Volcanic, slab metate fragment, 9.5 cm x 7 cm x 2 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248562 E/ 4449387 N



Log 1, Image 43, 26Wa13516, A-3 Profile, Fine Grained Volcanic, slab metate fragment, 9.5 cm x 7 cm x 2 cm
Shreem Brzee Solar Project, UTM Zone 11, 248562 E/ 4449387 N



Log 1, Image 44, 26Wa13516, A-4 Side A, Fine Grained Volcanic, slab metate fragment, 20 cm x 14 cm x 4.5 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248568 E/ 4449386 N



Log 1, Image 45, 26Wa13516, A-4 Side B, Fine Grained Volcanic, slab metate fragment, 20 cm x 14 cm x 4.5 cm (Plan)
Shreem Brzee Solar Project, UTM Zone 11, 248568 E/ 4449386 N



Log 1, Image 44, 26Wa13516, A-4 Profile, Fine Grained Volcanic, slab metate fragment, 20 cm x 14 cm x 4.5 cm
Shreem Brzee Solar Project, UTM Zone 11, 248568 E/ 4449386 N



Log 1, Image 47, 26Wa13516, Site Overview (110°)
Shreem Brzee Solar Project, UTM Zone 11, 248546 E/ 4449396 N



Log 1, Image 48, 26Wa13516, Site Overview (270°)
Shreem Brzee Solar Project, UTM Zone 11, 248567 E/ 4449392 N

Appendix D – El Centro BESS Project Noise Study

EILAR ASSOCIATES, INC.

Acoustical and Environmental Consulting

210 South Juniper Street, Suite 100, Escondido, CA 92025
Phone: 760-738-5570 or 800-439-8205 • Fax: 760-738-5227
www.eilarassociates.com • info@eilarassociates.com

September 15, 2016

Job #B60902N1

Tri-Technic, Inc.
Attention: Dennis Ledbetter
185 South Fairview Lane
Sonora, California 95370

Subject: Post-Installation Noise Measurements for IID El Centro BESS Project

Eilar Associates has conducted post-installation noise measurements of the noise-generating equipment at the recently constructed Imperial Irrigation District (IID) Battery Energy Storage System (BESS) in El Centro. Post-installation noise measurements aim to determine compliance with project noise requirements as well as noise requirements contained within the City of El Centro Municipal Code.

Project Description & Noise Sources

The subject property is located at 485 East Villa Avenue in the City of El Centro, California. Please refer to Figures 1 through 3 for a Vicinity Map, Satellite Aerial Photograph, and Topographic Map of the site, respectively. The project site is zoned LU (Limited Use). The property to the west is zoned ML (Light Manufacturing), and the property to the South is zoned MG (General Manufacturing). Properties to the north and east are located within the County of Imperial, and are zoned A2U (General Agricultural).

The project included the construction of a new building to house an array of batteries, with a total capacity of 30 MW. A total of 32 transformers and 30 inverters associated with the battery system were also installed on post-tensioned concrete slabs at the exterior of the building, as well as air conditioning equipment serving the building. For additional project details and equipment positioning, please refer to the project plans, provided in Appendix A.

Noise and Sound Level Descriptors

All noise level or sound level values presented herein are expressed in terms of decibels (dB), with A-weighting, abbreviated "dBA," to approximate the hearing sensitivity of humans. Time-averaged noise levels are expressed by the symbol "L_{EQ}." Unless a different time period is specified, "L_{EQ}" is implied to mean a period of one hour.

Methodology

Decibel Addition

To determine the combined logarithmic noise level of two known noise source levels, the values are converted to the base values, added together, and then converted back to the final logarithmic value, using the following formula:

$$L_C = 10\log(10^{L1/10} + 10^{L2/10} + 10^{LN/10})$$

where L_C = the combined noise level (dB), and
L_N = the individual noise sources (dB).

Cadna Noise Modeling Software

Modeling of the outdoor noise environment is accomplished using Cadna Version 4.6, which is a model-based computer program developed by DataKustik for predicting noise impacts in a wide variety of conditions. Cadna (Computer Aided Noise Abatement) assists in the calculation, presentation, assessment, and alleviation of noise exposure. It allows for the input of project information such as noise source data, barriers, structures, and topography to create a detailed model and uses the most up-to-date calculation standards to predict outdoor noise impacts.

Applicable Noise Standards

According to the engineering, procurement, and construction requirements document for this project, the maximum sound level generated by the BESS systems and associated equipment should not exceed a noise level of 60 dBA at a distance of 50 feet from the substation fence or building exterior, or as required by local ordinances. As there are no sensitive receivers located within 50 feet of the building exterior, the noise limits have been evaluated at the closest fence lines to the facility, at the north and west property lines of the project site. The noise regulations applicable to this project are contained within the City of El Centro and County of Imperial Municipal Codes which specify noise limits based on the zoning of the property in question.

According to Section 17.1.4 of the City of El Centro Municipal Code, the noise limit for properties zoned LU is an hourly average of 60 dBA L_{EQ} between the hours of 7 a.m. and 10 p.m., and 55 dBA L_{EQ} between the hours of 10 p.m. and 7 a.m. The noise limit for properties zoned for manufacturing is an hourly average of 75 dBA L_{EQ} between the hours of 7 a.m. and 10 p.m., and 70 dBA L_{EQ} between the hours of 10 p.m. and 7 a.m. Additionally, according to the municipal code, the noise limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts. As the BESS facility may operate during any hour on any given day, the more restrictive nighttime noise limits would apply. Therefore, the nighttime noise limit of 62.5 dBA L_{EQ} would apply at the west and south property lines.

According to Title 9, Division 7, Chapter 2 (Sound Level Limits) of the County of Imperial Municipal Code, the noise limit for properties zoned for agricultural use is an hourly average of 70 dBA L_{EQ} at any time.

Measurement Equipment

The following equipment was used at the site to measure noise levels:

- Larson Davis Model LxT Type 1 Integrating Sound Level Meter, Serial #4084
- Larson Davis Model CA250 Type 1 Calibrator, Serial #2625
- Tripods, microphones with windscreens
- Distance measurement wheel and tape measure

The sound level meter was field-calibrated immediately prior to all noise level measurements and checked afterwards, to ensure accuracy. All sound level measurements conducted and presented in this report were made with sound level meters that conform to the American National Standards Institute specifications for sound level meters (ANSI S1.4). All instruments are maintained with National Bureau of Standards traceable calibration, per the manufacturers' standards.

On-Site Noise Level Measurements

A site visit was conducted on the morning of Monday, September 12, 2016 to perform noise level measurements with and without the BESS facility in operation, and to determine ambient noise levels in the vicinity of the project. During all noise measurements, the microphone position was placed approximately five feet above grade.

Noise from BESS Air Conditioning Equipment and Gas Turbine Facility Equipment

Upon arrival to the site, the BESS equipment was not in operation; however, the air conditioning equipment serving the BESS facility was in operation. In addition to noise from the operational air conditioning equipment serving the BESS facility, noise from the adjacent gas turbine facility was audible at the site and was the primary source of ambient noise. In order to determine the ambient noise environment without the influence of equipment operation at the BESS facility, measurements were conducted at several locations around the BESS facility. Close-range noise measurements were then conducted of the air conditioning equipment to incorporate into a Cadna noise model for verification of results, and to estimate the noise contribution of the adjacent gas turbine facility. Using the methodology described above, the modeled/calculated noise level was subtracted from the measured noise level at each receiver location to estimate the ambient noise level at each receiver.

Please refer to Table 1 for results of these measurements and calculations. For a graphical representation of the noise measurement locations and equipment noise contours, please refer to Figure 4.

Table 1. Noise Measurements and Estimated Ambient Noise Levels				
Location	**Dominant Noise Source(s)**	**Noise Level (dBA)**		
		Measured Noise Level (Ambient + HVAC)	**Calculated Noise Level (HVAC Only)**	**Calculated Ambient Noise Level**
Cal 1	HVAC	79.8	79.8	< 60
Cal 2	HVAC	78.8	78.7	< 60
Cal 3	HVAC, Gas Turbine Equipment	63.8	59.7	61.7
Cal 4	Gas Turbine Equipment, HVAC	59.5	53.5	58.2
Cal 5	Gas Turbine Equipment	59.5	49.5	59.5
Cal 6	Gas Turbine Equipment, HVAC	54.9	47.4	54.0
Cal 7	HVAC, Gas Turbine Equipment	61.1	57.4	58.7
Cal 8	Gas Turbine Equipment, HVAC	59.8	55.1	58.0
Cal 9	HVAC	N/A	70.8	< 60

Noise from BESS Air Conditioning Equipment and Gas Turbine Facility Equipment

After establishing the HVAC and ambient noise levels surrounding the facility, noise level measurements were then conducted with the BESS facility equipment in operation at full discharge. In order to determine the noise impacts from equipment associated with the BESS facility, the calculated ambient noise levels were subtracted from the measured noise levels. Please refer to Table 2 for results of these measurements and calculations.

Table 2. Noise Measurements and Estimated BESS Noise Levels				
Location	**Dominant Noise Source(s)**	**Noise Level (dBA)**		
		Measured Noise Level (Ambient + BESS)	**Calculated Ambient Noise Level**	**Adjusted Measured Noise Level (BESS Only)**
Cal 3	BESS Equipment, Gas Turbine Equipment	67.9	61.7	66.7
Cal 4	BESS Equipment , Gas Turbine Equipment	62.0	58.2	59.7
Cal 5	Gas Turbine Equipment	N/A	59.5	N/A
Cal 6	Gas Turbine Equipment, BESS Equipment	55.8	54.0	51.1
Cal 7	BESS Equipment, Gas Turbine Equipment	68.7	58.7	68.2

Table 2. Noise Measurements and Estimated BESS Noise Levels				
Location	**Dominant Noise Source(s)**	**Noise Level (dBA)**		
		Measured Noise Level (Ambient + BESS)	**Calculated Ambient Noise Level**	**Adjusted Measured Noise Level (BESS Only)**
Cal 8	Gas Turbine Equipment, BESS Equipment	60.7	58.0	57.4
Cal 9	BESS Equipment	78.1	< 60	78.1

In order to determine the accuracy of the noise model, the adjusted measured noise levels were compared to the calculated noise levels at the same receiver locations. Typically, a noise model is considered to be calibrated if the results of the noise model fall within three decibels of measurement results at the same locations. Please refer to Table 3 for a comparison of calculated and measured noise levels of equipment associated with the BESS facility. For a graphical representation of BESS equipment noise contours, and receiver locations, please refer to Figure 5.

Table 3. Calculated BESS Noise Levels and Model Verification				
Location	**Dominant Noise Source(s)**	**Noise Level (dBA)**		
		Adjusted Measured Noise Level (BESS Only)	**Calculated Noise Level (BESS Only)**	**Difference**
Cal 1	HVAC	N/A	80.8	N/A
Cal 2	HVAC	N/A	79.2	N/A
Cal 3	BESS Equipment, Gas Turbine Equipment	66.7	67.9	1.2
Cal 4	BESS Equipment, Gas Turbine Equipment	59.7	61.3	1.6
Cal 5	Gas Turbine Equipment	N/A	57.1	N/A
Cal 6	Gas Turbine Equipment, BESS Equipment	51.1	55.3	4.2
Cal 7	BESS Equipment, Gas Turbine Equipment	68.2	68.2	0.0
Cal 8	Gas Turbine Equipment, BESS Equipment	57.4	58.3	0.9
Cal 9	BESS Equipment	78.1	76.9	1.2
North Fence	N/A	N/A	54.3	N/A
West Fence	N/A	N/A	48.0	N/A

With the exception of the Cal 6 receiver, all calculated results were found to be within two decibels of the measured noise levels of the BESS facility, once the measured results were adjusted to account for the noise produced by the adjacent gas turbine facility. It should be noted that, as the calculated result at the CAL 6 receiver exceeded the adjusted measurement result at the same

receiver, the model can be considered to be a worst-case representation of anticipated noise levels from the facility. As the measured and calculated results differ by less than three decibels for the majority of the receiver locations, results of the Cadna noise model can be considered to be representative of the anticipated noise impacts from the BESS facility.

As shown above in Table 3, according to the Cadna noise model, anticipated noise levels at the north and west fence lines are expected to be 54.3 dBA and 48.0 dBA, respectively. As these noise levels are below the project criteria of 60 dBA and are also below the applicable nighttime noise limits for the City of El Centro and County of Imperial, the project can be considered to be in compliance as currently constructed. Based on the noise measurements and calculations documented herein, no mitigation is deemed necessary for attenuating exterior noise levels from the BESS facility

Conclusion

As installed, noise levels generated by the BESS facility were determined to be in compliance with project requirements as well as the applicable City of El Centro and County of Imperial noise limits. Based on the noise measurements and calculations documented herein, no mitigation is deemed necessary for attenuating exterior noise levels from the BESS facility.

This report is based on project information received and measured noise levels, and represents a true and factual analysis of the acoustical impact issues associated with the IID BESS facility in the City of El Centro, California. This report was prepared by Jonathan Brothers, Dan Gershun, and Amy Hool.

EILAR ASSOCIATES, INC.

Jonathan Brothers, Principal Acoustical Consultant

Daniel Gershun, Acoustical Consultant

Figures

1. Vicinity Map
2. Satellite Aerial Photograph
3. Topographic Map
4. Satellite Aerial Photograph Showing HVAC Noise Contours and Receiver Locations
5. Satellite Aerial Photograph Showing BESS Equipment Noise Contours and Receiver Locations

Appendix

A. Project Plans

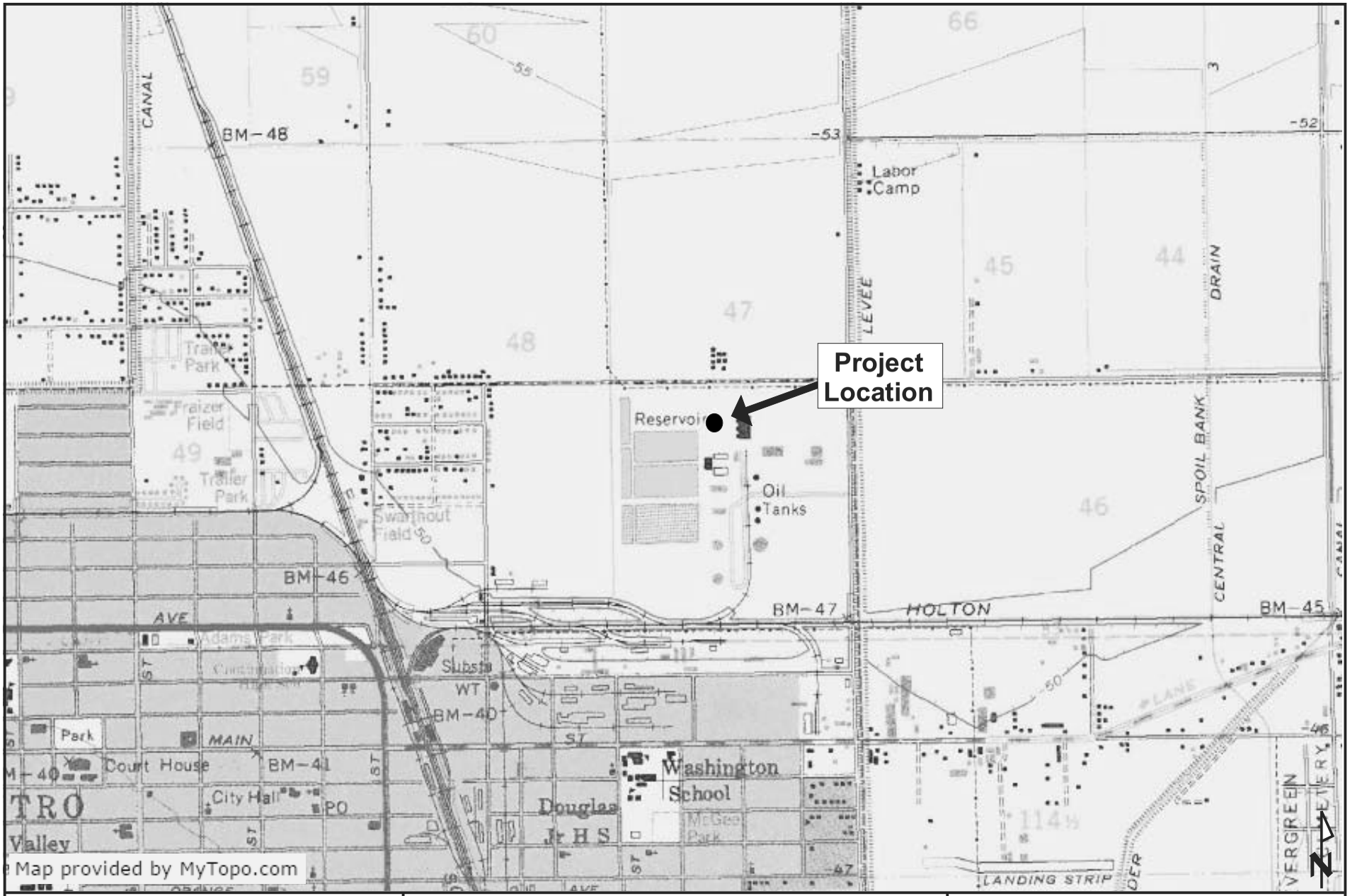
FIGURES



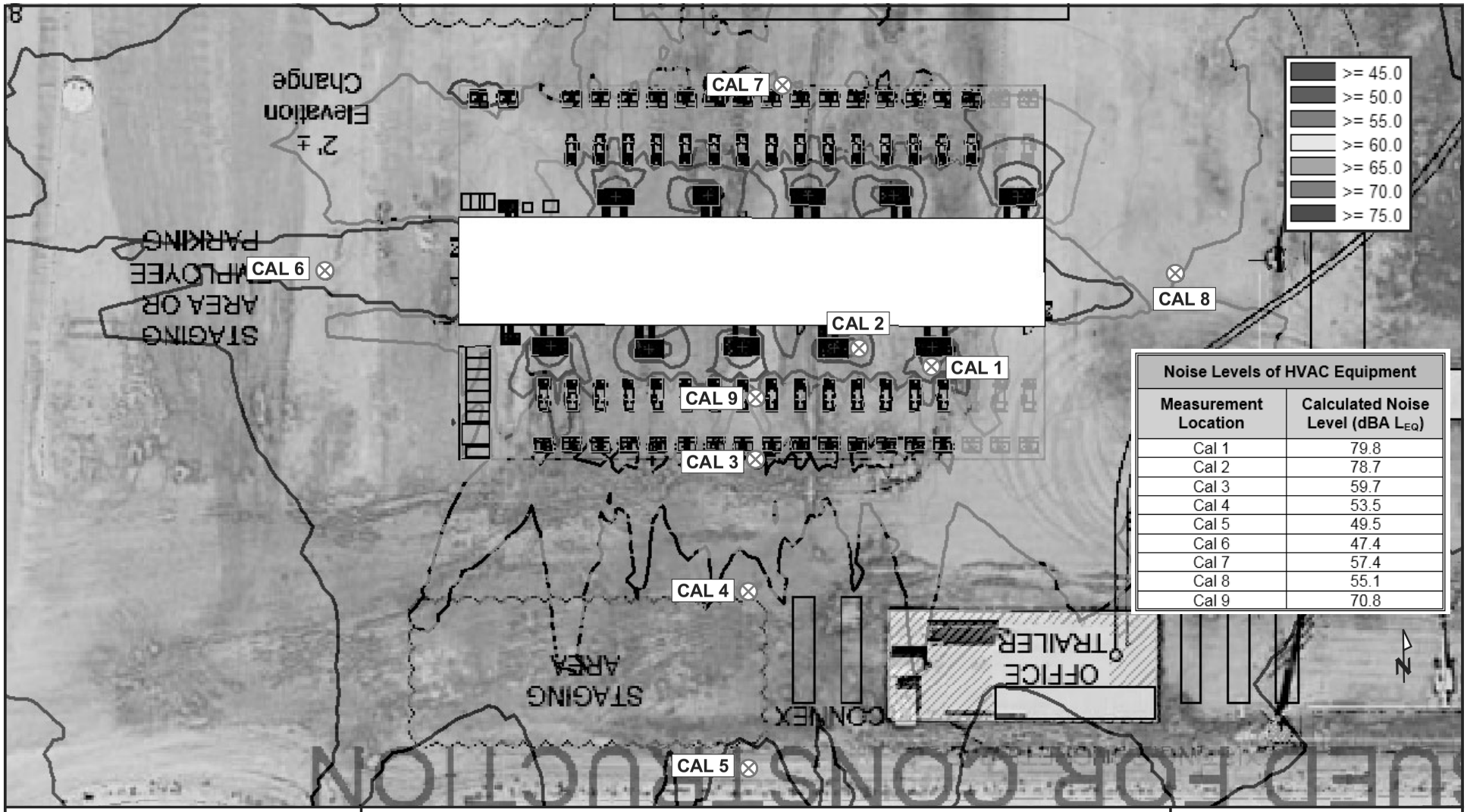
Eilar Associates, Inc. **210 South Juniper Street, Suite 100** **Escondido, California 92025** **760-738-5570**	**Vicinity Map** **Job #B60902N1**	**Figure 1**



Eilar Associates, Inc. **210 South Juniper Street, Suite 100** **Escondido, California 92025** **760-738-5570**	**Satellite Aerial Photograph** **Job # B60902N1**	**Figure 2**



Eilar Associates, Inc. **210 South Juniper Street, Suite 100** **Escondido, California 92025** **760-738-5570**	**Topographic Map** **Job # B60902N1**	**Figure 3**

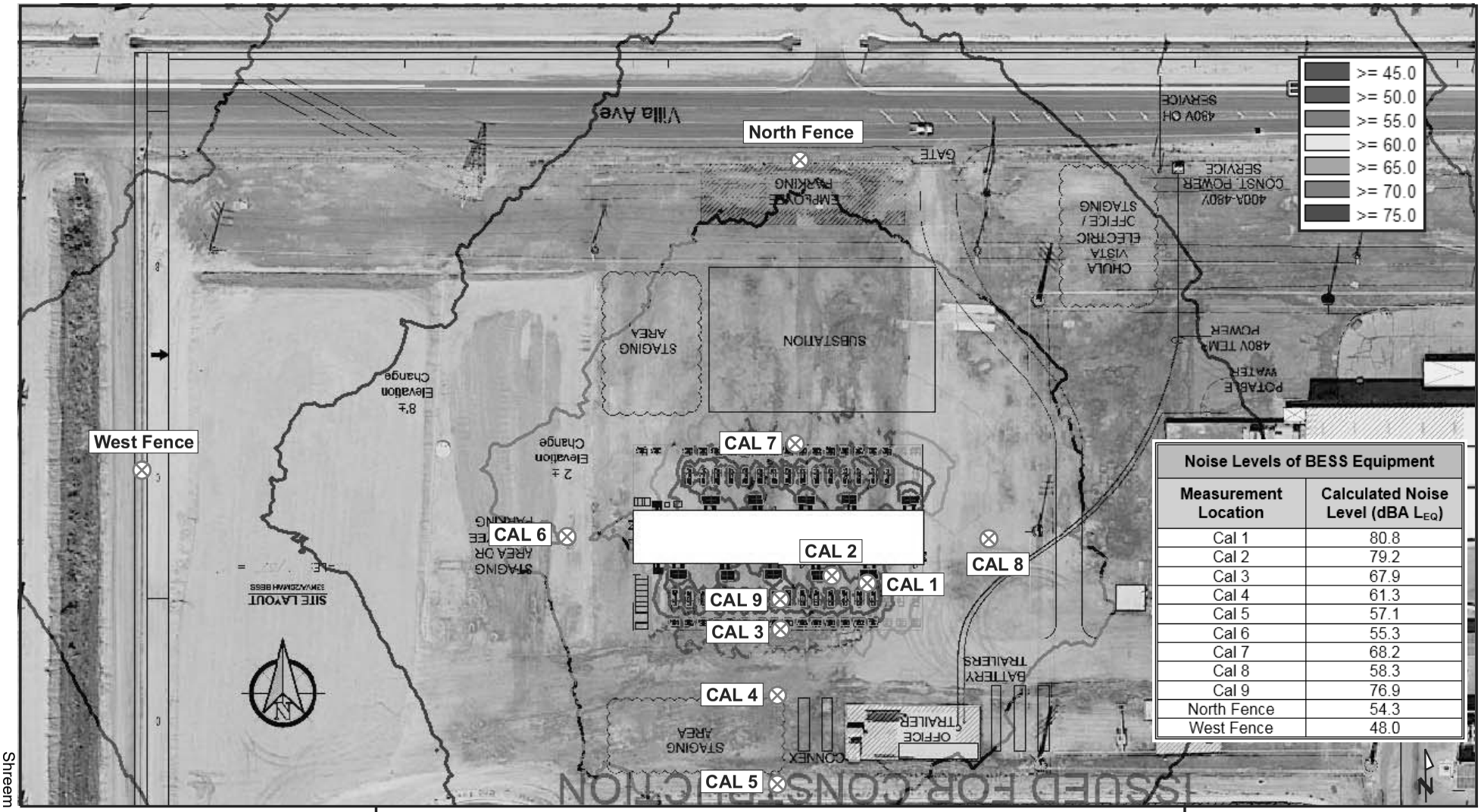


Noise Levels of HVAC Equipment	
Measurement Location	**Calculated Noise Level (dBA L_{EQ})**
Cal 1	79.8
Cal 2	78.7
Cal 3	59.7
Cal 4	53.5
Cal 5	49.5
Cal 6	47.4
Cal 7	57.4
Cal 8	55.1
Cal 9	70.8

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210 South Juniper Street, Suite 100
Escondido, California 92025
760-738-5570

Satellite Aerial Photograph Showing HVAC Noise Contours and Receiver Locations
Job # B60902N1

Figure 4



Noise Levels of BESS Equipment	
Measurement Location	**Calculated Noise Level (dBA L_{EQ})**
Cal 1	80.8
Cal 2	79.2
Cal 3	67.9
Cal 4	61.3
Cal 5	57.1
Cal 6	55.3
Cal 7	68.2
Cal 8	58.3
Cal 9	76.9
North Fence	54.3
West Fence	48.0

Eilar Associates, Inc.
210 South Juniper Street, Suite 100
Escondido, California 92025
760-738-5570

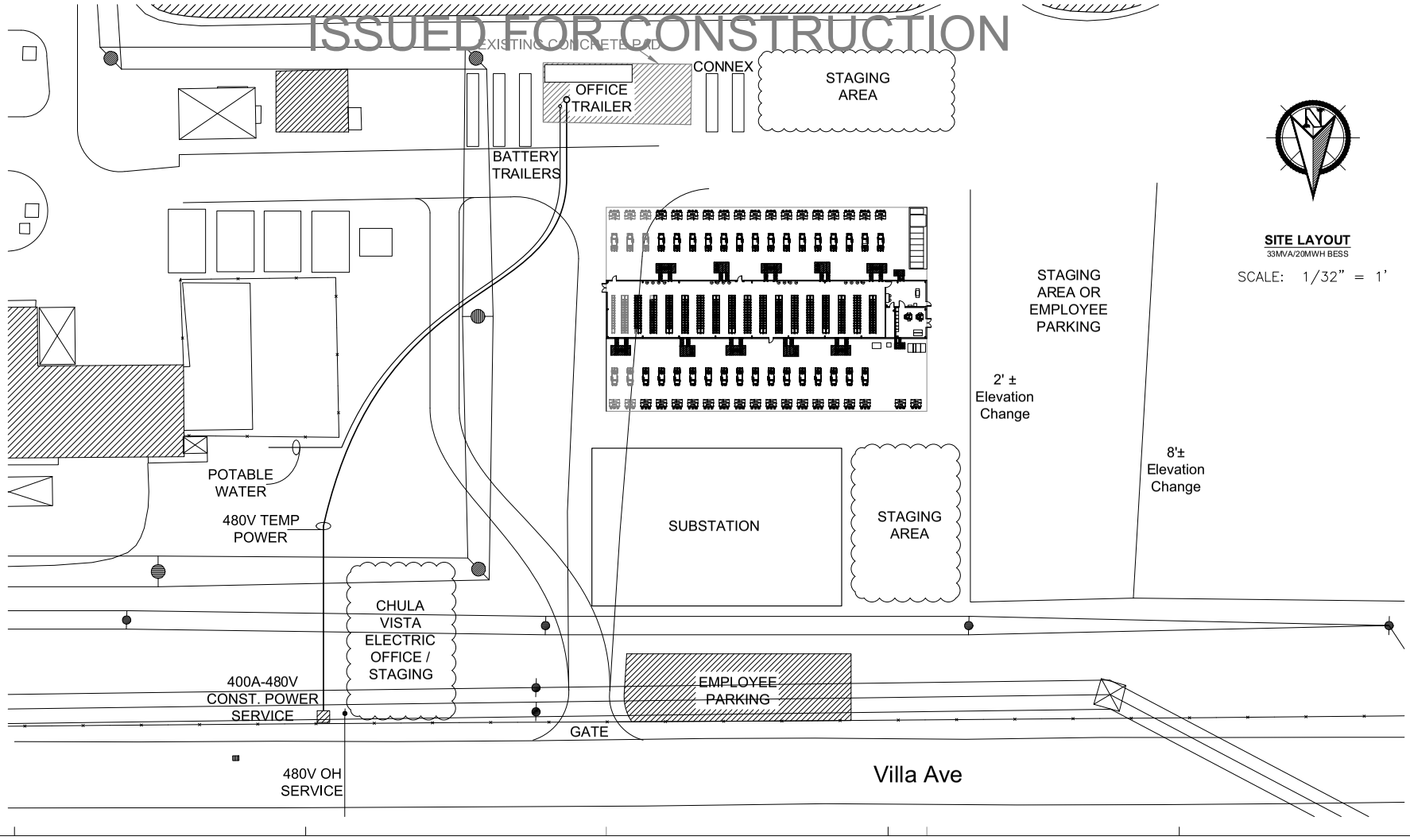
Satellite Aerial Photograph Showing BESS Equipment Noise Contours and Receiver Locations
Job # B60902N1

Figure 5

APPENDIX A

Project Plans

ISSUED FOR CONSTRUCTION



SITE LAYOUT
33MVA/20MWH BESS

SCALE: 1/32" = 1'

Tri-Technic, Inc.
Corporate Office: 185 S. Fairview Ln, Sonora, CA 95370
Construction Office: 441 Doak Blvd., Ripon, Ca. 95366
209-599-6000 www.tri-technic.com
TRI-TECHNIC
CONSTRUCTORS - ENGINEERS - CONSULTANTS

GE ENERGY STORAGE

ENGINEER'S STAMP 08/25/15

DISCLAIMER
ALL USE OF OR REFERENCE TO THESE DRAWINGS / DOCUMENTS IS EXPRESSLY PROHIBITED, UNLESS DIRECTLY ISSUED TO THE RECEIVING PARTY BY GE OR TRI-TECHNIC, INC. ALL USE, REFERENCE, REPRODUCTION, COMMUNICATION, OR DISTRIBUTION OF INFORMATION CONTAINED IN THESE DOCUMENTS IS STRICTLY PROHIBITED WITHOUT THE EXPRESS WRITTEN PERMISSION OF GE OR TRI-TECHNIC INC.

No.	DATE	DRAWN	DESIGN	APV'D	RVS'D	REVISION
0	9/15/15	VCE	...	...		ISSUED FOR CONSTRUCTION
REV-01	10/23/15	...	...	...		ROTATION & UPDATED EQUIPMENT POSITION
REV-02	11/30/15	...	...	...		TITTLE BLOCK & EQUIPMENT
REV-03	12/04/15	...	...	...		INITIAL ISSUE

COACHELLA ENERGY STORAGE PARTNERS

I. I. D. ENERGY
A Division of
IMPERIAL IRRIGATION DISTRICT

SITE LAYOUT
33MVA/20MWH_BESS

DRAWN BY: V.L.(TTI)	APPROVED BY: D.P.(GE)		SEC
DESIGNED BY: D.L.(TTI)	REVISED BY:		
SCALE: 1"=1'	DWG. No.	BESS-102	REVB

EXHIBIT H

Public Notice

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA
NOTICE OF APPLICATION FOR A PERMIT TO CONSTRUCT A UTILITY FACILITY UNDER THE UTILITY ENVIRONMENTAL PROTECTION ACT

Shreem Brzee Solar, LLC (the "Applicant"), is submitting, pursuant to the Nevada Utility Environmental Protection Act ("UEPA"), an application to the Public Utilities Commission of Nevada ("PUCN") for a permit to construct an up to 250 MW alternating-current solar energy generating facility, a 345 kV substation, an approximately 5-mile-long 345 kV overhead generation-tie line, and associated facilities, including a battery energy storage system with a capacity of up to 200 MW, to be located in Washoe County, Nevada (the "Project") pursuant to Nevada Revised Statutes Sections 704.820 through .900, inclusive, and Nevada Administrative Code Sections 703.415 through .427, inclusive (the "Application"). The Project will provide renewable energy to Nevada's electrical transmission grid via the existing Fort Sage Substation, which is owned and operated by Sierra Pacific Power Company. The Project will consist of four basic components: (1) the 250 MW solar energy generating facility; (2) the 345 kV substation; (3) the 345 kV generation-tie line; and (4) associated facilities and components, including the battery energy storage system, inverters, fencing, roads, and a supervisory control and data acquisition system.

The Project will be located on approximately 1,140 acres of land in Washoe County, Nevada, approximately 43 miles north of the City of Reno and approximately 7.5 miles east of the community of Herlong, CA. Approximately 1,128 acres of the Project area is on leased, privately-owned land while 12 acres is located on existing access and utility easements located along Rainbow Way, a designated Truckee Meadows Regional Planning Agency Regional Utility Corridor. The Environmental Statement ("ES"), which will be included with the Application, analyzed potential impacts on a variety of resources, and concluded that the impacts of the Project will not substantively impact the environment. Furthermore, Project-specific mitigation measures will otherwise serve to mitigate any material adverse impacts on the environment. Construction is expected to occur in phases over the course of approximately seven months.

NOTICE OF THE APPLICATION FOR A PERMIT TO CONSTRUCT UNDER UEPA FOR AN UP TO 250 MW SOLAR ENERGY GENERATING FACILITY, A 345 KV SUBSTATION, A 345 KV OVERHEAD GENERATION-TIE LINE, AND ASSOCIATED FACILITIES, INCLUDING A BATTERY ENERGY STORAGE SYSTEM.

Notice is hereby given to persons residing in the county in which any portion of the Project will be located and constructed: the Applicant will request a permit to construct the Project, which will consist of an up to 250 MW solar energy generating facility, a 345 kV substation, a 345 kV overhead generation-tie line, and associated facilities, including a battery energy storage system to be located in Washoe County, Nevada.

The contents of the Application to be submitted to the PUCN for the Project will include but are not limited to:

1. A description of the Project, including general and detailed descriptions of the location of the Project, appropriately scaled site plan and layout drawings, vicinity maps, and routing maps; a description of the size and nature of the Project; and a

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RENO, NV 89511-2094

description of the natural resources that will be used during the construction and operation of the Project;

2. A copy and summary of the ES with respect to the environmental impact of the Project; an explanation of the nature of the probable effect of the Project on the environment; and a description of the current environmental characteristics of the Project area, the environmental impacts that the construction and operation of the Project would have on the Project area before mitigation, and the environmental impacts that the construction and operation of the Project will have on the Project area after mitigation;

3. A description of any reasonable alternate locations for the Project, a description of the comparative merits or detriments of each location submitted, and a statement of the reasons why the location is best suited for the Project;

4. An explanation of the extent to which the Project is needed to ensure reliable utility service to customers in this State of Nevada, including a description of the extent to which the Project will provide and enhance utility service to customers in Nevada;

5. An explanation of how the need for the Project balances any adverse effects on the environment, and how the Project represents the minimum adverse effect on the environment;

6. An explanation of how the location of the Project conforms to applicable federal, state, and local laws and regulations; and

7. An explanation of how the Project will serve the public interest, including the economic benefits that the Project will bring to the state, and the nature of the probable effect on the public health, safety, and welfare of the residents of the state if the Project is constructed.

A copy of the Application will be available on the PUCN's website following Applicant's filing of the Application. Additional information about the UEPA process and a person's right to participate in that process can be found in Nevada Revised Statutes Chapter 704 and Nevada Administrative Code Chapter 703. Protests and written comments about the Application and the Project must be filed with the PUCN as provided by law. DATED this 23rd day of May, 2024 by Shreem Brzee Solar, LLC.

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RENO, NV 89511-2094

EXHIBIT I

Affidavit of Publication

LocaliQ
Nevada/Utah
GANNETT

P.O. Box 677345, Dallas, TX 75267-7345

AFFIDAVIT OF PUBLICATION

Suite 100
Holland & Hart LLP
555 17th Street, Ste 3200
Denver CO 80202

STATE OF WISCONSIN, COUNTY OF BROWN

Being first duly sworn, deposes and says: That as the legal clerk of the Reno Gazette-Journal, a daily newspaper of general circulation published in Reno, Washoe County, State of Nevada that the notice hereto annexed was Published in said newspapers in the issue:

05/26/2024

and that the fees charged are legal.
Sworn to and subscribed before on 05/26/2024

Nicole Jacobs
Legal Clerk

Denise Roberts
Notary, State of WI, County of Brown

4-6-27
My commission expires

Publication Cost:	$543.96	
Order No:	10215391	# of Copies:
Customer No:	1455367	0
PO #:	LNVS0107719	

THIS IS NOT AN INVOICE!

Please do not use this form for payment remittance.

DENISE ROBERTS
Notary Public
State of Wisconsin

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA
NOTICE OF APPLICATION FOR A PERMIT TO CONSTRUCT A UTILITY FACILITY UNDER THE UTILITY ENVIRONMENTAL PROTECTION ACT

Shreem Brzee Solar, LLC (the "Applicant"), is submitting, pursuant to the Nevada Utility Environmental Protection Act ("UEPA"), an application to the Public Utilities Commission of Nevada ("PUCN") for a permit to construct an up to 250 MW alternating-current solar energy generating facility, a 345 kV substation, an approximately 5-mile-long 345 kV overhead generation-tie line, and associated facilities, including a battery energy storage system with a capacity of up to 200 MW, to be located in Washoe County, Nevada (the "Project") pursuant to Nevada Revised Statutes Sections 704.820 through .900, inclusive, and Nevada Administrative Code Sections 703.415 through .427, inclusive (the "Application"). The Project will provide renewable energy to Nevada's electrical transmission grid via the existing Fort Sage Substation, which is owned and operated by Sierra Pacific Power Company. The Project will consist of four basic components: (1) the 250 MW solar energy generating facility; (2) the 345 kV substation; (3) the 345 kV generation-tie line; and (4) associated facilities and components, including the battery energy storage system, inverters, fencing, roads, and a supervisory control and data acquisition system.

The Project will be located on approximately 1,140 acres of land in Washoe County, Nevada, approximately 43 miles north of the City of Reno and approximately 7.5 miles east of the community of Herlong, CA. Approximately 1,128 acres of the Project area is on leased, privately-owned land while 12 acres is located on existing access and utility easements located along Rainbow Way, a designated Truckee Meadows Regional Planning Agency Regional Utility Corridor. The Environmental Statement ("ES"), which will be included with the Application, analyzed potential impacts on a variety of resources, and concluded that the impacts of the Project will not substantively impact the environment. Furthermore, Project-specific mitigation measures will otherwise serve to mitigate any material adverse impacts on the environment. Construction is expected to occur in phases over the course of approximately seven months.

NOTICE OF THE APPLICATION FOR A PERMIT TO CONSTRUCT UNDER UEPA FOR AN UP TO 250 MW SOLAR ENERGY GENERATING FACILITY, A 345 KV SUBSTATION, A 345 KV OVERHEAD GENERATION-TIE LINE, AND ASSOCIATED FACILITIES, INCLUDING A BATTERY ENERGY STORAGE SYSTEM.

Notice is hereby given to persons residing in the county in which any portion of the Project will be located and constructed: the Applicant will request a permit to construct the Project, which will consist of an up to 250 MW solar energy generating facility, a 345 kV substation, a 345 kV overhead generation-tie line, and associated facilities, including a battery energy storage system to be located in Washoe County, Nevada.

The contents of the Application to be submitted to the PUCN for the Project will include but are not limited to:

1. A description of the Project, including general and detailed descriptions of the location of the Project, appropriately scaled site plan and layout drawings, vicinity maps, and routing maps; a description of the size and nature of the Project; and a description of the natural resources that will be used during the construction and operation of the Project;

2. A copy and summary of the ES with respect to the environmental impact of the Project; an explanation of the nature of the probable effect of the Project on the environment; and a description of the current environmental characteristics of the Project area, the environmental impacts that the construction and operation of the Project would have on the Project area before mitigation, and the environmental impacts that the construction and operation of the Project will have on the Project area after mitigation;

3. A description of any reasonable alternate locations for the Project, a description of the comparative merits or detriments of each location submitted, and a statement of the reasons why the location is best suited for the Project;

4. An explanation of the extent to which the Project is needed to ensure reliable utility service to customers in this State of Nevada, including a description of the extent to which the Project will provide and enhance utility service to customers in Nevada;

5. An explanation of how the need for the Project balances any adverse effects on the environment, and how the Project represents the minimum adverse effect on the environment;

6. An explanation of how the location of the Project conforms to applicable federal, state, and local laws and regulations; and

7. An explanation of how the Project will serve the public interest, including the economic benefits that the Project will bring to the state, and the nature of the probable effect on the public health, safety, and welfare of the residents of the state if the Project is constructed.

A copy of the Application will be available on the PUCN's website following Applicant's filing of the Application. Additional information about the UEPA process and a person's right to participate in that process can be found in Nevada Revised Statutes Chapter 704 and Nevada Administrative Code Chapter 703. Protests and written comments about the Application and the Project must be filed with the PUCN as provided by law. DATED this 23rd day of May, 2024 by Shreem Brzee Solar, LLC.
May 26 2024
LNVS0107719

EXHIBIT J

Proof of Submission

CERTIFICATE OF SERVICE

I hereby certify that I am an employee of Holland & Hart LLP and on June 10, 2024, I caused to be served a true and correct copy of the foregoing document to the following:

ELECTRONIC MAIL

Nevada State Clearinghouse
Department of Conservation & Natural Resources,
Division of State Lands
901 S. Stewart Street, Ste. 5003
Carson City, NV 89701
nevadaclearinghouse@lands.nv.gov

ELECTRONIC MAIL

Jennifer Carr
Nevada Division of Environmental Protection
901 S. Stewart Street, Suite 4001
Carson City, NV 89701
Jcarr@ndep.nv.gov

ELECTRONIC MAIL

Staff Counsel Support
Public Utilities Commission of Nevada
1150 E. William Street
Carson City, NV 89701-3109
Pucn.sc@puc.nv.gov

ELECTRONIC MAIL

Ernest Figueroa, Esq.
Nevada State Consumer Advocate
Bureau of Consumer Protection
100 N. Carson Street
Carson City, NV 89701
bcpserv@ag.nv.gov

U.S. MAIL TRANSMITTAL:

Washoe County Clerk
1001 E 9th Street
Reno, NV 89512

/s/Cecilia Martin
Cecilia Martin, Legal Secretary
an employee of Holland & Hart LLP

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RENO, NV 89511-2094

EXHIBIT K

Permits and Approvals

PHASE 1: SITE GRADING & TEMPORARY CONSTRUCTION FACILITIES		
REQUIRED PERMIT	**ISSUING AGENCY**	**ESTIMATED APPROVAL**
Special Use Permit and Major Grading approvals	Washoe County	Q2 2024
Dust Permit	Washoe County	Q2 2024
Fugitive Dust Permit	Nevada Department of Environmental Protection	Q3 2024
Water Discharge Permit	Nevada Department of Environmental Protection	Q3 2024
PHASE 2: GENERATING FACILITY & ACCESS ROADS		
REQUIRED PERMIT	**ISSUING AGENCY**	**ESTIMATED APPROVAL**
Special Use Permit and Major Grading approvals	Washoe County	Q2 2024
Dust Permit	Washoe County	Q2 2024
Fugitive Dust Permit	Nevada Department of Environmental Protection	Q3 2024
Water Discharge Permit	Nevada Department of Environmental Protection	Q3 2024
Building and Grading Permit	Washoe County	Q4 2024
PHASE 3: PROJECT SUBSTATION & BESS		
REQUIRED PERMIT	**ISSUING AGENCY**	**ESTIMATED APPROVAL**
Special Use Permit and Major Grading approvals	Washoe County	Q2 2024
Dust Permit	Washoe County	Q2 2024
Fugitive Dust Permit	Nevada Department of Environmental Protection	Q3 2024
Water Discharge Permit	Nevada Department of Environmental Protection	Q3 2024
Building and Grading Permit	Washoe County	Q4 2024
PHASE 4: Gen-Tie		
REQUIRED PERMIT	**ISSUING AGENCY**	**ESTIMATED APPROVAL**
Special Use Permit approvals	Washoe County	Q2 2024
Dust Permit	Washoe County	Q2 2024
Fugitive Dust Permit	Nevada Department of Environmental Protection	Q3 2024

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RENO, NV 89511-2094

EXHIBIT L

Draft Notice

PUBLIC UTILITIES COMMISSION OF NEVADA
DRAFT NOTICE

(Applications, Tariff Filings, Complaints, and Petitions)

Pursuant to Nevada Administrative Code ("NAC") 703.162, the Commission requires that a draft notice be included with all applications, tariff filings, complaints and petitions. Please complete and include **ONE COPY** of this form with your filing. (Completion of this form may require the use of more than one page.)

A title that generally describes the relief requested (see NAC 703.1605(4)(a)):

Application of Shreem Brzee Solar, LLC for a permit to construct a 250 MW Solar Energy Generating Facility, 345 kV Project Substation, 345 kV Generation-Tie Line, and associated facilities, including an energy storage system, to be located in Washoe County, Nevada, pursuant to the Utility Environmental Protection Act.

The name of the applicant, complainant, petitioner or the name of the agent of the applicant, complainant or petitioner (see NAC 703.160(4)(b)):

Shreem Brzee Solar, LLC (the "Applicant").

A brief description of the purpose of the filing or proceeding, including, without limitation, a clear and concise introductory statement that summarizes the relief requested or the type of proceeding scheduled **AND** the effect of the proceeding upon customers (see NAC 703.160(4)(c)).

The Applicant files this Application pursuant to UEPA for a permit to construct facilities to be known as the Sunseeker Solar Project (the "Project"). The Project will include a 250 MW alternating current solar photovoltaic energy generating facility, a 345 kV on-site project substation, an approximately 5-mile-long, 345 kV generation-tie line, and associated facilities, including an integrated 200 MW battery energy storage system. The Project will provide renewable energy to the electrical transmission grid via the existing Fort Sage Substation, which is owned and operated by Sierra Pacific Power Company d/b/a NV Energy. The Project will also require civil infrastructure, including perimeter fencing and access roads.

The Project will be located on approximately 1,140 acres of private land, including a 1,128-acre project lease area and an approximately 12-acre portion of existing access and utility easements located along Rainbow Way, a designated Truckee Meadows Regional Planning Agency Regional Utility Corridor, in Washoe County, Nevada. The Application includes a description of the Environmental Statement, which was prepared to analyze the Project's potential impacts on a variety of resources and concluded that the Project will not have a material adverse impact on the environment.

The Application is filed pursuant to the requirements of NRS 704.820 to 704.900 and NAC 703.415 to 703.427.

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RENO, NV 89511-2094

A statement indicating whether a consumer session is required to be held pursuant to Nevada Revised Statute ("NRS" 704.069(1)).

A consumer session is not required by NRS 704.069.

If the draft notice pertains to a tariff filing, please include the tariff number AND the section number(s) of the schedule number(s) being revised.

This Application does not pertain to a tariff filing.

32123878_v2

HOLLAND & HART LLP
5470 KIETZKE LANE, SUITE 100
RENO, NV 89511-2094

PUBLIC UTILITIES COMMISSION OF NEVADA
MEMORANDUM

DATE: September 19, 2024

TO: The Commission
Via: Anne-Marie Cuneo, DRO

FROM: Ryan Sinclair, Regulatory Engineer, Engineering Division

SUBJECT: Agenda 18-24; Item No. 5C ; Docket No. 24-06015;
Application of Shreem Brzee Solar LLC, under the provisions of the Utility Environmental Protection Act, for a permit to construct the Sunseeker Solar Project consisting of a 250 MW photovoltaic solar electric generating facility, an up to 200 MW battery energy storage system, an approximately 5 mile long 345 kV generation-tie line, a 345 kV substation, and associated facilities to be located on approximately 1,140 acres of private land in Washoe County, Nevada.

I. Summary of Application

Pursuant to the provisions of the Utility Environmental Protection Act ("UEPA") and Nevada Revised Statutes ("NRS") 704.820 through NRS 704.900, on June 11, 2024[1], Shreem Brzee Solar LLC filed with the Public Utilities Commission of Nevada ("Commission") an application for a permit to construct the Sunseeker Solar Project[2] (the "Project") which will consist of a 250 megawatt ("MW") photovoltaic ("PV") solar energy generation facility, a 345 kilovolt ("kV") substation, an approximately 5-mile-long 345 kV overhead generation-tie line ("Gen-tie"), and other associated facilities, including a battery energy storage systems ("BESS") with a capacity of up to 200 MW to be located in Washoe County, Nevada. The Project Substation will connect to Sierra Pacific Power Company d/b/a NV Energy's existing Fort Sage Substation approximately five miles south of the Project Substation via the Gen-tie.

The Applicant requests that the Commission grant UEPA permits, in four phases, authorizing it to commence construction of the Project consisting of a 250 MW PV solar energy generation facility, a 345 kV Project Substation, a 345 kV Gen-tie, and other associated facilities, including a BESS with a capacity of 200 MW. The Project will be located on approximately 1,140 acres of private land[3] and will be approximately 43 miles north of the City of Reno. A legal description of the proposed location for the Project is provided in Exhibit A attached hereto. As required by NRS 704.870(1) and Nevada Administrative Code 703.423, the Amended Application contains

---

[1] On July 11, 2024, the Applicant filed with the Commission an Amendment to the Application to fix typographical errors and omitted pages.

[2] The Project itself does meet the "Utility facility" definition pursuant to NRS 704.860 because the Electric Generating Plant has a nameplate capacity above 70 MW.

[3] This includes a 1,128-acre lease area and an approximately 12-acre portion of existing access and utility easements located along Rainbow Way.

an Environmental Statement ("ES") dated May 2024, that was prepared by Universal Engineering Sciences, Inc. ("UES").

Staff recommends that the Commission grant the Amended Application and issue an order authorizing the construction of the Project as outlined herein and issue the Permits to Construct when the outstanding compliances for each of the four phases have been satisfied.

II. Analysis and Investigation

Facilities, Water Use and Employment

The Project, to be constructed in four phases, consists of a 250 MW PV solar energy generation system, a Project Substation, a 345 kV Gen-tie, and a BESS. Additionally, civil infrastructure including access roads, security fencing, and communications infrastructure including a microwave or fiber optic cable will be installed.

The Applicant will use water during construction of approximately 100 acre-feet annually ("AFA"), and once the Project is operational the Applicant estimates one AFA of water consumption. The Applicant anticipates that the water to be transported via truck from existing off-site water rights and supply facilities will be sufficient for all construction and operations activities.

The Applicant expects the Project will generate approximately 200 jobs at peak construction, with an average workforce of approximately 150 workers and will staff approximately five permanent employees during Project operations.

The Amended Application contains supporting documentation for the Project, including:

Exhibit A	Project Location Map
Exhibit B	Legal Description of the Project
Exhibit C	Detailed Description of the Location of the Gen-Tie
Exhibit D	Site Plan Drawing, Vicinity Maps and Routing Maps
Exhibit E	Layout Diagrams
Exhibit F	Scaled Diagrams of Utility Structures
Exhibit G	Environmental Statement
Exhibit H	Public Notice
Exhibit I	Affidavits of Publication
Exhibit J	Proof of Submission
Exhibit K	Permits and Approvals
Exhibit L	Draft Notice

Staff's investigation and analysis of the Amended Application reflects the UEPA statutes and, in particular, the pertinent provisions of NRS 704.890(1) and (2),[4] which require the Commission to make certain findings and determinations regarding the environmental effect, need, other required permits, and whether the Project is in the public interest. Each of those statutorily-required findings are addressed below.

NRS 704.890(1)(a) (Environmental Effects): The Amended Application contains an ES that was prepared by the consulting firm UES. The ES describes the existing environment of the Project site and analyzes both the environmental impacts of the Project and proposed mitigation measures for resources. The ES identified minimal environmental impacts that would occur during construction, operation and/or maintenance of the Project, and any material impacts identified will be mitigated as described in the ES. The Project will use the latest and best commercially available materials for the generation of electricity from a renewable resource and through implementation of identified mitigation measures, the Project will represent the minimum adverse effect on the environment.

NRS 704.890(1)(b) (Effect on Reliability of Service): The Commission is not required to find and determine the extent to which the Project is needed to ensure reliable service to customers in Nevada because the Project does not emit greenhouse gases. However, this Project has the potential to provide renewable energy to Nevada's electrical grid via its connection at the existing Fort Sage Substation.

NRS 704.890(1)(c) (Balancing Need and Environmental Effect): The need for the Project balances any adverse effects on the environment. The Applicant states the Project construction

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[4] NRS 704.890 (1) and (2) provide:

"(1) . . . [T]he Commission may not grant a permit for the construction, operation and maintenance of a utility facility, either as proposed or as modified by the Commission, to a person unless it finds and determines:

(a) The nature of the probable effect on the environment;

(b) If the utility facility emits greenhouse gases and does not use renewable energy as its primary source of energy to generate electricity, the extent to which the facility is needed to ensure reliable utility service to customers in this State;

(c) That the need for the facility balances any adverse effect on the environment;

(d) That the facility represents the minimum adverse effect on the environment, considering the state of available technology and the nature and economics of the various alternatives;

(e) That the location of the facility as proposed conforms to applicable state and local laws and regulations issued thereunder and the applicant has obtained, or is in the process of obtaining, all other permits, licenses, registrations and approvals required by federal, state, and local statutes, regulations and ordinances;

(f) That the surplus asset retirement plan filed pursuant to NRS 704.870:

(1) Complies with federal, state and local laws;

(2) Provides for the remediation and reuse of the facility within a reasonable period; and

(3) Is able to be reasonably completed under the funding plan contained in the application; and

(g) That the facility will serve the public interest.

(2) If the Commission determines that the location of all or a part of the proposed facility should be modified, it may condition its permit upon such a modification. If the applicant has not obtained all the other permits, licenses, registrations and approvals required by federal, state and local statutes, regulations and ordinances as of the date on which the Commission decides to issue a permit, the Commission shall condition its permit upon the applicant obtaining those permits and approvals."

and operation will adhere to mitigation measures and with implementation of these mitigation measures the Project will likely have no significant impact to the natural environment. With Nevada's clean energy goals, renewable energy projects will be required to meet the current renewable portfolio standard as well as Nevada's carbon reduction goals.

NRS 704.890(1)(d) (Minimum Adverse Effect-Mitigation): The ES determined that potential impacts will be reduced with the use of best management practices and mitigation measures. Examples of the mitigation measures include:

- **3.2.3 Water Resources Mitigation Measure:**
  Standard stormwater best management practices will be incorporated by Sunseeker Solar Project construction contractors, such as erosion control, soil barriers, sedimentation basins, site contouring, and others would be used during construction activities to minimize runoff of soils and associated contaminants.
- **3.3 Air Quality and Climate Mitigation Measures:**
  Minimize grading and vegetation removal, and limit surface disturbance during construction to the time just before PV module support structure installation.

NRS 704.890(1)(e) (Other Permits): In addition to the Commission's UEPA Permit to Construct, additional local permits, state permits, and approvals are required for the Project. Prior to the issuance of the four phased UEPA Permits to Construct, Staff recommends that the Applicant be ordered to file with the Commission the following, as compliance items, if not already included in the filing:

Phase 1: Site Grading & Temporary Construction Facilities:

a. Washoe County – Special Use Permit and Major Grading Approvals
b. Washoe County – Dust Permit
c. Nevada Department of Environmental Protection – Fugitive Dust Permit
d. Nevada Department of Environmental Protection – Water Discharge Permit

Phase 2: Generating Facility & Access Roads:

a. Washoe County – Special Use Permit and Major Grading Approvals
b. Washoe County – Dust Permit
c. Nevada Department of Environmental Protection – Fugitive Dust Permit
d. Nevada Department of Environmental Protection – Water Discharge Permit
e. Washoe County – Building and Grading Permit

Phase 3: Project Substation & BESS:

a. Washoe County – Special Use Permit and Major Grading Approvals
b. Washoe County – Dust Permit
c. Nevada Department of Environmental Protection – Fugitive Dust Permit

d. Nevada Department of Environmental Protection – Water Discharge Permit

e. Washoe County – Building and Grading Permit

Phase 4: Gen-Tie:

a. Washoe County – Special Use Permit Approvals

b. Washoe County – Dust Permit

c. Nevada Department of Environmental Protection – Fugitive Dust Permit

NRS 704.890(1)(f) (Surplus Asset Retirement Plan): A surplus asset retirement plan is not required for the Project since it does not meet the definition of a "surplus" for purposes of surplus assets as defined in NRS 704.7337.

NRS 704.890(1)(g) (Public Interest): The Applicant has demonstrated in its Amended Application that the Project will serve the public interest. Specifically, the Project will provide a reliable local and regional source of power, producing approximately 636,938 MWh of clean, emissions-free power each year. Additionally, the Project will employ, during peak construction, approximately 200 workers.

III. Notice and Subsequent Action

On May 26, 2024, the Applicant published in the Reno Gazette-Journal its Notice of intent to file an Application with the Commission for a Utility Environmental Protection Act Permit to Construct for the Project.

On June 17, 2024, the Commission issued a Notice of Application for Utility Environmental Protection Act Permit to Construct a Utility Facility, establishing a deadline of July 10, 2024, for interested and affected persons to file notices of intervention, petitions for leave to intervene, or notices of intent to be a party pursuant to NRS 704.885(1), to make a limited appearance in the proceeding pursuant to NRS 704.885(2), or to file comments pursuant to NAC 703.491. The Notice was published in the Reno Gazette-Journal on June 24, 2024. No requests for interventions or comments were filed with the Commission.

On June 17, 2024, the Nevada State Clearinghouse requested comments from state agencies regarding the Application for Utility Environmental Protection Act Permit to Construct Utility Facility. One comment was received on July 5, 2024, from Nevada Division of Water Resources and stated in part "All waters of the State belong to the public and may be appropriated for beneficial use pursuant to the provisions of NRS Chapters 533 and 534 and not otherwise." This is a general statement that the Nevada Division of Water Resources submits regarding almost all projects and is not applicable to the Project at issue in this Docket since any water used for the Project will come from permitted sources and no new wells are going to be constructed as part of this Project.

IV. Conclusion and Recommendations

Shreem Brzee Solar LLC's ES for the Project identifies the nature of the probable effect on the environment and the required mitigation measures. Shreem Brzee Solar LLC is in the process of obtaining all permits, licenses and approvals required by state and local statutes, regulations, and ordinances.

Staff recommends that the Commission issue an order granting Shreem Brzee Solar LLC's Amended Application and issue the requested phased UEPA Permits for construction of the Project as defined hereinabove, contingent upon Shreem Brzee Solar LLC obtaining and filing with the Commission as compliance items, if not already included in the filing, the following permits, licenses, and approvals:

Phase 1: Site Grading & Temporary Construction Facilities:

a. Washoe County – Special Use Permit and Major Grading Approvals
b. Washoe County – Dust Permit
c. Nevada Department of Environmental Protection – Fugitive Dust Permit
d. Nevada Department of Environmental Protection – Water Discharge Permit

Phase 2: Generating Facility & Access Roads:

a. Washoe County – Special Use Permit and Major Grading Approvals
b. Washoe County – Dust Permit
c. Nevada Department of Environmental Protection – Fugitive Dust Permit
d. Nevada Department of Environmental Protection – Water Discharge Permit
e. Washoe County – Building and Grading Permit

Phase 3: Project Substation & BESS:

a. Washoe County – Special Use Permit and Major Grading Approvals
b. Washoe County – Dust Permit
c. Nevada Department of Environmental Protection – Fugitive Dust Permit
d. Nevada Department of Environmental Protection – Water Discharge Permit
e. Washoe County – Building and Grading Permit

Phase 4: Gen-Tie:

a. Washoe County – Special Use Permit Approvals
b. Washoe County – Dust Permit
c. Nevada Department of Environmental Protection – Fugitive Dust Permit

Once Shreem Brzee Solar LLC has obtained and filed with the Commission a copy of the outstanding permits, licenses, and approvals needed for each of the delineated phases of the Project, Staff recommends that the separate associated phased UEPA Permits setting forth a description of the Project be issued to Shreem Brzee Solar LLC.

Staff further recommends that the order contain a provision that if Shreem Brzee Solar LLC does not file with the Commission all the compliances set forth hereinabove within five years of the effective date of the order, the order will be deemed to be vacated without further action by or order of the Commission.

Staff also requests that the Commission include an ordering paragraph in its order which states: "No construction may commence on any utility facilities that are the subject of this Application for a UEPA Permit to Construct until after the Commission has issued the Permit to Construct for the applicable phase of the Project."

Staff further recommends that the Commission's order include findings and conclusions that:

1) Accept and incorporate the findings and conclusions in Shreem Brzee Solar LLC Environmental Assessment for the Project;

2) In its Environmental Impact Statement for the Project, Shreem Brzee Solar LLC determined the nature of the probable effect of the Project on the environment;

3) The need for the Project balances any adverse effect on the environment;

4) The Project represents the minimum adverse effect on the environment, considering the state of available technology and the nature and economics of the various alternatives;

5) Shreem Brzee Solar LLC has obtained or is in the process of obtaining all other permits, licenses and approvals required by federal, state and local statutes, regulations and ordinances; and

6) The Project will serve the public interest.

EXHIBIT A

EXHIBIT A

LEGAL DESCRIPTION OF THE SITE

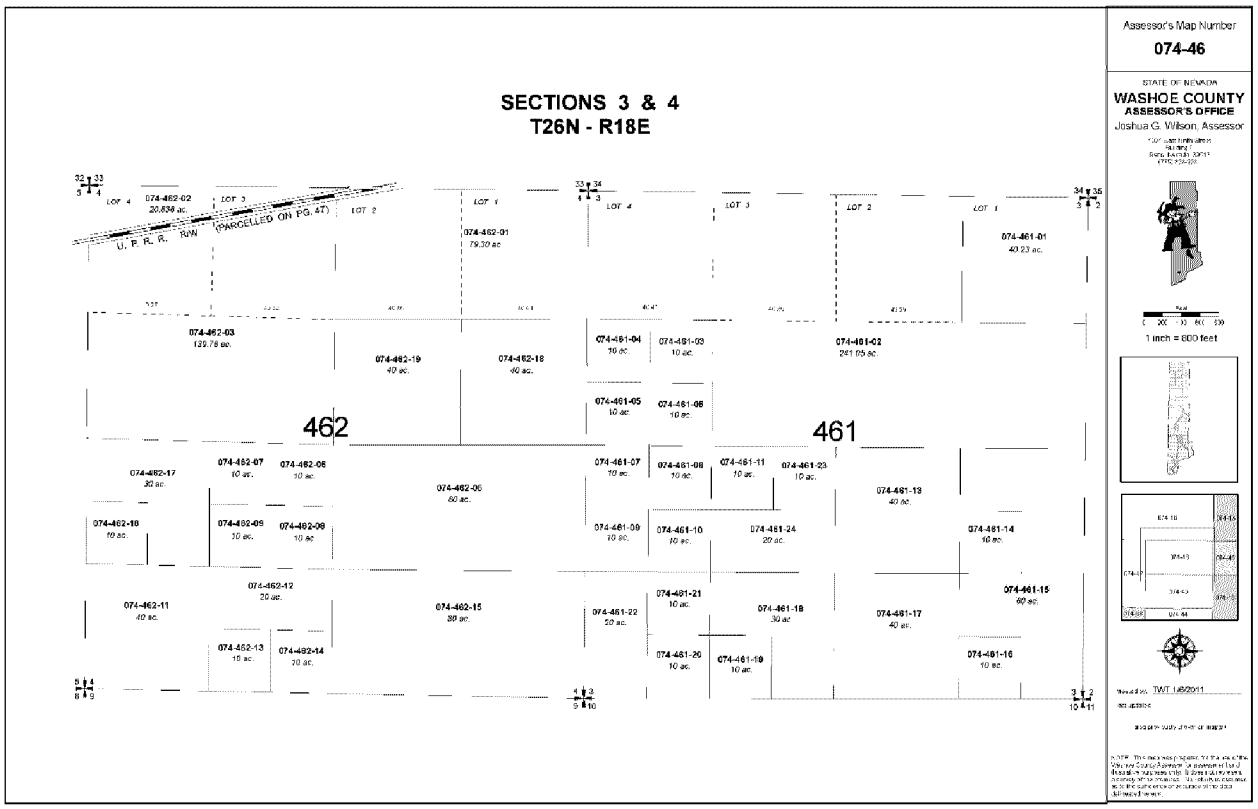
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-461-15 (*60 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

The East half (E 1/2) of the East half (E 1/2) of the Southeast quarter (SE 1/4); and also the Northwest quarter (NW1/4), of the Northeast quarter (NE 1/4), of the Southeast quarter (SE 1/4); and also the Northwest quarter (NW 1/4) of the Southeast quarter (SE 1/4) of the Southeast quarter (SE 1/4), all in Section 3; Township 26 North, Range 18 East, 60 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.

Together with all and singular tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining.

APN: 074-461-15
The property is generally described in the figure below.



Latitude: 40.14763 North
Longitude: 119.94224 West

EXHIBIT A

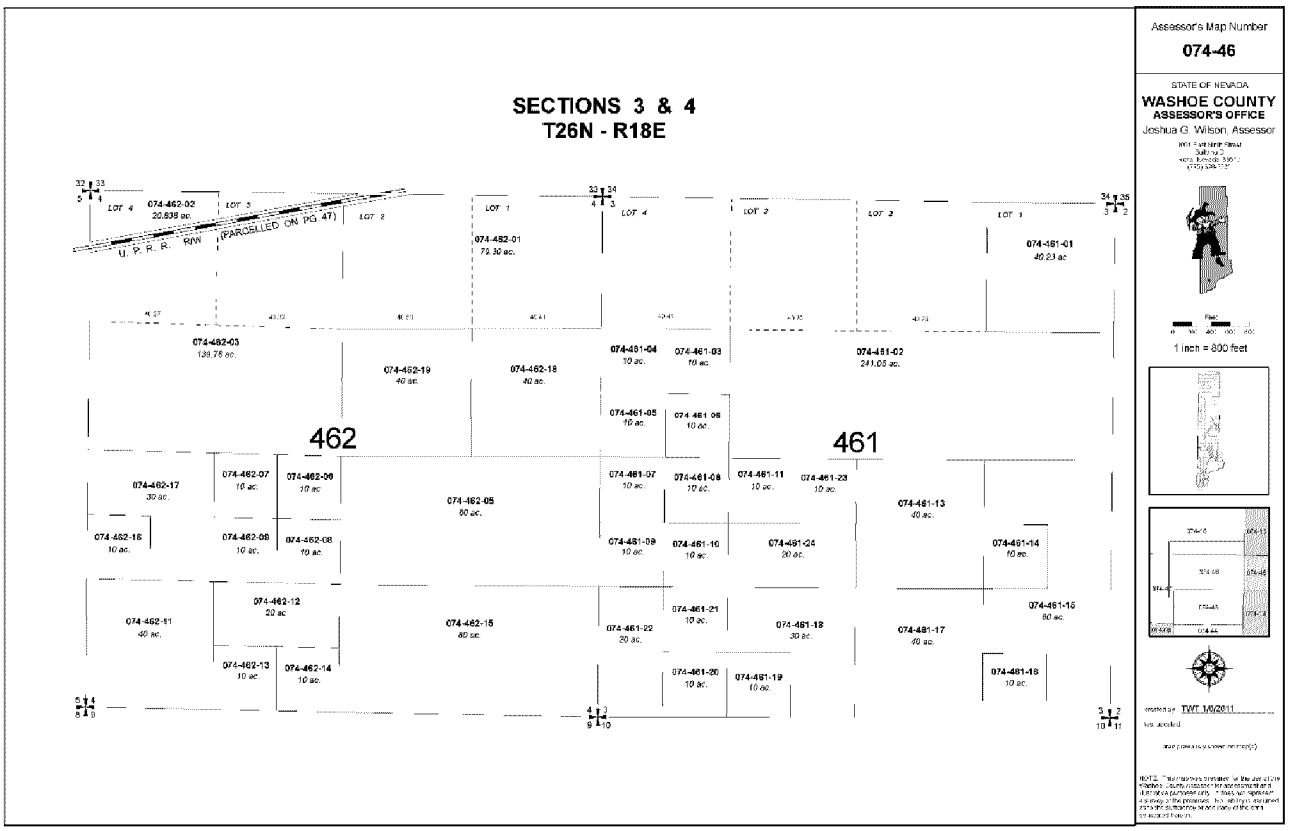
LEGAL DESCRIPTION OF THE SITE

The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-461-04 (*10 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *The Northwest quarter (NW1/4), of the Southwest quarter (SW1/4) of the Northwest quarter (NW1/4), of Section 3; Township 26 North, Range 18 East, 10 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*
>
> *EXCEPTING THEREFROM all crude oil, petroleum, gas asphaltum and all kindred substances and other minerals under and in said land below a depth of 500 feet, but without right of surface entry.*

APN: 074-461-04
The property is generally described in the figure below.



Latitude: 40.15404 North
Longitude: 119.95908 West

EXHIBIT A

LEGAL DESCRIPTION OF THE SITE

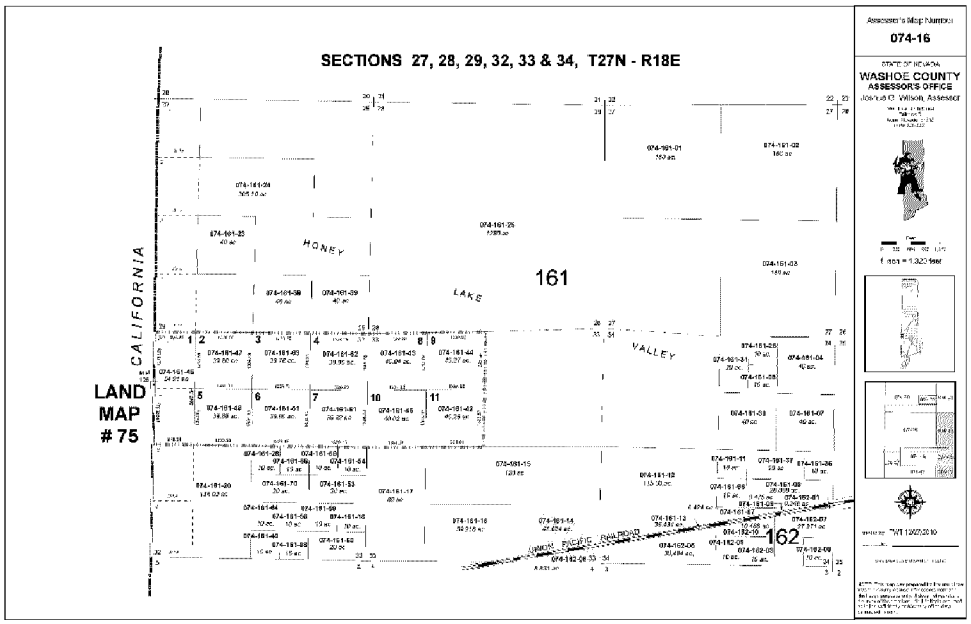
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-161-14 (*47.624 +/- acres*) and (APN) 074-162-06 (*8.831 +/- acres*) for a total of 56.455 acres. The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

Assessor's Parcel Number 074-161-14: That portion of the following description lying North of Western Pacific Railroad, Southeast quarter (SE1/4) of Southeast quarter (SE1/4) of Section 33; Township 27 North; Range 18 East; East Half (E1/2) of Southwest quarter (SW1/4) of Southeast quarter (SE 1/4), Section 33: Township 27 North; and Range 18 East, 47.624 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.

Assessor's Parcel Number 074-162-06: That portion of the following description lying South of Western Pacific Railroad, Southeast quarter (SE1/4) of the Southeast quarter (SE1/4) of Section 33; Township 27 North; Range 18 East, Half (1/2) of the Southwest quarter (SW1/4) of the Southeast quarter (SE1/4) of Section 33; Township 27 North; and Range 18 East, 8.831 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.

APNS: 074-161-14 and 074-162-06
The property is generally described in the figure below.



Latitude: 40.15996 North
Longitude: 119.96371 West

EXHIBIT A

LEGAL DESCRIPTION OF THE SITE

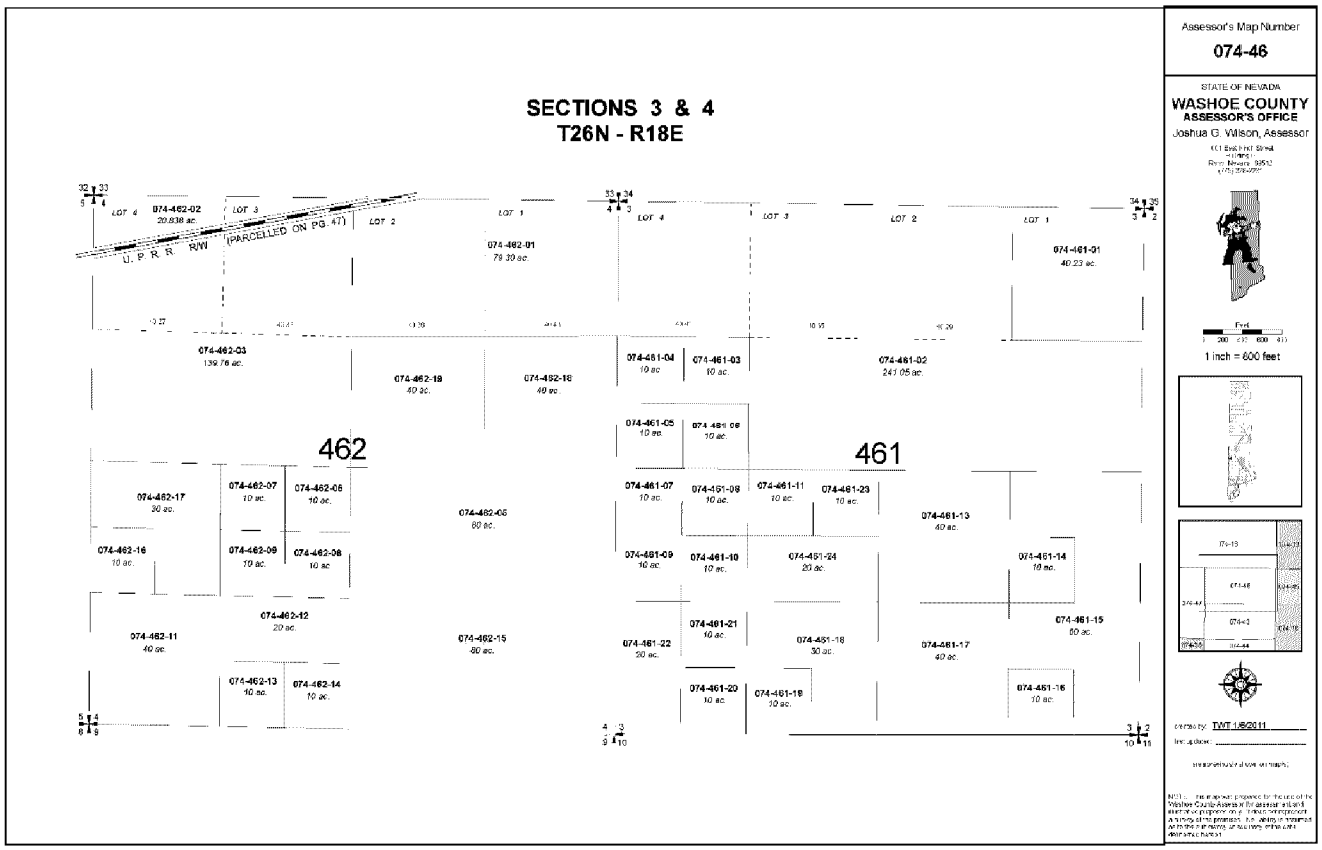
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-462-15 (*80 acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *The South half (S1/2) of the Southeast quarter (SE1/4) of Section 4, Township 26 North, Range 18 East, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*
>
> *Together with all oil, mineral, and hydrocarbon rights.*
>
> *Together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining.*

APN: 074-462-15

The property is generally described in the figure below.



Latitude: 40.14561 North
Longitude: 119.96541 West

EXHIBIT A

LEGAL DESCRIPTION OF THE SITE

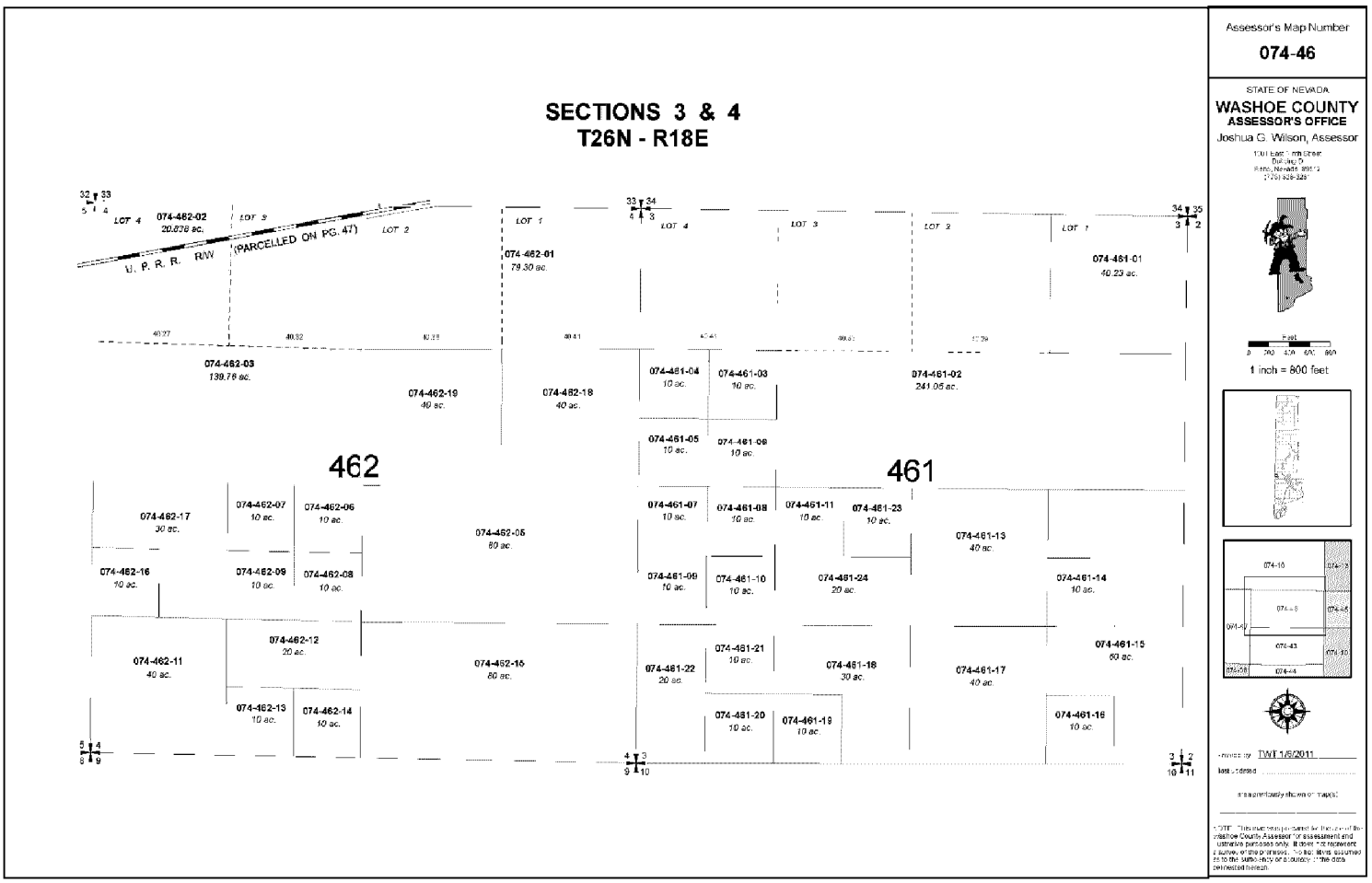
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-462-02 (*20.838 acres*) and 074-462-03 (*139.76. acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

Northwest quarter (1/4) of Section 4, Township 26 North, Range 18, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.

Excepting Therefrom, and portion lying within the boundaries of the Western Pacific Railroad right of way.

The property is generally described in the figure below.



Latitude: 40.09'00" North
Longitude: 119.58'10" West

LEGAL DESCRIPTION

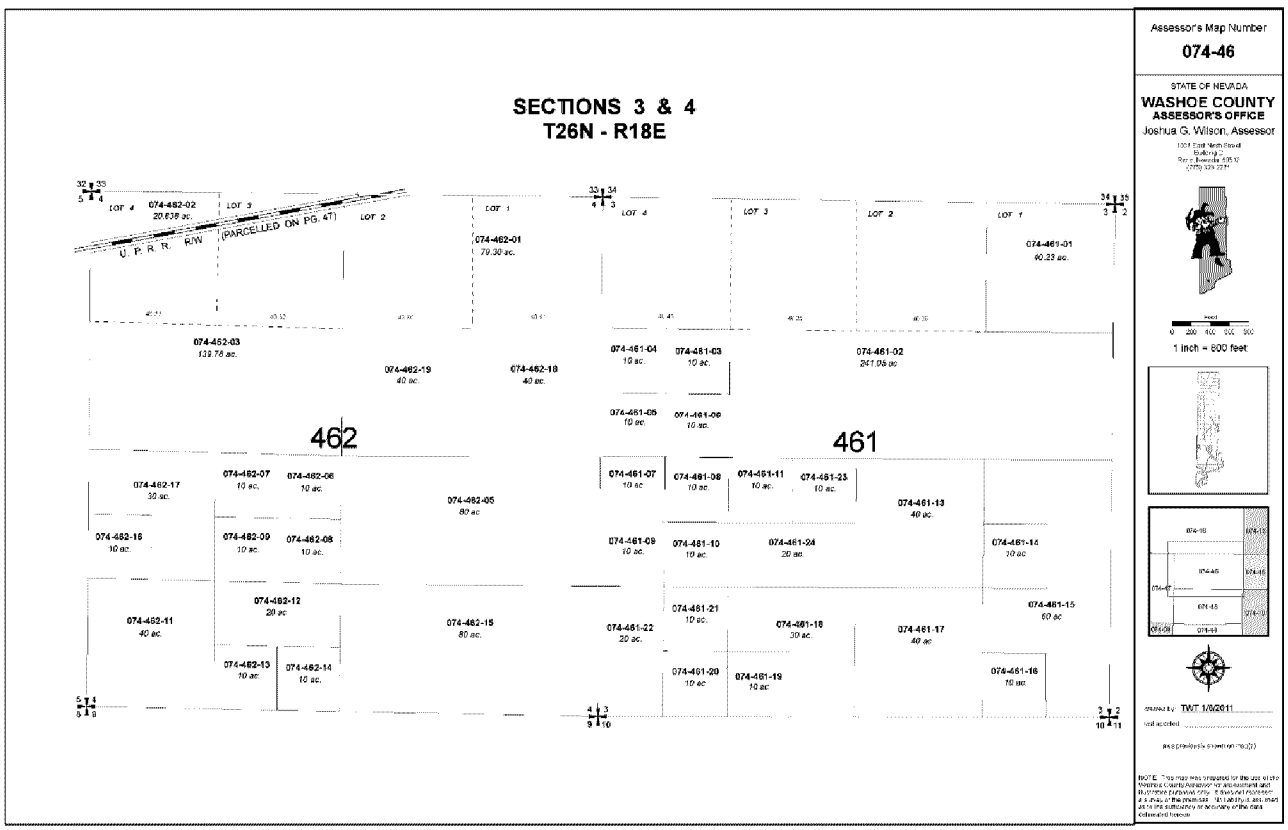
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-462-18 (*40 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *Southeast quarter (1/4) of the Northeast quarter (1/4), Section 4; Township 26 North, Range 18 East, 40 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*
>
> *Reserving a 15-foot-wide easement for ingress, egress, and utilities around property and on any existing roads or pipelines. Except all oil, coal, and mineral rights. Subject to liens of record.*

APN: 074-462-18

The property is generally described in the figure below.



Latitude: 40.15300 North
Longitude: 119.96254 West

EXHIBIT A

LEGAL DESCRIPTION OF THE SITE

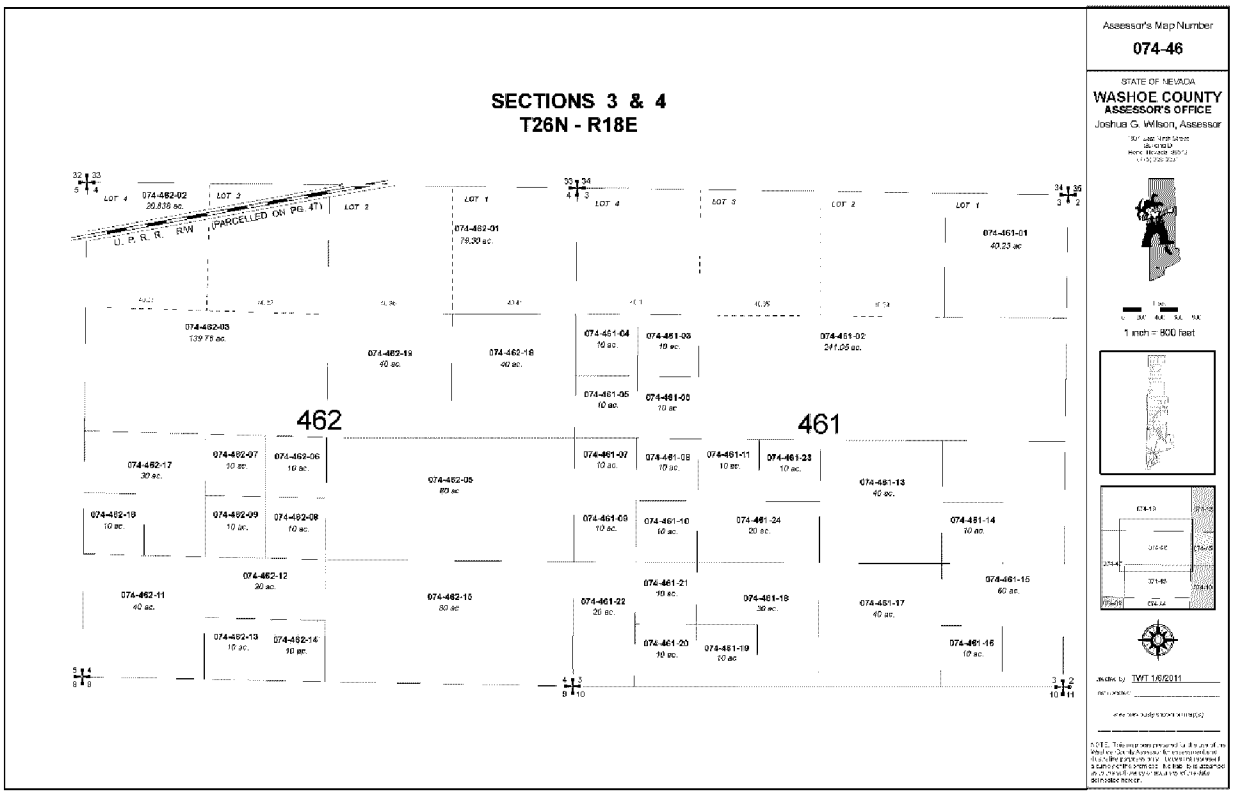
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-462-14 (*10 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *Southeast quarter (1/4) of the Southeast quarter (1/4) of the Southwest quarter (1/4) of Section 4, Township 26 North, Range 18 East, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*
>
> *Reserving a 15-foot-wide easement for ingress, egress, utilities and pipelines around the property and over any existing roads or pipelines. The easement is for the use of all owners in Township 26 North, Range 18 East of Washoe County, Nevada.*

APN: 074-462-14

The property is generally described in the figure below.



Latitude: 40.14464 North
Longitude: 119.97104 West

EXHIBIT A

LEGAL DESCRIPTION OF THE SITE

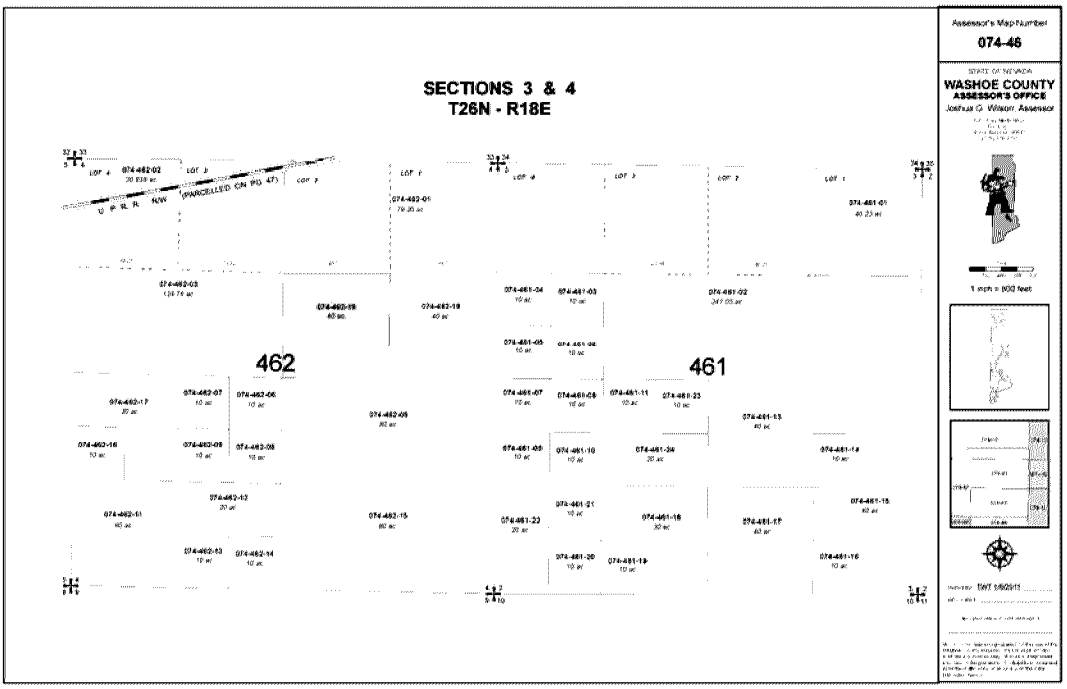
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-462-19 (*40 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *Southwest quarter (1/4) of the Northeast half (1/2) of Section 4, Township 26 North, Range 18 East, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*
>
> *Reserving a 30-foot-wide easement for ingress, egress, utilities and pipelines around the property and over any existing roads or pipelines. The easement is for the use of all owners in Washoe County, Nevada.*
>
> *Save and except, therefrom, all of the oil, gas, and sulpher, and other liquid hydrocarbon-type minerals, and also coal, in and under and that may be produced from the about described land, together with the usual and customary right of ingress and egress at all times for all purposes related to such mineral reservation, which have been reserved by prior grantors.*

APN: 074-462-19

The property is generally described in the figure below.



Latitude: 40.15290 North
Longitude: 119.96746 West

EXHIBIT A

LEGAL DESCRIPTION OF THE SITE

The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-431-08 (*10 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

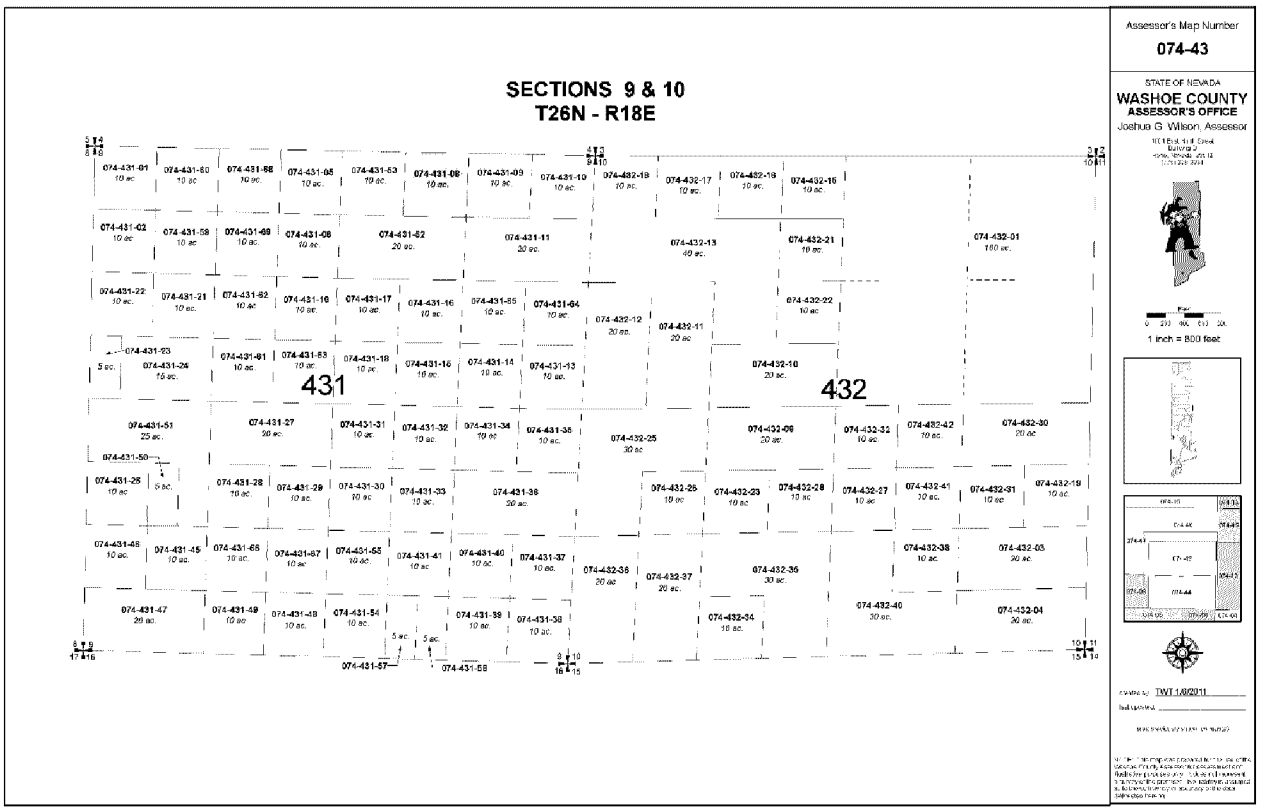
THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

The Northeast quarter (NE1/4), of the Northwest quarter (NW1/4) of the Northeast quarter (NE1/4), of Section 9; Township 26 North, Range 18 East, 10 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.

Reserving a 30-foot-wide easement for ingress, egress, and utilities around property and on any existing roads.

The above legal description appeared previously in that certain Document recorded June 14, 2018, as Document No. 4823204, of Official Records, pursuant to Nevada Revised Statutes Section 6, Nevada Revised Statutes 111.312.

APN: 074-431-08



Latitude: 40.14286 North
Longitude: 119.96638 West

EXHIBIT A

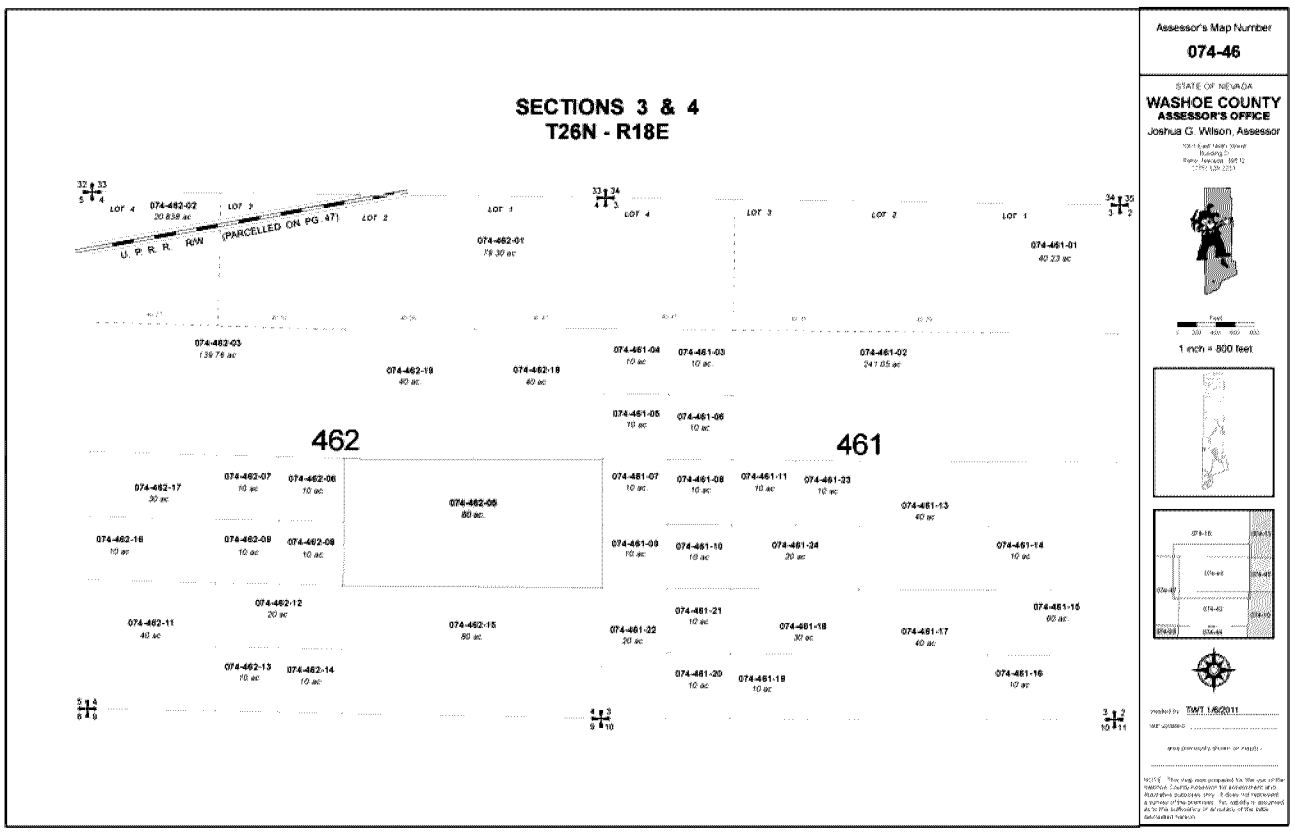
LEGAL DESCRIPTION OF THE SITE

The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-462-05 (*80 acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:
THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *North (N) half (1/2) of the Southeast (SE)quarter (1/4) of Section 4, Township 26 North, Range 18 East, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*

APN: 074-462-05

The property is generally described in the figure below.



Latitude: 40.14956 North
Longitude: 119.96545 West

EXHIBIT A

LEGAL DESCRIPTION OF THE SITE

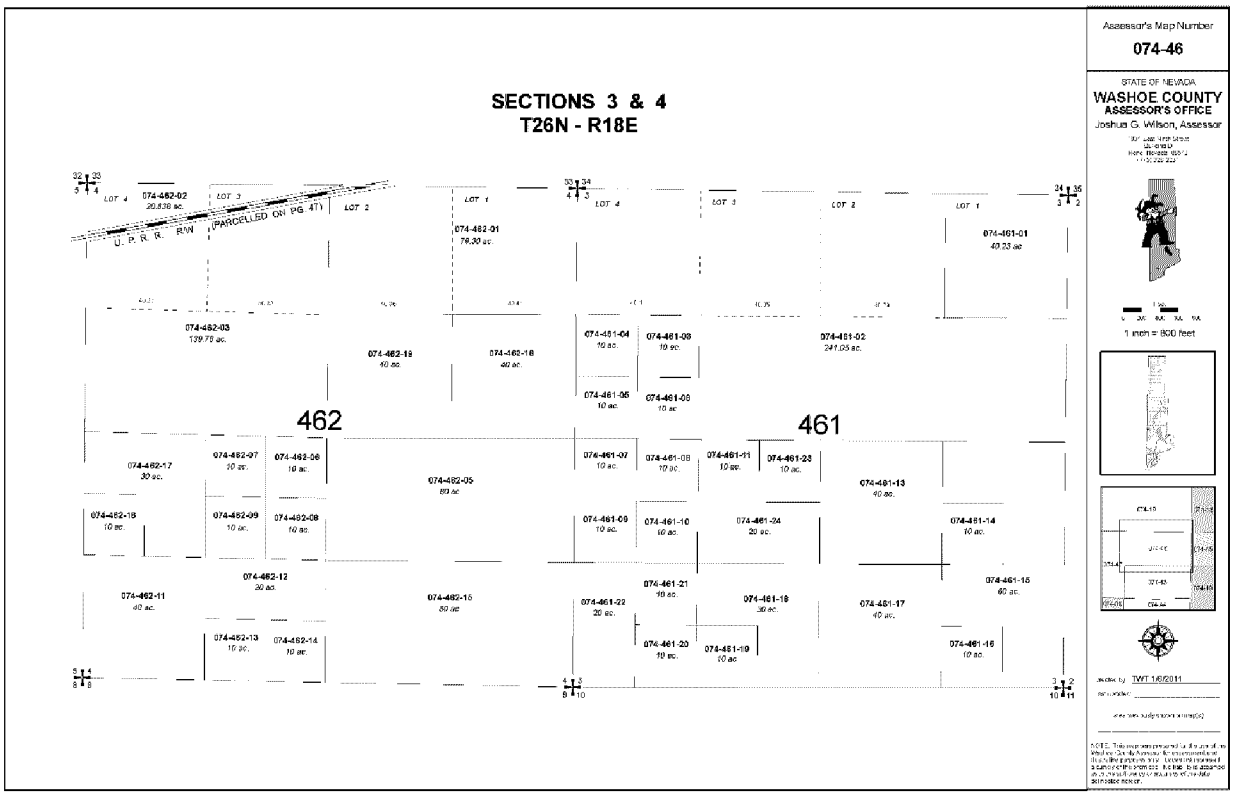
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-461-11 (*10 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *Northwest quarter (1/4) of the Northeast quarter (1/4) of the Southwest quarter (1/4) of Section 3, Township 26 North, Range 18 East, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*
>
> *Reserving a 30-foot-wide easement for ingress, egress, utilities and pipelines around the property and over any existing roads or pipelines. The easement is for the use of all owners in Township 26 North, Range 18 East of Washoe County, Nevada.*

APN: 074-461-11

The property is generally described in the figure below.



Latitude: 40.15037 North
Longitude: 119.95415 West

EXHIBIT A

LEGAL DESCRIPTION OF THE SITE

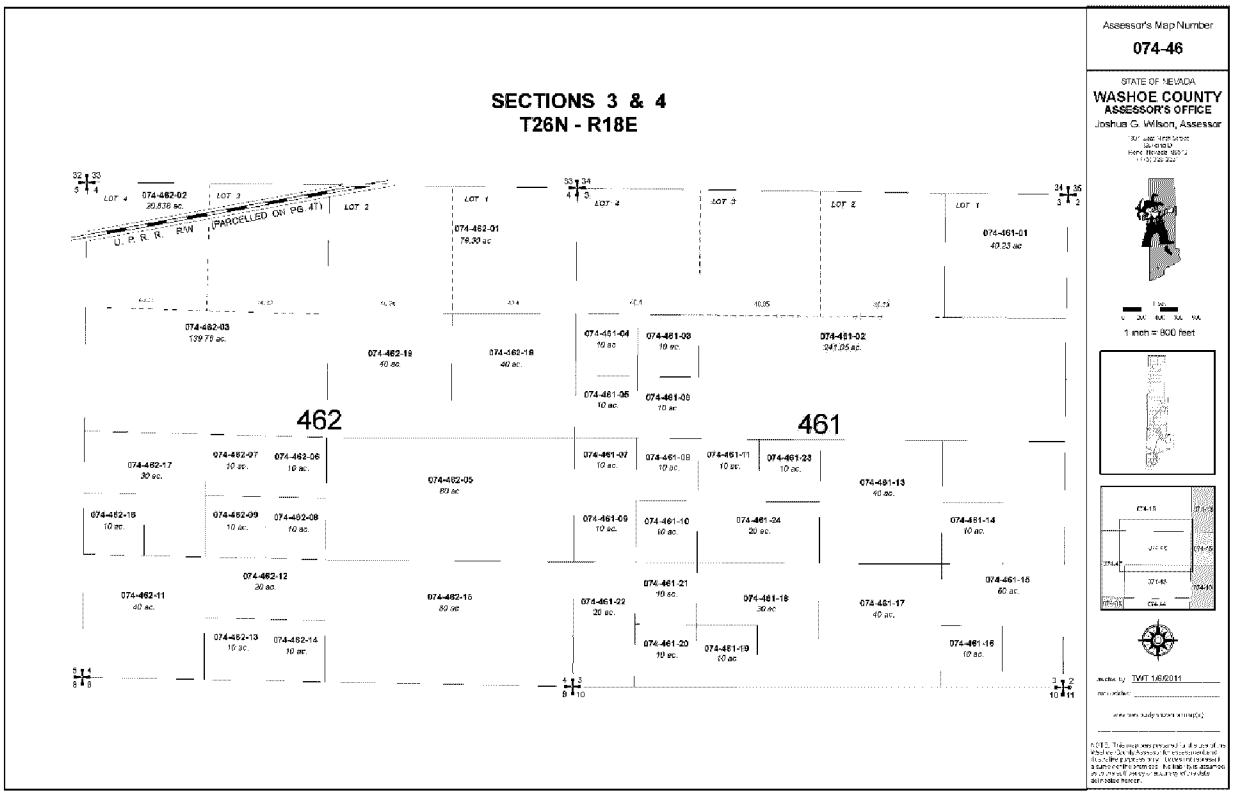
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-461-02 (*241.05 +/- acres*) and APN 074-432-01 (*160 +/- acres*) for a total solar lease area of seventy (*401.05 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

APN: 074-461-02

Northwest quarter (1/4) of the Southwest quarter (1/4), the Northeast quarter (1/4) of the Northwest quarter (1/4), the Southeast quarter (1/4) of the Northwest quarter (1/4), the Northwest quarter (1/4) of the Northeast quarter (1/4), the Southwest quarter (1/4) of the Northeast quarter (1/4), and the Southeast quarter (1/4) of the Northeast quarter (1/4), all that certain property situate in Section 3; Township 26 North, Range 18 East, 241.05 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.

The property is generally described in the figure below.

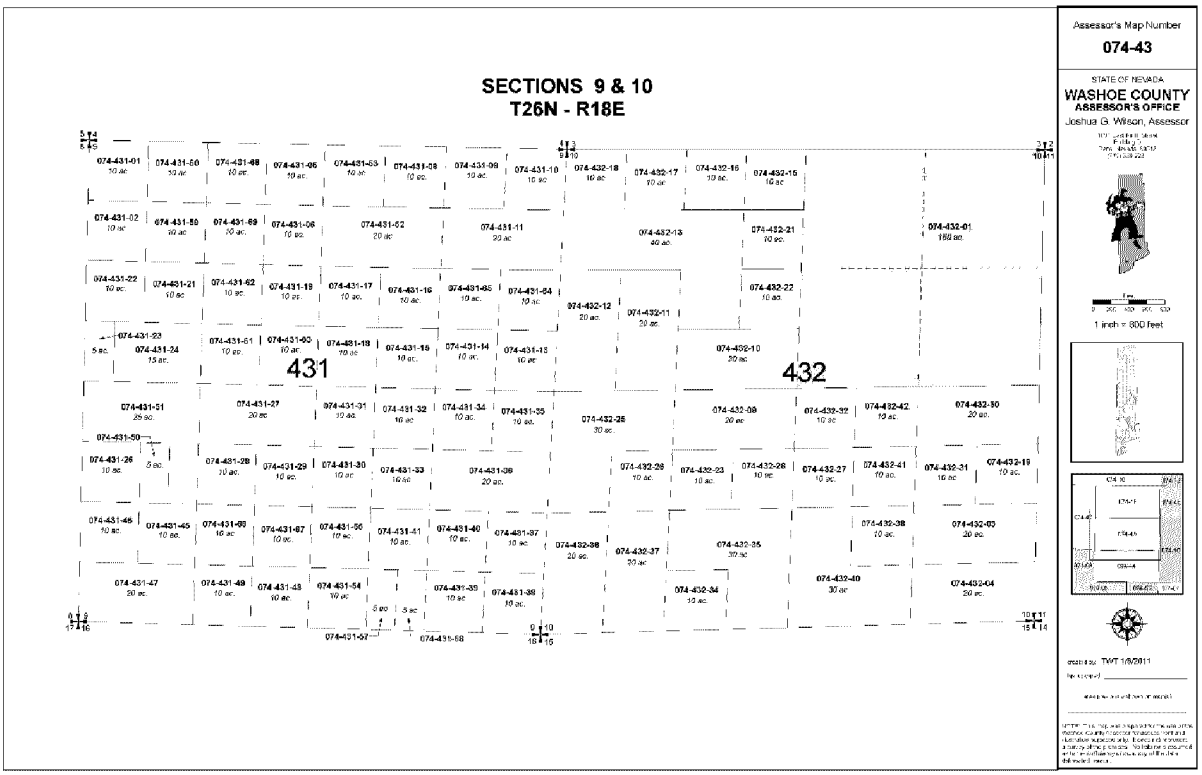


Latitude: 40.15492 North
Longitude: 119.95025 West

APN: 074-432-01

Northeast quarter (1/4) of Section 10; Township 26 North, Range 18 East, 160 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.

The property is generally described in the figure below.



Latitude: 40.14002 North
Longitude: 119.94591 West

EXHIBIT A

LEGAL DESCRIPTION OF THE SITE

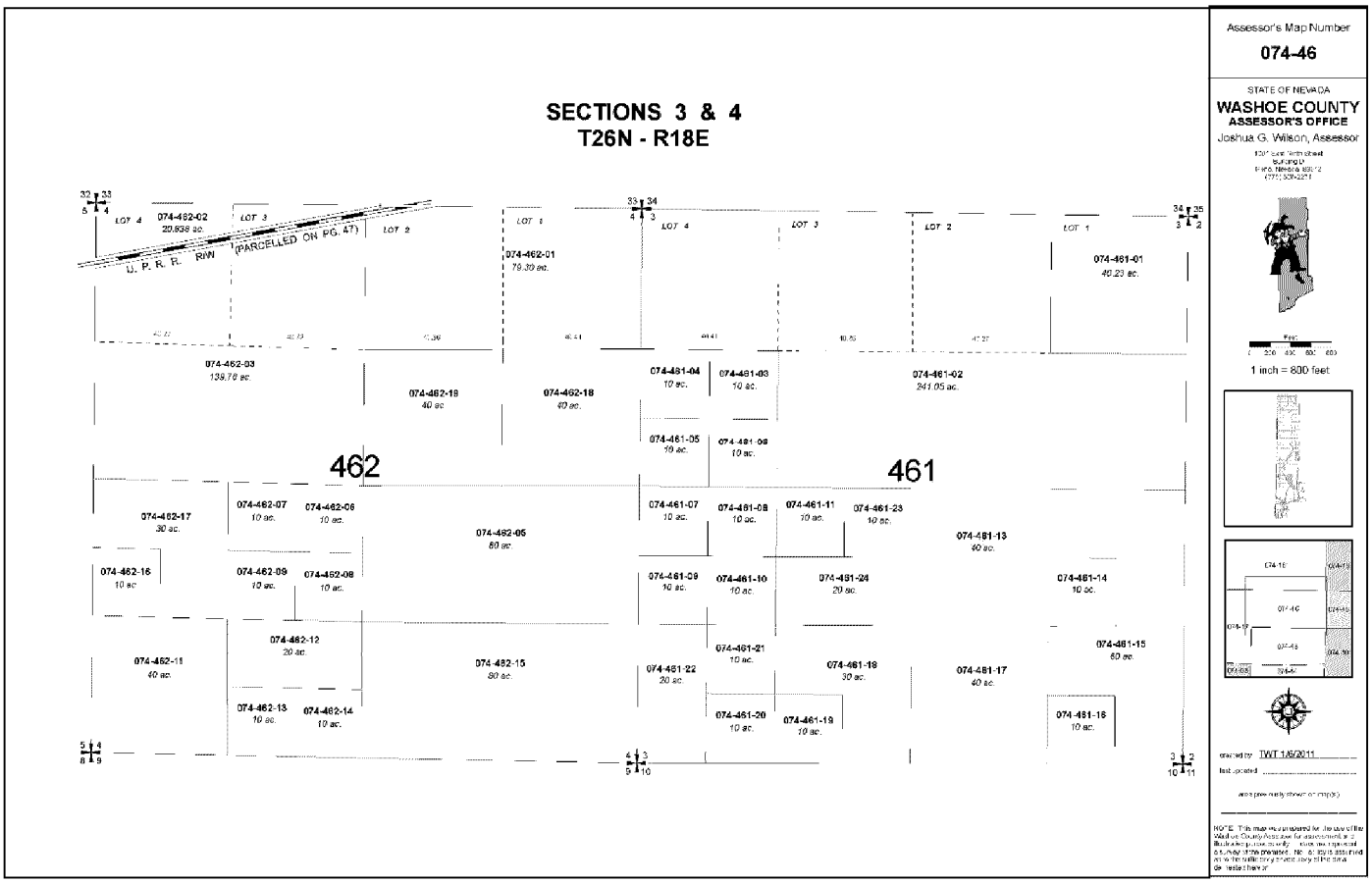
The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-461-13 (*40 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *Northwest quarter (NW1/4) of the Southeast quarter (SE1/4), Section 3; Township 26 North, Range 18 East, 40 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada. Prior Document Number 1380634 Washoe County Clerk Recorder Office.*

APN: 074-461-13

The property is generally described in the figure below.



Latitude: 40.14936 North
Longitude: 119.94830 West

LEGAL DESCRIPTION

The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-461-17 (*40 +/- acres*) and APN 074-461-18 (*30 +/- acres*) for a total solar lease area of seventy (*70 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

APN: 074-461-17

Southwest quarter (1/4) of the Southeast quarter (1/4), Section 3; Township 26 North, Range 18 East, 40 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.

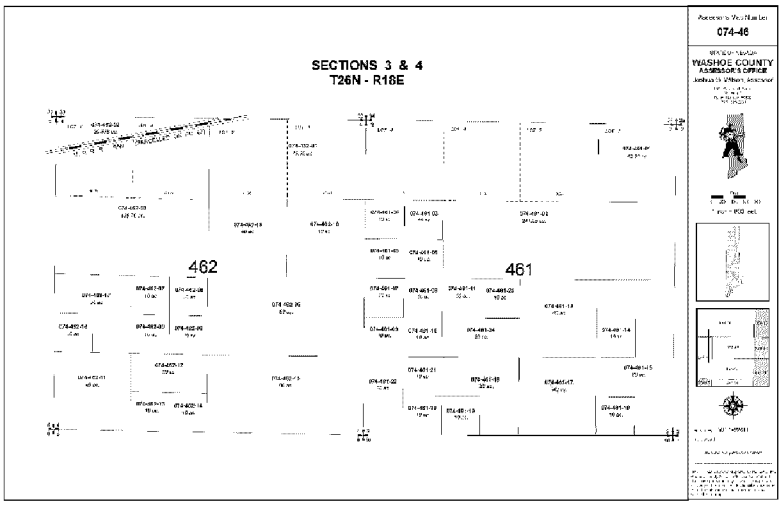
Reserving a 15-foot-wide easement for ingress, egress, and utilities around property and on any existing roads or pipelines. This easement is for the use of all owners in Township 26 North. Except all oil, coal, and mineral rights. Subject to liens of record.

APN: 074-461-18

North half (1/2) of the Southeast quarter (1/4), of the Southwest quarter (1/4), and the Southeast quarter (1/4) of the Southeast quarter (1/4) of the Southwest quarter (1/4) of Section 3; Township 26 North, Range 18 East, 30 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.

Reserving a 15-foot-wide easement for ingress, egress, and utilities around property and on any existing roads or pipelines. This easement is for the use of all owners in Township 26 North. Except all oil, coal, and mineral rights. Subject to liens of record.

The property is generally described in the figure below.



Latitude: 40.14572 North
Longitude: 119.95062 West

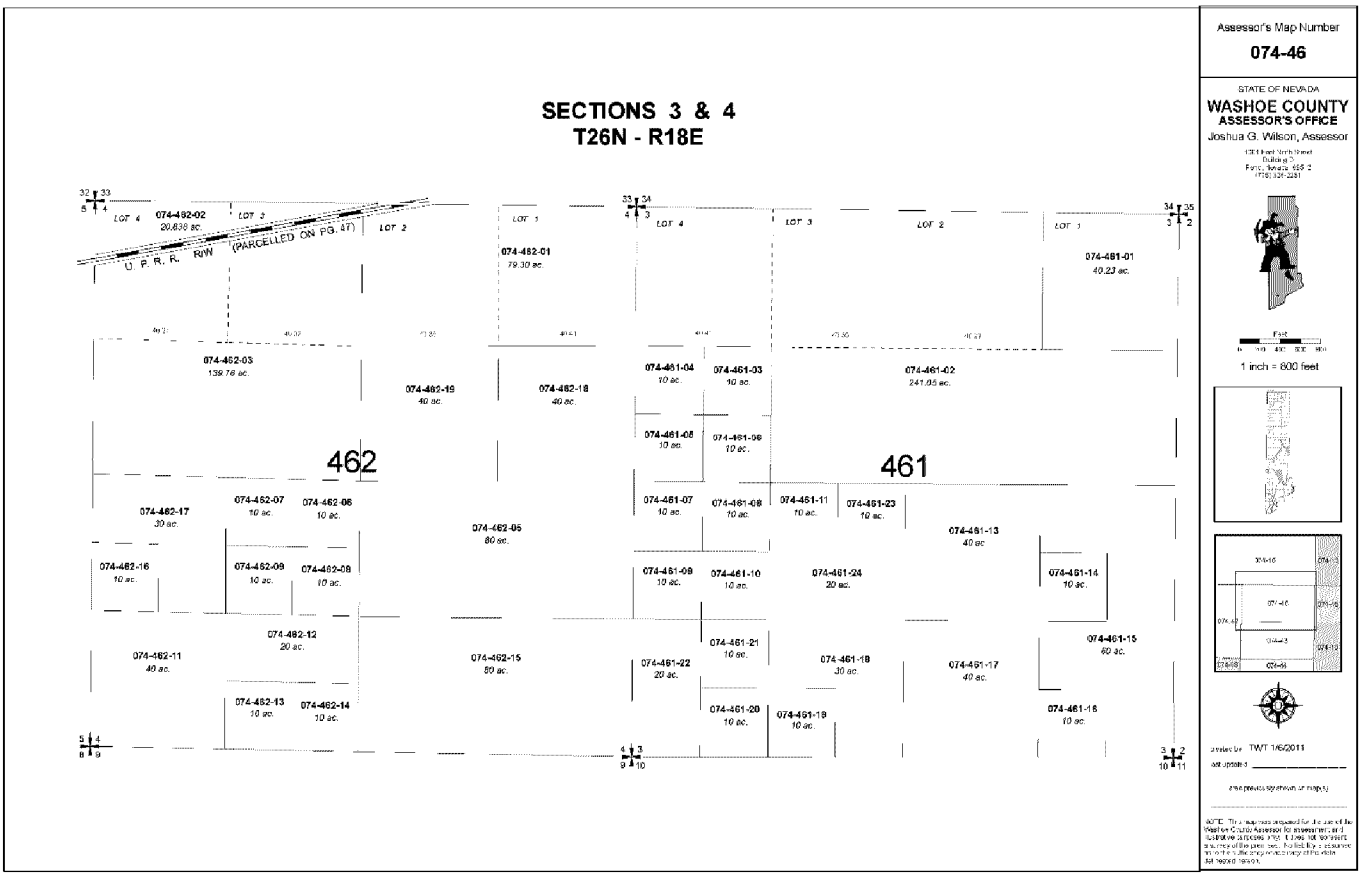
LEGAL DESCRIPTION

The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-461-24 (*20 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *The South half (S1/2) of the Northeast quarter (NE1/4), of the Southwest quarter (SW1/4), of Section 3; Township 26 North, Range 18 East, 20 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*
>
> *Reserving a 15-foot-wide easement for ingress, egress, and utilities around property and on any existing roads or pipelines. Except all oil, coal, and mineral rights. Subject to liens of record.*

APN: 074-461-24
The property is generally described in the figure below.



Latitude: 40.14843 North
Longitude: 119.95224 West

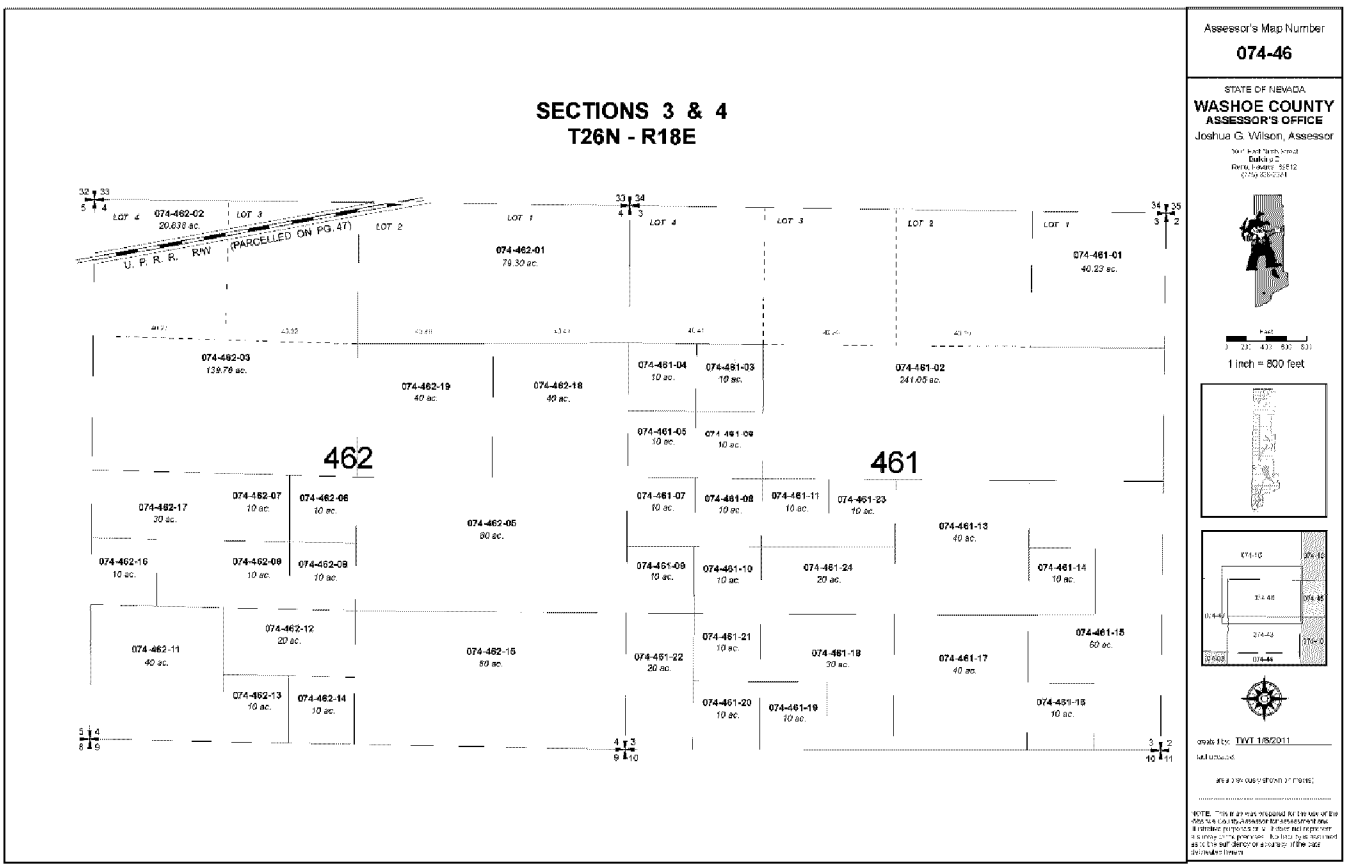
LEGAL DESCRIPTION

The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-461-03 (*10 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *The Northeast quarter (NE1/4), of the Southwest quarter (SW1/4), of the Northwest quarter (NW1/4) of Section 3; Township 26 North, Range 18 East, 10 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*
>
> *Together with all and singular tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining.*

APN: 074-461-03
The property is generally described in the figure below.



Latitude: 40.15397 North
Longitude: 119.95670 West

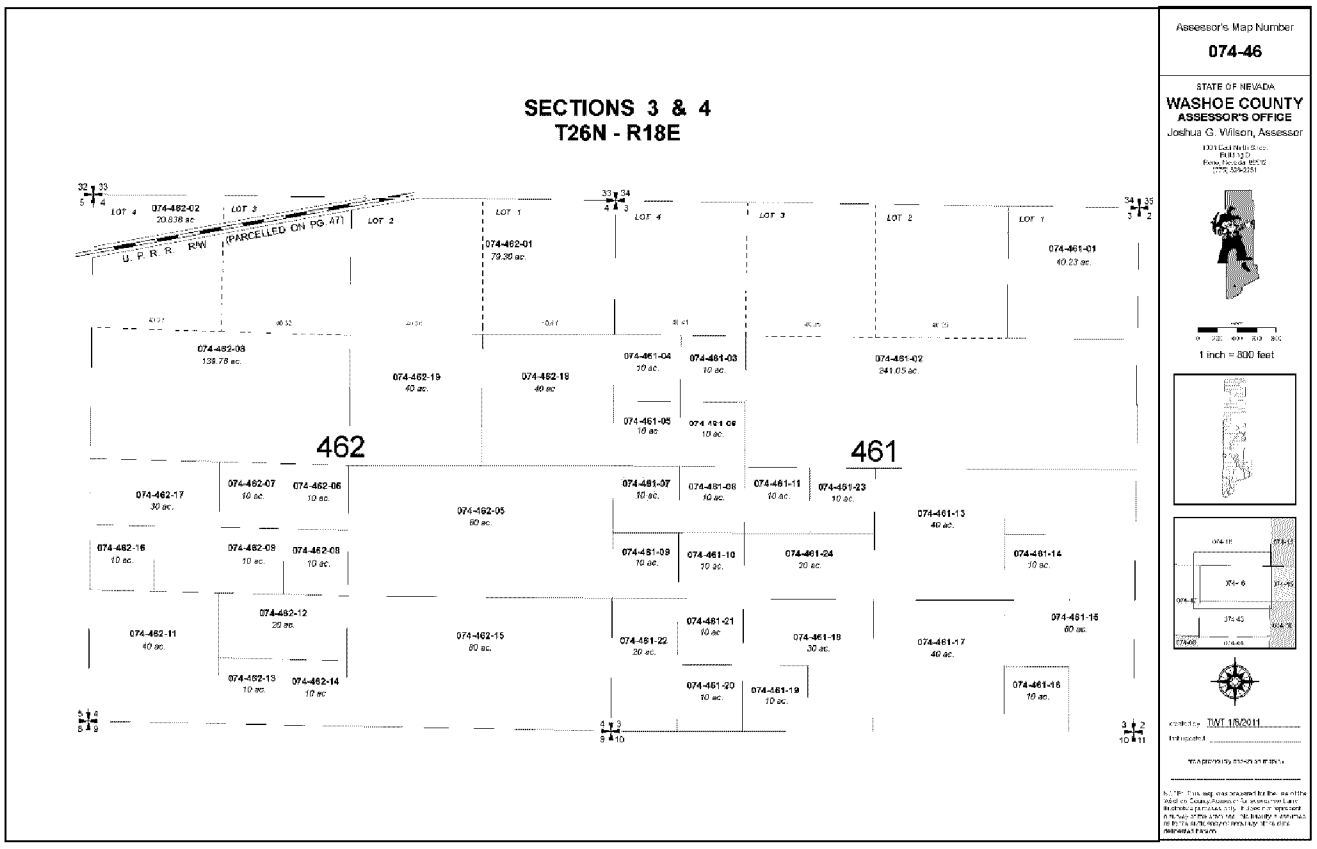
LEGAL DESCRIPTION

The property is situated in the County of Washoe, State of Nevada, within Washoe County Assessor's Parcel Number (APN) 074-461-07 (*10 +/- acres*). The land referred to herein below is situated in the unincorporated area in County of Washoe, State of Nevada and described as follows:

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE UNINCORPORATED AREA IN COUNTY OF WASHOE, STATE OF NEVADA AND IS DESCRIBED AS FOLLOWS:

> *The Northwest quarter (NW1/4), of the Northwest quarter (NW1/4), of the Southwest quarter (SW1/4) of Section 3; Township 26 North, Range 18 East, 10 acres more or less, Mount Diablo Base and Meridian, according to the Official Plat of the survey of the Public Lands, as made by the United States Surveyor-General for the District of Nevada.*
>
> *Reserving a 30-foot easement for ingress, egress, and utilities around property and on any existing roads. This easement is for the use of all owners in Township 26 North, Range 18 East, Washoe County, Nevada.*

APN: 074-461-07
The property is generally described in the figure below.



Latitude: 40.15026 North
Longitude: 119.95914 West

Attachment G: Generation Tie Line Corridor Evaluation

345kV Minimum Required Easement Evaluation Letter Report

Tri Sage Consulting was retained to complete a preliminary engineering review of the proposed Rainbow Way 345kV transmission line easement requirements located on the Rainbow Way private utility easement of 60 feet. Several solar generation facility will require an intertie into the NV Energy owned Ft. Sage Substation.

Part of the development process is evaluating the requirements for the generation tie line into the 345kV Substation. We understand that Rainbow Way has been identified as the private utility and access easement of 60-foot which runs on the section line which also corresponds the generation tie line route to the Ft. Sage Substation. Tri Sage conducted an evaluation to determine if there is a structure type that would fit within these existing easements which have been recorded or shown on Maps of Record, and what limitations and assumptions are associated with this easement width.

Tri Sage has completed a review of a 345kV structure with a vertical conductor configuration. We reviewed both 795 ACSR and 954 ACSR which are typical 345kV conductors used in this region and utility territory. We evaluated these conductors under NESC Heavy Loading, and also GO95 Heavy Loading for any alignment in Nevada. We identified blow out of the conductor to establish required easement limits based on span lengths and also considered galloping.

From this evaluation, we identified a structure type that could fit within the existing dedicated easements for utilities and access. We have made several assumptions and limitations with this utility easement approach that needs to be understood relative to design and engineering costs. We have developed two drawings to reflect our evaluation findings and to better show the limitations. The following drawings are attached at the end of this letter report.

- The first drawing is an elevation view of the structure type that could fit within the existing private utility 345kV easement. Please note that our evaluation was based on tangent structures. The existing easement leaves little to no room for guy wires and anchors. Medium and heavy 345kV angles in this easement will require substantial footings to avoid these anchors and guy wires and will require a more refined evaluation at time of modeling and pole spotting.

- The second drawing is a plan view of the existing private utility easement that shows the required offset structure placement to gain the most conductor clearance. Post insulators were assumed to minimize swing out, and depending on conductor and span lengths, the post insulators may need to be braced. The distance of the pole offset should be equal to the horizontal projection of the post insulator selected for the project to ensure that the conductors are centered in the right of way. This is the key factor to meeting clearances within existing private utility easement.

The following are several of the limitation impacts with the existing private utility easement:

- 345kV structure construction will typically require a wider width than 60 feet for safe working practices. As such, solar projects will need to gain a temporary construction easement to supplement the 60 feet during construction. We would recommend an additional 50 feet of temporary construction easement.

- A narrow easement limits the ability of the engineering to avoid geographic or environmental constraints. For instance, in the event that an endangered plant is identified, or a rocky outcropping is encountered, the engineer will be extremely limited on pole spotting flexibility within a 60 easement. Final placement of poles will need to be coordinated with biological surveys to ensure no conflicts.

- As mentioned above, our analysis did not account for heavy angle design given the limited time to complete this review. Because of this, solar development should understand that heavy angles will require a modification to the structure discussed herein for tangent spans. While the alignment proposed was not reviewed, the design engineer could potentially work with the substation alignment and within the wider easement sections to accommodate any heavy angle requirements.

- Due to the vertical configuration, the span lengths are limited to avoid contact between phases in the event of conductor galloping. For our preliminary evaluation, we show that the maximum span lengths will be in the range of 400 to 450 feet. These are relatively short spans given the large structures of a typical 345kV line. Thus, the design for the existing private utility easement will require approximately 58 to 66 poles within the Rainbow Way gen-tie line corridor.

As previously discussed, the solar projects can explore a few options for this interconnection line. The first is the above scenario which is based on a 345kV line running the entire alignment of the Rainbow Way private utility and access easement between the project and the interconnection. A second option would be to design a lower voltage generation tie line from the site to the solar projects owned substation. Once at the substation, the voltage would step up to 345kV and then terminate into the NV Energy Ft. Sage substation.

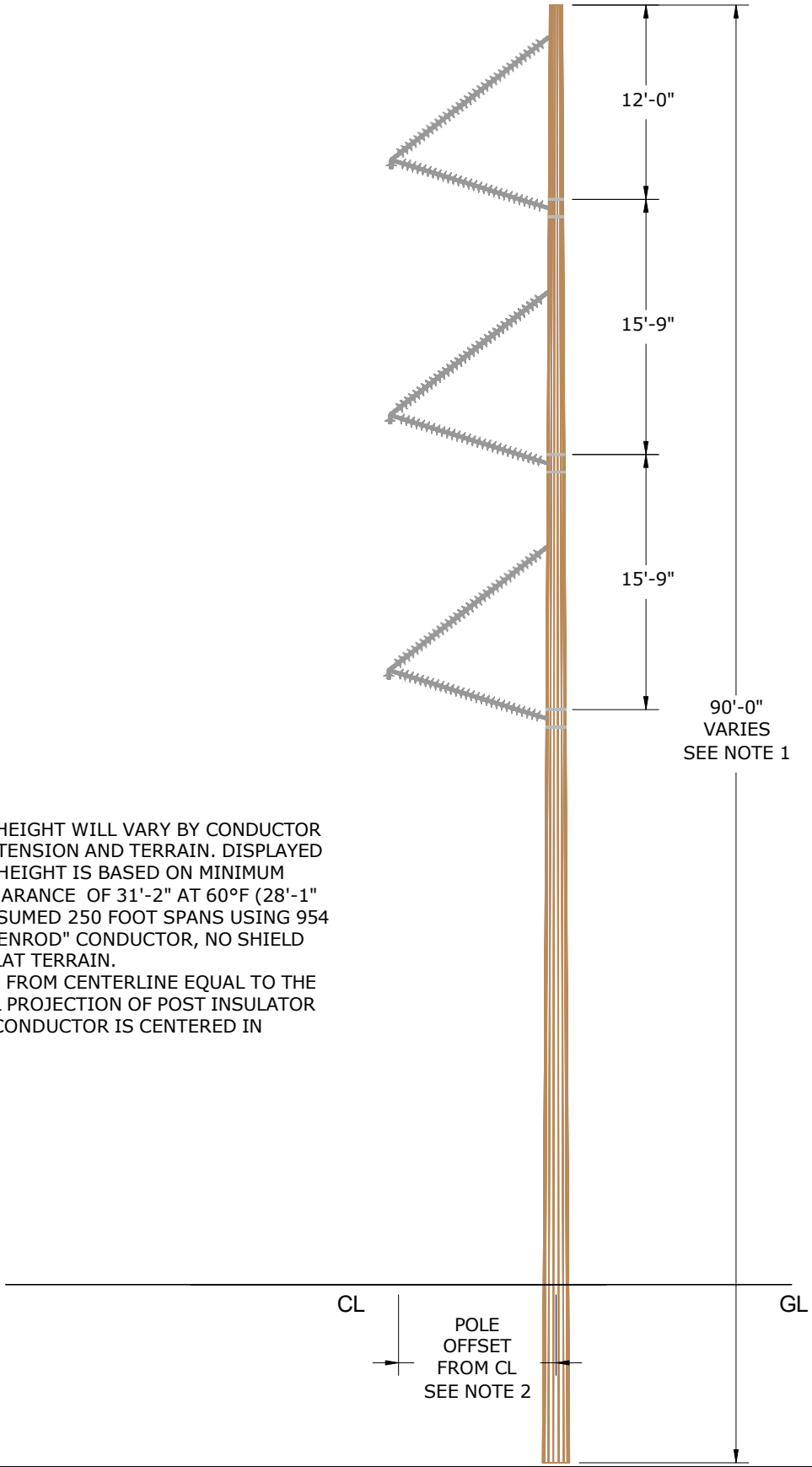
We have completed this evaluation based on very preliminary details in order to provide the solar projects with needed information for planning purposes. While we confirmed that there are engineering avenues to stay within the existing Rainbow Way private utility easement, we would recommend that the design engineer selected to complete the transmission line engineering complete a full PLS model to identify any areas of concern prior to finalizing all the land and easement acquisitions.

Best Best Regards



Karen Schlichting, PE
Tri Sage Consulting

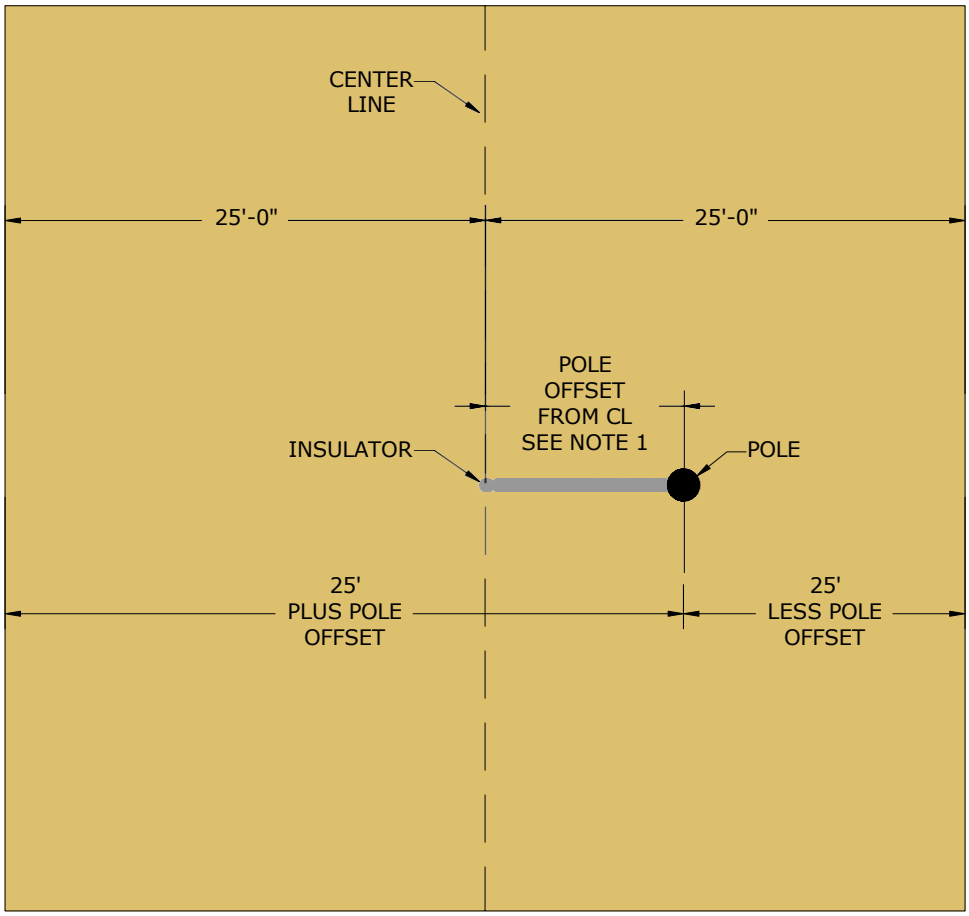
ATTACHMENT DRAWINGS



1. STRUCTURE HEIGHT WILL VARY BY CONDUCTOR SELECTION, TENSION AND TERRAIN. DISPLAYED STRUCTURE HEIGHT IS BASED ON MINIMUM GROUND CLEARANCE OF 31'-2" AT 60°F (28'-1" AT MOT). ASSUMED 250 FOOT SPANS USING 954 ACSR "GOLDENROD" CONDUCTOR, NO SHIELD WIRE AND FLAT TERRAIN.
2. OFFSET POLE FROM CENTERLINE EQUAL TO THE HORIZONTAL PROJECTION OF POST INSULATOR TO ENSURE CONDUCTOR IS CENTERED IN EASEMENT.

Solar Developments	REVISION NO.	DATE	TRISAGE CONSULTING	ENGINEER:	KAS
				PHONE NUMBER:	775-336-1300
345kV EASEMENT EVALUATION	ORIGINAL ISSUE	09/2022		PROJECT NUMBER:	
				PREPARED BY:	JDC
				CHECKED:	KAS
				APPROVED:	KAS
SHEET 1 of 2				ELEVATION VIEW	

Z:\Praana Solar\Engineering - Trans & Civil Design\Drawings\Structure Drawings\Generic 345kV Tangent on Braced Post Insulators.dxf <JCole> 20-Sep-22



1. OFFSET POLE FROM CENTERLINE EQUAL TO THE HORIZONTAL PROJECTION OF POST INSULATOR TO ENSURE CONDUCTOR IS CENTERED IN EASEMENT.

Solar Developments	REVISION NO.	DATE	TRISAGE CONSULTING	ENGINEER:	KAS
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				PREPARED BY:	JDC
				CHECKED:	KAS
				APPROVED:	KAS
SHEET 2 of 2				PLAN VIEW	

Z:\Praana Solar\Engineering - Trans & Civil Design\Drawings\Structure Drawings\Generic 345kV Tangent on Braced Post Insulators.dxf <JCole> 20-Sep-22